



September 2, 2015

Ms. Christine Grimando, Senior Planner
Planning and Development Department
City of Portland, Maine
389 Congress Street
Portland, Maine 04101-3509

Subject: The Forefront at Thompson's Point – Brick South (Building C)
Applicant: Forefront Partners, I LP
Event/Assembly Space – Renovation and Occupying Existing Brick South Building

Dear Christine:

On behalf of Forefront Partners I, LP (Forefront), we are pleased to provide the accompanying Level III Site Plan Application materials describing the next step of our proposed work at the Thompson's Point site.

Forefront has recently submitted an overall subdivision plan application consistent with our approved Master Plan. This application is intended to supplement the subdivision application and continue the first phase of the approved master plan with the renovation of the existing building known as "Brick South" (Building C). The enclosed application also incorporates and expands upon the previously approved Level III Phase 1A Site Plan associated with the renovation of the existing "Brick North Building" on December 4, 2014.

Additionally, this application includes a new Sectional 1 subdivision plan intended to ultimately replace the previously recorded "City of Portland Planning Board Subdivision Approval for Sectional Recording of Phase 1A". This plan has been modified/expanded to reflect new lots for future development on the west side of the main entrance road as well as a new lot for the Brick South Building and the existing Depot Structure.

Construction of the development plans for the off-site improvements per the current EDA/TCSP grant-related design effort being administered by the Maine Department of Transportation and City of Portland is complete with the exception of a short extension to the Right-of-Way and roadway section which is scheduled to be complete later this fall.

Forefront proposes to complete the Phase 1A activities adjacent to Brick North, as summarized below, in upcoming months:

- Earthmoving activities associated with construction of a permanent access road extending from the off-site roadway terminus to a new parking area to the south of Brick North;

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- Permanent underground utilities including water, sewer, power, natural gas and communications will be installed;
- Construction of permanent site improvements which include parking, landscaping, lighting improvements and utility services;
- Environmental remediation inside the Brick North Building in accordance with the approved VRAP plan; and
- Renovation of Brick North Building to enhance the existing external façade and provide finished mixed use commercial space.

In addition, the following will continue to occur:

- Hood Dairy will continue to operate their trailer parking facility;
- Suburban Propane will continue to operate the existing propane distribution facility and access drive adjacent to the property and the Pan AM Railroad tracks until we complete their relocation, which we are working on currently;
- NNEPRA and other existing tenants will continue to operate within the other existing buildings on-site (in NNEPRA's case, the former "Rich Aluminum" building at the northeast corner of the site, until such time as we complete the land swap with them; in the case of Brick North, the Circus Conservatory, Color Me Mine, Big Room Studios, and other tenants scheduled for occupancy in 2016; and our current users of the Brick South and Depot Event areas);
- Subject to appropriate review and approval, temporary gatherings for which permits are required such as outdoor events may be accommodated on the site; and
- Pan Am will continue to use the tracks to the north of Thompson's Point.

The following Phase activities are contemplated at this time, and are being pursued under the auspices of this Level III Site Plan review:

- Construction of additional parking, service facilities, pedestrian access, and infrastructure supporting the Brick South Building; and
- Renovation of Brick South Building to enhance the existing external façade and provide finished mixed use assembly/event space for up to 2,500 people.

The accompanying annotated plans illustrate the scope of work currently contemplated. Items to be completed this summer/fall are identified as proposed activities; for the sake of clarity, work to be performed at a later time as part of subsequent phases has not been shown.

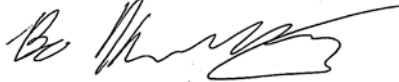
Forefront is seeking Level III Planning Board Approval for the Brick South Site Plan which was designed to be consistent with the Approved Master Plan. We understand with this submission that the City may place this request on the next available Planning Board agenda.

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We appreciate the Planning Authority's consideration on these matters and look forward to commencement of the project. If you have any questions or require any additional information, please contact our office.

Sincerely,

FAY, SPOFFORD & THORNDIKE



Bo Kennedy, P.E., C.P.E.S.C.
Engineer

BEK/smk

Enclosures

c: Chris Thompson, Forefront Partners I, LP
Jed Troubh, Forefront Partners I, LP
Eric Durbas, Phi Home Designs
Pat Carroll, Carroll Associates
Paul Ureneck, Boulos Asset Management



Jeff Levine, AICP, Director
 Planning & Urban Development Department

Electronic Signature and Fee Payment Confirmation

Notice: Your electronic signature is considered a legal signature per state law.

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a **legal signature** per Maine state law. You are also signifying your intent on paying your fees by the opportunities below.

I, the undersigned, intend and acknowledge that no Site Plan or Historic Preservation Applications can be reviewed until payment of appropriate application fees are **paid in full** to the Inspections Office, City of Portland Maine by method noted below:

- Within 24-48 hours, once my complete application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.
- Within 24-48 hours, once my application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.
- I intend to deliver a payment method through the U.S. Postal Service mail once my application paperwork has been electronically delivered.

Applicant Signature:

Bo Kennedy, P.E.

09-02-15

Date:

09-02-15

Date:

I have provided digital copies and sent them on:

NOTE: All electronic paperwork must be delivered to buildinginspections@portlandmaine.gov or by physical means i.e. a thumb drive or CD to the Inspections Office, City Hall, 3rd Floor, Room 315.



Level III – Preliminary and Final Site Plans Development Review Application Portland, Maine

Planning and Urban Development Department
Planning Division

Portland's Planning and Urban Development Department coordinates the development review process for site plan, subdivision and other applications under the City's Land Use Code. Attached is the application form for a Level III: Preliminary or Final Site Plan. Please note that Portland has delegated review from the State of Maine for reviews under the Site Location of Development Act, Chapter 500 Stormwater Permits, and Traffic Movement Permits.

Level III: Site Plan Development includes:

- New structures with a total floor area of 10,000 sq. ft. or more except in Industrial Zones.
- New structures with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- New temporary or permanent parking area(s) or paving of existing unpaved parking areas for more than 75 vehicles.
- Building addition(s) with a total floor area of 10,000 sq. ft. or more (cumulatively within a 3 year period) except in Industrial Zones.
- Building addition(s) with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- A change in the use of a total floor area of 20,000 sq. ft. or more in any existing building (cumulatively within a 3 year period).
- Multiple family development (3 or more dwelling units) or the addition of any additional dwelling unit if subject to subdivision review.
- Any new major or minor auto business in the B-2 or B-5 Zone, or the construction of any new major or minor auto business greater than 10,000 sq. ft. of building area in any other permitted zone.
- Correctional prerelease facilities.
- Park improvements: New structures greater than 10,000 sq. ft. and/or facilities encompassing 20,000 sq. ft. or more (excludes rehabilitation or replacement of existing facilities); new nighttime outdoor lighting of sports, athletic or recreation facilities not previously illuminated.
- Land disturbance of 3 acres or more (includes stripping, grading, grubbing, filling or excavation).

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14) which is available on our website:

Land Use Code: <http://me-portland.civicplus.com/DocumentCenter/Home/View/1080>

Design Manual: <http://me-portland.civicplus.com/DocumentCenter/View/2355>

Technical Manual: <http://me-portland.civicplus.com/DocumentCenter/View/2356>

Planning Division

Fourth Floor, City Hall
389 Congress Street
(207) 874-8719

Office Hours

Monday thru Friday
8:00 a.m. – 4:30 p.m.

PROJECT NAME: The Forefront at Thompson's Point

PROPOSED DEVELOPMENT ADDRESS:

1 Thompson's Point

PROJECT DESCRIPTION:

Renovation of Existing Brick South Building for use as a flexible 2500 person event/assembly space with attendant parking, utilities, and storm water management. See attached cover letter for additional information.

CHART/BLOCK/LOT: 201/A/5, 8, 10
202/A/1 & 4

PRELIMINARY PLAN _____ (date)
FINAL PLAN 09/02/15 (date)

CONTACT INFORMATION:

Applicant – must be owner, Lessee or Buyer Name: Chris Thompson Business Name, if applicable: Parallax Partners (dba Forefront Partners, I, LP) Address: 501 Danforth Street City/State : Portland, ME Zip Code: 04102	Applicant Contact Information Work # 207-747-5288 Home# Cell # 207-347-1614 Fax# 207-747-5941 e-mail: parallaxparnters@gmail.com
Owner – (if different from Applicant) Name: Address: SAME AS APPLICANT City/State : Zip Code:	Owner Contact Information Work # Home# Cell # Fax# e-mail:
Agent/ Representative Bo E. Kennedy, P.E. Name: Fay, Spofford & Thorndike Address: 778 Main Street, Suite 8 City/State : South Portland, ME Zip Code: 04106	Agent/Representative Contact information Work # 207-775-1121 Cell # 207-318-8364 e-mail: bkennedy@fstinc.com
Billing Information Name: Address: SAME AS APPLICANT City/State : Zip Code:	Billing Information Work # Cell # Fax# e-mail:

Engineer Name: Bo E. Kennedy, P.E. Fay, Spofford & Thorndike Address: 778 Main Street, Suite 8 City/State : South Portland, ME Zip Code: 04106	Engineer Contact Information Work # 207-775-1121 Cell # 207-318-8364 Fax# 207-879-0896 e-mail: bkennedy@fstinc.com
Surveyor Name: Owens McCullough Sebago Technics Address: P.O. Box 1339 City/State : Westbrook, ME Zip Code: 04098	Surveyor Contact Information Work # 207-856-0279 Cell # 207-232-1649 Fax# 207-856-2206 e-mail: omccullough@sebagotechnics.com
Architect Name: Erik Drubas Phi Home Designs Address: 446 West Street City/State : Rockport, ME Zip Code: 04856	Architect Contact Information Work # 207-230-0034 Cell # Fax# 207-230-0274 e-mail: erik@phihomedesigns.com
Attorney Name: David L. Galgay, Jr. Verrill Dana LLP Address: P.O. Box 586 - 1 Portland Square City/State : Portland, ME Zip Code: 04112-0586	Attorney Contact Information Work # 207-774-4000 Cell # 207-253-4514 Fax# 207-774-7499 e-mail: dgalgay@verrilldana.com

APPLICATION FEES:

Check all reviews that apply. (Payment may be made by Credit Card, Cash or Check payable to the City of Portland.)

<p>Level III Development (check applicable reviews)</p> <p><input checked="" type="checkbox"/> Less than 50,000 sq. ft. (\$500.00) <input type="checkbox"/> 50,000 - 100,000 sq. ft. (\$1,000) <input type="checkbox"/> 100,000 – 200,000 sq. ft. (\$2,000) <input type="checkbox"/> 200,000 – 300,000 sq. ft. (\$3,000) <input type="checkbox"/> over \$300,00 sq. ft. (\$5,000) <input type="checkbox"/> Parking lots over 11 spaces (\$1,000) <input type="checkbox"/> After-the-fact Review (\$1,000.00 plus applicable application fee)</p> <p>Plan Amendments (check applicable reviews)</p> <p><input type="checkbox"/> Planning Staff Review (\$250) <input type="checkbox"/> Planning Board Review (\$500)</p> <p>The City invoices separately for the following:</p> <ul style="list-style-type: none"> • Notices (\$.75 each) • Legal Ad (% of total Ad) • Planning Review (\$40.00 hour) • Legal Review (\$75.00 hour) <p>Third party review fees are assessed separately. Any outside reviews or analysis requested from the Applicant as part of the development review, are the responsibility of the Applicant and are separate from any application or invoice fees.</p>	<p>Other Reviews (check applicable reviews)</p> <p><input type="checkbox"/> Traffic Movement (\$1,000) <input type="checkbox"/> Stormwater Quality (\$250) <input type="checkbox"/> Subdivisions (\$500 + \$25/lot) <input type="checkbox"/> # of Lots ___ x \$25/lot = _____ <input type="checkbox"/> Site Location (\$3,000, except for residential projects which shall be \$200/lot) <input type="checkbox"/> # of Lots ___ x \$200/lot = _____ <input type="checkbox"/> Other _____ <input type="checkbox"/> Change of Use <input type="checkbox"/> Flood Plain <input type="checkbox"/> Shoreland <input type="checkbox"/> Design Review <input type="checkbox"/> Housing Replacement <input type="checkbox"/> Historic Preservation</p>
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APPLICATION SUBMISSION:

1. All site plans and written application materials must be submitted electronically on a CD or thumb drive with each plan submitted as separate files, with individual file which can be found on the **Electronic Plan and Document Submittal** page of the City’s website at <http://me-portland.civicplus.com/764/Electronic-Plan-and-Document-Submittal>
2. **In addition, one (1) paper set of the plans (full size), one (1) paper set of plans (11 x 17), paper copy of written materials, and the application fee must be submitted to the Building Inspections Office to start the review process.**

The application must be complete, including but not limited to the contact information, project data, application checklists, wastewater capacity, plan for fire department review, and applicant signature. The submissions shall include one (1) paper packet with folded plans containing the following materials:


1. **One (1) full size site plans that must be folded.**
2. One (1) copy of all written materials or as follows, unless otherwise noted:
 - a. Application form that is completed and signed.
 - b. Cover letter stating the nature of the project.
 - c. All Written Submittals (Sec. 14-525 2. (c), including evidence of right, title and interest.
3. A stamped standard boundary survey prepared by a registered land surveyor at a scale not less than one inch to 50 feet.
4. Plans and maps based upon the boundary survey and containing the information found in the attached sample plan checklist.
5. One (1) set of plans reduced to 11 x 17.

Please refer to the application checklist (attached) for a detailed list of submission requirements.

APPLICANT SIGNATURE:

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement’s authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for a Level III Site Plan review. It is not a permit to begin construction. An approved site plan, a Performance Guarantee, Inspection Fee, Building Permit, and associated fees will be required prior to construction. Other Federal, State or local permits may be required prior to construction, which are the responsibility of the applicant to obtain.

Signature of Applicant: 	Date: September 2, 2015
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PROJECT DATA

The following information is required where applicable, in order to complete the application.

Total Area of Site		27.56 sq.-ft. ac.
Proposed Total Disturbed Area of the Site		3.50 sq.-ft. ac.
If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland.		
Impervious Surface Area		
Impervious Area (Total Existing)	Entire Site	725,710 sq. ft.
Impervious Area (Total Proposed)	Entire Site After This Phase	687,813 sq. ft.
	New Impervious Area Construction in this Phase	2.20 ac.
Building Ground Floor Area and Total Floor Area		
Building Footprint (Total Existing)	Brick South (Only)	34,600 sq. ft.
Building Footprint (Total Proposed)	Brick South (Only)	34,600 sq. ft.
Building Floor Area (Total Existing)	Brick South (Only)	34,600 sq. ft.
Building Floor Area (Total Proposed)	Brick South (Only)	34,600 sq. ft.
Zoning		
Existing		B-5
Proposed, if applicable		B-5
Land Use		
Existing		Industrial
Proposed		Mixed Use/TBD Event/Assembly
Residential, If applicable		
# of Residential Units (Total Existing)		None
# of Residential Units (Total Proposed)		None Proposed
# of Lots (Total Proposed)		None Proposed
# of Affordable Housing Units (Total Proposed)		None Proposed
Proposed Bedroom Mix		
# of Efficiency Units (Total Proposed)		N/A
# of One-Bedroom Units (Total Proposed)		
# of Two-Bedroom Units (Total Proposed)		
# of Three-Bedroom Units (Total Proposed)		
Parking Spaces		
# of Parking Spaces (Total Existing)		Not Known
# of Parking Spaces (Total Proposed)		118
# of Handicapped Spaces (Total Proposed)		8
Bicycle Parking Spaces		
# of Bicycle Spaces (Total Existing)		0
# of Bicycle Spaces (Total Proposed)		16
Estimated Cost of Project		\$3,000,000

PRELIMINARY PLAN (Optional) - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	GENERAL WRITTEN SUBMISSIONS CHECKLIST
N/A		1	Completed Application form
N/A		1	Application fees
N/A		1	Written description of project
N/A		1	Evidence of right, title and interest
N/A		1	Evidence of state and/or federal approvals, if applicable
		1	Written assessment of proposed project's compliance with applicable zoning requirements
N/A		1	Summary of existing and/or proposed easement, covenants, public or private rights-of-way, or other burdens on the site
N/A		1	Written requests for waivers from site plan or technical standards, if applicable.
N/A		1	Evidence of financial and technical capacity
N/A		1	Traffic Analysis (may be preliminary, in nature, during the preliminary plan phase)
Applicant Checklist	Planner Checklist	# of Copies	SITE PLAN SUBMISSIONS CHECKLIST
N/A		1	Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
N/A		1	Preliminary Site Plan including the following: (information provided may be preliminary in nature during preliminary plan phase)
N/A			Proposed grading and contours;
N/A			Existing structures with distances from property line;
N/A			Proposed site layout and dimensions for all proposed structures (including piers, docks or wharves in Shoreland Zone), paved areas, and pedestrian and vehicle access ways;
N/A			Preliminary design of proposed stormwater management system in accordance with Section 5 of the Technical Manual (note that Portland has a separate applicability section);
N/A			Preliminary infrastructure improvements;
N/A			Preliminary Landscape Plan in accordance with Section 4 of the Technical Manual;
N/A			Location of significant natural features (including wetlands, ponds, watercourses, floodplains, significant wildlife habitats and fisheries or other important natural features) located on the site as defined in Section 14-526 (b) (1);
N/A			Proposed buffers and preservation measures for significant natural features, as defined in Section 14-526 (b) (1);
N/A			Location , dimensions and ownership of easements, public or private rights of way, both existing and proposed;
N/A			Exterior building elevations.

FINAL PLAN - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	GENERAL WRITTEN SUBMISSIONS CHECKLIST (* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)
X		1	* Completed Application form
TBD		1	* Application fees
X		1	* Written description of project
On File		1	* Evidence of right, title and interest
On File		1	* Evidence of state and/or federal permits
X		1	* Written assessment of proposed project's specific compliance with applicable Zoning requirements
X		1	* Summary of existing and/or proposed easements, covenants, public or private rights-of-way, or other burdens on the site
On File		1	* Evidence of financial and technical capacity
On File		1	Construction Management Plan
X		1	A traffic study and other applicable transportation plans in accordance with Section 1 of the technical Manual, where applicable.
X		1	Written summary of significant natural features located on the site (Section 14-526 (b) (a))
X		1	Stormwater management plan and stormwater calculations
On File		1	Written summary of project's consistency with related city master plans
On File		1	Evidence of utility capacity to serve
X		1	Written summary of solid waste generation and proposed management of solid waste
X		1	A code summary referencing NFPA 1 and all Fire Department technical standards
X		1	Where applicable, an assessment of the development's consistency with any applicable design standards contained in Section 14-526 and in City of Portland Design Manual
X		1	Manufacturer's verification that all proposed HVAC and manufacturing equipment meets applicable state and federal emissions requirements.

Applicant Checklist	Planner Checklist	# of Copies	SITE PLAN SUBMISSIONS CHECKLIST (* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)
X		1	* Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
X		1	Final Site Plans including the following:
X			Existing and proposed structures, as applicable, and distance from property line (including location of proposed piers, docks or wharves if in Shoreland Zone);
X			Existing and proposed structures on parcels abutting site;
X			All streets and intersections adjacent to the site and any proposed geometric modifications to those streets or intersections;
X			Location, dimensions and materials of all existing and proposed driveways, vehicle and pedestrian access ways, and bicycle access ways, with corresponding curb lines;
X			Engineered construction specifications and cross-sectional drawings for all proposed driveways, paved areas, sidewalks;
X			Location and dimensions of all proposed loading areas including turning templates for applicable design delivery vehicles;
N/A			Existing and proposed public transit infrastructure with applicable dimensions and engineering specifications;
X			Location of existing and proposed vehicle and bicycle parking spaces with applicable dimensional and engineering information;
X			Location of all snow storage areas and/or a snow removal plan;
On File			A traffic control plan as detailed in Section 1 of the Technical Manual;
X			Proposed buffers and preservation measures for significant natural features, where applicable, as defined in Section 14-526(b)(1);
N/A			Location and proposed alteration to any watercourse;
X			A delineation of wetlands boundaries prepared by a qualified professional as detailed in Section 8 of the Technical Manual;
N/A			Proposed buffers and preservation measures for wetlands;
On File			Existing soil conditions and location of test pits and test borings;
X			Existing vegetation to be preserved, proposed site landscaping, screening and proposed street trees, as applicable;
X			A stormwater management and drainage plan, in accordance with Section 5 of the Technical Manual;
X			Grading plan;
X			Ground water protection measures;
X			Existing and proposed sewer mains and connections;

- Continued on next page -

X		Location of all existing and proposed fire hydrants and a life safety plan in accordance with Section 3 of the Technical Manual;
X		Location, sizing, and directional flows of all existing and proposed utilities within the project site and on all abutting streets;
X		Location and dimensions of off-premises public or publicly accessible infrastructure immediately adjacent to the site;
X		Location and size of all on site solid waste receptacles, including on site storage containers for recyclable materials for any commercial or industrial property;
X		Plans showing the location, ground floor area, floor plans and grade elevations for all buildings;
N/A		A shadow analysis as described in Section 11 of the Technical Manual, if applicable;
N/A		A note on the plan identifying the Historic Preservation designation and a copy of the Application for Certificate of Appropriateness, if applicable, as specified in Section Article IX, the Historic Preservation Ordinance;
TBD		Location and dimensions of all existing and proposed HVAC and mechanical equipment and all proposed screening, where applicable;
X		An exterior lighting plan in accordance with Section 12 of the Technical Manual;
N/A		A signage plan showing the location, dimensions, height and setback of all existing and proposed signs;
X		Location, dimensions and ownership of easements, public or private rights of way, both existing and proposed.

ATTACHMENT A

EVIDENCE OF TITLE, RIGHT AND INTEREST

(Title, Right and Interest have been provided as part of previous Site Plan Applications and are on file with the City of Portland.)

ATTACHMENT B

LEVEL III SUBMISSION SUPPORTING NARRATIVE

LEVEL III SUBMISSION SUPPORTING NARRATIVE

In accordance with Section 14-527 (f) and (g) the General Written Submission Checklist, we offer the following narrative describing the information supporting the Level III Site Plan submission.

Section 14-527 (f)

1. thru 4. The Boundary and Topographic Survey Plans submitted as part of the original Level III approval documents and subsequent Master Plan approval documents remain valid and are made part of the current Level III Site Plan submission by reference. The previously submitted boundary and topographic plans and the Sheet C-2.0 – Existing Conditions Plan included with this plan set satisfy Items 1 thru 4 of this section.
5. A Site Layout Plan (Sheet C-3.0), Site Details (Sheet C-8.0 and C-8.1), and Typical Roadway Cross Sections (Sheet C-8.8) accompany this submission. These plans show the location and details for all proposed paved areas and sidewalks.
6. The proposed Brick South Building will be serviced along the back drive along the southerly side of the building with small box trucks and service vehicles. The building will not require a traditional recessed loading dock. Existing oversized overhead doors on the northerly, southerly and easterly sides of the building is expected to remain for larger deliveries. A short section of low profile curbing will be installed such that smaller trucks can mount the curb and back up to the north westerly door.
7. The project is located adjacent to the Portland Transportation Center which is the home of the City's major transportation hub including train, charter bus, Metro bus, taxi and commuter vehicle parking. This phase of the project is not anticipated to generate enough use to warrant a dedicated Metro bus or taxi accommodation. However, public transit remains a large part of the overall Master Plan. The site layout plan shows a significant pedestrian connection from the parking facility to the Transportation Center and more specifically to the existing Metro bus stop.
8. Generally speaking, the existing site has four main parking areas with a mixture of surface treatments from gravel to pavement. Today, parking on the site is very loosely defined and does not include formally delineated parking spaces or aisles. The first area is located on the northwestern part of the site known as the "panhandle" and is used by Hood Dairy cooler truck parking. The second area along the westerly side of the peninsula abuts the existing access road and access to the Portland Water District's pump station. The third parking area is nestled in the center of the site between the abutting Suburban Propane Property, Brick North Building and Brick South Buildings. The last area of existing parking is east and south of the Brick South Building.

This phase of the Forefront project will focus on the third area described above. The applicant proposes the construction of a two-lane roadway extending from the newly widened Thompson's Point Connector Road into the site approximately 800 feet. The roadway will serve as the main spine onto the site and provide both vehicular and pedestrian access to all of the existing and proposed uses on the site. Additionally, a new 118 parking space parking lot is proposed to serve a soon to be renovated Brick North Building, renovated Brick South Building, and special events held at the Depot Pavilion. The parking lot meets the City of Portland Technical Design Manual and Land Use Code and is detailed on the enclosed design drawings. Sixteen (16) bicycle parking spaces have been provided adjacent to the prominent building entrances.

9. The snow storage will be pushed off the roadway edges and around the perimeter of the parking lot. The proposed parking and roadway improvements will occupy approximately 3 acres of a 27.65 acre

site. This allows for ample space for snow storage within the site boundaries. The proposed entrance road still acknowledges and incorporates a City of Portland turnaround area at the end of the Thompson's Point Road Right-of-Way.

10. This phase of the project is projected to produce approximately 112 AM and 190 PM Peak Hour trips to the site as included in Gorrill Palmer's August 31, 2015 memorandum submitted with the Subdivision Plan application and provided in Attachment C of this submission. This many vehicular trips falls well under the currently allocated vehicular trips as approved in the site's Traffic Movement Permit (TMP) and the Traffic Control Plan included in the June 2013 approved Level III Site Plan and December 2014 Brick North Level III Site Plan. The Traffic Control Plan is on file with the City of Portland and available upon request.
11. The applicant proposes two new stormwater management discharges within the 25 foot Mean High Water Setback as shown on Sheet C-5.1 – Stormwater Management Plan. With these exceptions, the balance of the proposed work is outside of the 25 foot Mean High Water Setback. Vegetative buffering is not proposed as part of this portion of the project. However, buffering still remains an important element to the overall Master Plan and Natural Resource Permits from the MeDEP and ACOE.
12. This project does not propose alterations to any watercourses. The accompanying plan sheets show the site's proximity to existing watercourses which includes the Fore River.
13. thru 14. Wetland boundaries and natural resources are shown on the referenced boundary and topographic plans. This portion of the Forefront project does not propose impacts to the delineated wetlands located on the panhandle portion of the site.
15. Existing soil conditions are documented in the previously approved Level III Site Plan and Master Development Plan. The site has a long history of heavy development and most of the surfaces are described as compacted gravel, pavement or building. The existing surface types are also identified on the accompanying plan set.
16. The site's existing vegetation is limited to scrub shrub around the perimeter of the peninsula. Limited disturbance to this vegetation will occur in order to install the stormwater discharge pipes. The applicant has shown the proposed landscaping on Sheet L-1 –Landscaping Plan.
17. The Stormwater Management Plan is shown on Sheet C-5.1. The applicant proposes the use of stormwater treatment measures consistent with the approved Stormwater Management Report and described in the enclosed supplemental stormwater management memorandum in Attachment D. The proposed treatment measures are compliant with Section 5 of the City of Portland Technical Manual and requirements of the MeDEP Site Location of Development as approved through the City's Delegated review authority.
18. The proposed Grading Plan is shown on Sheet C-5.0. This plan shows the detailed site grading within the "disturbed areas" as defined in Section 5 III (F) of the City of Portland Technical Manual. Generally speaking, the site grades are greater than 3' above the 100-year floodplain as indicated on the latest Flood Hazard Maps for the City of Portland.
19. The proposed plan has implemented the following ground water protection measures:
 - a. Proposed stormwater treatment measures require an impermeable liner to separate stormwater and groundwater.

- b. The Erosion Control Plan has strict requirements as detailed in the approved Voluntary Remediation Action Program (VRAP) regarding the release of groundwater from the site.
 - c. All sanitary sewer mains must meet the City of Portland Technical standards for infiltration and watertight manholes and pipe joints.
20. Sheet C-4.0 –Utility Plan shows the proposed sewer main and service stub connections for future lots as contemplated by the Master Development Plan. Sheet C-10.0 shows the sanitary sewer main profiles and Sheet C-8.4 shows typical sanitary sewer trench and appurtenance details. A majority of the new sanitary sewer line has been installed to serve the approved Brick North Building. The Brick South Building will require a grease trap and line to serve the kitchen in addition to the sanitary sewer service.
 21. The applicant proposes three new fire hydrants, two of which will be maintained by the Portland Water District as part of the public water main extension. Four existing hydrants will remain in use as onsite private hydrants. Upon completion of this phase, the site will have 7 fire hydrants as depicted on the enclosed Sheet C-9.0 Fire Safety Compliance Plan. Mark Cummings of Fire Risk Management, Inc. has prepared a Life Safety Plan Memorandum Dated 09-03-15 and found in Attachment E.
 22. Sheet C-4.0 Utility Plan shows all proposed and existing utilities. This phase of the project includes all new utility main connections with-in the main access drive corridor that will serve both the existing on-site buildings and the abutting Suburban Propane property. The new services include a water main extension, gas main, sanitary sewer, underground primary power, and underground communication duct bank.
 23. The site is located on a peninsula and Item #23 is not applicable to this site.
 24. A dumpster pad with screening fence enclosure is proposed on the south side of the Brick South Building as shown on Sheet C-3.0 Site Layout Plan. The dumpster pad is sized to accommodate a 30 yd compaction dumpster, 8 yd recyclable card board dumpster, and a 1.5 cy recyclable grease dumpster.
 25. A building floor plan and building elevation for the Brick South Building renovations are included in the plan set. Building renderings are included in Attachment F.
 26. A shadow analysis is not applicable to this application.
 27. All communication with the Maine Historic Preservation Commission and a copy of the Application for Certificate of Appropriateness is on file with the City.
 28. The location and dimensions of all existing and proposed HVAC and mechanical equipment will be submitted as part of the building permit application. At this time it is contemplated that all equipment will be located on the roof and resemble the appearance to those units installed on the Brick North Building.
 29. An exterior lighting plan & photometrics plan prepared by Bartlett Designs are shown on the E-series drawings with this application. Lighting fixture cut sheets are provided in Attachment H.
 30. All proposed street signage shall meet the Manual for Uniform Traffic Control Devices (MUTCD) and is shown on Sheet C-3.0. Project way finding and identification signage will be submitted under a subsequent application.

31. The location, dimensions and ownership of easements, public and private rights of way, both existing and proposed are shown on Sheet C-1.1 Sectional Recording 1. The Subdivision Plan has been revised to include a couple of future building lots, Brick South Building lot, and a lot for the existing Depot structure.

Section 14-527 (g)

1. An approved Construction Management Plan was included in the original Level III Site Plan and is on file with the City.
2. A Traffic Study was completed as part of the approved MaineDOT Traffic Movement Permit for the previously reviewed Level III Site Plan Application and more recently updated and approved with the Master Development Plan. The work proposed as part of this application does not waiver from these approvals and is consistent with the analysis and findings of the TMP.
3. There are no significant natural features within the site development area except for the far westerly end of the panhandle where some mature trees have established and which require protection under the Shoreland protection requirements. Furthermore, the Fore River tidal flats and river surround the perimeter of the peninsula.
4. A detailed narrative describing the existing site watershed hydrology, existing buildings, and existing land cover is included in the previously approved stormwater management reports and are on file with the City. Attachment D includes a supplemental stormwater memorandum describing the impacts proposed as part of this phase of work. The proposed improvements included with this submission include the disturbance of approximately 3.5 acres.
5. Stormwater runoff calculations as described in Section 5 of the Technical Manual are enclosed in Attachment D.
6. This phase of work is consistent with the Master Development Plan approved by the City in March of 2014 which was found to be consistent with the City Master Plans.
7. Evidence of Utility Capacity to Serve was provided in the June 2012 approved Level III Site Plan application and is on file with the City. The uses proposed in this phase of the project are negligible compared to the total projected usage for the entire project. Further evidence of utility capacity to serve is not anticipated to be required at this time.
8. The renovation of the existing Brick South Building will generate solid waste to be managed by the General Contractor with a licensed waste and recycling facility. Prior to the renovation of any building, the contractor will be required to perform remedial abatement in accordance with the approved MaineDEP VRAP plan. Upon complete abatement of contaminated materials the remaining typical building materials will be processed on site and disposed of in an approved recycling or landfill facility.
9. A review of NFPA 1 is included in Attachment E. This was completed by Fire Risk Management, Inc.
10. A review of the Applicable Design Standards of Section 15-426 is included in Attachment G of the application.

11. HVAC equipment is anticipated to meet all applicable state and federal emission requirements. This will be verified during the building permit process upon final building plan development.

General Written Submissions Checklist

As acknowledged on the Level III Plan Submission's General Written Submissions Checklist, we note the following items not previously covered in this supporting narrative:

Item: Evidence of Right, Title and Interest

Copies of the Transfer Deed to Forefront Partners, I LP and agreements with Suburban Propane were part of the Approved Level III Brick North Site Plan Application and are on file with the City.

Item: Evidence of State and/or Federal Approvals; if applicable

The Applicant has previously provided copies of the State and Federal Permits issued for the project including the Traffic Movement Permit, U.S. ACOE Permit, and MaineDEP NRPA Permit.

Item: Written Assessment of Proposed Project's Compliance with Applicable Zoning Requirements

A written summary is contained in this supporting narrative (Attachment B) to this submission.

Item: Evidence of Financial and Technical Capacity

The Applicant has previously provided information pertaining to financial and technical capacity, which has most recently been used for the approved Level III Brick North Site Plan and which are on file with the City.

ATTACHMENT C

**GORRILL-PALMER PARKING SUMMARY AND TRIP GENERATION
MEMORANDUM DATED AUGUST 31, 2015**

**The Forefront at Thompson's Point Trip
 Generation for the Master Plan
 August 31, 2015
 Completed by Gorrill Palmer**

The following is a summary of forecast trip generation for the proposed Master Plan for the Forefront at Thompson's Point. The following corresponds to the "Revised Master Plan" provided by FST and Carroll Associates.

<u>Building</u>	<u>Description</u>	<u>Size</u>	<u>AM Peak Hour</u>	<u>PM Peak Hour</u>
A	Winery	5,840 sf	4	16
	Circus Conservatory	6,799 sf	5	4
	Big Room Studios	3,461 sf	13	20
	Café	1,377 sf	16	15
	Brewery	10,809 sf	8	8
	Distillery	5,284 sf	4	4
	Color Me Mine	2,136 sf	2	6
B1	Multi-Purpose (Assume Live Theater)	4,800 Seats	---	96
B2	Restaurant	3,600 sf	41	39
B3	Ancillary	3,600 sf	---	---
C	Event/Assembly Space	2,500 Seats	---*	---*
D	Gym	9,000 sf	11	36
	Medical Office	2,000 sf	5	7
	Educational Space	30,600 sf	20	17
E	Hotel	125 Rooms	70	74
	Restaurant	6,000 sf	69	66
	Condos	24 Units	11	12
F1/F2	Parking Garage		---	---
G	Office	180,000 sf	300	280
H	Event Center (Incl. Arena and Convention)	4,800 seats	115	224
I	Cultural Center	40,000 sf	29	29
J1	Condos	160 Units	70	83
J2	Condos	160 Units	70	83
Subtotal			863	1119
Reduction (10%) for Bus / Train / Shared Use			(-86)	(-112)
Total Master Plan Trip Generation			777	1007
Permitted Trip Ends			734	1091
Difference Between Permitted and Master Plan			43	-84

*Maximum of 4,800 people on site for events. Highest trip generation would be an evening with an event in Building H, not Building C.

MEMORANDUM
Forefront at Thompson's Point
Parking Summary

Date: August 31, 2015
Subject: Parking Summary
 Forefront at Thompson's Point
 Portland, Maine
To: City of Portland
From: Randy Dunton, Gorrill-Palmer (JN 2419)

Since the peak parking demand for each individual use does not occur concurrently, the overall peak parking demand for the site was reviewed. The following is a summary of the forecasted peak parking demand. The results reflect a combination of the City parking requirements, ITE Parking Generation Manual (4th Edition), and published data / engineering judgment. For the purpose of the overall peak parking demand, the site was reviewed for two time periods; 5 PM or prior and after 5 PM. On an average day, vehicles would be expected to park on-site. On a day when large groups of people are anticipated, some parking in nearby lots may also be needed, depending on the size of the special event.

<u>Scenario</u>	<u>5 PM or prior</u>	<u>After 5 PM</u>
Average Day without Theater / Arena / Convention	771	442
Average Day With Live Theater after 5 PM	1535	1790
Average Day With Arena Activity after 5 PM	1398	1790
Average Day With Convention during the day	1401	754

RED/red/jn2419/Parking Summary Memo 8-31-15.doc

Building Letter	Brick North										Total for Brick North	
	A		A		A		A (2)		A			A
Rate	Specialty Retail (6)	Circus Conservatory	Office	Café	Manufacturing (5)	Manufacturing (5)	Manufacturing (5)	Specialty Retail	Manufacturing (5)	Specialty Retail	Manufacturing (5)	Specialty Retail
Monthly Adjustment	200	0.36	1/400 sf	13.56/1000	1.020	1.02 / 1000 sf	1.020	200	1.020	200	1.02 / 1000 sf	1 / 200 sf
SQF or Unit	5840	120	3461	2200	10809	10,809 sf	2136	5284	5,284 sf	2136	2,136 sf	1
6:00AM	0.00	0.23	0.00	0.73	0.00	0	0.00	0	0.00	0.00	0	7
7:00AM	0.00	0.23	0.20	1.00	0.55	6	0.20	3	0.55	0.20	3	20
8:00AM	0.00	0.79	0.64	0.63	0.69	8	0.64	4	0.69	0.64	4	42
9:00AM	0.00	0.88	0.93	0.57	0.74	8	0.93	4	0.74	0.93	4	50
10:00AM	0.20	0.98	1.00	0.42	0.75	8	1.00	4	0.75	1.00	4	57
11:00AM	0.64	1.00	1.00	1.00	0.75	8	1.00	4	0.75	1.00	4	65
12:00PM	0.90	0.93	0.90	0.63	0.73	8	0.90	4	0.73	0.90	4	64
1:00PM	0.93	0.88	0.90	0.57	0.97	11	0.90	5	0.97	0.90	5	67
2:00PM	1.00	0.81	1.00	0.42	1.00	11	1.00	5	1.00	1.00	5	69
3:00PM	1.00	0.74	1.00	0.39	0.95	10	1.00	5	0.95	1.00	5	66
4:00PM	0.93	0.33	0.93	0.73	0.77	8	0.93	4	0.77	0.93	4	53
5:00PM	0.64	0.23	0.64	1.00	0.62	7	0.64	3	0.62	0.64	3	39
6:00PM	0.20	0.23	0.20	0.63	0.00	0	0.20	0	0.00	0.20	0	13
7:00PM	0.00	0.23	0.10	0.57	0.00	0	0.10	0	0.00	0.00	0	7
8:00PM	0.00	0.23	0.10	0.42	0.00	0	0.10	0	0.00	0.00	0	7
9:00PM	0.00	0.23	0.10	0.39	0.00	0	0.10	0	0.00	0.00	0	7
10:00PM	0.00	0.23	0.10	0.27	0.00	0	0.10	0	0.00	0.00	0	6

1. Specialty Retail = Color Me Mine
2. Modified Coffee / Donut Shop without Drive-Thru
3. Assumes Evening Event
4. Restaurant changes from 6.5/1,000 SF to 10/1,000SF at 4:00 PM
5. Factors based on ITE LUC 130 -Industrial Park
6. Factors adjusted to reflect a 11:00AM opening time

Building B			Brick South			Building D						Total for "D" Buildings
B1 (3)	B2	B3 (4)	Total for "B" Buildings			C (Brick South)			D			Total for "D" Buildings
Live Theater (Depot)	Ancillary	Restaurant				Event Space			Medical Office			Education
3.50	0.00	6.50	6.5 / 10	3.5	3.5 persons per vehicle	4.55	4.55 / 1000	400	1/400 sf	0.36	0.36 / student	
	1	1		1	1			1			1	
4800	0.00	3.60	3600 sf	2500	2500 person	9	9,000 sf	2	2,000 sf	120.0	120 students (Shared with Building A)	
0.00	0	0.00	0	0.00	0	0.45	18	0.02	0	0.23	5	24
0.00	0	0.10	2	0.01	4	0.35	14	0.20	1	0.23	5	20
0.00	0	0.10	2	0.01	4	0.50	20	0.66	3	0.79	17	41
0.01	7	0.20	5	0.01	4	0.65	27	0.86	4	0.88	19	50
0.01	7	0.30	7	0.01	4	0.65	27	1.00	5	0.98	21	53
0.01	14	0.90	21	0.01	7	0.75	31	0.95	5	1.00	22	57
0.01	14	1.00	23	0.01	7	0.95	39	0.78	4	0.93	20	63
0.08	103	0.90	21	0.01	7	0.95	39	0.83	4	0.88	19	62
0.10	137	0.65	15	0.02	11	1.00	41	0.99	5	0.81	17	63
0.25	343	0.35	8	0.03	21	0.75	31	0.93	5	0.74	16	51
0.35	480	0.35	8	0.10	71	0.65	27	0.77	4	0.33	7	38
0.65	891	0.60	14	0.55	393	0.50	20	0.19	1	0.23	5	26
0.95	1303	0.90	21	0.85	607	0.25	10	0.05	0	0.23	5	15
1.00	1371	1.00	23	1.00	714	0.00	0	0.02	0	0.23	5	5
1.00	1371	1.00	23	1.00	714	0.00	0	0.01	0	0.23	5	5
1.00	1371	1.00	23	1.00	714	0.00	0	0.01	0	0.23	5	5
1.00	1371	0.75	18	1.00	714	0.00	0	0.01	0	0.23	5	5

Building J		Total for "J"							
J1	J2								
Condo	Condo								
1	1 per Unit	1	1 per Unit						
1	1	1	1						
160	160 Units	160	160 Units						
0.84	134	0.84	134	269	329	329	329	329	389
0.62	99	0.62	99	198	384	387	384	391	573
0.41	66	0.41	66	131	552	556	552	559	864
0.34	54	0.34	54	109	676	680	683	683	1306
0.32	51	0.32	51	102	715	719	722	722	1345
0.31	50	0.31	50	99	752	759	766	766	1382
0.30	48	0.30	48	96	713	720	727	727	1343
0.31	50	0.31	50	99	718	725	821	732	1348
0.33	53	0.33	53	106	771	782	908	791	1401
0.37	59	0.37	59	118	767	788	1110	808	1397
0.45	72	0.45	72	144	739	811	1219	876	1369
0.61	98	0.61	98	195	644	1037	1535	1398	1274
0.69	110	0.69	110	221	442	1049	1745	1608	754
0.72	115	0.72	115	230	383	1097	1754	1754	572
0.80	128	0.80	128	256	388	1102	1759	1759	577
0.89	142	0.89	142	285	419	1133	1790	1790	479
0.92	147	0.92	147	294	418	1132	1789	1789	478

ATTACHMENT D

**SUPPLEMENTAL STORMWATER MANAGEMENT REPORT
AND CALCULATIONS FOR
BRICK SOUTH LEVEL III SITE PLAN APPLICATION**

**SUPPLEMENTAL STORMWATER MANAGEMENT REPORT
FOR BRICK SOUTH LEVEL III SITE PLAN APPLICATION
(GENERAL STANDARDS)**

**THE FOREFRONT AT THOMPSON'S POINT
PORTLAND, ME**

PREPARED FOR:

**FOREFRONT PARTNERS I, LP
501 DANFORTH STREET
PORTLAND, MAINE 04102
(207) 784-0335**

PREPARED BY:

**FAY, SPOFFORD & THORNDIKE
778 MAIN STREET, SUITE 8
SOUTH PORTLAND, MAINE 04106
(207) 775-1121**

September 2015



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Appendix B – Stormdrain Sizing Computations

Appendix C – Summary of Water Quality Treatment

SUPPLEMENTAL STORMWATER MANAGEMENT REPORT

1.0 Introduction

Fay, Spofford & Thorndike (FST) (formerly DeLuca-Hoffman Associates, Inc.) was retained by Forefront Partners I, LP for preparation of the proposed mixed-use development of Thompson's Point in Portland, Maine. The September 2015 Brick South Site Plan expands the parking area previously approved as part of the December 4, 2014 Brick North Site Plan application and remains consistent with the approved Master Plan.

This supplemental report is intended to describe the improvements included with the renovated Brick South Building plan and demonstrate the integration of stormwater treatment and conveyance design with the approved Master Plan Stormwater Management Strategy. The enclosed computations show that this phase of the project has been designed to meet the Portland Stormwater Management Standards adopted 7/19/10 and General Stormwater Standards of MeDEP (revised October 2010) and are consistent with the overall goals presented in previous Stormwater Reports. The intent of the stormwater management design, erosion and sediment control, and Inspection and Maintenance Manual have remained the same as approved in June 5, 2012. This phase of the project will have a cumulative developed area 3.32 acres of which 2.20 acres are newly constructed impervious. Revisions to the site plan and how it relates to each Stormwater Management Discharge Zone is outlined below and tabulated in the attached spreadsheet.

2.0 Changes to Filterra Sizing Criteria

As of January 21, 2015 StormTech[®] isolator rows are no longer required to accompany Filterra[®] Tree Box units as stated in a letter sent from the Maine DEP to Contech. Along with removing the isolator row, Maine DEP also re-defined the maximum allowable tributary for each filter. The following table summarizes the new sizing criteria:

Filterra[®] Model Number	Area in Acres
4x6 or 6x4	Up to 0.17
4x8 or 8x4	0.18-0.22
6x6	0.23-0.25
6x8 or 8x6	0.26-0.33
6x10 or 10x6	0.34-0.42
6x12 or 12x6	0.43-0.50
7x13 or 13x7	0.51-0.63

There are two Filterra[®] box units that were previously approved during the Brick North Stand Alone (phase 1A) Level III Site Plan Application (PEZ 2014-120) that was approved on December 4, 2014. The Filterra[®] tree box units designed for sub-catchments D-18 and D-19 were sized using the previous Maine DEP BMP Filterra[®] sizing standards. At the time of approval, FST had received a letter from the Maine DEP on June 21, 2014 that Filterra[®] units would no longer require StormTech[®] isolator rows.

3.0 Jellyfish Fish Filter Units

As of January 21, 2015 Maine DEP has approved the use of a Jellyfish™ filter unit as an acceptable BMP for stormwater treatment. Jellyfish™ units have been integrated into the overall stormwater management strategy and are designed to treat zones that were previously treated by StormTreat™ units. Maine DEP approves the use of the Jellyfish™ units when sized, installed and maintained in accordance with the following provisions:

- Each treatment cartridge is approved for a maximum flow rate of 80 GPM for each 54-inch long membrane cartridge and 40 GPM for each drawdown cartridge.
- Upstream water quality volume equal to 1.0 inch of runoff from impervious surfaces and 0.4 inch of runoff from landscaped areas to be stored and hydraulically isolated from any other storage on site. Water quality volume must also be drained in 24-48 hours.
- All systems must provide means to maintain the system.
- System must be inspected every 6 months.
- Review and approval by the manufacturer for the proposed use and sizing of the Jellyfish™ to ensure conformance with the manufacturer's design specifications.

Jellyfish™ units for this project have been designed by the manufacturer's engineers and checked thoroughly by FST. See Jellyfish™ unit details on Sheet C-7.0 Detail A. Also see Appendix A for attached Jellyfish™ unit computations.

4.0 Stormwater Management Revisions

Zone D (Access Road and Parking Lot):

The expanded parking lot associated with the Brick South Site Plan is included in Zone D discharge area. A majority of the Zone D development area was previously approved as part of the December 4, 2014 Brick North Site Plan application. This supplemental report is intended to describe the changes to water quality treatment design as a result of new technology since made available.

Zone D continues to include a storm drainage trunk line sized to convey stormwater runoff from offsite sources (NNEPRA, Suburban Propane, and Thompson's Point Connector Road), treated and overflow discharge from the Filterra® units, and overflow discharge from the Jellyfish™ Treatment Units. The trunk line has been sized with consideration of potential flow from future phases of the project as shown in the enclosed stormdrain sizing computations in Appendix B.

Zone D water quality treatment will be comprised of two treatment measures:

- A collection of Filterra® (or approved equal) tree box filters sized for the specific tributary area to each filter. All Tree-Box Filters have been designed to meet new sizing requirements as of January 21, 2015.
- A Contech Jellyfish™ Treatment Unit:

Jellyfish™ units are manholes that utilize membrane filtration treatment cartridges. Flow enters the Jellyfish™ from an upstream storage chamber and flows down into a settling tank portion of the unit. Once the settling tank is filled, flow from the bottom of the tank is forced up through

hi-flow cartridges and routes to the outlet. A baffle wall is located between the inlet and outlet compartments to ensure that un-treated flow is not mixed with treated flow. When the hi-flow treatment cartridge has filled, a drain down cartridges is activated treating the remaining water quality volume. Horizontal orifices are located on top of the cartridges to control the outflow of the system. Each Jellyfish™ unit is designed to discharge the water quality volume within 24-48 hours.

To meet Chapter 500, the Water Quality Volume provided with-in a Jellyfish™ System must be equal to or greater than the following:

$$1''/12 \times \text{impervious area} + 0.4''/12 \times \text{landscaped area} = \text{Water Quality Volume (cubic feet)}$$

Computations of Water Quality Volume for Zone D can be found in Appendix C.

The water quality volume is provided in a subsurface arched chambers storage system. This portion of the design is consistent with the previously design storage for the StormTreat™ systems.

Jellyfish™ units are designed based on a mass sediment loading calculation. Each treatment hi-flow cartridge has a mass capacity of 125 lbs and each low-flow (draindown) cartridge has a capacity of 63 lbs. The mass loading for each zone was determined by Maine DEP sediment loading standards, assuming a 50% sediment removal from a designed pre-treatment StormTech® Isolator row.

Discharge from larger storm events are controlled over a broad crested weir housed in a precast concrete outlet control structure set above the water quality volume. The overflow piping network is sized to handle runoff from a 25-year storm event. A rain event exceeding the storm drainage network would likely flood the catch basin inlet, into the parking lot and over the curb line to the river.

Pretreatment for flow entering from all inlet pipes to the storage area will be provided via the installation of a StormTech® Isolator row(s).

Therefore, water quality goals for the Jellyfish™ Proprietary Systems meet the General Stormwater Standards of the November 2005 Chapter 500 Rules of MeDEP (rev. January 2015).

The Jellyfish™ treatment systems and Filterra® are considered adequate to meet the Chapter 500 General Standards.

Zone F (Brick North Building, Brick South Building and Parking Lot):

The Zone F stormwater management strategy has remained the same as the previously approved Brick North Building site plan. The computations have been adjusted to reflect minor site plan adjustments to be consistent with the new Brick South Plan. Catch basin inlets with-in Zone F have been adjusted horizontally due to minor grading adjustments.

5.0 Conclusion

The stormwater management strategy for this phase of the project presented herein has remained the same as the June 5, 2012 approved report and supplemental Master Plan Strategy. The amended site plan treats 71% of the redeveloped area and 78% of the redeveloped impervious area; however, when a 60% credit is taken for the treatment of the Brick North building the amended site plan treats 85% of the net developed area and 99% of the net developed impervious area. The individual systems have been adjusted to accommodate layout revisions but ultimately the detailed design remains the same and meets or exceeds the City of Portland Stormwater Management Requirements.

6.0 Appendices

Appendix A – Jellyfish™ Treatment System Computations

Appendix B – Stormdrain Sizing Computations

Appendix C – Summary of Water Quality Treatment

APPENDIX A

JELLYFISH™ TREATMENT SYSTEM COMPUTATIONS



Determining Jellyfish Size for Mass Based Loading

CONTECH Engineered Solutions Engineer: CJA

Date Prepared: 3/11/2015

Site Information

Project Name	Thompsons Point Zone D
Project State	ME
Project City	Portland
Project County	Cumberland
Total Drainage Area, Ad	3.27 ac
Post Development Impervious Area, Ai	2.83 ac
Pervious Area, Ap	0.43 ac
% Impervious	87%
Runoff Coefficient, Rc	0.83
Detention credit	50%

Mass Loading Calculations

Mean Annual Rainfall, P	45 in
Agency Required % Removal	85%
Percent Runoff Capture	85%
MEDEP Mean Annual Runoff, Vt	417577 ft ³
Event Mean Concentration of Pollutant, EMC	70 mg/l
Annual Mass Load, M total	1823.71 lbs

Filter System

Filtration Brand	Jellyfish
Cartridge Length	54 in

Jellyfish Filter Sizing

Mass removed by pretreatment system, Mpre	911.85 lbs
Mass load to filters after pretreatment, Mpass1	911.85 lbs
Estimate the required filter efficiency, Efilter	0.70
Mass to be captured by filters, Mfilter	638.30
Water Quality Flow	0.168 cfs

Method to Use

MASS LOADING

Summary		
Mass	Nearest Jellyfish Mass Capacity	688.00 lbs
	Required Size	JF6-5-1

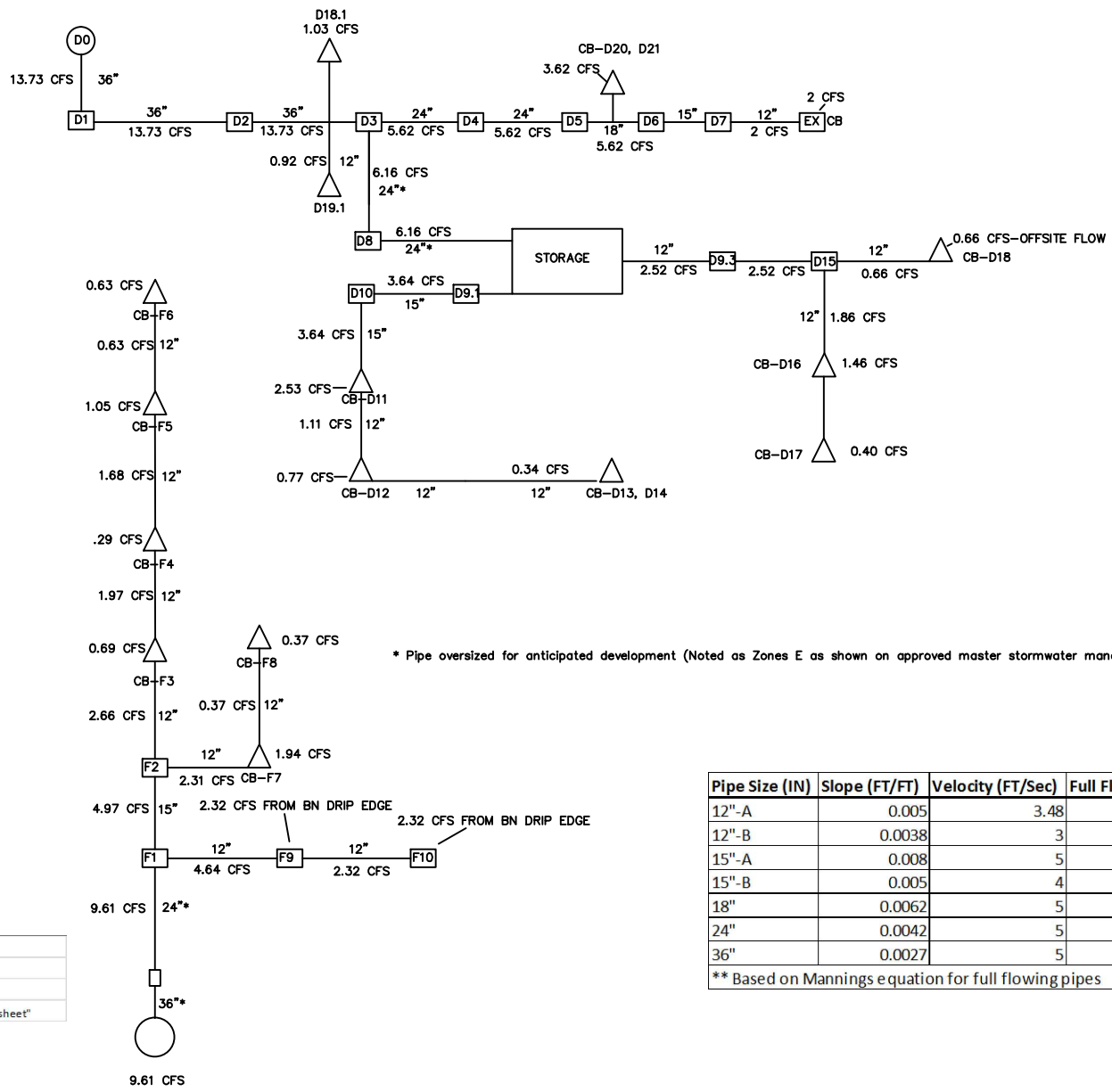
Total Mass Load Required	638.3	LBS
Mass Load Capacity of Hi-Flo 54" Cartridges	125	LBS
Mass Load Capacity of Draindown Cartridges	63	LBS
** Assume 1 Draindown Cartridge		
Mass Load Required After 1- Draindown Cartridge	575.3	LBS
Total High Flo Cartridges Required	4.60	EA
Hi Flow Cartridges Provided	5.00	EA
Draindown Cartridges Provided	1	EA
Jellyfish Model	JF6-5-1*	
*JF-Manhole Diameter-# Hi-flow cartridges- # Draindown Cartridges		

Jellyfish Unit Schedule	
Schedule ID	Zone
Schedule	D
A-Outlet Inv. to Bottom of Structure (ft)	6.42
B-Finished Grade to Outlet Inv.	6.98
C-Required Outflow (cfs)	0.066
D-Inlet Inv. From Water Quality Storage	10.52
E-Outlet Inv.	10.02
F-Underside of Slab	15.33
G-Rim Elevation	17
H-Underside of Slab to Outlet Inv. (ft)	5.31
Hatch Required?	NO

APPENDIX B

STORMDRAIN SIZING COMPUTATIONS

STORMWATER FLOW SCHEMATIC



* Pipe oversized for anticipated development (Noted as Zones E as shown on approved master stormwater management strategy plan.

Pipe Size (IN)	Slope (FT/FT)	Velocity (FT/Sec)	Full Flow Capacity** (CFS)
12"-A	0.005	3.48	2.73
12"-B	0.0038	3	2.38
15"-A	0.008	5	6.26
15"-B	0.005	4	4.95
18"	0.0062	5	8.96
24"	0.0042	5	15.93
36"	0.0027	5	37.54

** Based on Mannings e equation for full flowing pipes

- Notes:
1. All flows are based on 25-year rational method computations.
 2. Rainfall intensities based on Cumberland County IDF for 25 year storms.
 3. Full list of computations can be found on "Rational Method Flow Computation sheet"

Rational Method Flow Computations										
ZONE	INLET ID	IMPERVIOUS (SF)	PERVIOUS (SF)	TOTAL AREA (SF)	TOTAL AREA (ACRES)	WEIGHTED C	25-YEAR FLOW	10-YEAR FLOW	2-YEAR FLOW	1-Year Flow
Zone D	D-21	15,412.00	6,173.00	21,585.00	0.50	0.74	2.28	2.00	1.46	1.02
	D-20	9,687.00	772.00	10,459.00	0.24	0.89	1.34	1.18	0.00	0.60
	D-18**	6,004.00	7,241.00	9,604.00	0.22	0.74	1.03	0.90	0.00	0.46
	D-19**	6,430.00	1,673.00	8,103.00	0.19	0.80	0.92	0.81	0.00	0.41
	D-11	17,708.00	4,188.00	21,896.00	0.50	0.81	2.53	2.23	0.00	1.14
	D-16	10,139.00	2,880.00	13,019.00	0.30	0.78	1.46	1.29	0.00	0.66
	D-12	5,082.00	2,803.00	7,885.00	0.18	0.68	0.77	0.68	0.00	0.35
	D-13	2,056.00	1,940.00	3,996.00	0.09	0.59	0.34	0.30	0.00	0.15
	D-14	1,965.00	4,499.00	6,465.00	0.15	0.43	0.40	0.35	0.00	0.18
Zone D Sub-totals		74,483.00	32,169.00	103,012.00	2.36	-	11.08	9.75	1.46	4.96
Zone F	F-8	2,515.00	808.00	3,323.00	0.08	0.77	0.37	0.32	0.23	0.16
	F-7	13,385.00	3,942.00	17,327.00	0.40	0.78	1.94	1.71	1.24	0.87
	F-3	186.00	7,561.00	7,747.00	0.18	0.22	0.24	0.21	0.16	0.11
	F-4	256.00	2,506.00	2,762.00	0.06	0.27	0.11	0.09	0.07	0.05
	F-5	256.00	10,502.00	10,758.00	0.25	0.22	0.34	0.30	0.22	0.15
	F-6	348.00	5,638.00	5,986.00	0.14	0.24	0.21	0.18	0.13	0.09
	Brick South North Side	16,433.00	0.00	16,433.00	0.38	0.95	2.24	1.97	1.43	1.00
	Brick North	34,000.00	0.00	34,000.00	0.78	0.95	4.63	4.08	2.97	2.08
Zone F Sub-totals		67,379.00	30,957.00	98,336.00	2.26	-	10.07	8.86	6.45	4.51

Assumptions	
Pervious C	0.2
Impervious C	0.95
I-1 Year	2.8 in/hr
I-2 Year Storm	4 in/hr
I-10 Year Storm	5.5 in/Hr
I-25 Year Storm	6.25 in/Hr
Notes:	
1. Rainfall intensity based on Cumberland County IDF curve using a TC of 5 min.	

Zone D Required StormTech Chamber Storage Computation

Weir Wall Height	13.02	EL	
Bottom of Chamber Elevation	10.52	EL	
Total Chamber Height	30	Inches	30 (max chamber height)
Total Storage per chamber	61.38	CF	
Total WQV for Zone D	4,608.00	CF	
Total Chambers Required	75.1	#	
Total Chambers Provided	78	#	
Total Storage Provided	4787.64	CF	

Brick South Project Water Quality Volume (CF)	3622
Additional Water Quality Volume (full build plaza)	986

Notes:

1. Height of weirwall based on rational method flow calculations. See sheet "rational method flow computations". Structure D3 in which weir wall is located was modeled using HydroCad. See attached computations.

APPENDIX C

SUMMARY OF WATER QUALITY TREATMENT

Summary of Water Quality Treatment

Zone	Inlet ID	Impervious Area (sf)	Pervious Area (sf)	Total Area (sf)	Total Area (Acres) ¹	Required Water Quality Volume (CF) ²	Existing Developed Area Mitigation Credits (SF) ⁹	Treatment Approach ⁶	Filterra Size Required	Jellyfish Unit Provided ⁵	1 Yr 24-hr Storm Event Peak Flow Rate (cfs) ³	Required StormTech Isolator Row Chambers (SC-740) ⁴	Provided Water Quality Volume (CF) ⁷	StormTech Isolator Row Chambers (SC-740) Provided (EA) ¹⁰
Zone D	D-21	15,412.00	6,173.00	21,585.00	0.50	1490.10	-	Filterra	2-(6'x6')	-	0.52	NR	-	N/A
	D-20	9,687.00	772.00	10,459.00	0.24	832.98	-	Filterra	2-(4'x6')	-	0.81	NR	-	N/A
	D-18**	6,004.00	7,241.00	9,604.00	0.22	741.70	-	Filterra	4'x6'	-	0.40	NR	-	N/A
	D-19**	6,430.00	1,673.00	8,103.00	0.19	591.60	-	Filterra	4'x6'	-	0.41	NR	-	N/A
	D-11	17,708.00	4,188.00	21,896.00	0.50	1615.27	-	Contech Jellyfish Unit	-	Jellyfish JF-4-2-1	1.14	5.68	4,787.00	26
	D-16	10,139.00	2,880.00	13,019.00	0.30	940.92	-		-		0.66	3.28		
	D-12	5,082.00	2,803.00	7,885.00	0.18	516.93	-		-		0.35	1.73		
	D-13	2,056.00	1,940.00	3,996.00	0.09	236.00	-		-		0.15	0.75		
	D-14	1,965.00	4,499.00	6,465.00	0.15	313.72	-		-		0.18	0.89		
Zone D Totals		-	78,928.00	113,016.00	2.59	7,279.22	-	None	-	-	-	-	-	-
Zone F Developed Area	F-8	2,515.00	808.00	3,323.00	0.08	236.52	-	None	-	-	-	-	-	-
	F-7	13,385.00	3,942.00	17,327.00	0.40	1246.82	-	None	-	-	-	-	-	-
	F-3	186.00	3,362.00	3,548.00	0.08	127.57	-	None	-	-	-	-	-	-
	F-4	256.00	783.00	1,039.00	0.02	47.43	-	None	-	-	-	-	-	-
	F-5	256.00	3,875.00	4,131.00	0.09	150.50	-	None	-	-	-	-	-	-
	F-6	348.00	1,754.00	2,102.00	0.05	87.47	-	None	-	-	-	-	-	-
	Zone F Developed Area Subtotals		0.00	0.00	0.00	0.00	0.00	-	None	-	-	-	-	-
Zone F Existing Buildings		BNB-North Side	17,000.00	0.00	17,000.00	0.39	1416.67	10,200.00	Stone Drip Edge	-	-	-	1,460.00	-
		BNB-South Side	17,000.00	0.00	17,000.00	0.39	1416.67	10,200.00	Stone Drip Edge	-	-	-	1,460.00	-
Zone F Existing Building Subtotal		-	34,000.00	0.00	34,000.00	0.78	2,833.33	20,400.00	-	-	-	-	2,920.00	-
Zone F Totals		-	50,946.00	14,524.00	1.50	4,729.63	20,400.00	-	-	-	-	-	-	-

****Previously Approved Filterra Box**

Developed Area Breakdown	
A.) Total New Developed Area Treated (SF)	103,012.00
B.) Total New Developed Area untreated (SF)	41,474.00
C.) Total New Developed Area (SF) = A+B	144,486.00
D.) Existing Developed Area Treated (SF)	34,000.00
E.) Adjusted Existing Developed Area Treated (SF)	20,400.00
F.) Total Net Developed Area Treated (SF) = A+E	123,412.00
Impervious Area Breakdown	
G.) Total New Impervious Area untreated (SF)	74,483.00
H.) Total New Impervious Area untreated (SF)	21,391.00
I.) Total New Impervious Area (SF) = G+H	95,874.00
J.) Existing Impervious Area Treated (SF)	34,000.00
K.) Adjusted Existing Impervious Area Treated (SF)	20,400.00
L.) Total Net Impervious Area Treated (SF) = G+K	94,883.00

2.36
0.95
3.32
0.78
0.47
2.83

1.71
0.49
2.20
0.78
0.47
2.18

Treatment Breakdown		
	Required	Provided
% of Net Developed Area Treated = F/C	80.00%	85.41%
% of Net Impervious Area Treated = L/I	95.00%	98.97%

NOTES AND ASSUMPTIONS:

1. All areas are based on the FST Permit drawings dated June 2014
2. The required water quality volumes have been computed based on Sections 7.4, 7.5 and 7.6 of the Maine DEP Volume III BMP's Technical Design Manual. The volume is computed to be 1" times the subcatchments impervious area and 0.4" times the subcatchments vegetated area. Existing buildings to remain are not required to be treated.
3. The 1 year peak flow rates have been computed using the rational method. The rainfall intensities are derived from the Cumberland County IDF curve.
4. Subsurface storage system sizing is based on a Stormtech SC-740 chamber system. All isolator rows have been computed per section 7.3.3 Pretreatment Isolator Row of the Maine DEP Volume III BMP's Technical Manual. One chamber is required for each 0.2 cfs of the computed tributary 1 year peak flow rate.
5. The required number of Jelly Fish treatment units have been computed based on Contech Sizing requirements. The water quality volume for each unit is storage up stream and the amount of treatment cartridges are computed based sediment mass loading.
6. The owner reserves the right to use an alternate tree box filter device provided it has been approved by the Maine DEP Chapter 500 delegated review authority of the City of Portland.
7. Provided Water Quality Volume for stormtreat storage system computed using 61.38 CF of storage per chamber based on Storm Tech Chamber Design Manual
8. The Stone Drip Edge was based on section 7.6 of the Maine DEP Volume III BMP's Technical Design Manual. The Width of stone is derived from a required WQV based off 1" of runoff and a desired stone resevoir depth. See sizing computations on separate sheet.
9. According to Chapter 500 Maine DEP stormwater rules; the department allows applicants to take credit for the treatment of existing impervious areas on site. For existing roofs the credit can be calculated by multiplying the total treated area by 0.6.
10. The MEDEP will now accept a Filterra tree box filter as a stand alone treatment unit and does not require an Isolator Row for eligible projects. This project meets the eligibility criteria noted in a letter dated June 27th, 2014 from the MEDEP

ATTACHMENT E

**FIRE RISK MANAGEMENT, INC.
MEMORANDUM DATED SEPTEMBER 3, 2015**



FIRE RISK MANAGEMENT, INC.

1 Front St., Bath, ME 04530
207/442-7200 [221-1295 (fax)]
www.fireriskmgmt.com

Date: 3 September, 2015

Memo Report

From: W. Mark Cummings, P.E.
To: Chris Thompson; Thompson's Point
Subject: **Code Review of Proposed Design Plan for Brick South Building at Thompson's Point in Portland, ME**

As requested, we have reviewed the code requirements that will be applicable for the proposed use of the Brick South building, inclusive of the attached structure on the east end of the main building. The focus for this review is to evaluate the design plan for the proposed use of the Brick South building as an Assembly occupancy as defined by the International Building Code (IBC). Included in the assumptions for the proposed building use are those outlined in prior discussions regarding not only the potential events that are planned to be held within this building, but also the initial limitations on the maximum occupant loads that are to be associated with the initial renovation efforts

The planned use(s) for this building will mainly fall within the Assembly, Group A-2 and A-3 occupancy classifications. The existing, attached structure at the east end of the main building will be incorporated into the plans for the Brick South building; including housing the main lobby area and restrooms, along with office areas and a kitchen space.

The Brick South building will consist of just over 33,000 ft² of area. The overall building's current construction classification would best fit that of a Type IIIB, including the use of heavy timber in supporting the roof structure within the original portion of the Brick South building. Although both sections of the building appear to have originally been provided with installed fire sprinkler systems, these systems have been mostly demolished and are no longer active. No portion of the building is provided with any type of fire detection/alarm/notification system.

Based on the requirements contained in both the IBC, which forms the basis of the Maine Uniform Building and Energy Code (MUBEC), and the National Fire Protection Association's Life Safety Code[®], NFPA 101, any future use of the Brick South building as an Assembly occupancy will require that the entire building be provided with both a fire sprinkler system and a fire alarm/notification system. When reviewing the code requirements for the Brick South building, it has been assumed that the building will be classified as an "Assembly" occupancy, per the requirements of the IBC. Since the building requirements do not vary for either Group A-2 or A-3 occupancies, the fact that this facility may be used to support events within both Assembly Groups has no impact on this assessment.

The total area of the building is approximately 33,200 ft². For a building that is to be used for Assembly (Group A-3 or A-2) purposes that consists of Type IIIB construction, the IBC restricts its height and area to 2 stories and 9,500 ft². With the addition of a fire sprinkler system(s) throughout, the allowable area is increased to 28,500 ft²; well below the existing total square footage of the proposed Brick South building. To increase the allowable building area to a level that meets or exceeds the proposed area for the Brick South building, two options exist;

1. ensure that a "public way" or open space that is at least 30 ft in width is adjacent to at least 75% of the building's perimeter, or

2. protect the structural components to provide fire resistance ratings required to comply with Type IIIA construction; including the exterior walls having a fire resistance rating (FRR) of up to two hours and all other components having a FRR of at least 1 hour.

It is understood that to provide greater flexibility in the overall plan for Thompson's Point, that option 2 above is the preferred course of action for the Brick South building. However, all plans regarding the site development around the Brick South building must continue to comply with the Fire Department access requirements outlined in Chapter 18 of NFPA 1, the *Fire Code*[®]. These include;

1. all portions of the building's exterior walls are no more than 450 ft from a fire department access lane,
2. at least one exterior door of the building is within 50 ft of a fire department access lane,
3. any "dead end" fire department access lane that is greater than 150 ft must be provided with a properly designed "turn-around" area, and
4. all fire department access lanes must be at least 20 ft in clear width.

To achieve the requirements for option 2 it will be necessary to protect all structural components that do not have the inherent FRR to meet the Type IIIA construction requirements without additional fire protection. The masonry components of the exterior walls of the original Brick South building will likely achieve the 2-hour FRR without any additional protection. However, these exterior walls include the use of exposed steel columns and beams, which must be provided with additional protection to achieve the necessary FRR. The actual construction configuration of the concrete masonry units (CMUs) that form the exterior walls of the east end addition is unknown; such as whether or not the voids within the CMU walls have been filled. However, since these walls do not appear to be "load bearing", no FRR is required as long as there are no adjacent buildings (or property lines) within 30 ft of CMU walls.

Although the majority of the supporting structure for the roof of the main Brick South building consists of heavy timber, this too is supported by some steel beams and columns. Structural steel members (beams and columns) are also used to support the roof structure within the east end addition of the building. Based on the structural components that exist within the Brick South building, all steel components that are not completely located at least 20 ft above the building's floor level will need to be provided with additional fire protection. The heavy timber is considered by the codes as having at least a 1-hour FRR and, therefore, will not require any additional protection.

As part of the plan for the building's design to maintain as much of its original appearance as possible, both exterior and interior, the approach for providing additional fire protection to the structural steel components within the original Brick South building is to include the use of active fire protection systems to provide the requisite protection. Similar to the approach often used to protect structural steel components in a large warehouse application, the design for the fire protection systems within the original Brick South building will include the use of fire sprinkler (spray) systems to protect the steel components against failure by ensuring all steel surfaces will be fully "wetted" in the event of a fire in an adjacent area. As long as the steel surface remains wet, the internal temperature should not be increased beyond the temperature needed to convert the water to steam; 100°C (212°F). This is well below the temperature at which steel will begin to lose a significant portion of its yield strength. Although numerous factors come into play when evaluating the thermal effects of a fire on the performance structural steel components, the endpoint criteria used by the standard test method(s), such as the ASTM

E119 fire test, for determining when steel components (under a load) have “failed” is when their average internal temperature is increased to approximately 538°C (1000°F)¹.

The building’s fire sprinkler system is to be designed to not only meet the requirements of NFPA 13, but will include the protection of all structural steel components that are located, either in total or in part, within 20 ft of the floor surface. Fire sprinklers will be installed to ensure that should a fire occur in an area below or adjacent to a structural steel member, all portions of the steel will be wetted. All structural components within the east end addition of the Brick South building will be properly protected using materials that will provide the necessary FRR as outlined in Table 601 of the IBC for Type IIIA construction.

Based on the intended uses for the main assembly area within the Brick South building, the estimated maximum occupant load for this area would typically be dependent on the type of events that are likely to occur within this space. A “worst-case” scenario, in terms of providing adequate egress capabilities, is to assume uses within this area that would involve no fixed seating; thereby indicating a “concentrated” use as defined by NFPA 101. To evaluate the likely maximum occupant load for this area, an estimate is developed using the NFPA’s occupant load factor for Assembly areas of “concentrated use”, which is 7 ft² (net) per occupant; per NFPA 101, Table 7.3.1.2. In this instance, the estimated maximum occupant load for the main assembly area could be in excess of 3500 persons. However, due to other restrictions that are not associated with the life safety aspects of the building, such as providing an adequate number of toilet facilities, the maximum occupant load for the Brick South building is reported as being no more than 2500.

Using the above maximum occupant load for an Assembly occupancy, the building will be required to have at least four (4) separate exits. Additionally, all buildings classified as Assembly occupancies are required to have a “main entrance/exit.” This entrance/exit must be sized such that it has the capacity to accommodate at least two thirds ($\frac{2}{3}$) of the Assembly area’s occupant load when the potential exists for an event that uses a “festival seating” arrangement, which based on discussions with Thompson’s Point personnel is likely for the Brick South building. The exits must be located throughout the building such that no area within the building is more than 250 ft from an exit. As such, the four exits will need to be distributed throughout the perimeter of the building.

The exits from the Assembly areas must be properly sized to accommodate the expected occupant loading. In general, a “standard” 36-inch doorway has the capacity to accommodate up to 170 persons. However, if only four exits are provided, at least one must act as the “main entrance.” The main entrance is required to have a capacity that can accommodate at least $\frac{2}{3}$ of the estimated total occupant load for the Assembly area, per NFPA 101 § 12.2.3.6; approximately 1667 persons when using the planned maximum allowed occupant load of 2500. Using the NFPA’s exit capacity factor for doorways, which is 0.2 inches of clear width per person, the main entrance/exit will need to provide at least 334 inches (approx. 28 ft.) of clear width; or approximately ten (10) 3-foot doorways. The other three exits must be sized such that they can accommodate the remaining one third of the estimated assembly area occupant load. This requirement can easily be accommodated by the installation of at least three (3) standard 5-foot double doors distributed throughout the bounding walls of the Assembly area. All exits must be separated from one another to comply with the requirements of NFPA 101 and to ensure that no travel distance to an exit from any location within the Assembly area exceeds the maximum limit of 250 ft.

The code does allow more than one entrance/exit to be considered as a “main entrance” when no single entrance/exit is discernible as the main entrance. Based on discussion with Thompson’s

¹ The SFPE Handbook of Fire Protection Engineering, 3rd Edition, the Society of Fire Protection Engineers, 2002

Point personnel, if the main lobby for the building is to be installed in the eastern end of the building, adjacent to the restroom and office/ticketing areas, and may span the full width of the building/area, this would allow the main entrance/exit door requirements to be distributed on both the north and south walls of this space; providing a need for approximately 14 ft of clear exit width (5 sets of 3-foot doors) at both wall locations. However, this will still require that approximately 28 ft. of clear exit width be maintained as “exit aisle width(s)” leading from the main assembly space to the main lobby (entrance) area.

SUMMARY & RECOMMENDATIONS

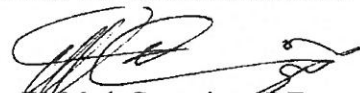
Based on a review of the proposed layout for building, along with the plans for limiting the maximum occupant load to no more than 2500, a number of design requirements will need to be implemented to allow this building to be used as an assembly occupancy to support the various types of planned events. Equally, due to the change in use of this building, the entire building must be brought into compliance with all applicable codes, standards, and regulations. The required modifications will include the installation of new fire sprinkler and alarm/notification systems throughout the building in accordance with NFPA 13 and 72, respectively. If the fire sprinkler system design includes the use of quick-response type sprinklers, it may be possible to alleviate the need to install all or most of the portable fire extinguishers within the building that might otherwise be required. However, if this building is, in fact, to be used to support a variety of trade shows and other events, it is strongly recommended that portable fire extinguishers continue to be part of the design requirements; installed in accordance with NFPA 10.

As long as the Brick South building provides the necessary fire resistance for all structural components as required to meet the Type IIIA requirements, the maximum allowable building area, which takes credit for the installed sprinkler systems, is 42,000 ft²; well above the planned area of just over 33,000 ft² for the Brick South building. As such no additional measures need to be applied with regards to adjusting the portions of the building’s exterior walls that are adjacent to public ways or open space; to achieve a greater allowable building area. However, compliance with the fire department access requirements outlined within Chapter 18 of NFPA 1 must continue.

To support the protection of the structural steel components within the main assembly area of the Brick South building using water spray in lieu of passive fire protection barriers/assemblies, the fire sprinkler system must be properly designed to ensure that all affected steel components are identified and provided with an adequate number of sprinklers that are specifically located to ensure all portions of the steel members are fully wetted in the event of a fire. The sprinkler system design information will need to be fully detailed to demonstrate this approach.

The building design will need to include a new “main entrance(s)” for the Assembly area that will provide sufficient egress capacity for at least $\frac{2}{3}$ of the maximum occupant load for this area. In this instance, it is anticipated that a series of doors will need to be installed at one or more locations that, collectively, provide the 334 inches (approx. 28 ft.) of “clear” egress width. Equally, when locating the other required exit doorways, care must be taken to ensure that the maximum travel distance to an exit from anywhere within the Assembly area will be less than the maximum allowed; 250 ft.

Should there be any questions regarding this assessment and the recommendations contained herein, please do not hesitate to contact me.


W. Mark Cummings, P.E.
Principal Engineer

ATTACHMENT F

BRICK SOUTH BUILDING RENDERINGS







ATTACHMENT G

CONFORMITY WITH APPLICABLE DESIGN STANDARDS

CONFORMITY WITH APPLICABLE DESIGN STANDARDS

The following statement is made in accordance with the City of Portland Code of Ordinances, Chapter 14 Land Use, Section 14-526.

OVERVIEW

This project conforms with all the applicable design standards of Section 14-526 as demonstrated in the following narrative.

(a) Transportation Standards

1. Impact on Surrounding Street Systems:

The applicant has obtained a Traffic Movement Permit which addresses impacts on surrounding street systems. The project will provide improvements and/or partial funding under the EDA Grant Program for collaborative improvements with the City of Portland to maintain an acceptable level of service. The original scope of offsite improvements have been completed and are currently in the process of expanding the proposed improvements.

2. Access and Circulation:

a. Site Access and Circulation.

- (i) Thompson's Point site is accessed via Thompson's Point Connector Road. The applicant has worked with Fire Safety and City Officials to make access and circulation easy and safe for all vehicular and pedestrian users. The existing road has been widened and improved as depicted on recently completed EDA Grant Program plans. This work was completed to mitigate for the traffic anticipated to be generated from the fully constructed Master Plan.
- (ii) Existing access and egress have been designed to avoid conflicts with existing turning movements and traffic flows.
- (iii) The site does not feature drive up services as mentioned in this requirement.

b. Loading and Servicing.

- (i) Formal loading docks are not proposed at this time. A service area has been designated on the southerly side of the Brick South Building. Three large overhead doors are planned to remain around the building for movement of event support equipment into and out of the building. Small delivery vehicles supporting the catering kitchen will park on the existing gravel surface and wheel materials in through a kitchen door or designated overhead door.

c. Sidewalks.

- (i) Designated sidewalks are proposed to extend from the shared use path recently constructed along Thompson's Point Connector Road to both Brick North and Brick South Buildings. Internal pedestrian circulation connections are shown on the enclosed Layout Plan.

- (ii) The development will benefit from new sidewalks from the intersection of Fore River Parkway and Thompson's Point Connector Road into the site.
- (iii) The development provides pedestrian access to adjacent trailways (Portland Trails), Portland Transportation Center, and abutting land uses (commercial and residential).

3. Public Transit Access:

- a. The development will be served by an existing transit stop at the Portland Transportation Center. Residential development is not proposed as part of this phase of the development. The master plan includes a new bus stop and shelter which will be implemented in a subsequent phase of the development.
- b. A new transit stop is not proposed at this time. The new transit stop will include a pull-off space and shelter.
- c. The existing stop is connected to the public pedestrian system.
- d. Waiver: Waivers for this section have not been requested for this project.

4. Parking:

- a. Location and Required Number of Vehicle Parking Spaces.
 - (i) The applicant has provided spaces to accommodate the existing uses which will remain after this phase is constructed in addition to the proposed uses with-in the Renovated Brick North and Brick South Buildings as shown on Sheet C-3.0 Site Layout Plan. Larger events (2500 people) held in the Brick South Building is anticipated to require upwards of 835 spaces. These types of events will require active parking management to accommodate vehicles in gravel parking areas located around the site.
 - (ii) The applicant has prepared a TDM strategy and previously submitted the document for review to City Officials.
 - (iii) The applicant proposes 118 paved parking spaces which will be used to serve the following:
 - 69 spaces allocated for Brick North's anticipated Peak Parking demand;
 - 49 spaces for events held in the Brick South Building; and
 - Spaces for off hour Special Events.

It is noted that several stalls will be demarcated for the use of low emission vehicles only. Additionally, the applicant intends to utilize the remaining gravel surfaces across the site for special event parking.

- (iv) 9'x18' parking stalls are proposed in accordance with Section 1 of the Technical Manual.
- (v) The proposed parking lots will be constructed of Hot Bituminous Pavement and aggregate gravel meeting the standards of MDOT.

- b. Location and Required Number of Bicycle Parking Spaces.
 - (i)(b) 15 bicycle parking spaces are required. The applicant is proposing the use of 8 Dero Hitching Posts, which will provide a total of 16 bicycle parking spaces.
- c. Motorcycles and Scooter Parking.
 - (i) Motorcycles and Scooter Parking can be accommodated in regular dimensioned stalls.
- d. Snow Storage.
 - (i) On-site snow storage around the perimeter of the site.

5. Transportation Demand Management (TDM):

- a. The applicant has developed a TDM Plan pursuant to the City of Portland's Code of Ordinances.
- b. The TDM Plan incorporates the City goals by integrating elements described in the Technical Manual.

(b) Environmental Quality Standards:

1. Preservation of Significant Natural Features:

- a. The development is designated to maintain a 25' foot buffer from the annual mean high tide to all building structures.
- b. The applicant is not requesting a waiver from this standard.

2. Landscaping and Landscaping Preservation:

a. Landscape Preservation.

- (i) The site's existing tree population is limited to the northwest corner of the site. The project proposed plans to preserve trees as required by the Shoreland Zoning Ordinance and original Level III Site Plan approval. This is not applicable to the proposed area included with this scope of work.
- (ii) The applicant has performed a site walk with the City's Arborist and will meet this criteria.
- (iii) The applicant has previously prepared a Demolition and Removal Plan, and an Erosion and Sedimentation Control Plan which require protection of existing vegetation as required by the City's Land Use Ordinance.
- (iv) The applicant will not require a waiver from this standard.

b. Site Landscaping.

- (i) Landscaped Buffers:
 - a) The applicant does not propose landscaped buffers at this time.

(ii) Parking Lot Landscaping:

a) The applicant proposes street trees as shown on the enclosed Landscaping Plan L-1.

(iii) N/A

3. Water Quality, Stormwater Management and Erosion Control:

a. Stormwater:

(i) All stormwater draining onto the site from adjacent properties drains to an existing storm drain system. The storm drainage system will be intercepted and conveyed through a new storm drainage system.

(ii) All stormwater runoff is proposed to discharge directly to the Fore River. The project will not adversely impact adjacent lots. The applicant has received a waiver from the General Standards Flooding Standard because it discharges to a Major Waterbody with tidal influences.

(iii) All stormwater runoff is proposed to discharge directly to the Fore River. The project will not adversely impact adjacent lots. The applicant has received a waiver from the General Standards Flooding Standard because it discharges to a Major Waterbody with tidal influences.

(iv) All stormwater runoff is proposed to discharge directly to the Fore River. The project will not adversely impact adjacent lots. The applicant has received a waiver from the General Standards Flooding Standard because it discharges to a Major Waterbody with tidal influences.

b. The Stormwater Management Plan meets the requirements and goals stated in Section 5 – Stormwater Management of the Technical Manual including the General and Basic Standards required by the MeDEP Site Location of Development Permit. The enclosed computations show compliance with the treatment goals specified in the approved Stormwater Management Report Dated April 17, 2012 and Supplemental Stormwater Report Dated May 2013 prepared by Bo Kennedy of FST (formally Deluca Hoffman Associates). These reports have been since supplemented with documents supporting the approved Master plan and Pending Subdivision Application.

c. The project is not located in a watershed of an urban impaired stream as listed by the MaineDEP.

d. N/A

e. The stormwater management design includes provisions to separate subsurface stormwater storage and groundwater through the use of impermeable liners.

f. A new sanitary sewer main will be installed as part of this project and connected to the existing Portland Water District Pump Station adjacent to the property.

(c) Public Infrastructure and Community Safety Standards.

1. Consistency with City Master Plans:

- a. The project has been designed to be consistent with the City's Zoning Ordinance and off-site infrastructure.
- b. The project site proposed the conveyance of land to the City for the sole purpose of public access to the site. The City has successfully petitioned for a Public Railroad Crossing at the entrance to the site.

2. Public Safety and Fire Prevention:

- a. The site has been designed to promote safe and inviting public meeting and gathering spaces.
- b. The existing site allows for emergency response vehicles to move around all areas of the site.
- c. The project will utilize new and existing on-site fire hydrants. All existing hydrants have been tested for flow capacity and test results are included on the Fire safety compliance Plan (Sheet C-9.0).

3. Availability and Adequate Capacity of Public Utilities:

- a. The applicant has worked with the utility companies and received utility Capacity to Serve letters. This phase of the project proposes the installation of new Sewer, Water, Gas, and Power connections to public infrastructure; however, the uses during this phase will generate very small amount of demand relative to the full build-out conditions of the Master Development Plan.
- b. The site will be retrofit with new underground power and communication lines. Some overhead power may remain to serve portions of the site until such a time the development is more defined in that specific area. The overhead power will be converted underground as part of subsequent site plan submissions.
- c. New sanitary sewer, storm drains, water lines and other utilities will meet the provisions required in the Technical Manual.
- d. The existing site sanitary sewer system is connected to the Thompson's Point sanitary pump station. An on-site wastewater treatment system is NOT proposed as part of this project.
- e. All sanitary and stormwater utilities have been designed to meet the City of Portland Technical Manual including the Chapter 500 Stormwater Management Standards.
- f. The project will use exterior dumpsters to store trash and recyclables temporarily until a contracted waste management company can pick up and dispose of the solid waste.

(d) Site Design Standards.

1. Massing, Ventilation and Wind Impact:

- a. N/A.
- b. N/A.
- c. N/A.

2. Shadows:

- a. The development is located in the B5 Zone and this standard is not applicable.

3. Snow and Ice Loading:

- a. N/A.

4. View Corridors:

- a. The project site is located outside the Downtown Vision View Corridor Protection Plan.

5. Historic Resources:

- a. The development is not located in a Historic District, Historic Landscape District or City designated landmark; however, the project is seeking Federal Grant money and consequently a Section 106 review was prepared and accepted by the Maine Historic Preservation Office.
- b. The development is not located adjacent to or within 100 feet of a designated landmark, Historic District, or Historic Landscape District.
- c. There are no known archaeological resources on the site.

6. Exterior Lighting:

- a. Site Lighting.
 - (i) Permanent Exterior lighting is shown on the E-series drawings.

7. Noise and Vibration:

This phase of the project is not anticipated to change the current noise levels, which do not exceed those permitted in the B5 Zone.

8. Signage and Way finding:

- a. All onsite way finding and directional signage will be submitted under a separate application.
 - (i) The project is not located in a historic district or subject to Article IX.
 - (ii) N/A
- b. All onsite way finding and directional signage will be submitted under a subsequent application.

9. Zoning Related Design Standards:

- a.(i) The proposed mixed uses at the Brick North and Brick South Buildings are permitted in the B-5 Zone.

ATTACHMENT H

LIGHTING FIXTURE CUT SHEETS

BRICK NORTH AND SOUTH BUILDINGS
AT THE FOREFRONT AT THOMPSON'S POINT

PROPOSED LIGHTING FIXTURES

September 2, 2015

Bartlett Design

LIGHTING & ELECTRICAL ENGINEERING

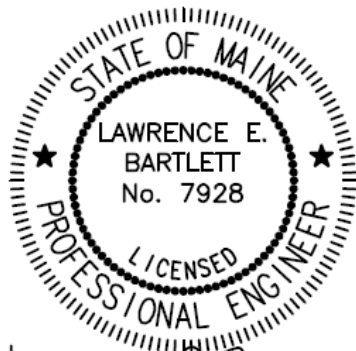
942 WASHINGTON STREET BATH, MAINE 04530

TEL (207) 443-5447 FAX (207) 443-5560

e-mail: bartlettdesigninc@comcast.net

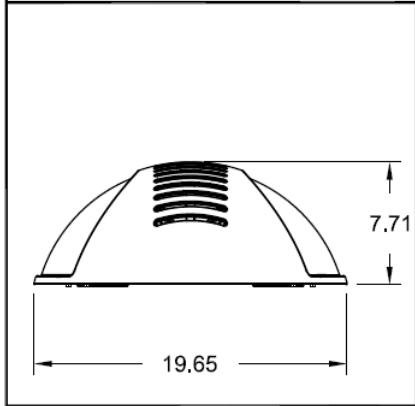
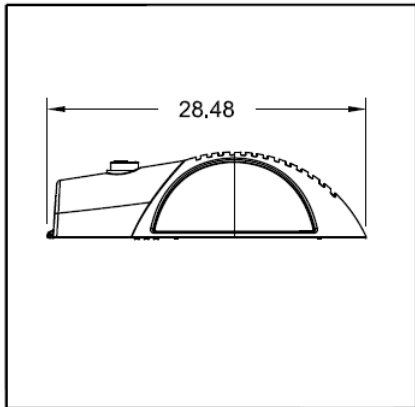
The proposed lighting for parking lots and access drives has been prepared in conformance with the *Illuminating Engineering Society of North America* recommendations published in Lighting for Parking Facilities RP-20-14. Based on a Lighting Zone Classification of LZ2 (moderate ambient lighting), the RP-20-14 horizontal illuminance criteria is as follows:

- Minimum Illuminance at Grade: 0.5 footcandles
- Average-to-Minimum Uniformity: 4-to-1, or better
- Maximum-to Minimum Uniformity: 15-to-1 or better

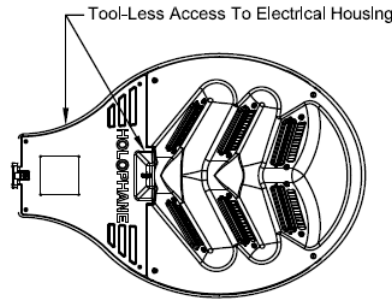
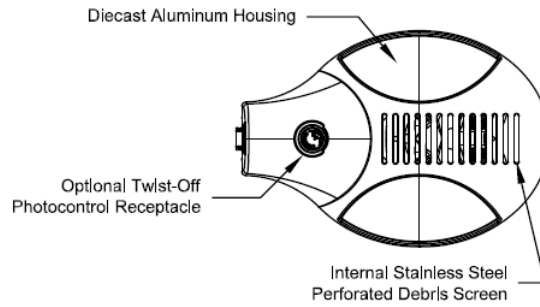


Lawrence E. Bartlett

**BRICK NORTH AND SOUTH BUILDINGS AT THE FOREFRONT AT THOMPSON'S POINT
LIGHTING FIXTURE TYPE S1**



Weight = 28lbs
EPA = .62



LEDGEND™
LED Roadway Lighting

**Functional
Outdoor**



Customer Preferred: (Most Frequently Ordered Catalog Numbers)

LEDG 120 35 4K AS G L1 R F1
K L2
W

LEDG Series	Number of LED'S	Drive Current	Color Temperature
LEDgend ←	120 = 120 LED'S	35 = 350mA Driver ←	4K = 4,000 K CCT +/- 250K ←
LED Roadway	108 = 108 LED'S	53 = 525mA Driver	5K = 5,000 K CCT +/- 250K
	096 = 96 LED'S	70 = 700mA Driver	
	084 = 84 LED'S		
	072 = 72 LED'S ←		
	060 = 60 LED'S		
	048 = 48 LED'S		
	3036 = 36 LED'S		

Voltage	Housing Color	Optics
AS = Auto-Sensing Voltage (120 thru 277)	A = As Specified	L1 = Type I, Narrow Asymmetric
2AH = Auto-Sensing Voltage (347 thru 480)	G = Gray	L2 = Type II, Medium Asymmetric
	H = Graphite	L3 = Type III, Wide Asymmetric ←
	K = Black ←	L4 = Type IV, Forward Throw ←
	N = Green	
	W = White	
	Z = Bronze	

ORDERING INFORMATION:

Options

- OPTIONS**
 B = Constant Lumen Output, Bi-Level Dimming
 C = Constant Lumen Output
 DE = ROAM CONCIERGE Dimming Control
 VE = ROAMVIEW Dimming Control
 EL = Extended Life - Driver
 PCS = DTL Solid-State Lighting Photocontrol 120-277V
 P34 = DTL Twist-Off Photocontrol 347V
 P48 = DTL Twist-Off Photocontrol 480V
 PSC = Shorting Cap
 R = NEMA Twist-Off Photocontrol Receptacle
 SP = Single Pack For UPS

Accessories

- ACCESSORIES**
 F1 = Single Fusing (120, 240, 277, 347V)
 F2 = Double Fusing (208, 240, 480V)
 BR-1055-XX = P2 Tenon Adapter
 LEDGHSS = House Slide Shield
- NOTES:**
 2Not available with 36 LED's with 35 or 53 drive currents or with options B, C, DE, VE, EL or PCS
 3Not available with B, C, DE or VE options with 53 drive current
 4Not available with 120 LED's

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ORDER #:	
TYPE:	
DRAWN:	JRM
DATE:	10/31/12
DWG #:	LUM_LEDG

Specifications

General Construction

Rugged die cast aluminum housing, low copper aluminum, allow for corrosion resistance and long life. Horizontal arm mount with +/-6 degrees vertical adjustment. Four bolt mast arm provides easy, secure installation and adjustability for arms 1-1/4 & 2 inch pipe (1.66" & 2.38" O.D.) Trigger latch disengages for easy access to four bolt mounting, terminal block, surge protection module, LED drivers, and electronic transfer switch. An optimized maintained thermal management system is achieved by combining a robust heat sink utilizing both convection and conduction methodology with a mechanical design that provides maximum airflow ensuring a minimum of 50,000 hours L70 at 25C operating ambient. Internal perforated stainless steel cover protects the luminaire against dirt and foliage build up while maintaining the integrity of the airflow requirement. Solar guard technology isolates top cover of luminaire from thermal heat sink through four touch points providing protection from solar loading while not in operation.

Environmental

Luminaire design and tested to comply with ANSI C136:31 2001 for 100,000 cycles at 3G acceleration for normal road and bridge applications. The range of luminaire operation is -40C to +50C.

Six sealed LED light engines meet dust and moisture rating of IP-66 per IEC 60068-2-3 1987 ensures long component life and protection from the environment.

The luminaire is finished with polyester paint applied after a pretreatment process to ensure maximum durability. The finish shall pass the 1000 hour salt fog test per ASTM B117 and D1654 standard.

The luminaire passed Humidity testing per IEC 60068-2-3 1987 and passed Temperature-Voltage Cycling and Condensing Humidity testing per Acuity Brands Validation Test Specification 902-00007-001

Regulatory

The luminaire is safety listed to CSA-C22.2 number 250, wet location. See chart below for model rating based on drive current and led combination.

Series	Drive Current	Number of LED'S	CSA Ambient Listing
LEDG	350 mA	36,60,72,84,96,108,120	40C
LEDG	525 mA	36,48,60,72,84,96,108,120	40C
LEDG	700 mA	72,60,48,36	40C
LEDG	700 mA	84	35C
LEDG	700 mA	96	30C
LEDG	700 mA	108	25C



The luminaire is ROHS compliant. Luminaire meets EMI compliance per FCC Title 47 CFR Part 15, Class A.

Electrical

The surge protection is tested to ANSI/IEEE C62.41-2002 specification. For the AS voltage option (120-277), the device meets category C high (20kV, 10kA). For AH voltage rating (347-480), the protection level is category C low. (6kV, 3kA) The surge protection module (SPD) protects all downstream electronics such as led drivers, transfer switch, and relays for the purpose of protecting from electrical disturbances such as nearby lightning strikes.

Extended life driver option (EL 350 mA only) provides both main and auxiliary driver system extending system driver to 200,000 hours minimum. The control in EL option constantly monitors an output current of the Main Driver. In the event of a Main driver failure (no output current), the control switches power to the Auxiliary driver. The Auxiliary driver is not energized during normal operation.

The photocontrol receptacle is adjustable without tools and is ROAM compatible.

The luminaire is designed to conform to ANSI C82.77:2002 for Maximum Total Harmonic Distortion (THD) -20%. Inrush current complies with NEMA410:2004 table B-2 and line Fluctuations and Ramp Input voltage per UL 991:2004.

The luminaire conforms to Electromagnetic compatibility tests for Electrostatic Discharge (ESD) per IEC 61000-4-2:2001, Level 4.

Optical

Environmentally friendly, zero uplight luminaire reduces light pollution. Glass optics provides minimal dirt depreciation and will not discolor or become brittle over time. The permanence of glass results in less dirt depreciation and more maintained lumens on the intended space. The luminaire is available with narrow, medium, and wide asymmetric distributions designed to maximize pole spacing and reduce energy usage resulting in a lower total cost of ownership. The highly engineered light engine is designed to restrict direct view of individual LED's increasing visual comfort within the field of view. The luminaire is available with LED color temperatures of 4000K and 5000K. The minimum color rendering Index (CRI) is 70.

Reference www.Holophane.com for individual photometric tests on LEDgend LED luminaire that are tested per LM79 guidelines. Consult factory for LM80 data as that varies per LED chip manufacturer.

LEDGEND™
LED Roadway Lighting

Functional Outdoor

HOLOPHANE®
 LEADER IN LIGHTING SOLUTIONS
 An Acuity Brands Company
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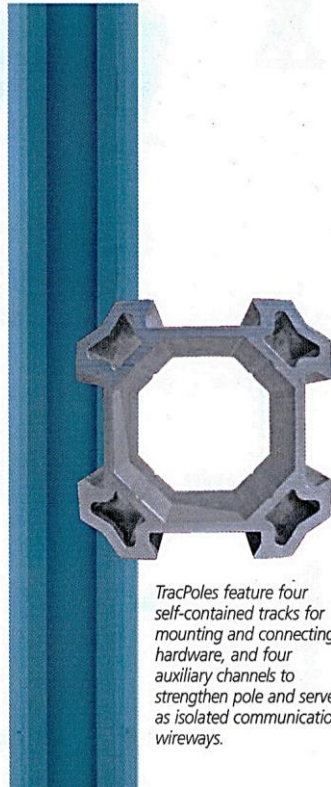
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TYPE:	
DRAWN:	LJS
DATE:	10/6/11
DWG #:	LUM LEDG

TracPoles

SiteLink is a line of engineered structures that feature tracks and locking hardware for mounting and connecting a variety of necessary attachments.

Easy assembly is key and provides the ability to simplify installation, maintenance, modification, and integration of new and existing equipment.

The heart of the system is the new TracPoles with TracLoc which will be supported by accessories and site amenities. These units are easily modified or customized to meet a wide range of site requirements.



TracPoles feature four self-contained tracks for mounting and connecting hardware, and four auxiliary channels to strengthen pole and serve as isolated communication wireways.

Features and benefits

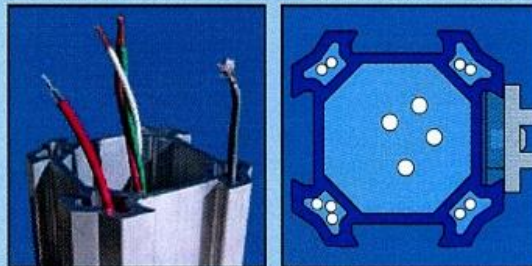
- **Structurally strong**
 - Maximum use of aluminum.
Extrusions: 6061-T6 aluminum alloy.
Castings: 356 aluminum alloy.
 - Fasteners: 300 series stainless steel.
 - Dovetail track.
- **Protected wireways**
 - Four isolated wireways for low voltage wiring, fiber optics, etc.
- **Mounting versatility**
 - Allows adjustment to site conditions.
- **Finishes**
 - Anodized finishes and paint options are available.



Medium Duty
Four track pole
5.75" square

Communication wireways

An extruded aluminum pole with up to four self-contained dovetail tracks for mounting sensory equipment. The central core can be used for the main power, while the four auxiliary channels provide strength as well as isolated communication wireways.



Line voltage in the core channel, low voltage communication cable in the auxiliary channels. And a typical cross section of a TracPoles shows line voltage delivered through the central core, low voltage in the auxiliary channels, with an accessory fastened onto one of four mounting tracks.

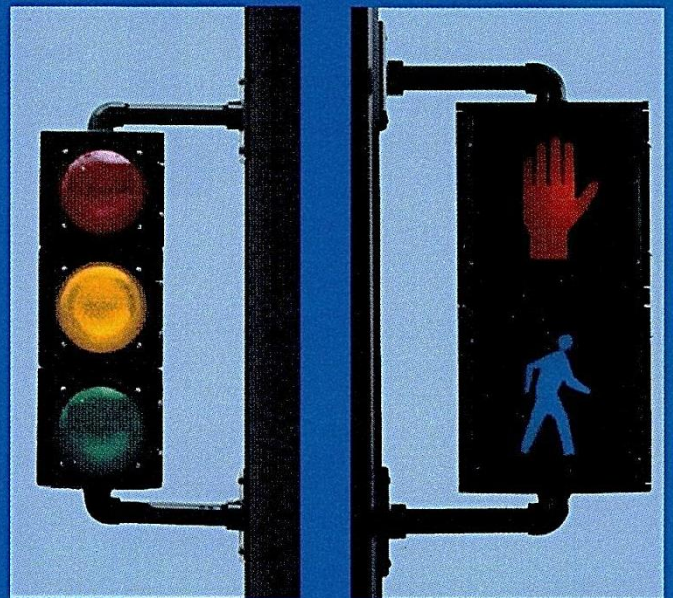
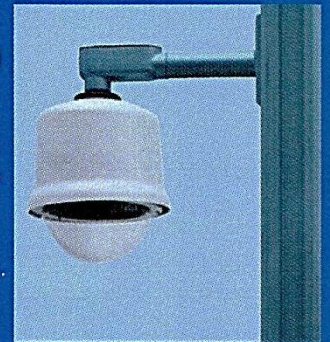
TracLoc System

At the heart of the TracLoc System is the dovetail track and TracNut.

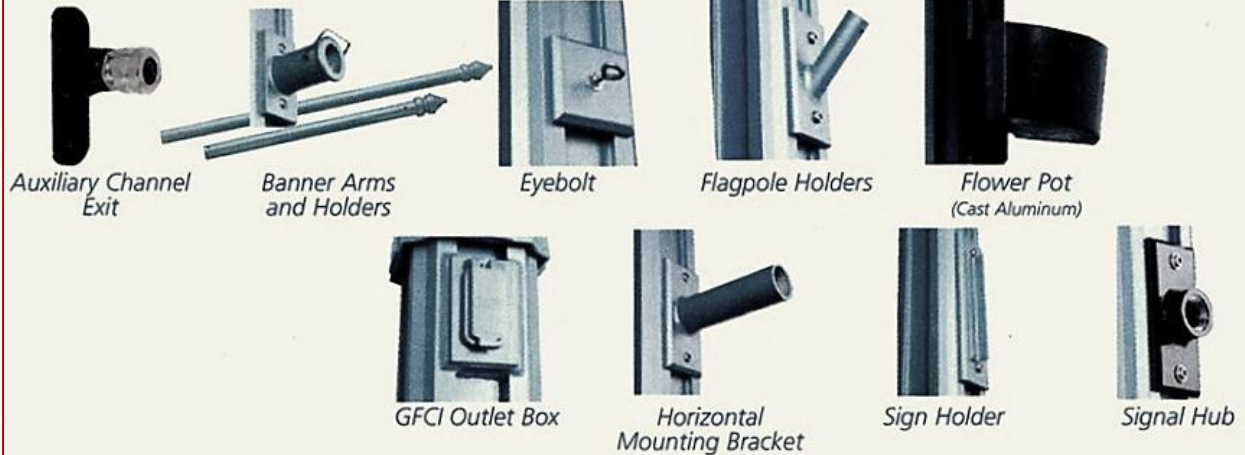


TracEquipment

Site equipment such as traffic lights, pedestrian signal equipment, security cameras and traffic signs can all fit the TracLoc System through the use of one of the several standard accessory components available. Custom components can also be developed for more challenging designs that require special attachments. In these instances, please contact your local Holophane factory sales representative for consultation.



accessories

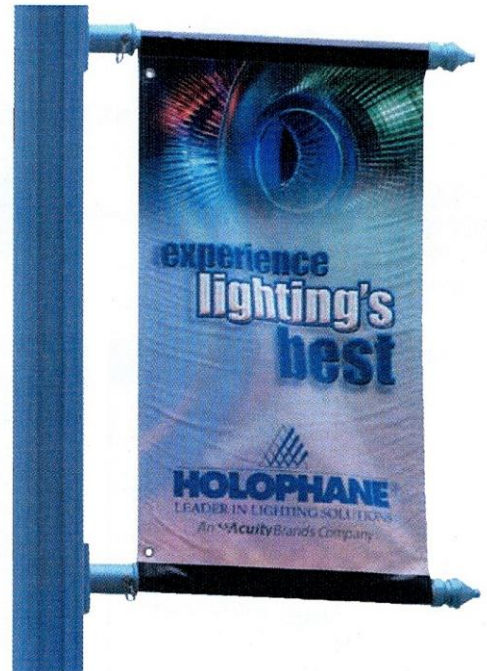


TracBanners

SiteLink offers a standard set of functional cast aluminum banner arms for use with the TracLoc system. TracBanners can be moved to accommodate new banner sizes, removed for different pole requirements or inclement weather, or added for special events easily without damaging the surface of the pole.

Features

- Cast aluminum construction
- Powder coat, or Kynar finish options
- Variety of lengths and diameters
- Variety of decorative end caps



**BRICK NORTH AND SOUTH BUILDINGS AT THE FOREFRONT AT THOMPSON'S POINT
LIGHTING FIXTURE TYPE S1**



BRACKET ARM: # SLNY72T2721 HD1

BASE: #SLDECVRCACSBT2D1

Post	Material	Height	Shaft Style
------	----------	--------	-------------

SL = SiteLink

A = Aluminum

08 = 8'	16 = 16'	24 = 24'
09 = 9'	17 = 17'	25 = 25'
10 = 10'	18 = 18'	26 = 26'
11 = 11'	19 = 19'	27 = 27'
12 = 12'	20 = 20'	28 = 28'
13 = 13'	21 = 21'	29 = 29'
14 = 14'	22 = 22'	30 = 30'
15 = 15'	23 = 23'	

T1J = SiteLink 3"x5" Extruded Shaft-Light Duty
 T2J = SiteLink 5.75" SQ. Extruded Shaft-Medium Duty
 T3H = SiteLink 8.50" SQ. Extruded Shaft-Heavy Duty
 L6J = SiteLink 5.75" SQ. Extruded Shaft-Medium Duty
 L8G = SiteLink 8.50" SQ. Extruded Shaft-Heavy Duty

Base	Tenon	Mounting	Finish
------	-------	----------	--------

BP = Base Plate
 SB = Shoe Base
 (T1J-TMP40002A)
 (T2J-TMP40000A BP)
 (T2J-TMP40016 SB)
 (T3H-TMP40001A)
 (L6J-TMP40017)
 (L8G-TMP40018)

P01 = POLE CAP
 P05 = 3" O.D. X 4" LG.
 P07 = 3" O.D. X 3" LG.
 P08 = 3" O.D. X 5" LG.
 P09 = 3" O.D. X 6" LG.
 P10 = 3" O.D. X 9" LG.
 P11 = 4.38 O.D. x 12" LG.
 (3" O.D. = ACTUAL SIZE IS 2.88" O.D.)

P12 = 3" O.D. X 12" LG.
 P13 = 3" O.D. X 8" LG.
 P14 = 3" O.D. X 14" LG.
 P15 = 3.5" O.D. X 8" LG.
 P16 = 4.5" O.D. X 10" LG.
 PT1 = VGC Plate

ABG = Anchor Bolts
 Galvanized Steel
 LAB = Less Anchor
 Bolts

BK = Black
 BD = Dark Blue
 BZ = Bronze
 GH = Graphite
 GN = Green
 GR = Gray
 PP = Prime Painted
 SL = Silver
 WH = White

Options

BRICK NORTH AND SOUTH BUILDINGS AT THE FOREFRONT AT THOMPSON'S POINT
LIGHTING FIXTURE TYPES S2, S3, S4, S5 & S6



Prefix	Controls	Arm	Mounting	Optics ⁵	LED Watts	Color Temp	Voltage	Finish	Options
P21 -	-	-	-	-	-	-	-	-	-
P21- PureForm 21" fixture	— Standard luminaire DIM 0-10V Dimming APD ¹ Automatic Profile Dimming APD-MRO ² APD with Motion Response Override pole mounted sensor APD-MRI ³ APD with Motion Response Override luminaire mounted sensor MRI ³ Motion Response at 50% low, luminaire mount sensor MR50 ² Motion Response at 50% low, pole mounted sensor LimeLight Wireless Controls LLC2 ^{1,10,13} #2 lens for 8-15' mounted heights LLC3 ^{1,10,13} #3 lens for 15-25' mounted heights LLC4 ^{1,10,13} #4 lens for 25-40' mounted heights	A1 ¹⁴ Standard 9" Arm A2 ¹⁴ Short 5" Arm A3 ¹⁴ Decorative Arm MA Mast Arm Fitter (requires 2 3/8" O.D. Mast Arm)	1 Standard 2 2@180 2@90 2@90 3 3@90 3@120 3@120 4 4@90 W Wall Mount WS ⁴ Wall mount including surface conduit rear entry permitted	Standard Optic Position 2 Type 2 3 Type 3 4 Type 4 5M Type 5 Medium 5W Type 5 Wide BLC Backlight Ctrl 2BL Type 2 with backlight (less shield) LCL ⁶ LEED Corner Cutoff Optics LCR ⁶ LEED Corner Cutoff Optics Optics Rotated Left (90°) ⁷ 2-90 Type 2 3-90 Type 3 4-90 Type 4 BLC-90 Backlight Ctrl 2BL-90 Type 2 with backlight (less shield) Optic Rotated Right (270°) ⁷ 2-270 Type 2 3-270 Type 3 4-270 Type 4 BLC-270 Backlight Ctrl 2BL-270 Type 2 with backlight (less shield)	350mA 55LA 70LA 90LA 530mA 80LA 105LA 130LA 640mA 165LA ¹² 700mA 110LA 140LA 180LA 800mA 200LA ¹²	CW Cool White 5,700K 70 CRI (nominal) NW Neutral White 4,000K 70 CRI (nominal) WW Warm White 3,000K 80 CRI (nominal)	120 120V 208 208V 240 240V 277 277V 347 347V 480 480V UNV 120-277V 50hz/60hz HVU 347-480V 50hz/60hz	BRP Bronze Paint BLP Black Paint WP White Paint NP Natural Paint OC Optional Color Specify optional color or RAL (ex: OC-LGP or OC-RAL7024) SC Special color Specify, must supply color chip. Requires factory quote.	TL Tool-Less entry and driver removal hardware TB Terminal Block F ⁸ Fusing LF In-Line/In-Pole Fusing PC ^{9,10,13} Receptacle with Photocell (Includes PCR5) PCB ^{9,10,13} Photocell Button PCR5 ^{10,13,15,17} Photocell Receptacle only with 2 dimming connections PCR7 ^{10,13,16,17} Photocell Receptacle only with 2 dimming and 2 auxiliary connections EHHS External Houseside Shield PTF2 Pole Top Fitter for 2 3/8" - 3" Tenon PTF3 Pole Top Fitter for 3" - 3 1/2" Tenon PTF4 Pole Top Fitter for 3 1/2" - 4" Tenon SPA1-2 Square Pole Adapter for use with A1 or A2 Arms SPA3 ¹⁰ Square Pole Adapter for use with A3 Arms DL ¹¹ Diffusing Lens CLR ¹¹ Clear Glass Lens POLY ¹¹ Polycarbonate Lens (1 year warranty on lens) BD Bird Deterrent Spike Kit - consist of 25 injection molded plastic bird deterrent spikes (field installed only).

TYPE S2: #P21-DIM-A1-1-2-55LA-NW-UNV-BLP-PC

TYPE S3: #P21-DIM-A1-1-4-105LA-NW-UNV-BLP-PC

TYPE S4: #P21-DIM-A1-1-4-BLC-105LA-NW-UNV-BLP-PC

TYPE S5: #P21-DIM-A1-1-5M-105LA-NW-UNV-BLP-PC

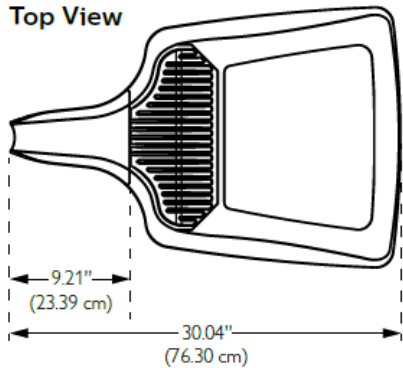
TYPE S6: #P21-DIM-A1-1-2-55LA-NW-UNV-BLP-PC

BRICK NORTH AND SOUTH BUILDINGS AT THE FOREFRONT AT THOMPSON'S POINT
LIGHTING FIXTURE TYPES S2, S3, S4, S5 & S6

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Type 2				Type 2BL				Type 3			
				Average System Watts ¹	Lumen Output ^{1,2}	Efficacy (LPW)	BUG Rating	Average System Watts ¹	Lumen Output ^{1,2}	Efficacy (LPW)	BUG Rating	Average System Watts ¹	Lumen Output ^{1,2}	Efficacy (LPW)	BUG Rating
55LA	48	350	4000K	54	5,327	99	B1-U0-G1	54	5,981	111	B3-U0-G3	54	5,330	98	B1-U0-G1
70LA	64	350	4000K	69	7,350	107	B1-U0-G1	69	8,252	120	B3-U0-G3	69	7,354	107	B1-U0-G2
90LA	80	350	4000K	88	9,370	106	B1-U0-G2	89	10,521	119	B3-U0-G3	89	9,375	106	B1-U0-G2
80LA	48	530	4000K	78	7,656	98	B1-U0-G2	79	8,596	109	B3-U0-G3	79	7,660	97	B1-U0-G2
105LA	64	530	4000K	103	10,521	102	B1-U0-G2	103	11,814	114	B3-U0-G3	103	10,527	102	B1-U0-G2
130LA	80	530	4000K	127	13,490	106	B1-U0-G2	128	15,147	118	B4-U0-G4	128	13,498	105	B1-U0-G2
165LA	80	640	4000K	162	15,651	97	B2-U0-G2	162	17,425	107	B4-U0-G4	162	15,691	97	B1-U0-G2
110LA	48	700	4000K	108	9,735	90	B1-U0-G2	108	10,931	101	B3-U0-G3	108	9,740	90	B1-U0-G2
140LA	64	700	4000K	137	13,287	97	B2-U0-G2	138	14,918	108	B4-U0-G4	138	13,294	96	B1-U0-G2
180LA	80	700	4000K	176	16,723	95	B2-U0-G2	177	18,777	106	B4-U0-G4	177	16,732	94	B2-U0-G3
200LA	80	800	4000K	205	18,514	90	B2-U0-G2	206	20,788	101	B4-U0-G4	206	18,524	90	B2-U0-G3

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Type 4				Type 5M				Type 5W			
				Average System Watts ¹	Lumen Output ^{1,2}	Efficacy (LPW)	BUG Rating	Average System Watts ¹	Lumen Output ^{1,2}	Efficacy (LPW)	BUG Rating	Average System Watts ¹	Lumen Output ^{1,2}	Efficacy (LPW)	BUG Rating
55LA	48	350	4000K	54	5,279	98	B1-U0-G1	54	6,059	112	B2-U0-G0	53	6,014	113	B3-U0-G1
70LA	64	350	4000K	69	7,284	106	B1-U0-G2	69	8,360	122	B3-U0-G1	70	8,298	119	B3-U0-G2
90LA	80	350	4000K	88	9,286	105	B1-U0-G2	88	10,657	121	B3-U0-G1	86	10,579	123	B4-U0-G2
80LA	48	530	4000K	78	7,588	97	B1-U0-G2	79	8,708	111	B3-U0-G1	82	8,644	106	B3-U0-G2
105LA	64	530	4000K	103	10,428	101	B1-U0-G2	103	11,967	116	B3-U0-G1	108	11,879	111	B4-U0-G2
130LA	80	530	4000K	127	13,370	105	B1-U0-G2	128	15,344	120	B3-U0-G1	134	15,231	114	B4-U0-G2
165LA	80	640	4000K	162	15,389	90	B1-U0-G2	162	17,663	109	B4-U0-G1	164	17,878	109	B4-U0-G2
110LA	48	700	4000K	108	9,648	96	B1-U0-G2	108	11,073	102	B3-U0-G1	110	10,991	100	B4-U0-G2
140LA	64	700	4000K	137	13,168	94	B1-U0-G2	138	15,112	110	B4-U0-G1	146	15,001	103	B4-U0-G2
180LA	80	700	4000K	176	16,574	95	B2-U0-G2	177	19,021	108	B4-U0-G1	179	18,881	105	B4-U0-G2
200LA	80	800	4000K	206	18,349	89	B2-U0-G3	206	21,058	102	B4-U0-G2	206	20,903	101	B4-U0-G2

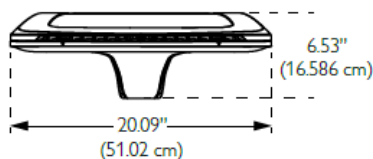
Top View



Side View



End View



PHILIPS

GARDCO

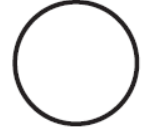
PHILIPS

Poles



4.5" Straight Round Aluminum - Cast Base

The Philips Gardco RA4.5 straight aluminum pole consists of a one-piece 4.5" round extruded aluminum lighting standard mounted to a cast aluminum base. The poles are finished with either Architectural Class I anodizing or electrostatically applied TGIC polyester powdercoat. All poles include anchor bolts, full base cover, hand hole, ground lug and top cap.



Enter the order code into the appropriate box above. Note: Gardco reserves the right to refuse a configuration. Not all combinations and configurations are valid. Refer to notes below for exclusions and limitations. For questions or concerns, please consult the factory.

PREFIX	BASE	HEIGHT	DRILLING
RA4.5	CB Fixed Cast Base	10' 12' 15' 18' 20'	D1 1 Way D2 2 Way D2@90 2 Way at 90° D3 3 Way D3@120 3 Way at 120° D4 4 Way T2 2 3/8" OD Tenon T4 4" OD Tenon

Hinged Bases are available for this pole size. Please refer to Hinged Base Pole sheet 79415-8 for specifications and dimensions.

FINISH	OPTIONS
BRP Bronze Paint BLP Black Paint WP White Paint NP Natural Aluminum Paint BRA Bronze Anodized BLA Black Anodized NA Natural Anodized OC Optional Color Paint <i>Specify Optional Color or RAL ex: OC-LGP or OC-RAL7024.</i> SC Special Color Paint <i>Specify. Must supply color chip.</i>	DR Duplex Receptacle GFCI Ground Fault Receptacle VDA Vibration Dampener <u>Nipples and Couplings</u> <i>Indicate size (1/2", 3/4", 1", 1 1/4", 1 1/2".) Indicate height above base and orientation to hand hole. See Pole Orientation Information on Page 4.</i> NL Nipple - External thread CL Coupling - Internal thread <u>Single Mount Bullhorn Brackets</u> <i>Indicate height above base and orientation to hand hole. See Pole Orientation Information on Page 4.</i> A15BH-19 Single - 1.9" OD A15BH-24 Single - 2.4" OD A215BH-19 2-Tenon - 1.9" OD A215BH-24 2-Tenon - 2.4" OD

Motion Response Provisions

GMR Provision for Gardco HID Motion Response System
Minimum Pole Height is 18'. Includes a 1/2" coupling placed 180° to the hand hole, 12' above the pole base.

MSM Motion Sensor Mounting Provision for LED Luminaires available with Motion Response
Minimum Pole Height is 18'. Includes a special hand hole with 1/2" coupling placed in the cover plate, 180° to the hand hole, 15' above the pole base.

CATALOG NUMBER	POLE SIZE		MAXIMUM LUMINAIRE LOADING ¹			ANCHOR BOLT DATA ²		
	ACTUAL HEIGHT	WALL THICKNESS (inches.)	100 MPH EPA-FT ²	90 MPH EPA-FT ²	80 MPH EPA-FT ²	BOLT CIRCLE (inches)	BOLT SIZE (inches)	MAX PROJ. (inches)
RA4.5-CB-10	10'	.125	7.6	9.5	12.5	7 - 8.625	3/4 x 17 x 3	3.25"
RA4.5-CB-12	12'	.125	5.6	7.1	9.5	7 - 8.625	3/4 x 17 x 3	3.25"
RA4.5-CB-15	15'	.188	5.1	6.5	8.8	7 - 8.625	3/4 x 17 x 3	3.25"
RA4.5-CB-18	18'	.188	3.6	4.7	6.7	7 - 8.625	3/4 x 17 x 3	3.25"
RA4.5-CB-20	20'	.188	2.4	3.2	5.1	7 - 8.625	3/4 x 17 x 3	3.25"

ROUND STRAIGHT ALUMINUM POLES – 17 FEET TALL. INSTALLED ON A RAISED 3-FOOT CONCRETE FOUNDATION BASE.



120 LINE LED



121 LED Performance Sconce - Generation 2

The Philips Gardco 121 LED Performance Sconce provides an energy efficient, architecturally pleasing solution for wall mount applications. The sloped surface ribs of the die cast aluminum housing create a distinctly unique aesthetic element, and perform important functions in the Philips Gardco thermal management system. 121 Generation 2 luminaires feature high performance Class 1 LED systems. The high performance LED optical systems produce full cutoff performance, minimizing glare and light trespass. Philips Gardco's LED technology provides maximized light output and maximum energy savings.



PREFIX	OPTICAL SYSTEM	LED WATTAGE	LED SELECTION	VOLTAGE	FINISH	OPTIONS
121	3	26LA	NW	UNIV	BLP	PCB
<small>Enter the order code into the appropriate box above. Note: Philips Gardco reserves the right to refuse a configuration. Not all combinations and configurations are valid. Refer to notes below for exclusions and limitations. For questions or concerns, please consult the factory.</small>						

PREFIX

- 121** 121 LED Performance Sconce - Constant Wattage / Full Light Output
- 121-MR** 121 LED Performance Sconce - Motion Response
- 121-DIM** 121 LED Performance Sconce - 0 - 10V Dimming
- 121-APD** 121 LED Performance Sconce - Automatic Profile Dimming

121-DCC 121 LED Performance Sconce - Dual Circuit Control

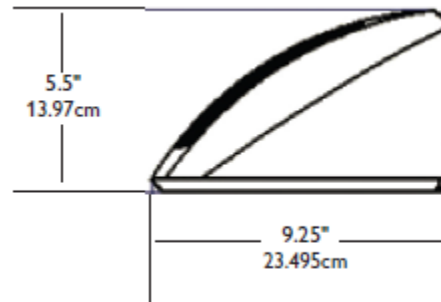
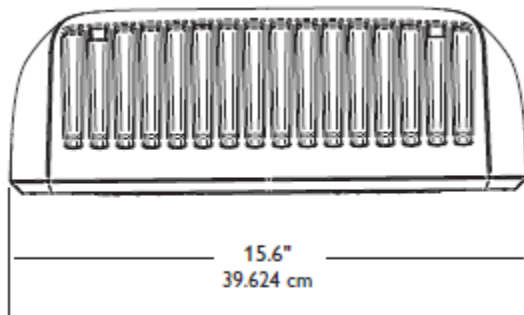
OPTICAL SYSTEM

- 2** Type 2 All optical systems are supplied with a clear glass lens standard. A Diffuse Lens (DL) option is available. See **OPTIONS** on Page 2.
- 3** Type 3
- 4** Type 4
- MT** Medium Throw

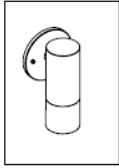
LED WATTAGE AND LUMEN VALUES

Single LED Array Wattages, Available in 121, 121-MR, 121-DIM and 121-APD Only

Ordering Code	Average System Watts ¹	LED Current (mA)	LED Quantity - Single LED Array	LED Selection	Luminaire Initial Absolute Lumens ²			
					TYPE 2	TYPE 3	TYPE 4	MT
18LA	18	350	16	NW	1,673	1,707	1,609	2,022
26LA	26	530	16	NW	2,442	2,485	2,345	2,927
35LA-700	36	700	16	NW	3,102	3,139	2,972	3,650
35LA-350	35	350	32	NW	3,664	3,736	3,523	4,425
50LA	52	530	32	NW	5,587	5,685	5,365	6,697
75LA	72	700	32	NW	6,199	6,538	6,296	7,289



BRICK NORTH AND SOUTH BUILDINGS AT THE FOREFRONT AT THOMPSON'S POINT
LIGHTING FIXTURE TYPE S8



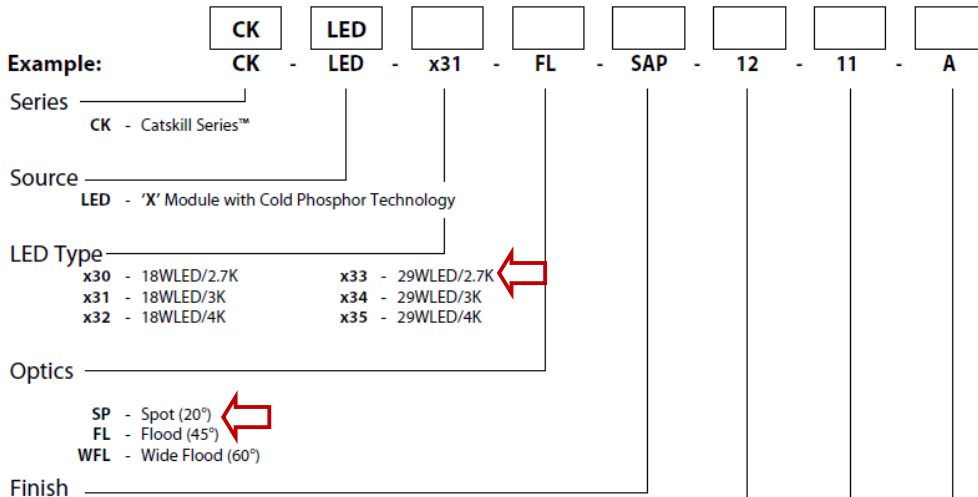
BESSL
 SOLID STATE LIGHTING
 18-29W LED



CATSKILL™

PROJECT:	
TYPE:	
CATALOG NUMBER:	
SOURCE:	
NOTES:	

CATALOG NUMBER LOGIC



Configure Driver Housing Separately
 Driver Housing Required

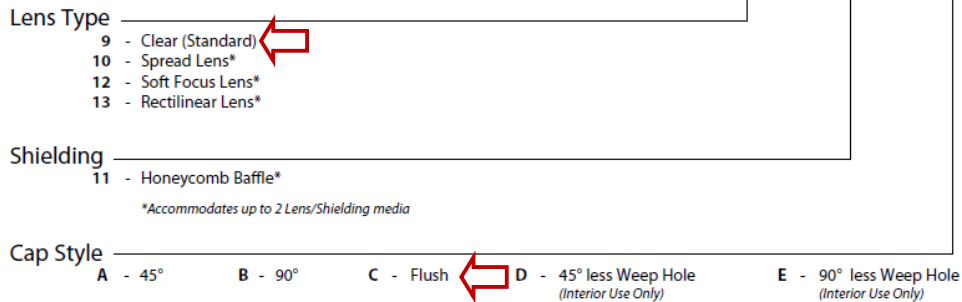
REMOTE DRIVER HOUSINGS:
 PM2RM - Universal Power Module 2 Remote
 PM2DRM - Universal Power Module 2 Dual Remote
 RM - Remote Wall Mount
 DRM - Dual Remote Wall Mount

Standard Finish

Powder Coat Color	Satin	Wrinkle
Bronze	BZP	BZW
Black	BLP	BLW
White (Gloss)	WHP	WHW
Aluminum	SAP	—
Verde	—	VER

Premium Finish

ABP Antique Brass Powder	CMG Cascade Mountain Granite	RMG Rocky Mountain Granite
AMG Aleutian Mountain Granite	CRI Cracked Ice	SDS Sonoran Desert Sandstone
AQW Antique White	CRM Cream	SMG Sierra Mountain Granite
BCM Black Chrome	HUG Hunter Green	TXF Textured Forest
BGE Beige	MDS Mojave Desert Sandstone	WCP Weathered Copper
BPP Brown Patina Powder	NBP Natural Brass Powder	WIR Weathered Iron
CAP Clear Anodized Powder	OCP Old Copper	<i>Also available in RAL Finishes See submittal SUB-1439-00</i>



BRICK NORTH AND SOUTH BUILDINGS AT THE FOREFRONT AT THOMPSON'S POINT
LIGHTING FIXTURE **TYPE S9**

SLIMFC37N/PC



37, 57 and 62 Watt SLIM Wallpacks are designed to cover the footprint of most traditional wallpacks. They are suitable for mounting heights from 20' to 30', and replace HID Wattages from 200W MH to 320W MH. These ultra-high efficiency fixtures are available in cutoff or full cutoff models.

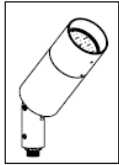
Color: Bronze

Weight: 7.5 lbs

Project:	Type:
Prepared By:	Date:

Driver Info		LED Info	
Type:	Constant Current	Watts:	37W
120V:	0.31A	Color Temp:	4000K (Neutral)
208V:	N/A	Color Accuracy:	82 CRI
240V:	N/A	L70 Lifespan:	100,000
277V:	N/A	Lumens:	2,413
Input Watts:	38W	Efficacy:	64 LPW
Efficiency:	98%		

**BRICK NORTH AND SOUTH BUILDINGS AT THE FOREFRONT AT THOMPSON'S POINT
LIGHTING FIXTURE TYPE S10**



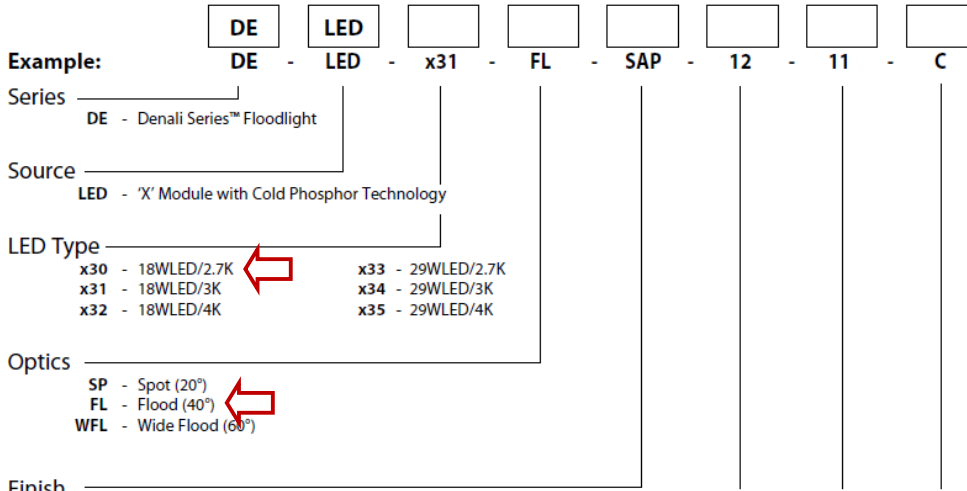
18-29W LED



DENALI SERIES™ FLOODLIGHT

PROJECT:	
TYPE:	
CATALOG NUMBER:	
SOURCE:	
NOTES:	

CATALOG NUMBER LOGIC



Configure Driver Housing Separately
Driver Housing Required

INTEGRAL DRIVER HOUSINGS:
 HP2 - HP2 Housing
 PM2 - Universal Power Module 2
 PM2D - Universal Power Module 2 Dual
 PC - Power Canopy
 PPII - Power Pipe II
 TMB - Pole Mount or Tenon Mount

REMOTE DRIVER HOUSINGS:
 HP2RM - HP2 Remote Housing
 PM2RM - Universal Power Module 2 Remote
 PM2DRM - Universal Power Module 2 Dual Remote
 RM - Remote Wall Mount
 DRM - Dual Remote Wall Mount

Aluminum Finish			Premium Finish		
Powder Coat Color	Satin	Wrinkle	ABP	CMG	RMG
Bronze	BZP	BZW	Antique Brass Powder	Cascade Mountain Granite	Rocky Mountain Granite
Black	BLP	BLW	AMG	CRI	SDS
White (Gloss)	WHP	WHW	Aleutian Mountain Granite	Cracked Ice	Sonoran Desert Sandstone
Aluminum	SAP	—	AQW	CRM	Sierra Mountain Granite
Verde	—	VER	Antique White	HUG	Textured Forest
			BCM	MDS	Weathered Copper
			Black Chrome	Mojave Desert Sandstone	Weathered Iron
			BGE	NBP	WCP
			Beige	Natural Brass Powder	Weathered Iron
			BPP	OCP	Also available in RAL Finishes See submittal SUB-1439-00
			Brown Patina Powder	Old Copper	
			CAP		
			Clear Anodized Powder		

Lens Type: 9 - Clear (Standard), 10 - Spread Lens*, 12 - Soft Focus Lens*, 13 - Rectilinear Lens*

Shielding: 11 - Honeycomb Baffle*
*Accommodates up to 2 Lens/Shielding media

Cap Style: A - 45°, B - 90°, C - Flush, D - 45° less Weep Hole (Interior Use Only), E - 90° less Weep Hole (Interior Use Only)

LUMINAIRE AIMED STRAIGHT DOWN