

199-A-1
947 Westbrook
St.
Jetport Pk.
Garage
Portland Int.
Jetport

text

Meeting Notes**City of Portland - Planning Department Review**

PWM Phase II Garage / FILE 195210126

**Stantec**

Date: July 20, 2006
 Place/Time: Portland City Hall / 9:00 AM
 Next Meeting:
 Attendees: Rick Knowland – City of Portland
 Marge Schmuckal – City of Portland
 Dan Goyette – Woodard & Curran
 Jim McLaughlin - Stantec
 David Nadeau - Stantec

Absentees:

Distribution: All attendees

Item:	Action By:
1.) Subdivision Standards Provide an Addendum to the application with responses to each of the city of Portland's subdivision standards; To be used as a summary document by the Planning Board	Stantec
2.) MDOT Traffic Permit Provide another copy of the Maine Dept. of Transportation's response letter indicating that a Traffic Movement Permit is not required for this project.	Stantec
3.) MDEP Review Confirmed that MDEP is performing the Site Location of Development review.	NR
4.) Existing Conditions Visibility On all plan sheets, existing phase I garage and terminal labels should be more visible (bold, larger font)	Stantec
5.) Garage Height Provide the height of the proposed structure from the average ground elevation at base (4 corners) to the top of main structure (not including elevator tower, light posts, etc.). This is exterior height, not interior. Show dimension on elevation sheet A3-1.	Stantec / DHK
6.) Site Impervious Provide the calculation for the total impervious surface of the property as a percentage of the total area of the property. Indicate that percentage will not change as Phase II area is already impervious.	Stantec

<p>7.) Setbacks Confirmed that there are no issues with property setbacks.</p>	<p>NR</p>
<p>8.) Photometric Plans Provide clean color 11"x17" copies of Photometric plans EP-1 and EP-2.</p>	<p>Stantec</p>
<p>9.) Lighting Fixtures Catalog cuts and lighting plan included as part of original submission. Referred to Section 12 of the application.</p>	<p>NR</p>
<p>10.) Temporary Lot Status Was the temporary lot ever approved by the Planning Board for permanent status? If yes, were changes made, (ie. Green space, lighting, signage). If no, review needs to be included in this application, especially signage. Remember discussing this with Paul / Sarah Hopkins as part of baggage claim review.</p>	<p>Stantec / Jetport</p>
<p>11.) Plan References General problem with detail references to sheet numbers need to be addressed.</p>	<p>Stantec et. all</p>
<p>12.) Pedestrian Movement Plan Provide single plan showing pedestrian movement paths, temporary barriers, construction access, etc. Provide written narrative to discuss plan.</p>	<p>Stantec</p>
<p>13.) Bathrooms Confirmed there were no additional bathroom facilities proposed in the Phase II garage. No impact to existing sanitary sewer system. Forward response letter from City to RK.</p>	<p>Stantec</p>
<p>14.) Parking Master Plan Provide plan showing updated master plan with intermodal bus facility, future terminal expansion, etc.</p>	<p>Stantec / DHK / Jetport</p>
<p>15.) Parking Capacity Contact Jim Conmy, Transportation Engineer, CoP; Tom Ericho, Traffic Review Consultant @ Wilbur Smith. Response indicating sufficient capacity of facility to handle increased usage. No increase in usage intended as result of parking garage. Phase II garage intended to address existing parking deficiencies, not create usage. Low cost carriers, etc. attract patrons. Confirm Jim and Tom concur with and that they believe facility will have sufficient capacity.</p>	<p>Stantec / DHK / Jetport</p>
<p>16.) Parking Capacity - Construction Provide narrative detailing number of parking spaces lost during construction with analysis showing Jetport will have sufficient capacity. Get info from Paul.</p>	<p>DHK / Jetport</p>
<p>17.) Snow Removal Indicate who is responsible for snow removal from temporary pedestrian movement areas during construction. (construction not anticipated to last into winter.....)</p>	<p>Stantec / Jetport</p>

<p>18.) Temporary Access</p> <p>Indicate that proposed temporary construction entrances will be returned to existing conditions at completion of project.</p>	Stantec
<p>19.) Parking Stall Dimensions</p> <p>Obtain a technical design standards waiver from the City for smaller than standard parking stalls. (9'x18' vs. 9'x19' standard). Provide interior layout drawing with sizes of stalls and aisles included.</p>	Stantec
<p>20.) Water Quality Unit</p> <p>Indicate on plans the location of the existing water quality treatment unit and note that drainage from the proposed project will be draining to this unit and subsequently to the detention basin.</p>	Stantec
<p>21.) Basic Stabilization During Construction</p> <p>Update the reference in Section 15 of the application to reflect the most current online version of the MDEP Erosion and Sediment Control Handbook for Construction.</p>	Stantec
<p>22.) Renderings</p> <p>Provide colored 3d drawings of garage, including phase I. Several different views including from above.</p>	DHK
<p>23.) Landscaping</p> <p>On landscaping plans, show all existing plantings.</p>	Stantec
<p>24.) Schedule</p> <p>Based on current Planning Board work load, RK believes first workshop in October is most likely schedule (fourth Tuesday in September possible, not likely). Assuming everything goes smoothly, hearing during second Tuesday in November. Hold neighborhood meeting between workshop and hearing. Planning department will not attend.</p>	Stantec / DHK / Jetport
<p>25.) Plan Sheet Organization</p> <p>Reorganize plan sheets so that landscaping, layout, elevations at front, and all detail / construction info after. Summary info at the beginning.</p>	Stantec et. all
<p>26.) Resubmission</p> <p>Once all comments addressed, submit two sets of updated drawings to RK (1-11"x17" & 1-30"x42") and one large set to DG for review. Colored drawings required for in-house review. When they are happy, submit remainder of copies required by planning board review regs.</p>	Stantec
<p>27.) Fire Department</p> <p>Maintain open access to fire department at all times. Will include language on general notes sheet.</p>	Stantec

The meeting adjourned at 10:00 AM.

The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

Stantec

2-13

July 25, 2006
City of Portland - Planning Department Review
Page 4 of 4

STANTEC CONSULTING SERVICES INC.

David P. Nadeau, P.E.
Transportation Engineer
dnadeau@stantec.com

c. Paul Bradbury - PWM
George Katsoufis - DHK

**Portland International Jetport
Phase 2 Parking Garage**

**Executive Summary for Site Plan Approval Standards
and
Compliance with
Sec. 14-526**

1. The project will not create or aggravate any significant hazard to safety and will not cause traffic congestion.

Response: The proponent has confirmed with the Maine Department of Transportation that the project will not cause public road congestion or unsafe conditions with respect to highways or public roads. See letter from MDOT included as Exhibit No. 1.

2. The project will provide for sufficient parking to support the proposed structure.

Response: The project does not propose a structure or development which will create the need for additional parking. Instead, the project itself involves the construction of a parking garage that is intended to provide additional parking capacity to satisfy existing and future needs at the Jetport. When completed, the Phase II parking garage will result in a net increase of 367 parking spaces over the existing total available on-site parking capacity. However, during construction, the necessary demolition of the existing parking garage structure and the use of a portion of the long term parking areas as a contractor staging and laydown area, will result in a temporary decrease in available parking spaces of about 763 spaces. This decrease in available parking will be accommodated by utilizing the Jetport's remote parking facility on outer Congress Street which has approximately 460 available spaces. Shuttlebus service to the remote lot will be implemented during the construction period. Although less spaces will be available during construction, the parking demand during the construction period is typically low. The project is scheduled for construction during the months of May 2008 through December 2008, with the new structure being open to parking by Thanksgiving of 2008. As a result, the impacts to available parking will occur during the low demand period for parking at the Jetport, and thus the combination of remaining parking spaces and the remote lot will provide adequate available parking during this period. Exhibit No. 2 is a chart developed by the Jetport which demonstrates the typical historical demand for parking during the proposed construction period. The chart shows midnight parking counts for calendar years 04, 05, 06, and part of 07 and confirms that on or about day 115 (late March) the volume of parkers

drops dramatically to a maximum of approximately 1500 spaces, and stays low throughout the summer tourist season. During this time period, the use of the Jetport switches from local travelers leaving the state (and their parked cars) to tourist from outside the state coming in and renting cars. This data confirms that adequate parking will be available during the construction period.

3. The bulk, location or height of the proposed structures will not cause health or safety problems as to existing uses in the neighborhood, resulting from reduction in light and air, and significant wind impact and any significant snow loading.

Response: The proposed parking garage structure will replace an existing parking garage structure on the same highly developed commercial site, and is therefore not expected cause any health or safety problems resulting from light or air reduction, wind impact, or snow loading that would affect the neighborhood or existing neighboring structures.

4. The bulk, location or height of the proposed structure minimizes to the extent feasible any substantial diminution in the value or utility to neighboring structures under different ownership.

Response: The proposed parking garage structure will replace the existing old parking garage structure on the same highly developed commercial site, and is therefore not expected cause any diminution in value to neighboring structures under different ownership.

Aesthetically, the project should improve the general aesthetics of the immediate area due to the removal of the existing old parking garage and the erection of the new garage addition which will have architectural features which will be complimentary and similar to the existing Phase I parking structure and the adjacent terminal building. In this instance, it could be argued that the value of neighboring properties could be enhanced by the construction of the project.

5. The development will not overburden the sewers, sanitary and storm drains, water, solid waste disposal or similar public facilities and utilities.

Response: No additional burden on sewage systems will result from the project since no bathroom or manufacturing processes which might generate sewage waste water are included in the project. Storm water runoff quantities will not be increased by the project and will be handled by proposed and existing storm water infrastructure located within the airport property and will not cause unreasonable burden on municipal services. The proponent has confirmed with the City of Portland Water Department that sufficient water supplies are available to service the proposed project. With the exception of the debris resulting from demolition of the existing structure, no significant long term generation of solid waste is anticipated as a result of the project. Solid waste from trash deposited in trash receptacles which will be located throughout

the parking garage will be collected and disposed through modification of the existing waste removal contract currently servicing the Jetport. Refer to Sections 7, 8, and 9 of the Application.

6. The on-site landscaping provides adequate buffering between the development and neighboring properties so as to adequately protect each from any detrimental features of the other.

Response: Because the area is currently highly developed, the project will not have an adverse effect on the scenic or natural beauty of the area. Aesthetically, the project should improve the general aesthetics of the immediate area due to the removal of the existing old parking garage and the erection of the new garage addition which will have architectural features which will be complimentary and similar to the existing Phase I parking structure and the adjacent terminal building. Because of the commercial nature and use of the project site and the immediate surrounding properties a vegetative buffer is neither practical nor warranted. An appropriate level of landscaping has been provided to further enhance the aesthetics of the project site in the area between the new structure and the existing Terminal Building. Refer to the landscaping plan included in the project drawings and Section 13 of the Application.

7. The site plan minimizes, to the extent feasible, any disturbance or destruction of significant existing vegetation.

Response: The project is proposed to replace highly developed impervious surface with similar impervious surface and will not result in the disturbance and destruction of significant vegetation. Temporary access to the project site will be by way of the previously abandoned old airport access road, which will be returned temporarily to a gravel surface road bed for the project. At the conclusion of the project the road bed area will again be restored to a turf surface. Exhibit No. 3 is the most recent impervious surface area calculation for the Jetport property. The AB zone allows up to 70% impervious area. The calculation shows that the current development results in an impervious area calculation of approximately 55%.

8. The site plan does not create any significant soil and drainage problems, whether on- or off-site, and adequately provides for control of erosion and sedimentation during construction and afterward.

Response: The project is proposed to replace highly developed impervious surface with similar impervious surface and should not result in the any reduction in the capacity of the land to hold water or create any significant soil and drainage problems. The potential for soil erosion from the construction will be minimized through the implementation of best management practices such as siltation fencing, hay bale dikes, erosion control blankets, and storm drain inlet

protection. Please refer to the erosion control plan in the project drawings and Section 14 of the Application.

9. The provision for exterior lighting will not be hazardous to motorists traveling on adjacent public streets, is adequate for the safety of occupants or users of the site, and will not cause significant glare or direct spillover onto adjacent properties.

Response: The exterior lighting for the project has been specifically selected and designed so as to minimize glare and spillover to neighboring properties. This is accomplished through the use of "sharp cutoff" pole-mounted luminaires to match the existing roof top pole-mounted luminaires on the existing parking garage structure. Additionally, interior lighting has been shielded by the incorporation of architectural louvers mounted on the exterior of the building. Please refer to the lighting photometrics plans in the project drawings and Section 12 of the Application.

10. The development will not create fire or other safety hazards and provides adequate access to the site and to the buildings for emergency vehicles.

Response: No fire or other safety hazards are expected to be created by the project. The manufacturing of or use of dangerous chemicals or substances is not proposed as part of the development. Sufficient capacity of the existing water supply has been confirmed for the fire protection sprinkler system proposed for the project. Adequate access to the site and structures is provided by the Jetport access loop road and adjacent parking facilities.

11. The proposed development is designed so as to be consistent with off-premises infrastructure, existing or planned by the city.

Response: The project is in concert and complies with the proposed development outlined in the approved Master Parking Plan and the Airport Master Plan for the Portland Jetport. Refer to Section 10 of the Application.

12. Any industrial development will prevent undue adverse environmental consequences, including without limitation any substantial diminution to the value or utility of neighboring structures or significant hazard to the health or safety of persons residing in the vicinity by controlling odor levels, sound levels, particulates, and other emissions it generates.

Response: Not Applicable to this proposed development.

13. For development within the RP zone...development would not be incongruous to that established style or character...

Response: Not Applicable to this proposed development. Project is within the Airport Zone.

14. Planned residential unit developments in the R-3, R-5 or R-5A residential zones and manufactured housing parks shall meet...

Response: Not Applicable to this proposed development.

15. Two-family, special needs independent living unit, multiple-family development, lodging houses, bed and breakfasts, and emergency shelters shall meet.....

Response: Not Applicable to this proposed development.

16. Development located within the B-3 zone shall also meet the following standards....

Response: Not Applicable to this proposed development.

17. The applicant has submitted all information required by this article and the development complies with all applicable provisions of this code.

Response: The proponent believes that all required information has been submitted and that the development complies with all applicable provisions of the code.

18. If any part of a proposed structure or object is within one hundred (100) feet of any landmark, historic district, or historic landscape district designated or otherwise subject to the protection of article IX

Response: Not Applicable to this proposed development. See letter from State Historic Preservation Officer included as Exhibit No. 4.

19. View corridors: the placement and massing of proposed development shall not substantially obstruct those public views to landmarks and natural features from those locations identified on the View Corridor Protection Plan.....

Response: Not Applicable to this proposed development.

20. The proposed development shall have no adverse impact upon existing natural resources including groundwater quantity and quality, surface water quantity and quality, wetlands, unusual natural areas, wildlife and fisheries habitats. Stormwater runoff from paved areas shall be treated to the extent practicable to minimize contaminants.

Response: Due to the nature of the project, the fact that it is within a highly developed area, and that no sewage, waste water or chemicals are anticipated to be generated from the project, it is anticipated that there will be no adverse affect on the quality or quantity of groundwater.

The project will replace an existing parking garage structure, by replacing existing impervious surface with a slightly less area of impervious surface. As such the project will not result in any increase in storm water runoff quantities or pollutants resulting from storm water discharges. Storm water discharges will be handled by proposed and existing storm water infrastructure located within the airport property. Storm water quality mitigation measures recommended by the Department of Environmental Protection are proposed under the project that will treat runoff that is currently discharging to Long Creek. Thus implementation of the project should improve the quality of surface water and storm water entering this body of water from the Jetport property. No significant wildlife habitat, rare or natural areas, will be impacted by the proposed project. Correspondence with the Dept. of Conservation and Dept. of Inland Fisheries and Wildlife concurs with these conclusions. See letters from these agencies included as Exhibit Nos. 5 and 6. Also, refer to Sections 14 and 15 of the Application

21. The proposed development shall not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur.

Response: Due to the nature of the project, the fact that it is within a highly developed area, and that no sewage, waste water or chemicals are anticipated to be generated from the project, it is anticipated that there will be no adverse affect on the quality or quantity of groundwater. Therefore the project does not pose and unreasonable risk of discharge to a significant groundwater aquifer.

22. Signs.

Response: For the most part, existing signs will remain unchanged under the project development. With the exception of minor relocations of existing signs and additional way finding signs within the structure to direct vehicles and pedestrians to new garage entrance/egress locations, no new signs are proposed under the project.

23. An applicant for minor site plan review of a sign denied for failure to comply with the requirements of section 14-369.5 shall meet the following standards.....

Response: Not Applicable to this proposed development.

24. All major or minor businesses shall meet the following....

Response: Not Applicable to this proposed development.

25. Development in the industrial zones shall meet the following additional requirements...

Response: Not Applicable to this proposed development.

26. Development located in the B-5 and B-5b zones shall meet the following additional standards...

Response: Not Applicable to this proposed development.

27. Development located in the B-1, B-1b, B-2, and B-2b zones shall meet the following additional standards....

Response: Not Applicable to this proposed development.

28. Small residential lot development located in the R-6 zone on lots of ten thousand (10,000) square feet or less....

Response: Not Applicable to this proposed development.

29. University of Southern Maine design standards...

Response: Not Applicable to this proposed development.

30. Bayside mixed use urban district zone (B-7 zone) design standards...

Response: Not Applicable to this proposed development.

31. Eastern waterfront design standards.....

Response: Not Applicable to this proposed development.

TRAFFIC ANALYSIS

Overview

Presently, vehicular traffic at the Portland International Jetport travels on a newly constructed loop road that encompasses the existing two story and Phase I garage structures, as well as the west surface lot. Vehicular traffic follows a one-way counterclockwise pattern from a point immediately south of the International Parkway and Jetport Boulevard intersection. The loop road follows an easterly path directly in front of the terminal and turns north in front of the baggage claim facility. The general flow of the loop road will be unaffected by the proposed Phase II expansion as it will occupy the same space and be served by the same entrances as the existing two story garage structure. The design of this area is in accordance with the *Parking Master Plan for the Portland International Jetport* completed September 8, 2000 and reviewed by the city of Portland Planning Board.

Traffic Analysis Review

The Maine Department of Transportation (MDOT) Traffic Division has been contacted regarding the projected impact on traffic for the Portland International Jetport Phase II garage expansion. It is anticipated that a Traffic Movement Permit will not be required for the proposed project. A response from MDOT has not yet been received, but will be forwarded to the Planning Board upon arrival.

Attachments

Letter from Stantec to the Maine Department of Transportation Traffic Division, dated April 21, 2006.

OF PORTLAND, MAINE
PLANNING BOARD

ATTACHMENT 3-1
Sent 3-29-01

Jaimey Caron, Chair
Deborah Krichels, Vice Chair
Kenneth M. Cole III
Cyrus Y. Hagge
Erin Rodriguez
Mark Malone
Orlando E. Delogu

March 21, 2001

Mr. Jeff Schultes, Jetport Manager
Portland International Jetport
1001 Westbrook Street
Portland, ME 04102

RE: Portland International Jetport Parking Garage (1001 Westbrook Street; 199-A-001, unit 16) and Temporary Parking Lot (Outer Congress Street).

Dear Mr. Schultes:

On March 13, 2001, the Portland Planning Board voted on the following motions regarding expansion of the Portland International Jetport:

1. The Planning Board voted 5-0 (Hagge, Delogu absent) that the parking garage site plan is in conformance with the site plan ordinance of the land use code with the following conditions:
 - i. That the site plan be revised for review and approval reflecting the comments of Steve Bushey, Development Review Coordinator.
 - ii. That the landscape plan is subject to review and approval by the City Arborist.
 - iii. That additional information be submitted for the interior lighting of the parking garage for planning staff review and approval.
 - iv. That the walkway plan be revised to reflect an appropriate walkway from the westerly employee parking lot to the terminal.
 - v. That an executed agreement between the City and Thomas Toye shall be submitted for staff review and approval.
2. The Planning Board voted 5-0 (Hagge, Delogu absent) that the temporary parking lot on outer Congress Street is in conformance with the following conditions:
 - i. That the parking lot is temporary and site plan approval shall expire on April 1, 2003. The applicant shall submit for review and approval by

the Planning Board a site plan by April 1, 2003 either restoring the site or a revised site plan for its future use.

- ii. That the site plan be revised for review and approval reflecting the comments of Steve Bushey, Development Review Coordinator.
- iii. That a landscape plan be submitted for review and approval by the City Arborist.

The approval is based on the submitted site plan and the findings related to site plan review standards as contained in Planning Report #11-01, which is attached.

Please note the following provisions and requirements for all site plan approvals:

1. A performance guarantee covering the site improvements as well as an inspection fee payment of 2.0% of the guarantee amount and 7 final sets of plans must be submitted to and approved by the Planning Division and Public Works prior to the release of the building permit. If you need to make any modifications to the approved site plan, you must submit a revised site plan for staff review and approval.
2. The site plan approval will be deemed to have expired unless work in the development has commenced within one (1) year of the approval or within a time period agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the expiration date.
3. A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.
4. Prior to construction, a preconstruction meeting shall be held at the project site with the contractor, development review coordinator, Public Work's representative and owner to review the construction schedule and critical aspects of the site work. At that time, the site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending city representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the preconstruction meeting.

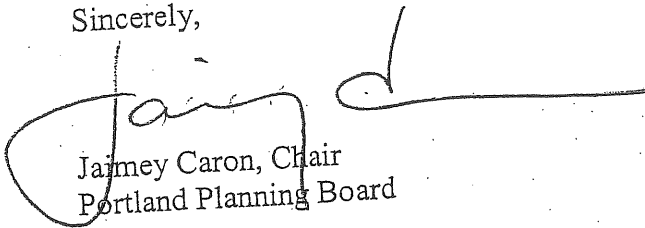
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5. If work will occur within the public right-of-way such as utilities, curb, sidewalk and driveway construction, a street opening permit(s) is required for your site. Please contact Carol Merritt at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible).

The Development Review Coordinator must be notified five (5) working days prior to date required for final site inspection. The Development Review Coordinator can be reached at the Planning Department at 874-8721 or 874-87199. Please make allowances for completion of site plan requirements determined to be incomplete or defective during the inspection. This is essential as all site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact the Planning Staff.

Sincerely,



Jaime Caron, Chair
Portland Planning Board

CC: Alexander Jaegerman, Chief Planner
Richard Knowland, Senior Planner
P. Samuel Hoffses, Building Inspector
Marge Schmuckal, Zoning Administrator
Tony Lombardo, Project Engineer
Jay Reynolds, Development Review Coordinator
William Bray, Director of Public works
Jeff Tarling, city Arborist
Penny Littell, Associate Corporation Counsel
Lt. Gaylend McDougall, Fire Prevention
Inspection Department
Lee Urban, Director of Economic Development
Don Hall, Appraiser, Assessor's Office
Susan Doughty, Assessor's Office
Paul Bradbury, Jetport
Jeff Preble, Dufresne-Henry, Inc., 22 Free St., Portland, ME. 04101
Approval Letter File

(EXCERPT)

3-4

PLANNING BOARD REPORT #11-01

**PORTLAND INTERNATIONAL JETPORT
PARKING GARAGE
SITE PLAN REVIEW
CITY OF PORTLAND, APPLICANT**

Submitted to:

Portland Planning Board
Portland, Maine

March 13, 2001

I. INTRODUCTION

A public hearing has been scheduled to consider a proposal by the City of Portland to construct a parking garage at the Portland International Jetport. The City also proposes a 482 space temporary parking lot on outer Congress Street near the new City snow dump. Revised site plans are shown as Attachment A.

These proposals are subject to site plan review. The Maine DEP is also reviewing this project (including the temporary parking lot) under the site location law as well as for wetland alterations.

143 notices were sent to area property owners.

II. FINDINGS

Zone: A-B Airport Business.

Land Area: 13 acres (phase I parking garage)
1,035 acres (entire airport).

Parking Garage Footprint: 88,492 sq. ft.

Parking Garage Height: 44 ft.

Parking Garage Capacity: 1,480 parking spaces.

Existing Airport Parking: 1,677 spaces.

Total Phase I Airport Parking: 3,180 spaces

Outer Congress Parking Lot (Temporary):

Zoning: I-M

Parking Spaces: 482 spaces

Parking Garage Development Features

- Construction of a new 1,480 space parking garage
- A new loop road that will circle the new garage and create an infield area where future garage expansions will take place.

- Construction of a 7,500 sq. ft. consolidated car rental facility.
- Surface parking lot reorganization . . . all airport surface parking lots near the terminal will either be reconstructed or reconfigured, except for the employee parking lot (west of the loop road).
- Relocation of numerous utilities.
- Construction of a 2,050 sq. ft. parking management office.
- A recessed level of the parking garage set aside for rental car operations.
- An overpass structure that will carry traffic on the loop road over the ramp for drop-off and returns for the rental car operations.
- Several retaining walls will be built.

Marge Schmuckal, Zoning Administrator, has determined that the parking garage for zoning purposes has a height of 44 ft. which is below the A-B height requirements. The applicant has also provided information that total impervious surfaces of jetport property (in the A-B zone) is below (46%) the A-B maximum impervious surface ratio of 70%.

Master Plan

The Jetport Master Plan has been discussed at previous workshops. The Master Plan envisions three phases to complete the plan. A summary of the phases is shown below. The Phase I improvements are currently before the Board, approvals for Phase II and Phase III will be sought in the future.

Phase I: A five-story parking (plus one underground level for rental car agencies) to be built on the north side of the existing parking garage. This garage accommodates 1,480 spaces. It will displace the Avis car rental facility, which will be moved to another location at the airport. The northerly side of the existing loop road will be shifted to accommodate the new parking garage. This phase will result in a net total of 3,180 parking spaces at the jetport. A small section of the Alamo property will be acquired to accommodate the loop road.

Phase II: The phase one parking garage will be extended toward the present terminal building and will occupy the site of the existing three story parking garage which will be demolished. The top floor of the phase two parking garage will be recessed (on the terminal side) to neutralize the five-story height. This phase provides 1,500 parking spaces bringing total number of jetport parking spaces to 3,817. A pedestrian sky bridge from the garage will connect with the second floor of the terminal.

Phase III: This phase provides another 2,200 parking garage spaces or a total of 5,200 spaces. Like phase two, it will be five stories high with a top floor recessed on the terminal side. The southerly side of the loop road will be relocated to accommodate the future terminal expansion.

III. STAFF REVIEW

This development has been reviewed by staff for conformance with the review standards of the site plan ordinance.

1/2. Traffic

Vehicular Circulation

The loop road on the northerly and easterly side of the existing parking garage is being shifted to accommodate the Phase I parking garage as well as future parking garage expansions. A traffic flow diagram shows the circulation pattern of the loop road system and the parking garage. Larry Ash, City Traffic Engineer, has reviewed the plan and finds it acceptable.

The new loop roadway is generally 26 feet wide with granite curb. The loop system is one-way with multiple entrances into the parking garage. The northerly entrance/exit into the garage is underground and is intended to serve rental cars. A vehicle will take a right hand turn and drive under the loop road into the parking garage. The westerly and easterly entrances into the garage are for the general public.

Other changes will also affect circulation. A new baggage claim parking area is shown near the existing fire department building. This parking area (482 spaces) is connected into the loop road and has walkways linked to the terminal building and a sidewalk on Westbrook Street. Eventually the terminal building will be extended into this area to accommodate a new baggage claim center.

On the northwesterly end of the parking lot, a "taxi wait area" is being created. Taxis will be queued here rather than in front of the terminal. When a passenger needs a taxi, the taxi driver will be radioed and will drive to the terminal building and pick-up the passenger.

A letter from the Maine Department of Transportation indicates that a Traffic Movement Permit is not needed (see Attachment D, Section 10). However, “. . . if the Portland Jetport intends to increase its emplacements than a Traffic Movement Permit might possibly be required.”

Pedestrian Circulation

A pedestrian circulation plan has been submitted. See Attachment A. New sidewalks are proposed along the easterly and northerly segments of the loop roads. These new sidewalks when combined with the existing sidewalks provides a continuous walkway system around the entire loop road except for a gap described below.

The large surface parking lot immediately west of the parking garages has an internal walkway system that appears appropriate. It uses landscaped islands to help define and highlight the pedestrian walkway and crossings.

There are two designated pedestrian crossings in front of the terminal buildings. An overhead canopy further defines the crossings. The internal walkways of the surface parking lots and the parking garage are all connected to these crossings.

To summarize, the pedestrian walkway system seems well conceived. Staff however, would have several additional comments.

- A gap exists in the sidewalk along the westerly driveway into the parking garage.
 - The far westerly sidewalk along the loop road serving the westerly employee parking lot does not provide an appropriate connection to the terminal building. There is neither a sidewalk nor a crosswalk shown on the plan directly linking this sidewalk to the terminal.
 - Applicant should clarify whether the parking garage walkway (westerly side) intends to run inside or outside (of the parking garage) or both.
- 3/4. Bulk, location or height of proposed structures will not cause health or safety problems and minimize to the extent feasible diminutions in the value to neighboring properties.

The proposed parking garage has a footprint of 88,492 sq. ft. (dimensions, 360 ft. by 250 ft.) and is adjacent to the existing parking garage. The structure is 44 ft. high (calculated for zoning purposes). Located within the airport complex, the nearest residential use is at least feet away. The parking garage is surrounded by city owned land except for the Alamo property (privately owned). The parking garage is about 100 feet from the closest point of the Alamo building.

5. Sewers, Sanitary and Storm Drains, Water

The site plan indicates 93 catch basins (existing or proposed) within the project area. These catch basins connect into a storm drain system that flows to an existing storm drain pipe by the Fire Department building. The pipe empties into a natural drainage basin east of Taxiway C and north of Taxiway P. The storm water management reports states:

“The drainage piping appears to have sufficient capacity to carry the additional flow. Based on our discussions with DeLuca-Hoffman and airport personnel, it is our understanding that this natural drainage basin did not overtop during the significant storm in October of 1996 which dropped over 12 inches of rain in 24 hours. In addition, it is our understanding that no backups were reported at the Jetport within the existing storm drainage system” . . . “it is not anticipated that the 3.22 cfs during the 10 year storm will not impact the capacity of the natural drainage basin.”

There was discussion at an earlier workshop of pumping storm water from the parking garage basement. The applicant has refined the plan so that all storm water will flow by gravity.

Water quality is addressed by storm water quality unit (vortech model 1600). It will remove total suspended solids, oils, and greases prior to discharging into the natural detention basin.

Existing utility services such as water and sewer lines already available at the airport will be extended to accommodate this project.

6/7. Landscaping

The proposed landscape plan focuses landscaping along the loop roadway and within surface parking areas. Twenty-six deciduous trees will be planted (25 feet on center) along the new loop road (parking lot side). This treatment continues with sixteen more trees (25 feet or center) along the existing loop road (westerly segment).

Three extended islands (minimum 230 feet long) have been created within the westerly surface parking lot for landscaping and walkway purposes. Most corner parking spaces along parking aisles are also designated for plantings. This landscape concept helps define pedestrian walkways and parking aisles while helping to break up the mass of black top.

The baggage parking area near the Fire Department building has a similar landscape treatment. Deciduous trees are planned along the loop road and in several landscaped islands.

Over 150 new deciduous trees are listed on the landscape plan key. After the last workshop, Jeff Tarling (City Arborist) met with the applicant to discuss landscape issues. The plan appears to meet these concerns, but we were unable to get final comments from Mr. Tarling prior to him leaving on vacation.

The plan also includes a number of plantings along the recently constructed access road in an area west of the Embassy Suites Hotel. These plantings are primarily evergreen and are intended to increase the buffer for the parking garage.

The master plan includes a site section showing the relative height of the parking garage from 5 different views. Two of the site sections (views from Cobb Avenue and views from the Fore River neighborhood) show stands of trees in the cross sections. Whether these trees provide a visual buffer in the future is dependent on the city taking the necessary steps to preserve them.

8. Erosion and Sedimentation

A written description of erosion and sedimentation control measures has been submitted. See Attachment D. The submission indicates they have been prepared in accordance with the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices.

9. Lighting

Exterior lighting helps frame the visual appearance of the airport within the complex and surrounding areas. Catalog cuts of the lighting fixtures and a photometric plan have been submitted. All electric lines will be underground.

Given the height of the new parking garage, lighting becomes a particularly critical issue. To address this concern, the applicant is proposing a canopy along the northerly side of the parking garage to screen the lighting fixtures from the Westbrook Street area of the Jetport.

A summary of the exterior lighting includes the following:

- Parking garage rooftop . . . KIM STL fixtures mounted on 14 ft. high on 16 ft. high poles. See Attachment D, Section 11.
- Parking garage interior lights . . . A catalog cut has been submitted but further information is needed to determine if the specified fixture minimizes glare. The fixture is a KIM PGLIHP metal halide with 175 watts. See Attachment B.
- New loop road . . . Will use the fixture presently used along the access road. The Sterner fixture will be mounted on 20 ft. metal poles and spaced about 130 ft. apart.
- Surface parking lot . . . Cordova fixture, mounted on 30 ft. poles.

10. Fire

Lt. Gayland McDougall has reviewed the plan and indicates that fire hydrants need to be installed along the new loop road. Hydrants should be spaced every 500 feet.

11. Municipal Infrastructure

This proposal has been developed in accordance with a master plan for the Jetport. It is consistent with infrastructure existing or planned by the City.

12. Financial and Technical Capacity

Information on financial and technical capacity has been submitted and is shown

13. Natural resources including groundwater, surface water, habitat wetlands, unusual natural areas, and wildlife and fisheries

The applicant has identified 3 wetland areas that will be affected by this project. They are pursuing wetland alteration permits with the Maine DEP and Army Corps of Engineers.

Storm water detention pond – this wetland was formed in a storm water detention basin. It will be filled to accommodate a driveway entrance into the parking garage. The wetland area to be filled is about 7,700 sq. ft. The detention basin will not be needed with the new storm drain system for the parking garage.

Proposed loop road – this wetland is part of a large wetland northwest of the existing parking garage. The proposed loop road will cross this wetland. Approximately 22,800 sq. ft. of this wetland will be impacted by the work associated with the proposed loop road.

Construction staging areas – this wetland is west of the existing parking garage. The construction staging area will temporarily impact this wetland. There will be about 20,400 sq. ft. of temporary wetland impact associated with proposed construction staging area. It is expected that the wetland will be restricted to its previous condition upon completion of the parking garage and loop road

The State of Maine Department of Conservation indicates that “according to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area.” See Attachment D, Section 17.

The Maine Department of Inland Fisheries and Wildlife also indicates “the majority of the area for expansion appears to be a reconfiguration of previously developed land, and there are no known significant fisheries in the immediate vicinity of this project.”

Stormwater from the parking garage will be treated by a stormwater treatment system to minimize contaminants from entering natural drainage areas.

Since the airport is served by public water and sewer there should be no adverse impacts on groundwater resources.

OUTER CONGRESS STREET TEMPORARY PARKING LOT

The applicant is proposing a 482 space parking lot on the site of the new municipal snow dump on outer Congress Street. The parking lot is described as “temporary” and intended to be in use for 18 to 24 months. This satellite parking is needed to help address a loss in parking when the Phase I parking garage project is under construction. Paul Bradbury of the Jetport indicates the parking lot will be folded into the airport site location application with the Maine DEP. The parking lot has a dimension of 568 ft. by 248 ft. or 3.2 acres.

The existing Congress Street driveway will be used for access. It is the same driveway that vehicles use for the snow dump.

The applicant needs to submit stormwater management information including stormwater calculations, water quality measures, erosion and sedimentation control information.

Exterior lighting features an EKC fixture (shoe box) mounted on 30 ft. high wood poles. 12 poles are planned with all but one having two fixtures.

Electric overhead lines are proposed between the light poles. No landscaping is proposed. The applicant is proposing this as a temporary parking lot. Given the level of proposed improvements, it is recommended that the Board consider a condition of approval so that the temporary lot does not become a permanent one. With no landscaping and overhead power lines, this parking lot would be substandard as a permanent facility.

The parking lot will be paved and spaces striped. Two passenger shelters and a ticket booth will be installed.

The parking lot will be served by a shuttle service that will run between the parking lot and the airport.

NOTE: The applicant has been in the process of revising the site plan based on comments from city review staff. An updated set of plans was expected to be dropped off on Friday which is reflected in the Board's packet. Staff will review the updated plans between Friday and Tuesday's meeting so that final comments (except for the City Arborist) should be available for Tuesday's meeting. As a result, the recommended conditions of approval may change.

IV. MOTIONS FOR THE BOARD TO CONSIDER

On the basis of plans and materials submitted by the applicant and on the basis of information contained in Planning Report #11-01:

1. The parking garage site plan is in conformance with the site plan ordinance of the land use code.

Potential Conditions of Approval:

- i. That the site plan be revised reflecting the appropriate number and location of fire hydrants as determined by the Fire Department.
- ii. That the site plan be revised for review and approval reflecting the comments of Steve Bushey, Development Review Coordinator (see Attachment F.)
- iii. That the landscape plan is subject to review and approval by the City Arborist.
- iv. That additional information be submitted for the interior lighting of the parking garage for planning staff review and approval.

2. The temporary parking lot on outer Congress Street is in conformance with the site plan ordinance of the land use code.

Potential Conditions of Approval:

- i. That the parking lot is temporary and site plan approval shall expire on April 1, 2003. Applicant shall submit a site plan by April 1, 2003 either restoring the site or a revised site plan for its future use.
- ii. That the site plan be revised for review and approval reflecting the comments of Steve Bushey, Development Review Coordinator (see Attachment F.)

Attachments:

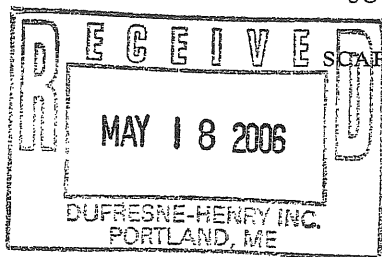
- A. Revised Site Plan and Building Elevations
- B. March 9, 2001 Submission Book
- C. February 2001 Submission Book
- D. January 2001 Submission Book
- E. Memo of Marge Schmuckal, Zoning Administrator
- F. Memos of Steve Bushey, Development Review Coordinator
- G. Letter from Maine Department of Inland Fisheries and Wildlife



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
SOUTHERN REGION

ATTACHMENT 4-1

JOHN ELIAS BALDACCI
GOVERNOR



P.O. BOX 358
SCARBOROUGH, MAINE
04070-0358

DAVID A. COLE
COMMISSIONER

May 4, 2006

Mr. David Nadeau, P.E.
Stantec Inc.
10160-112 Street
Edmonton, AB T5K 2L6

RE: Portland International Jetport
Parking Garage Expansion
Portland, Maine

Dear Mr. Nadeau:

Thank you for your site plan and letter to the Department dated April 21, 2006 regarding the above referenced project. It is our understanding from your letter that the Portland International Jetport plans on expanding the existing on-site 610 space parking garage by 430 spaces for a total of 1,040 parking spaces.

The additional spaces, according to your letter, are to address a current on-site parking shortage and are not intended to coincide with any proposed new uses or increases in intensity of the existing uses at the Jetport such that additional traffic would be expected.

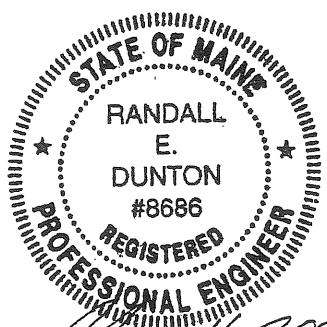
Based on a review of the submitted material, the Department concurs with the findings in your letter that an MDOT Traffic Movement Permit is not required for the expansion of the existing on-site parking garage from 610 spaces to 1,040 spaces.

If you have any questions or wish to discuss this in more detail please do not hesitate to contact me at 885-7000.

Sincerely,

Randall Dunton, PE, PTOE
MDOT Southern Region Sr. Traffic Engineer

C: Steve Landry, Assistant State Traffic Engineer
Bruce Munger, Southern Region Traffic Engineer
File



May 4, 2006



PRINTED ON RECYCLED PAPER

Exhibit No. 1

Stantec Inc.
10160 -112 Street
Edmonton AB T5K 2L6
Tel: (780) 917-7000 Fax: (780) 917-7330
stantec.com

4-2



Stantec

April 21, 2006

Maine Department of Transportation
P.O. Box 358
Scarborough, ME 04070

Dear Mr. Randy Dunton, Division Traffic Engineer:

The Portland International Jetport is currently in the design stage of constructing a 1,040-space parking garage in place of an existing 610-space garage. The proposed four story garage (Phase II) will be constructed adjacent to the existing four story Phase I garage structure that was completed in June 2003. The demolition of the existing two story structure and construction of the proposed facility will increase the number of parking spaces at the Jetport by approximately 430-spaces ($1,040-610=430$). Refer to the site plan attached with this letter.

The proposed garage is anticipated to relieve a current parking shortage at the Jetport. Field observations indicate that during peak use periods, there is insufficient parking in the existing parking facilities to accommodate the current users of the Jetport. The situation poses many safety and circulation problems at the Jetport. The construction of the new facility, in conjunction with future planned garage expansions, is anticipated to alleviate the parking difficulties at the Jetport. Therefore, the garage expansion is not expected to generate new traffic, as it is not proposed in conjunction with any additional terminal facilities such as additional gates or other jetport expansions.

Based on the above information, it is Stantec's opinion that a Traffic Permit will not be required as part of the permitting process for this project. Please review the enclosed information and contact us if you have need of additional information. We would appreciate a response to this letter at your earliest convenience.

Sincerely,
STANTEC INC

David P. Nadeau, P.E.
Project Engineer
Tel: (207) 775-3211
Fax: (207) 775-6434
dnadeau@stantec.com

Attachment: as stated

c. Jim McLaughlin

LANDSCAPING**Overview**

Landscaping involved in the Phase II Improvements for the proposed parking garage at the Portland International Jetport will include the following:

- Improvements in pedestrian movement from outlying parking areas to the terminal
- Site landscaping around the new phase II parking garage along the south and west sides

Pedestrian Movement

Movement of pedestrians between the terminal building and outlying parking areas has been a prime concern in the development of both the Phase I and Phase II garages. Two raised traffic tables and covered walkways were constructed between the existing two story parking garage and the terminal in 2002. A majority of pedestrian traffic between the terminal and the parking facilities travels over these traffic tables. Vehicular traffic has taken its toll on the tables resulting in an uneven travel surface. As part of the Phase II garage project, both of the traffic tables will be reconstructed with a new concrete surface and ADA compliant detectable warning strips. Lighted bollards will also be placed on either side of the western traffic table to define the separation between vehicular and pedestrian movement areas.

A new 8-foot wide sidewalk will be constructed along the western face of the Phase I and Phase II garage structures. The sidewalk will have a canopy over its entire length for pedestrian access from the terminal to the Phase I garage stair tower and vice versa. Access to the surface lots will also be accomplished by this new sidewalk.

Site Landscaping

New plantings and site amenities will be incorporated into the new phase II parking garage construction. Drawing C-10, included herein details the location and types of site improvements to be implemented, including vegetative plantings, pedestrian benches, lighted and unlighted bollards, and granite curbing. Generally, the following areas will receive landscape improvements.

- Between the terminal and the phase II parking garage
- Along the western side of the new phase II garage

SUMMARY OF 2000 PARKING MASTER PLAN PARKING STUDY

Overview

Prior to the design of Phase I and II Improvements for the proposed parking garage for the Portland International Jetport, a Parking Master Plan was completed in September 2000. A summary of that Master Plan is presented below.

PARKING MASTER PLAN

Growth at the Portland International Jetport has seen a rise in enplanements and boardings such that the airport's parking capacity needs to be increased in order to accommodate the new load. The City of Portland and PWM want to address this issue at a master plan level in order to assure that potential future growth will also be taken into consideration when further increase in parking needs arise. Future plans for the airport include a terminal expansion, the relocation of the Belly Freight facility, and a new intermodal bus transfer facility.

The *Parking Master Plan*, which is based on the existing airport master plan, incorporates all the parking needs of the airport in phases, with an eye towards satisfying the pedestrian user needs, as well as minimizing the impacts upon the neighboring residential community.

The goals of the *Parking Master Plan* are:

- to assure that all the airport parking needs are addressed in the most land use-efficient way;
- to optimize the car rental operation;
- to improve the pick-up operations in the area adjacent to the baggage claim area, as well as taxi, private/public bus, vans, and limousine operations in the same area;
- to move cars and people with maximum of efficiency and safety on the airport territory, in an esthetically pleasing environment;
- to ensure the best opportunities for increasing parking revenues for PWM;
- to mitigate the impact on environmentally-sensitive areas, and
- to minimize the visual impact on abutters.

In an effort to get a better understanding of exactly how many parking spaces are presently needed, and how many will be needed in the future, the City had hired Walker Parking Consultants to produce a conceptual needs study for short and long-term range parking requirements. The study determined an immediate need for a parking garage with approximately 1200 cars. The construction of this structure represented **Phase I** of the *Parking Master Plan* and this structure was substantially completed in June 2003.

The *Parking Master Plan* further incorporated two additional phases: the currently proposed **Phase II**, which will extend the Phase I garage onto the site presently occupied by the existing three level parking structure in front of the terminal, and **Phase III**, which

PARKING STUDY

will satisfy the parking needs for a period of 20 years, estimated at 5,000 – 5,500 parking spaces.

During the construction period of the Phase I Parking Garage, temporary parking was required, and the *Parking Master Plan* indicated where it would be located.

In order to accommodate the new parking structures, a new loop road was constructed together with the Phase I Parking Garage; immediately north of this loop road a new parking lot, reserved for employees, was built.

The *Parking Master Plan* also addresses the needs of the entire car rental operation at Portland International Jetport, as well as the taxi, bus and limousine operation.

FUNCTIONAL PARKING GARAGE DESIGN AND LAYOUT

Design Criteria

The design criteria used in the *Parking Master Plan* and garage layout resulted from a combination of the request for proposal documents (inclusive of the Walker Parking Consultants conceptual report mentioned above) and design standards established by this design team for parking structures at other airports.

The design criteria were meant to ensure user acceptance, convenience, and efficient traffic flow:

- A 9 ft. by 18 ft. parking stall dimension was established based upon the design team's experience at other airports; although a smaller parking stall would result in a more efficient structure, patrons in an airport parking structure frequently require additional room to handle baggage and passengers.
- A typical floor-to-floor height of 11.5 ft. was established which will improve signage visibility and user comfort on the large floors that will result in the final build out of the structure; a 13.5 ft. floor-to-floor height was established for the car rental level, as requested by rental car companies representatives.
- Due to the large peak volumes of traffic that occur in an airport operation, an express ramp solution was determined to best meet the goals established above; also, large flat floors are desirable in airport parking structure for user orientation as well as for safety and security.

User Groups

In establishing a design solution for the parking structure the design team had to consider all of the user groups who would be utilizing the facility. For the purposes of the master planning effort, three distinct user groups were considered: short-term parkers, long-term parkers, and rental car patrons. The demand numbers indicated in the conceptual report

PARKING STUDY

had different categories of parkers including hourly, daily, weekly, employee, and rental. This *Parking Master Plan* equates short-term parking with the concept report's hourly parking; similarly, this *Parking Master Plan's* long-term parking includes all other groups with the exception of the rental parking. In the final design phases these subcategories of long-term parking will have to be analyzed to determine if special operational controls will be necessary, or if defined areas will be required within the structure.

Ramping

Based upon the criteria established of an express ramp to handle the traffic volumes, the design team considered two different types of express ramps: a semi express ramp and a helical spiral ramp. Both of these ramping systems would handle the volume of traffic in each of the different phases of development. The spiral helical ramp consists of two intertwined ramps that ascend in a counter clockwise rotation. Each ramp climbs one level for each half revolution. This allows traffic to enter or exit the separate ramps from each level at diametrically opposite sides. The helical spiral ramp has an overall outside diameter of approximately 100 feet and an overall inside diameter of approximately 58 feet. The actual drive path for vehicles on the ramp will be 15 feet. These dimensions are somewhat more generous than the industry standards, however, most helical spiral ramps do not flatten out as they pass by each floor and consequently the floor slabs are generally warped to make the transition onto and off of the ramp. In the Portland Jetport Garage case the design team's goal was to achieve a structure with maximum user comfort, so a transitional flat area in the spiral ramp was provided at each location where it crosses a floor. This subsequently slightly increased the overall diameter of the spiral ramp. The spiral ramp was constructed as part of the Phase I garage and will be utilized by the Phase II garage expansion. No additional ramp will be required during Phase II.

Note: The semi express ramp considered (and ultimately not selected) would have been a straight run ramp of approximately 108 feet in length. The drive path was for two-way traffic and the overall ramp width was the same as the module width. The semi express ramp occupies a portion of a normal parking module; however, since the slopes are generally greater than six percent, no parking can occur on either side of the two-way traffic drive aisle. Transitional slopes would have been provided at both the top and bottom of semi express ramps, to provide vertical curves, so that vehicles do not bottom out.

PHASE II PARKING GARAGE

The Phase II Parking Garage will be sited to the south of the existing Phase I garage structure, on the site presently occupied by the existing three level parking structure. The garage will be a four story structure with all stories above grade. This structure will have five parking levels (ground level and levels 2, 3, 4 and 5), the last of which will be roof parking. The first level will serve as short term parking while the remaining levels will serve as long-term parking. Circulation inside the garage will be similar to the patterns of

PARKING STUDY

the Phase I garage and will utilize the existing double spiral helix for changes between levels.

The Phase II Parking Garage will feature three elevators (in one bank) and one set of stairs in a single tower on the southwest corner of the new structure. The stair and elevator tower will connect all parking levels. The Phase I garage structure also has one stair tower on its western face, and an elevator/stair tower on its eastern face that can be utilized.

The Phase II Parking Garage will communicate with the existing Phase I structure on all levels for easy access between the two structures. Once completed, the Phase II extension will blend seamlessly with the Phase I structure. The surface lot to the west of the Phase II garage will be redesigned to include new entrances and a new toll plaza. Entrance/exit to/from the Phase II Parking Garage will be through the surface lot, or through the entrances serving the Phase I structure.

The Phase II garage structure will have approximately 1,040-spaces on five levels available for parking. The existing structure that will be demolished has 610-spaces on three levels. The net increase in available parking created by the proposed project will therefore be approximately 430-spaces over existing conditions.

PWM PARKING CAPACITY BREAKDOWN
Phase II Garage

EXISTING	
Total On-Site Public Spaces Available	2214
Short Term (Garage)	140
Long Term (Garage)	1572
Long Term (Surface)	502

CONSTRUCTION PHASE	
Total On-Site Public Spaces Available	1491
3 level garage	-570
Contractor Staging Area	-153
Remote Lot	430
Total Public Parking Available	1921

PROPOSED	
Total On-Site Public Spaces Available	2636
Long Term (Garage)	1884
Short Term (Garage)	250
Long Term (Surface)	502

NET INCREASE IN AVAILABLE PARKING:

From: "Thomas Errico" <terrico@wilbursmith.com>
To: "Rick Knowland" <RWK@portlandmaine.gov>
Date: 8/10/2007 8:35:42 AM
Subject: Jetport Parking Garage

Rick -

In advance of the Public Hearing on Tuesday my comments for the project are noted below:

* It is my understanding that the Planning Board has raised concerns about traffic operations in the Jetport area. From my perspective the primary intersections of concern would be the Congress Street/International Drive and Johnson Road/Jetport Drive. At the City's request the applicant investigated the availability of traffic analysis at these intersections, but was unable to find appropriate information. Due to the Maine Turnpike Bridge closure on Congress Street, we advised the applicant that traffic counts should not be collected at this time. Based upon the current status, it is my suggestion, if the Planning Board desires, a condition be included that requires the applicant to conduct a traffic study of the two subject intersections following the re-opening of the Maine Turnpike Bridge. If deficiencies are identified, the applicant would be responsible for implementing an approved mitigation plan. I would conclude by noting that the City does not view the two subject intersections as being problematic. The City has not received any complaints of traffic operating or safety problems.

* It has been requested that the applicant provide traffic volume information between 1997 and the time period of project completion for the determination of whether a MaineDOT Traffic Movement Permit is required. This information has not been provided. Accordingly, I would recommend that a condition be included that requires the applicant to submit the appropriate information necessary to render a decision on whether a Traffic Movement Permit is required, and if a Permit is required, the applicant would be required to following the necessary procedures with MaineDOT and the City.

Please call me if you have any questions.

Best Regards,

Thomas A. Errico, P.E.

Senior Transportation Engineer

WATER SUPPLY**Overview**

The Portland International Jetport has public water supplied by the Portland Water District. The service mains around the facility were modified during construction of the Phase I garage improvements. A water main was constructed from the access road and through the west surface parking lot and was tied into an old water main just southwest of the existing two-story garage. This water main now follows the alignment of the future terminal access road as conceived in the Airport Master Plan. A separate water main, on the northeast corner of the Phase I parking garage located in Westbrook Street, was realigned and reconnected to the water main run just south of the existing Northeast Air building. The old main that ran through the footprint of the Phase I garage was then abandoned which allowed the construction of Phase I. The Portland Water District has jurisdiction over the water main, and they perform water main design services with in-house personnel. Preliminary coordination with the Portland Water District has taken place. Additional coordination will occur as necessary.

The proposed Phase II Parking Garage will be served by the existing 12-inch water main located along the loop road on the east side of the garage. Connections to the system will be made inside the Phase I garage via existing flanges that were installed for the proposed Phase II expansion. No additional tapping of the main is proposed as part of this project. The proposed Phase II Parking Garage will contain a dry hydrant fire protection system that will be connected to the water source from the existing Phase I sprinkler room system.

Utility Review

The Portland Water District has been contacted regarding projected water usage requirements for the proposed Phase II parking garage. See the attached letter from Dufresne-Henry to the Portland Water District, dated April 18, 2006. A response from the Portland Water District has not yet been received. Any comments received will be forwarded to the city of Portland Planning Department upon receipt.

Attachments

Letter from Stantec to the Portland Water District, dated April 18, 2006.

SOLID WASTE DISPOSAL

Solid Waste Generated by Construction Activities

Solid waste materials generated by construction activities will be comprised mostly of demolition debris such as excavated bituminous, brick, concrete pavements, broken/crushed concrete, miscellaneous structural steel members and reinforcing bars from the existing garage demolition, and excess soils from the new building foundation excavation. It is anticipated that broken pavements and concrete demolition debris will be either crushed on site during demolition or trucked from the site to an appropriate facility for further crushing/processing for reuse in paving or fill projects as appropriate. Project specifications will require that the contractor provide evidence of proper disposal of any excess material at an appropriate facility handling this type of material.

General rubbish, garbage, and debris resulting from contractor operations will be collected on site in trash bins and dumpsters for periodic pickup and disposal by a waste disposal firm hired by the contractor for disposal at a licensed solid waste facility.

At this time, there is no evidence to indicate that any contaminated soil will be encountered in the project excavation areas. No contamination was identified in the project area during the subsurface investigations conducted by Haley & Aldrich, Inc. or Sebago Technics. However, should contaminated soil be encountered, the Contractor will be required to submit a disposal plan for review and approval. All contaminated soils will be disposed of at a Maine Department of Environmental Protection (MDEP) approved site.

Solid Waste Generated by Parking Garage Operations:

Solid waste generated by the on-going operation of the Phase II Parking Garage subsequent to construction completion will be limited to miscellaneous paper waste or trash which may be disposed of by the general public as they pass through the facility. Solid waste from the new parking garage will be collected in storage containers within the parking garage. Regular pickups will be made by solid waste haulers. The City currently contracts with Waste Management of Portland to collect their solid waste. In addition, Waste Management also handles recycling of paper waste generated at the Jetport as well. It is anticipated that Waste Management's contract will be amended as necessary to handle these services for the Phase II Parking Garage addition.

COMMITMENT & INTEGRITY
DRIVE RESULTS

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

MEMORANDUM



TO: Rick Knowland
FROM: Dan Goyette, PE, and Lauren Swett, EIT
DATE: August 7, 2007
RE: Portland International Jetport Parking Garage

Woodard & Curran has reviewed the Response to Comments Submission provided for the Phase II Parking Garage at the Portland International Jetport

Documents Reviewed

- Response to Comments for the Phase II Parking Garage, prepared by Stantec Consulting Services, Inc. for the Portland International Jetport, dated July 16, 2007.
- Revised Plan Set for the Phase II Parking Garage, prepared by Domenech Hicks & Krockmalnic Architects for the Portland International Jetport, dated July 13, 2007.

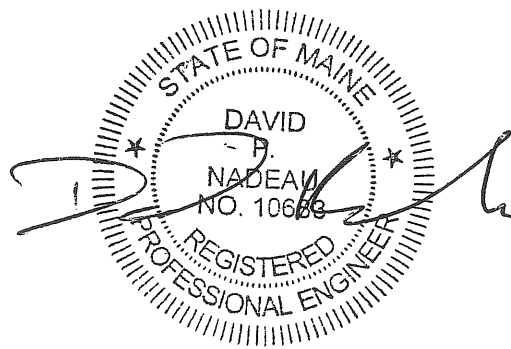
Comments

All issues raised in previous memos have been adequately addressed.

Please contact our office if you have any questions.

DRG/LJS
203848.65

Section 15
Stormwater Management



STORMWATER MANAGEMENT

Stormwater Analysis

As part of the Major Site Plan Application prepared by Dufresne-Henry for the Phase I Parking Garage project and submitted to the City of Portland Planning Board in January 2001, an in depth stormwater runoff analysis was performed for the airport terminal area that included the area of the proposed Phase II Parking Garage expansion. A copy of this analysis is included as an attachment to this section. The proposed project will not create any significant amount of new impervious area or change drainage patterns on the site from what is included in the previously mentioned analysis. No additional stormwater runoff analysis was performed as part of this application. All alterations to stormwater runoff flow due to the proposed project are clarified below.

Stormwater Quantity

Stormwater Runoff Quantity

The proposed Phase II Parking Garage expansion is located on the same sight as the existing 3 level parking garage structure and will abut the south side of the existing 6 level Phase I parking garage. Included in Watersheds 1+4 of the attached Post Development stormwater analysis, the existing area is entirely impervious. As part of the proposed Phase II improvements, approximately 6,200 square feet that is currently covered by structure will be returned to turf, reducing the volume of runoff leaving the site.

Temporary construction of paved entrances to the existing employee parking lot for contractor construction access and laydown is proposed. Additionally, the reopening of the old airport access road entrance by temporarily repaving the first 50 feet of the entrance and installing a gravel surface for the remainder is proposed to minimize the mixing of construction vehicle traffic with general vehicular traffic entering and leaving the Jetport. These entrances are temporary and will be removed and restored to their original grassed condition at the conclusion of the construction. Any increases in runoff volumes from these small temporary paved surfaces are expected to be insignificant and temporary only.

Stormdrain System Capacity

Prior to the construction of the Phase I Parking Garage Improvements, stormwater from the existing 3 level parking structure, a portion of the loop road in front of the terminal, and portions of the surface parking lots adjacent to the existing parking structure drained through a system of stormdrains south-easterly to a catch basin (A33) located on the south east corner of the terminal. This drainage area was approximately 5.6 acres (Watersheds 4 and 5) in size and predominantly impervious. As part of the Phase I parking garage project, a deep-gravity stormdrain system was installed north of the terminal and a majority of the runoff, including all runoff from the two story garage, was redirected through this system to a natural detention basin in the center of the airfield. A small portion of the old drainage area, approximately 0.7 acres, still drains to catch basin A33. The deep gravity system was designed to accommodate runoff from a 10-year, 24-hour storm event. As stated previously, the system was sized to control runoff from the existing

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two story garage site. The proposed Phase II garage, with a smaller impervious footprint, will drain to the same deep gravity system. Refer to the attached analysis for stormdrain capacity calculations.

A system of new catch basins and storm drainage piping will be installed on the west side of the proposed Phase II garage expansion to promote better drainage from the adjacent open air parking lot pavement surface. The catch basin rim elevations are below the elevation of the proposed Phase II garage ground level to keep runoff generated on the adjacent surface lot from entering the proposed structure. The system has been designed for the 10-year, 24 hour storm event as required by the Maine Department of Environmental Protection. However, as stated previously overall drainage patterns will remain unchanged and no measurable increase in the quantity of stormwater runoff from the site is anticipated as a result of the proposed project.

Stormwater Quality

Under the previous Phase I Garage project substantial improvements to the storm water drainage system to improve water quality were implemented through the installation of stormwater quality treatment units for the entire Jetport site. In accordance with DEP water quality regulations in place at the time, the units were sized to treat runoff and remove Total Suspended Solids (TSS) from the future development conditions as envisioned by the Jetport and included the Phase II Parking Garage expansion.

Due to the size of the current project, a minor amendment to the Jetport's site location permit is required under Maine Department of Environmental Protection (MDEP) Site Location of Development regulations. A pre-application meeting with DEP personnel has indicated that newly revised storm water quality regulations that came into effect the fall of 2005, will require the implementation of additional storm water quality measures.

* The preferred method for providing additional quality treatment for the Parking Garage Phase II site is to construct a storm water filtration pond adjacent to the existing detention basin located at the center of airfield. Under the proposed drainage scenario, a bypass outlet structure will be constructed in the existing quality treatment unit that will divert a portion of the runoff (from the Phase II garage) to a proposed filtration pond. The filtration pond will have a porous sandy layer on its bottom with a network of underdrains that filters runoff before emptying into the existing detention basin. The pond depth will not exceed 18" and has been designed to drain within 24 hours as required by MDEP.

In addition to the above storm water quality treatment improvements, during the construction of the proposed improvements, the basic stabilization measures standard will be met. Erosion and sediment control will be provided in accordance with standards outlined in the "Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices" (Cumberland County SWCD and Maine DEP, 1991).

The minor amendment application will be filed shortly with MDEP. All comments and any further improvements to the water quality treatment system required by the MDEP will be

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forwarded to the Planning Board upon receipt and will be incorporated into the final project design. It is anticipated and understood by the applicant that any approval of the Phase II Parking Garage project by the Planning Board will be contingent on the applicant obtaining approval of the project from the MDEP.

Summary

The proposed project is not expected to impact stormwater discharge or water quality. No additional runoff will be created due to the proposed project as the site remains predominantly impervious from pre to post development. Drainage patterns will remain essentially the same. The combination of previously constructed stormwater treatment units and the construction of a storm water filtration pond will provide improved quality treatment of runoff from the proposed project site that meets new MDEP regulations.

MAJOR SITE PLAN APPLICATION
Stormwater Management

PHASE I PARKING GARAGE

PREPARED BY DUFRESNE-HENRY
JANUARY 9, 2001

STORMWATER MANAGEMENT**1.0 INTRODUCTION**

Growth at the Portland International Jetport has resulted in a shortage of sufficient parking spaces due to increased enplanements and boardings. This shortage was documented in the Conceptual Needs Study prepared by Walker Parking Consultants for the city of Portland in March 1999. This study identified both long and short term parking requirements at the Jetport based on current enplanements and estimated future enplanements. The increase in enplanements has precipitated an immediate need for additional parking in the form of a parking garage with approximately 1,200 cars.

In September 2000, Domenech, Hicks and Krockmalnic in association with Rich and Associates, and Dufresne-Henry completed a Parking Master Plan that recommended a three phase plan aimed at addressing parking needs for the next twenty year period. This Parking Master Plan was presented to the City Planning Board on September 26, 2000. The immediate need for available parking spaces has prompted the city of Portland and the Portland International Jetport to undertake the proposed Phase I parking improvements. The Phase I improvements will include the following:

- Construction of a new 1,480 +/- car parking garage,
- Construction of a new 7,500 square foot Consolidated Car Rental Facility (CCRF),
- A new loop road that will circle the new garage and create an infield area where future garage expansions will take place,
- Relocation of numerous utilities, including primary electrical and telephone service to the facility,
- Construction of a 2,050 square foot Parking Management Office,
- A recessed level of the garage set aside for rental car operations,
- An overpass structure that will carry traffic on the loop road over the ramp for drop-off and returns for the rental car operation,
- Several retaining walls achieve grade separation, and
- Planting of a hundred trees along the south side of Jetport Drive to provide additional visual buffers between the garage and the surrounding area.

The Phase I improvements are aimed at accomplishing the following:

- Relieving parking congestion for the next 5 to 10 years,
- Optimizing car rental operations,
- Improving passenger operations, and
- Optimizing vehicular operations.

To accommodate loss of parking during the construction, one or more temporary parking lots will be provided as part of the project. An off-site parking area is envisioned by airport personnel adjacent to the city's new snow dump off from Outer Congress Street.

STORMWATER MANAGEMENT**2.0 EXISTING CONDITIONS**

As discussed above, the new construction will require the relocation of several utilities including existing stormwater drainage structures. In addition, the proposed project will require that an existing detention pond be filled in to accommodate the new loop road. Due to the construction of additional impervious area including a new parking structure, the construction of new parking lot, and new loop road, present development stormwater runoff conditions and future development stormwater conditions were evaluated. This drainage analysis is intended to determine the impacts to stormwater discharge and water quality that will be created by the new construction and alterations in the current stormwater runoff patterns.

Dufresne-Henry has determined that the runoff generated within the project area ultimately discharges to the Fore River and subsequently to the Atlantic Ocean.

3.0 METHODOLOGY

In order to compare present and future stormwater characteristics of the site, computer modeling using Hydrocad software was employed. This program incorporates the methodology outlined in the U.S. Natural Resources Conservation Service's (NRCS) Technical Release Number 20 (TR-20). The peak runoff rate for the 10 year, 24-hour storm event was calculated. Based on Appendix D-3 in the "Stormwater Management for Maine: Best Management Practices" dated November 1995, the one-day precipitation value for the Portland International Jetport site for the 10 year storm is 4.37 inches.

Since the airport is located in Cumberland County, a Type III distribution was utilized throughout this study. All curve number and time of concentration calculations may be found along with computer-generated documentation in Attachments 14-C and 14-D.

4.0 SOILS

The soil types were identified using the Cumberland County Medium Intensity Soil Survey published by the NCRS. Soil types were analyzed based on hydrologic grouping for the purpose of curve number calculations. The NCRS Medium Intensity Soil Survey identifies the soils within the project area as a Scantic silt loam, which is characterized by slow runoff and moderate to slow permeability. Scantic silt loam soils are also characterized by high water tables, which limit their use for most community and recreational purposes. The SCS Technical Release 55 classifies this type of soil as belonging to hydrologic group 'D'.

5.0 ASSUMPTIONS

In order to estimate the amounts of stormwater runoff generated from the project area, a number of assumptions were made as follows:

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1. Topography for the site was provided by field surveys conducted by Dufresne-Henry in the spring and summer of 2000. Half-foot contours developed from survey data, as shown on sheets C1-53 and C1-54 of the accompanying Plan Set, were used to analyze stormwater runoff on the site. In the north and northwest portion of the site, beyond available survey data, aerial photography supplied by Eastern Topographic in 1991 which contains 2-foot contours was utilized. Consequently, actual topography may vary from that utilized for analysis. In areas where available topography did not reveal the detail necessary to accurately determine drainage patterns of the site, site investigations were made by Dufresne-Henry, Inc., personnel in August and September of 2000 to determine existing drainage characteristics. Portland International Jetport personnel were also consulted during these site visits.
2. Whenever possible, culvert sizes and inverts were field surveyed or taken from available reference plans. In areas where complete information was not available, pipe slopes and inverts were estimated based on available topography.

For Entrance Loss Coefficients, catch basin outlets were assumed to be flush with the catch basin wall. CPVC (corrugated polyvinyl chloride) and CPP (corrugated polyethylene) pipes were given Manning's numbers of 0.17 slightly lower than corrugated metal pipes for determining appropriate Entrance Loss Coefficients and Manning's Numbers.

3. Several field observations were made in order to determine the cover types for the project site in the present development condition. For grassed areas surrounding the project site that are mowed frequently and maintained as lawn, and for turf islands within the parking lots, a cover type of open space in good condition was utilized. For areas covered by brush, a cover type of brush in good condition (ground cover >75%) was utilized. For wooded areas, a cover type of woods in good condition (woods protected from grazing, and litter and brush adequately cover the soil) was utilized. These same cover types were assumed for the future development condition.
4. In the future development condition, it was assumed that all three phase of the parking garage expansion would be completed. This assumes that stormwater from the proposed future Phase III parking garage will be directed in a similar manner to the impervious area of its future location (approximately ½ of the stormwater from the Phase III garage going to Watershed 1 and the other ½ going to Watershed 3). This included the construction of two additional six story parking garages, and the construction of a six story parking garage on the location of the existing parking garage. This was necessary to insure proper sizing of the storm drain system. It is assumed that the majority of runoff from proposed improvements resulting from Phase II and Phase III will drain north-easterly to the outlet of Watershed 1 as shown on sheet C1-54, *Stormwater Post Development Plan*.

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6.0 STUDY APPROACH

In order to analyze the impact of the proposed development on the site's stormwater runoff characteristics, the parking garage site was split into 8 separate watershed areas. Refer to Drainage Plans Sheet C1-53 and C1-54 submitted with this report. Watersheds were divided based on the location of their outlets, and the destination of stormwater runoff. Watersheds 1 through 8 are located around the terminal and parking garage area.

7.0 PRESENT DEVELOPMENT CONDITIONS

The following sections detail the evaluation of the impacted watersheds under the present development condition. In the present development conditions, the watershed areas were not divided into subcatchments for each individual catch basin. The analysis was performed modeling the larger subcatchment areas. Modeling in this manner shows that an existing catch basin CB dh-13 in Watershed 1 and an existing catch basin CB D108 in Watershed 3 overtop in the present development conditions. However, no problems with overtopping have been reported by Jetport personnel during storm events. Calculations for the present development conditions are included in Attachment 14-C at the end of this section.

7.1 Watershed 1: Present Development Condition

Watershed 1 is the largest of the 8 watersheds, covering approximately 12.43 Acres of the project site in the present development condition. Runoff primarily drains south-easterly above ground to a collection point in the extreme east of the watershed. An existing detention pond is centrally located which collects a majority of the runoff from the impervious northwest surface parking area within the watershed. A majority of the proposed Phase I improvements will be located within Watershed 1, as well as a portion of the proposed future phase improvements. Watershed 1 is primarily impervious area including the northwest surface parking lot, the north surface parking lot, a portion of the employee parking lot and a gravel parking area associated with the Avis facility. The collection point for Watershed 1 is an existing catch basin D-116 surrounded by a rip-rap apron located near the north-western corner of the Northeast Air Aviation Hangar. The peak runoff rate for Watershed 1 during the 10 year storm event is 18.15 cfs.

7.2 Watershed 2: Present Development Condition

Watershed 2 is approximately 4.17 acres and is comprised of mostly wooded area, some wetlands area and a portion of the access road. Part of the Phase 1 improvements will be located in this watershed including a new surface lot and a portion of the new loop road. Watershed 2 primarily drains in a south easterly direction to an existing ditch. Stormwater drains from the ditch and discharges to a low spot lined with rip rap. The low area outlets via a culvert to an existing catch basin on the south west side of the existing access road. Stormwater from the access road flows to road side catch basins and discharges to an existing stormwater quality unit which also flows into the catch

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basin on the southwest side of the existing access road. This catch basin is the collection point for Watershed 2. The peak runoff rate for Watershed 2 during the 10 year storm event is 6.85 cfs.

7.3 Watershed 3: Present Development Condition

Watershed 3 is approximately 4.20 acres. The collection point for Watershed 3 is an existing catch basin CB D108 located in front of the terminal building on the northwest side of the project site. This Watershed collects runoff from a large portion of the surface parking lot west of the existing parking garage, a portion of the employee parking lot, part of the existing access road and part of the existing terminal access road. The peak runoff rate for Watershed 2 during the 10 year storm event is 13.22 cfs.

7.4 Watershed 4: Present Development Condition

Watershed 4 is approximately 5.07 acres. The collection point for Watershed 4 is an existing catch basin CB A33 located adjacent to the southeast corner of the existing terminal building. Watershed 4 receives runoff from a portion of the surface parking lot located west of the existing parking garage, the existing parking garage, the parking areas located north and east of the existing parking garage and a portion of the existing terminal access road. The peak runoff rate for Watershed 4 during the 10 year storm event is 19.89 cfs.

7.5 Watershed 5: Present Development Condition

Watershed 5 is approximately 0.47 acres and primarily consists of the existing Hertz parking. The peak runoff rate for Watershed 5 during the 10 year storm event is 1.97 cfs.

7.6 Watershed 6: Present Development Condition

Watershed 6 is approximately 0.61 acres. The areas contributing runoff to Watershed 6 include the Northeast Air employee parking lot, a portion of the existing loop road and a portion of Westbrook Street. The peak runoff rate for Watershed 6 during the 10 year storm event is 1.93 cfs.

7.7 Watershed 7: Present Development Condition

Watershed 7 is approximately 0.61 acres. Watershed 7 primarily consists of the grassed area between the Northeast Air building and the fire station. The peak runoff rate for Watershed 7 during the 10 year storm event is 2.13 cfs.

7.8 Watershed 8: Present Development Condition

Watershed 8 consists of a portion of the existing Hertz parking lot, the existing tower area, a small area of Westbrook Street, the fire station entrance off the existing loop road

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and the grassed area in front of the fire station. Watershed 8 is approximately 0.71 acres. The peak runoff rate for Watershed 8 during the 10 year storm event is 1.95 cfs.

8.0 FUTURE DEVELOPMENT CONDITIONS

Under the future development conditions, the project site was divided into 4 Watershed discharge points. These watersheds were divided into several subcatchments representing drainage areas to catch basins to effectively model stormwater runoff characteristics throughout the watershed. Not all catch basin subcatchments are shown on plan sheet C1-54 as part of the project plans in an effort to minimize confusion on the drawings. However, information for each subcatchment to each proposed catch basin can be found in the Hydrocad output data included in Attachment 14-D at the end of this section. Only those reaches between catch basins that were substantial in length were modeled. The shorter reaches can not be modeled utilizing the Hydrocad software. The short reaches are not recognized and are assumed to have little or no effect on the overall time of concentration. The stormwater system was designed to minimize or prevent an increase in peak runoff rates from present development conditions to future development conditions. The collection points remain the same as the present development conditions.

8.1 *Watershed 1: Future Development Condition*

The acreage of Watershed 1 in the future development condition is combined with Watershed 4 for a total of approximately 21.88 acres. A portion of the drainage area for Watershed 1 is common with Watershed 4 until the runoff is divided at catch basin DH-33. In the future development condition, Watershed 1 includes a large portion of what was previously included in Watershed 2 under the present development conditions. This includes the wooded area northwest of the new loop road and the wetland area (proposed new surface lot) located north of the existing northwest parking lot. A new ditch has been placed along the north west edge of the new loop road to collect the majority of the runoff previously included in Watershed 2 under present development conditions that is now north west of the new loop road. Runoff is collected in the watershed by a series of catch basins located along the new loop road and catch basins at various locations throughout the surface parking lot west of the new parking garage. Runoff from the new northwest surface lot is collected and discharges into the new storm drain collection system along the new loop road. In addition, runoff from a portion of the employee parking lot (as in present development conditions) collects at a central catch basin and discharges into the catch basin system within the surface parking lot west of the parking garage and ultimately makes its way into the storm drain system along the new loop road.

Runoff from the new loop road, the surface parking lot north of the new parking garage, and half of the new parking garage (6th - 3rd floor levels) is collected by catch basins and meets at a common catch basin DH 33. At this catch basin the runoff flow is split with approximately half of the runoff discharging to existing catch basin D-116 and the other half discharging into the collection system within the new loop road on the east side of the new parking garage which is part of Watershed 4 discussed below. The runoff was

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split in an effort to minimize or prevent an increase in peak runoff rates from present development conditions to future development conditions. The peak runoff rate for Watershed 1 under future development conditions during the 10 year storm event is 15.07 cfs.

The results of the modeling show that there is a decrease in peak runoff rates from pre-development to post development conditions for Watershed 1 of 3.07 cfs.

8.2 Watershed 2: Future Development Condition

The area contributing to Watershed 2 in the future development conditions has been significantly reduced from present development conditions and consists primarily of a portion of the existing access road. Therefore, the peak runoff rate for Watershed 2 under future development conditions during the 10 year storm event was not modeled. Due to the decrease in acreage, it is anticipated that there will be a decrease in the peak runoff rate from present development conditions to future development conditions.

8.3 Watershed 3: Future Development Condition

Watershed 3 in the future development condition is approximately 4.77 acres. The areas contributing to Watershed 3 for the most part do not change from the present development conditions. However, area that was previously grassed has been converted to impervious. The peak runoff rate for Watershed 3 under future development conditions during the 10 year storm event is 3.22 cfs.

The results of the modeling show that there is a slight increase in peak runoff rates of approximately 3 cfs from present development conditions to future development conditions for Watershed 3. Watershed 3 ultimately discharges to an existing natural drainage basin east of Taxiway C and north of Taxiway A. Based on available information, the drainage piping appears to have sufficient capacity to carry the additional flow. Based on our discussions with DeLuca-Hoffman and airport personnel, it is our understanding that this natural drainage basin did not overtop during the significant storm in October of 1996 which dropped over 12 inches of rain in 24 hours. In addition, it is our understanding that no backups were reported at the Jetport within the existing storm drainage system.

Based on Appendix D-3 in the "Stormwater Management for Maine: Best Management Practices" dated November 1995, the one-day precipitation value for the Portland International Jetport site for the 100 year storm is 6.21 inches. The October 1996 event proved to be well over the 100 year storm event. Based on this information it is not anticipated that the increase of 3.22 cfs during the 10 year storm event will impact the capacity of the natural drainage basin.

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8.4 *Watershed 4: Future Development Condition*

In the future development condition, Watershed 4 is combined with Watershed 1 for a total of approximately 21.88 acres. A portion of the drainage area for Watershed 4 is common with Watershed 1 until the runoff is divided at catch basin DH-33. Runoff from watershed 4 ultimately collects at a storm drain manhole located immediately east of the existing terminal building. This stormwater runoff ultimately discharges to a natural drainage basin located east and north of taxiways C and A respectively. The following areas contribute runoff to Watershed 4:

- three quarters of the new parking garage (6th through 3rd floor levels)
- 1/2 of the north and north west sections of the new loop road
- 1/2 of parking lot west of the new parking garage
- 1/2 of the new northwest surface parking lot
- the eastern portion of the new loop road
- the existing parking garage
- a portion of the surface parking lot west of the existing parking garage
- new public parking lot east of the existing parking garage
- southern portion of the new loop road adjacent to the existing parking garage
- the 1st floor level of the parking garage (includes roof of the car rental facility, grassed area between the retaining wall along the eastern portion of the new loop road and the car rental facility, the ramp into the 1st floor level on the east side of the new parking garage, the car rental shuttler's entrance/exit to the 1st floor level on the north side of the new parking garage)

Runoff from the 1st floor level is directed to a new stormwater quality treatment unit below the base slab of the 1st floor level. The treated stormwater then flows by gravity into a new stormwater pump station. The stormwater pump station in turn pumps the treated stormwater to catch basin DH-39 along the new loop road on the east side. The pump station and stormwater quality treatment unit design are included as Attachment 14-A of this section. Alternately, Dufresne-Henry is exploring the possibility of a deep gravity system to handle the stormwater collected at the 1st floor level in an effort to eliminate the stormwater pump station. This alternative is discussed in Attachment 14-B of this section. For purposes of this analysis, the stormwater pump station option has been modeled.

Runoff collected from the 1st floor level, parking garage, loop road, and north surface parking discussed above, discharge to the storm drain system along the new loop road along the east side of the new parking garage. This storm drain system discharges to a large ditch area created between the new loop road and the new public parking lot east of the existing parking garage. This large ditch was created in an effort to slow the peak runoff rates from these areas enough to minimize or prevent an increase in peak runoff

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rates from present development conditions to future development conditions. The ditch is approximately 8 feet deep and slopes to an outlet at the southern end. The outlet is a multi-stage outlet structure with orifice openings at various elevations (see plan sheet C1 - 54 of the attached plans) which assists in slowing the peak runoff rates out of the ditch area. The water surface elevation in the ditched area during the 10 year storm event is 60.6 feet. (Note: It is anticipated that the deep gravity system will be constructed to handle the stormwater collected at the 1st floor level in an effort to eliminate the stormwater pump station. This would reduce the total cfs entering the ditched area by approximately 5 cfs. This would in turn lower the water surface elevation during the 10 year storm event. This situation will be modeled upon confirmation of the gravity system.)

The ditch area is designed so the invert of the outlet structure is at the same elevation as the ditch. Therefore, all water will drain from the area upon completion of the storm event. In addition, this area is equipped with a relief culvert at elevation 59.2 feet which allows stormwater to flow into the adjacent shallow area on the east side of the public parking lot exit during storms greater than the 10 year event. Upon completion the storm event, water will drain from the east shallow area back into the deep ditch where it drains from the system. The shallow area to the east also has relief piping from the area to a storm drain system adjacent to the east side of the public parking lot. This system is designed to prevent overtopping of the deep ditch area and the east shallow area during storm events larger than the 10 year storm.

Runoff from the existing parking garage and a portion of the surface lot west of the existing parking garage maintain a similar drainage pattern as in the present development condition. Runoff is directed via storm drain piping through a series of catch basins. Runoff from the new public parking lot and southern portion of the new loop road also drains to this series of catch basins where it is all discharged to the existing catch basin A33 located adjacent to the southeast corner of the existing terminal building.

Runoff from the new surface parking lot between the new loop road and the existing surface parking lot drains to a new catch basin. The stormwater from this catch basin outlets to a shallow grassed area. This shallow grassed area then outlets to the storm drain system along the new loop road. The shallow grassed area has been designed to slow the peak runoff rates from the new surface parking lot prior to discharging to the storm drain system along the new loop road.

The peak runoff rate for Watershed 4 under future development conditions during the 10 year storm event is 23.72 cfs.

The results of the modeling show that there is an increase in peak runoff rates from the present development conditions to future development conditions for Watershed 4 of approximately 3.83 cfs.

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Watershed 4 ultimately discharges to a natural drainage basin located east of existing Taxiway C and north of existing Taxiway A. Based on our discussions with DeLuca-Hoffman and airport personnel, it is our understanding that this natural drainage basin did not overtop during the significant storm in October of 1996 which dropped over 12 inches of rain in 24 hours. In addition, it is our understanding that no backups were reported at the Jetport within the existing storm drainage system.

Based on Appendix D-3 in the "Stormwater Management for Maine: Best Management Practices" dated November 1995, the one-day precipitation value for the Portland International Jetport site for the 100 year storm is 6.21 inches. The October 1996 event proved to be well over the 100 year storm event. Based on this information it is not anticipated that the increase of 3.83 cfs during the 10 year storm event will impact the capacity of the natural drainage basin.

8.5 Watershed 5: Future Development Conditions

The drainage area to Watershed 5 has decreased as a result of the proposed project. Therefore, the peak runoff rate for Watershed 5 under future development conditions during the 10 year storm event was not modeled. It is anticipated that there will be a decrease in peak runoff rates from the present development conditions to future development conditions due to the decrease in acreage.

8.6 Watershed 6: Future Development Conditions

The drainage area to Watershed 6 has decreased as a result of the proposed project. Therefore, the peak runoff rate for Watershed 6 under future development conditions during the 10 year storm event was not modeled. It is anticipated that there will be a decrease in peak runoff rates from the present development conditions to future development conditions due to the decrease in acreage.

8.7 Watershed 7: Future Development Conditions

The drainage area to Watershed 7 has decreased as a result of the proposed project. Therefore, the peak runoff rate for Watershed 7 under future development conditions during the 10 year storm event was not modeled. It is anticipated that there will be a decrease in peak runoff rates from the present development conditions to future development conditions due to the decrease in acreage.

8.8 Watershed 8: Future Development Conditions

The drainage area to Watershed 8 has decreased as a result of the proposed project. Therefore, the peak runoff rate for Watershed 8 under future development conditions during the 10 year storm event was not modeled. It is anticipated that there will be a decrease in peak runoff rates from the present development conditions to future development conditions due to the decrease in acreage.

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9.0 STORMWATER QUALITY ANALYSIS

9.1 *Method of Evaluation*

According to MDEP standards, stormwater quality standards must be met if a project includes 20,000 square feet or more of impervious area, or five acres or more of disturbed area in the direct watershed of a waterbody most at risk from new development. The proposed project while not in the direct watershed of a waterbody most at risk from new development does include more than 20,000 square feet of impervious area. Therefore, the project must meet the sliding scale total suspended solids (TSS) standard set by the Maine Department of Environmental Protection (MDEP).

On behalf of the Jetport, an outside consultant is sizing stormwater quality treatment units for the entire jetport site. Coordination is taking place with this outside consultant based on the analysis of the proposed project to ensure that the proposed stormwater quality units are sized to handle the future development conditions.

8.2 *Stormwater Quality Analysis*

A new stormwater quality treatment unit was sized to remove total suspended solids from the runoff collected at the 1st floor level. See Attachment 14-A at the end of this section for sizing calculations. As discussed above, stormwater quality units for the remainder of the runoff generated from the project site are being sized by the Jetport's outside consultant.

8.3 *Basic Stabilization*

During the construction of the proposed improvements, the basic stabilization measures standard will be met. Erosion and sediment control will be provided in accordance with standards outlined in the "Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices" (Cumberland County SWCD and Maine DEP, 1991).

9.0 SUMMARY AND CONCLUSIONS

The proposed project is not expected to impact stormwater discharge or water quality. As discussed, the increase in the peak runoff rate in the future development condition for Watershed 4 is not anticipated to impact the natural drainage area capacity during the 10 year storm event due to the fact that the natural drainage basin had sufficient capacity to accommodate the flow from the October 1996 storm event which dropped over 12 inches of rain in 24 hours in the Portland area. In addition, stormwater treatment units are being sized and located to treat stormwater generated from the project site. Dufresne-Henry is continuing coordination with the outside consultant. A summary comparison of the present development conditions to the future development conditions is shown on the following page.

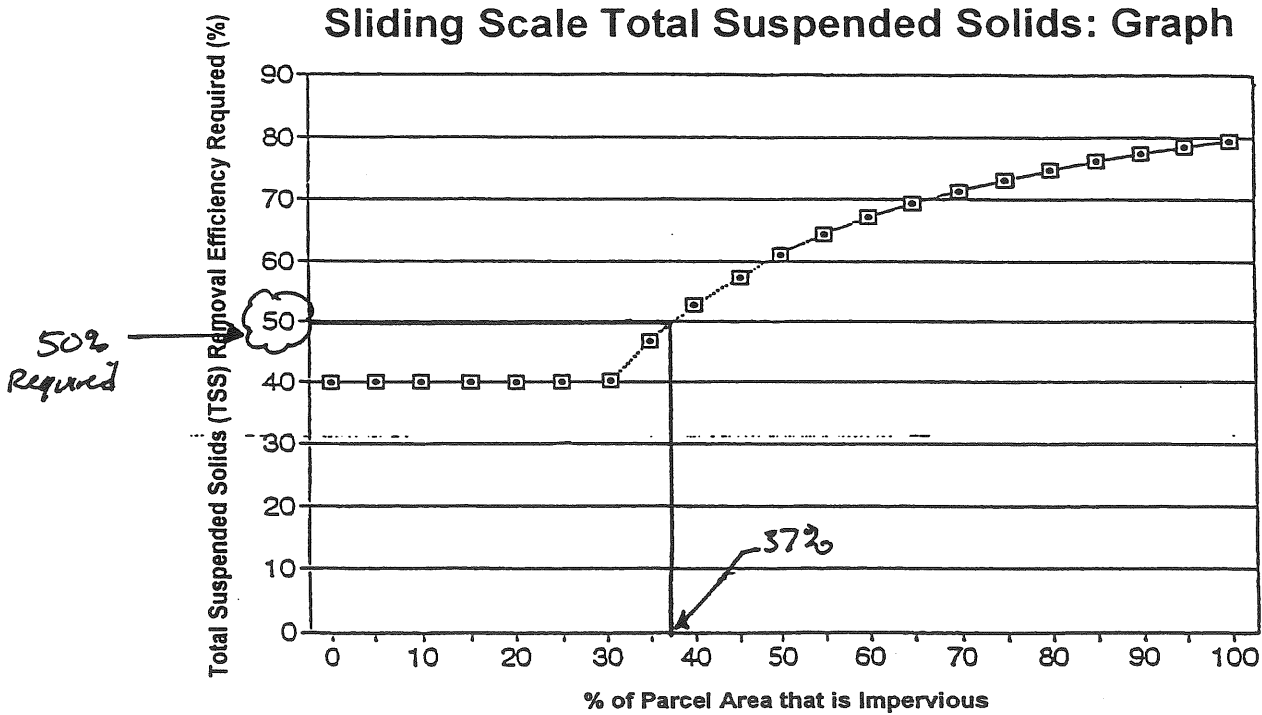
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Table 14-1

**Portland International Jetport
Summary of Present and Future Development Peak Runoff Rates**

Drainage Area	Storm Event	Present Development runoff, cfs	Future Development runoff, cfs	Increase/Decrease cfs
Watershed 1	10 Year	18.15	15.07	- 3.08
Watershed 2	10 Year	6.85	Not evaluated	
Watershed 3	10 Year	13.22	16.44	+ 3.22
Watershed 4	10 Year	19.89	23.72	+3.83

MDEP SLIDING SCALE TOTAL SUSPENDED SOLIDS: GRAPH



- (c) Phosphorus standard. The project must incorporate appropriate stormwater best management practices so that the project will not exceed the allowable per-acre phosphorus allocation for the lake.

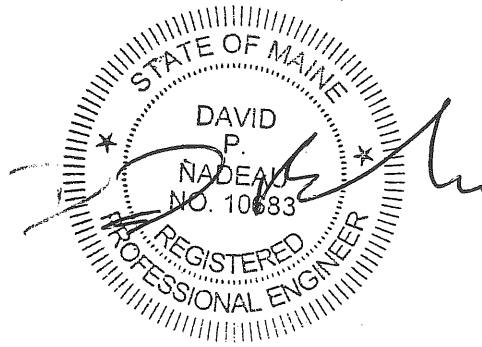
An allowable per-acre phosphorus allocation for each lake most at risk will be determined by the department, based upon (i) current water quality, (ii) potential for internal recycling of phosphorus, (iii) potential as a cold-water fishery, (iv) volume and flushing rate, and (v) projected growth in the watershed, and will be used to determine project phosphorus allocations unless the applicant proposes an alternative per-acre phosphorus allocation that is approved by the department. If the project is a new road in a subdivision, only 50% of the parcel's allocation may be applied to the new road unless phosphorus export from both the new road and the new lots is being addressed, in which case the entire allocation for the parcel may be applied.

NOTE: For guidance in calculating per-acre phosphorus allocations and in determining if stormwater phosphorus export from a project meets or exceeds the parcel's allocation, see "Phosphorus Control in Lake Watersheds: A Technical Guide for Evaluating New Development", Maine Department of Environmental Protection (1992).

- (d) Basic stabilization standard--Each of the following requirements must be met.

Section 14

Erosion and Sedimentation Control



EROSION AND SEDIMENTATION CONTROL

Erosion and sedimentation control plan

This plan has been developed to provide a strategy for controlling soil erosion and sedimentation during and after construction of the proposed project. This plan is based on standards and specifications for erosion prevention in developing areas as contained in the 2005 online version of the Maine Erosion and Sediment Control BMP Manual for the Maine Department of Environmental Protection.

General construction details

The equipment anticipated to be used for construction may include the following: backhoe, bulldozer, loader, excavator, trucks, compactor, and grader. Intensive on-site erosion control methods will be utilized. The following methods will be undertaken to provide maximum protection to the soil, water, and abutting lands:

1. Permanent soil erosion control measures for all slopes, channels, ditches, or any disturbed land area will be completed within seven (7) calendar days after final grading has been completed. When it is not possible or practical to permanently stabilize disturbed land, temporary erosion control measures will be implemented within seven (7) calendar days of exposure of soil. Temporary erosion control measures shall include at a minimum the application of wood fiber mulch at a rate of 75-90 lbs per 1000 sf by the wet application method as outlined in item t-901-3.5, 3.6, and 3.7 of the contract specifications. Within 75 feet of wetland areas (including lakes and streams), apply mulch within 48 hours, or prior to any storm event, whichever is first.
2. Prior to grubbing or any earthmoving operation, siltation fence will be installed across the slope on the contour at the downhill limit of the work as protection against construction related erosion. Siltation fence shall also be installed at the downhill limit of the base of soil stockpiles.
3. Temporary siltation control risers shall be installed at all existing culvert/ stormdrain inlet locations. See Maine Erosion and Sedimentation Control BMP B-3.
4. All siltation fence will be inspected by the contractor on a weekly basis, following any significant rainfall (1/2 inch or more) or snowmelt, or daily during prolonged rainfall. All damaged siltation fence will be repaired and/or replaced immediately. Trapped sediment will be removed before it has accumulated to one half of the installed siltation fence height. Siltation fence no longer serviceable due to sediment accumulation will also be repaired and/or replaced as necessary. Any sediment deposits remaining in place after the siltation fence or filter barrier is no longer required should be incorporated into the existing grade, seeded and mulched.
5. Removal of temporary sediment control measures shall occur within thirty (30) days of permanent stabilization.

EROSION AND SEDIMENTATION CONTROL

6. To provide protection against erosion, riprap will be placed at all stormdrain inlets and outlets as shown on the contract drawings. See also Maine Erosion and Sedimentation Control BMP D-2.
7. All ditch bases to be seeded shall also be lined with erosion control mesh to stabilize the ditch channels until vegetation is established. Stone check dams and temporary mulching will be used to stabilize any section of rough graded ditch that will not be final graded and permanently stabilized within the next seven (7) days.
8. Native topsoil shall be saved, stockpiled, mulched, and reused as much as possible on the site. Stockpiles will be stabilized by seeding and mulching within seven (7) days of the formation of the stockpile. Near wetland areas (including lakes and streams), seeding and mulching shall be completed within 24 hours of the formation of the stockpile. Uphill of stockpiles, stabilized ditches and/or berms will be constructed to divert stormwater runoff away from the piles. Side slopes of topsoil stockpiles shall not exceed 2:1.
9. The exposed area should be limited to that in which work is to occur during the following 15 days.

Seeding and revegetation plan

Upon completion of site construction, all areas previously disturbed will be treated as stated below. These areas will be closely monitored by the contractor until such time as a satisfactory growth of vegetation is established.

1. Loam will be spread over all disturbed areas and graded to a uniform depth of 4 inches.
2. All exposed surfaces not to be final graded for thirty (30) days or more shall be seeded with winter rye, oats, annual ryegrass, or sudangrass perennial, depending on the time of year. See Maine Erosion and Sedimentation Control BMP A-2 for details and specifications.
3. Agricultural limestone and fertilizer will be incorporated into the soil prior to seeding. See item t-901-2.3 and 2.4 in the contract specifications for details.
4. Disturbed areas will be seeded at the rate of 1 lb per 1000 sf. See item t-901-2.2 in the contract specifications for seed mix.
5. Seeding will be completed between the dates of May 1 and September 15. Irrigation may be required during the period of June 1 to August 15.
6. Areas which have been temporarily or permanently seeded shall be mulched immediately following seeding.
7. Hay mulch will be applied at the rate of 75-90 lbs per 1000 sf. Mulch shall be anchored with biodegradable netting on steep slopes (7:1 or greater) and on areas within 100 feet of lakes,

EROSION AND SEDIMENTATION CONTROL

streams, and wetlands. Erosion control mix can be used on slopes between 3:1 and 2:1. See Maine Erosion and Sedimentation Control BMP A-1 and item T-901-3.5, 3.6, and 3.7 in the contract specifications.

8. All mulches shall be inspected periodically, particularly after rainfall. If less than 90% of the disturbed area is covered, additional mulch will be spread.
9. All sediment control structures will remain in place until vegetation is established. Established means a minimum of 85% of the area is vegetated with vigorous growth.

Fall/winter seeding and stabilization

The winter construction period is from November 1 to April 15.

1. Winter excavation and earthwork shall be completed such that no more than 1 acre of the site is without stabilization at any one time. The exposed area will be limited to that in which work is to occur during the following 15 days and those areas that can be mulched in one day prior to any snow event.
2. Hay mulch will be applied to a depth of 4 inches (150 lbs per 1000 sf).
3. After each day of final grading, any disturbed area will be stabilized with anchored mulch or erosion control mesh. No ground surface should be visible through the mulch.
4. Soil stockpiles will be mulched at winter rates within 24 hours of stocking and reestablished prior to rain or snowfall. No stockpiles will be placed within 100 feet of lakes, streams, wetlands, or other natural resources.

See Maine Erosion and Sedimentation Control BMP A-3 for details on the following:

By September 1-

1. All grass-lined ditches and channels will be constructed and stabilized. All slopes greater than 7:1 to be vegetated will be seeded and mulched (past September 15, mulch anchoring should be used on slopes greater than 20:1, and heavy grade mats and biodegradable netting should be used in conjunction on slopes greater than 12:1 and on side slopes of ditches). If this is not completed, then:

By October 1-

1. Sod will be placed in all ditch channels where vegetation has not been established. Sod will extend to a height of one foot above ditch channel bottom. All slopes greater than 7:1 will be seeded to a winter cover crop of rye at a rate of 3 lbs per 1000 sf. If the rye fails to grow at least three inches or fails to cover at least 75% of the slope by November 1, or if sod is not placed in the appropriate ditch channels, then:

EROSION AND SEDIMENTATION CONTROL

By November 1-

1. The ditch will be lined with stone riprap. The slope will be covered with erosion control mix or stone riprap, or, alternatively:

By November 15-

1. The disturbed soil will be mulched at the winter rate and anchored properly.

No construction shall take place after November 15.

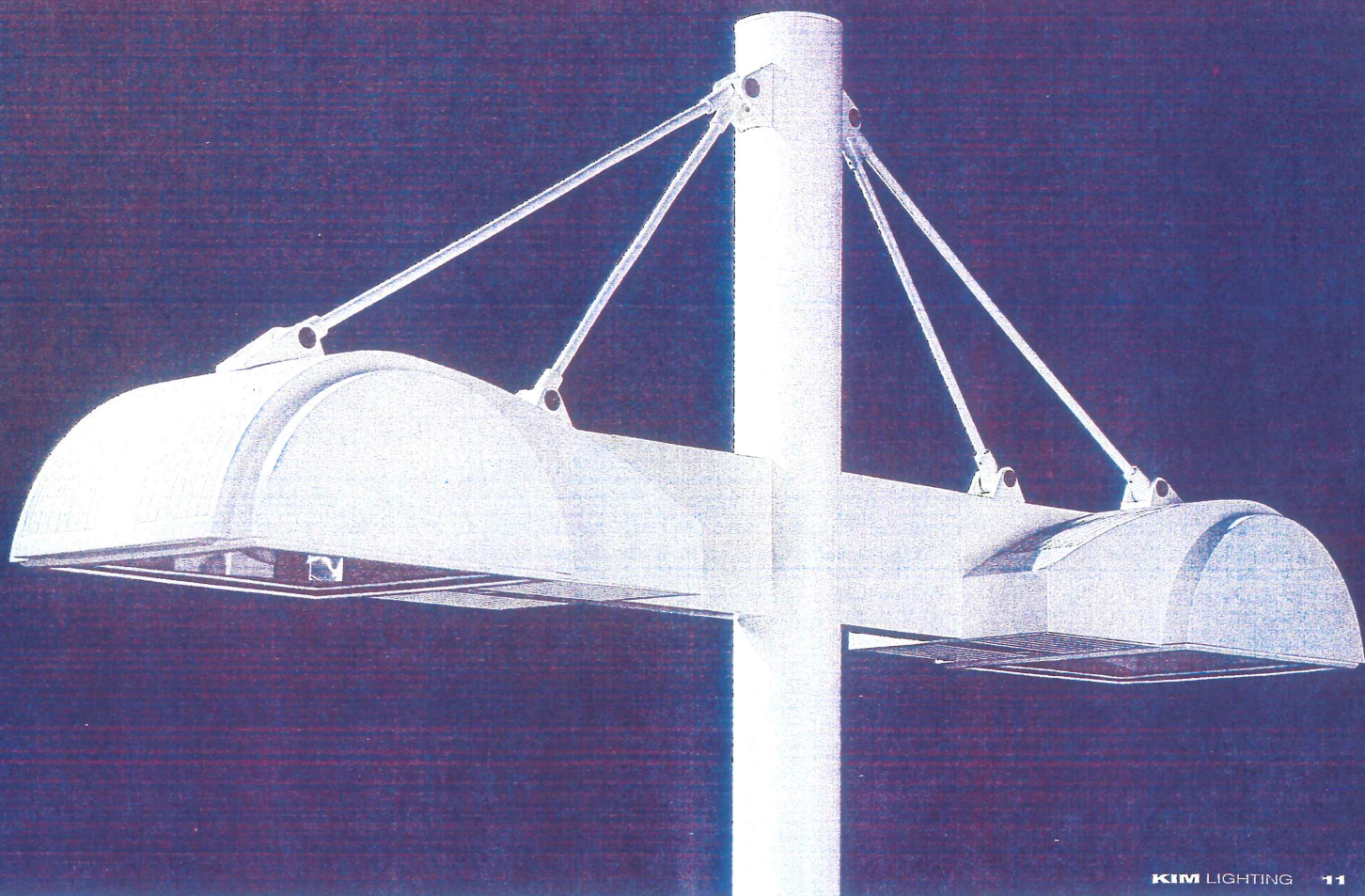
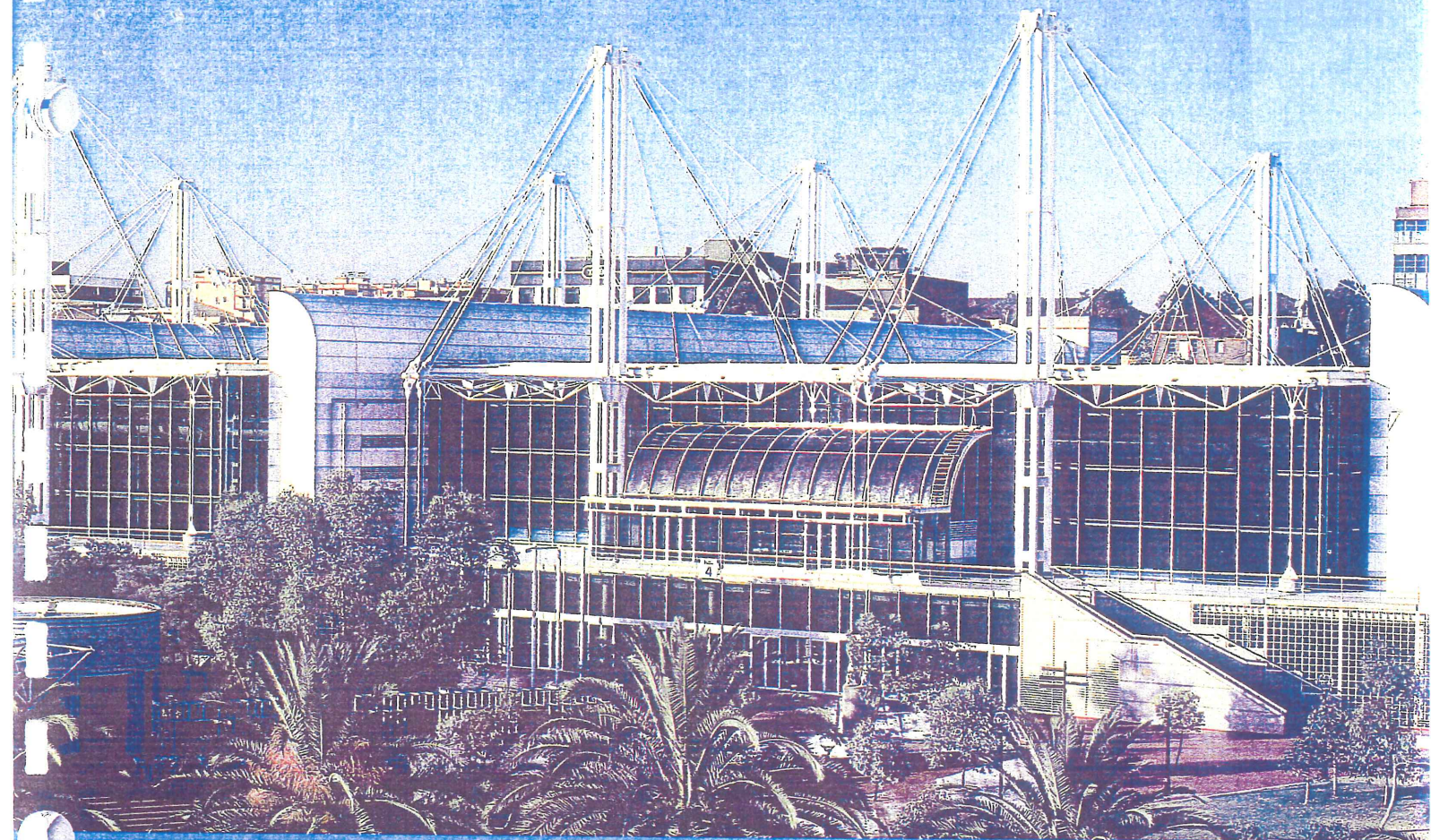
Monitoring program

Sedimentation and erosion control structures will be inspected weekly by the contractor, and all structures damaged by construction equipment, vandals, or the elements will be repaired immediately. Following rainstorms and during runoff events, the site and all structures will be inspected for erosion and damage. All damaged structures will be repaired and/or additional erosion control structures will be installed prior to continuing the construction.

Following the final seeding the site will be inspected to ensure that the vegetation has been established. Reseeding will be carried out, with follow-up inspections, in the event of any unsatisfactory growth.

After the project area has stabilized, the contractor shall remove all siltation fence and any other temporary erosion control measures.

Implementation and monitoring of erosion control measures will be the responsibility of the contractor under the supervision of the project engineer and the inspector.



11-2
SITE/ROADWAY

ST
SERIES

Structural™

OUTDOOR CUTOFF LUMINAIRE

70 - 400 WATT

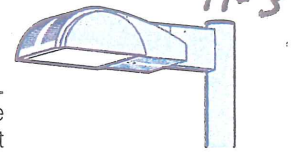


 **KIM LIGHTING**

Ordering Information

Large Structural

STL
Mogul Base
150 to 400 Watt



Ordering Example:

For Fixture,
Structural Option and Pole

Mounting Fixture Electrical Module Finish Options Structural Option Pole

2B / STL3 / 400MH277 / PS-P / A-25 / TSN / PRA25-6188B-TS / PS-P

1 2 3 4 5-11 12 13

See separate Kim Pole Catalog.
Omit for 1W Wall Mount.

1 Mounting:

3Y configuration is available for round poles only.

Plan View:

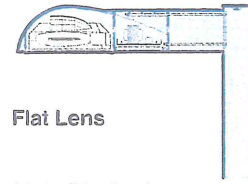
EPA:	2.2	4.4	2.8	5.0	5.0	5.3	n/a
Cat. No.:	1A	2B	2L	3T	3Y	4C	1W

2 Fixture:

Cat. No. designates STL fixture and light distribution.

See the Kim Site/Roadway Optical Systems Catalog for detailed information on reflector design and application.

Horizontal Lamp



Flat Lens

Light Distribution:

Cat. No.:



Type II

STL2



Type III

STL3



Type IV
Forward Throw
STL4



Type V
Square
STL5

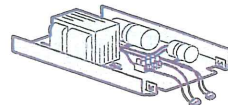
3 Electrical Module:

HPS = High Pressure Sodium

MH = Metal Halide

PMH = Pulse Start
Metal Halide

See lamp and electrical data on pages 24 - 25 for ballast types and characteristics.



Lamp Watts	Lamp Type	Line Volts
400	HPS	277

150HPS120	250HPS120	400HPS120
150HPS208	250HPS208	400HPS208
150HPS240	250HPS240	400HPS240
150HPS277	250HPS277	400HPS277
150HPS347	250HPS347	400HPS347
150HPS480	250HPS480	400HPS480

175MH120	250MH120	400MH120	250PMH120	400PMH120
175MH208	250MH208	400MH208	250PMH208	400PMH208
175MH240	250MH240	400MH240	250PMH240	400PMH240
175MH277	250MH277	400MH277	250PMH277	400PMH277
175MH347	250MH347	400MH347		400PMH347
175MH480	250MH480	400MH480		400PMH480

4 Finish:

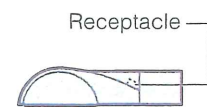
Super TGIC powder coat paint over chromate conversion coating.

Color: Black	Dark Bronze	Light Gray	Platinum Silver	White	*Custom Colors
Cat. No.: BL-P	DB-P	LG-P	PS-P	WH-P	CC-P

*Consult representative for custom colors.

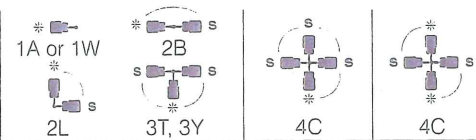
5 Optional Photocell Receptacle:

Receptacle provided for NEMA base photocells (by others).



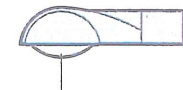
Cat. No.: A-25

Mounting Configuration
* - Fixture with Photocell Receptacle
s - slave unit(s)



Allowable Wattage per fixture: 150-400W, 150-250W, 400W

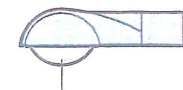
6 Optional Convex Glass Lens:



Convex Lens

Cat. No.: CGL Tempered convex glass lens replaces standard flat lens.

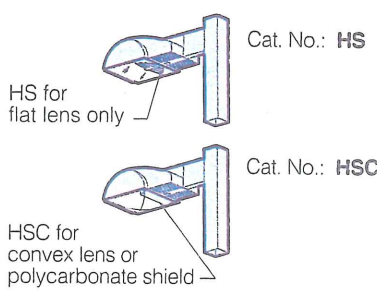
7 Optional Polycarbonate Shield:



Polycarbonate Shield

Cat. No.: LS Polycarbonate Shield replaces standard tempered glass lens. 250 Watt Maximum. May be used with 400HPS in outdoor locations where ambient air temperature during fixture operation will not exceed 85°F. See "CAUTION" on page 17.

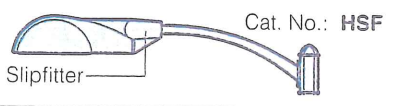
8 Optional Houseside Shield:



Recommended for use with clear lamps only. Effectiveness is reduced for coated lamps. Not for use with Type V light distribution.

For fixtures with optional convex glass lens. Not for use with Type V light distribution.

9 Optional Horizontal Slipfitter Mount:







Replaces standard mounting arm with a slipfitter for mounting to a horizontal pole davit-arm with 2" pipe-size mounting end (2 3/8" O.D.). Provides ±5° vertical fixture adjustment.

10 Special Options for Street Lighting:

Cat. No.: **TB** Terminal Block located inside the fixture electrical compartment.
 Cat. No.: **AF** Air Filter to allow ventilation through the optical chamber.

11 Optional Vertical Slipfitter Mounts:

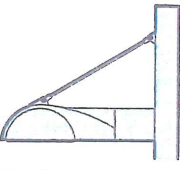
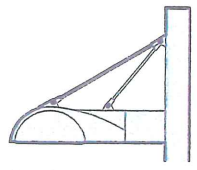
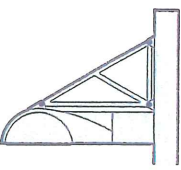
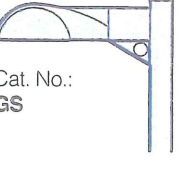
- Mounting Configuration
 1A - Single arm mount
 2B - 2 at 180°
 2L - 2 at 90°
 3T - 3 at 90°
 3Y - 3 at 120°
 4C - 4 at 90°

For Standard Fixtures		For Fixtures with Structural Options	
Cat. No. VSF-1A VSF-2B VSF-2L VSF-3T VSF-3Y VSF-4C	 4" Round	Cat. No. SVSF-1A SVSF-2B SVSF-2L SVSF-3T SVSF-4C	 4" Square
		Cat. No. STRF-1A STRF-2B STRF-2L STRF-3T STRF-3Y STRF-4C	 4" Round
			Cat. No. STSF-1A STSF-2B STSF-2L STSF-3T STSF-4C
			 4" Square

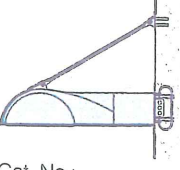
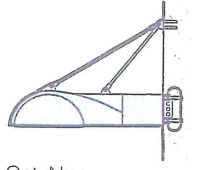
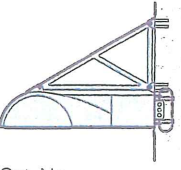
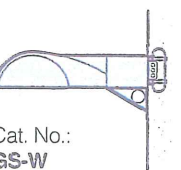
Allows fixture, arm, and Structural Option (when applicable) to be mounted to steel poles having a steel 2" pipe-size tenon (2 3/8" O.D. x 4 1/2" min. length). Not available for **GS** Gusset.

12 Structural Options:

Pole Mounted Structural Options

Single Tension  Cat. No.: TSP - Rod and clevis painted to match fixture TSN - Stainless steel rod with nickel plated clevis	Double Tension  Cat. No.: TDP - Rod and clevis painted to match fixture TDN - Stainless steel rod with nickel plated clevis	Truss  Cat. No.: TR	Gusset  Cat. No.: GS
--	--	--	---

Wall Mounted Structural Options

Single Tension  Cat. No.: TSP-W - Rod and clevis painted to match fixture TSN-W - Stainless steel rod with nickel plated clevis	Double Tension  Cat. No.: TDP-W - Rod and clevis painted to match fixture TDN-W - Stainless steel rod with nickel plated clevis	Truss  Cat. No.: TR-W	Gusset  Cat. No.: GS-W
--	--	--	---

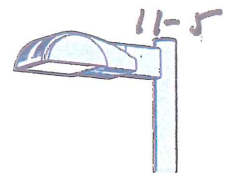
13 Poles:

See Kim Pole Catalog for a complete selection of round and square poles in aluminum or steel.

Ordering Information

Small Structural

STS
Medium Base
70 to 175 Watt



Ordering Example:

For Fixture,
Structural Option and Pole

Mounting Fixture Electrical Module Finish Options Structural Option Pole

2SB / STS3 / 175MH277 / WH-P / A-33 / TSN / PRA12-34188SB-TS / WH-P

1 2 3 4 5-11 12 13

See separate Kim Pole Catalog.
Omit for **1SW** Wall Mount.

1 Mounting:

3SY configuration is available for round poles only.

Plan View:

EPA: 1.1 2.2 1.5 2.6 2.6 2.7 n/a

Cat. No.: **1SA** **2SB** **2SL** **3ST** **3SY** **4SC** **1SW**

2 Fixture:

Cat. No. designates **STS** fixture and light distribution.

See the Kim Site/Roadway Optical Systems Catalog for detailed information on reflector design and application.

Horizontal Lamp

Flat Lens

Light Distribution: Type II Type III Type IV Forward Throw Type V Square

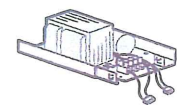
Cat. No.: **STS2** **STS3** **STS4** **STS5**

3 Electrical Module:

HPS = High Pressure Sodium

MH = Metal Halide

See lamp and electrical data on pages 24 - 25 for ballast types and characteristics.



Lamp Watts	Lamp Type	Line Volts
150	HPS	120

70HPS120	100HPS120	150HPS120	
70HPS208	100HPS208	150HPS208	
70HPS240	100HPS240	150HPS240	
70HPS277	100HPS277	150HPS277	
70HPS347	100HPS347	150HPS347	
70MH120	100MH120	150MH120	175MH120
70MH208	100MH208	150MH208	175MH208
70MH240	100MH240	150MH240	175MH240
70MH277	100MH277	150MH277	175MH277
70MH347	100MH347	150MH347	175MH347

4 Finish:

Super TGIC powder coat paint over chromate conversion coating.

Color: Black	Dark Bronze	Light Gray	Platinum Silver	White	*Custom Colors
Cat. No.: BL-P	DB-P	LG-P	PS-P	WH-P	CC-P

*Consult representative for custom colors.

5 Optional Photocell Control:



Photocell Sensor

Cat. No. and Line Volts:	A-30 120V	A-31 208V	A-32 240V	A-33 277V	A-35 347V
Mounting Configuration	* - Fixture with Photocell Sensor s - slave unit(s)				
No fixture wattage limit.	1SA or 1SW	2SB	2SL	3ST, 3SY	4SC

6 Optional Convex Glass Lens:



Convex Lens

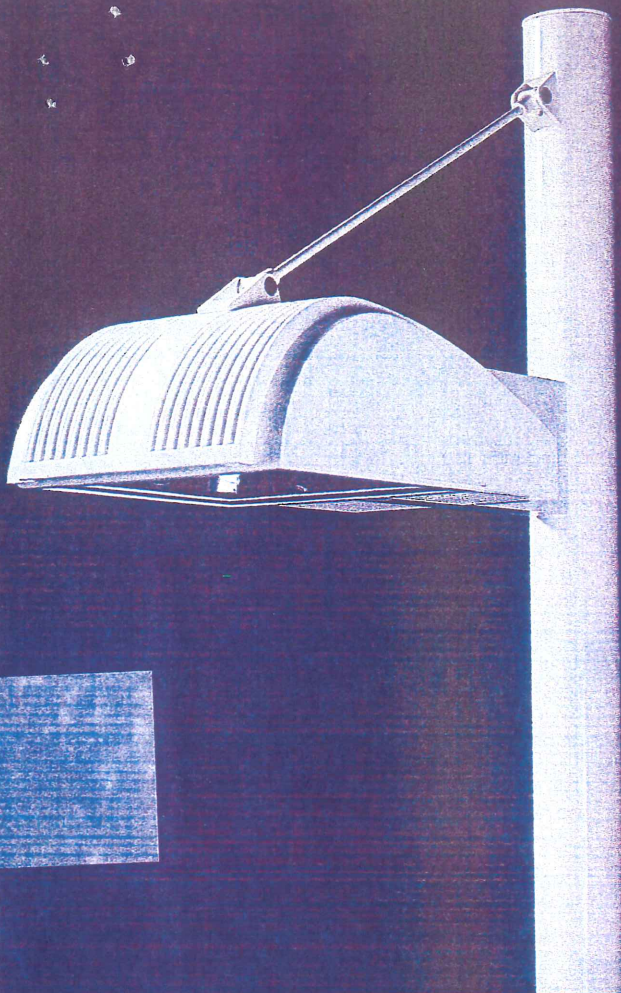
Cat. No.: **CGL** Tempered convex glass lens replaces standard flat lens.

7 Optional Polycarbonate Shield:

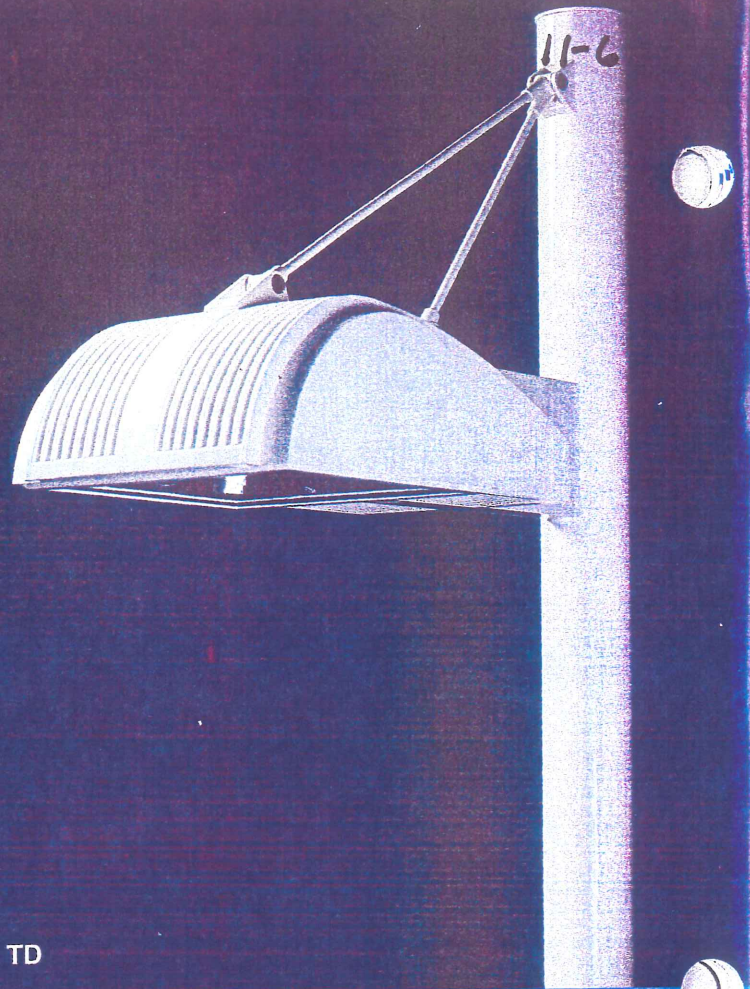


Polycarbonate Shield

Cat. No.: **LS** Polycarbonate Shield replaces standard tempered glass lens. 250 Watt Maximum. May be used with 400HPS in outdoor locations where ambient air temperature during fixture operation will not exceed 85°F. See "CAUTION" on page 17.

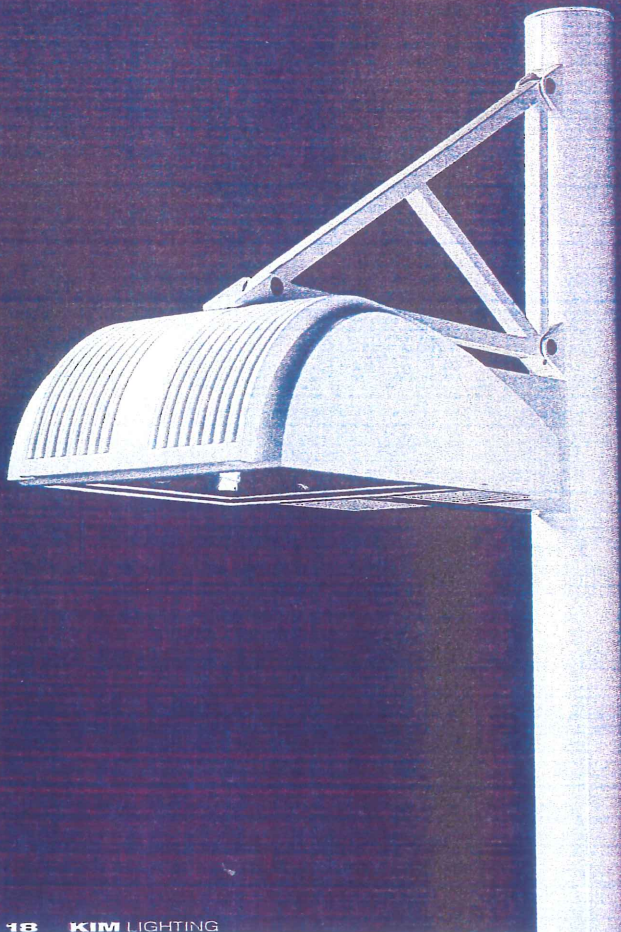


TS

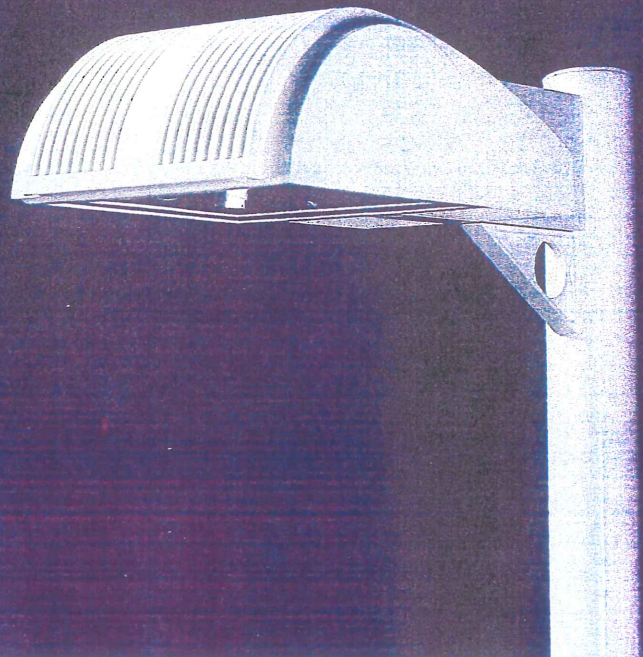


TD

TR



GS



11-7 Pole Mounted Structural Option Specifications

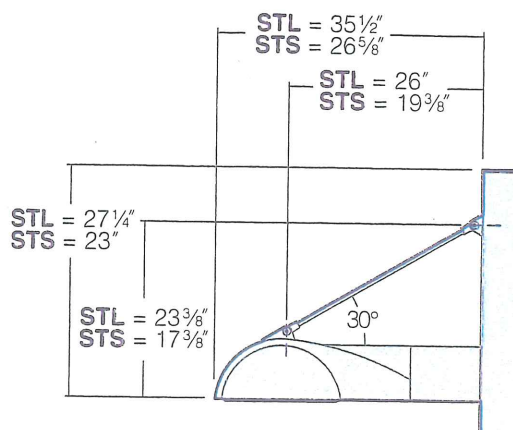
See pages 13 and 15 for complete ordering information

TS - Single Tension Rod: Rod has die-cast aluminum clevis which fasten to die-cast aluminum cleats. Fixture cleat is factory mounted, and includes a silicone gasket. Pole cleat is field mounted, and is circular cut for precise mating to round poles. Rod diameter is .500" for STL Large Structural, and .406" for STS Small Structural. All fasteners are blackened stainless steel. **TSP** - Structural option rod and clevis detail is finished to match fixture. **TSN** - Structural option rod is stainless steel with nickel plated clevis. All Kim poles are pre-drilled to accept fixture arm and tension rod cleat.

Plan View:



Mounting:	1A	2B	2L	3T	3Y	4C
STL EPA:	2.3	4.6	2.9	5.2	5.2	5.5
Mounting:	1SA	2SB	2SL	3ST	3SY	4SC
STS EPA:	1.2	2.4	1.6	2.8	2.8	2.9

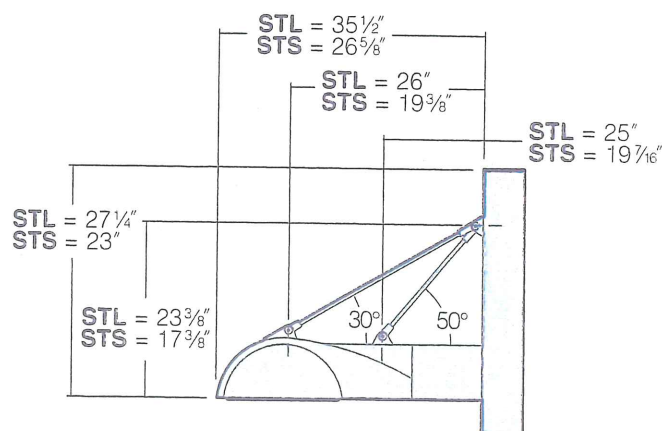


TD - Double Tension Rods: Rods have die-cast aluminum end brackets which fasten to die-cast aluminum cleats. Fixture cleats are factory mounted, and include silicone gaskets. Pole cleat is field mounted, and is circular cut for precise mating to round poles. Rod diameter is .500" for STL Large Structural, and .406" for STS Small Structural. All fasteners are blackened stainless steel. **TDP** - Structural option rod and clevis details are finished to match fixture. **TDN** - Structural option rod is stainless steel with nickel plated clevis. All Kim poles are pre-drilled to accept fixture arm and tension rod cleats.

Plan View:



Mounting:	1A	2B	2L	3T	3Y	4C
STL EPA:	2.35	4.7	2.95	5.3	5.3	5.6
Mounting:	1SA	2SB	2SL	3ST	3SY	4SC
STS EPA:	1.25	2.5	1.65	2.9	2.9	3.0

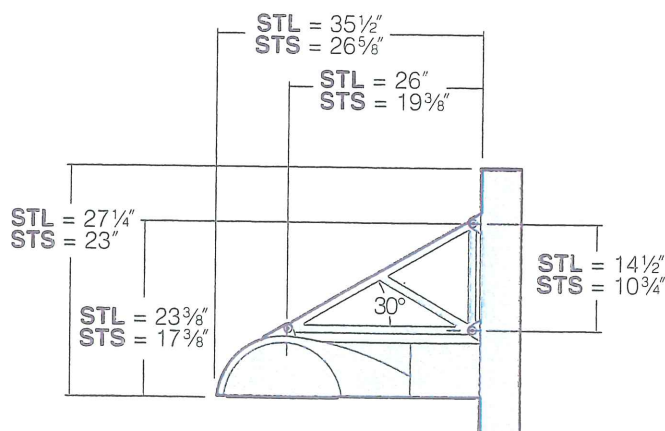


TR - Truss: Cast aluminum truss is fastened to die-cast aluminum cleats. Fixture cleat is factory mounted, and includes a silicone gasket. Pole cleats are field mounted, and are circular cut for precise mating to round poles. Truss members are 1" square for STL Large Structural, and 3/4" square for STS Small Structural. All fasteners are blackened stainless steel. Structural option is finished to match fixture. All Kim poles are pre-drilled to accept fixture arm and truss cleats.

Plan View:



Mounting:	1A	2B	2L	3T	3Y	4C
STL EPA:	2.6	5.2	3.3	5.9	5.9	6.2
Mounting:	1SA	2SB	2SL	3ST	3SY	4SC
STS EPA:	1.4	2.8	1.9	3.3	3.3	3.4

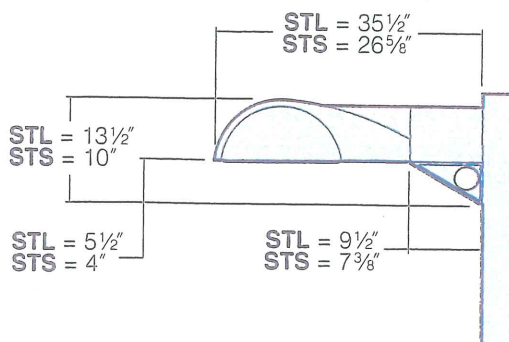


GS - Gusset: Cast aluminum gusset is field mounted to the fixture arm, and circular cut for precise mating to round poles. Gusset is finished to match fixture and arm.

Plan View:



Mounting:	1A	2B	2L	3T	3Y	4C
STL EPA:	2.45	4.9	3.1	5.55	5.55	5.85
Mounting:	1SA	2SB	2SL	3ST	3SY	4SC
STS EPA:	1.25	2.5	1.7	2.95	2.95	3.05





Stantec

Portland Jet Port

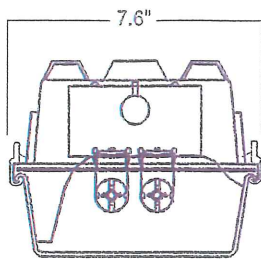
Garage Phase 2

Permitting Fixture Cut-Sheets

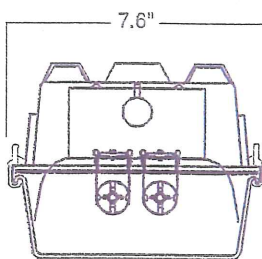
Stantec Project #: 195210126

	RENOVA FOR INTELENERGY	VT-S-4-B-1-3-H-1		FLUOR	WHITE	PENDANT	277	(3) F32T8 / TL835 / ALTO	
	RENOVA FOR INTELENERGY	VT-S-4-B-1-3-H-1		FLUOR	WHITE	PENDANT	277	(3) F32T8 / TL835 / ALTO	
	RENOVA FOR INTELENERGY	VT-S-4-B-1-3-H-1		FLUOR	WHITE	CEILING	277	(3) F32T8 / TL835 / ALTO	
JNE FIXTURE	KIM	1A/STL3/175MH/277/ /TSP/PPRA20-6188 A/T/S/ (SEE NOTES 1 & 2)		MH	NOTE 1	POLE	277	(1) 175W MH	LIGHTNING
JNE FIXTURE	KIM	1A/STL3/175MH/277/ /TSP/QSPRA20-6188 A/T/S/ (SEE NOTES 1&2)		MH	NOTE 1	POLE	277	(1) 175W MH, (1) 100W QTZ (RSTRK)	LIGHTNING
TWO FIXTURE	KIM	2L/STL3/175MH/277/ /TSP/PPRA20-6188 L/T/S/ (SEE NOTES 1 & 2)		MH	NOTE 1	POLE	277	(2) 175W MH	LIGHTNING
TWO FIXTURE	KIM	2L/STL3/175MH/277/ /TSP/QSPRA20-6188 L/T/S/ (SEE NOTES 1 & 2)		MH	NOTE 1	POLE	277	(2) 175W MH, (1) 100W QTZ (RSRTK)	LIGHTNING
	LUMINAIRE	LVP751-260HO-CW-277		FLUOR	WHITE	CEILING	277	(2) F48T12/HO	COLD WEAT
	LUMINAIRE	(2) LVP751-260HO-CW-277		FLUOR	WHITE	CEILING	277	(4) F48T12/HO	COLD WEAT
JNTEED	LITHONIA	LV S AB 1 R 277 WL		LED	ALUM.	WALL	277	LED	WET LOCAT
	LITHONIA	LE S I R 277		LED	ALUM.	WALL	277	LED	
	FAIL-SAFE	DD-UC-MB-56A-277		FLUOR	BLACK	CEILING	277	(2) 28W QUAD	COLD WEAT
JR	HALO	C71422E-7150LI		FLUOR	WHITE	RECESSED	277	(1) 42W PL-T	
3BY.CORRIDOR	FOCAL POINT	FWZ 810 W 1 T8 E 277 RC PL		FLUOR	N/A	RECESSED	277	(1) F32T8/85K	COLD WEAT
	AAL	CB-12-S-42-HORZ-FLAT-AGR-1-26QCF		CFLUOR	WHITE	CONCRETE	277	(1) 26W QUAD	COLD WEAT
	LITHONIA	LA 2 32 277		FLUOR	WHITE	PENDANT	277	(2) F32T8/85K	
	CANLET	GFWF26H120DGPC		FLUOR	ALUM.	WALL	120	(1) 26W PL-T	WATER PRC
	LITHONIA	ELT24-N-H1212		HAL	NOTE 1	WALL	277	(2) 12W	

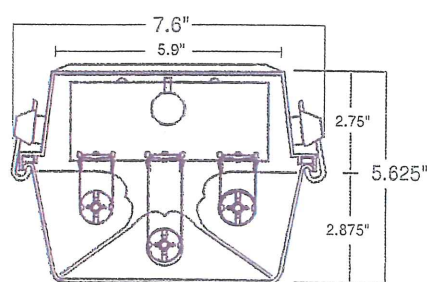
CROSS SECTIONS



2 Lamp
Asymmetric



2 Lamp
Normal



3 Lamp
Broad

FIXTURE DETAIL



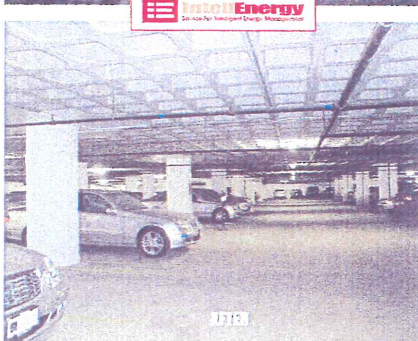
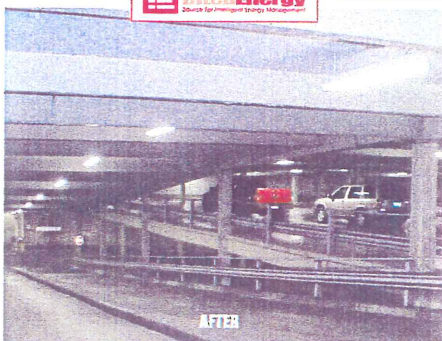
**Purdue Pharma
Garage
Stamford, CT**

Existing Fixtures:
150-watt MH
(195-watts total)
New Fixtures: Four
foot, SP (90-watts
3-lamp VT's)

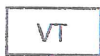


**Pickwick Plaza
Garage
Greenwich, CT**

Existing Fixtures:
175-watt MH
(210-watts total)
New Fixtures: Four
foot, MP (98-watts
3-lamp VT's)



Models Available



Fixture
Series



Fixture
Type



Length
4-Four Foot
8-Eight Foot



Photometric
Distribution
N-Normal
B-Broad
A-Asymmetric



Lamp Type
1-F32T8
O-Other
(Specify)



Lamp
Qty
2 thru 4



Ballast Type
L-Low Power
S-Standard
M-Medium
H-High Power



Voltage
1-Universal
2-480 Volt



Source For Intelligent Energy Management

304 Main Ave. Suite 409 • Norwalk, CT 06851
(203) 863.1930 • fax (203) 849.1868 • www.intellenergy.com

In New York

155 Stone Meadow • South Salem, NY 10590
(914) 533.5588 Fax (914) 533.5063

High-Intensity Fluorescent Garage Luminaire HID Replacement



APPLICATIONS & ADVANTAGES:

Specially designed to provide maximum efficiency lighting for garage environments, the VT high-intensity fluorescent (VT-HIF) luminaire features a heavy grade industrial fixture enclosed inside a fully gasketed, high quality fiberglass body. The VT series is designed to "push" light across and along the luminaire to maximize light output in between the luminaires where it is typically most needed. The VT is suitable for exterior, wet location and damp environments. The VT-HIF luminaire is custom engineered to replace HID fixtures (70-watt to 175-watt) with four foot, two and three lamp T8 configurations from 76-watts to 126-watts. (No four lamp luminaires are needed. Any additional light will come from a higher power ballast). If necessary, eight foot, two, three and four lamp configurations can also be used.

FEATURES:

- This efficient, enclosed luminaire is available in 4' and 8' nominal lengths.
- Available in two or three lamp and asymmetric profiles with a wide variety of photometry.
- Standard shatter-resistant high-impact 50% DR acrylic lens fits snugly to provide a water tight seal between lens and gasket.
- Standard zero-degree electronic ballasts with variety of ballast factor configurations.
- Wet location die cast zinc hub provides point of entry for connection.
- Optional mounting bracket available. Paint after fabrication available. Carries UL and CUL wet location listings.

SPECIFICATIONS:

HOUSING: Gasketed, fiberglass enclosure is dust and moisture resistant. Standard shatter resistant 50% DR acrylic lens is held in place by latches that ensure a continuous seal.

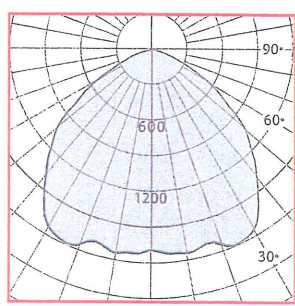
CHANNEL: Formed from cold rolled, pre-painted steel. Five stage iron-phosphate pretreatment ensures superior paint adhesion and rust resistance. Painted parts finished with high-gloss, baked white enamel.

REFLECTOR: Material is Miro® enhanced specular aluminum with a total reflectivity of 95%.

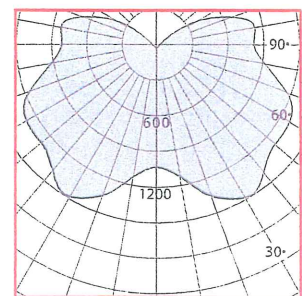
MOUNTING: The VT series fixture is suitable for surface or pendant mounting.

LAMP HOLDERS: T8 lamps are secured with locking lampholders.

PHOTOMETRY:



2-LAMP NORMAL
Fixture Efficiency: 80.2%
SC Across: 1.4, SC Along: 1.3



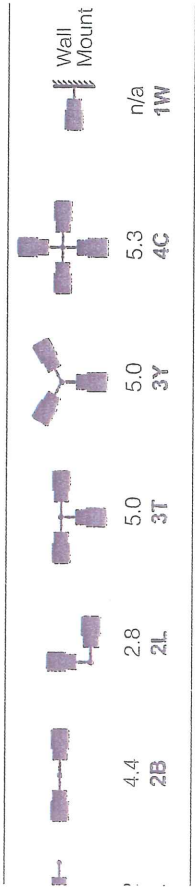
3-LAMP BROAD
Fixture Efficiency: 67.9%
SC Across: 1.9, SC Along: 1.3

Electrical Module Finish Options Option Pole

/ 400MH277 / PS-P / A-25 / TSN / PRA25-6188B-TS / PS-P

3 **4** **5-11** **12** **13**

See separate Kim Pole Catalog.
Omit for 1W Wall Mount.



1	2	3	4	5	6	7	8	9	10	11	12	13	
4.4 2B	2.8 2L	5.0 3T	5.0 3Y	5.3 4C	n/a 1W								

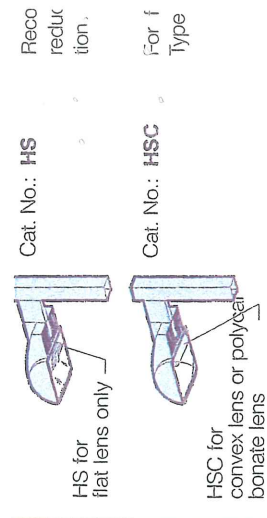
150HPS120	250HPS120	400HPS120	250PMH120	400PMH120
150HPS208	250HPS208	400HPS208	250PMH208	400PMH208
150HPS240	250HPS240	400HPS240	250PMH240	400PMH240
150HPS277	250HPS277	400HPS277	250PMH277	400PMH277
150HPS347	250HPS347	400HPS347	250PMH347	400PMH347
150HPS480	250HPS480	400HPS480	250PMH480	400PMH480

Dark Bronze DB-P	Light Gray LG-P	Platinum Silver PS-P	White WH-P	Custom Colors CC-P
Consult representative for custom colors.				

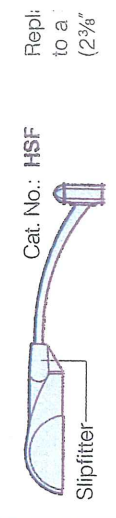
Mounting Configuration	150-400W	150-250W	400W
* - Fixture with Photocell Receptacle			
s - slave unit(s)			
Allowable Wattage per fixture:	150-400W	150-250W	400W

Cat. No.: **CGI** Tempered convex glass lens replaces standard flat lens.
Choose light distribution from Exit Cutoff to R. Exit

8 **Optional Houseside Shield:**



9 **Optional Horizontal Slipfitter Mount:**



10 **Special Options for Street Lighting:**

Cat. No.: **TB** Terminal Block located inside the fixture
Cat. No.: **AF** Air Filter to allow ventilation through the

11 **Optional Vertical Slipfitter Mounts:**

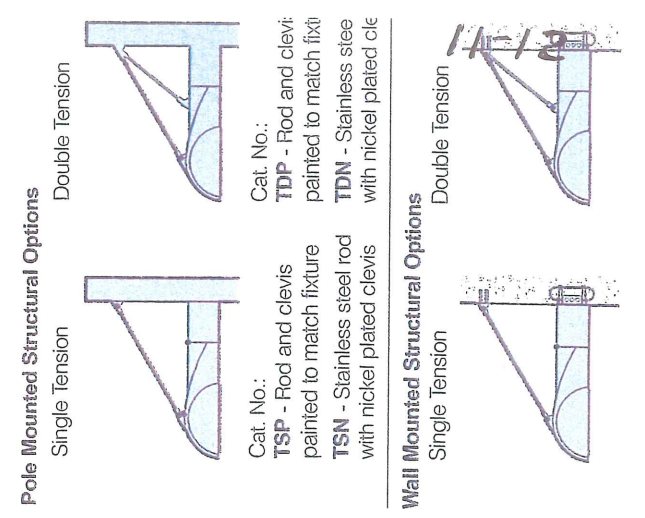
Mounting Configuration
1A - Single arm mount
2B - 2 at 180°
2L - 2 at 90°
3T - 3 at 90°
3Y - 3 at 120°
4C - 4 at 90°

For Standard Fixtures

Cat. No. **SVSF-1A** 4" Round
SVSF-2B 4" Round
SVSF-2L 4" Round
SVSF-3T 4" Round
SVSF-3Y 4" Round
SVSF-4C 4" Square

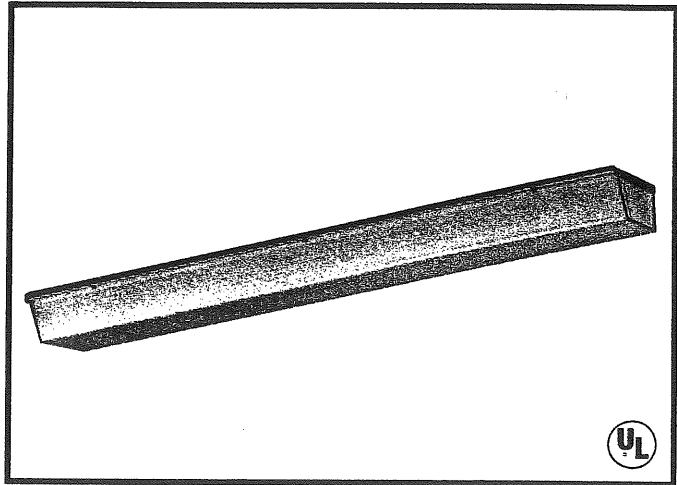
Allows fixture, arm, and Structural Option (when a 2" pipe-size tenon (2 3/8" O.D. x 4 1/2" min. length). Not a

12 **Structural Options:**



SPECIFICATIONS

- Backplate** Die formed 16 gauge cold rolled zinc coated steel. Finished with electrostatically applied white polyester powder coat.
- Lens** One piece injection molded UV stabilized prismatic polycarbonate with minimum 1/8" wall thickness. Secured to backplate with (6) stainless steel TORX® head screws.
- Reflector** Die formed 20 gauge cold rolled steel. Finished with white powder coat.
- Ballast** Electronic high frequency.
- Sockets** Medium bi-pin secured to fixture housing with machine screws and nuts.

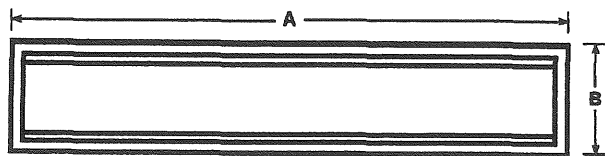


OPTIONS

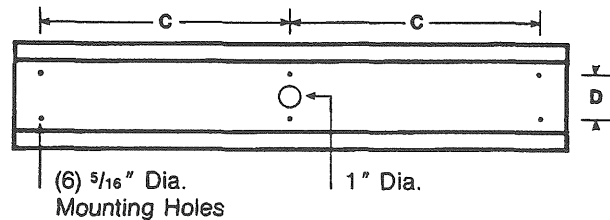
- OPAL** Opal polycarbonate lens instead of clear prismatic.
- WET** Closed cell neoprene gasketing as required for UL wet location listing.
- DAMP** Closed cell neoprene gasketing as required for UL damp location listing.
- 277V** 277 volt ballast.
- NL** PL 5/7 nightlight (lamp not included).
- GLR** Fuse and fuse holder.
- EMB** 90 minute self contained emergency battery pack.
- EMB 50** Specification grade 90 minute self contained emergency battery pack.
- PRS** Program rapid start electronic ballast.
- LH** Low harmonics (10% THD)
- AL** Aluminum backplate and ballast cover.
- ST/SC** Slotted screws instead of TORX® head.

OVERALL DIMENSIONS:

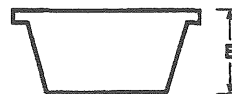
Front View



Back View



Side View



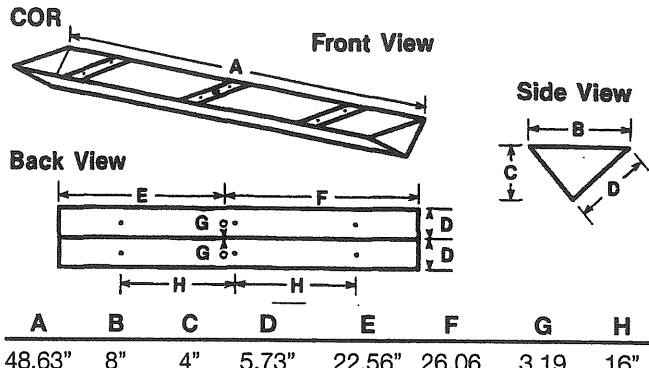
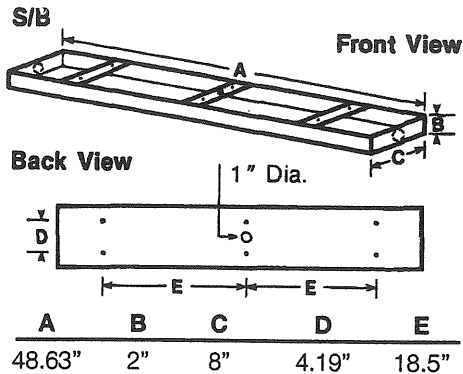
A	B	C	D	E
49"	8.56"	18.38"	3.94"	3.88"

ACCESSORIES

- S/B** Steel surface backbox. Constructed from 16 gauge cold rolled zinc coated steel. Finished with white powder coat.
- COR** Corner mounted backbox. Constructed from 16 gauge cold rolled zinc coated steel. Finished with white powder coat.
- TX/SD** TORX® head bit.

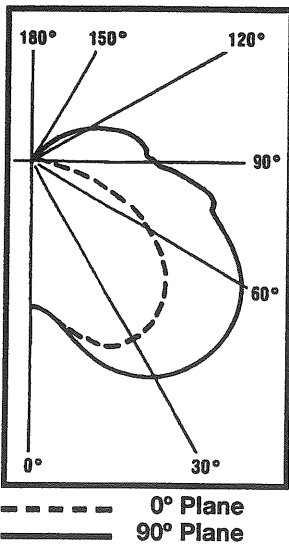
11-14

ACCESSORIES OVERALL DIMENSIONS:



PHOTOMETRIC DATA

CANDLEPOWER DISTRIBUTION CURVE



MODEL LVP 751 - 232 - ELECT - 120

LTL #01739

Formed steel housing, white enamel reflector, clear polycarbonate prismatic drop lens.

Ballast: Magnetek B2321120RH

Lamps: Two GE F32T8-SP41 rated 2900 lumens each.

Mounting: Surface

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt
0-30	450	7.8	12.5
0-40	837	14.4	23.4
0-60	1815	31.3	50.7
0-90	2984	51.5	83.3
90-120	500	8.6	14.0
90-130	563	9.7	15.7
90-150	596	10.3	16.6
90-180	598	10.3	16.7
0-180	3582	61.8	100.0

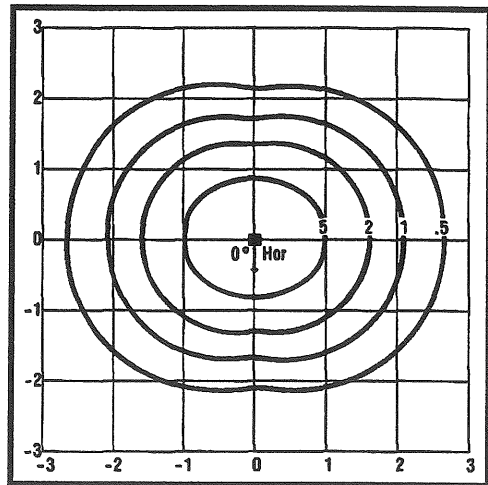
Total efficiency: 61.8%

CIE type: Semi-direct

Plane: 0° 90°

Spacing Criteria: 1.9 2.3

ISOFOOTCANDLE CHART



Mounting Height	Multiplying Factor
5'	1.96
6'	1.36
7'	1.00
8'	0.77
9'	0.60

ORDERING INFORMATION

EXAMPLE: LVP 751 - 232 - ELECT - 277 - OP - EMB - S/B

LVP 751 - **132** - **Elect** - **120** - **CP** - **---** - **---**

Series

Lamps

(Not included)
132-(1)F32T8
232-(2)F32T8
332-(3)F32T8
2BX40-(2)F40BX

Ballast

ELECT-Electronic ballast
LH-Electronic ballast with less than 10% total harmonic distortion
PRS-Program rapid start electronic ballast

Volts

120
277

Lens

Clear
 Prismatic
 Standard.
OP-Opal

Options

WET-Double gasket
GASK-Gasket
NL-PL 5/7 Nightlite (lamp not included)
GLR-Fuse and fuse holder
EMB-90 minute self contained emergency pack
EMB50-Specification grade 90 minute self contained emergency pack
AL-Aluminum construction
ST/SC-Slotted screws instead of TORX® head

Accessories

TX/SD-TORX® head bit
COR-Corner backbox
S/B-Steel backbox

Catalog No.:	LVP 751 - 132 - Elect - 120 - CP - -
Fixture Type:	Voltage: 120
Job Name:	
Approved By:	

LIFETIME WARRANTY
 Luminaire Vandal Resistant fixtures feature a lifetime warranty. Luminaire Lighting Corporation will repair or replace any fixture damaged due to vandalism for the lifetime of the installation.

NOTES:
 For complete photometric test reports and custom colors or finishes, please contact your local representative. Availability and specifications subject to change without notice. All LUMINAIRE fixtures are provided with TORX® head screws. Please remember to order TORX® head bits.





FEATURES

INTENDED USE

Suitable for cold weather (down to -40°C), wet location, security/prisons and high-abuse applications.

CONSTRUCTION

Durable cast aluminum construction – rugged, low-profile housing is .250 to .525" thick.

NEMA 4X option available for wet and hose-down applications.

Clear, UV-stable polycarbonate cover is .130" thick to prevent cracking or breaking. Cover is secured with four stainless steel, Torx T20 tamperproof screws with center pin.

Polycarbonate faceplate incorporates universal directional chevron knockouts that are concealed and easily removed and replaced.

Universal mount (UM) option available – top, back, end mounting or conduit entry (canopy provided).

Letters 6" high with 3/4" stroke.

U.S. Patent No. 5,611,163 and D383,501.

LAMPS

Lamp is constructed using new LED technology. Provides perfectly uniform illumination.

LED life exceeds 25 years, based on continuous operation. Single-face exit uses one LED lamp; double-face exit uses two LED lamps.

Low energy consumption — red lamp consumes 2.3W (120V); green lamp consumes 1.7W (120V).

INSTALLATION

Universal and back (no canopy) mount available.

Conduit entry (1/2" - 14 UNC) included with universal mounting.

Cast-aluminum canopy attaches to 10-gauge steel mounting plate for top or end mounting (not required for back mounting).

Canopy mounting bracket provides 160 lbs. of mounting strength when mounted to suitable structure. Bracket will only fit a 2-gang junction box.

LISTING

UL listed. Listed and labeled to comply with Canadian Standards C-860 and C22.2 No. 9 (see Options). 4X option is UL listed to NEMA 4X ratings. Meets UL 924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards, and State of Minnesota energy-efficient legislation requiring less than 20W consumption.

Catalog Number	11-15
Notes	Type

All-Conditions Exits

LV

LED LAMPS

NEMA 4X Rating Available



EXTREME®

WARRANTY

Three-year total customer satisfaction warranty on exit, including lamp. See the Product Selection Guide for details.

ORDERING INFORMATION

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line. Order accessories as separate catalog number.

Example: **LV S W 1 R 120/277 4X**

LV		S									
Family	Face type	Number of faces	Letter color	Input voltage	Mounting	Options					
LV LED	S Stencil	1 Single-face 2 Double-face ²	R Red G Green ¹	120/277 Dual voltage ¹ 120/347 Dual voltage ³	(blank) Back mount ⁴ UM Universal mount	(blank) None F1 Fire alarm flashing interface ¹ X2 Primary and secondary AC inputs provided ^{1,5,6} DL UL listed for damp locations 4X UL listed for NEMA 4X ¹ LDC6 6V DC input for LED lamps ³ LDC12/48 12V – 48V DC input for LED lamps ³ CSA Listed and labeled to comply with Canadian Standards					
Faceplate/housing color		NOTES:									
(blank) Black faceplate on black housing		1 Not available with CSA option.									
W White on white		2 Available with universal mount only.									
WB White on black		3 Only available with CSA option.									
BW Black on white		4 Back mount standard with single face unless UM is specified. Not available on double face.									
AB Aluminum on black ¹		5 UL listed as emergency lighting equipment.									
AW Aluminum on white ¹		6 Voltage specific (120V or 277V). Not dual voltage.									

Accessories

Order as separate item.

ELA TPS T20 Torx tamperproof bit for T20 center-pin screw

SPECIFICATIONS

ELECTRICAL

Primary Circuit

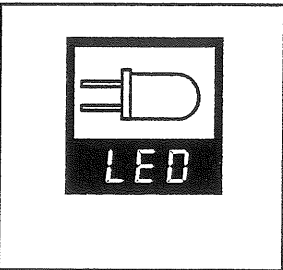
Type	Rated LED life ¹	Supply voltage	No. of lamps ²	Input watts	Max. amps
Red	25+ years	120	1	2.3	.15
			2	4.6	.30
Red	25+ years	277	1	2.2	.13
			2	4.4	.26
Red	25+ years	347	1	1.12	.29
			2	3.16	.29
Green	25+ years	120	1	1.7	.087
			2	2.8	.081
Green	25+ years	277	1	1.9	.089
			2	3.3	.086

- 1 Based on continuous operation.
- 2 Two-lamp version available with double-face only.

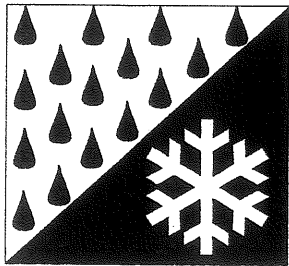
Supplemental Emergency Circuit

Type	No. of faces	Nominal lamp voltage	Electrical watts	Input amps
LDC6	1	6	1.44	.24
LDC12/48	1	12	1.9	.15
LDC12/48	1	24	1.8	.07
LDC12/48	1	32	1.8	.06
LDC12/48	1	48	1.7	.04
LDC6	2	6	2.9	.48
LDC12/48	2	12	3.1	.26
LDC12/48	2	24	3.1	.13
LDC12/48	2	32	3.3	.10
LDC12/48	2	48	3.4	.07

KEY FEATURES



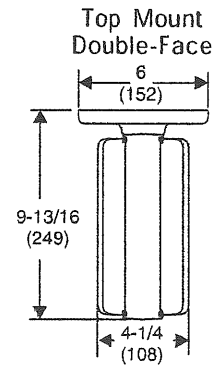
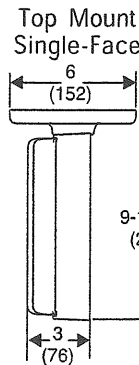
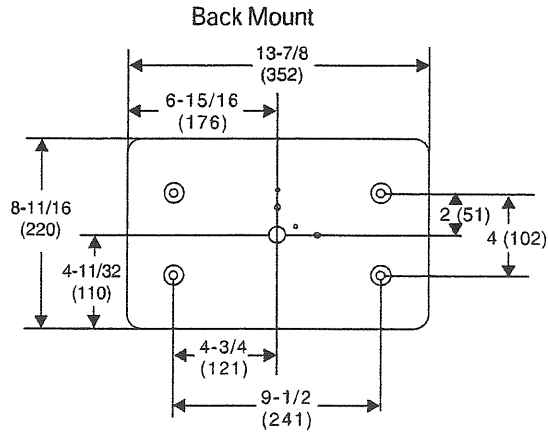
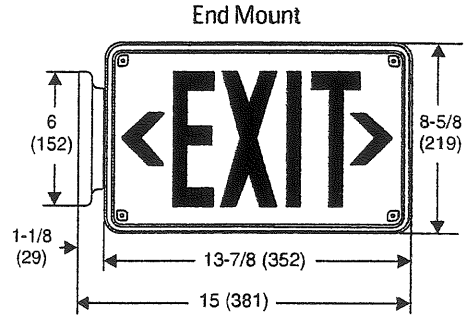
Unique LEDs provide extremely long life and low energy consumption.



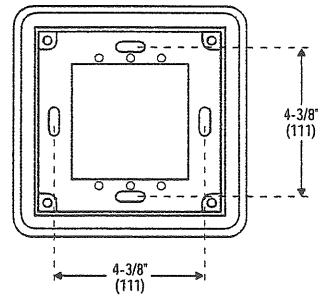
UL and CSA approved for damp or NEMA4X wet locations (see options). Cold weather — down to -40°C.

MOUNTING

All dimensions are inches (millimeters).
Shipping weight: 11 lbs. (5 kgs.)



NEMA 4X Mounting Plate



Housing or canopy mounting bracket should be attached to mounting surface using suitable fastener for type of wall material. All four mounting hole positions should be used, and anchors or screws should have a minimum pullout rating of 160 lbs. Bracket will only fit a 2-gang junction box.



Catalog Number	11-17
Notes	Type

FEATURES

INTENDED USE

Ideal for applications requiring attractive die-cast aluminum signage, superior illumination and low energy consumption.

CONSTRUCTION

Precision-molded, die-cast aluminum construction — ultra-slim, compact housing. Fine-grain brushed aluminum faceplate with matte black electrostatic polymeric trim. Clear lacquer finish on brushed face inhibits fingerprints and other surface contaminants.

Fully overlapping light seal prevents light leaks. Universal directional chevron knockouts are completely concealed and easily removed.

Hinged faceplate and spring latches for easy lamp compartment access.

Letters 6" high with 3/4" stroke.

U.S. Patent No. 5,954,423.

LAMPS

Lamp is constructed using new LED technology. Provides perfectly uniform illumination to meet 3/4" letter stroke required by code.

LED life exceeds 25 years, based on continuous operation. Unique LED lamp platform accommodates both single-face and double-face exits.

Low energy consumption — red lamp consumes .81 watts (120V); green lamp consumes one watt (120V).

INSTALLATION

Universal mounting (top, end or back). Completely concealed, easily-removed mounting knockouts. No exposed hardware.

Die-cast aluminum canopy provided.

LISTINGS

UL listed. Meets UL 924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards, and state of Minnesota energy-efficient legislation requiring less than 20W consumption. Listed and labeled to comply with Canadian Standards C-860 and C-22.2 No. 9 (see options).

WARRANTY

Five-year total customer satisfaction warranty on exit, including lamps.

Die-Cast Aluminum Exits

LE

LED Lamps



Signature



ORDERING INFORMATION

Example: **LE S 1 R 120/277 TP**

LE		Face type		Housing color		Number of faces		Letter color		Input voltage		Options		
Family	LE LED	S Stencil	P Panel ¹	(blank)	Matte black, brushed aluminum face	1 Single face	2 Double face	R Red	G Green ²	120/277	Dual voltage ²	120/347	Dual voltage ³	TP Two tamperproof T20 Torx-head screws
				BZ	Dark bronze ²									VR Vandal-resistant shield (1/8" thick polycarbonate)
				W	White									FI Fire alarm flashing interface ²
				B	Matte black ²									X2 Lamp wired on two separate circuits ^{2,4,5}
														DL UL listed for damp locations
														LDC12/48 12V – 48V DC input for LED lamps ³
														CSA Listed and labeled to comply with Canadian standards

NOTES:

- Panel face available for special wording only.
- Not available with CSA option.
- Only available with CSA option.
- Must specify input voltage (120V or 277V). Not available dual voltage
- UL listed as emergency lighting equipment.

Accessories

Order as separate items.

ELA US12 12" stem kit

SPECIFICATIONS

ELECTRICAL

Primary Circuit

Type	Rated LED life*	Supply voltage	No. of faces	Input watts	Max. amps
Red	25+ years	120	1 or 2	.81	.05
Red	25+ years	277/347	1 or 2	1.2	.06
Green	25+ years	120	1 or 2	1.05	.05
Green	25+ years	277	1 or 2	1.32	.06

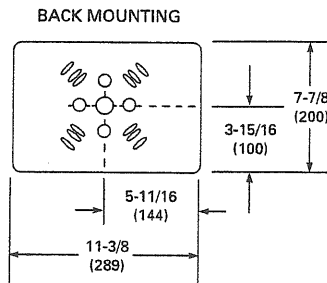
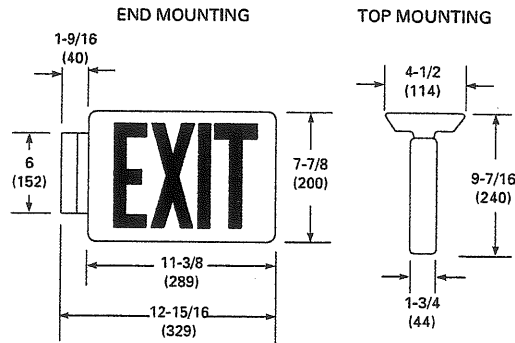
* Based on continuous operation.

Supplemental Emergency Circuit

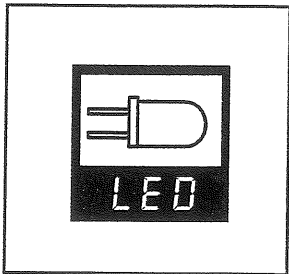
Type	No. of faces	Nominal lamp voltage	Electrical watts	Input amps
LDC12/48	1 or 2	12	1.5	.12
LDC12/48	1 or 2	24	1.5	.06
LDC12/48	1 or 2	32	1.5	.05
LDC12/48	1 or 2	48	1.6	.04

MOUNTING

All dimensions are inches (millimeters). Canopy required for back mounting with X2, FI, or LDC12/48 options only. For VR option, add 1/4" to height and width. Add 1/8" depth for single face; 1/4" depth for double face. Shipping weight: 5 lbs. (2.3 kgs.)



KEY FEATURES



Unique LEDs provide extremely long life and low energy consumption.

DESCRIPTION

Low brightness 7-3/8" aperture downlight for use with a 26W, 32W or 42W Triple Twin Tube 4-pin compact fluorescent lamp. The precisely formed non-imaging optical reflector ensures 55° cutoff to lamp and lamp image and the one piece design eliminates light leaks at the ceiling. Standard features include low iridescent finish on all reflector colors to eliminate "rainbowing" and one electronic ballast to operate 26W, 32W or 42W TTT lamps. Venting ensures maximum lamp life and lumen output. Open downlight, open wall wash and lens trims are interchangeable within the same housing.

Catalog #	C7142E	Type	R
Project		Date	06/24/2007
Comments			
Prepared by			

SPECIFICATION FEATURES

A ... Reflector

.050 thick aluminum, in a one piece spun parabolic contour. Available in a variety of Alzak® finishes. Also available with white or black baffle. Positive reflector mounting, without tools, pulls trim tight to ceiling.

B ... Trim Ring Options

Self flanged or molded white trim ring. Rimless or metal trim ring accessories available.

C ... Socket Connector

One piece die cast aluminum connection allows venting for maximum thermal performance.

D ... Housing Mounting Frame

One piece precision die cast aluminum 1-1/2" deep collar accommodates varying dimensions of ceiling materials.

E ... Universal Mounting Bracket

Accepts 1/2" EMT, C Channel, T bar fasteners, and bar hangers. Adjusts 5" vertically from above or below ceiling.

F ... Conduit Fittings

Die cast screw tight connectors.

G ... Junction Box

Listed for eight #12AWG (four in, four out) 90°C conductors feed through branch wiring.

1/2" and two 3/4" pry outs. Positioned to allow straight conduit runs. Access to junction box by removing reflector.

H ... Socket

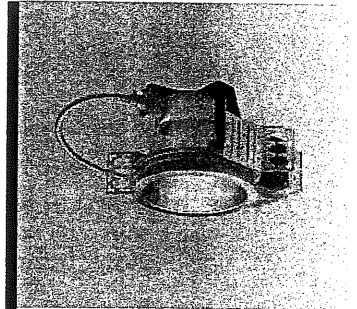
4 pin GX24q-3/4 base with fatigue free stainless steel lamp spring ensures positive lamp retention.

I ... Electronic Ballast

Electronic ballast provides full light output and rated lamp life. Provides flicker free and noise free operation and starting.

Labels

cULus listed, standard damp label, IBEW union made.



C7142 7151/7150

**26W, 32W, 42W TTT
 Compact Fluorescent**

7-3/8" OPEN DOWNLIGHT

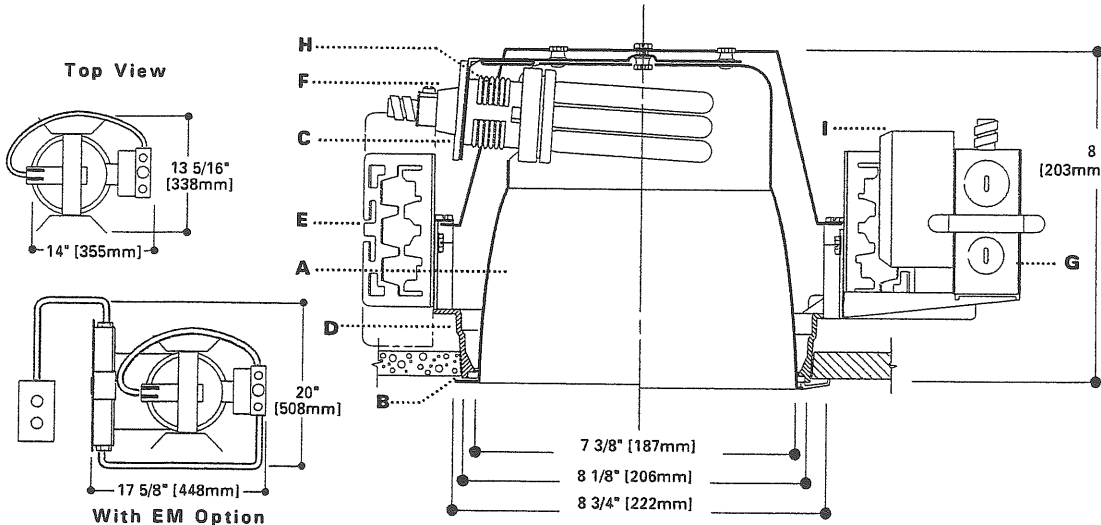
26W Triple 4-pin
 Ballast: Electronic
 120V Input Watts: 29, Line Amps: 0.25
 277 Input Watts: 26, Line Amps: 0.09
 Power Factor: >.99, THD: <10%
 Min. Starting Temp: -10°C (15°F)
 Sound Rating: A

32W Triple 4-pin
 Ballast: Electronic
 120V Input Watts: 34.5, Line Amps: 0.30
 277 Input Watts: 34.5, Line Amps: 0.13
 Power Factor: >.99, THD: <10%
 Min. Starting Temp: -10°C (15°F)
 Sound Rating: A

32W Triple 4-pin
 Ballast: Dimming
 120V Input Watts: 39, Line Amps: 0.33
 277 Input Watts: 37, Line Amps: 0.13
 Power Factor: >.95, THD: <20%
 Min. Starting Temp: 10°C (50°F)
 Sound Rating: A

42W Triple 4-pin
 Ballast: Electronic
 120V Input Watts: 51.0, Line Amps: 0.30
 Inrush Current Amps: 5.0
 277 Input Watts: 51.0, Line Amps: 0.13
 Inrush Current Amps: 9.0
 Power Factor: >.99, THD: <10%
 Min. Starting Temp: -10°C (15°F)
 Sound Rating: A

NOTES:
 Accessories should be ordered separately. For additional options, please consult your Cooper Lighting Representative. Alzak is a registered trademark of Aluminum Company of America. Hi-Lume is a registered trademark of Lutron Co., Inc.



ORDERING INFORMATION

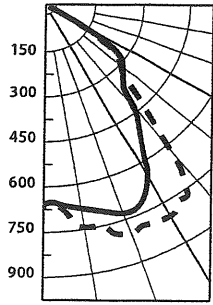
C7142E											
C7	1	42	E		7150	LI					
Housing C7- 7" Horizontal Lamp	Ballast E- 120/277V 50/60 Hz Electronic 3E- 347V 50/60 Hz Electronic			Options CP- Chicago Plenum EM- Emergency Module with remote test switch IEM- Emergency Module with integral test switch		Trims 7151- Self Flanged 7150- Molded Trim Ring 7151E- Self Flanged, use with IEM 7150E- Molded Trim Ring, use with IEM		Finish LF- Low Iridescent Clear H- Haze WHM- Warm Haze G- Gold WH- Wheat W- Gloss White GP- Graphite GPH- Graphite Haze K- Cognac KH- Cognac Haze BB- Black Baffle (7150 only) WB- White Baffle (7150 only)		Option WF- White Painted Flanged (Self Flanged only)	Accessories HB2- C Channel Bar Hangers, 26" Long, Pair HB50- C Channel Bar Hangers, 50" Long, Pair TRM7- Metal Trim Ring, Specify Finish TRR7- Rimless Trim Ring, White FK5- 5 Amp Field Installable Fuse Ktt 300V Max DT7- Deco Trims RMB-22- Wood Joist Bar Hanger, 22" Long, Pair HSA7- Slope Adapter for 7" Aperture Housings, Specify Slope
Number of Lamps 1- 1 Lamp	1D26- 26W 120V Dimming, Lutron Compact SE 2D26- 26W 277V Dimming, Lutron Compact SE 1D32- 32W 120V Dimming, Lutron Compact SE 2D32- 32W 277V Dimming, Lutron Compact SE 1D42- 42W 120V Dimming, Lutron Compact SE 2D42- 42W 277V Dimming, Lutron Compact SE										ADV985019
Wattage 42- 26W, 32W, or 42W TTT Lamp											ADV985019

Specifications and Dimensions subject to change without notice.

Consult your representative for additional options and finishes.

04/23/2007 12:02:10 PM

Candlepower Distribution



Test No. H23199
C7132-7150LI
Open Reflector
Lamp=32W PLT
Lumens=2400
Spacing Criteria=
0°=1.4, 90°=1.6
Efficiency=65.7%

Candlepower

Deg.	CD 0°	90°
0	670	670
5	678	696
15	726	770
25	743	818
35	565	795
45	334	372
55	308	329
65	0	6
75	0	0
85	0	0
90	0	0

Average Luminance

Deg	.CD/SQ M 0°	90°
45	17127	19082
55	19471	20811
65	549	515
75	0	0
85	0	0

Cone of Light

Distance to Illuminated Plane	Initial Nadir Footcandles	Beam Diameter
5'6"	22	8'6"
6'6"	16	10'6"
8'6"	10	12'6"
10'0"	7	16'0"
12'0"	5	19'0"
14'0"	3	22'0"

Beam diameter is to 50% of maximum footcandles, rounded to the nearest half-foot.

Footcandle values are initial, apply appropriate light loss factors where necessary.

Lamp Multiplier: 32W TTT=.87	Reflector Multiplier: Haze=.95 Straw=.9 Wheat=.9	EM Multiplier (in emergency mode) EM=.27
--	--	--

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Luminaire
0-30	640	26.7	40.6
0-40	1074	44.7	68.1
0-60	1569	65.4	99.5
0-90	1577	65.7	100.0
90-180	0	0.0	0.0
0-180	1577	65.7	100.0

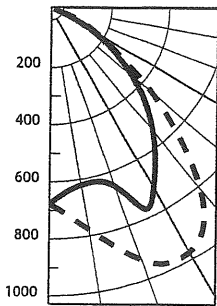
Coefficient of Utilization

rc	80%				70%			50%		30%		10%		0%	
	rw	70	50	30	10	50	30	10	50	10	50	10	50	10	0
RCR															
0	78	78	78	78	76	76	76	73	73	70	70	67	67	66	
1	74	72	70	68	71	69	67	68	65	65	63	63	62	60	
2	70	66	63	61	65	63	60	63	59	61	58	59	56	55	
3	66	61	57	54	60	57	54	58	53	57	52	55	51	50	
4	62	56	52	49	55	51	48	54	48	52	47	51	47	46	
5	58	51	47	44	51	46	43	49	43	48	43	47	42	41	
6	54	47	42	39	46	42	39	45	39	44	38	43	38	37	
7	50	42	38	34	42	38	34	41	34	40	34	39	34	33	
8	46	39	34	31	38	34	31	38	31	37	30	36	30	29	
9	43	35	31	27	35	30	27	34	27	34	27	33	27	26	
10	40	32	28	25	32	27	24	31	24	31	24	30	24	23	

rc=Ceiling reflectance, rw=Wall reflectance, RCR=Room cavity ratio

CU Data Based on 20% Effective Floor Cavity Reflectance.

Candlepower Distribution



Test No. H23233
C7142-7150LI
Open Reflector
Lamp=42W PLT
Lumens=3200
Spacing Criteria
0°=1.4, 90°=1.7
Efficiency=59.6%

Candlepower

Deg.	CD 0°	90°
0	677	677
5	641	720
15	626	857
25	799	958
35	613	946
45	438	531
55	184	246
65	12	13
75	4	5
85	1	1
90	0	0

Average Luminance

Deg	.CD/SQ M 0°	90°
45	22467	27238
55	11636	15556
65	1030	1116
75	561	701
85	416	416

Cone of Light

Distance to Illuminated Plane	Initial Nadir Footcandles	Beam Diameter
5'6"	22	9'0"
6'6"	16	11'0"
8'0"	11	13'6"
10'0"	7	16'6"
12'0"	5	20'0"
14'0"	3	23'6"

Beam diameter is to 50% of maximum footcandles, rounded to the nearest half-foot.

Footcandle values are initial, apply appropriate light loss factors where necessary.

Lamp Multiplier:	Reflector Multiplier: Haze=.95 Straw=.90 Wheat=.90	EM Multiplier (in emergency mode) EM=.27
-------------------------	--	--

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Luminaire
0-30	743	23.2	38.9
0-40	1287	40.2	67.4
0-60	1889	59.0	99.0
0-90	1909	59.6	100.0
90-180	0	0.0	0.0
0-180	1909	59.6	100.0

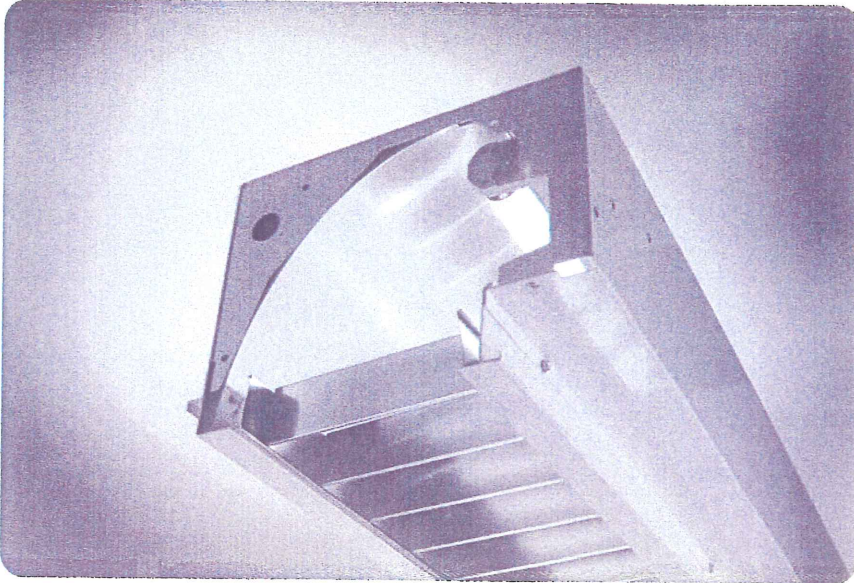
Coefficient of Utilization

rc	80%				70%			50%		30%		10%		0%	
	rw	70	50	30	10	50	30	10	50	10	50	10	50	10	0
RCR															
0	71	71	71	71	69	69	69	66	66	63	63	61	61	60	
1	67	65	64	62	64	62	61	61	59	59	57	57	56	55	
2	63	60	57	55	59	57	54	57	53	55	52	54	51	50	
3	59	55	52	49	54	51	49	53	48	51	47	50	46	45	
4	56	51	47	44	50	46	44	49	43	47	43	46	42	41	
5	52	46	42	39	46	42	39	45	39	44	38	43	38	37	
6	48	42	38	35	42	38	35	41	35	40	34	39	34	33	
7	45	38	34	31	38	34	31	37	31	36	30	35	30	29	
8	42	35	30	27	34	30	27	34	27	33	27	32	27	26	
9	39	31	27	24	31	27	24	31	24	30	24	29	24	23	
10	36	29	24	21	28	24	21	28	21	27	21	27	21	20	

rc=Ceiling reflectance, rw=Wall reflectance, RCR=Room cavity ratio

CU Data Based on 20% Effective Floor Cavity Reflectance.

focus™ 2



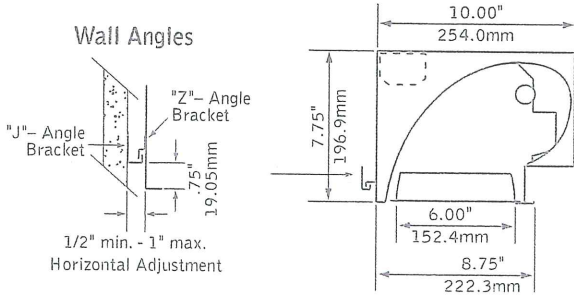
FEATURES

High performance perimeter wall washing system.

Luminaire alignment is maintained with continuous angle and splice brackets.

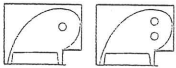
Focus™ 2 offers a selection of shielding media including parabolic louver or bold baffle.

DIMENSIONAL DATA



lamping options

parabolic louver

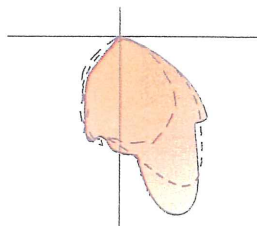


T8 LAMPS

bold baffle



PERFORMANCE



1-Lamp T8
57% Efficiency
1192cd @ 15°

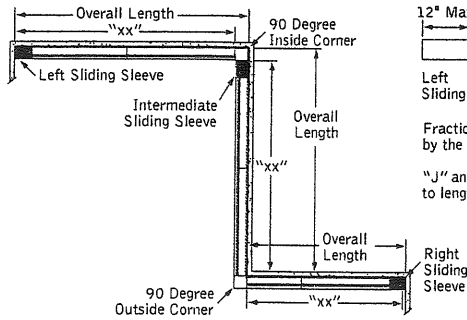
See Photometric section for additional performance data.

fixture type:
project name:

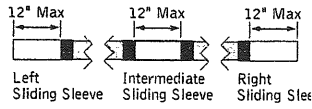
11-22

DETAILS

typical run layout



sliding sleeves



Fractional Dimensions up to 12" are taken up by the use of a sliding sleeve.
"J" and "Z" angle brackets must be cut to length in field.

Luminaires must be installed prior to ceiling.
Start run from corner with any standard luminaire.
Corner to corner runs end with an intermediate sleeve.

SPECIFICATIONS

construction

- 20 Ga. steel housing.
- 20 Ga. steel T-rail mates with ceiling.
- 18 Ga. internal bulkheads join fixtures.
- 18 Ga. galvanized steel splice brackets are provided to ensure precise luminaire alignment.
- 20 Ga. steel continuous wall angles are provided to ensure horizontal alignment at wall.
- Luminaires are available up to 8' nominal lengths.

- 4' unit weight: 28 lbs
- 8' unit weight: 51 lbs

optic

CNC roll formed semi-specular .0235" aluminum front reflector with specular .0235" aluminum back reflector.
Parabolic Louver: semi-specular, low iridescence .024" aluminum 1-1/2" H x 2.4" frequency.
Bold Baffle: .040" aluminum, 1" H x 1" frequency x 3/16" thick louver finished in High Reflectance White powder coat.
Both options use positive lay-in installation.

electrical

Electronic ballasts are thermally protected and have a Class "P" rating.
Optional DALI and other dimming ballasts available.
Consult factory for dimming specifications and availability.
UL and cUL listed.

emergency

Emergency battery packs provide 90 minutes of one lamp illumination.
Initial lumen output for lamp types are as follows:

T8 Lamps: Up to 475 lumens

Battery pack requires unswitched hot from same branch circuit as AC ballast.

finish

Polyester powder coat applied over a 5-stage pre-treatment.
Standard luminaire housing finished in High Reflectance White.

ORDERING

luminaire series	FW2	<u>FW2</u>
Focus 2	FW2	
shielding		
Parabolic Louver, Semi-Specular	PL	
Bold Baffle, White	BB	
lamping		
One Lamp T8	1T8	
Two Lamp T8	2T8	
circuit		
Single Circuit	1C	
Dual Circuit (Two lamps only)	2C	
voltage		
120 Volt	120	
277 Volt	277	
347 Volt	347	
(Consult factory for availability)		

ballast

Electronic Instant Start <20% THD	E	
Electronic Program Start <10% THD	S	
Electronic Dimming Ballast (Consult factory for dimming availability)	D	

mounting

Recessed RC

factory options

Air Return	AR	
Emergency Circuit	EC	
Emergency Battery Pack	EM	
HLR/GLR Fuse	FU	
Include 3000K Lamp	L830	
Include 3500K Lamp	L835	
Include 4100K Lamp	L841	
Sliding Sleeve	SS	

finish

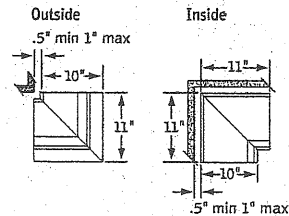
High Reflectance White HW

luminaire length

Designate length in feet XX'
(Nominal lengths: 2', 3', 4', 5', 6', 7', 8')
(All end caps are flat with no flange unless otherwise specified)

corner options

90-degree Inside Corner	FW2-IC90
90-degree Outside Corner	FW2-OC90

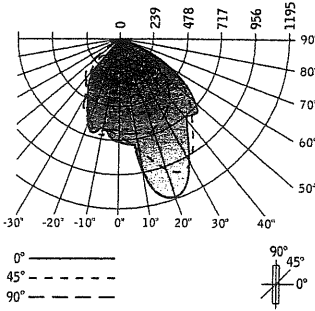


focus™ 2



Filename: FW2PL1T8.IES
 Catalog #: FW2-PL-1T8-1C-120-E-RC-HW
 Efficiency: 57%
 Test #: 8758.0

CANDLEPOWER DISTRIBUTION



Vertical Angle	Horizontal Angle					Zonal Lumens
	0°	22.5°	45°	67.5°	90°	
0°	702	702	702	702	702	
5°	731	718	709	708	690	66
15°	1192	1125	936	722	683	231
25°	1156	1130	1070	764	572	352
35°	718	767	859	774	455	402
45°	634	550	494	589	315	323
55°	309	264	319	309	171	195
65°	28	37	66	69	49	48
75°	8	7	7	11	10	10
85°	2	2	2	2	2	3
90°	0	0	0	0	0	0
95°	0	0	0	0	0	0
105°	0	0	0	0	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt
0°-30°	648	22.8	39.8
0°-40°	1051	36.9	64.5
0°-60°	1569	55.0	96.3
0°-90°	1629	57.2	100.0
Total Luminaire	0°-180° 1629	57	100.0

12" Square



CB 12 S 36 HORZ FLAT AGR

SHAPE	OAH	GRILL	TOP	WT (lbs.)
CB 12 S	24	HORZ	FLAT	160
CB 12 S	36	HORZ	FLAT	180
CB 12 S	42	HORZ	FLAT	200
CB 12 S	24	HORZ	PYRM	170
CB 12 S	24	VERT	FLAT	160
CB 12 S	36	VERT	FLAT	180
CB 12 S	42	VERT	FLAT	200
CB 12 S	24	VERT	PYRM	170
CB 12 S	36	VERT	PYRM	190
CB 12 S	42	VERT	PYRM	210

CB12S



CB 12 S 36 HORZ FLAT AGR

LAMP TYPE

50MH	50 watt metal halide ballast, 120/277 volt. Use medium base, clear ED-17 lamps.
70MH	70 watt metal halide ballast, 120/208/240/277 volt. Use medium base, clear ED-17 lamps.
100MH	100 watt metal halide 120/208/240/277 volt ballast. Use medium base, clear ED-17 lamps.
50HPS	50 watt high pressure sodium 120/277 volt ballast. Use medium base, clear ED-17 lamps.
70HPS	70 watt high pressure sodium 120/208/240/277 volt ballast. Use medium base, clear ED-17 lamps.
100HPS	100 watt high pressure sodium 120/208/240/277 volt ballast. Use medium base, clear ED-17 lamps.

Catalog Number
Notes

FEATURES & SPECIFICATIONS

INTENDED USE

Intended for mounting heights up to 16' requiring low to medium light levels. Ideal for light duty task lighting, utility, storage rooms or retail.

CONSTRUCTION

Channel constructed of die-formed cold rolled steel. Sturdy combination reflector and channel cover constructed of die-formed cold rolled steel and secured by quarter-turn latch for easy access to wire-way. Screw on endplates. Available in 2', 4', or 8' tandem wired lengths. Accepts plug-in option for 1, 2 or 3 primary circuits.

FINISH

Five-stage iron phosphate pretreatment ensures superior paint adhesion and corrosion-resistance. Reflector and channel finished with a high-gloss baked white enamel. Reflector is painted after fabrication.

OPTICAL SYSTEM

Solid top or apertured 8% uplight available. Both reflectors are die-embossed and painted after fabrication.

ELECTRICAL SYSTEM

Thermally protected, resetting, Class P, HPF, non-PCB, UL Listed and CSA Certified ballast is standard. Sound rating depends on lamp/ballast combination.

AWM, TFN, THHN wire throughout, rated for required temperatures.

INSTALLATION

For unit or row installations, surface or suspended mounting.

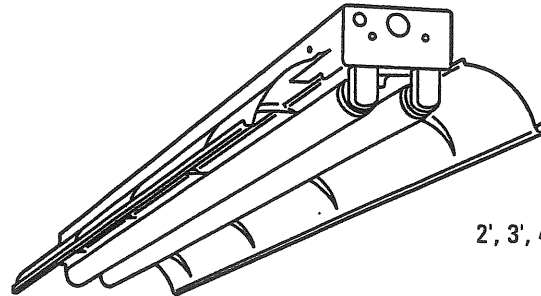
LISTINGS

120V, 277V and MVOLT are UL Listed and CSA Certified (standard). 347V is CSA Certified (see Options). NOM Certified (see Options). Suitable for damp locations.

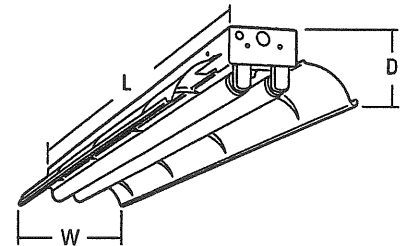
WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

Standard Industrial



Rapid Start
2', 3', 4' or 8' length
1 or 2 lamps



Specifications

Length:	24" (610)
	36" (913)
	48" (1219)
	72" (1829)
	96" (2438)
Width:	12" (305)
Fixture Depth:	4" (102)

All dimensions are inches (millimeters).
Specifications subject to change without notice.

ORDERING INFORMATION

Example: L 2 32 120 GEB

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line. Order accessories as separate catalog number.

Series	Number of lamps	Lamp type	Voltage	Options
L Standard Industrial, solid top	1, 2	17 17W T8 (24")	120, 277, 347, MVOLT ¹	ES Energy-saving ballasts (30W or 40W lamps only)
LA Standard Industrial, apertured reflector	Not included	20 20W TS HPF T12 (24")	Others available	GEB Electronic ballasts, ≤10% THD
For tandem double-length unit, add prefix T. Example: TL		25 25W T8 (36")		GEB10IS Electronic ballasts, ≤10% THD, Instant Start ²
		30 30W RS HPF T12 (36")		GEB10RS Electronic ballasts, ≤10% THD, Rapid Start ³
		32 32W T8 (48")		LPF Low power factor ballasts (20W or 30W only)
		40 40W T12 (48")		EL Emergency battery pack. (Nominal 300 lumens) See Life Safety Section)
				GLR Internal fast-blow fuse (add X for external)
				GMF Internal slow-blow fuse (add X for external)
				CS1 6' cordset, NEMA 5-15P SJT, U-ground plug, 120V
				CS3 6' cordset, NEMA L5-15P SJT, twist-lock plug, 120V
				PLF_ Plug-in wiring. Specify 1, 2 or 3 branch circuits and hot wires (A=Black, B=Red, C=Blue, AB or AC)
				SSR Specular silver reflector finish (95% reflective)
				TILW Tandem in-line wiring
				CSA CSA Certified (Only required for 347V).
				NOM NOM Certified.

Accessories

Order as separate catalog numbers.

SQ_ Swivel-stem hanger (specify length in 2" increments).

1B Ceiling spacer (adjusts from 1-1/2" to 2-1/2" from ceiling).

WGL Wireguard, 4' white. Order 2 for 8' fixtures.

HC36 Chain hangers (1 pair, 36" long).

CONLGC 12" screw-on channel connector.

NOTES:

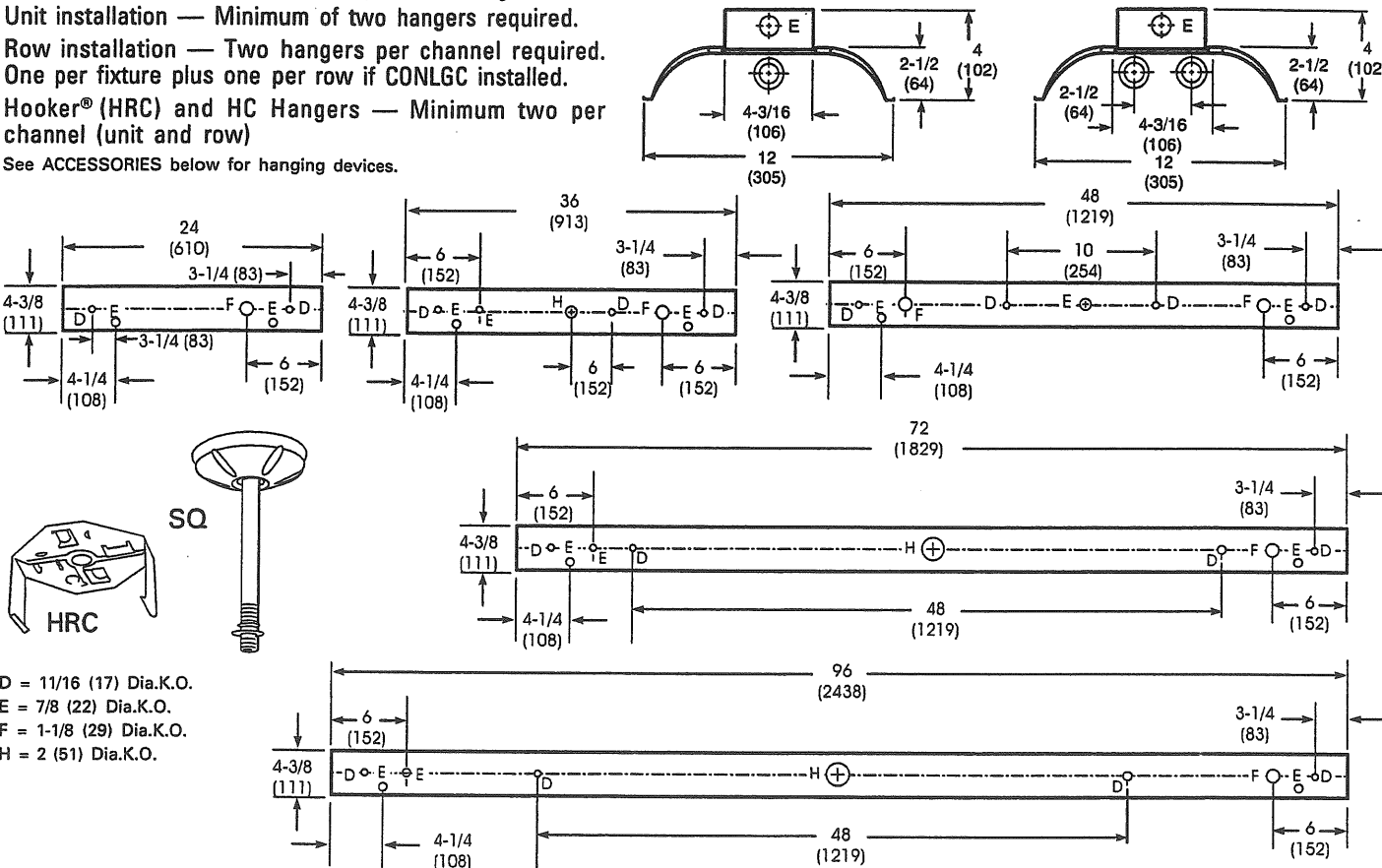
- MVOLT available with GEB10IS only.
- Available only with 32 watt lamp type.
- Available only with 32 watt and 40 watt lamp types.

MOUNTING DATA

For unit or row installation, surface or suspended mounting.
 Unit installation — Minimum of two hangers required.
 Row installation — Two hangers per channel required.
 One per fixture plus one per row if CONLGC installed.
 Hooker® (HRC) and HC Hangers — Minimum two per channel (unit and row)
 See ACCESSORIES below for hanging devices.

DIMENSIONS

Inches (millimeters). Subject to change without notice.



D = 11/16 (17) Dia.K.O.
 E = 7/8 (22) Dia.K.O.
 F = 1-1/8 (29) Dia.K.O.
 H = 2 (51) Dia.K.O.

PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Floor reflectances are 20%. Full photometric data available upon request.

L 2 40
 Report ITL 18200
 S/MH 1.5
 Coefficient of Utilization

Ceiling	80%			70%			50%		
	70%	50%	30%	70%	50%	30%	50%	30%	10%
1	92	88	84	90	86	83	82	80	77
2	84	77	71	81	75	70	72	68	64
3	76	67	60	74	66	60	63	58	53
4	69	59	52	67	58	51	56	50	45
5	63	52	44	61	51	44	49	43	38
10	42	30	23	40	29	23	28	22	18

LA 2 40
 Report ITL 18201
 S/MH 1.5
 Coefficient of Utilization

Ceiling	80%			70%			50%		
	70%	50%	30%	70%	50%	30%	50%	30%	10%
1	93	89	86	90	87	84	82	80	77
2	85	78	72	82	76	71	72	68	64
3	77	69	62	75	67	61	64	58	54
4	71	61	53	68	59	52	56	50	46
5	64	53	45	62	52	45	49	43	38
10	42	31	23	41	30	23	29	23	18

L 2 32
 Report LTL 5180
 S/MH 1.5
 Coefficient of Utilization

Ceiling	80%			70%			50%		
	70%	50%	30%	70%	50%	30%	50%	30%	10%
1	96	92	88	94	90	87	86	83	81
2	87	80	74	85	78	72	75	70	66
3	79	70	63	77	68	62	66	60	55
4	72	61	54	70	60	53	58	52	46
5	66	54	45	64	53	45	51	44	39
10	43	31	23	42	30	23	29	23	18

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixture
0-30	1257	19.6	23.3
0-40	2123	33.2	39.3
0-60	4041	63.1	74.9
0-90	5398	84.3	100.0
90-180	0	0.0	0.0
0-180	5398	84.3	100.0

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixture
0-30	1254	19.6	22.7
0-40	2107	32.9	38.1
0-60	3975	62.1	71.9
0-90	5214	81.5	94.3
90-180	313	4.9	5.7
0-180	5527	86.4	100.0

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixture
0-30	1165	20.1	22.7
0-40	1971	34.0	38.5
0-60	3758	64.8	73.3
0-90	5125	88.4	100.0
90-180	0	0.0	0.0
0-180	5125	88.4	100.0

Energy (Calculated in accordance with NEMA standard LE-5)

LER, FL	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
86.2	\$2.79	(2)T8 F32	2900	.88	55

* Comparative yearly lighting energy cost per 1000 lumens



Lithonia Lighting
 Acuity Lighting Group, Inc.
 Fluorescent
 One Lithonia Way, Conyers, GA 30012
 Phone: 800-858-7763, Fax: 770-929-8789
 In Canada: 1100 50th Ave., Lachine, Quebec H8T 2V3
 www.lithonia.com

UNUSUAL NATURAL AREAS

Due to the fact that the proposed construction is to replace an existing building and existing paved surfaces with a new building and new paved surfaces, on virtually the same footprint as the existing structures, in an area dominated by commercial development, it is highly unlikely that there will be any resulting negative impact on any unusual natural areas.

Construction of temporary construction entrances will occur in the vicinity of wetlands. However, the installation of proven best management practices (BMPs) for soil erosion and sedimentation control will be implemented as part of the construction contract requirements to protect these resources.

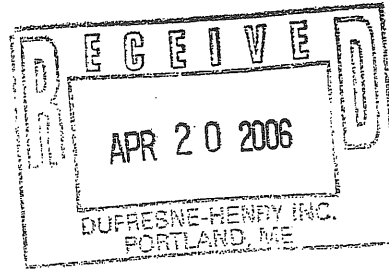
The Maine Department of Conservation has been contacted regarding any possible impacts on unusual natural areas resulting from the project. See the attached Dufresne-Henry letter to the Department of Conservation dated April 11, 2006. A response from the Maine Department of Conservation (copy attached) indicates that *"there are no rare botanical features documented specifically within the project area."*



STATE OF MAINE
DEPARTMENT OF CONSERVATION
157 HOSPITAL STREET
93 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0093

JOHN ELIAS BALDACCI
GOVERNOR

PATRICK K. MCGOWAN
COMMISSIONER



April 18, 2006

James E. McLaughlin
Dufresne-Henry
22 Free Street
Portland, ME
04101-3900

Re: Rare and exemplary botanical features, parking at PIJ, Portland.

Dear Mr. McLaughlin:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request of April 12, 2006 for information on the presence of rare or unique botanical features documented from the vicinity of the project site in the City of Portland, Maine. Rare and unique botanical features include the habitat of rare, threatened or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat



exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$75.00 for our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely



Raquel Ross
Information Manager
93 State House Station
Augusta, ME 04333-0093
207-287-8046
Raquel.ross@maine.gov

Enclosures

Rare or Exemplary Botanical Features in the Project Vicinity

Documented within a four mile radius of the proposed parking facility development, Portland International Jetport.

Scientific Name Common Name	Last Seen	State Rarity	Global Rarity	State Legal Status	Federal Legal Status	Habitat Description
<i>Adlumia fungosa</i> Allegheny Vine	S1	G4	T			
<i>Allium canadense</i> Wild Garlic	S2	G5	SC			
<i>Allium tricoccum</i> Wild Leek	S3	G5	SC			
<i>Arabis missouriensis</i> Missouri Rockcress	S1	G4G5Q	T			
<i>Asplenium platyneuron</i> Ebony Spleenwort	S2	G5	SC			
<i>Carex polymorpha</i> Variable Sedge	S1	G3	E			
<i>Carex sterilis</i> Dioecious Sedge	S2	G4	T			
<i>Eriocaulon parkeri</i> Parker's Pipewort	S3	G3	SC			

12-4

Rare or Exemplary Botanical Features in the Project Vicinity

Documented within a four mile radius of the proposed parking facility development, Portland International Jetport.

Scientific Name Common Name	Last Seen	State Rarity	Global Rarity	State Legal Status	Federal Legal Status	Habitat Description
<i>Lonicera dioica</i> Mountain Honeysuckle	S1?	G5	E			
<i>Phegopteris hexagonoptera</i> Broad Beech Fern	S2	G5	SC			
<i>Potamogeton vaseyi</i> Vasey's Pondweed	S2	G4	T			
<i>Proserpinaca pectinata</i> Comb-leaved Mermaid-weed	S1	G5	SC			
<i>Prunus maritima</i> Beach Plum	S1	G4	E			
<i>Ranunculus ambigens</i> Water-plantain Spearwort	SH	G4	PE			
<i>Saxifraga pensylvanica</i> Swamp Saxifrage	S3	G5	T			
<i>Selaginella apoda</i> Creeping Spike-moss	S1	G5	E			



12-7

John E. Baldacci
Governor

Roland D. Martin
Commissioner

DEPARTMENT OF INLAND FISHERIES AND WILDLIFE

Wildlife Division, Region A
358 Shaker Road
Gray, ME 04039
Phone: (207) 657-2345 x 109
Fax: (207) 657-2980
Judith.walker@maine.gov

May 16, 2007

James McLaughlin
Stantec Consulting Services, Inc.
22 Free Steet Suite 205
Portland, ME 04101

RE: Portland Jetport Parking Garage, Phase II

Dear Jim,

You contacted our offices regarding any wildlife resources on a project at the Portland International Jetport, in Portland, Maine. Based on a review of the most current data available, there are no known essential or significant wildlife habitats, nor any documented occurrences of rare, threatened species within the project site. I am not aware of any significant vernal pools on this property, however no formal surveys have been conducted. Vernal pools of management concern include those with documented reproduction of the following species; wood frog, spotted salamander, four-toed salamander, blue-spotted salamander, and fairy shrimp.

I have attached a map of the approximate project site, and it appears that the project is outside of the shorebird roosting/feeding area, as well as the area mapped as New England Cottontail habitat. Based on the site plan you provided, I would expect this project to have minimal negative impact on regional wildlife goals and management objectives.

Sincerely,

Judy Walker

Judy Walker *
Assistant Regional Wildlife Biologist

Exhibit No. 6



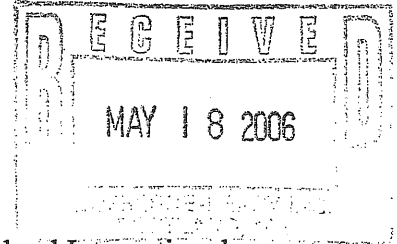
MAINE HISTORIC PRESERVATION COMMISSION
 55 CAPITOL STREET
 65 STATE HOUSE STATION
 AUGUSTA, MAINE
 04333

12-8

JOHN ELIAS BALDACCI
 GOVERNOR

EARLE G. SHETTLEWORTH, JR.
 DIRECTOR

May 10, 2006



James E. McLaughlin, P.E.
 Dufresne-Henry
 22 Free Street
 Portland, ME 04101-3900

Project: MHPC #1010-06 - proposed parking garage, Phase 2; Portland International
 Jetport
 Town: Portland, ME

Dear Mr. McLaughlin:

In response to your recent request, I have reviewed the information received April 13, 2006 to initiate consultation on the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Based on the information provided, I have concluded that there will be no historic properties [architectural or archaeological] affected by the proposed undertaking.

Please contact Mike Johnson of this office if we can be of further assistance in this matter.

Sincerely,



 Earle G. Shettleworth, Jr.
 State Historic Preservation Officer

Exhibit No. 4



PRINTED ON RECYCLED PAPER

FINANCIAL AND TECHNICAL ABILITY**Financial Ability:**

The city of Portland will be funding this project entirely through revenue bonds that are backed solely by airport revenues. An initial draft financing capacity analysis performed by PB Aviation is enclosed at the end of this section. Using the median values within this analysis the airport has revenue bond financing capacity of \$27.26 to \$35.74 million that can be allocated to this project. At this time the city of Portland has issued a request for proposals (RFP) to provide airport financial consulting services. The selected consultant will work with city of Portland finance and airport staff members to finalize the financing plan for this project. Upon the completion of this plan the project will be submitted to the City Council for approval to issue revenue bonds and an appropriation for construction funding.

Technical Ability:

The design and construction of the Phase II Parking Garage and associated site improvements is being completed under the direction of the city of Portland's Department of Waterfront and Transportation. The City's team of consultants hired for this project consists of the following firms.

Firm	Address	Services
Domench Hicks & Krockmalnic, Inc.	155 Massachusetts Avenue Boston, MA 02115	Project Management, Architectural Design
Rich and Associates	21800 West Ten Mile Rd. Southfield, MI 48075	Function Parking Layout Design
Stantec (fka: Dufresne-Henry, Inc.)	22 Free Street Portland, ME 04101	Civil, Landscaping, Electrical, Mechanical, Fire Protection & Plumbing Design
Becker Structural Engineers, Inc.	75 York Street Portland, ME 04101	Structural Design
Sebago Technics	One Chabot Street PO Box 1339 Westbrook, ME 04098	Geotechnical Engineering
Design: Clark	500 Southborough Drive S. Portland, ME 04106	Signage and Graphics
Hanscomb, Faithful & Gould	55 Summer Avenue 3 rd Floor Boston, MA 02110	Cost Estimating

FINANCIAL AND TECHNICAL ABILITY

This design team was chosen by the City following a Request for Proposals and Interview process. The chosen team has the staff, expertise, and experience necessary for this type of project. The team has a full staff of architects, engineers, and technical support staff. Resumes of key staff members can be provided if requested.

Operational Ability:

After the facility is constructed the Portland International Jetport will assume operation of the facility. The Jetport staff has been responsible for operating the existing parking garage and surface parking lots through an agreement with their parking facility management consultant, *Standard Parking*. They will continue to manage the overall parking operations for the Jetport.



MEMORANDUM**PB Aviation**

A division of Parsons Brinckerhoff Quade & Douglas, Inc.

312 Elm Street
Cincinnati, OH 45202-2720
513-639-2100
Fax: 513-421-9657

To: Jeff Schultes
Maria Kerley
Portland International Jetport

From: Tracy Beach
PB Aviation

Date: November 3, 2005

Subject: Draft 2: Financing Capacity Analysis

The purpose of this memo is to present the results of a financing capacity analysis prepared for Portland International Jetport (Jetport). The analysis indicates, depending on the assumptions, between \$51.8 million and \$79.1 million in total project costs can be debt financed.

Specific assumptions and methodologies contained within these analyses are discussed below:

- Using the FY 2005 actuals as a base, nonairline revenues were projected to increase with enplanements and inflation. In addition, the FY 2006 budgeted parking revenues were adjusted to reflect an increase in parking rates at mid-year.
- Using the FY 2005 actuals as a base, operating expenses were projected to increase with inflation.
- Debt service amounts were projected using the debt service for the Series 2003 Bonds and the general obligation debt from the Series 2003 Bonds official statement.

Both revenue financing capacity and passenger facility charge (PFC) financing capacity were developed for FY 2008, which is the year contemplated for a potential bond issuance. The following paragraphs describe the approach used in developing these analyses.

- The revenue financing capacity analysis focuses on the availability of the Jetport's net revenues in FY 2008 to pay debt service on bonds issued to finance future capital improvement projects. The following bullets describe the calculations for this analysis.
 - Net revenues were calculated by subtracting operating expenses from the total of airline and nonairline revenues.
 - Providing for debt service coverage requirements and applying a relevant amortization factor, these net revenues were converted into an equivalent bonding capacity.
 - The amount available for project costs was then calculated by reducing bonding capacity by financing costs, any required fund deposits, and interest capitalized during the construction period and increasing the amount by investment earnings.

- The PFC bonding capacity analyses focus on the available PFCs in FY 2008 to pay debt service on PFC-eligible projects financed with debt. The following bullets describe the calculations for this analysis.
 - PFCs available for debt service were calculated by using 80 percent of the estimated PFC revenue for FY 2008 at \$4.50 per enplanement.
 - Providing for debt service coverage requirements and applying a relevant amortization factor, these net revenues were converted into an equivalent financing capacity.
 - The amount available for PFC-eligible project costs was then calculated by reducing bonding capacity by financing costs, any required fund deposits, and interest capitalized during the construction period and increasing the amount by investment earnings.
- **Table 1** presents estimates of financing capacity at the Jetport using the general approaches described above. Specific points concerning the calculations presented in Table 1 are discussed below:
 - Scenarios based on two levels of enplanements were developed. These enplanement levels are based on the base case enplanement forecast and the low-cost carrier scenario enplanement forecast contained in the Jetport's Master Plan Update currently underway. Using FY 2005 as the base, the enplanements for the base case scenarios were developed using a 3.7 percent annual growth rate and the low-cost carrier scenarios were developed using an 8.2 percent annual growth rate.
 - Three scenarios were prepared for each of the enplanement levels described above with varying airline cost per enplanement at \$6.50, \$7.00, and \$7.50, which were selected based on historical levels at the Jetport. The cost per enplanement in from FY 2001 to FY 2005 ranged from \$5.68 in FY 2003 and \$7.19 in FY 2004 and is currently budgeted for FY 2006 at \$5.78. These airline costs per enplanement were used in conjunction with the levels of projected enplanements for FY 2008 described above to derive airline revenues and the PFCs available for each of the six scenarios presented in the table.
 - The amortization factor is derived from the assumption of 30-year revenue bonds being issued, with 2 years of capitalized interest at an interest rate of 6.5 percent.
 - Bond issuance fees were assumed to be 2 percent of the bond size. The debt service reserve fund was assumed to be funded through bond proceeds and be equal to maximum annual debt service.
 - As shown in Table 1, the estimated total amounts for project costs (combined revenue and PFC) at the Jetport are estimated to range from approximately \$51.8 million for the \$6.50 airline cost per enplanement scenario to approximately \$58.6 million for the \$7.50 scenario under the base case enplanement level and \$71.3 million for the \$6.50 airline cost per enplanement scenario and \$79.1 million for the \$7.50 airline cost per enplanement scenario under the low-cost carrier enplanement level.

As discussed at the outset, this is a first pass at the financing capacity for the Jetport; however, it will serve as a good starting point in solidifying certain assumptions for more detailed feasibility analyses. Some of these assumptions include, but are not limited to, the following:

- Growth rate assumptions for enplanements, which derive airline revenues and certain nonairline revenues.

- More detailed assumptions for projected nonairline revenues and operating expenses, which are based on the actual projects being contemplated.
- Selected scenarios for airline cost per enplanement, which also derive airline revenues.
- Using funds other than bond proceeds to pay for a portion of project costs (e.g., are federal and state grants available for certain portions of project costs or can PFCs be collected in advance and used on a pay-as-you-go basis for a portion of project costs?).

Please review the attached material and call us to discuss the Jetport's financing capacity.

C:\CLIENTS\PWM (Portland, ME)\287670 Task 15 Feasibility Analysis\Analysis\Debt Capacity\Draft 1\Draft 2 11-03-05.doc

**Table 1
FY 2008 FINANCING CAPACITY**

Scenarios	Base Case Enplanements			Low-Cost Carrier Enplanements		
	1	2	3	4	5	6
Enplanements	862,675	862,675	862,675	980,721	980,721	980,721
REVENUE BOND FINANCING CAPACITY						
Airline Cost Per Enplanement	\$6.50	\$7.00	\$7.50	\$6.50	\$7.00	\$7.50
Airline Revenues	\$5,607,389	\$6,038,727	\$6,470,064	\$6,374,686	\$6,865,046	\$7,355,406
Nonairline Revenues	9,241,376	9,241,376	9,241,376	10,406,531	10,406,531	10,406,531
Projected Revenues	\$14,848,765	\$15,280,102	\$15,711,440	\$16,781,216	\$17,271,576	\$17,761,937
LESS: Projected Operating Expenses	(9,808,826)	(9,808,826)	(9,808,826)	(9,808,826)	(9,808,826)	(9,808,826)
LESS: Outstanding Debt Service	(2,461,995)	(2,461,995)	(2,461,995)	(2,461,995)	(2,461,995)	(2,461,995)
Projected Net Revenues	\$2,577,944	\$3,009,282	\$3,440,619	\$4,510,395	\$5,000,756	\$5,491,116
Amts Available for Annual Dbt Svc	\$2,577,944	\$3,009,282	\$3,440,619	\$4,510,395	\$5,000,756	\$5,491,116
Debt Service Coverage Factor	1.25	1.25	1.25	1.25	1.25	1.25
Amts Available Adj for Coverage	\$2,062,355	\$2,407,425	\$2,752,495	\$3,608,316	\$4,000,605	\$4,392,893
Amortization Factor (28 years; 6.5%)	0.0785	0.0785	0.0785	0.0785	0.0785	0.0785
REVENUE BOND FINANCING CAPACITY	\$26,287,800	\$30,686,200	\$35,084,600	\$45,993,300	\$50,993,600	\$55,993,900
LESS:						
Bond Issuance Costs (2%)	525,800	613,700	701,700	919,900	1,019,900	1,119,900
Debt Service Reserve	2,062,355	2,407,425	2,752,495	3,608,316	4,000,605	4,392,893
Capitalized Interest (2 Years)	3,417,400	3,989,200	4,561,000	5,979,100	6,629,200	7,279,200
PLUS:						
Investment Earnings (3.5%)	144,400	168,500	192,700	252,600	280,000	307,500
Amounts Available for Project Costs	\$20,426,645	\$23,844,375	\$27,262,105	\$35,738,584	\$39,623,895	\$43,509,407
PFC BOND FINANCING CAPACITY						
PFCs Available for Debt Service	\$3,105,631	\$3,105,631	\$3,105,631	\$3,530,595	\$3,530,595	\$3,530,595
Debt Service Coverage Factor	1.25	1.25	1.25	1.25	1.25	1.25
Amts Available Adj for Coverage	\$2,484,505	\$2,484,505	\$2,484,505	\$2,824,476	\$2,824,476	\$2,824,476
Amortization Factor (28 years; 6.5%)	0.0785	0.0785	0.0785	0.0785	0.0785	0.0785
PFC BOND FINANCING CAPACITY	\$39,585,851	\$39,585,851	\$39,585,851	\$45,002,648	\$45,002,648	\$45,002,648
LESS:						
Bond Issuance Costs (2%)	791,700	791,700	791,700	900,100	900,100	900,100
Debt Service Reserve	2,484,505	2,484,505	2,484,505	2,824,476	2,824,476	2,824,476
Capitalized Interest (2 Years)	5,146,200	5,146,200	5,146,200	5,850,300	5,850,300	5,850,300
PLUS:						
Investment Earnings (3.5%)	173,900	173,900	173,900	197,700	197,700	197,700
Amts Avail for PFC-Eligible Proj Costs	\$31,337,346	\$31,337,346	\$31,337,346	\$35,625,472	\$35,625,472	\$35,625,472
TOTAL AMTS FOR PROJECT COSTS	\$51,763,991	\$55,181,721	\$58,599,451	\$71,364,055	\$75,249,367	\$79,134,879



ATTACHMENT 14-1

Neighborhood Meeting Certification

I, Paul Bradbury, Airport Facilities & Engineering Manager, hereby certify that a neighborhood meeting was held on June 26, 2007 at the Portland International Jetport Conference Room at 5 PM.

I also certify that on June 13, 2007, invitations were mailed to all addresses on the mailing list provided by the Planning Division, including property owners within 500 feet of the proposed development and the residents on the "interested parties" list

Signed,

June 29, 2007

Paul Bradbury, P.E.
Facilities & Engineering Manager
Portland International Jetport
1001 Westbrook St.
Portland, ME 04102

Attached to this certification are

1. Copy of the invitation sent
2. Sign-in sheet
3. Meeting minutes

Stantec Consulting Services Inc.
22 Free Street Suite 205
Portland ME 04101-3900
Tel: (207) 775-3211 Fax: (207) 775-6434
stantec.com

14-2



Stantec

June 13, 2007

Dear Neighbor:

**Reference: Portland International Jetport
Major Site Plan Review**

Please join us for a neighborhood meeting to discuss proposed plans for construction of the Phase II Parking Garage located at the Portland International Jetport, 100 Westbrook Street, in Portland, Maine.

Meeting Location: Portland International Jetport, Second Floor Terminal Conference Room
Meeting Date: Tuesday, June 26th, 2007
Meeting Time: 5:00pm

The City code requires that property within 500 feet of the proposed development and residents on an "interested parties list" be invited to participate in a neighborhood meeting. The neighborhood meeting will be conducted in accordance with Section 14-32(C) of the City Code or Ordinances for an applicant requesting review for Major Site Plan approval. A sign-in sheet will be circulated and minutes of the meeting will be taken. Both the sign-in sheet and minutes will be submitted to the Planning Board.

If you have any questions, please feel free to contact Mr. David Nadeau at Stantec Consulting Services (207-775-3211) or Mr. Paul Bradbury at the Portland International Jetport (207-874-8877).

Sincerely,

STANTEC CONSULTING SERVICES INC.

David P. Nadeau, P.E.
Transportation Engineer
dave.nadeau@stantec.com



**MEETING MINUTES
PORTLAND INTERNATIONAL JETPORT
PHASE 2 PARKING GARAGE
NEIGHBORHOOD MEETING
June 26, 2007**

ATTENDENCE: John Coughlin, Hertz Rental Car 1049 Westbrook St.; Paul Bradbury, Airport Facilities Manager; Leslie Davis, Airport Assistant Facilities Manager; and Tom MacMannis, Airport Intern.

The meeting began at 5:00PM. Paul Bradbury distributed a color rendering for the project and a copy of the Planning Division handout sheet to Mr. Coughlin, the sole attendee. Mr. Bradbury explained that this project comprised of the demolition and replacement of the existing south 570 space parking structure with a new 1,028 space structure. He continued with an overview of the anticipated schedule which calls for a May 1, 2008 construction start and a December 2008 completion. A general discussion ensued regarding any impact of the project to the operation of the rental car facilities. Mr. Bradbury explained that along the south elevation of the north garage thirteen columns would be added as part of this project. He further explained that this would require relocation of rental cars from this area while these columns were being erected. Mr. Coughlin noted that this did not pose any major concern to his operations as long as the work was coordinated with his staff, and only the area around one column footing needed to be vacated at a time. Mr. Bradbury noted that the current construction plan is consistent with this, but would follow-up with more details on this operation once design is complete and a contract has been issued for construction.

After closing discussion on the Phase 2 Parking Garage Project, Paul Bradbury informally answered various general questions regarding the airport. The meeting was adjourned at 5:30 PM.