



**Gorrill-Palmer
Consulting
Engineers, Inc.**

Bank Development

Allen Avenue – Portland, Maine

Major Site Plan Review

Prepared For

Bangor Savings Bank

February 2010

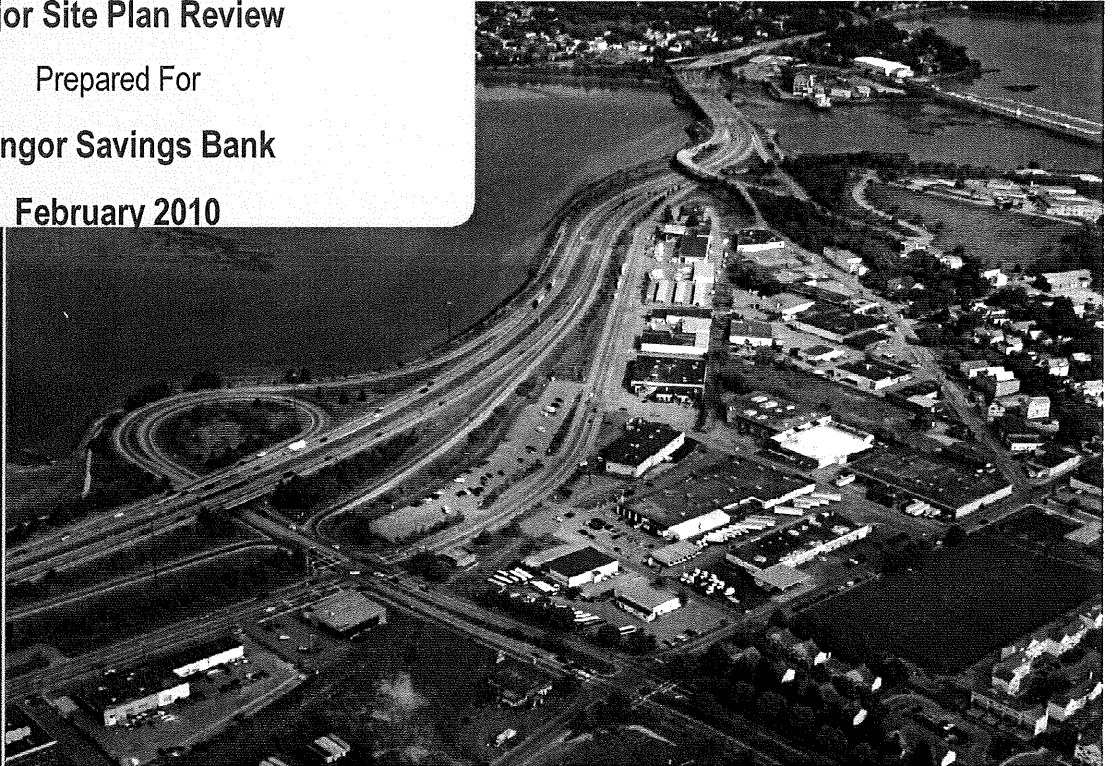
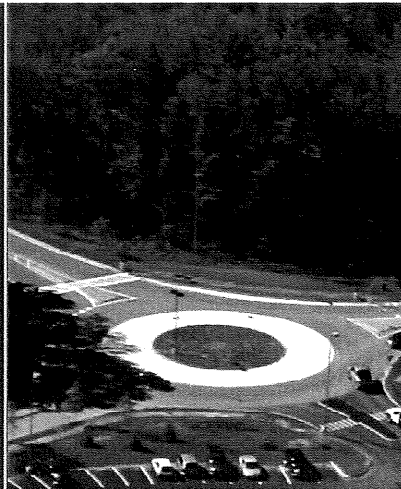
Traffic Engineering

- Impact Studies
- Corridor Studies
- Parking Studies
- Pedestrian Studies
- Roadway Design
- Peer Review
- Traffic Calming

Civil Engineering

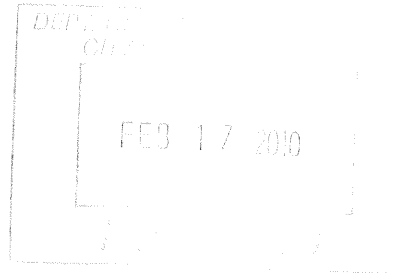
- Site Plan Design
- Stormwater Management
- Erosion Control
- Utility Design
- Permitting
- Feasibility Studies

15 Shaker Rd.
PO Box 1237
Gray, ME 04039
207-657-6910



February 16, 2010

Ms. Barbara Barhydt
Development Review Services Manager
City of Portland
Planning & Development Department
389 Congress Street
Portland, Maine 04101



Dear Barbara,

Bangor Savings Bank has retained Gorrill-Palmer Consulting Engineers, Inc. to prepare development plans and permit applications for a proposed 3,320 +/- square-foot bank with drive-up service. The proposed bank will be located at 320 Allen Avenue, southwest of the intersection of Washington Avenue and Allen Avenue in Portland.

Figure 1 is a map showing the project location. The developer is currently seeking a Major Site Plan Review from the City of Portland Planning Board. The project team has benefitted greatly from the input from the City Staff and Planning Board during the Sketch Plan review process. During the Sketch Plan Review, three concepts were reviewed with the Planning Board and Staff. The proposed plan is based on the concept recommended by the Planning Board and Staff. The following information is in support of the Site Plan and Conditional Use application for the proposed Bangor Savings Bank. The Application Fee for Major Site Plan Review was paid as part of the Sketch Plan Review. Please let us know if any additional payment is necessary.

Description of Development Site

The development site includes portions of Lot E40, E41, and E50 of Portland Assessor's Map 344, totaling approximately 0.86 acres (the property lines were reconfigured for the development of the abutting Walgreens Pharmacy). The parcel is currently developed with a restaurant, Espo's.

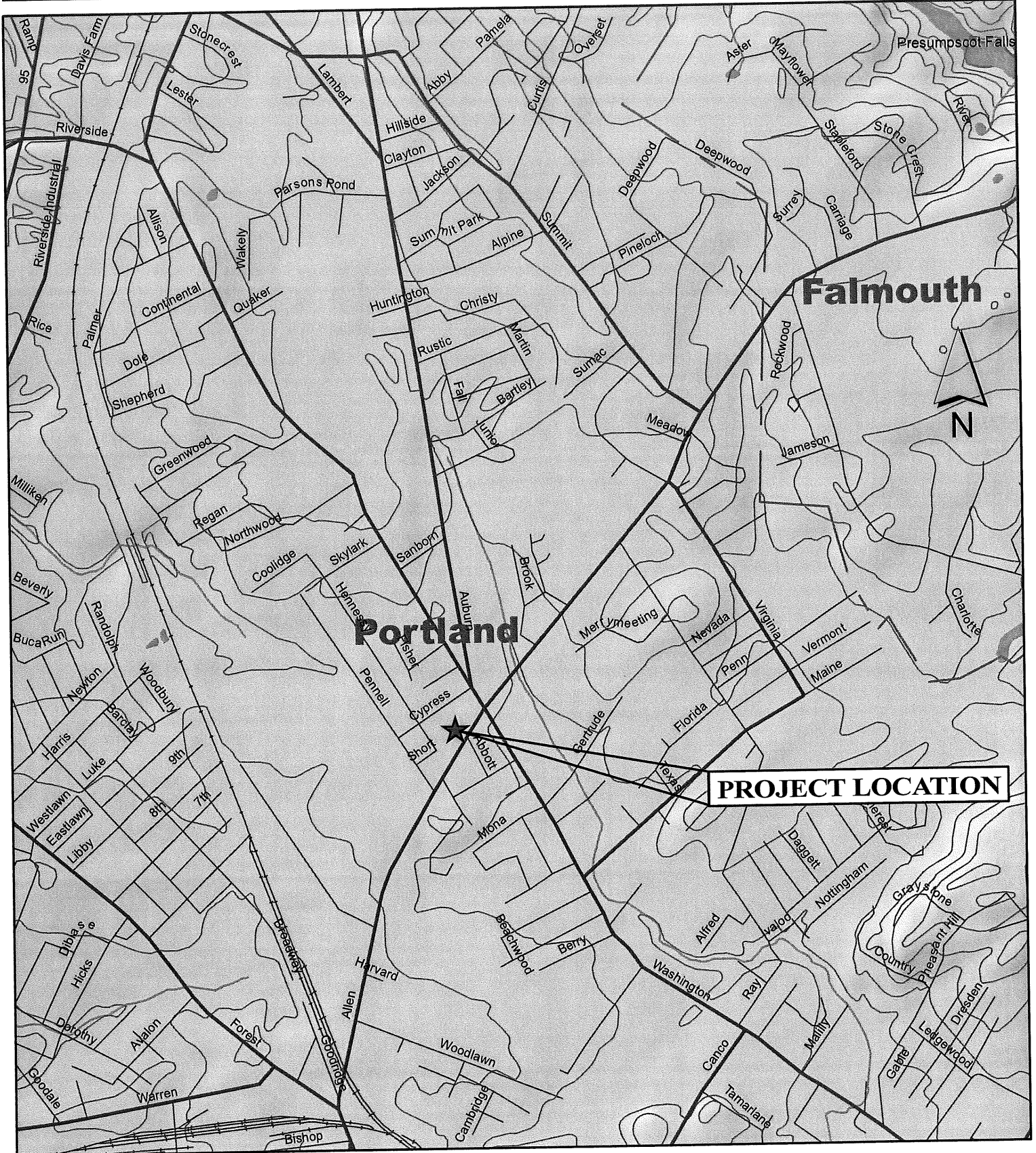
The proposed layout is based upon the plan that the Planning Board and Staff preferred during the Sketch Plan review process. The proposed 3,302 +/- square foot bank with drive-through is located approximately in the same location as the existing restaurant. The drive-through lane is located on the right side of the building with drive-up service at the rear of the building. An access drive is proposed between the building and Allen Avenue, to allow connectivity to the recently constructed Walgreens Pharmacy. The existing parking field to the rear and left side of the building is proposed to be reconstructed to accommodate approximately 22 parking spaces. The site is proposed to be accessed through a primary curb cut on Allen Avenue and two curb cuts located on Allen Avenue and Washington Avenue which are shared with the abutting Walgreens Pharmacy. The proposed bank development has been designed to maintain cross access with the existing Walgreens Pharmacy.

Zoning

Based on the City of Portland zoning map, the property is zoned Community Business Zone (B-2) which provides neighborhood/community business style zoning with minimal lot line setbacks and considerations for abutting residential zoning. Based on conversations with the Zoning Administrator, banks are a permitted use in this zone due as the teller portion of the bank is considered a retail use and the offices within the bank

Location Map

Figure No. **1**



PROPOSED BANK, PORTLAND, MAINE

GP Gorrill-Palmer Consulting Engineers, Inc.
Traffic and Civil Engineering Services

PO Box 1237
15 Shaker Road
Orono, ME 04472

207-657-6910
Fax: 207-657-6912
mailto:mail@gorrillpalmer.com
www.gorrillpalmer.com



JN: 2287
DATE: DEC 2009
FILE: 2287_LOCMAP.MXD
SOURCE: MAINE GIS WEBSITE

are considered an office use. As the project is located within the B-2 Zone, the development will be subject to Major Development Review.

A Waiver Request for parking lot and parking space design has been included with this package. It is expected that the proposed bank development, apart from the parking lot and parking space design, will meet and or exceed the required site plan requirements, and performance standards in accordance with the City of Portland's Land Use Ordinance.

Conditional Use

As the project is located adjacent to a residential use/zone, a conditional use permit will be required for the drive-thru associated with the proposed bank development. It is anticipated that the drive-thru will meet or exceed all performance standards in accordance with the City of Portland's Land Use Ordinance. The following is a list of the conditions for the drive-through, as outlined in the Sketch Plan Memorandum, followed by our responses:

Location of Drive-thrus: *Features, such as windows, vacuum cleaners and menu/order boards, stacking lanes, must be placed, where practicable, to the side and rear of the principal building except where such placement will be detrimental to an adjacent residential zone or use, and shall be located no nearer than forty (40) feet from any residential zone. This distance shall be measured from the outermost edge of the outside drive-through feature to any property line. In addition, drive-through features shall not extend nearer than twenty-five (25) feet to the street line. The site must have adequate stacking capacity for vehicles waiting to use these service features without impeding vehicular circulation or creating hazards to vehicular circulation on adjoining streets.*

Response: The drive-thru, and all its associated features, is located approximately 55 feet from the abutting residential use and approximately 45 feet from the street line, which exceeds the requirements. In addition, adequate stacking space has been provided for the drive-thru, as confirmed by Tom Errico, the City's Traffic Engineering Reviewer.

Noise: *Any speakers, intercom systems, or other audible means of communication shall not play prerecorded messages. Any speakers, intercom systems, audible signals, computer prompts, or other noises generated by the drive-through services or fixtures shall not exceed 55 dB or shall be undetectable above the ambient noise level as measured by a noise meter at the property line, whichever is greater.*

Response: Based on conversations with Bangor Savings Bank, noise levels created by the drive-thru will be well below the 55 dB limit and will be undetectable above the ambient noise level.

Lighting: *Drive-through facilities shall be designed so that site and vehicular light sources shall not unreasonably spill over or be directed onto adjacent residential properties and shall otherwise conform to the lighting standards set forth in 14-526.*

Response: Lighting for the drive-thru is located beneath the canopy and is not directing light towards the abutting residential property. In addition, a fence has been added along the property line to prevent vehicular light sources from spilling onto the residential property.

Screening and Enclosure: *Where automobiles may queue, waiting for drive-through services, their impacts must be substantially mitigated to protect adjacent residential properties from headlight glare, exhaust*

fumes, noise, etc. As deemed necessary by the reviewing authority, mitigation measures shall consist of installation of solid fencing with landscaping along any residential property line which is exposed to the drive-through or the enclosure of the drive-through fixtures and lanes so as to buffer abutting residential properties and to further contain all associated impacts.

Response: Solid fencing and landscaping has been added along the property line to protect adjacent residential properties from headlight glare, exhaust fumes, and noise.

Fire Department Review

Based on the Sketch Plan Planning Board Memorandum, the fire department had the following to say about the proposed bank development:

"Access to the building and the nearby Walgreens is sufficient for fire apparatus. Water supply is good and within acceptable distance. Are there any proposed fire protection features? All three proposed locations of the bank are acceptable."

To answer the question regarding fire protection, based on conversations with the architect, a sprinkler system is not required for the proposed bank.

Title, Right, Interest

A copy of the Purchase Agreement for the property and the Cross Easement Agreement between Walgreens and the former Espo's restaurant has been previously provided to the City.

Financial Capability

A letter from Bangor Savings Bank, indicating that they have sufficient funds to complete the project, has been included with this package.

Utilities

Letters have been sent to all public utilities to obtain ability to serve letters from them. Copies of the ability to serve letters have been included with this package. Letters received after submittal will be forwarded to the City for their files.

Natural Resources

The project site is tributary to the storm drain system that eventually discharges to Fall Brook, which is identified as an Urban Impaired Stream. Based on the City of Portland Stormwater Management Standards, the project will not be required to comply with the Urban Impaired Stream Standard as the project is a redevelopment of an existing impervious area which reduces the overall impervious surface of the project site. It is our opinion that the new use is not likely to increase stormwater impacts in the proposed project's stormwater runoff beyond the levels already present in the runoff from the existing impervious area.

Based on the FEMA Firm Map the site is located outside the 100 year flood Boundary Zone A2. The panel indicates a 100 year flood elevation of 79 on the easterly side of the intersection of Washington Avenue and Allen Avenue.

Letters have been sent to the Maine Department of Conservation, the Department of Inland Fisheries and Wildlife, and the Maine Field Office for Ecological Services for their review. Copies of the resource letters have been included with this package. Thus far, no potential impacts to any Natural Resources have been identified.

Historic

Included with this package is a letter to the Maine Historic Preservation Commission, requesting a determination of whether the project will have any impacts to historic structures.

Building Architecture

Architectural Elevations of the proposed bank have been developed by WBRC Architects/Engineers and are included with this package.

Landscape and Buffering

Landscaping areas will be provided along Allen Avenue, as well as landscaped areas within the parking areas. A Landscape Plan for the proposed development has been completed and is included within the plan set.

Lighting

As part of the proposed bank development, a Lighting Plan, along with corresponding lighting cut sheets, have been included with this package, which will comply with the City of Portland standards. Lighting has been designed to coordinate with the previously developed Walgreens Pharmacy while providing the necessary illumination levels and minimizing "hot spots" within the parking field. As part of the bank development, a light pole that was providing light for the abutting Walgreens development was removed and reset due to conflicts.

Stormwater Management & Erosion Control

Based upon City of Portland Stormwater Management Standards, the proposed project will be required to meet the Maine DEP Chapter 500 Stormwater Management Standards.

The Basic Standard will be met as presented in the Erosion and Sedimentation Control report. Under the General Standard, the project is required to meet the BMP standards identified in Chapter 500 and described in Volume III of the Stormwater BMP manual. The design of this development will evaluate the use of two Bioretention Cells to treat runoff.

The Flooding Standard, as outlined by the City of Portland Stormwater Management Standards, indicates that, if required, the project must detain, retain, or result in the infiltration of stormwater from 24-hour storms of the 2-year, 10-year, and 25-year frequencies such that the peak flows of stormwater from the project site do not exceed the peak flows of stormwater prior to undertaking the project. As the project is a redevelopment of an existing site, which results in a reduction of the overall impervious surface of the project site, it is anticipated that the proposed development will not result in an increase, or will result in an insignificant increase, in peak flow rates for the project site.

Please refer to the Stormwater Management Report that has been included with this package.

Ms. Barbara Barhydt
February 16, 2010
Page 5 of 5

Traffic

A Traffic Impact Study has been completed for the proposed development and has been included with this package.

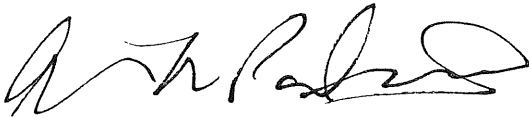
Summary

Bangor Savings Bank is pleased to submit the attached Site Plan Application for Final Review. The project team values the City Staff and Planning Board's input as the project moves forward and looks forward to their review.

Please contact me if you have any questions relative to this matter.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.



Alton M. Palmer, PE
Senior Vice President

Enclosure

Copy: Jeff Jeter, Bangor Savings Bank

DER/jjm/JN2287/barhydt site plan app_2-16-10.doc



Development Review Application
PORTLAND, MAINE
 Department of Planning and Urban Development,
 Planning Division and Planning Board

PROJECT NAME: Proposed Bank Development

PROPOSED DEVELOPMENT ADDRESS:

320 Allen Avenue

PROJECT DESCRIPTION:

The development includes the demolition of the existing building and the construction of a 3,320 +/- square-foot bank with a drive-thru facility on site.

CHART/BLOCK/LOT: 344/E/040, 344/E/041, 344/E/050

CONTACT INFORMATION:

APPLICANT

Name: Bangor Savings Bank ATTN: Jeff Jeter
 Address: 99 Franklin Street, P.O. Box 930
Bangor, Maine
 Zip Code: 04402
 Work #: 207-262-4901
 Cell #: N/A
 Fax #: 207-941-2732
 Home: N/A
 E-mail: jeff.jeter@bangor.com

PROPERTY OWNER

Name: Allen Ave Extension, LLC
 Address: 318 Allen Ave
Portland, Maine
 Zip Code: 04103
 Work #: N/A
 Cell #: N/A
 Fax #: N/A
 Home: N/A
 E-mail: N/A

BILLING ADDRESS

Name: _____
 Address: _____

 Zip: _____
 Work #: Same As
Applicant
 Cell #: _____
 Fax #: _____
 Home: _____
 E-mail: _____

~As applicable, please include additional contact information on the next page~

AGENT/REPRESENTATIVE

Name: Gorrill-Palmer Consulting Engineers, Inc.
Address: P.O. Box 1237, 15 Shaker Road
Gray, Maine
Zip Code: 04039
Work #: 207-657-6910
Cell #: N/A
Fax #: 207-657-6912
Home: N/A
E-mail: apalmer@gorrillpalmer.com

ARCHITECT

Name: WBRC Architects/Engineers
Address: 44 Central Street
Bangor, Maine
Zip Code: 04401
Work #: 207-947-4511
Cell #: N/A
Fax #: 207-947-4628
Home: N/A
E-mail: dan.miller@wbrcae.com

SURVEYOR

Name: Titcomb Associates
Address: 133 Gray Road
Falmouth, Maine
Zip Code: 04105
Work #: 207-797-9199
Cell #: N/A
Fax #: 207-878-3142
Home: N/A
E-mail: dtitcomb@titcombsurvey.com

ENGINEER

Name: _____
Address: _____
Zip Code: Same As
Work #: Agent/Representative
Cell #: _____
Fax #: _____
Home: _____
E-mail: _____

CONSULTANT

Name: _____
Address: _____
Zip Code: _____
Work #: N/A
Cell #: _____
Fax #: _____
Home: _____
E-mail: _____

ATTORNEY

Name: _____
Address: _____
Zip Code: _____
Work #: N/A
Cell #: _____
Fax #: _____
Home: _____
E-mail: _____

PROJECT DATA

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

Total Site Area 37,559 sq. ft.
 Proposed Total Disturbed Area of the Site 35,945 sq. ft.
 (If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland.)

IMPERVIOUS SURFACE AREA

Proposed Total Paved Area 21,022 sq. ft.
 Existing Total Impervious Area 28,733 sq. ft.
 Proposed Total Impervious Area 24,342 sq. ft.
 Proposed Impervious Net Change -4,391 sq. ft.

BUILDING AREA

Existing Building Footprint 3,217 sq. ft.
 Proposed Building Footprint 3,320 sq. ft.
 Proposed Building Footprint Net change +103 sq. ft.
 Existing Total Building Floor Area 3,217 sq. ft.
 Proposed Total Building Floor Area 3,320 sq. ft.
 Proposed Building Floor Area Net Change +103 sq. ft.
 New Building Yes (yes or no)

ZONING

Existing B-2
 Proposed, if applicable N/A

LAND USE

Existing Restaurant
 Proposed Bank/Retail

RESIDENTIAL, IF APPLICABLE

Proposed Number of Affordable Housing Units
 Proposed Number of Residential Units to be Demolished
 Existing Number of Residential Units N/A
 Proposed Number of Residential Units
 Subdivision, Proposed Number of Lots

PARKING SPACES

Existing Number of Parking Spaces 56
 Proposed Number of Parking Spaces 22
 Number of Handicapped Parking Spaces 2
 Proposed Total Parking Spaces 22

BICYCLE PARKING SPACES

Existing Number of Bicycle Parking Spaces 0
 Proposed Number of Bicycle Parking Spaces 6
 Total Bicycle Parking Spaces 6

ESTIMATED COST OF PROJECT

Please check all reviews that apply to the proposed development

Design Review	<u>X</u>	Stormwater Quality	
Flood Plain Review	<u> </u>	Traffic Movement	
Historic Preservation	<u> </u>	Zoning Variance	
Housing Replacement	<u> </u>	Historic District/Landmark	
14-403 Street Review	<u> </u>	Off Site Parking	
Shoreland	<u> </u>	Multi-Family Dwelling	
Site Location Act Local Review	<u> </u>	B-3 Pedestrian Activity Review	
Single Family Dwelling	<u> </u>	Change of Use	
2 Family Dwelling	<u> </u>		

APPLICATION FEE:

Check all reviews that apply. Payment may be made in cash or check to the City of Portland.

<p>Major Development (more than 10,000 sq. ft.)</p> <p><input checked="" type="checkbox"/> Under 50,000 sq. ft. (\$500.00)</p> <p><input type="checkbox"/> 50,000 - 100,000 sq. ft. (\$1,000.00)</p> <p><input type="checkbox"/> Parking Lots over 100 spaces (\$1,000.00)</p> <p><input type="checkbox"/> 100,000 - 200,000 sq. ft. (\$2,000.00)</p> <p><input type="checkbox"/> 200,000 - 300,000 sq. ft. (\$3,000.00)</p> <p><input type="checkbox"/> Over 300,000 sq. ft. (\$5,000.00)</p> <p><input type="checkbox"/> After-the-fact Review (\$1,000.00 plus applicable application fee)</p>	<p>Plan Amendments</p> <p><input type="checkbox"/> Planning Staff Review (\$250.00)</p> <p><input type="checkbox"/> Planning Board Review (\$500.00)</p> <p>Subdivision</p> <p><input type="checkbox"/> Subdivision (\$500.00) + amount of lots _____ (\$25.00 per lot) \$ _____ + (applicable Major site plan fee)</p>
<p>Minor Site Plan Review</p> <p><input type="checkbox"/> Less than 10,000 sq. ft. (\$400.00)</p> <p><input type="checkbox"/> After-the-fact Review (\$1,000.00 plus applicable application fee)</p>	<p>Other Reviews</p> <p><input type="checkbox"/> Site Location of Development (\$3,000.00 (except for residential projects which shall be \$200.00 per lot _____)</p> <p><input type="checkbox"/> Traffic Movement (\$1,000.00)</p> <p><input type="checkbox"/> Storm water Quality (\$250.00)</p> <p><input type="checkbox"/> Section 14-403 Review (\$400.00 + \$25.00 per lot)</p> <p><input type="checkbox"/> Other _____</p>

DEVELOPMENT REVIEW APPLICATION SUBMISSION

Submissions shall include seven (7) packets with folded plans containing the following materials:

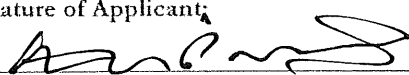
1. Seven (7) full size site plans that must be folded.
2. Application form that is completed and signed.
3. Cover letter stating the nature of the project.
4. All Written Submittals (Sec. 14-525 2. (c), including evidence of right, title and interest.
5. A stamped standard boundary survey prepared by a registered land surveyor at a scale not less than one inch to 100 feet.
6. Plans and maps based upon the boundary survey and containing the information found in the attached sample plan checklist.
7. Copy of the checklist completed for the proposal listing the material contained in the submitted application.
8. One (1) set of plans reduced to 11 x 17.

Refer to the application checklist (page 9) for a detailed list of submittal requirements.

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14), which includes the Subdivision Ordinance (Section 14-491) and the Site Plan Ordinance (Section 14-521). Portland's Land Use Code is on the City's web site: www.portlandmaine.gov Copies of the ordinances may be purchased through the Planning Division.

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

This application is for site review only; a Performance Guarantee, Inspection Fee, Building Permit Application and associated fees will be required prior to construction.

<p>Signature of Applicant: AGENT</p> 	<p>Date: 2-16-10</p>
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- _____ • An estimate of the time period required for completion of the development _____
- _____ • A list of all state and federal regulatory approvals to which the development may be subject to the status of any pending applications, anticipated timeframe for obtaining such permits, or letters of non-jurisdiction. _____ 8
- _____ • Evidence of financial and technical capability to undertake and complete the development including a letter from a responsible financial institution stating that it has reviewed the planned development and would seriously consider financing it when approved. _____
- _____ • Evidence of applicant's right title or interest, including deeds, leases, purchase options or other documentation _____
- _____ • A description of any unusual natural areas, wildlife and fisheries habitats, or archaeological sites located on or near the site. _____
- _____ • A jpeg or pdf of the proposed site plan, if available. _____
- _____ • Final sets of the approved plans shall be submitted digitally to the Planning Division, on a CD or DVD, in AutoCAD format (*.dwg), release: AutoCAD 2005 or greater _____

Note: Depending on the size and scope of the proposed development, the Planning Board or Planning Authority may request additional information, including (but not limited to):

- drainage patterns and facilities
- erosion and sedimentation controls to be used during construction
- a parking and/or traffic study
- emission:
- a wind impact analysis
- an environmental impact study
- a sun shadow study
- a study of particulates and any other noxious
- a noise study

Bangor
Savings Bank

You matter more.

December 14, 2009

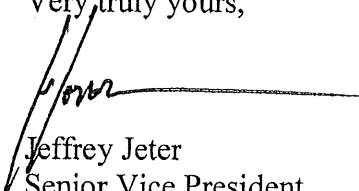
Re: Proposed Bank Development
Allen Avenue – Portland, Maine
Site Plan Application

To Whom It May Concern:

Jeffrey Jeter of Bangor Savings Bank authorizes Alton Palmer of Gorrill-Palmer Consulting Engineers, Inc. to execute permit applications on behalf of Bangor Savings Bank for the above referenced project.

If you have any questions or if I can be of any further assistance, please feel free to contact me.

Very truly yours,



Jeffrey Jeter
Senior Vice President
Bangor Savings Bank

Request for Waiver

Re: Bank Development
Allen Avenue, Portland

Request for Waiver from **Section III.3.A** of the Technical and Design Standards and Guidelines for the City of Portland - describing the parking lot and parking space design.

The Technical and Design Standards and Guidelines recommend a standard parking space of 9 feet wide by 19 feet long. As part of this development, the applicant has provided parking spaces which are 9 feet wide by 18 feet long. The parking spaces have been reduced in length to minimize the impervious area and provide for a 24-foot wide drive aisle to help facilitate better access throughout the site. The abutting Walgreens Development was also designed with 24-foot drive aisles and 9 feet by 18 feet long. The waiver of the 19-foot parking length will further coordinate this site with the abutting Walgreens site, as well as reduce the amount of impervious surfaces proposed on the site.

Bangor
Savings Bank
You matter more.

February 11, 2010

Portland Planning Board
City of Portland
Portland, Maine

To Whom It May Concern:

Bangor Savings Bank is Maine's largest independent bank with over \$2.3 billion in assets operating from over 55 locations throughout Maine. Bangor Savings Bank is financially sound and is considered well capitalized by the FDIC. The construction of the new branch facility 320 Allen Ave. in Portland will be funded from the Bank's capital.

We look forward to the construction of this new facility.

Sincerely,



Jeffrey S. Jeter
SVP Facilities Development and Management

Portland Planning Board
City of Portland
Portland, Maine

cc: [illegible]

[illegible]

[illegible]

January 28, 2010

Mr. Frank Brancely
Department of Public Works
55 Portland Street
Portland, Maine 04101

Subject: Request for the Ability to Serve
Proposed Bank Development
Allen Avenue Portland, Maine

Dear Frank,

Bangor Savings Bank has retained Gorrill-Palmer Consulting Engineers, Inc. to prepare development plans and permit applications for a proposed 3,467 +/- square-foot bank with drive-up service. The proposed bank will be located at 320 Allen Avenue, southwest of the intersection of Washington Avenue and Allen Avenue in Portland. The existing site is currently occupied by Espo's Restaurant. As required by the reviewing authorities, we are writing to request a letter indicating the ability of the Department of Public Works to serve this project.

Site Description

The development site includes portions of Lot E40, E41, and E50 of Portland Assessor's Map 344, totaling approximately 0.86 acres (the property lines were reconfigured for the development of the abutting Walgreens Pharmacy). The parcel is currently developed with a restaurant, Espo's.

Figure 1 is a map showing the project location.

Proposed Development

It is Gorrill-Palmer's understanding that the client intends to demolish the existing building and construct a 3,467 +/- square-foot bank with a drive-thru facility on site. The existing parking field is proposed to be reconstructed to accommodate approximately 22 parking spaces. The site is proposed to be accessed through a primary curb cut on Allen Avenue and two curb cuts located on Allen Avenue and Washington Avenue which are shared with the abutting Walgreens Pharmacy. The proposed bank development has been designed to maintain cross access with the existing Walgreens Pharmacy.

Existing Service

It appears that an existing sewer main runs within Allen Avenue. At this time, it is anticipated that this project will connect to the existing sewer service within Allen Avenue to provide services to the proposed site. A Preliminary Utility Plan has been included with this letter, but Gorrill-Palmer requests a recommendation from the Department of Public Works for the most feasible location to connect to existing services.

Anticipated Flows

The anticipated peak wastewater demand for the development was computed using the Maine Subsurface Waste Water Disposal Rules, Table 501.2, assuming "employees at place of employment with no showers."

Mr. Frank Brancely
January 28, 2010
Page 2 of 2

It is anticipated that the peak daily wastewater demand for the entire facility would be approximately **150 gpd**.

$$(10 \text{ employees} \times 15 \text{ gpd}) = 150 \text{ gpd}$$

Based on the publication Water Supply and Pollution Control, Third Edition, by Clark, Viessman and Hammer, Chapter 4, Section 5; the maximum daily use can be considered to about 180% of the average daily use. Therefore the average daily use is approximated to be:

$$150 \text{ gpd} / 180\% = \mathbf{83 \text{ gpd}}$$

A copy of the City of Portland Wastewater Capacity Application has been included as an attachment to this letter.

Ability to Serve

On behalf of Bangor Savings Bank, Gorrill-Palmer Consulting Engineers, Inc. respectfully requests information relative to the City of Portland's capacity to serve the proposed development, including the following information:

- ◆ Any improvements that the City of Portland would require and/or undertake to provide adequate service to the development.
- ◆ Any estimates or quotes for connection fees, rate schedules, impact fees, and/or utility incentives.
- ◆ Information as to any easements that the City may require on-site.
- ◆ Metering requirements.
- ◆ Specifications for construction.
- ◆ Any other information that you believe would be useful as this project proceeds.

We appreciate your assistance on this project. Please contact our office if you have any questions relative to this matter.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.



Joseph Marden, E.I.
Design Engineer

Enclosures

Copy: Jeff Jeter, Bangor Savings Bank

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Works,
55 Portland Street,
Portland, Maine 04101-2991



Mr. Frank J. Brancely,
Senior Engineering Technician,
Phone #: (207) 874-8832,
Fax #: (207) 874-8852,
E-mail: fjb@portlandmaine.gov

Date: 01/28/2010

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 320 Allen Avenue

(Regarding addressing, please contact Leslie Kaynor, either at 756-8346, or at LMK@portlandmaine.gov)

Chart Block Lot Number: Map 344,
Lots E40,
E41, E50

Proposed Use: Retail/Office - Bank
Previous Use: Fast Food/Parking Lot
Existing Sanitary Flows: Unknown
Existing Process Flows: Unknown
Description and location of City sewer, at
proposed building sewer lateral connection:
Existing Sewer Line - See Attached Plans

Site Category
Commercial X
Industrial *(complete part 4 below)*
Governmental
Residential
Other *(specify)*

Clearly, indicate the proposed connection, on the submitted plans.

2. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 150 GPD

Peaking Factor/ Peak Times: 1.8

Specify the source of design guidelines: *(i.e. "Handbook of Subsurface Wastewater Disposal in Maine," "Plumbers and Pipe Fitters Calculation Manual," Portland Water District Records, Other (specify)*

Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet.

3. Please, Submit Contact Information.

Owner/Developer Name: Bangor Savings Bank Attn: Jeff Jeter
Owner/Developer Address: PO Box 930 (99 Franklin Street), Bangor, Maine 04402
Phone: 207-262-4901 Fax: 207-941-2732 E-mail: jeff.jeter@bangor.com
Engineering Consultant Name: Gorrill-Palmer Consulting Engineers Inc.
Engineering Consultant Address: 15 Shaker Road, P.O. Box 1237, Gray, ME 04039
Phone: 207-657-6910 Fax: 207-657-6912 E-mail: dreynolds@gorrillpalmer.com

City Planner's Name: Jean Fraser Phone: 207-874-8728

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

4. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated: _____ GPD

Do you currently hold Federal or State discharge permits? Yes No

Is the process wastewater termed categorical under CFR 40? Yes No

OSHA Standard Industrial Code (SIC): _____ (<http://www.osha.gov/oshstats/sicser.html>)

Peaking Factor/Peak Process Times: _____

Note: On the submitted plans, please show the locations, where the building's sanitary, and process water sewer laterals, exit the facility, where they enter the city's sewer, the location of any control manholes, wet wells, or other access points, and the locations of any filters, strainers, or grease traps.

Notes, Comments, or Calculations:

Anticipated Flows

The anticipated peak wastewater demand for the development was computed using the Maine Subsurface Waste Water Disposal Rules, Table 501.2, assuming "employees at place of employment with no showers."

It is anticipated that the peak daily wastewater demand for the entire facility would be approximately **150 gpd**.

$$(10 \text{ employees} \times 15 \text{ gpd}) = 150 \text{ gpd}$$

Based on the publication Water Supply and Pollution Control, Third Edition, by Clark, Viessman and Hämmer, Chapter 4, Section 5; the maximum daily use can be considered to about 180% of the average daily use. Therefore the average daily use is approximated to be:

$$150 \text{ gpd} / 180\% = 83 \text{ gpd}$$

January 28, 2010

Mr. Rico Spugnardi, P.E.
Portland Water District
225 Douglas Street
Portland, Maine 04104

Subject: Request for the Ability to Serve
Proposed Bank Development
Allen Avenue Portland, Maine

Dear Rico,

Bangor Savings Bank has retained Gorrill-Palmer Consulting Engineers, Inc. to prepare development plans and permit applications for a proposed 3,467 +/- square-foot bank with drive-up service. The proposed bank will be located at 320 Allen Avenue, southwest of the intersection of Washington Avenue and Allen Avenue in Portland. The existing site is currently occupied by Espo's Restaurant. As required by the reviewing authorities, we are writing to request a letter indicating the ability of the Portland Water District to serve this project.

Site Description

The development site includes portions of Lot E40, E41, and E50 of Portland Assessor's Map 344, totaling approximately 0.86 acres (the property lines were reconfigured for the development of the abutting Walgreens Pharmacy). The parcel is currently developed with a restaurant, Espo's.

Figure 1 is a map showing the project location.

Proposed Development

It is Gorrill-Palmer's understanding that the client intends to demolish the existing building and construct a 3,467 +/- square-foot bank with a drive-thru facility on site. The existing parking field is proposed to be reconstructed to accommodate approximately 22 parking spaces. The site is proposed to be accessed through a primary curb cut on Allen Avenue and two curb cuts located on Allen Avenue and Washington Avenue which are shared with the abutting Walgreens Pharmacy. The proposed bank development has been designed to maintain cross access with the existing Walgreens Pharmacy.

Existing Service

It appears that an existing water main is located within Allen Avenue and currently services buildings within the proposed site. At this time, it is anticipated that this main will be used to provide services for the proposed development. A Preliminary Utility Plan has been included with this letter, but Gorrill-Palmer requests a recommendation from the Portland Water District for the most feasible location to connect to existing services.

Mr. Rico Spugnardi
January 28, 2010
Page 2 of 2

Anticipated Flows

The anticipated peak water demand for the development was computed using the Maine Subsurface Waste Water Disposal Rules, Table 501.2, assuming "employees at place of employment with no showers."

It is anticipated that the peak daily water demand for the entire facility would be approximately **150 gpd**.

$$(10 \text{ employees} \times 15 \text{ gpd}) = 150 \text{ gpd}$$

Based on the publication Water Supply and Pollution Control, Third Edition, by Clark, Viessman and Hammer, Chapter 4, Section 5; the maximum daily use can be considered to about 180% of the average daily use. Therefore the average daily use is approximated to be:

$$150 \text{ gpd} / 180\% = 83 \text{ gpd}$$

Ability to Serve

On behalf of Bangor Savings Bank, Gorrill-Palmer Consulting Engineers, Inc. respectfully requests information relative to the Portland Water District's capacity to serve the proposed development, including the following information:

- ◆ Any improvements that the Water District would require and/or undertake to provide adequate service to the development.
- ◆ Any estimates or quotes for connection fees, rate schedules, impact fees, and/or utility incentives.
- ◆ Information as to any easements that the District may require on-site.
- ◆ Metering requirements.
- ◆ Specifications for construction.
- ◆ Any other information that you believe would be useful as this project proceeds.

We appreciate your assistance on this project. Please contact our office if you have any questions relative to this matter.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.



Joseph Marden, E.I.
Design Engineer

Enclosures

Copy: Jeff Jeter, Bangor Savings Bank



January 28, 2010

Mr. Stan Thompson
Time Warner Cable of Maine
P.O. Box 8180
Portland, Maine 04102

Subject: Request for the Ability to Serve
Proposed Bank Development
Allen Avenue Portland, Maine

Dear Stan:

Bangor Savings Bank has retained Gorrill-Palmer Consulting Engineers, Inc. to prepare development plans and permit applications for a proposed 3,467 +/- square-foot bank with drive-up service. The proposed bank will be located at 320 Allen Avenue, southwest of the intersection of Washington Avenue and Allen Avenue in Portland. The existing site is currently occupied by Espo's Restaurant. As required by the reviewing authorities, we are writing to request a letter indicating the ability of Time Warner to serve this project.

Site Description

The development site includes portions of Lot E40, E41, and E50 of Portland Assessor's Map 344, totaling approximately 0.86 acres (the property lines were reconfigured for the development of the abutting Walgreens Pharmacy). The parcel is currently developed with a restaurant, Espo's.

Figure 1 is a map showing the project location.

Proposed Development

It is Gorrill-Palmer's understanding that the client intends to demolish the existing building and construct a 3,467 +/- square-foot bank with a drive-thru facility on site. The existing parking field is proposed to be reconstructed to accommodate approximately 22 parking spaces. The site is proposed to be accessed through a primary curb cut on Allen Avenue and two curb cuts located on Allen Avenue and Washington Avenue which are shared with the abutting Walgreens Pharmacy. The proposed bank development has been designed to maintain cross access with the existing Walgreens Pharmacy.

Existing Service

It appears that existing overhead cable services are located along Allen Avenue and currently service the site. It is proposed that cable service for the development be provided through connection to this existing service along Allen Avenue. A Preliminary Utility Plan has been included with this letter, but Gorrill-Palmer requests a recommendation from Time Warner Cable for the most feasible location to connect to existing services. At this time, service requirements are not known. It is anticipated that this development would have cable service requirements similar to other bank developments within the Greater Portland area.

Mr. Stan Thompson
January 28, 2010
Page 2 of 2

Ability to Serve

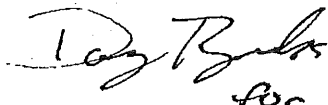
In support of the applications to the reviewing authorities, we are writing to request a letter indicating the ability of Time Warner Cable to serve the project. In addition, we are interested in receiving:

- Information as to any easements that you may require on-site.
- Any estimate of connection fees
- Most feasible location to connect to existing service
- Any other information that you believe would be useful as this project proceeds.

We appreciate your assistance on this project. Please contact our office if you have any questions relative to this matter.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.



Joseph Marden, E.I.
Design Engineer

Enclosures

Copy: Jeff Jeter, Bangor Savings Bank

DER/jjm/JN2287/thompson_twc_1-28-10.doc



January 28, 2010

John Caprio
Verizon / FairPoint
13 Davis Farm Road
Portland, ME 04103

Subject: Request for the Ability to Serve
Proposed Bank Development
Allen Avenue Portland, Maine

Dear John:

Bangor Savings Bank has retained Gorrill-Palmer Consulting Engineers, Inc. to prepare development plans and permit applications for a proposed 3,467 +/- square-foot bank with drive-up service. The proposed bank will be located at 320 Allen Avenue, southwest of the intersection of Washington Avenue and Allen Avenue in Portland. The existing site is currently occupied by Espo's Restaurant. As required by the reviewing authorities, we are writing to request a letter indicating the ability of FairPoint to serve this project.

Site Description

The development site includes portions of Lot E40, E41, and E50 of Portland Assessor's Map 344, totaling approximately 0.86 acres (the property lines were reconfigured for the development of the abutting Walgreens Pharmacy). The parcel is currently developed with a restaurant, Espo's.

Figure 1 is a map showing the project location.

Proposed Development

It is Gorrill-Palmer's understanding that the client intends to demolish the existing building and construct a 3,467 +/- square-foot bank with a drive-thru facility on site. The existing parking field is proposed to be reconstructed to accommodate approximately 22 parking spaces. The site is proposed to be accessed through a primary curb cut on Allen Avenue and two curb cuts located on Allen Avenue and Washington Avenue which are shared with the abutting Walgreens Pharmacy. The proposed bank development has been designed to maintain cross access with the existing Walgreens Pharmacy.

Existing Service

It appears that overhead telephone service currently runs along Allen Avenue. At this time, it is proposed that telephone service for the development be provided through connection to the existing telephone service along Allen Avenue. A Preliminary Utility Plan has been included with this letter, but Gorrill-Palmer requests a recommendation from FairPoint for the most feasible location to connect to existing services. At this time, service requirements are not known. It is anticipated that this development would have telephone service requirements similar to other bank developments within the Greater Portland area.

Mr. John Caprio
January 28, 2010
Page 2 of 2

Ability to Serve

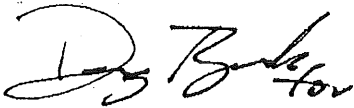
In support of the applications to the reviewing authorities, we are writing to request a letter indicating the ability of FairPoint to serve the project. In addition, we are interested in receiving:

- Information as to any easements that you may require on-site.
- Any estimate of connection fees
- Most feasible location to connect to existing service
- Any other information that you believe would be useful as this project proceeds.

We appreciate your assistance on this project. Please contact our office if you have any questions relative to this matter.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.



Joseph Marden, E.I.
Design Engineer

Enclosures

Copy: Jeff Jeter, Bangor Savings Bank

DER/jjm/JN2287/caprio_phone_1-28-10.doc



January 28, 2010

Ms. Linda Murray
Northern Utilities, Inc.
P.O. Box 508, 325 West Road
Portsmouth, NH 03802

Subject: Request for the Ability to Serve
Proposed Bank Development
Allen Avenue Portland, Maine

Dear Ms. Murray:

Bangor Savings Bank has retained Gorrill-Palmer Consulting Engineers, Inc. to prepare development plans and permit applications for a proposed 3,467 +/- square-foot bank with drive-up service. The proposed bank will be located at 320 Allen Avenue, southwest of the intersection of Washington Avenue and Allen Avenue in Portland. The existing site is currently occupied by Espo's Restaurant. As required by the reviewing authorities, we are writing to request a letter indicating the ability of Northern Utilities to serve this project.

Site Description

The development site includes portions of Lot E40, E41, and E50 of Portland Assessor's Map 344, totaling approximately 0.86 acres (the property lines were reconfigured for the development of the abutting Walgreens Pharmacy). The parcel is currently developed with a restaurant, Espo's.

Figure 1 is a map showing the project location.

Proposed Development

It is Gorrill-Palmer's understanding that the client intends to demolish the existing building and construct a 3,467 +/- square-foot bank with a drive-thru facility on site. The existing parking field is proposed to be reconstructed to accommodate approximately 22 parking spaces. The site is proposed to be accessed through a primary curb cut on Allen Avenue and two curb cuts located on Allen Avenue and Washington Avenue which are shared with the abutting Walgreens Pharmacy. The proposed bank development has been designed to maintain cross access with the existing Walgreens Pharmacy.

Existing Service

It appears that an existing gas main is located within Allen Avenue. At this time, it is anticipated that the project will connect to the gas main within Allen Avenue. A Preliminary Utility Plan has been included with this letter, but Gorrill-Palmer requests a recommendation from Northern Utilities for the most feasible location to connect to existing services. At this time, service requirements are not known. It is anticipated that this development would have service requirements similar to other bank developments within the Greater Portland area.

Ms. Linda Murray
January 28, 2010
Page 2 of 2

Ability to Serve

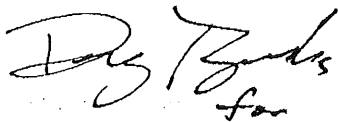
In support of the applications to the reviewing authorities, we are writing to request a letter indicating the ability of Northern Utilities to serve the project. In addition, we are interested in receiving:

- An estimate for any work Northern Utilities would perform within the right-of-way.
- Any estimate of connection fees
- Information as to any easements that you may require on-site.
- Specifications for construction.
- Any other information that you believe would be useful as this project proceeds.
- Most feasible location to connect to existing sewer.

We appreciate your assistance on this project. Please contact our office if you have any questions relative to this matter.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.



Joseph Marden, E.I.
Design Engineer

Enclosures

Copy: Jeff Jeter, Bangor Savings Bank

DER/jjm/JN2287/murray_gas_1-28-10.doc



January 28, 2010

Mr. Paul DuPerre
Central Maine Power Company
162 Canco Road
Portland, ME 04103

Subject: Request for the Ability to Serve
Proposed Bank Development
Allen Avenue Portland, Maine

Dear Paul:

Bangor Savings Bank has retained Gorrill-Palmer Consulting Engineers, Inc. to prepare development plans and permit applications for a proposed 3,467 +/- square-foot bank with drive-up service. The proposed bank will be located at 320 Allen Avenue, southwest of the intersection of Washington Avenue and Allen Avenue in Portland. The existing site is currently occupied by Espo's Restaurant. As required by the reviewing authorities, we are writing to request a letter indicating the ability of Central Maine Power to serve this project.

Site Description

The development site includes portions of Lot E40, E41, and E50 of Portland Assessor's Map 344, totaling approximately 0.86 acres (the property lines were reconfigured for the development of the abutting Walgreens Pharmacy). The parcel is currently developed with a restaurant, Espo's.

Figure 1 is a map showing the project location.

Proposed Development

It is Gorrill-Palmer's understanding that the client intends to demolish the existing building and construct a 3,467 +/- square-foot bank with a drive-thru facility on site. The existing parking field is proposed to be reconstructed to accommodate approximately 22 parking spaces. The site is proposed to be accessed through a primary curb cut on Allen Avenue and two curb cuts located on Allen Avenue and Washington Avenue which are shared with the abutting Walgreens Pharmacy. The proposed bank development has been designed to maintain cross access with the existing Walgreens Pharmacy.

Existing Service

Overhead electric service exists on the southerly side of Allen Avenue and appears to currently service the building on the proposed site. It is proposed that electric service for the proposed pharmacy be provided through connection to the existing utility poles along Allen Avenue. A Preliminary Utility Plan has been included with this letter, but Gorrill-Palmer requests a recommendation from Central Maine Power for the most feasible location to connect to existing services. At this time, service requirements are not known. It is anticipated that this development would have service requirements similar to other bank developments within the Greater Portland area.

Mr. Paul DuPerre
January 28, 2010
Page 2 of 2

Ability to Serve

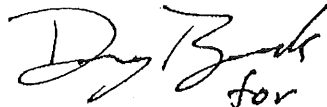
In support of the applications to the reviewing authorities, we are writing to request a letter indicating the ability of Central Maine Power to serve the project. In addition, we are interested in receiving:

- Information as to any easements that you may require on-site.
- Any estimate of connection fees
- Most feasible location to connect to existing service
- Any other information that you believe would be useful as this project proceeds.

We appreciate your assistance on this project. Please contact our office if you have any questions relative to this matter.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.



Joseph Marden, E.I.
Design Engineer

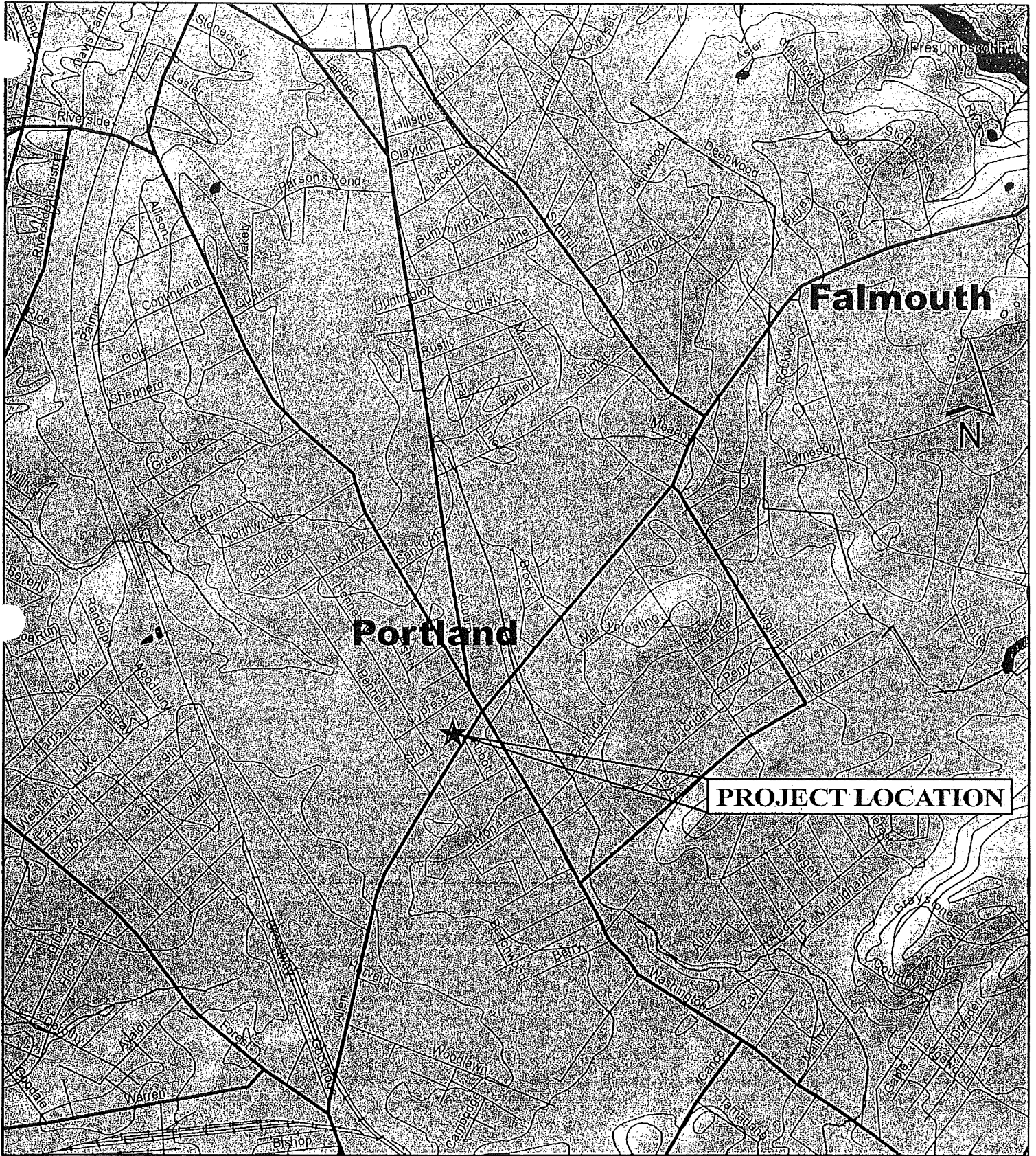
Enclosures

Copy: Jeff Jeter, Bangor Savings Bank

DER/jjm/JN2287/duperre_cmp_1-28-10.doc

Location Map

Figure No. 1



PROPOSED BANK, PORTLAND, MAINE

GP Gorrill-Palmer Consulting Engineers, Inc.

Traffic and Civil Engineering Services 207-657-6910
PO Box 1237 15 Shaker Road Gray, ME 04039
Fax: 207-657-6912
mailbox@gorrillpalmer.com
www.gorrillpalmer.com



JN: 2287
DATE: DEC 2009
FILE: 2287_LOCMAP.MXD
SOURCE: MAINE GIS WEBSITE



Gorrill-Palmer Consulting Engineers, Inc.

Transportation and Civil Engineering Services

PO Box 1237
15 Shaker Rd.
Gray, ME 04039

207-657-6910
FAX: 207-657-6912
E-Mail: mailbox@gorrillpalmer.com

2007/C

January 28, 2010

Mr. Earle G. Shettleworth, Jr.
State Historic Preservation Officer
Maine Historic Preservation Commission
55 Capitol Street, State House Station 65
Augusta, ME 04333

Re: Proposed Bank Development
Allen Avenue, Portland, Maine

Dear Mr. Shettleworth:

Bangor Savings Bank has retained Gorrill-Palmer Consulting Engineers, Inc. to prepare development plans and permit applications for a proposed 3,467 +/- square-foot bank with drive-up service. The proposed bank will be located at 320 Allen Avenue, southwest of the intersection of Washington Avenue and Allen Avenue in Portland. The development site includes portions of Lot E40, E41, and E50 of Portland Assessor's Map 344, totaling approximately 0.86 acres (the property lines were reconfigured for the development of the abutting Walgreens Pharmacy). The parcel is currently developed with a restaurant, Esposito's.

We are interested in determining the presence of any structure or area on the site with historical, architectural or archeological significance as defined by the Natural Historic Preservation Act of 1996 that your office may otherwise have information about.

If you have any questions regarding the proposed project, please contact our office.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.

Joseph Marden, E.I.
Design Engineer

Enclosures

Copy: Jeff Jeter, Bangor Savings Bank

DER/jjm/JN2287/shettleworth_01-28-10.doc



January 28, 2010

Mr. Mark McCollough, Ph.D.
Endangered Species Biologist
Maine Field Office – Ecological Services
1168 Main Street
Old Town, ME 04468

Subject: Endangered Species
Proposed Bank Development
Allen Avenue, Portland, Maine

Dear Mr. McCollough:

Bangor Savings Bank has retained Gorrill-Palmer Consulting Engineers, Inc. to prepare development plans and permit applications for a proposed 3,467 +/- square-foot bank with drive-up service. The proposed bank will be located at 320 Allen Avenue, southwest of the intersection of Washington Avenue and Allen Avenue in Portland. The existing site is currently occupied by Espo's Restaurant. As required by the reviewing authorities, we are writing to request a letter indicating the presence of any federally threatened or endangered species within the project area.

Description of Development Site

The development site includes portions of Lot E40, E41, and E50 of Portland Assessor's Map 344, totaling approximately 0.86 acres (the property lines were reconfigured for the development of the abutting Walgreens Pharmacy). The parcel is currently developed with a restaurant, Espo's.

Figure 1 is a map showing the project location.

Abutting land uses include:

- North – Residential
- West – Residential
- South – Allen Avenue/Commercial
- East – Commercial

Project Description

It is Gorrill-Palmer's understanding that the client intends to demolish the existing building and construct a 3,467 +/- square-foot bank with a drive-thru facility on site. The existing parking field is proposed to be reconstructed to accommodate approximately 20 parking spaces. The site is proposed to be accessed through a primary curb cut on Allen Avenue and two curb cuts located on Allen Avenue and Washington Avenue which are shared with the abutting Walgreens Pharmacy. The proposed bank development has been designed to maintain cross access with the existing Walgreens Pharmacy.

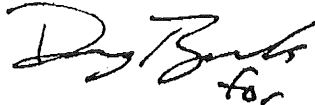
Gorrill-Palmer Consulting Engineers, Inc.

Mr. McCollough
January 28, 2010
Page 2 of 2

Thank you for your consideration. If you have any questions regarding the proposed project, please contact our office.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.



Joseph Marden, E.I.
Design Engineer

Enclosures

Copy: Jeff Jeter, Bangor Savings Bank

DER/jjm/JN2287/usdoi_02-13-09.doc



January 28, 2010

Mr. Steve Timpano
Environmental Coordinator
Dept. of Inland Fisheries & Wildlife
284 State Street
State House Station #41
Augusta, Maine 04333

Subject: Presence of Essential Habitat
Proposed Bank Development
Allen Avenue, Portland, Maine

Dear Mr. Timpano:

Bangor Savings Bank has retained Gorrill-Palmer Consulting Engineers, Inc. to prepare development plans and permit applications for a proposed 3,467 +/- square-foot bank with drive-up service. The proposed bank will be located at 320 Allen Avenue, southwest of the intersection of Washington Avenue and Allen Avenue in Portland. The existing site is currently occupied by Espo's Restaurant. As required by the reviewing authorities, we are writing to request a letter indicating if there are any essential habitats or significant wildlife habitats within the project area.

Description of Development Site

The development site includes portions of Lot E40, E41, and E50 of Portland Assessor's Map 344, totaling approximately 0.86 acres (the property lines were reconfigured for the development of the abutting Walgreens Pharmacy). The parcel is currently developed with a restaurant, Espo's.

Figure 1 is a map showing the project location.

Abutting land uses include:

- North – Residential
- West – Residential
- South – Allen Avenue/Commercial
- East – Commercial

Project Description

It is Gorrill-Palmer's understanding that the client intends to demolish the existing building and construct a 3,467 +/- square-foot bank with a drive-thru facility on site. The existing parking field is proposed to be reconstructed to accommodate approximately 20 parking spaces. The site is proposed to be accessed through a primary curb cut on Allen Avenue and two curb cuts located on Allen Avenue and Washington Avenue which are shared with the abutting Walgreens Pharmacy. The proposed bank development has been designed to maintain cross access with the existing Walgreens Pharmacy.

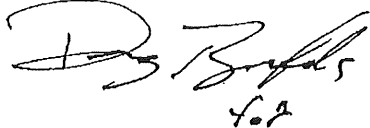
Gorrill-Palmer Consulting Engineers, Inc.

Mr. Steve Timpano
January 28, 2010
Page 2 of 2

Thank you for your consideration. If you have any questions regarding the proposed project, please contact our office.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.

A handwritten signature in black ink, appearing to read "J. Marden". Below the signature, the initials "J.M." are written in a smaller, less legible hand.

Joseph Marden, E.I.
Design Engineer

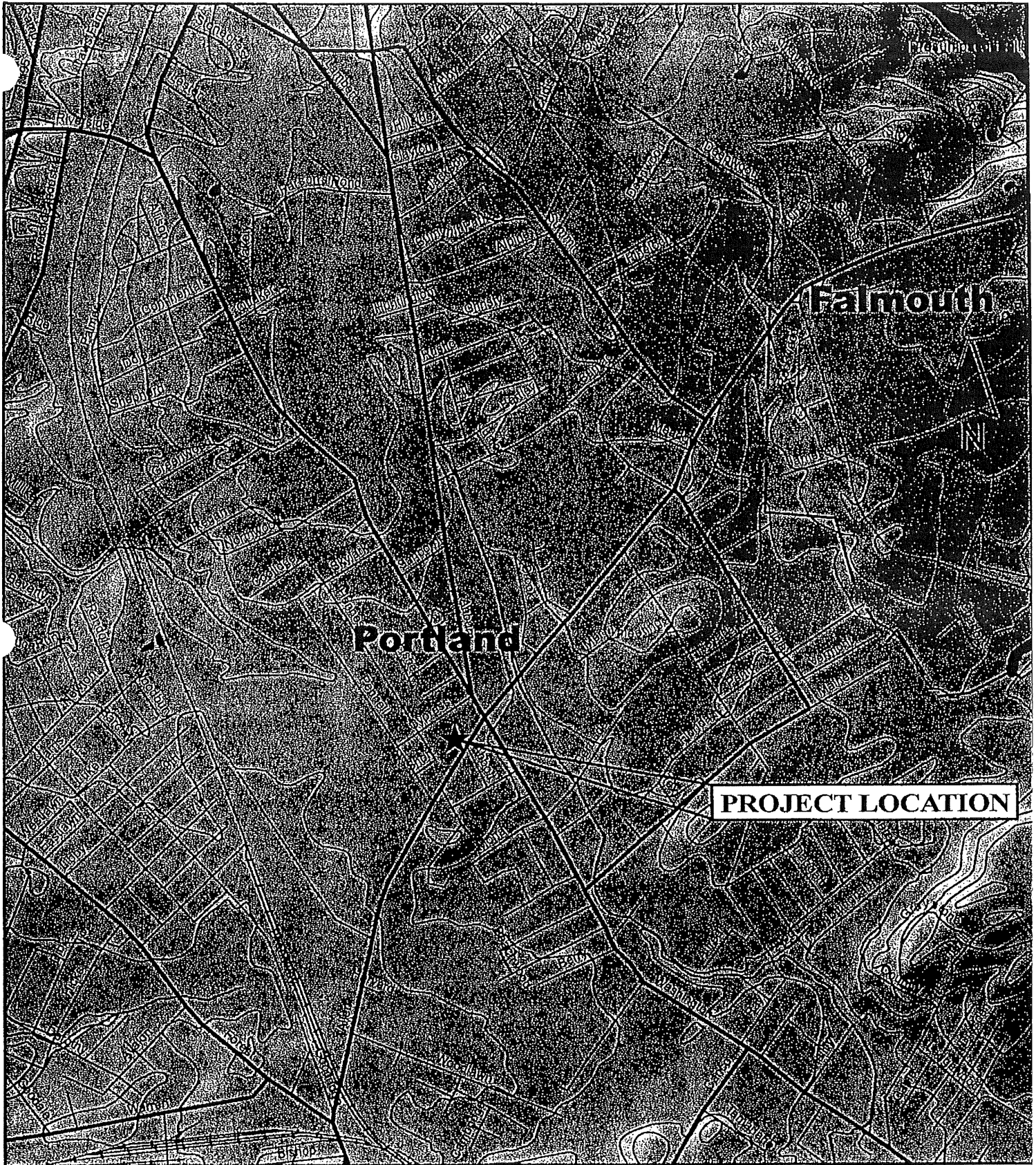
Enclosures

Copy: Jeff Jeter, Bangor Savings Bank

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Location Map

FIG. NO. 1



PROPOSED BANK, PORTLAND, MAINE

GP Gorrill-Palmer Consulting Engineers, Inc.

PO Box 1237
15 Shaker Road
Gray, ME 04039

Traffic and Civil Engineering Services 207-657-6910
Fax: 207-657-6912
mailbox@gorrillpalmer.com
www.gorrillpalmer.com



JN: 228
DATE: DEC 200
FILE: 2287_LOCMAP.MXI
SOURCE: MAINE GIS WEBSITE

RESPONSE LETTERS



JOHN ELIAS BALDACCI
GOVERNOR

STATE OF MAINE
DEPARTMENT OF CONSERVATION
22 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0022

ELIZA TOWNSEND
ACTING COMMISSIONER

February 6, 2010

FEB 09 2010

Joseph Marden
Gorrill-Palmer
PO Box 1237
Gray, Maine 04039

Re: Rare and exemplary botanical features in proximity to: Proposed Bangor Savings Bank, Portland, Maine.

Dear Mr. Marden:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request of January 28, 2010 for information on the presence of rare or unique botanical features documented from the vicinity of the project site in 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.

www.maine.gov/doc
PHONE: 207-287-4900
FAX: 207-287-2400
TTY: 888-577-6690

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,



Sarah Demers
Environmental Review Coordinator
Maine Natural Areas Program
207-287-8670
sarah.demers@maine.gov

Enclosures

Rare and Exemplary Botanical Features in the Project Vicinity

Documented within a four-mile radius of the proposed Bangor Savings Bank, Portland, Maine.

Feature Name	Global Rank	State Rank	State Status	EO Number	Last Seen	Habitat
<i>Carex polymorpha</i>	G3	S1	E	6	2006-07-12	Dry barrens (partly forested, upland)
<i>Kalmia latifolia</i>	G5	S2	SC	13	1985-08-01	Conifer forest (forest, upland)
<i>Polygonum tenue</i>	G5	SH	PE	1	1902-09-07	Dry barrens (partly forested, upland)
<i>Carex polymorpha</i>	G3	S1	E	8	1911	Dry barrens (partly forested, upland)
<i>Carex polymorpha</i>	G3	S1	E	9	1911-06-29	Dry barrens (partly forested, upland)
<i>Allium canadense</i>	G5	S2	SC	6	1918-07-16	Hardwood to mixed forest (forest, upland)
<i>Elymus hystrix</i>	G5	S3	SC	10	1905-09-13	Hardwood to mixed forest (forest, upland)
<i>Phegopteris hexagonoptera</i>	G5	S2	SC	15	1872-08	Hardwood to mixed forest (forest, upland)
<i>Eleocharis engelmannii</i>	G4G5Q	SH	PE	2	1916-08-31	Open wetland, not coastal nor rivershore (non-forested, wetland)
<i>Asplenium platyneuron</i>	G5	S2	SC	10	1910-06-06	Rocky summits and outcrops (non-forested, upland)
<i>Potamogeton vaseyi</i>	G4	S2	SC	7	1901-08-04	Open water (non-forested, wetland)
<i>Adlumia fungosa</i>	G4	S1	T	9	1860-10	Rocky summits and outcrops (non-forested, upland)
<i>Arabis missouriensis</i>	G5?Q	S1	T	5	1905-06-11	Rocky summits and outcrops (non-forested, upland)
<i>Suaeda calceoliformis</i>	G5	S2	T	5	1932-09-12	Tidal wetland (non-forested, wetland)
<i>Zannichellia palustris</i>	G5	S2	SC	9	1913-09-13	Tidal wetland (non-forested, wetland)
<i>Aureolaria pedicularia</i>	G5	S3	SC	13	1902-09-02	Dry barrens (partly forested, upland)

Rare and Exemplary Botanical Features in the Project Vicinity

Documented within a four-mile radius of the proposed Bangor Savings Bank, Portland, Maine.

Feature Name	Global Rank	State Rank	State Status	EO Number	Last Seen	Habitat
Polygala cruciata var. aquilonia						Dry barrens (partly forested, upland)
	G5T4	SH	PE	1	1903-08-18	
Lobelia siphilitica						Forested wetland
	G5	SX	PE	3	1905-09	
Wolffia columbiana						Open water (non-forested, wetland)
	G5	S2	SC	2	2002-08-04	

Print Date 2/6/2010

For more information visit our website <http://www.maine.gov/doc/nrimc/mnap>

Page 2

STATE RARITY RANKS

- S1 Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
- S2 Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- S3 Rare in Maine (20-100 occurrences).
- S4 Apparently secure in Maine.
- S5 Demonstrably secure in Maine.
- SU Under consideration for assigning rarity status; more information needed on threats or distribution.
- S#? Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

Note: State Rarity Ranks are determined by the Maine Natural Areas Program.

GLOBAL RARITY RANKS

- G1 Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.
- G2 Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- G3 Globally rare (20-100 occurrences).
- G4 Apparently secure globally.
- G5 Demonstrably secure globally.
- GNR Not yet ranked.

Note: Global Ranks are determined by NatureServe.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered and Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

- E ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.
- T THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

- SC SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.
- PE Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

ELEMENT OCCURRENCE RANKS - EO RANKS

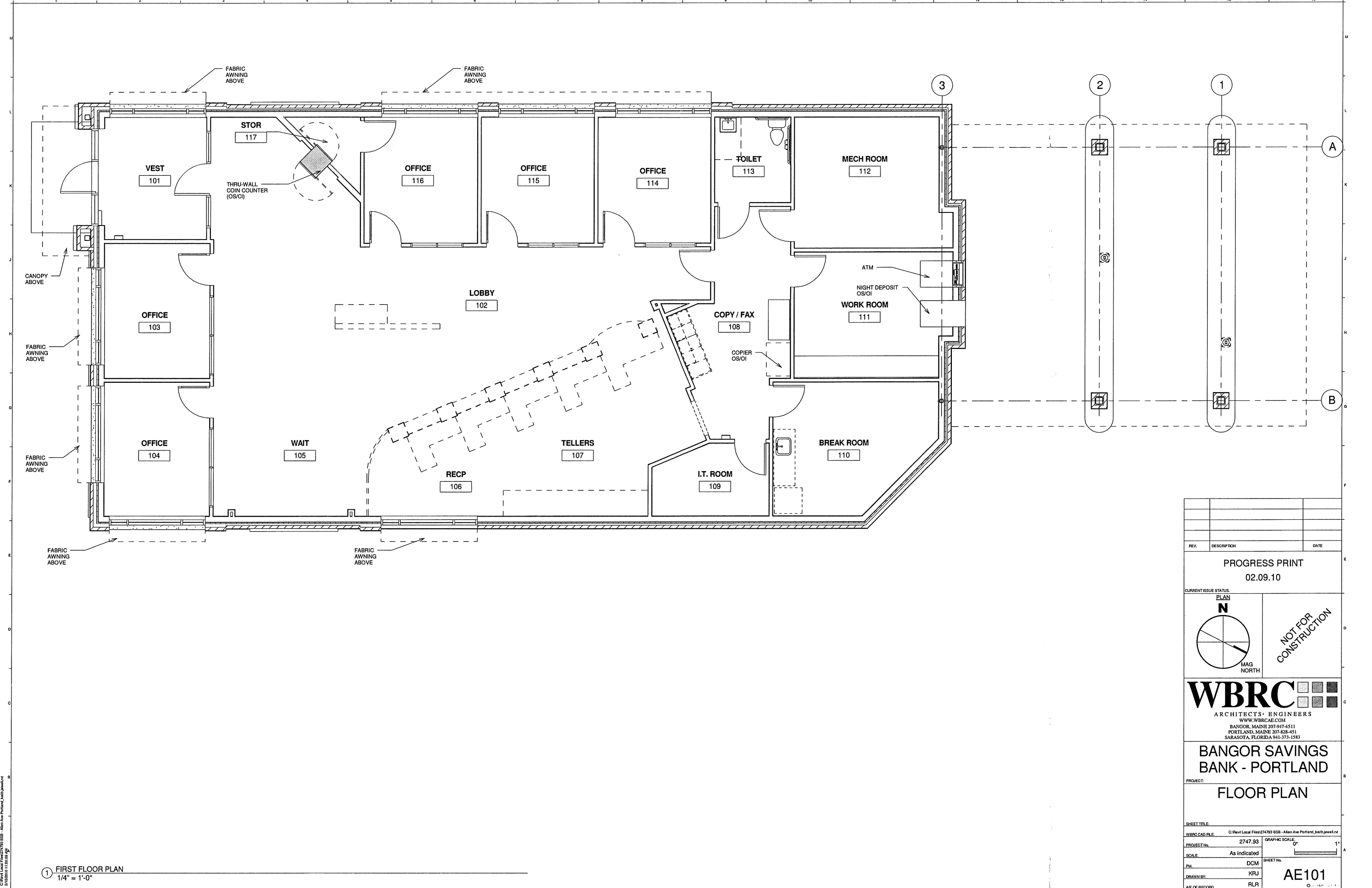
Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- **Size:** Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- **Condition:** For communities, condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context:** Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

These three factors are combined into an overall ranking of the feature of **A, B, C, or D**, where **A** indicates an excellent example of the community or population and **D** indicates a poor example of the community or population. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

Note: Element Occurrence Ranks are determined by the Maine Natural Areas Program.

Visit our website for more information on rare, threatened, and endangered species!
<http://www.maine.gov/doc/nrimc/mnap>



C:\Users\Local Administrator\Documents\BSS - Allen Ave Portland\Arch\DWG\101-117.dwg
 2/10/2010 11:16:00 AM

① FIRST FLOOR PLAN
 1/4" = 1'-0"

REV.	DESCRIPTION	DATE

PROGRESS PRINT
 02.09.10

CURRENT ISSUE STATUS:

MAG NORTH

NOT FOR CONSTRUCTION

WBRC
 ARCHITECTS • ENGINEERS
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 BANGOR, MAINE 207-947-4511
 PORTLAND, MAINE 207-428-4511
 SARASOTA, FLORIDA 941-373-1583

BANGOR SAVINGS BANK - PORTLAND

PROJECT:

FLOOR PLAN

SHEET TITLE:

WBRC CAD FILE: C:\Revit Local Files\274793 BSS - Allen Ave Portland\Arch\DWG\101-117.dwg

PROJECT No. 2747.93 GRAPHIC SCALE: 0" = 1'-0"

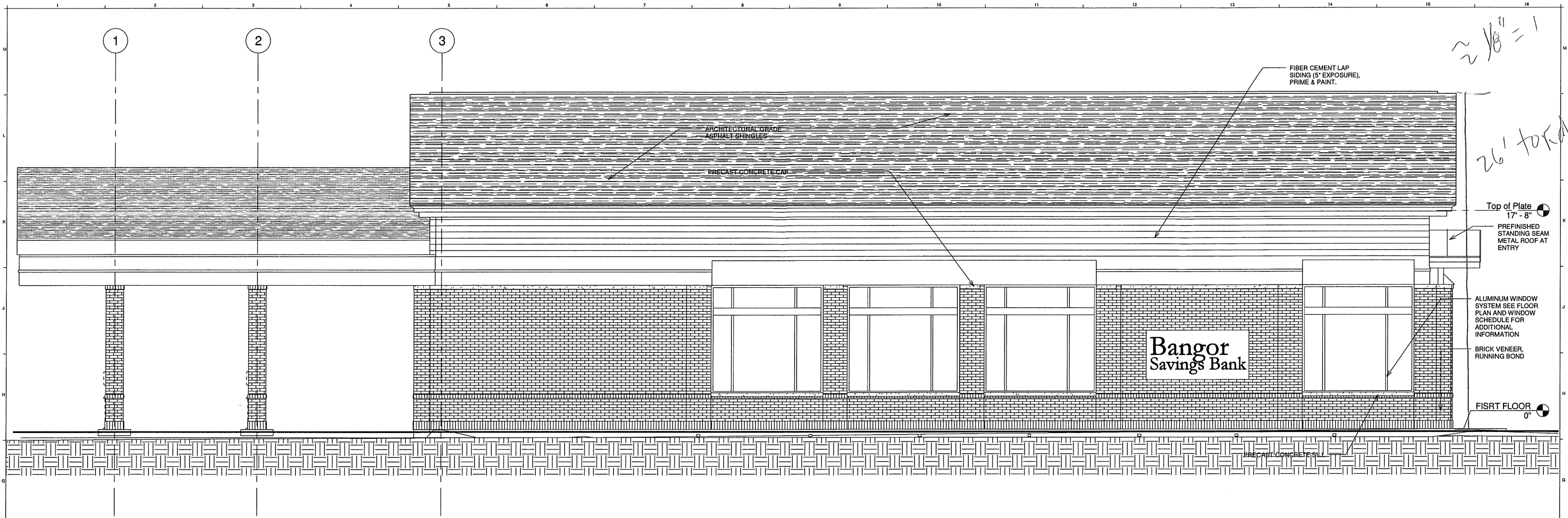
SCALE: As indicated

P.L. DCM SHEET No.

DRAWN BY: KRJ

A.E. OF RECORD: RLR

AE101



~ 1/8" = 1'
26' to edge

② LEFT ELEVATION
 1/4" = 1'-0"



① FRONT ELEVATION
 1/4" = 1'-0"

REV.	DESCRIPTION	DATE

PROGRESS PRINT
 02.09.10

CURRENT ISSUE STATUS:

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BANGOR SAVINGS BANK - PORTLAND

PROJECT:
EXTERIOR ELEVATIONS

SHEET TITLE:
 WBRC CAD FILE: C:\Revit Local Files\274793 BSB - Allen Ave Portland_kath.jewett.rvt
 PROJECT No. 2747.93 GRAPHIC SCALE 0' 1'
 SCALE: As indicated
 PM: DCM SHEET No.
 DRAWN BY: KRJ AE201
 AGE OF RECORD: MLC



COOPER LIGHTING - LUMARK®



DESCRIPTION

The Lumark Tribute is the most versatile, functionally designed, universally adaptable outdoor luminaire available. The Tribute brings outstanding performance to walkways, parking lots, roadways, loading docks, building areas, and any security lighting application. U.L. listed and CSA certified for wet locations.

Catalog #		Type	
Project		Date	
Comments			
Prepared by			

SPECIFICATION FEATURES

Construction

Rugged one-piece die-cast aluminum housing and door frame. One-piece silicone gasket protects the optical chamber from performance degrading contaminants. One (1) stainless spring latch and two (2) stainless hinges allow toolless opening and removal of door frame.

Reflector

Choice of nine (9) high efficiency optical distributions, including five (5) segmented optical systems constructed of premium 95% reflective anodized aluminum sheet. Optical segments are rigidly mounted inside a thick gauge aluminum housing for superior protection. All segment faces are clean of rivet heads, tabs or other means of attachment which may cause streaking in the light distribution. Optical modules are

field rotatable in 90° increments and offered standard with mogul-base lampholders for 200-400W assemblies or medium-base lampholders for 150W and below.

Electrical

Ballast and related electrical componentry are hard mounted to die-cast housing for optimal heat transfer and operating efficiency. Optional swing-down galvanized steel power tray with integral handle and quick disconnects allows tray to be completely removed from housing providing ample room for fixture installation and maintenance.

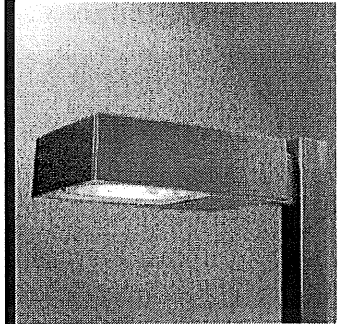
Mounting

Extruded 8" aluminum arm features internal bolt guides for easy positioning of fixture during installation to pole or wall surface.

Standard single carton packaging of housing, square pole arm and round pole adapter allow for consolidated product arrival to site. Optional internal mast arm mount accepts a 1 1/4" to 2 3/8" O.D. horizontal tenon, while a 4-bolt clamping mechanism secures fixture. Cast-in leveling guides provide +/-5° vertical leveling adjustment.

Finish

Housing and arm finished in a 5 stage premium TGIC bronze polyester powder coat paint. Optional colors include black, grey, white, dark platinum and graphite metallic. RAL and custom color matches available.



TR TRIBUTE

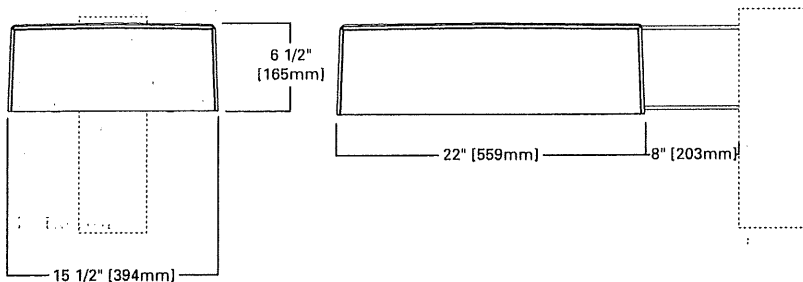
70 - 400W

High Pressure Sodium
Pulse Start Metal Halide
Metal Halide

AREA LUMINAIRE

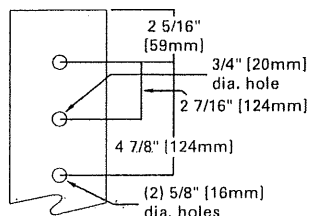


DIMENSIONS

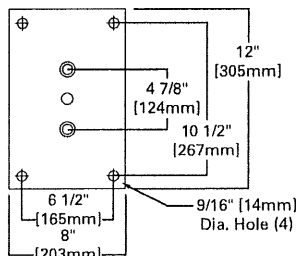


DRILLING PATTERNS

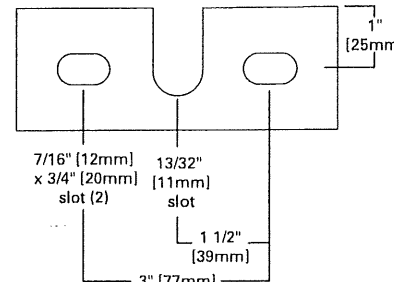
TYPE "M"



WALL MOUNT



TRUNNION MOUNT



TECHNICAL DATA

UL Wet Locations Listed
CSA Certified
EISA Compliant ©

ENERGY DATA

Hi-Reactance Ballast Input Watts

70W HPS HPF (95 Watts)
100W HPS HPF (130 Watts)
150W HPS HPF (190 Watts)
150W MP HPF (185 Watts)

CWI Ballast Input Watts

250W HPS HPF (300 Watts)

CWA Ballast Input Watts

175W MH HPF (210 Watts)
200W MP HPF (227 Watts) ©
200W HPS HPF (250 Watts)
250W MH HPF (295 Watts)
250W MP HPF (283 Watts) ©
320W MP HPF (365 Watts) ©
350W MP HPF (397 Watts) ©
400W MP HPF (452 Watts) ©
400W MH HPF (455 Watts)
400W HPS HPF (465 Watts)

EPA

Effective Projected Area: (Sq. Ft.)
Without Arm: 1.19

SHIPPING DATA

Approximate Net Weight:
39 lbs. (17.73 kgs.)



ORDERING INFORMATION

Sample Number: MHTR-SL-400-MT-LL

<p>Lamp Type MP: Pulse Start Metal Halide MH: Metal Halide HP: High Pressure Sodium</p> <p>Series ¹ TR: Tribute (Arm Included)</p>	<p>Distribution 2F: Type II Formed Segmented 2S: Type II Segmented 3F: Type III Formed Segmented 3S: Type III Segmented 4F: Type IV Formed Segmented 4S: Type IV Segmented 5F: Type V Formed Segmented 5S: Type V Segmented SL: Spill Light Eliminator</p>	<p>Lamp Wattage ² MP 70: 70W 100: 100W 150: 150W 200: 200W 250: 250W 320: 320W 350: 350W 400: 400W³ MH 175: 175W⁴ 250: 250W⁴ 400: 400W^{3, 4} HPS 70: 70W 100: 100W 150: 150W 250: 250W 400: 400W³ Voltage ⁵ 120V: 120V 208V: 208V 240V: 240V 277V: 277V 347V: 347V⁶ 480V: 480V DT: Dual-Tap MT: Multi-Tap, wired 277V TT: Triple-Tap, ⁶wired 347V 5T: 5 Tap Wired⁶ 480V</p>	<p>Options ^{7, 8} F1: Single Fuse (120, 277 or 347V⁹ only) F2: Double Fuse (208, 240 or 480V⁹ only) Q: Quartz Restrike (Hot Strike ¹⁰ Only) EM: Quartz Restrike with "Delay ¹⁰ Relay" (Quartz lamp strikes at both hot and cold starts) EM/SC: Emergency Separate ¹⁰ Circuit LL: Lamp Included S: 1 1/4" - 2 3/8" Internal Mast Arm Mount TM: Trunnion Mount PT: Electrical Power Tray HS: House Side Cutoff¹¹ LA: Less Arm (Order Mounting Separately) PER: NEMA Twistlock Photocontrol Receptacle PC: Button Type Photocontrol¹² WH: White BK: Black AP: AP Grey DP: Dark Platinum GM: Graphite Metallic</p>	<p>Accessories ¹³ MA1201-XX: Direct Wall Mount Kit¹ MA1218-XX: Direct Mount for Pole¹ MA1219-XX: Wall Mounting Plate OA1090-XX: Adjustable slipfitter Arm for Tenon Mount 2 3/8" O.D.¹ MA1221-XX: External House Side Shield Kit (EPA= 0.38) MA1222: Internal House Side Shield Kit for 2S/3S MA1223: Internal House Side Shield Kit 4S MA1224: Internal House Side Shield Kit for 2F/3F MA1225: Internal House Side Shield Kit for 4F MA1010-XX: Single Tenon Adapter for 3 1/2" O.D. Tenon MA1011-XX: 2 @ 180 degrees Tenon Adapter for 3 1/2" O.D. Tenon MA1012-XX: 3 @ 120 degrees Tenon Adaptor for 3 1/2" O.D. Tenon MA1013-XX: 4 @ 90 degrees Tenon Adapter for 3 1/2" O.D. Tenon MA1014-XX: 2 @ 90 degrees Tenon Adapter for 3 1/2" O.D. Tenon MA1015-XX: 2 @ 120 degrees Tenon Adapter for 3 1/2" O.D. Tenon MA1016-XX: 3 @ 90 degrees Tenon Adapter for 3 1/2" O.D. Tenon MA1017-XX: Single Tenon Adapter for 2 3/8" O.D. Tenon MA1018-XX: 2 @ 180 degrees Tenon Adapter for 2 3/8" O.D. Tenon MA1019-XX: 3 @ 120 degrees Tenon Adapter for 2 3/8" O.D. Tenon MA1045-XX: 4 @ 90 degrees Tenon Adapter for 2 3/8" O.D. Tenon MA1048-XX: 2 @ 90 degrees Tenon Adapter for 2 3/8" O.D. Tenon MA1049-XX: 3 @ 90 degrees Tenon Adapter for 2 3/8" O.D. Tenon OARA1016: Photoelectric Control 105-285V NEMA Type OARA1027: Photoelectric Control 480V NEMA Type OARA1021: Photoelectric Control 347V NEMA Type OARA1013: Shorting Cap TR/VS: Field Installed Vandal Shield¹⁴</p>
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Notes: 1 8 Inch Arm and pole adapter included with fixture. Specify Less Arm "LA" option when mounting accessory is ordered separately. 2 150W and below in Metal Halide are medium base sockets. All other wattages are mogul base. 3 Requires reduced envelope lamp. 4 175W, 250W, and 400W MH available in non-U.S. markets only. 5 Products also available in non-US voltages and 50HZ for international markets. Consult your Cooper Representative for availability and ordering information. 6 88% efficient EISA Compliant MP fixtures not available in 347V or TT Voltages. 7 Custom and RAL color matching available upon request. Consult Cooper Lighting Representative for further information. 8 Add as a suffix. 9 Must specify voltage. 10 Quartz options not available with SL optics. 11 House side shield not available on 5S, 5F, or SL optics. 12 PC not available in 480V. 13 Order separately/replace XX with color specification. 14 Not available with SLE or House Side Shield.

STOCK SAMPLE NUMBER (Lamp Included)

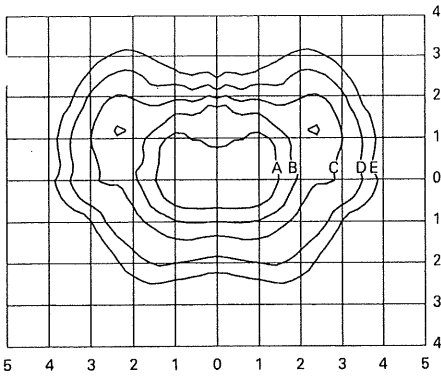
SAMPLE NUMBER: MPTR2340

MP	TR	23	
Lamp Type MP=Pulse Start Metal Halide HP=High Pressure Sodium ²	Series ¹ TR=Tribute	Distribution 23=Type II/III Formed	Lamp Wattage 15=150W 25=250W 32=320W 40=400W

NOTES:
¹ Short logic fixtures are finished bronze include multi-tap ballast, lamp, arm and round pole adapter. Other options not available. Refer to standard ordering logic. ² Available in 150, 250 and 400 Watt. Refer to In Stock Guide for availability.

VOLTAGE CHART	
DT=Dual-Tap	120/277 (wired 277V)
MT=Multi-Tap	120/208/240/277 (wired 277V)
TT=Triple-Tap	120/277/347 (wired 347V)
5T=5-Tap	120/208/240/277/480 (wired 480V)

LAMP TYPE	WATTAGE
Pulse Start Metal Halide	70, 100, 150, 250, 320, 350, 400W
Metal Halide	175, 250, 400W
High Pressure Sodium	70, 100, 150, 250, 400W

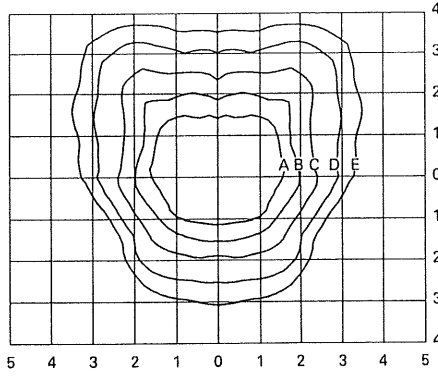


MPTR-3S-320
320—Watt MP
30,000—Lumen Clear Lamp
Type III Segmented

Footcandle Table

Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	2.00	1.00	0.50	0.20	0.10
30'	1.38	0.69	0.34	0.13	0.06

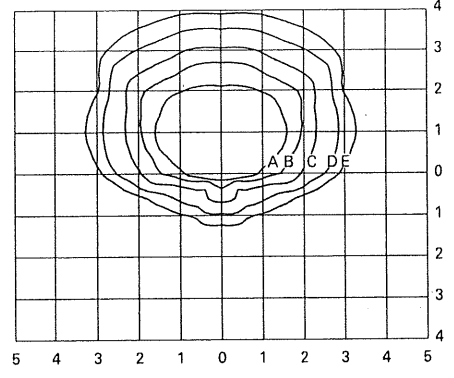


MPTR-4S-400
400—Watt MP
40,000—Lumen Clear Lamp
Type IV Segmented

Footcandle Table

Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	2.00	1.00	0.50	0.20	0.10
30'	1.38	0.69	0.34	0.13	0.06



MPTR-SL-400
400—Watt MP
40,000—Lumen Clear Lamp
Spill Light Eliminator

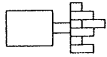
Footcandle Table

Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	2.00	1.00	0.50	0.20	0.10
30'	1.38	0.69	0.34	0.13	0.06

MOUNTING CONFIGURATIONS

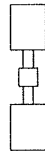
Wall Mount



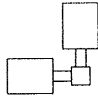
Arm Mount Single
EPA: 1.62



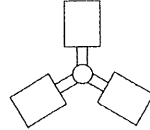
Arm Mount 2 @ 180
EPA: 3.24



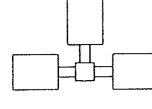
Arm Mount 2 @ 90
EPA: 3.24



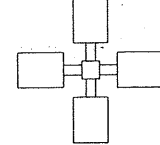
Arm Mount 3 @ 120
(Round Pole Only)
EPA: 4.43



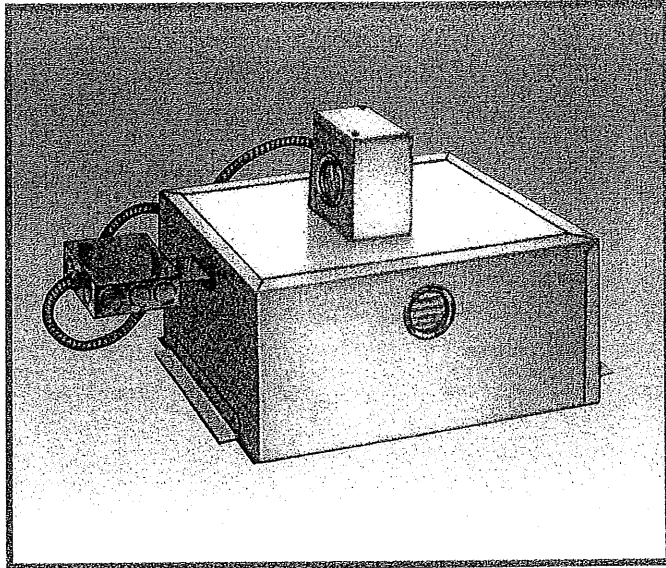
Arm Mount 3 @ 90
EPA: 4.43



Arm Mount 4 @ 90
EPA: 5.03



851/852/8614 SERIES



The 851/852 Series is a universal mount recessed fixture that requires no framing and is perfect for new construction or retrofit in any type of ceiling material. It features a removable top for easy installation and maintenance, and is available with a vented cover-up to hide previously existing fixture openings in retrofit applications. Aluminum housing and door frame provide specification grade quality and longevity in a competitively priced and in-stock luminaire.

The 8614 Series offers the same features in a smaller housing for narrow soffits. Like its 851 Series counterpart, it requires no framing and is perfect for new construction or retrofit in any type of ceiling material.

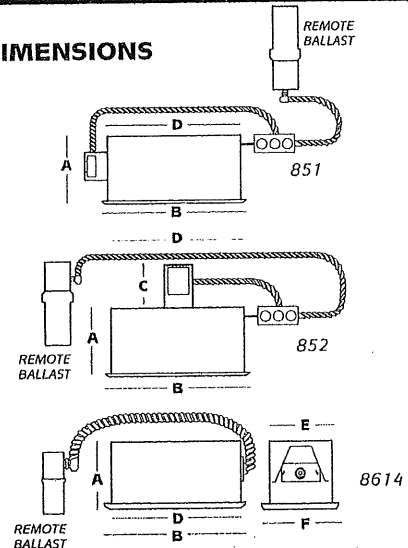


Fixture Specifications

FEATURES

- One-piece, corrosion resistant aluminum door frame with retainer cable
- Weatherproof powder-coat finish
- Aluminum housing
- UL listed, suitable for damp locations
- Available vented cover-up
- Mounting hardware included
- Vertical lamp has 60% longer lamp life (852 Series)
- Lamp included
- Pre-wired junction box (14GA, CRS)
- Removable outlet box and socket assembly (852 Series)

DIMENSIONS



	A	B	C	D	E	F
851	6.0"	14.5"	-	13.0"	-	-
852	6.0"	14.5"	4.0"	13.0"	-	-
8614	6.0"	14.5"	-	13.0"	6.5"	8.0"

ORDERING INFORMATION

SAMPLE CATALOG NUMBER

8XXX XX XXXXXX XX XX XX XXX

Series Mounting Wattage/Source Lens Application Finish Voltage

SERIES	
852	Vertical Lamp
851	Horizontal Lamp
8614	Horizontal Lamp

MOUNTING	
WW	Wall Wash
DL	Downlight
SM	Surface Mount (not avail. for 8614)

WATTAGE/SOURCE	
100MH	100 watt metal halide
175MH	175 watt metal halide
250MH	250 watt metal halide (surface only)
100HPS	100 watt high pressure sodium
150HPS	150 watt high pressure sodium
250HPS	250 watt high pressure sodium (surface only)

LENS	
FP	Flat temp. Prismatic
DO	Drop Opal (851/852 only)

APPLICATION	
OW	Plywood, Drywall, Plaster
AL	Aluminum

FINISH	
WH	White
AD	Almond
DB	Dark Bronze

VOLTAGE	
120	120 Volt
277	277 Volt

1 Consult factory for other lamp wattage/source options.
2 Consult factory for other finishes.



A HUBBELL LIGHTING, INC. COMPANY

Performance Designed Lighting Products

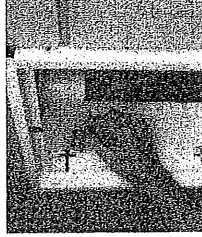
www.securitylightingsystems.com

1085 Johnson Drive • Buffalo Grove, IL 60089 • TOLL-FREE: 800-544-4848 • PHONE: 847-279-0627 • FAX: 847-279-0642

INSTALLATION INSTRUCTIONS



Place remote ballast on nearest ceiling joist.



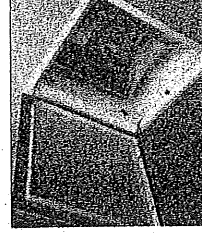
Disengage fixture top, raise fixture through opening and insert (4) "L" angles through crossed slots.



Use tab and bottom of fixture to sandwich ceiling material. Tighten screw. (No framing required.)



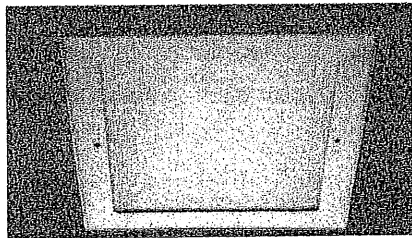
Drop flex through top of fixture and make all connections to 1900 box provided.



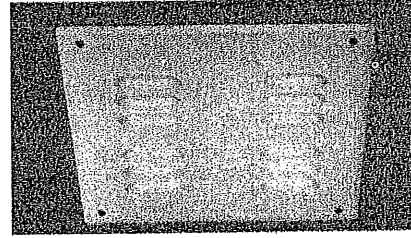
Install lamp, hinged door frame and lens.



Swing door frame to closed position and tighten screws.



Hinged aluminum door frame with FTP lens



Vented cover-up with screen



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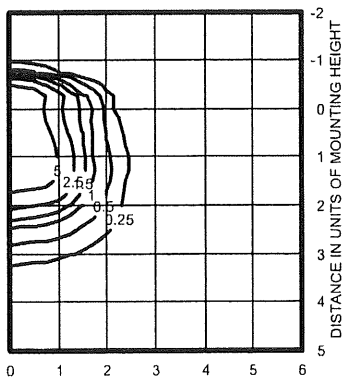
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WSR Metal Halide, High Pressure Sodium Building Mounted

WSR 150MHC FT LTL11336P

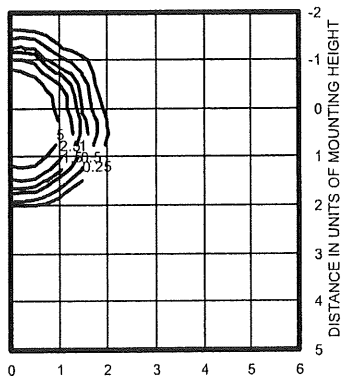
ISOILLUMINANCE PLOT (Footcandle)



150W pulse start metal halide lamp, horizontal lamp orientation Footcandle values based on 12' mounting height, 14000 rated lumens.
Luminaire Efficiency: 55.6%

WSR 150MHC MD LTL11335P

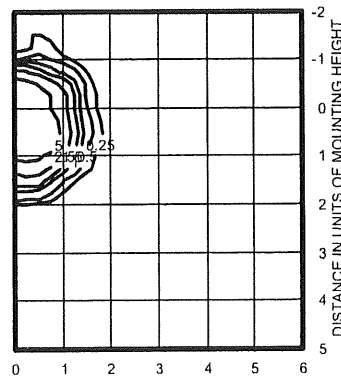
ISOILLUMINANCE PLOT (Footcandle)



150W pulse start metal halide lamp, horizontal lamp orientation Footcandle values based on 12' mounting height, 12500 rated lumens.
Luminaire Efficiency: 55.3%

WSR 150MHC MDU5 LTL11310P

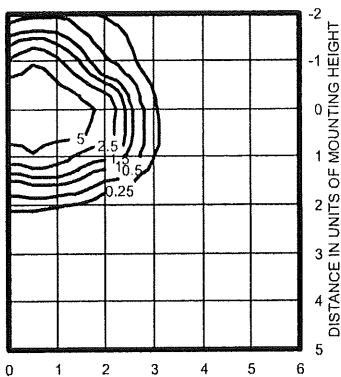
ISOILLUMINANCE PLOT (Footcandle)



150W pulse start metal halide lamp, horizontal lamp orientation Footcandle values based on 12' mounting height, 12500 rated lumens.
Luminaire Efficiency: 77.1%

WSR 150MHC WT LTL11337P

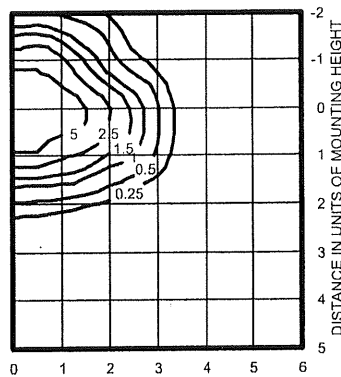
ISOILLUMINANCE PLOT (Footcandle)



150W pulse start metal halide lamp, horizontal lamp orientation Footcandle values based on 12' mounting height, 14000 rated lumens.
Luminaire Efficiency: 68.1%

WSR 150MHC WTU LTL11312P

ISOILLUMINANCE PLOT (Footcandle)



150W pulse start metal halide lamp, horizontal lamp orientation Footcandle values based on 12' mounting height, 14000 rated lumens.
Luminaire Efficiency: 69.7%

Emergency Option Lamp Compatibility

Lamp Options (# lamps/wattages)	DC12	2DC12	DC2012	2DC2012	EC	ELED	2ELED
35S	■	■	■	■	■	■	■
50S	■	■	■	■	■	■	■
70S	■	■	■	■	■	■	■
100S	■	■	■	■	■	■	■
150S	■	■	■	■	■	■	■
50M	■	■	■	■	■	■	■
70M	■	■	■	■	■	■	■
100M	■	■	■	■	■	■	■
150M	■	■	■	■	■	■	■
175M	■	■	■	■	■	■	■

Lamp	Initial Lumens	Mounting Height			
		10'	12'	14'	16'
Metal Halide					
50W MH	3,900	0.43	0.30	0.22	0.17
70W MH	5,500	0.62	0.43	0.31	0.24
100W MH	8,500	0.95	0.66	0.48	0.37
150W MH	12,500	1.41	0.98	0.72	0.55
175W MH	12,800	1.44	1.0	0.73	0.56
High Pressure Sodium					
35W HPS	2,250	0.26	0.18	0.13	0.10
50W HPS	4,000	0.45	0.31	0.23	0.17
70W HPS	6,400	0.72	0.50	0.37	0.28
100W HPS	9,500	1.07	0.74	0.54	0.41
150W HPS	16,000	1.80	1.25	0.91	0.70



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STORMWATER MANAGEMENT

I. Overview

Pursuant to SECTION V PORTLAND STORMWATER MANAGEMENT STANDARDS, of the Technical Standards, Paragraph II Applicability, Subparagraph C,

"The following development proposals shall be required to submit a Stormwater Management Plan pursuant to the regulations of Maine DEP Chapter 500 Stormwater Management rules, including Basic, General, and Flooding Standards.

b. Major site plans as defined in the Land Use Code – Section 14-522."

This report addresses the General, Flooding, and Urban Impaired Stream Standards. To meet the general standards, a project's stormwater management system must include treatment measures that will mitigate for the increased frequency and duration of channel erosive flows due to runoff from smaller storms, provide effective treatment for pollutants in stormwater, and mitigate potential temperature impacts. It is not anticipated that the project will be required to meet the Flooding or Urban Impaired Stream Standards, as outlined in the City of Portland Stormwater Management Standards.

II. Introduction

Bangor Savings Bank has retained Gorrill-Palmer Consulting Engineers, Inc. to prepare development plans and permit applications for a proposed bank with drive-up service. The proposed bank will be located at 320 Allen Avenue, southwest of the intersection of Washington Avenue and Allen Avenue in Portland.

The developer is currently seeking Major Site Plan Approval from the City of Portland for the proposed bank development.

This narrative contains the general stormwater management measures, which are appropriate for the infrastructure and lot construction required to develop this site.

III. Development Description

The development site includes portions of Lot E40, E41, and E50 of Portland Assessor's Map 344, totaling approximately 0.86 acres (the property lines were reconfigured for the development of the abutting Walgreens Pharmacy). The parcel is currently developed with a restaurant, Espo's.

Figure 1 is a map showing the project location.

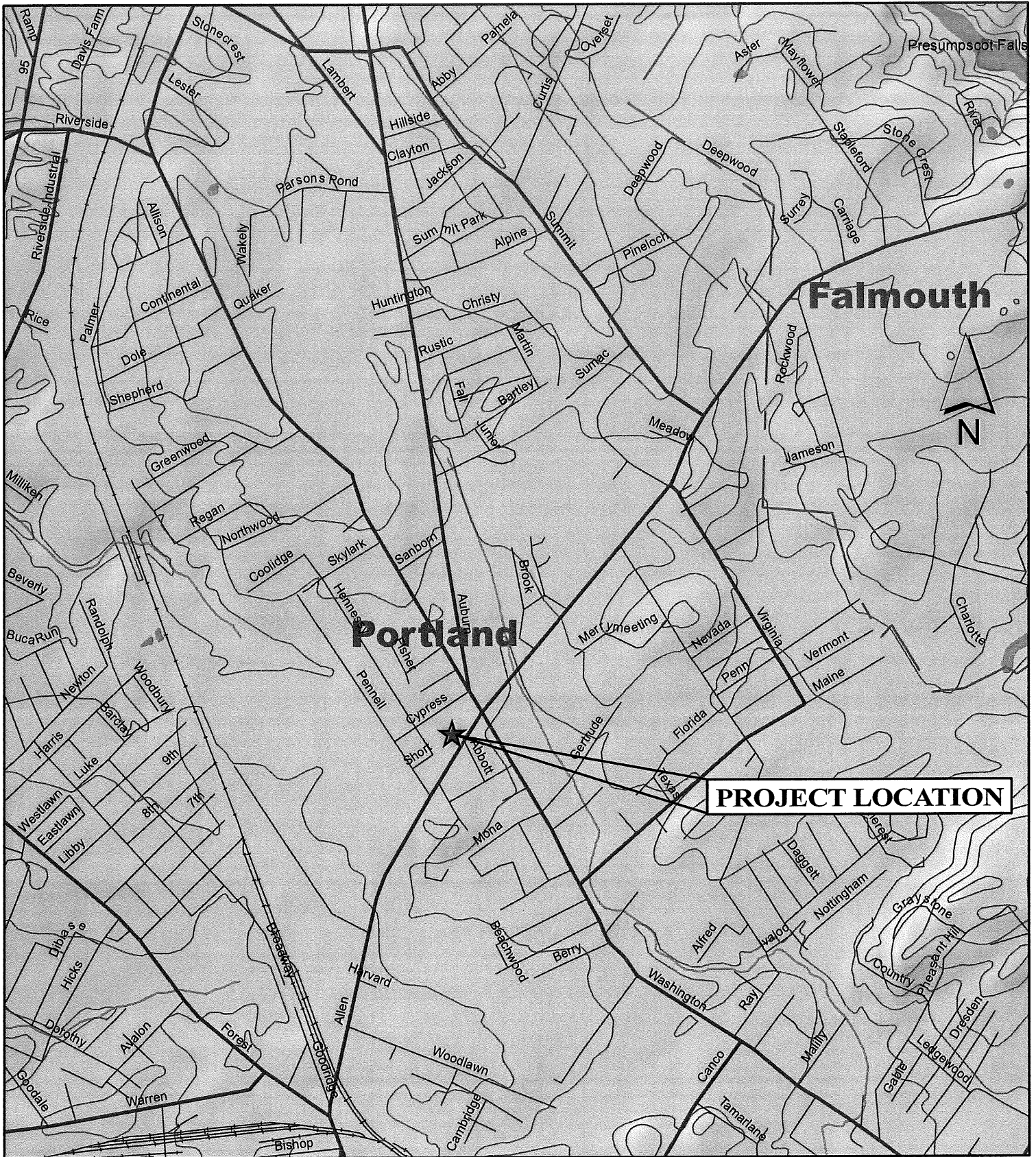
Abutting land uses include:

- North – Residential
- West – Residential
- South – Allen Avenue/Commercial
- East – Commercial

It is Gorrill-Palmer's understanding that the client intends to demolish the existing building and construct a 3,320 +/- square-foot bank with a drive-thru facility on site. The existing parking field is proposed to

Location Map

Figure No. **1**



PROPOSED BANK, PORTLAND, MAINE

GP Gorrill-Palmer Consulting Engineers, Inc.

Traffic and Civil Engineering Services 207-657-6910
PO Box 1237 15 Shaker Road Gray, ME 04039
Fax: 207-657-6912
mailbox@gorrillpalmer.com
www.gorrillpalmer.com



JN: 2287
DATE: DEC 2009
FILE: 2287_LOCMAP.MXD
SOURCE: MAINE GIS WEBSITE

be reconstructed to accommodate approximately 22 parking spaces. The site is proposed to be accessed through a primary curb cut on Allen Avenue and two curb cuts located on Allen Avenue and Washington Avenue which are shared with the abutting Walgreens Pharmacy. The proposed bank development has been designed to maintain cross access with the existing Walgreens Pharmacy.

IV. Surface Water

There are no lakes located on, adjacent to or downstream of the project site.

V. General Topography

The site is relatively flat, with slopes ranging from 1% - 8% across the main portion of the site. The majority of the site slopes in a southerly direction. Elevations on-site range from 83' at the southwestern corner of the lot to 81' along the northern portion of the lot, based on an assumed datum.

VI. Floodplain

Based on the FEMA Firm Map the site is located outside the 100 year flood Boundary Zone A2. The panel indicates a 100 year flood elevation of 79 on the easterly side of the intersection of Washington Avenue and Allen Avenue.

VII. Natural Drainage Ways

The project as currently proposed does not include alteration of any natural drainage ways.

VIII. Alterations to Land Cover

Overall changes in land cover will include the removal of impervious areas and the addition of vegetated areas.

IX. Basic Standards

The Basic Standard will be met as presented in the Erosion and Sedimentation Control Report for this project, which is included as part of the Application Package to the City.

X. General Standards

The City of Portland Stormwater Management Standards concentrate on four stormwater management objectives:

- Effective Pollutant Removal
- Cooling
- Channel Protection
- Flood Control

These objectives may be met either directly by providing BMP's that manage and treat the runoff after it has been created, or indirectly by incorporating low impact development site planning concepts to minimize production and contamination of runoff by maximizing infiltration and evapotranspiration.

X.1 Current Treatment Methods

Under the General Standard, the project is required to meet the BMP Standards as the development site is not tributary to a lake watershed. The BMP Standard requires that runoff from no less than 95% of the impervious area and no less than 80% of the developed area associated with a project be controlled. The four treatment measures listed in Chapter 500 and described in Volume III of the Stormwater BMP Manual are:

- Wetpond with detention above the permanent pool
- Filters
- Infiltration
- Buffers

Below is a brief description of each treatment method.

Wetpond with detention above the permanent pool:

Wet ponds are stormwater detention impoundments that have a permanent pool of water and have the capacity to temporarily store storm water runoff while it is released at a controlled rate. They can be designed to provide flood control as well as water quality treatment. Properly sized and maintained, wet ponds can achieve high rates of removal for a number of urban pollutants, including sediment and the pollutants associated with sediment, such as trace metals, hydrocarbons, BOD, nutrients, and pesticides. The addition of an underdrained gravel trench in the bench area around the permanent pool allows for slow, extended release of stormwater without risk of blockage and effective cooling to avoid thermal impacts. This BMP treatment method is generally used to treat runoff from large drainage areas.

Filters

Filtration BMPs, particularly organic soil filter medias, have shown to be very effective at removing a wide range of pollutants from stormwater runoff. They can be constructed in combination with infiltration practices, or with an underdrain filter, where infiltration is not feasible. Soil filters can be designed and constructed using common materials. Underdrained soil filters control stormwater quality by capturing and retaining runoff and passing it through a filter bed comprised of a specific soil media. Various filter medias may be used, the most common including sand filters and organic filters. Once through the soil media, the runoff is collected in a perforated underdrain pipe and discharged to the receiving water. The filter and underdrain provides for slow release of smaller storm events, minimizing stream channel erosion, as well as cooling the discharge.

A bioretention cell is a type of underdrained filter designed to collect, infiltrate/filter, and treat moderate amounts of stormwater runoff using conditioned planting soil beds, gravel beds and vegetation within shallow depressions. The major difference between an underdrained soil filter and bioretention cell is the vegetation. A typical underdrained soil filter may be planted with grass, whereas a bioretention cell is planted with a variety of shrubs and perennials whose roots assist with the passing of water and uptake of pollutants. Studies have shown that bioretention cells are capable of reducing sediment, nutrients, oil and grease, and trace metals. Bioretention cells are usually located in close proximity to the origin of the stormwater runoff and it is anticipated that these facilities would most often be scattered throughout a residential area, along the downhill edge of parking areas, or below the down spouts of roof drains. Bioretention cells

can be designed to infiltrate water into the groundwater below, or to filter the water through the bioretention soil media and collect it in an underdrain located beneath the soil media.

Infiltration

Infiltration measures control stormwater quantity and quality, by retaining all or part of runoff on-site and discharging it into the ground. Infiltration is designed to occur at the surface (as in infiltration basins and to a degree vegetated swales and buffers), or in subsurface systems (e.g., infiltration trenches and infiltrators). The basic function of an infiltration system is to remove a portion of runoff from the total runoff volume of the site and treatment comes about through absorption, straining, microbial decomposition in the soil and trapping of particulate matter within pretreatment areas. Pretreatment to remove sediments, grease and oils is required prior to discharge to the infiltration measure. Possible pretreatment measures include filter strips, swales with check dams, sand filters, sediment traps, grease and oil traps, and sediment basins.

Buffers

Buffer strips are natural, undisturbed strips of natural vegetation or planted strips of close growing vegetation adjacent to and downslope of developed areas. As stormwater runoff travels over the buffer area, vegetation slows the runoff and traps particulate pollutants. They are also effective for phosphorus removal when designed in accordance with the volume III BMP technical design manual. The effectiveness of buffers for pollutant removal depends on the flow path length and slope, the buffer berm length, the soil permeability, the size of drainage area, and the type and density of vegetation. Buffers are used to treat runoff from relatively small amounts of impervious area, as typically found in residential developments and small commercial and industrial sites. This type of BMP requires minimal maintenance and provides an aesthetically pleasing area.

X.2 Approach and Analysis for Quality

The proposed development will be required to meet the Basic Standard and the BMP Standard under the General Standard of the City of Portland Stormwater Regulations. Based upon review of the four recommended and approved methods for mitigating the increased frequency and duration of channel erosive flows, as required by the BMP Standards, the developer is proposing to use two bioretention ponds. The filtration methodology was selected due the availability of area within the project site.

X.3 Stormwater Treatment

Attachment A contains the water quality map for this project.

Subcatchment 1 is tributary to the proposed Bioretention Cell #1. The tributary area consists of pavement area, landscaped area, roof area of the proposed bank, as well as the pond itself. Due to previous test pits from the abutting Walgreens development, it is not anticipated that the groundwater elevation is high in this area. As a result, the bioretention cell will not be lined with an impermeable liner.

Subcatchment 2 is tributary to the proposed Bioretention Cell #2. The tributary area consists of pavement area, landscaped area, roof area of the proposed bank, as well as the pond itself. A portion of the Walgreens development is also tributary to the biocell. Due to previous test pits from the abutting Walgreens development, it is not anticipated that the groundwater elevation is high in this area. As a result, the bioretention cell will not be lined with an impermeable liner.

Bioretention Cells are defined in Volume III, Section 7 of the Stormwater Management Best Management Practices Manual published by the Maine Department of Environmental Protection. The development will be required to provide the treatment volume for 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped developed area, for areas associated with bioretention cells. The surface area of the filter is required to be no less than the sum of 5% of the impervious area and 2% of the landscaped area draining to the filter. The available treatment volume includes 6" of storage above the soil media and one third of the soil filter volume. Larger storms will overflow the Bioretention Cell and spill into a catch basin, which discharges to the municipal system within Allen Avenue. A valve will be placed on the bioretention cell underdrain to regulate the outflow through the soil media. The valve will be field adjusted to maintain the outflow time between 24 and 48 hours. Yearly maintenance of the bioretention cell will include monitoring the cell outflow after a rainfall event to ensure the outflow time is within the required parameters.

The following tables present the bioretention cell information:

Table 1		
Proposed Bioretention Cell #1		
	Required	Provided
Impervious Area		14,965 sq. ft.
Developed Area (non-impervious)		3,700 sq. ft.
Treatment Volume	1,370 cu. ft.	1,495 cu. ft.
Filter Surface Area 5%(imp. Area) +2%(landscaped Area)	822.25 sq. ft.	1,840 sq. ft.
Cell Base Elevation		80.90 ft.
Overflow Elevation		81.40 ft.

Table 2		
Proposed Bioretention Cell #2		
	Required	Provided
Impervious Area		9,025 sq. ft.
Developed Area (non-impervious)		4,655 sq. ft.
Treatment Volume	907 cu. ft.	914 cu. ft.
Filter Surface Area 5%(imp. Area) +2%(landscaped Area)	544.35 sq. ft.	844 sq. ft.
Cell Base Elevation		79.75 ft.
Overflow Elevation		80.25 ft.

X.4 Conclusion – Overall Treatment

The proposed bank development will utilize Bioretention Cells to mitigate the development as required by the BMP Standards. The development is required to control runoff from no less than 95% of the impervious area and no less than 80% of the developed area. As proposed, the

development is controlling approximately 95% of the impervious area and approximately 88% of the developed area, which meets or exceeds the required control. It should be noted that as currently designed, the project is treating previously untreated off-site area from the abutting Walgreens development. This off-site area was not included in the calculation of total area, but was included in the calculations for total treated area. In addition, of the approximately 6,843 sq. ft. of untreated developed area by the proposed bank biocells, approximately 2,425 sq. ft. is being directed to the Walgreens stormwater system. The Walgreens stormwater system includes an "Environment 21 Unistorm Model 6R Water Treatment System", which is not a Maine DEP approved treatment system, but is similar in design as a Downstream Defender® Advanced Vortex Separator. A small portion of the proposed entrance and vegetated side slopes throughout the site are not being treated due to the existing and proposed topography of the site.

X.5 Construction BMPs

Additional water quality treatment will be provided during construction by best management practices (BMP). Standard BMPs to be employed include siltation fencing around the downslope construction perimeter and erosion control fabrics applied to slopes prior to revegetation.

XI. Flooding Standard

The Flooding Standard, as outlined by the City of Portland Stormwater Management Standards, indicates that, if required, the project must detain, retain, or result in the infiltration of stormwater from 24-hour storms of the 2-year, 10-year, and 25-year frequencies such that the peak flows of stormwater from the project site do not exceed the peak flows of stormwater prior to undertaking the project. As the project is a redevelopment of an existing site, which results in a reduction of the overall impervious surface of the project site, it is anticipated that the proposed development will not result in an increase, or will result in an insignificant increase, in peak flow rates for the project site. The following table illustrates the reduction in impervious area from the existing site to the proposed development:

Table 3			
Existing vs. Proposed Impervious Surface			
	Existing	Proposed	Net Change
Total Area	37,559 sq. ft.	37,559 sq. ft.	0
Impervious Area	28,733 sq. ft.	24,296 sq. ft.	-4,391 sq. ft.

As can be seen in the above table, the impervious area from existing to proposed development decreases approximately 4,400 sq. ft. In addition, the proposed project will result in the construction of two Bioretention cells, which will attenuate and treat the runoff from a 1" storm, which is larger than a significant portion of the rain events for the year. This attenuation within the biocells will reduce the peak flows from the site, as well.

XII. Urban Impaired Stream Standard

The project site is tributary to the storm drain system that eventually discharges to Fall Brook, which is identified as an Urban Impaired Stream. Based on the City of Portland Stormwater Management Standards, the project will not be required to comply with the Urban Impaired Stream Standard as the project is a redevelopment of an existing impervious area. Per the City of Portland Stormwater Management Standards:

“Exception for a project including redevelopment. Redevelopment of an existing impervious area is not required to meet the urban impaired stream standard provided the department determines that the new use of the existing impervious area is not likely to increase stormwater impacts in the proposed project’s stormwater runoff beyond the levels already present in the runoff from the existing impervious area.”

As the project results in a reduction of the overall impervious surface of the project site, it is our opinion that the new use is not likely to increase stormwater impacts in the proposed project’s stormwater runoff beyond the levels already present in the runoff from the existing impervious area.

XIII. Maintenance of Facilities

The stormwater facilities will be maintained by the Applicant, Bangor Savings Bank or their assigned heirs. The contract documents will require the contractor to designate a person responsible for maintenance of the sedimentation control features during construction as required by the Erosion Control Report. Long-term operation/maintenance recommended for the stormwater facilities is presented below. A standard maintenance log, to be used for each facility, is provided in Attachment B.

The responsible party may contract with such professionals, as may be necessary in order to comply with this provision and may rely on the advice of such professionals in carrying out its duty hereunder, provided, that the following operation and maintenance procedures are hereby established as a minimum for compliance with this section.

Inspection and Maintenance Frequency and Corrective Measures:

The following areas, facilities, and measures will be inspected and the identified deficiencies will be corrected. Clean-out must include the removal and legal disposal of any accumulated sediments and debris.

Catch Basins:

Inspect catch basins 2 times per year (preferably in Spring and Fall) to ensure that the catch basins are working in their intended fashion and that they are free of debris. Clean structures when sediment depths reach 12” from invert of outlet. If the basin outlet is designed with a hood to trap floatable materials (i.e. Snout), check to ensure watertight seal is working. At a minimum, remove floating debris and hydrocarbons at the time of the inspection. Hydrocarbon Socks installed within catch basins shall be properly disposed of by an approved contractor within 14 days after the first 1” rainfall event after final pavement. Hydrocarbon Socks shall be maintained within all catch basins during the first year of operation. All socks should be removed and disposed of one year after the initial replacement. New Hydrocarbon Socks shall be installed within areas that receive new pavement in the future

Soil Filter – Bio-Filtration:

Inspect all upstream pre-treatment measures 2 times per year (preferably in Spring and Fall) for sediment and floatables accumulation. Remove and dispose of any sediments or debris.

Surface (Underdrain Pond, Swale or Bio-Filter):

The soil filter will be inspected within the first three months after construction; thereafter the filter will be inspected 2 times per year (preferably in Spring and Fall) to ensure that the filter is draining within 24 to 48 hours of a rain event equivalent to 1” or more. Adjustments will be made to the outlet valve to ensure that the Bioretention Cell drains within 24 to 48 hours. Failure to drain in 72 hours will require part or all of the soil filter media to be removed and replaced with new material meeting the soil filter gradation. The facilities will be inspected after major storms and any identified deficiencies will be corrected. Harvesting and weeding of excessive

growth shall be performed as needed. Inspect for unwanted or invasive plants and remove as necessary. Add new mulch as needed to maintain a 3 inch thickness.

Vegetated Areas:

Inspect slopes and embankments early in the growing season to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows. The facilities will be inspected after major storms and any identified deficiencies will be corrected.

Roadways and Parking Surfaces: Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader. Repair potholes and other roadway obstructions and hazards. Plowing and sanding of paved areas shall be performed as necessary to maintain vehicular traffic safety.

XII. Conclusion

The Applicant has provided Stormwater treatment measures as well as specifying a maintenance plan for all stormwater measures. As noted above, the project will meet the Basic and General Standards contained within the City of Portland Stormwater Management Standards, but will not meet the Flooding and Urban Impaired Stream Standards, as the project is a redevelopment of an existing site and results in a reduction in impervious area.

XIII. Attachments

Attached to this section are the following items:

- Attachment A – Stormwater Calculations
- Attachment B – Water Quality Maps
- Attachment C – Stormwater Maintenance Log

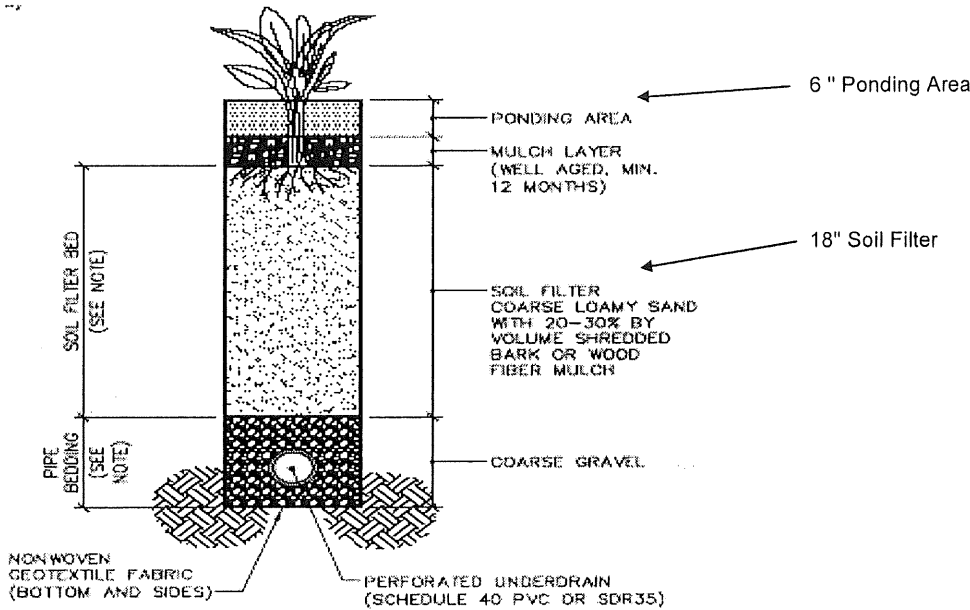
ATTACHMENT A
STORMWATER CALCULATIONS

Bioretention Cell Calculations

Task: Determine the required size of the Bioretention Cell

- Reference:**
1. Water Quality Map Dated October 2007, revised March 2008
 2. MDEP Volume III BMP's Technical Design Manual Dated January 2006
 3. Stormwater Management Report Dated February 2010

Bioretention Cell Detail



- Given:**
1. Total Volume of Water Storage = (6" of Ponding depth + 1/3 The Soil Filter Depth)x filter area
 Total = (6" + (1/3 x 18"))x filter area
 Total Storage = 12"x filter area=1cf storage per square foot of filter area
 2. Total Treatment Volume = Impervious Volume + Landscaped Volume
 Impervious Volume = 1" x subcatchment impervious area (s.f.)
 Landscaped Volume = 0.4" x subcatchment landscaped area (s.f.)

Calculations: Total Storage Req. = [(0.4"/12") x Landscaped Area (s.f.)] + [(1"/12") x Impervious Area (s.f.)]

		Impervious Area (AC)	Landscaped Area (Ac)	Storage Required (CF)
Channel Protection Volume	Bioretention Cell #1	14527	3790	1,337
Channel Protection Volume	Bioretention Cell #2	8478	4847	868

Filter Area (Shall be no less than 5% of impervious plus 2% of vegetated)		
	Required	Provided
Bioretention Cell #1	802.15	1,840
Bioretention Cell #2	520.84	844

Results:

	Total Storage Required (CF)	Total Storage Provided (CF)
Bioretention Cell #1	1337	1495
Bioretention Cell #2	868	914

ATTACHMENT B

WATER QUALITY TREATMENT MAPS

PHOTO

WATER QUALITY TREATMENT MAPS

ATTACHMENT C

STORMWATER MAINTENANCE LOG

STORMWATER

NO.

DATE

LOG

STORMWATER MAINTENANCE LOG

INSPECTION REPORT

PROJECT INFORMATION

Project Name: Bank Development

Address: Allen Avenue
Portland, Maine

CONTRACTOR/SUBCONTRACTOR INFORMATION

Inspector Name: _____

Firm: _____

Title: _____

Qualifications: _____

INSPECTION SUMMARY

Date of Inspection: _____

Major Observations: _____

THE FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN WITH THE FOLLOWING EXCEPTIONS:

ACTIONS NECESSARY TO BRING FACILITY INTO COMPLIANCE:

REQUIRED MODIFICATIONS TO STORMWATER POLLUTION PREVENTION PLAN
(MUST BE IMPLEMENTED WITHIN 7 DAYS OF INSPECTION):

CERTIFICATION STATEMENT:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the systems, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

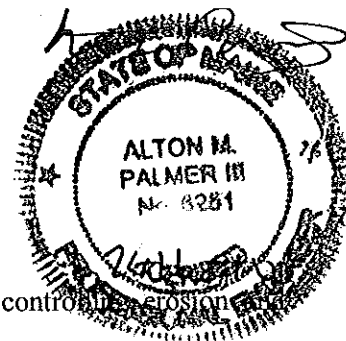
Signature

Typed Name

Title

Date

EROSION AND SEDIMENTATION CONTROL BASIC STANDARDS



Overview

This Exhibit demonstrates the developer has made adequate provision for control of erosion and sedimentation.

Introduction

Bangor Savings Bank has retained Gorrill-Palmer Consulting Engineers, Inc. to prepare development plans and permit applications for a proposed bank with drive-up service. The proposed bank will be located at 320 Allen Avenue, southwest of the intersection of Washington Avenue and Allen Avenue in Portland. Gorrill-Palmer Consulting Engineers, Inc. has prepared an Erosion and Sedimentation Control Plan for the proposed development. This narrative contains the general erosion and sedimentation control measures, which are appropriate for the construction of the project.

Municipal Requirements

Pursuant to SECTION V PORTLAND STORMWATER MANAGEMENT STANDARDS, of the Technical Standards, Paragraph II Applicability, Subparagraph C,

"The following development proposals shall be required to submit a Stormwater Management Plan pursuant to the regulations of Maine DEP Chapter 500 Stormwater Management rules, including Basic, General, and Flooding Standards.

b. Major site plans as defined in the Land Use Code – Section 14-522."

This report addresses the Basic Standard. The Basic Standards requires applicants to address erosion and sediment control for the property, to maintain the measures during construction, and to stabilize the site with loam and seed upon the completion of the project.

Narrative

Existing Conditions and Soil Types

The development site includes portions of Lot E40, E41, and E50 of Portland Assessor's Map 344, totaling approximately 0.86 acres (the property lines were reconfigured for the development of the abutting Walgreens Pharmacy). The parcel is currently developed with a restaurant, Espo's.

Figure 1 is a map showing the project location.

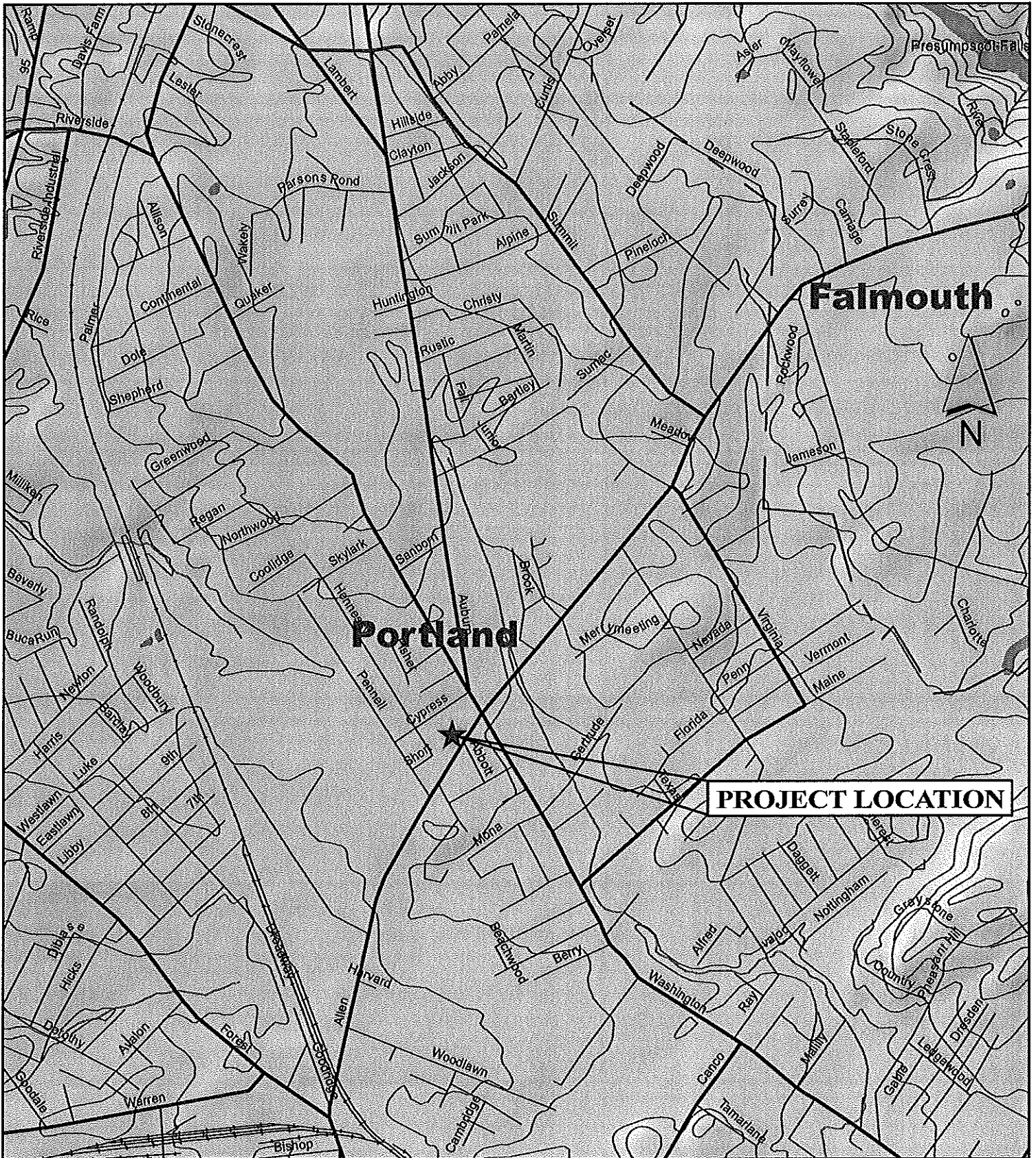
Abutting land uses include:

- North – Residential
- West – Residential
- South – Allen Avenue/Commercial
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It is Gorrill-Palmer's understanding that the client intends to demolish the existing building and construct a 3,320 +/- square-foot bank with a drive-thru facility on site. The existing parking field is proposed to be reconstructed to accommodate approximately 22 parking spaces. The site is proposed to

Location Map

Figure No. **1**



PROPOSED BANK, PORTLAND, MAINE

GP Gorrill-Palmer Consulting Engineers, Inc.

PO Box 1237
15 Shaker Road
Gray, ME 04039

Traffic and Civil Engineering Services 207-657-6910

Fax: 207-657-6912

mailbox@gorrillpalmer.com

www.gorrillpalmer.com



JN: 2287

DATE: DEC 2009

FILE:2287_LOCMAP.MXD

SOURCE: MAINE GIS WEBSITE

be accessed through a primary curb cut on Allen Avenue and two curb cuts located on Allen Avenue and Washington Avenue which are shared with the abutting Walgreens Pharmacy. The proposed bank development has been designed to maintain cross access with the existing Walgreens Pharmacy.

The site is relatively flat, with slopes ranging from 1% - 8% across the main portion of the site. The majority of the site slopes in a southerly direction. Elevations on-site range from 83' at the southwestern corner of the lot to 81' along the northern portion of the lot, based on an assumed datum.

Soils on the site were based upon the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. The area of the development is mapped with soils as shown in the table below. Figure 2 following this page depicts the SCS mapping for this site. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. The higher values are indicative of the more erodible soils. The following table lists the K values for the soils onsite:

K VALUE		
Type	Subsurface	Substratum
Buxton	.49	.49
Scantic	.49	.49

Based on a review of the K Values, the on-site soils are moderately to highly susceptible to erosion.

Existing Erosion Problems

Gorrill-Palmer Consulting Engineers, Inc. is not aware of any existing erosion problems on site.

Critical Areas

Gorrill-Palmer Consulting Engineers Inc. is not aware of any critical areas on site.

Protected Natural Resources

The project site would appear to be tributary to the storm drain system that eventually discharges to Fall Brook, which is identified as an Urban Impaired Stream. Based on the FEMA Firm Map the site is located outside the 100 year flood Boundary Zone A2. The panel indicates a 100 year flood elevation of 79 on the easterly side of the intersection of Washington Avenue and Allen Avenue.

Erosion Control Measures and Site Stabilization

The primary emphasis of the erosion/sedimentation control plan, which will be implemented for this project, is as follows:

- ◆ Development of a careful construction sequence.
- ◆ Rapid revegetation of denuded areas to minimize the period of soil exposure.
- ◆ Rapid stabilization of drainage paths to avoid rill and gully erosion.
- ◆ The use of on-site measures to capture sediment (hay bales/ stone check dams/silt fence, etc.)




The following temporary and permanent erosion and sediment control devices will be implemented as part of the site development. These devices shall be installed as indicated on the plans or as described

Soils Map

Figure No. **2**



Legend

-  BELGRADE VERY FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES
-  BUXTON SILT LOAM, 3 TO 8 PERCENT SLOPES
-  SCANTIC SILT LOAM

PROPOSED BANK, PORTLAND, MAINE

GP Gorrill-Palmer Consulting Engineers, Inc.

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JN: 2287
DATE: FEB 2010
FILE:2287_SOILS.MXD
SOURCE: MAINE GIS WEBSITE

within this report. For further reference, see the latest edition of the Maine Erosion and Sediment Control BMPS.

A. Dewatering

Water from construction trench dewatering shall pass first through a filter bag or secondary containment structure (e.g. hay bale lined pool) prior to discharge. The discharge site shall be selected to avoid flooding, icing, and sediment discharges to a protected resource. In no case shall the filter bag or containment structure be located within 50 feet of a protected natural resource.

B. Inspection and Monitoring

Maintenance measures shall be applied as needed during the entire construction season. After each rainfall, snow storm or period of thawing and runoff, the site contractor shall perform a visual inspection of all installed erosion control measures and perform repairs as needed to insure their continuous function. Following the temporary and/or final seeding and mulching, the contractor shall in the spring inspect and repair any damages and/or unestablished spots. Established vegetative cover means a minimum of 90% of areas vegetated with vigorous growth.

C. Temporary Erosion Control Measures

The following measures are planned as temporary erosion/sedimentation control measures during construction:

1. Crushed stone-stabilized construction entrance shall be placed at the entrance along Allen Avenue.
2. Siltation fence or wood waste compost berms shall be installed downstream of any disturbed areas to trap runoff-borne sediments until grass areas are revegetated. The silt fence and/or wood waste compost berms shall be installed per the details provided in this package and inspected at least once a week and before and immediately after a storm event of 0.5 inches or greater, and at least daily during prolonged rainfall. Repairs shall be made if there are any signs of erosion or sedimentation below the fence or berm line. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind the fence or berm, the barrier shall be replaced with a stone check dam. Wood waste compost berms are not to be used adjacent to wetland areas that are not to be disturbed.
3. Straw or hay mulch including hydroseeding is intended to provide cover for denuded or seeded areas until revegetation is established. Mulch placed between April 15th and October 15th on slopes of less than 15 percent shall be anchored by applying water; mulch placed on slopes of equal to or steeper than 15 percent shall be covered by a fabric netting and anchored with staples in accordance with manufacturer's recommendation. Fabric netting and staples shall be used on disturbed areas within 50' of lakes, streams, and wetlands regardless of the upstream slope. Mulch placed between October 15th and April 15th on slopes equal to or steeper than 8 percent shall be covered with a fabric netting and anchored with staples in accordance with the manufacturer's recommendations. Slopes steeper than 3:1 and equal to or flatter than 2:1, which are to be revegetated, shall receive curlex blankets by American Excelsior or equal. Slopes steeper than 2:1 shall receive riprap

as noted on the plans. The mulch application rate for both temporary and permanent seeding is 75 lbs per 1000 sf as identified in Attachment A of this section. Mulch shall not be placed over snow.

4. Temporary stockpiles of stumps, grubblings, or common excavation will be protected as follows:

a) Temporary stockpiles shall not be located within 100 feet of any wetlands which will not be disturbed and shall be located away from drainage swales.

b) Stockpiles shall be stabilized within 7 days by either temporarily seeding the stockpile by a hydroseed method containing an emulsified mulch tackifier or by covering the stockpile with mulch, such as hay, straw, or erosion control mix.

c) Stockpiles shall be surrounded by sedimentation barrier at the time of formation.

5. All denuded areas that are within 100 feet of an undisturbed wetland, which have been rough graded and are not located within a building pad, parking area, or access drive subbase area, shall receive mulch or erosion control mesh fabric within 48 hours of initial disturbance of soil. All areas within 100 feet of an undisturbed wetland shall be mulched prior to any predicted rain event regardless of the 48 hour window. In other areas, the time period may be extended to 7 days.

6. For work, which is conducted between October 15th and April 15th of any calendar year, all denuded areas, shall be covered with hay mulch or erosion control mix, applied at twice the normal application rate and anchored with a fabric netting. The time period for applying mulch shall be limited to 2 days for all areas.

7. Allen Avenue shall be swept to control mud and dust as necessary. Additional stone shall be added to the stabilized construction entrance to minimize the tracking of material off the site and onto the surrounding roadways.

8. During grubbing operations stone check dams shall be installed at any evident concentrated flow discharge points and as directed on the Erosion Control Plans.

9. Silt fencing with a minimum stake spacing of 6 feet should be used, unless the fence is supported by wire fence reinforcement of minimum 14 gauge and with a maximum mesh spacing of 6 inches, in which case stakes may be spaced a maximum of 10 feet apart. The bottom of the fence should be anchored.

10. Wood waste compost/bark berms may be used in lieu of siltation fencing. Berms shall be removed and spread in a layer not to exceed 3" thick once upstream areas are completed and a 90% catch of vegetation is attained.

11. Storm drain catch basin inlet protection shall be provided through the use of stone sediment barriers or approved sediment bags (such as Silt Sack). Installation details are provided in the plan set. The barriers shall be inspected after each rainfall and repairs made as necessary. Sediment shall be removed and the barrier restored to its original dimensions

when the sediment has accumulated to ½ the design depth of the barrier. The barrier shall be removed when the tributary drainage area has been stabilized.

12. Water and/or calcium chloride shall be furnished and applied in accordance with MDOT specifications – Section 637 – Dust Control.

13. Loam and seed is intended to serve, as the primary permanent revegetative measure for all denuded areas not provided with other erosion control measures, such as riprap. Application rates are provided in Attachment A of this section. Seeding shall not occur over snow.

D. Permanent Erosion Control Measures

The following permanent erosion control measures have been designed as part of the Erosion/Sedimentation Control Plan:

1. All areas disturbed during construction, but not subject to other restoration (paving, riprap, etc.) will be loamed, limed, fertilized, mulched, and seeded. Fabric netting, anchored with staples, shall be placed over the mulch in areas as noted in **Temporary Erosion Control Measures** paragraph 3 of this report. All areas within 100 feet of an undisturbed wetland shall be mulched prior to any predicted rain event regardless of the 48 hour window. Native topsoil shall be stockpiled and reused for final restoration when it is of sufficient quality.
2. All storm drain pipe outlets shall have riprap aprons at their outlet to protect the outlet and receiving channel from scour and deterioration. Installation details are provided in the plan set. The aprons shall be installed and stabilized to the extent practicable prior to directing runoff to the tributary pipe or culvert.
3. Catch basins shall be provided with sediment sumps and inlet hoods (the Snout) for all outlet pipes that are 18" in diameter or less.

Implementation Schedule

The following construction sequence shall be required to insure the effectiveness of the erosion and sedimentation control measures are optimized:

It is anticipated that construction of the proposed bank and related infrastructure will commence in Spring of 2010 and be completed by Fall of 2010.

Note: For all grading activities, the contractor shall exercise extreme caution not to overexpose the site by limiting the disturbed area.

1. Install perimeter silt fence and/or wood waste berms prior to grubbing respective areas.
2. Install crushed stone to stabilized construction entrance at driveway entrance along Allen Avenue, if required.
3. Install silt sack in catch basins within City right-of-way.

4. Commence building and site demolition within the specified clearing limits.
5. Foundation preparation area shall be excavated for installation of the building footings. Building work will be on going through the remainder of the project.
6. Commence installation of drainage appurtenances.
7. Commence earthwork and grading to subgrade.
8. Commence installation of electrical service.
9. Commence installation of water line and sewer line.
10. Commence installation of gas service.
11. Continue earthwork and grading to subgrade as necessary for construction.
12. Complete installation of underground utilities to within 5' of the buildings.
13. Install light pole foundations and utility poles.
14. Complete remaining earthwork operations.
15. Complete installation of catch basins and appurtenances.
16. Install sub-base and base gravel within parking fields, walkways, and all driveways.
17. Install curbing in parking fields, driveways, and along the streets as needed.
18. Install base course paving for access drive and parking area as well as concrete surfaces.
19. Loam, lime, fertilize, seed and mulch disturbed areas and complete all landscaping.
20. Install surface course paving for access drive and parking areas. Stripe per plan.
21. Once the site is stabilized and a 90% catch of vegetation has been obtained, remove all temporary erosion control measures.
22. Touch up loam and seed.

Note: All denuded areas not subject to final paving, riprap, or gravel shall be revegetated.

Prior to construction of the project, the contractor shall submit to the owner a schedule for the completion of the work, which will satisfy the following criteria:

1. The above construction sequence should generally be completed in the specified order; however, several separate items may be constructed simultaneously. Work must also be scheduled or phased to reduce the extent of the exposed areas as specified below. The intent of this sequence is to provide for erosion control and to have structural measures such as silt fence and construction entrances in place before large areas of land are denuded.

2. The work shall be conducted in sections which shall:

- a) Limit the amount of exposed area to those areas in which work is expected to be undertaken during the proceeding 30 days.
- b) Revegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading or before a storm event; or temporarily stabilized within 48 hours of initial disturbance of soil for areas within 100 feet of an undisturbed wetland and 7 days for all other areas. Areas within 100 feet of an undisturbed wetland shall be mulched prior to any predicted rain event regardless of the 48 hour window.
- c) Incorporate planned inlets and drainage system as early as possible into the construction phase. The ditches shall be immediately lined or revegetated as soon as their installation is complete.

Erosion, Sedimentation and Stabilization Control Plan

The Erosion Control Plan is included in the plan set.

Details and Specifications

The Erosion Control details and specifications are included in the plan set.

Winter Stabilization Plan

The winter construction period is from November 1 through April 15. If the construction site is not stabilized with pavement, a road gravel base, 75% mature vegetation cover or riprap by November 15 then the site needs to be protected with over-winter stabilization. An area considered open is any area not stabilized with pavement; vegetation, mulching, erosion control mats, riprap or gravel base on a road.

Winter excavation and earthwork shall be completed such that any area left exposed can be controlled by the contractor. Limit the exposed area to those areas in which work is expected to be under taken during the proceeding 15 days and that can be mulched in one day prior to any snow event.

All areas shall be considered to be denuded until the subbase gravel is installed in roadway/parking areas or the areas of future loam and seed have been loamed, seeded and mulched. Hay and straw mulch rate shall be a minimum of 150 lbs./1,000 s.f. (3 tons/acre) and shall be properly anchored.

The contractor shall install any added measures which may be necessary to control erosion/sedimentation from the site dependent upon the actual site and weather conditions. Continuation of earthwork operations on additional areas shall not begin until the exposed soil surface on the area being worked has been stabilized, in order to minimize areas without erosion control protection.

1. Soil Stockpiles

Stockpiles of soil or subsoil shall be mulched for over winter protection with hay or straw at twice the normal rate or at 150 lbs/1,000 s.f. (3 tons per acre) or with a four-inch layer of woodwaste erosion control mix. This shall be done within 24 hours of stocking and re-established prior to any rainfall or snowfall. Any soil stockpile shall not be placed (even covered with hay or straw) within 100 feet from any natural resources.

2. Natural Resource Protection

Any areas within 100 feet from any natural resources, if not stabilized with a minimum of 75% mature vegetation catch, shall be mulched by December 1 and anchored with plastic netting or protected with erosion control mats. During winter construction, a double line of sediment barriers (i.e. silt fence backed with hay bales or erosion control mix) shall be placed between any natural resource and the disturbed area. Projects crossing the natural resource shall be protected a minimum distance of 100 feet on either side from the resource. Existing projects not stabilized by December 1 shall be protected with the second line of sediment barrier to ensure functionality during the spring thaw and rains.

3. Sediment Barriers

During frozen conditions, sediment barriers shall consist of woodwaste filter berms as frozen soil prevents the proper installation of hay bales and sediment silt fences.

4. Mulching

An area shall be considered denuded until areas of future loam and seed have been loamed, seeded and mulched. Hay and straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75-lbs./1,000 s.f. or 1.5 tons/acre) and shall be properly anchored. Mulch shall not be spread on top of snow. The snow shall be removed down to a one-inch depth or less prior to application. After each day of final grading, the area shall be properly stabilized with anchored hay or straw or erosion control matting. An area shall be considered to have been stabilized when exposed surfaces have been either mulched with straw or hay at a rate of 150 lb. per 1,000 square feet (3 tons/acre) and adequately anchored that ground surface is not visible through the mulch.

Between the dates of November 1 and April 15, all mulch shall be anchored by peg line, mulch netting, asphalt emulsion chemical, or wood cellulose fiber. When ground surface is not visible through the mulch then cover is sufficient. After November 1st, mulch and anchoring of all bare soil shall occur at the end of each final grading workday.

5. Mulching on Slopes and Ditches

Slopes shall not be left exposed for any extended time of work suspension unless fully mulched and anchored with peg and netting or with erosion control blankets. Mulching shall be applied at a rate of 230 lbs/1,000 s.f. on all slopes greater than 8%.

Mulch netting shall be used to anchor mulch in all drainage ways with a slope greater than 3% for slopes exposed to direct winds and for all other slopes greater than 8%. Erosion control blankets shall be used in lieu of mulch in all drainage ways with slopes 8%. Erosion control mix can be used to substitute erosion control blankets on all slopes except ditches.

6. Seeding

Between the dates of October 15 and April 1st, loam or seed will not be required. During periods of above freezing temperatures finished areas shall be fine graded and either protected with mulch or temporarily seeded and mulched until such time as the final treatment can be applied. If the date is after November 1st and if the exposed area has been loamed, final graded with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched. Dormant seeding may be selected to be placed prior to the placement of mulch and fabric netting anchored with staples. If dormant seeding is used for the site, all disturbed areas shall receive 8" of loam and seed at an application rate of 5 lbs/1,000 s.f, unless otherwise indicated on the Landscape

Plan. All areas seeded during the winter shall be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75% catch) shall be revegetated by replacing loam, seed and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

Standards for Timely Stabilization of Construction Sites During Winter

1. Standard for the timely stabilization of ditches and channels -- The applicant shall construct and stabilize all stone-lined ditches and channels on the site by November 15. The applicant shall construct and stabilize all grass-lined ditches and channels on the site by September 1. If the applicant fails to stabilize a ditch or channel to be grass-lined by September 1, then the applicant will take one of the following actions to stabilize the ditch for late fall and winter.

Install a sod lining in the ditch -- The applicant shall line the ditch with properly installed sod by October 1. Proper installation includes the applicant pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, watering the sod to promote root growth into the disturbed soil, and anchoring the sod with jute or plastic mesh to prevent the sod strips from sloughing during flow conditions.

Install a stone lining in the ditch --The applicant shall line the ditch with stone riprap by November 15. The applicant shall hire a registered professional engineer to determine the stone size and lining thickness needed to withstand the anticipated flow velocities and flow depths within the ditch. If necessary, the applicant shall regrade the ditch prior to placing the stone lining so to prevent the stone lining from reducing the ditch's cross-sectional area.

2. Standard for the timely stabilization of disturbed slopes -- The applicant shall construct and stabilize stone-covered slopes by November 15. The applicant shall seed and mulch all slopes to be vegetated by September 1. The department shall consider any area having a grade greater than 15% to be a slope. If the applicant fails to stabilize any slope to be vegetated by September 1, then the applicant shall take one of the following actions to stabilize the slope for late fall and winter.

Stabilize the soil with temporary vegetation and erosion control mats -- By September 1 the applicant shall seed the disturbed slope with winter rye at a seeding rate of 3 pounds per 1,000 square feet and apply erosion control mats over the mulched slope. The applicant shall monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or cover at least 75% of the disturbed slope by November 1, then the applicant shall cover the slope with a layer of woodwaste compost as described in item iii of this standard or with stone riprap as described in item iv of this standard.

Stabilize the slope with sod -- The applicant shall stabilize the disturbed slope with properly installed sod by September 1. Proper installation includes the applicant pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The applicant shall not use late-season sod installation to stabilize slopes having a grade greater than 33% (3H:1V).

Stabilize the slope with woodwaste compost -- The applicant shall place a six-inch layer of woodwaste compost on the slope by November 15. Prior to placing the woodwaste compost, the applicant shall remove any snow accumulation on the disturbed slope. The applicant shall not use woodwaste compost to stabilize slopes having grades greater than 50% (2H:1V) or having groundwater seeps on the slope face.

Stabilize the slope with stone riprap -- The applicant shall place a layer of stone riprap on the slope by November 15. The applicant shall hire a registered professional engineer to determine the stone size needed for stability and to design a filter layer for underneath the riprap.

3. Standard for the timely stabilization of disturbed soils -- By September 15 the applicant shall seed and mulch all disturbed soils on areas having a slope less than 15%. If the applicant fails to stabilize these soils by this date, then the applicant shall take one of the following actions to stabilize the soil for late fall and winter.

Stabilize the soil with temporary vegetation -- By September 1 the applicant shall seed the disturbed soil with winter rye at a seeding rate of 3 pounds per 1000 square feet, lightly mulch the seeded soil with hay or straw at 75 pounds per 1000 square feet, and anchor the mulch with plastic netting. The applicant shall monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or cover at least 75% of the disturbed soil before November 1, then the applicant shall mulch the area for over-winter protection as described below.

Stabilize the soil with sod -- The applicant shall stabilize the disturbed soil with properly installed sod by September 15. Proper installation includes the applicant pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.

Stabilize the soil with mulch -- By November 15 the applicant shall mulch the disturbed soil by spreading hay or straw at a rate of at least 150 pounds per 1000 square feet on the area so that no soil is visible through the mulch. Prior to applying the mulch, the applicant shall remove any snow accumulation on the disturbed area. Immediately after applying the mulch, the applicant will anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

Maintenance of facilities

The stormwater facilities will be maintained by the Applicant, Bangor Savings Bank or their assigned heirs. The contract documents will require the contractor to designate a person responsible for maintenance of the sedimentation control features during construction as required by the Erosion Control Report. Long-term operation/maintenance recommended for the stormwater facilities is presented below.

The responsible party may contract with such professionals, as may be necessary in order to comply with this provision and may rely on the advice of such professionals in carrying out its duty hereunder, provided, that the following operation and maintenance procedures are hereby established as a minimum for compliance with this section.

Inspection and Maintenance Frequency and Corrective Measures:

The following areas, facilities, and measures will be inspected and the identified deficiencies will be corrected. Clean-out must include the removal and legal disposal of any accumulated sediments and debris.

Catch Basins:

Inspect catch basins 2 times per year (preferably in Spring and Fall) to ensure that the catch basins are working in their intended fashion and that they are free of debris. Clean structures when sediment depths reach 12" from invert of outlet. If the basin outlet is designed with a hood to trap floatable materials (i.e. Snout), check to ensure watertight seal is working. At a minimum, remove floating debris

and hydrocarbons at the time of the inspection. Hydrocarbon Socks installed within catch basins shall be properly disposed of by an approved contractor within 14 days after the first 1" rainfall event after final pavement. Hydrocarbon Socks shall be maintained within all catch basins during the first year of operation. All socks should be removed and disposed of one year after the initial replacement. New Hydrocarbon Socks shall be installed within areas that receive new pavement in the future

Soil Filter – Bio-Filtration:

Inspect all upstream pre-treatment measures 2 times per year (preferably in Spring and Fall) for sediment and floatables accumulation. Remove and dispose of any sediments or debris.

Surface (Underdrain Pond, Swale or Bio-Filter):

The soil filter will be inspected within the first three months after construction; thereafter the filter will be inspected 2 times per year (preferably in Spring and Fall) to ensure that the filter is draining within 24 to 48 hours of a rain event equivalent to 1" or more. Adjustments will be made to the outlet valve to ensure that the Bioretention Cell drains within 24 to 48 hours. Failure to drain in 72 hours will require part or all of the soil filter media to be removed and replaced with new material meeting the soil filter gradation. The facilities will be inspected after major storms and any identified deficiencies will be corrected. Harvesting and weeding of excessive growth shall be performed as needed. Inspect for unwanted or invasive plants and remove as necessary. Add new mulch as needed to maintain a 3 inch thickness.

Vegetated Areas:

Inspect slopes and embankments early in the growing season to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows. The facilities will be inspected after major storms and any identified deficiencies will be corrected.

Roadways and Parking Surfaces: Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader. Repair potholes and other roadway obstructions and hazards. Plowing and sanding of paved areas shall be performed as necessary to maintain vehicular traffic safety.

Housekeeping

As part of compliance with City of Portland Stormwater Management Standards, the applicant is required to meet the standards in Appendix C of the Chapter 500 Rules. The following procedures are hereby established as a minimum for compliance with this section. For further information on the procedures listed below, refer to Chapter 500 rules – Appendix C.

Spill Prevention:

Appropriate spill prevention, containment, and response planning/implementation shall be used to prevent pollutants from being discharged from materials on site.

Groundwater Protection:

During construction, hazardous materials with the potential to contaminate groundwater shall not be stored or handled in areas of the site which drain to an infiltration area.

Fugitive Sediment and Dust:

Appropriate measures shall be taken to ensure that activities do not result in noticeable erosion of the soils and water and/or calcium chloride shall be used to ensure that activities do not result in fugitive dust emissions during or after construction.

Debris and Other Materials:

Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.

Trench or Foundation De-watering:

Water collected through the process of trenching and/or de-watering must be removed from the ponded area, and must be spread through natural wooded buffers or other areas that are specifically designed to collect the maximum amount of sediment possible.

Non-stormwater Discharges:

Identify and prevent contamination by non-stormwater discharges.

Conclusion

The Applicant has provided temporary and permanent erosion control measures as well as specifying a sequence of construction as measures to minimize erosion and sedimentation.

Attachments

- Attachment A - Seeding Plan
- Attachment B - Inspection Report

ATTACHMENT A

SEEDING PLAN

SEEDING PLAN

Project: Bank Development

Site Location: Portland, ME

Permanent Seeding Temporary Seeding

1. Instruction on preparation of soil: Prepare a good seed bed for planting method used.
2. Apply lime as follows: _____ # / acres, OR 138 # /M Sq. Ft.
3. Fertilize with _____ pounds of _____ N-P-K/ac. OR 13.8 pounds of 10-10-10 N-P-K/M Sq. Ft.
4. Method of applying lime and fertilizer: Spread and work into the soil before seeding.
5. Seed with the following mixture:
 - 45% Kentucky Bluegrass
 - 45% Creeping Red Fescue
 - 10% Perennial Ryegrass
6. Mulching instructions: Apply at the rate of _____ per acre, OR 75 pounds per M. Sq. Ft.

	<u>Amount</u>	<u>Unit # Tons. Etc.</u>
7. TOTAL LIME	138	#/1000 sq. ft.
8. TOTAL FERTILIZER	13.8	#/1000 sq. ft.
9. TOTAL SEED	1.03	#/1000 sq. ft.
10. TOTAL MULCH	75	#/1000 sq. ft.
11. TOTAL other materials, seeds, etc.	_____	
12. REMARKS		

Spring seeding is recommended; however, late summer (prior to September 1) seeding can be made. Permanent seeding should be made prior to August 5 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

SEEDING PLAN

Project: Bank Development

Site Location: Portland, ME

Permanent Seeding Temporary Seeding

1. Instruction on preparation of soil: Prepare a good seed bed for planting method used.
2. Apply lime as follows: _____ # / acres, OR 138 # /M Sq. Ft.
3. Fertilize with _____ pounds of _____ N-P-K/ac. OR 18.4 pounds of 10-20-20 N-P-K/M Sq. Ft.
4. Method of applying lime and fertilizer: Spread and work into the soil before seeding.
5. Seed with the following mixture:
45% Kentucky Bluegrass
45% Creeping Red Fescue
10% Perennial Ryegrass
6. Mulching instructions: Apply at the rate of _____ per acre, OR 75 pounds per M. Sq. Ft.

	<u>Amount</u>	<u>Unit # Tons. Etc.</u>
7. TOTAL LIME	138	#/1000 sq. ft.
8. TOTAL FERTILIZER	18.4	#/1000 sq. ft.
9. TOTAL SEED	1.03	#/1000 sq. ft.
10. TOTAL MULCH	75	#/1000 sq. ft.
11. TOTAL other materials, seeds, etc.	_____	

12. REMARKS

Spring seeding is recommended, however, late summer (prior to September 1) seeding can be made. Permanent seeding should be made prior to August 5 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

ATTACHMENT B
INSPECTION REPORT

STORMWATER MAINTENANCE LOG

INSPECTION REPORT

PROJECT INFORMATION

Project Name: Bank Development

Address: Allen Avenue
 Portland, Maine

CONTRACTOR/SUBCONTRACTOR INFORMATION

Inspector Name: _____

Firm: _____

Title: _____

Qualifications: _____

INSPECTION SUMMARY

Date of Inspection: _____

Major Observations: _____

THE FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN WITH THE FOLLOWING EXCEPTIONS:

ACTIONS NECESSARY TO BRING FACILITY INTO COMPLIANCE:

REQUIRED MODIFICATIONS TO STORMWATER POLLUTION PREVENTION PLAN
(MUST BE IMPLEMENTED WITHIN 7 DAYS OF INSPECTION):

CERTIFICATION STATEMENT:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the systems, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature

Typed Name

Title

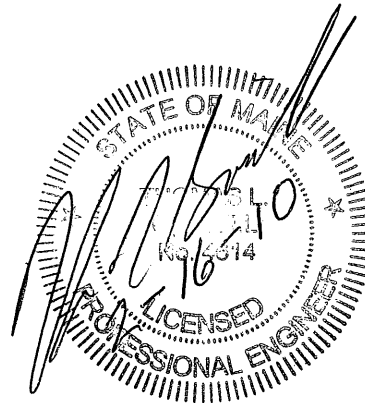
Date

**Traffic Impact Study
Proposed Bangor Savings Bank
Allen's Corner
Portland, Maine**

Prepared for:

**Bangor Savings Bank
99 Franklin Street
P.O. Box 930
Bangor, ME 04402-0930**

February 2010



Prepared by:



Gorrill-Palmer Consulting Engineers, Inc.

Traffic and Civil Engineering Services

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**Traffic Impact Study
Proposed Bangor Savings Bank
Allen's Corner
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Appendix A

Site Location Diagram
Turning Movement Diagrams

Appendix B

Capacity Analyses Results

Appendix C

Trip Generation
Sketch Plan Review Letter, December 15, 2009
MaineDOT Crash Data
Site Plan

I. *Proposed Site*

The proposed site is located in the northwest corner of the intersection of Allen Avenue and Washington Avenue, adjacent to the Walgreens Pharmacy. The site is approximately 0.86 acres in size, and is currently occupied by Espo's Restaurant. A site location map is included as Figure 1 in Appendix A.

Proposed for the site is an approximately 3,302 square foot Bangor Savings Bank with three drive-through lanes. Primary access to the site will be via two curb cuts on Allen Avenue, which will be shared with Walgreens.

II. *Background Traffic Conditions*

Gorrill-Palmer Consulting Engineers, Inc. based the study on the following information:

- A proposed site plan prepared by Gorrill-Palmer Consulting Engineers Inc., dated February 2010.
- Crash information for 2006-2008 provided by the Maine Department of Transportation (MaineDOT).
- Traffic Impact Study for the Walgreens, prepared by Gorrill-Palmer Consulting Engineers Inc., dated March 19, 2008, with comments and responses through January 2009.
- Turning movement counts completed on February 11, 2008, from 3:30 PM to 6:00 PM at the following locations:
 - Washington Avenue and Allen Avenue
 - Allen Avenue at Espo's

Predevelopment Traffic Volumes

Seasonal Adjustment

MaineDOT utilizes highway classifications of I, II, or III for state and local roadways. Type I roadways are defined as urban roadways, or those roads that typically see commuter traffic and experience little fluctuation from week to week throughout the year. Type II roadways, or arterial roadways are those that see a combination of commuter and recreational traffic and therefore experience moderate fluctuations during the year. Type III roadways, or recreational roadways are typically used for recreational purposes and experience dramatic seasonal fluctuation.

Allen Avenue and Washington Avenue are both considered Type I roadways by MaineDOT. The raw volumes have been seasonally adjusted by 20% to reflect the 30th highest hour (typically occurring in July or August) of traffic volumes in accordance with MaineDOT guidelines.

such as signage and flag persons, be utilized in accordance with the Manual on Uniform Traffic Control Devices.

Based on these findings, it is the opinion of Gorrill-Palmer Consulting Engineers, Inc. that the existing street system can accommodate the traffic generated by the redevelopment of this site.

I. *Proposed Site*

The proposed site is located in the northwest corner of the intersection of Allen Avenue and Washington Avenue, adjacent to the Walgreens Pharmacy. The site is approximately 0.86 acres in size, and is currently occupied by Espo's Restaurant. A site location map is included as Figure 1 in Appendix A.

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Allen Avenue and Washington Avenue are both considered Type I roadways by MaineDOT. The raw volumes have been seasonally adjusted by 20% to reflect the 30th highest hour (typically occurring in July or August) of traffic volumes in accordance with MaineDOT guidelines.

Annual Growth

The proposed development is anticipated to be fully operational in 2010. The 2008 raw turning movement volumes were increased by one percent per year to reflect traffic increases in the area. The one percent is based on historic MaineDOT traffic counts.

Other Development

Approved projects that are not yet opened as well as projects for which applications have been filed are required to be included in the predevelopment volumes for this project. Gorrill-Palmer Consulting Engineers, Inc. has reviewed our files and contacted the City of Portland. Based on this information, we have included the traffic for the following projects:

- *Morrill's Crossing*: A mixed-use commercial site, this project would be located on Allen Avenue adjacent to Morrill's Corner. These volumes were already included in the Walgreens postdevelopment volumes.
- *Walgreens*: Pharmacy, including drive-through, adjacent to the site.

Predevelopment Volumes

The raw volumes shown on Figure 2 of Appendix A were seasonally and annually adjusted to result in the 2010 adjusted volumes shown on Figure 3. The traffic from other developments as shown on Figure 4 was combined with the adjusted volumes to result in the 2010 predevelopment volumes shown on Figure 5.

III. *Trip Generation*

Proposed for the site is a 3,302 square-foot Bangor Savings Bank with three drive-through lanes, which will replace the Espo's Restaurant on the site.

In order to determine the need for a MaineDOT Traffic Movement Permit, Gorrill-Palmer Consulting Engineers Inc. has estimated the trip ends (ins and outs combined-thus a round trip is equal to two trip ends) generated by the prior uses of the site as well as the proposed bank using the 7th Edition of the Institute of Transportation Engineers (ITE) publication Trip Generation, as currently required by MaineDOT. Since the net increase in trip ends associated with the proposed bank is less than 100 during the PM peak hour over that which was generated by the Burger King, a MaineDOT traffic movement permit is not required. The full results are included in the sketch plan review letter to Barbara Barhydt, dated December 15, 2009, and included in Appendix C.

For the purposes of this analysis, Gorrill-Palmer Consulting Engineers Inc. has estimated the trips generated by the proposed bank using the more current and appropriate 8th Edition of the Institute of Transportation Engineers publication, Trip Generation. A summary of the resulting trip generation estimate is presented below. The trip generation calculations are included in Appendix C.

I. *Proposed Site*

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Allen Avenue and Washington Avenue are both considered Type I roadways by MaineDOT. The raw volumes have been seasonally adjusted by 20% to reflect the 30th highest hour (typically occurring in July or August) of traffic volumes in accordance with MaineDOT guidelines.

Trip Generation – Net Increase for Proposed Bangor Savings Bank (*Trip Ends)

Time Period	Espo's	Bangor Savings Bank	Net Increase
Daily	286	454	168
Weekday AM Peak Hr of Generator	16	61	45
Weekday PM Peak Hr of Generator	30	88	58
Saturday Peak Hr of Generator	33	89	56

*A trip end is either a trip into or out of the site. Thus a round trip equals two trip ends.

The PM peak hour trip ends for the proposed 3,302 s.f. bank were estimated using Land Use Code 912, Drive-In Bank and determined to be 88 trip ends. Based on this information, the proposed Bangor Savings Bank will result in a net traffic increase of 58 trip ends in the PM peak hour.

IV. *Trip Distribution*

Gorrill-Palmer Consulting Engineers, Inc. has estimated the trip distribution based on the information published by ITE. Based upon this information, it was estimated that fifty percent of the PM peak hour trip ends would be entering, with fifty percent exiting. This is typical for both the existing restaurant and the proposed bank use.

V. *Trip Composition*

Gorrill-Palmer Consulting Engineers, Inc. has utilized the following trip composition based on information obtained from the ITE publication, *Trip Generation Handbook* for Land Use Code 912, Drive-In Bank. The percentages were compiled for the PM peak hour as follows:

PM Peak Hour: 25% Primary, 50% Pass-by, 25% Diverted

**Trip Composition for Proposed
Bangor Savings Bank**

Trip Type	PM Peak Hour		
	Enter	Exit	Total
Primary	11	11	22
Pass-by	22	22	44
Diverted	11	11	22
Total	44	44	88

VI. *Trip Assignment*

Primary trip assignment for the proposed site is based on existing traffic patterns as previously approved from the Walgreens Traffic Impact Study, which was based on counts completed at the intersection of Allen Avenue and Washington Avenue, and the Espo's driveway on Allen Avenue on February 11, 2008. Trip assignment is shown on Figure 6 in Appendix A. The full 88 trips have been assigned to the street system.

VII. 2010 Postdevelopment Traffic

The anticipated year 2010 predevelopment traffic shown on Figure 5 of Appendix A (minus the existing Espo's driveway traffic) has been combined with the trips forecast for the development shown on Figure 6 of Appendix A to yield the 2010 postdevelopment traffic shown on Figure 7 of Appendix A.

VIII. Study Area

The study area for the project consists of the intersection of Washington Avenue and Allen Avenue, Washington Avenue and the right-in/right-out site drive, and Allen Avenue at each of the site driveways.

IX. Capacity Analyses

The capacity analyses were performed using Highway Capacity Software (HCS) and Synchro 6 Traffic Software. Levels of service rankings are similar to the academic ranking system where an 'A' represents little control delay and an 'F' represents significant delay. A level of service 'D' or above is desired at a signalized intersection. At an unsignalized intersection, if the level of service falls below a 'D', an evaluation should be made to determine if a traffic signal is warranted.

The following table summarizes the relationship between control delay and level of service for a signalized intersection:

Level of Service Criteria for Signalized Intersections	
Level of Service	Control Delay per Vehicle (sec)
A	Up to 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	Greater than 80.0

The following table summarizes the relationship between control delay and level of service for an unsignalized intersection:

Level of Service Criteria for Unsignalized Intersections	
Level of Service	Control Delay per Vehicle (sec)
A	Up to 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

Allen's Corner

The analyses were based on Figure 5 for the predevelopment scenarios and Figure 7 for the post-development scenario, and optimized signal operation for both pre and post development. Both predevelopment and postdevelopment scenarios were based on an optimized 90-second cycle length, which is what was used for the postdevelopment scenario in the previously approved Walgreen Traffic Impact Study. The results of the capacity analyses are summarized as follows. The detailed analyses are included in Appendix B.

Level of Service for Allen Avenue and Washington Avenue (Signalized)

Approach/Movement	2010 PM Peak Hour			
	Predevelopment		Postdevelopment	
	Delay	LOS	Delay	LOS
Allen Ave EB LT	62	E	67	E
Allen Ave EB TH/RT	52	D	52	D
Allen Ave WB LT	>80	F	>80	F
Allen Ave WB TH/RT	50	D	50	D
Washington Ave NB LT	58	E	60	E
Washington Ave NB TH/RT	48	D	46	D
Washington Ave SB LT	>80	F	>80	F
Washington Ave SB TH	38	D	39	D
Washington Ave SB RT	8	A	8	A
Overall	48	D	49	D

All movements at this location are forecast to operate at generally the same levels of service during the PM peak hour as in the existing condition. The slight increase in primary trip site-generated traffic is not anticipated to significantly affect the overall level of service at this intersection. This analysis does not reflect the positive affect of removing the two driveways on Allen Avenue in close proximity to the intersection as part of the Walgreens project that likely had a negative affect on operations as cars turned in and out of these driveways.

Site Driveway

Level of Service for Allen Ave at Site Drive (Unsignalized)

Approach/Movement	2010 PM Peak Hour	
	Postdevelopment	
	Delay	LOS
Allen Ave EB LT	10	A
Allen Ave WB LT	10	B
Abbott St NB LT/TH/RT	19	C
Site Drive SB LT/TH/RT	25	C

This intersection was analyzed using HCS, in order to better account for the center two-way left turn lane along this portion of Allen Avenue.

**Level of Service for Allen Ave at
Walgreens (Unsignalized)**

Approach/Movement	2010 PM Peak Hour	
	Postdevelopment	
	Delay	LOS
Allen Ave EB LT	11	B
Walgreens SB RT	22	C

**Level of Service for Washington Ave at
Walgreens (Unsignalized)**

Approach/Movement	2010 PM Peak Hour	
	Postdevelopment	
	Delay	LOS
Walgreens EB RT	10	B

X. Queue Analysis

Based on the Synchro analysis, queues at the intersection of Allen Avenue and Washington Avenue will remain quite similar to what they are today, with some queues potentially increasing by one car length.

Queue Analysis for Allen Avenue at Washington Avenue

Approach/Movement	2009 PM Peak Hour			
	Pre-Development		Post-Development	
	Average Queue (ft)	95 th Queue (ft)	Average Queue (ft)	95 th Queue (ft)
Allen Ave EB LT	135	230	140	235
Allen Ave EB TH/RT	270	470	275	465
Allen Ave WB LT	80	190	80	185
Allen Ave WB TH/RT	210	365	210	370
Washington Ave NB LT	155	280	160	295
Washington Ave NB TH/RT	335	500	330	495
Washington Ave SB LT	60	155	60	160
Washington Ave SB TH	165	225	165	225
Washington Ave SB RT	10	80	10	85

Based on the Synchro analysis, the average and the 95th percentile through/right queues for the weekday PM peak hour block the Walgreens ingress on Allen Avenue, which is approximately 150 feet from the stop bar. However, the Bangor Savings Bank ingress/egress, which is approximately 300 feet from the stop bar, is only blocked by the 95th percentile through/right queues for the weekday PM peak hour. This is typical for driveways entering onto arterial roadways in urban areas.

XI. *Crash Data*

In order to evaluate whether a location has a crash problem, MaineDOT uses two criteria to define High Crash Locations (HCL). Both criteria must be met in order to be classified as an HCL.

1. A critical rate factor of 1.00 or more for a three-year period. (A Critical Rate Factor {CRF} compares the actual accident rate to the rate for similar intersections in the State. A CRF of less than 1.00 indicates a rate less than average) and:
2. A minimum of eight crashes over a three-year period.

MaineDOT Crash Data for 2006-2008: Intersections

Node	Intersection	# of Collisions	CRF	HCL?
17035	Allen Ave at Abbott St	3	0.42	No
17061	Allen Ave at Washington Ave	50	1.36	Yes
P13340	Washington Ave at Cypress St	10	0.39	No

MaineDOT Crash Data for 2006-2008: Road Segments

Nodes	Street	From	To	# of Collisions	CRF	HCL?
17035-17061	Allen Ave	Abbott St	Washington Ave	14	2.25	Yes
13340-17061	Washington Ave	Cypress St	Allen Ave	2	0.42	No
13350-17061	Allen Ave	Northgate	Washington Ave	11	2.24	Yes
17060-17061	Washington Ave	Maplewood St	Allen Ave	16	1.64	Yes

Based on the published history provided by MaineDOT, there are four High Crash Locations (HCLs) in the vicinity of Allen's Corner. Our office has prepared the attached collision diagram to summarize the crashes at the intersection and along each of the roadway segments approaching the signal. It should be noted that some crashes attributed to driveways were coded into the intersection and vice versa. Therefore, we compiled all the data into one collision diagram to be able to better understand the crash patterns.

The only HCL that this project has the potential to affect is the segment of Allen Avenue along the site frontage. Twenty-five crashes occurred on Allen Avenue between Abbott St and Washington Avenue. Of these, five were northbound rear-end crashes that are actually due to the queued traffic at the signal; one was a sideswipe at the intersection; ten left turns out of Dunkin Donuts; two left turns into Dunkin Donuts; one left turn each out of Millenia Spa and 327 Allen Avenue; one vehicle attempting to pass a City bus stopped on the side of the road; one vehicle attempting to pass another vehicle stopped in traffic; a wide right turn into Espo's; and a left into Espo's from the wrong lane. Only two of the 25 crashes are attributable to Espo's site drive. These two crashes occurred in 2007 and will likely be corrected with the installation of the center two-way left turn lane as part of the Walgreens project. There is no direct relationship between the site driveways and the problem at the Dunkin Donuts driveway.

XII. *Sight Line Analysis*

The Maine Department of Transportation (MaineDOT) and the City of Portland have guidelines for sight distances at roadways. The sight line standards for MaineDOT and the City of Portland are as follows:

Speed (mph)	MaineDOT (ft)	City of Portland (ft)
25	200	367
30	250	440
35	305	513
40	360	587
45	425	660
50	495	773

Gorrill-Palmer Consulting Engineers, Inc. has evaluated the available sight lines at the proposed site driveways on Allen Avenue and Washington Avenue in accordance with MaineDOT and City of Portland standards.

The MaineDOT standards are as follows:

Roadway observation point:	10 feet off major street travelway
Height of eye at roadway:	3 ½ feet above ground
Height of approaching vehicle:	4 ¼ feet above road surface

The posted speed limit on Allen Avenue is 35 mph and Washington Avenue is 30 mph. Based on a site review, the sight distances from the Allen Avenue driveways looking to the right exceed 600 feet, and to the left extend through the Allen's Corner intersection. The sight distance looking left from the Washington Avenue driveway exceeds 500 feet. Therefore, the available sight distances are acceptable.

Gorrill-Palmer Consulting Engineers, Inc. recommends that all plantings, which will be located within the right of way, not exceed three feet in height and be maintained at or below that height. Signage should not interfere with sight lines. In addition, we recommend that during construction, when heavy equipment is entering and exiting into the site, that appropriate measures, such as signage and flag persons, be utilized in accordance with the Manual on Uniform Traffic Control Devices.

XIII. *Conclusions*

Gorrill-Palmer Consulting Engineers, Inc. has examined the impact of the traffic associated with the proposed Walgreens Pharmacy at the intersection of Allen Avenue and Washington Avenue in Portland, and reached the following conclusions:

Based on the results of the study, our office finds the following:

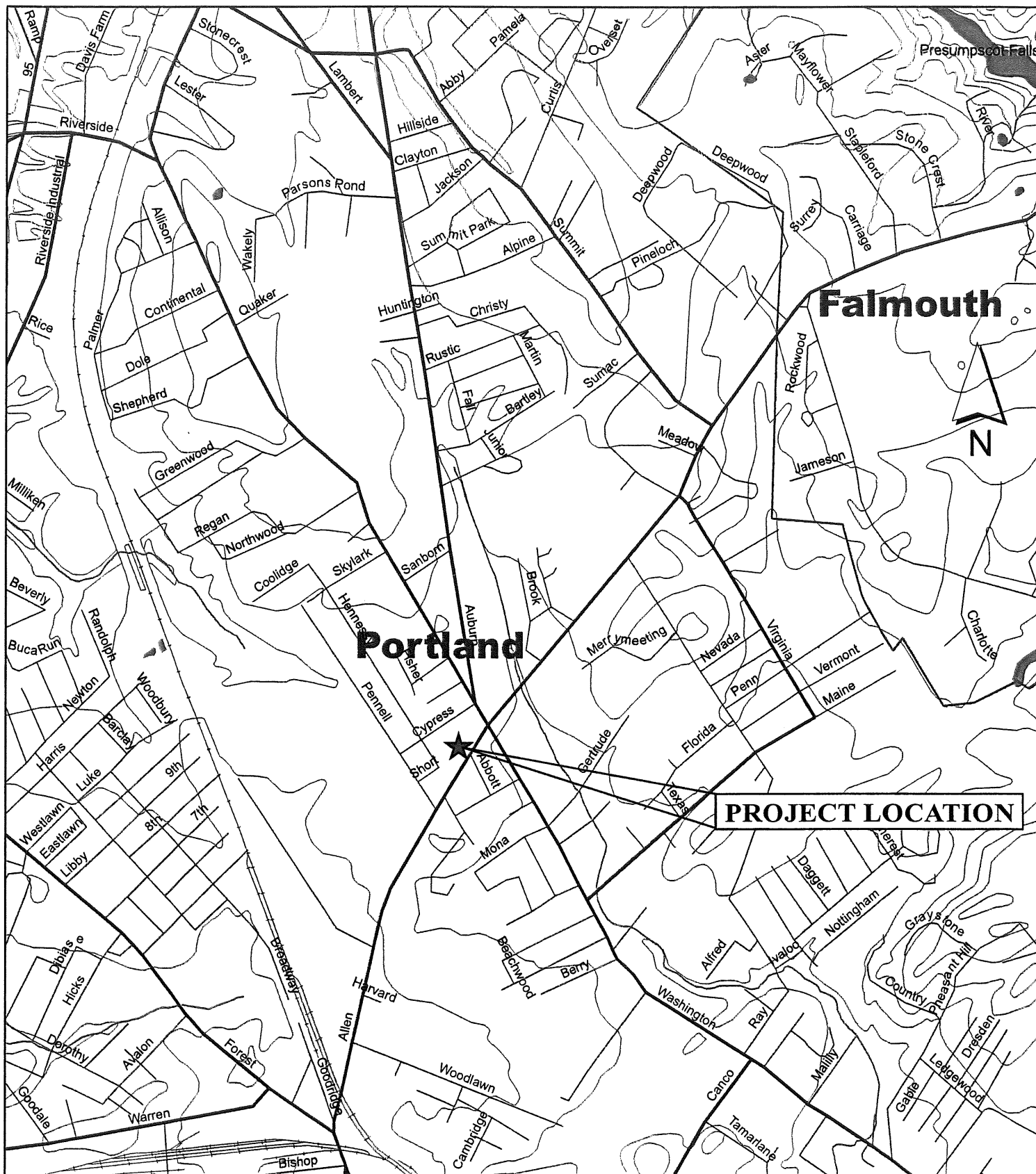
1. The proposed development is forecast to generate 61 and 88 trip ends for the weekday AM and PM peak hours, respectively. However, the existing Espo's Restaurant generates 16 and 30 trip ends for the weekday AM and PM peak hours, respectively, for which credit can be taken. Therefore, this project will result in an increase of 45 and 58 trip ends in the weekday AM and PM peak hours, respectively. Since the net traffic increase is less than 100 peak hour trip ends, a MaineDOT traffic movement permit will not be required.
2. The level of service analyses show that the increase in weekday PM peak hour site-generated traffic is anticipated to have little effect on Allen's Corner. There is adequate storage on site to accommodate vehicles that may queue while waiting for Allen Avenue or Washington Avenue to clear. As with the adjacent Walgreens, there are multiple egress points from the site, giving drivers the choice to utilize an alternate egress during times of peak demand.
3. Gorrill-Palmer Consulting Engineers, Inc. reviewed the MaineDOT crash data for the years 2006 – 2008. Based on the published history, there are four High Crash Locations (HCLs) within the study area, including the segment of Allen Avenue along the site frontage. There was no discernible crash pattern involving the Espo's driveway. The only discernible patterns involved rear-end collisions at the signal (which is typical of a signalized intersection) or left-turns out of Dunkin Donuts. Neither of these patterns impacts the Bangor Savings Bank site.
4. The available sight distances at the proposed driveways meet or exceed local and MaineDOT sight distance requirements. Gorrill-Palmer Consulting Engineers, Inc. recommends that all plantings, which will be located within the right of way, not exceed three feet in height and be maintained at or below that height. Signage should not interfere with sight lines. In addition, we recommend that during construction, when heavy equipment is entering and exiting the site, that appropriate measures, such as signage and flag persons, be utilized in accordance with the Manual on Uniform Traffic Control Devices.

Based on these findings, it is the opinion of Gorrill-Palmer Consulting Engineers, Inc. that the existing street system can accommodate the traffic generated by the redevelopment of this site.

Appendix A
Site Location Map
Turning Movement Diagrams

Location Map

Figure No. **1**



PROPOSED BANK, PORTLAND, MAINE

GP Gorrill-Palmer Consulting Engineers, Inc.

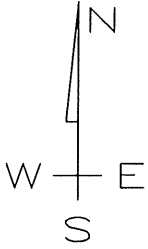
Traffic and Civil Engineering Services 207-657-6910
PO Box 1237 15 Shaker Road Fax: 207-657-6912
Gray, ME 04039 mailbox@gorrillpalmer.com
www.gorrillpalmer.com



JN: 2287
DATE: FEB 2010
FILE: 2287_LOCMAP.MXD
SOURCE: MAINE GIS WEBSITE

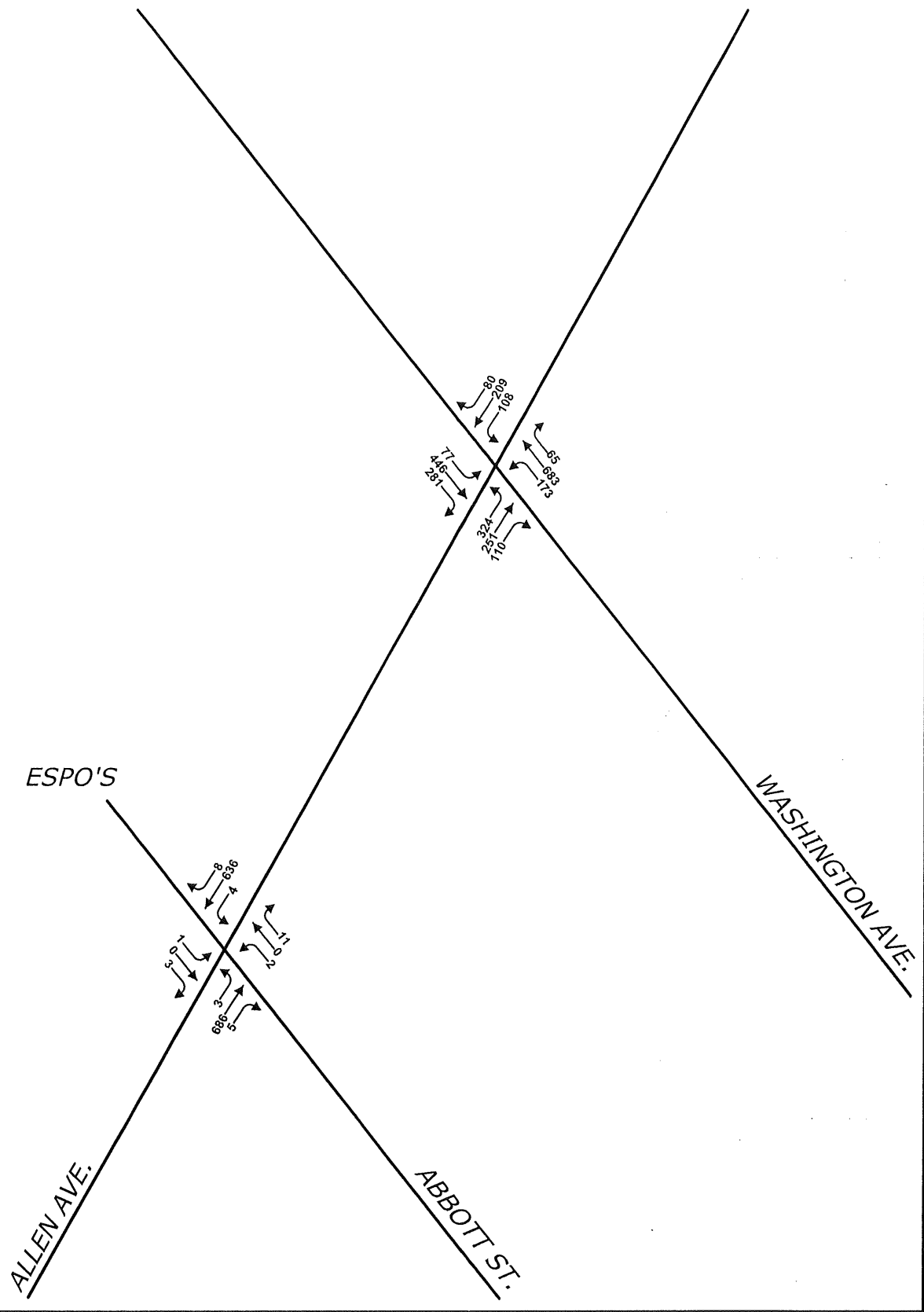
2008 Raw Volumes - PM Peak Hour

Figure No. **2**



DATA COLLECTED:
FEBRUARY 11, 2008
3:30-6:00 PM

PEAK HOUR:
4:15-5:15 PM



PROPOSED BANGOR SAVINGS BANK, PORTLAND, MAINE

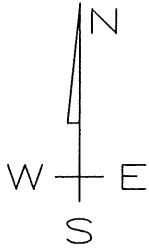
GP Gorrill-Palmer Consulting Engineers, Inc.
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 Draft: DB Date: FEB 2010
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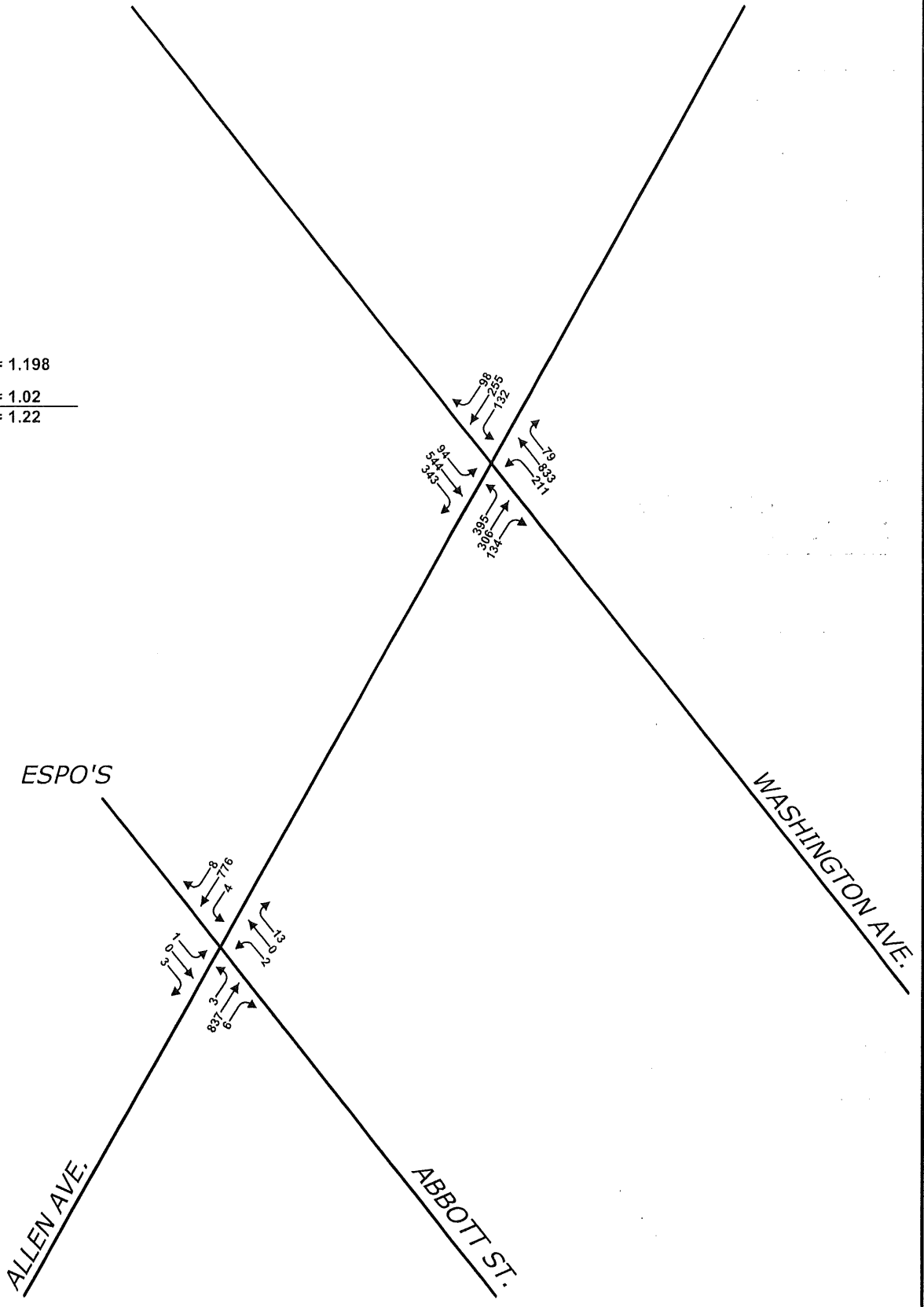
2010 Balanced & Adjusted Volumes - PM Peak Hour

Figure No. **3**



ADJUSTMENTS

SEASONAL:	$\frac{1.03}{0.86}$	= 1.198
ANNUAL:		= 1.02
TOTAL:		= 1.22



PROPOSED BANGOR SAVINGS BANK, PORTLAND, MAINE

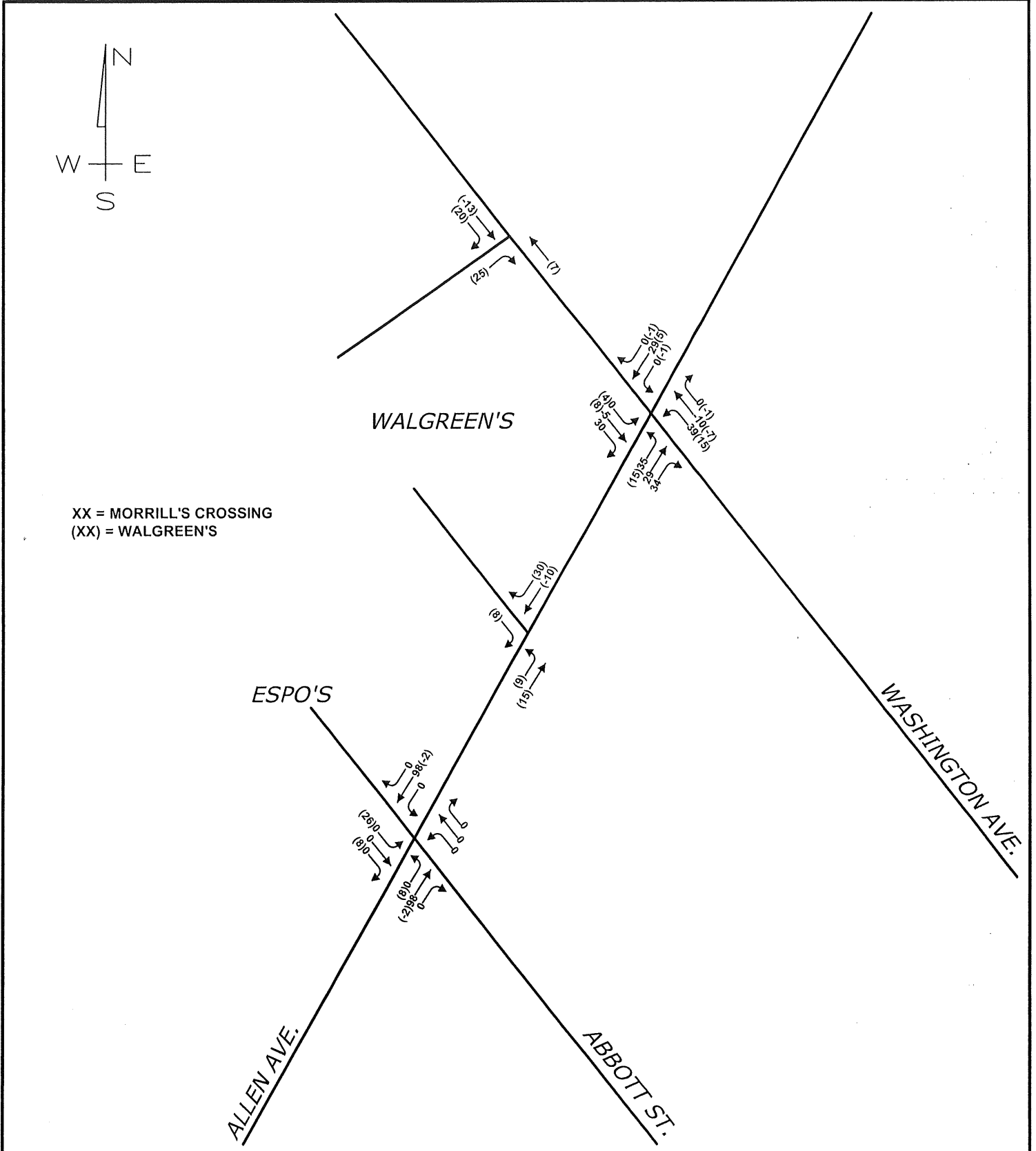
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Other Development - PM Peak Hour



PROPOSED BANGOR SAVINGS BANK, PORTLAND, MAINE

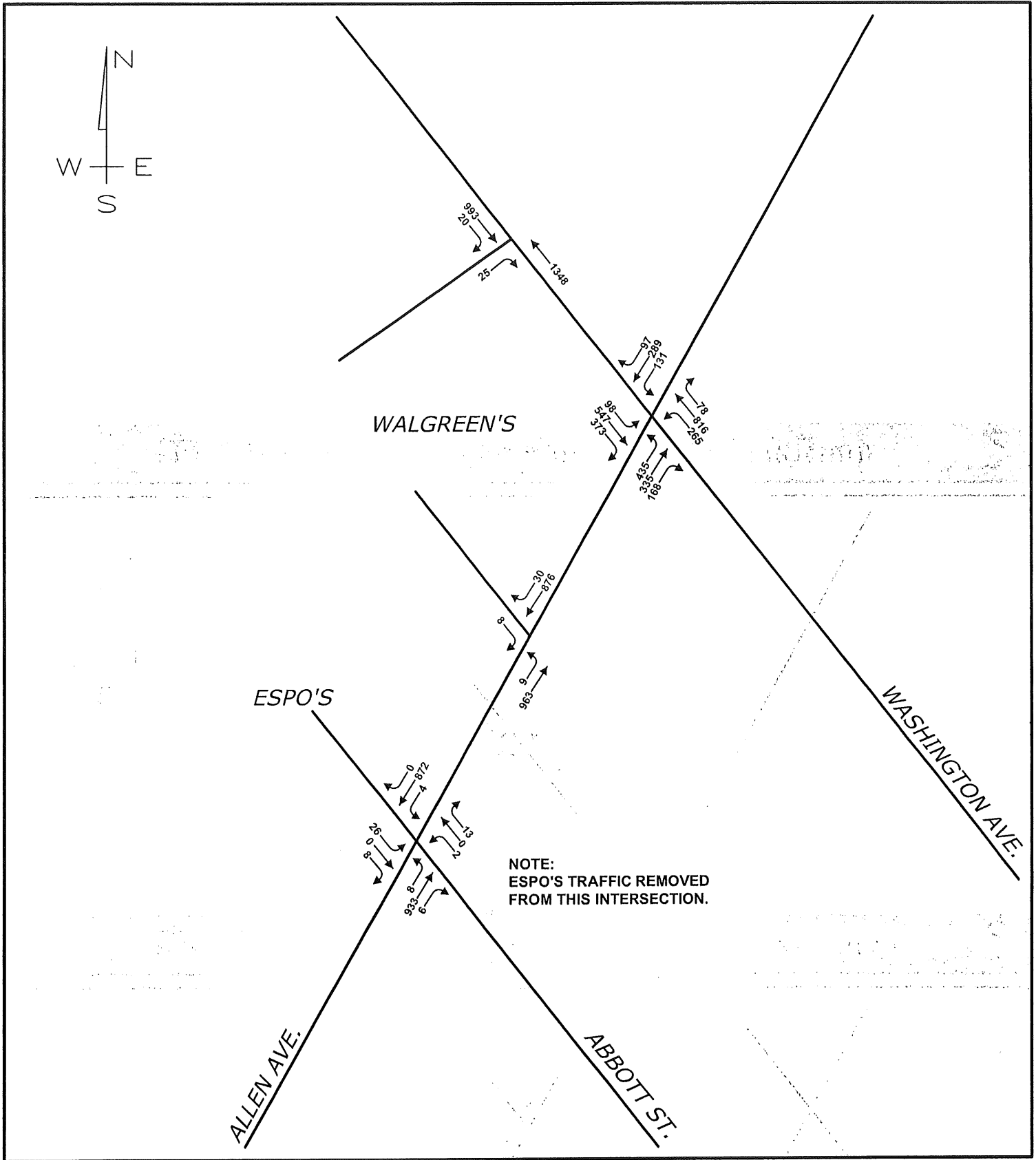
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2010 Predevelopment Volumes - PM Peak Hour

Figure No. **5**



PROPOSED BANGOR SAVINGS BANK, PORTLAND, MAINE

GP Gorrill-Palmer Consulting Engineers, Inc.
Traffic and Civil Engineering Services

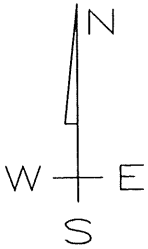
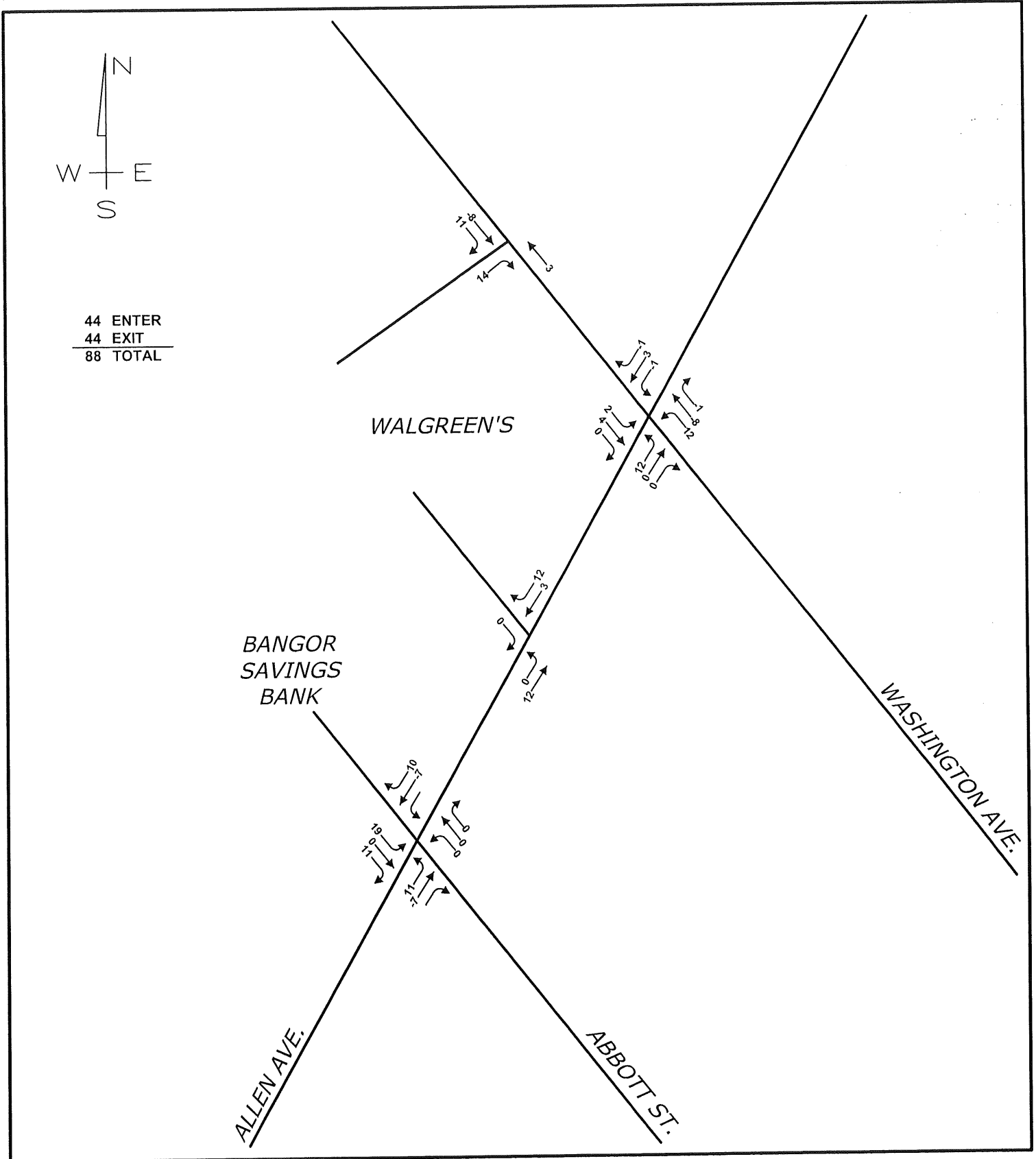
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Trip Assignment

Figure No. **6**



44 ENTER
44 EXIT

88 TOTAL

WALGREEN'S

BANGOR SAVINGS BANK

ALLEN AVE.

ABBOTT ST.

WASHINGTON AVE.

PROPOSED BANGOR SAVINGS BANK, PORTLAND, MAINE

GP Gorrill-Palmer Consulting Engineers, Inc.
Traffic and Civil Engineering Services

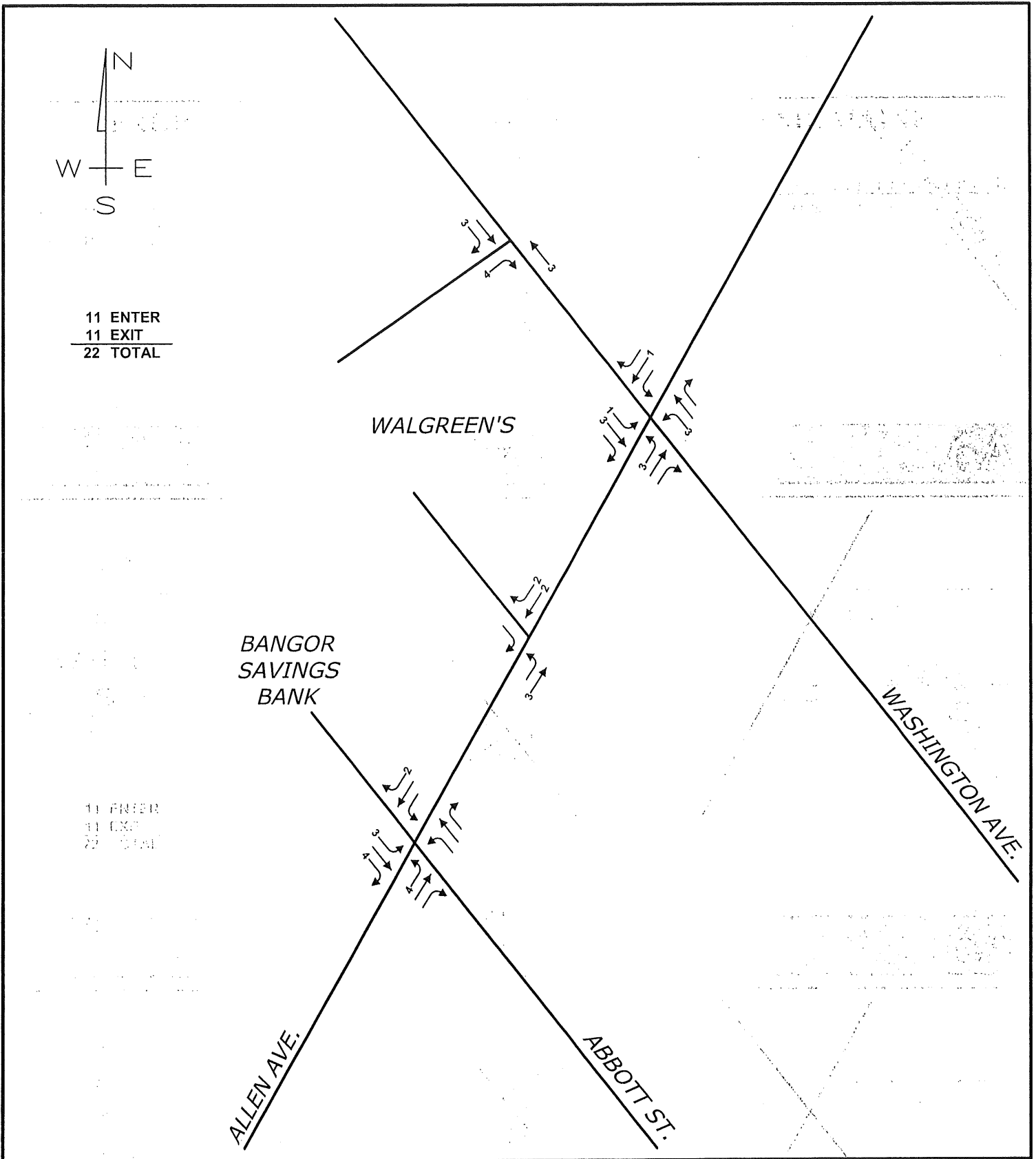
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Primary Trip Assignment

Figure No. **6A**



PROPOSED BANGOR SAVINGS BANK, PORTLAND, MAINE

GP Gorrill-Palmer Consulting Engineers, Inc.
Traffic and Civil Engineering Services

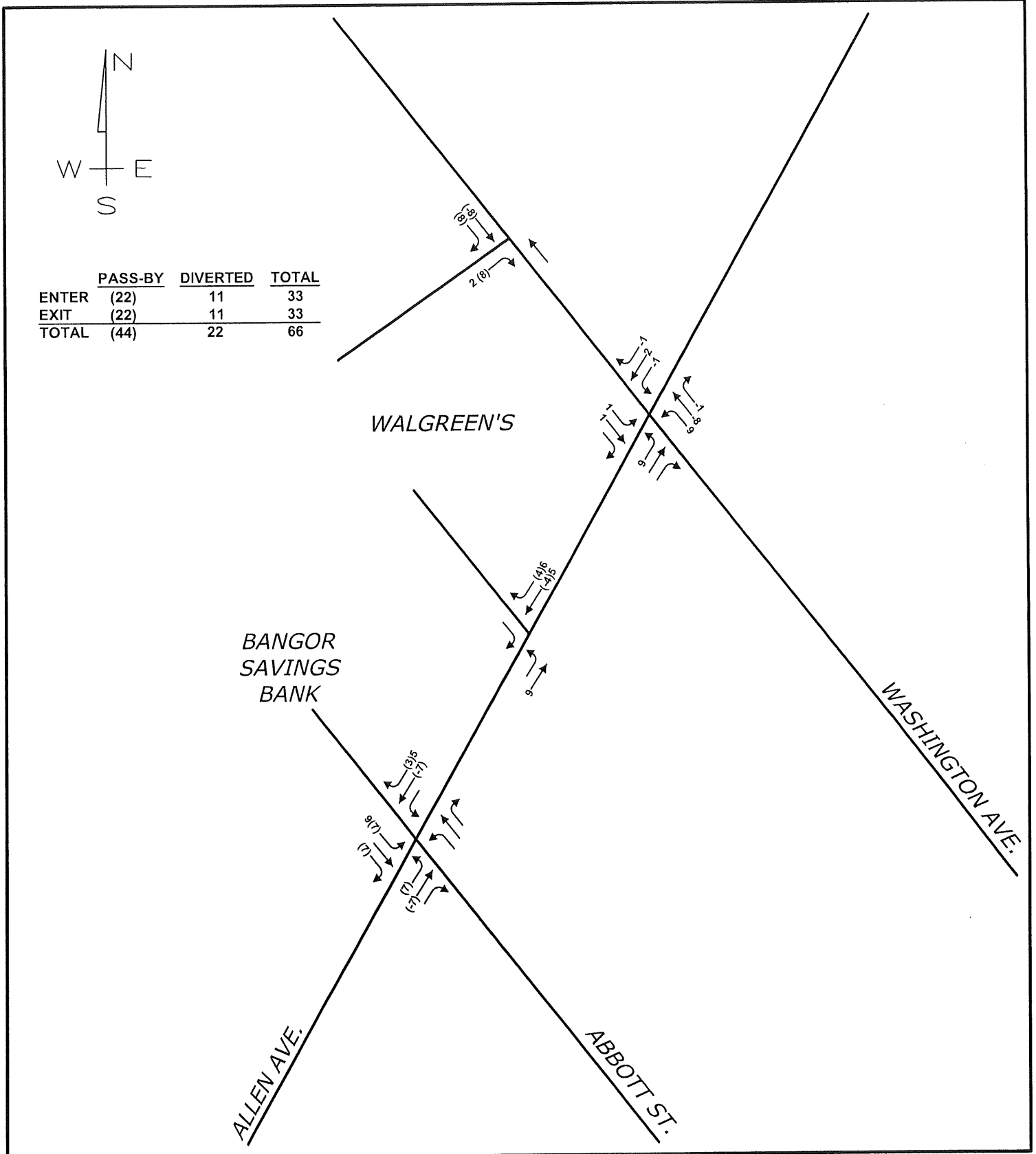
Design: JLW Scale: NONE
Draft: DB Date: FEB 2010
Checked: PAH File Name: 2287-TRAF.dwg

PO Box 1237
15 Shaker Road
Gray, ME 04039

207-657-6910
Fax: 207-657-6912
mailto:mailbox@gorrillpalmer.com
www.gorrillpalmer.com

Pass-By and Diverted Trip Assignment

Figure No. **6B**



PROPOSED BANGOR SAVINGS BANK, PORTLAND, MAINE

GP Gorrill-Palmer Consulting Engineers, Inc.
 Traffic and Civil Engineering Services

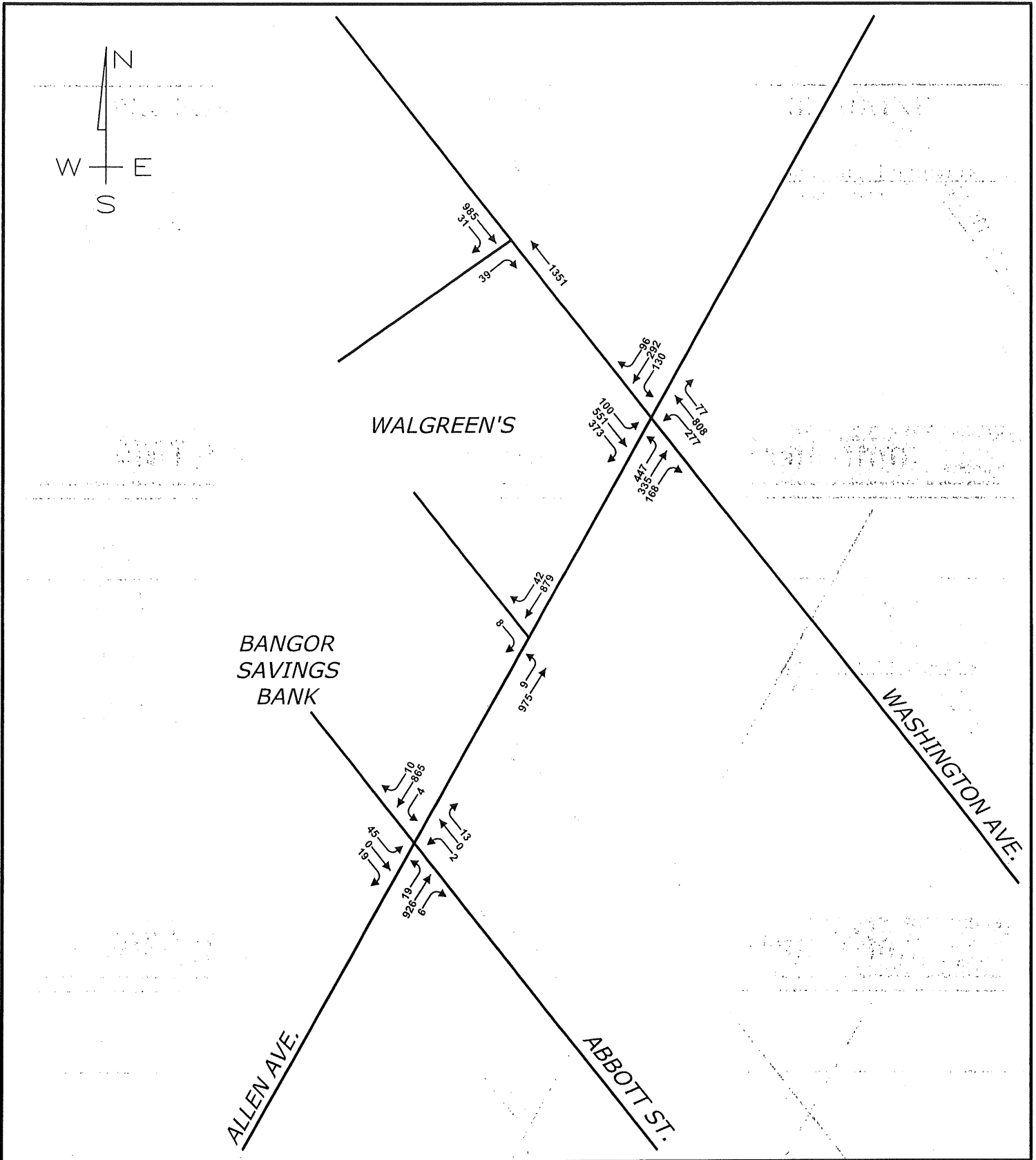
Design: JLW Scale: NONE
 Draft: DB Date: FEB 2010
 Checked: PAH File Name: 2287-TRAF.dwg

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2010 Postdevelopment Volumes - PM Peak Hour

Figure No. **7**



PROPOSED BANGOR SAVINGS BANK, PORTLAND, MAINE

GP Gorrill-Palmer Consulting Engineers, Inc.
 Traffic and Civil Engineering Services

Design: JLW Scale: NONE
 Draft: DB Date: FEB 2010
 Checked: PAH File Name: 2287-TRAF.dwg

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Appendix B
Capacity Analysis Results

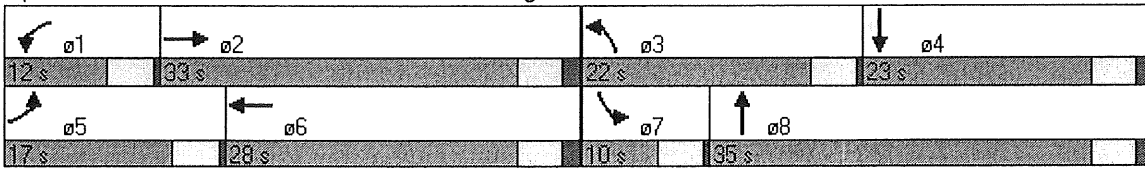


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↖		↖	↖		↖	↖↖		↖	↖↖	↖
Volume (vph)	435	335	168	131	289	97	265	816	78	98	547	373
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	3%	2%	5%	2%	2%	2%	0%	1%	2%
Lane Group Flow (vph)	458	530	0	138	406	0	279	941	0	103	576	393
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												4
Detector Phases	5	2		1	6		3	8		7	4	4
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	21.0		8.0	21.0		8.0	21.0		8.0	21.0	21.0
Total Split (s)	17.0	33.0	0.0	12.0	28.0	0.0	22.0	35.0	0.0	10.0	23.0	23.0
Total Split (%)	18.9%	36.7%	0.0%	13.3%	31.1%	0.0%	24.4%	38.9%	0.0%	11.1%	25.6%	25.6%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	1.5		0.5	1.5		0.5	1.5		0.5	1.5	1.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Max		None	Max	Max
Act Effct Green (s)	13.0	27.8		8.0	22.8		16.7	31.0		6.0	20.3	20.3
Actuated g/C Ratio	0.15	0.31		0.09	0.26		0.19	0.35		0.07	0.23	0.23
v/c Ratio	0.91	0.92		0.87	0.86		0.84	0.95		0.84	0.70	0.59
Control Delay	62.2	51.7		87.3	49.8		57.6	47.6		92.3	37.8	7.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	62.2	51.7		87.3	49.8		57.6	47.6		92.3	37.8	7.7
LOS	E	D		F	D		E	D		F	D	A
Approach Delay		56.6			59.3			49.9			32.0	
Approach LOS		E			E			D			C	
Queue Length 50th (ft)	134	271		79	209		152	333		59	163	1
Queue Length 95th (ft)	#224	#465		#187	#364		#276	#500		#153	222	77
Internal Link Dist (ft)		151			489			467			43	
Turn Bay Length (ft)	200						300					
Base Capacity (vph)	503	591		158	488		354	994		122	818	663
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.91	0.90		0.87	0.83		0.79	0.95		0.84	0.70	0.59

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 88.8
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 47.9
 Intersection Capacity Utilization 78.9%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Allen Ave & Washington Ave



TWO-WAY STOP CONTROL SUMMARY							
General Information				Site Information			
Analyst	J. Williams			Intersection	Allen Ave/Abbot St/Site Drive		
Agency/Co.	Gorrill-Palmer			Jurisdiction	Portland, ME		
Date Performed	2/5/2010			Analysis Year	2010 Pre		
Analysis Time Period	PM Peak Hour						
Project Description 2287 - Bangor Savings Bank - Predevelopment							
East/West Street: Site Dr/Abbott St				North/South Street: Allen Ave			
Intersection Orientation: North-South				Study Period (hrs): 0.25			
Vehicle Volumes and Adjustments							
Major Street	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume (veh/h)	8	933	6	4	872	0	
Peak-Hour Factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	
Hourly Flow Rate, HFR (veh/h)	8	992	6	4	927	0	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Two Way Left Turn Lane						
RT Channelized			0			0	
Lanes	1	1	0	1	1	0	
Configuration	L		TR	L		TR	
Upstream Signal		0			0		
Minor Street	Eastbound			Westbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume (veh/h)	26	0	8	2	0	13	
Peak-Hour Factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	
Hourly Flow Rate, HFR (veh/h)	27	0	8	2	0	13	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	1	0	0	1	0	
Configuration		LTR			LTR		
Delay, Queue Length, and Level of Service							
Approach	Northbound	Southbound	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11
Lane Configuration	L	L	LTR			LTR	
v (veh/h)	8	4	15			35	
C (m) (veh/h)	746	701	282			219	
v/c	0.01	0.01	0.05			0.16	
95% queue length	0.03	0.02	0.17			0.56	
Control Delay (s/veh)	9.9	10.2	18.5			24.5	
LOS	A	B	C			C	
Approach Delay (s/veh)	--	--	18.5			24.5	
Approach LOS	--	--	C			C	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑			↗
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	9	975	879	42	0	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	1026	925	44	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)			231			
pX, platoon unblocked	0.81				0.81	0.81
vC, conflicting volume	969				1479	947
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	962				1595	935
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	96
cM capacity (veh/h)	578				78	217

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	9	513	513	969	8
Volume Left	9	0	0	0	0
Volume Right	0	0	0	44	8
cSH	578	1700	1700	1700	217
Volume to Capacity	0.02	0.30	0.30	0.57	0.04
Queue Length 95th (ft)	1	0	0	0	3
Control Delay (s)	11.3	0.0	0.0	0.0	22.3
Lane LOS	B				C
Approach Delay (s)	0.1			0.0	22.3
Approach LOS					C

Intersection Summary					
Average Delay			0.1		
Intersection Capacity Utilization		58.8%		ICU Level of Service	B
Analysis Period (min)		15			

JN: 2287
 Project Description: Bangor Savings Bank
 Project Location: Allen Ave, Portland
 Date: 2/3/2010

Gorrill-Palmer Consulting Engineers, Inc.
 P.O. Box 1237
 15 Shaker Road
 Gray, Maine 04039

**Drive-in Bank
 Land Use Code (LUC) 912**

Gross Floor Area (ft²): 3,302

Time Period	ITE Trip Rate	Trip Ends	Directional Split *		Directional Distribution		R ²
			IN	OUT	IN	OUT	
Weekday	T = 148.15 (X)	489	50%	50%	245	244	0.59
AM Peak Adjacent Street	T = 12.35 (X)	41	55%	45%	23	18	---
PM Peak Adjacent Street	T = 25.82 (X)	85	50%	50%	43	42	---
AM Peak Hour of Generator	T = 17.31 (X)	57	50%	50%	29	28	0.51
PM Peak Hour of Generator	T = 26.69 (X)	88	50%	50%	44	44	---
Saturday	T = 86.32 (X)	285	50%	50%	143	142	0.52
Saturday Peak Hour of Gen.	T = 26.53 (X)	88	50%	50%	44	44	---

* Percentages rounded to nearest 5%

Number of Drive-in Lanes: 3

Time Period	ITE Trip Rate	Trip Ends	Directional Split *		Directional Distribution		R ²
			IN	OUT	IN	OUT	
Weekday	T = 139.258 (X)	418	50%	50%	209	209	0.52
AM Peak Adjacent Street	T = 9.44(X)	28	60%	40%	17	11	---
PM Peak Adjacent Street	T = 27.41 (X)	82	50%	50%	41	41	---
AM Peak Hour of Generator	T = 21.64 (X)	65	50%	50%	33	32	---
PM Peak Hour of Generator	T = 29.05 (X)	87	50%	50%	44	43	0.55
Saturday	Not Given	0	50%	50%	0	0	---
Saturday Peak Hour of Gen.	T = 29.88 (X)	90	50%	50%	45	45	---

* Percentages rounded to nearest 5%

AVERAGE

Time Period	Trip Ends	Directional Split *		Directional Distribution	
		IN	OUT	IN	OUT
Weekday	454	50%	50%	227	227
AM Peak Adjacent Street	35	58%	42%	20	15
PM Peak Adjacent Street	84	50%	50%	42	42
AM Peak Hour of Generator	61	50%	50%	31	30
PM Peak Hour of Generator	88	50%	50%	44	44
Saturday Peak Hour of Gen.	89	50%	50%	45	44



December 15, 2009

Ms. Barbara Barhydt
Development Review Services Manager
City of Portland
Planning & Development Department
389 Congress Street
Portland, Maine 04101

Dear Barbara,

Bangor Savings Bank has retained Gorrill-Palmer Consulting Engineers, Inc. to prepare development plans and permit applications for a proposed 3,467 +/- square-foot bank with drive-up service. The proposed bank will be located at 320 Allen Avenue, southwest of the intersection of Washington Avenue and Allen Avenue in Portland. The existing site is currently occupied by Espo's Restaurant.

Figure 1 is a map showing the project location. The developer is currently seeking Sketch Plan Review from the City of Portland Planning Board. At this point, the plans are purely conceptual and as such, design is limited. It is anticipated this meeting would discuss potential layout of the building and drive-thru in relation to the street line and any potential issues the board may have with the proposed development.

Description of Development Site

The development site includes portions of Lot E40, E41, and E50 of Portland Assessor's Map 344, totaling approximately 0.86 acres (the property lines were reconfigured for the development of the abutting Walgreens Pharmacy). The parcel is currently developed with a restaurant, Espo's.

It is Gorrill-Palmer's understanding that the client intends to demolish the existing building and construct a 3,467 +/- square-foot bank with a drive-thru facility on site. The existing parking field is proposed to be reconstructed to accommodate approximately 22 parking spaces. The site is proposed to be accessed through a primary curb cut on Allen Avenue and two curb cuts located on Allen Avenue and Washington Avenue which are shared with the abutting Walgreens Pharmacy. The proposed bank development has been designed to maintain cross access with the existing Walgreens Pharmacy.

Zoning

It is expected that the proposed bank development will meet and or exceed the required site plan requirements, and performance standards in accordance with the City of Portland's Land Use Ordinance.

Based on the City of Portland zoning map, the property is zoned Community Business Zone (B-2) which provides neighborhood/community business style zoning with minimal lot line setbacks and considerations for abutting residential zoning. Based on conversations with the Zoning Administrator, banks are a permitted use in this zone due as the teller portion of the bank is considered a retail use and the offices within the bank are considered an office use. As the project is located within the B-2 Zone, the development will be subject to Major Development Review.

As the project is located adjacent to a residential use/zone, a conditional use permit will be required for the drive-thru associated with the proposed bank development. It is anticipated that the drive-thru will meet or exceed all performance standards in accordance with the City of Portland's Land Use Ordinance.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑↑	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	25	0	1348	993	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	26	0	1419	1045	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				123		
pX, platoon unblocked	0.69					
vC, conflicting volume	1765	272	1066			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1661	272	1066			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	100			
cM capacity (veh/h)	62	729	661			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3	SB 4
Volume Total	26	709	709	299	299	299	170
Volume Left	0	0	0	0	0	0	0
Volume Right	26	0	0	0	0	0	21
cSH	729	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.04	0.42	0.42	0.18	0.18	0.18	0.10
Queue Length 95th (ft)	3	0	0	0	0	0	0
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.1	0.0		0.0			
Approach LOS	B						

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		40.6%	ICU Level of Service
Analysis Period (min)		15	A



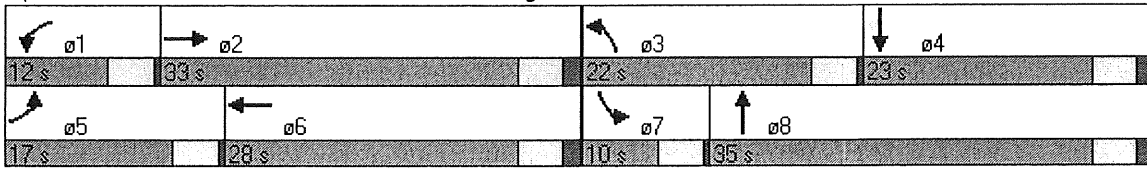
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕		↖↗	↕		↖↗	↕↖		↖↗	↕↖	↗
Volume (vph)	447	335	168	130	292	96	277	808	77	100	551	373
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	3%	2%	5%	2%	2%	2%	0%	1%	2%
Lane Group Flow (vph)	471	530	0	137	408	0	292	932	0	105	580	393
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												4
Detector Phases	5	2		1	6		3	8		7	4	4
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	21.0		8.0	21.0		8.0	21.0		8.0	21.0	21.0
Total Split (s)	17.0	33.0	0.0	12.0	28.0	0.0	22.0	35.0	0.0	10.0	23.0	23.0
Total Split (%)	18.9%	36.7%	0.0%	13.3%	31.1%	0.0%	24.4%	38.9%	0.0%	11.1%	25.6%	25.6%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	1.5		0.5	1.5		0.5	1.5		0.5	1.5	1.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Max		None	Max	Max
Act Effct Green (s)	13.0	27.8		8.0	22.8		17.1	31.0		6.0	20.0	20.0
Actuated g/C Ratio	0.15	0.31		0.09	0.26		0.19	0.35		0.07	0.23	0.23
v/c Ratio	0.94	0.92		0.87	0.87		0.86	0.94		0.86	0.72	0.60
Control Delay	66.5	51.7		86.2	50.3		59.6	46.1		95.3	38.6	8.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	66.5	51.7		86.2	50.3		59.6	46.1		95.3	38.6	8.2
LOS	E	D		F	D		E	D		F	D	A
Approach Delay		58.7			59.3			49.3			33.0	
Approach LOS		E			E			D			C	
Queue Length 50th (ft)	138	271		78	210		160	328		60	164	4
Queue Length 95th (ft)	#233	#465		#185	#366		#294	#492		#156	224	82
Internal Link Dist (ft)		151			489			467			43	
Turn Bay Length (ft)	200						300					
Base Capacity (vph)	503	591		158	488		355	994		122	803	653
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.94	0.90		0.87	0.84		0.82	0.94		0.86	0.72	0.60

Intersection Summary

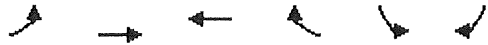
Cycle Length: 90
 Actuated Cycle Length: 88.8
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 48.6
 Intersection Capacity Utilization 79.0%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Allen Ave & Washington Ave



TWO-WAY STOP CONTROL SUMMARY							
General Information				Site Information			
Analyst	J. Williams			Intersection	Allen Ave/Abbot St/Site Drive		
Agency/Co.	Gorrill-Palmer			Jurisdiction	Portland, ME		
Date Performed	2/5/2010			Analysis Year	2010 Post		
Analysis Time Period	PM Peak Hour						
Project Description 2287 - Bangor Savings Bank - Postdevelopment							
East/West Street: Site Dr/Abbott St				North/South Street: Allen Ave			
Intersection Orientation: North-South				Study Period (hrs): 0.25			
Vehicle Volumes and Adjustments							
Major Street	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume (veh/h)	19	926	6	4	865	10	
Peak-Hour Factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	
Hourly Flow Rate, HFR (veh/h)	20	985	6	4	920	10	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Two Way Left Turn Lane						
RT Channelized			0			0	
Lanes	1	1	0	1	1	0	
Configuration	L		TR	L		TR	
Upstream Signal		0			0		
Minor Street	Eastbound			Westbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume (veh/h)	45	0	19	2	0	13	
Peak-Hour Factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	
Hourly Flow Rate, HFR (veh/h)	47	0	20	2	0	13	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	1	0	0	1	0	
Configuration		LTR			LTR		
Delay, Queue Length, and Level of Service							
Approach	Northbound	Southbound	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11
Lane Configuration	L	L	LTR			LTR	
v (veh/h)	20	4	15			67	
C (m) (veh/h)	744	706	280			222	
v/c	0.03	0.01	0.05			0.30	
95% queue length	0.08	0.02	0.17			1.22	
Control Delay (s/veh)	10.0	10.1	18.6			28.1	
LOS	A	B	C			D	
Approach Delay (s/veh)	--	--	18.6			28.1	
Approach LOS	--	--	C			D	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑			↗
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	9	975	879	42	0	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	1026	925	44	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)			231			
pX, platoon unblocked	0.81				0.81	0.81
vC, conflicting volume	969				1479	947
vC1, stage 1, conf vol						
vC2, stage 2, conf vol						
vCu, unblocked vol	962				1595	935
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	96
cM capacity (veh/h)	578				78	217

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	9	513	513	969	8
Volume Left	9	0	0	0	0
Volume Right	0	0	0	44	8
cSH	578	1700	1700	1700	217
Volume to Capacity	0.02	0.30	0.30	0.57	0.04
Queue Length 95th (ft)	1	0	0	0	3
Control Delay (s)	11.3	0.0	0.0	0.0	22.3
Lane LOS	B				C
Approach Delay (s)	0.1			0.0	22.3
Approach LOS					C

Intersection Summary					
Average Delay			0.1		
Intersection Capacity Utilization		58.8%		ICU Level of Service	B
Analysis Period (min)		15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑↑	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	39	0	1351	985	31
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	41	0	1422	1037	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				123		
pX, platoon unblocked	0.70					
vC, conflicting volume	1764	276	1069			
vC1, stage 1 conf.vol						
vC2, stage 2 conf.vol						
vCu, unblocked vol	1662	276	1069			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	100			
cM capacity (veh/h)	63	725	659			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3	SB 4
Volume Total	41	711	711	296	296	296	181
Volume Left	0	0	0	0	0	0	0
Volume Right	41	0	0	0	0	0	33
cSH	725	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.06	0.42	0.42	0.17	0.17	0.17	0.11
Queue Length 95th (ft)	4	0	0	0	0	0	0
Control Delay (s)	10.3	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.3	0.0		0.0			
Approach LOS	B						

Intersection Summary	
Average Delay	0.2
Intersection Capacity Utilization	40.7%
Analysis Period (min)	15
ICU Level of Service	A

Appendix C
Trip Generation
Sketch Plan Review Letter,
December 15, 2009
MaineDOT Crash Data
Site Plan

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Conceptual Layout Design

The project team has had preliminary meetings with the City Planning Staff concerning the layout of the building. At the first meeting with City Staff, a conceptual layout of the site was evaluated and some key issues were raised. City Staff did not favor having parking in front of the building and within the front building setback. They preferred to have the parking either to the side or rear of the building, and have the building located as close to the street line as feasible. The location and stacking space of the drive-thru were also reviewed.

At a follow up meeting with City Planning Staff, multiple conceptual layouts were evaluated and were eventually narrowed down to three options. In reviewing the various plans, the interconnecting driveways between the pharmacy and proposed bank were a critical component as they impact how drivers exit the site.

Concept 1 eliminates the parking within the front setback while maintaining the cross access between the proposed bank development and the existing pharmacy. Parking is located to the side and rear of the structure. In addition, the drive-thru is located to the rear of the building, and adequate stacking space is provided. Customers to the bank would not need to cross the drive-thru exit as they would be able to park to the side of the building. As the existing interconnecting driveway between the buildings and Allen Avenue is maintained, all parties believed that this configuration would have the least impact on the abutting street system. This is the preferred concept for City Planning Staff and the Bank.

Concept 2 locates the building on the street line, thus eliminating the cross access between the proposed bank development and the existing pharmacy. Concerns were noted by Tom Errico that the elimination of the interconnecting driveway would likely result in a greater number of the pharmacy customers utilizing the right-turn out onto Washington Avenue, which was not viewed as desirable. Parking is located to the side and rear of the building. As some parking is located beyond the drive-thru, a portion of customers visiting the proposed bank will be required to cross the drive-thru to access the front door. The drive-thru is located to the rear of the building, and adequate stacking space is provided. This concept was not deemed practicable due to the elimination of the cross access and the potential vehicle/pedestrian conflict that is created with customers crossing the drive-thru to access the building.

Concept 3 also locates the building on the street line, but with the long side of the building running parallel to the street. The cross access again is eliminated between the proposed bank and the existing pharmacy and all parking is located beyond the drive-thru. All customers visiting the proposed bank will be required to cross the drive-thru to access the front door. The drive-thru is located to the rear of the building and adequate stacking space is provided. This concept was not deemed practicable due to the elimination of the cross access and the potential vehicle/pedestrian conflict at the drive-thru exit.

Included with this application is a copy of the concept which the City Planning Staff and Bank preferred (Concept 1), along with the other concepts that were discussed at the meeting (Concept 2 and Concept 3). An Existing Conditions Plan has also been included for your reference.

Utilities

Existing public utilities are currently located along Allen Avenue which currently serve the existing restaurant. As part of the Site Plan Application, letters will be sent to the respective utility companies to request confirmation of their ability to serve the development.

Historic

At this time, the impact to historic area has not been examined. As part of the Site Plan Application, a letter will be sent to the Maine Historic Preservation Commission for their review.

Building Architecture

At this time, building architecture has not been designed. As part of the Site Plan Application, architectural drawings will be submitted to the City for their review.

Landscape and Buffering

At this time, landscaping and buffering have not been designed. As part of the Site Plan Application, a Landscape Plan will be submitted to the City for their review.

Stormwater Management

It is anticipated that the development will result in a reduction in impervious area. At this time, stormwater management has not been designed, but as treatment of stormwater was required for the abutting pharmacy development, it is anticipated that the proposed bank development would require some form of stormwater treatment prior to discharge to the City drainage system.

Natural Resources

There are no known impacts to any natural resources. As part of the Site Plan Application, letters will be sent to the Maine Department of Conservation, the Department of Inland Fisheries and Wildlife, and the Maine Field Office for Ecological Services for their review.

Traffic

Trip Generation: The site is currently occupied by Espo's which is a 2904 square foot restaurant with 100 seats. Prior to Espo's, the site was occupied by a Burger King with a drive-thru which closed in 2004. Proposed for the site is a 3487 sf retail bank with 3 drive-thru lanes. Gorrill-Palmer Consulting Engineers Inc. has estimated the trip ends (ins and outs combined-thus a round trip is equal to two trip ends) generated by the prior uses of the site as well as the proposed bank using the 7th Edition of the Institute of Transportation Engineers (ITE) publication Trip Generation. The results are summarized below:

Time Period	Trip Ends for Use		
	Burger King	Espo's	Bangor Savings Bank*
Daily	1441	286	1047
Weekday AM Peak Hr of Adj St	157	3	51
Weekday AM Peak Hr of Generator	159	16	129
Weekday PM Peak Hr of Adj St	101	26	156
Weekday PM Peak Hr of Generator	136	30	207
Saturday	2097	281	325
Saturday Peak Hr of Generator	172	33	165

* Represents an average of the rates derived using the square footage and number of drive-thru lanes for the bank

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Ms. Barbara Barhydt
December 15, 2009
Page 4 of 4

The table shows that the proposed bank will generate more trip ends than the existing Espo's, but less than the prior Burger King except for the weekday PM peak hour. The Maine Department of Transportation (MaineDOT) requires a traffic movement permit be obtained when a proposed use will increase forecast traffic by 100 or more trip ends during the AM, PM or Saturday peak hours over any use of the site in place ten years ago. However, since the increase in trip ends associated with the proposed bank is less than 100 during the PM peak hour over that which was generated by the Burger King, a MaineDOT traffic movement permit is not required.

Operational Considerations: The applicant is proposing to utilize the existing driveways to the site and no additional curb cuts are planned as part of the redevelopment of the site. While Gorrill-Palmer Consulting Engineers Inc. will complete a full traffic study, the site has been laid out to maximize the distance between left turning traffic into the site and Allens Corner, to provide adequate vehicle queuing at the drive-thru without disrupting on site traffic flow, and to provide for safe pedestrian circulation both to and within the site.

A traffic impact study will be completed and submitted to the City for review as part of the site plan application.

Summary

Bangor Savings Bank is pleased to submit the attached Site Plan Application for Sketch Plan Review. The project team values the City Staff and Planning Board's input as the project moves forward and looks forward to their review. Please find enclosed with this letter a check totaling \$500, for the Major Site Plan Review Fee.

Please contact me if you have any questions relative to this matter.

Sincerely,

Gorrill-Palmer Consulting-Engineers, Inc.



Douglas E. Reynolds, P.E.
Project Manager

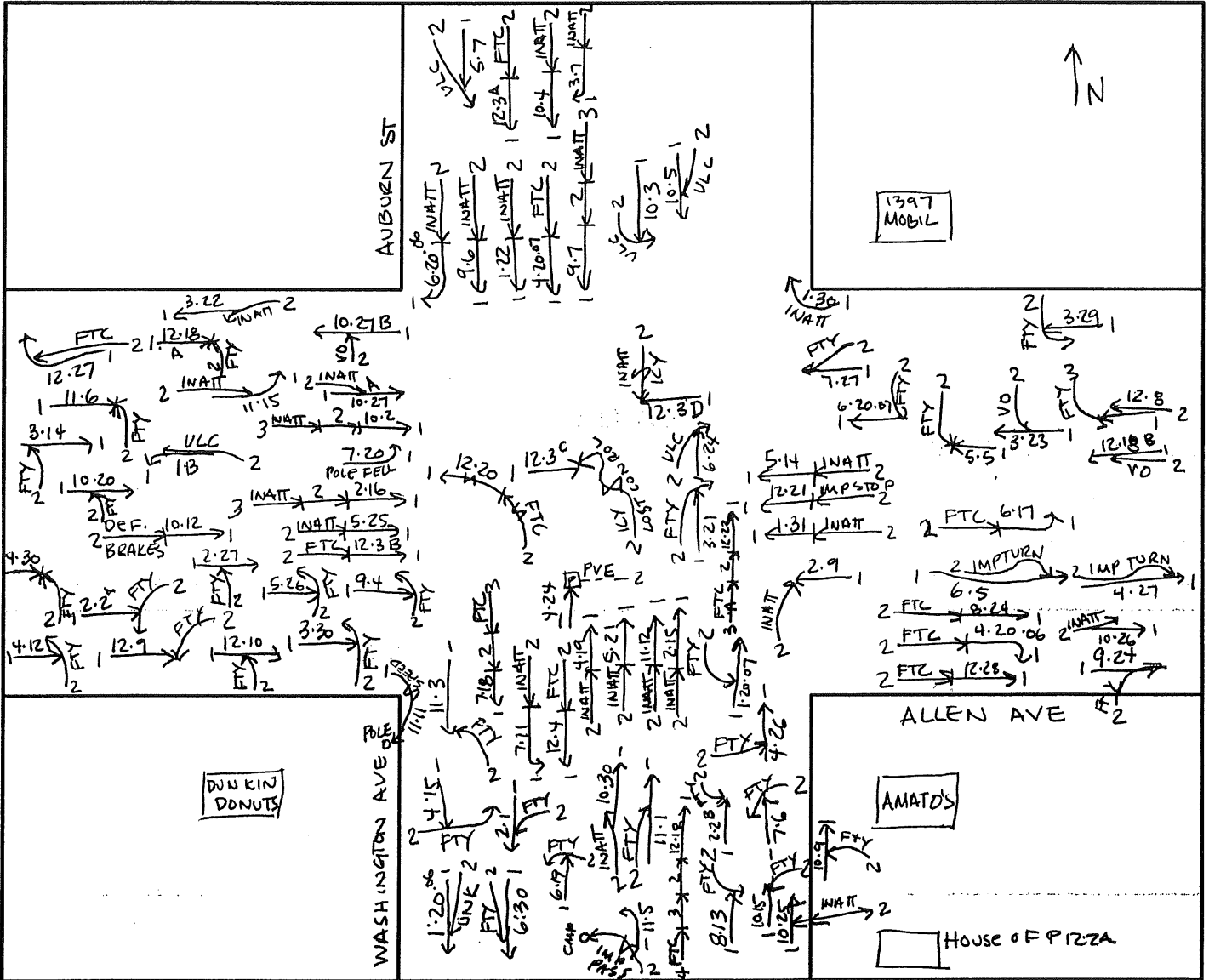
Enclosure

Copy: Jeff Jeter, Bangor Savings Bank

COLLISION DIAGRAM

SHEET 1 OF 4

LOCATION WASHINGTON AVE & ALLEN AVE
 TOWN PORTLAND NODE NO(S) 17060, 17061, 13350, 17035
 YEARS REVIEWED 2006-2008 DATE PREPARED 2/3/10



CRITICAL RATE FACTOR _____ EQUIV. PROP. DAMAGE ACC/YEAR 91 ACC/MEV _____

- LIGHT**
- | | | |
|-------------------------|-------------------------|--------------------------|
| 1. DAWN (MORNING) | 2. DAYLIGHT | 3. DUSK (EVENING) |
| 4. DARK (ST. LIGHTS ON) | 5. DARK (NO ST. LIGHTS) | 6. DARK (ST. LIGHTS OFF) |
| 7. OTHER | | |
- ROAD SURFACE**
- | | | |
|--------------------------|--------------------------|-----------------------------|
| 1. DRY | 2. WET | 3. SNOW/SLUSH-SANDED |
| 4. ICE/PAKED SNOW-SANDED | 5. MUDDY | 6. DEBRIS |
| 7. OILY | 8. SNOW/SLUSH-NOT SANDED | 9. ICE-PKD. SNOW-NOT SANDED |
| 10. OTHER | | |
- APPARENT CONTRIBUTING FACTORS - HUMAN**
- | | | |
|------------------------------------|--------------------------------------|----------------------------------|
| 1. NO IMPROPER ACTION | 2. FAIL TO YLD. RIGHT OF WAY | 3. ILLEGAL UNSAFE SPEED |
| 4. FOLLOW TOO CLOSE | 5. DISREGARD TRAFFIC CONTROL DEVICE | 6. IMP. UNSAFE LANE CHANGE |
| 7. IMPROPER PASS-OVERTAKING | 8. DRIVING LEFT OF CENTER-NO PASSING | 9. IMP. PARKING START/STOP |
| 10. IMPROPER TURN | 11. UNSAFE BACKING | 12. NO SIGNAL OR IMP. SIGNAL |
| 13. IMPEDING TRAFFIC | 14. DRIVER INATTENTION-DISTRACTION | 15. DRIVER INEXPERIENCE |
| 16. PEDEST. VIOLATION ERROR | 17. PHYSICAL IMPAIRMENT | 18. VISION OBSCURED- |
| 19. VISION OBSCURED-SUN/HEADLIGHTS | 20. OTHER VISION OBSCUREMENT | 30. OTHER HUMAN VIOLATION FACTOR |
| 31. HIT AND RUN | 51. UNKNOWN | |
- VEHICULAR**
- | | | |
|------------------------------------|----------------------------|--------------------------|
| 41. DEFECTIVE BRAKES | 42. DEFECTIVE TIRE/FAILURE | 43. DEFECTIVE LIGHTS |
| 44. DEFECTIVE SUSPENSION OR FACTOR | 45. DEFECTIVE STEERING | 50. OTHER VEHICLE DEFECT |
| 51. UNKNOWN | | |

SYMBOLS

ANGLE	→	PEDESTRIAN	→ [P]	FATAL ACCIDENT	●
BACKING	→←	REAR END	→→	VEHICLE (MOVING)	→
FIXED OBJECT	→ []	SIDE SWIPE	→→	BICYCLE	→ [B]
HEAD ON	→←	TURNING MOVE	→↗	ANIMAL	→ [A]
OVERTURN	→↻	CHANGE LANE	→↔	SLED	→ [S]
PARKED VEHICLE	[]	OUT OF CONTROL	→↗		

WEATHER

C = CLEAR	F = FOG	R = RAIN
SL = SLEET	S = SNOW	CL = CLOUDY
		XW = CROSS WINDS

INJURIES

K = FATAL	B = NON-INCAPACITATING
A = INCAPACITATING	C = POSSIBLE INJURY

S:\SHEETS\COLLISION DIAGRAM.DWG

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

Crash Summary I Section Detail Crash Summary II 1320 Included 1320 & Driver Report Included

REPORT DESCRIPTION

Washington Ave area

REPORT PARAMETERS

Year 2006, Start Month 1 through Year 2008 End Month: 12

Route: 0100X	Start Node: 17033	Start Offset: 0	<input type="checkbox"/> Exclude First Node
	End Node: 13340	End Offset: 0	<input type="checkbox"/> Exclude Last Node
Route: 0560010	Start Node: 17061	Start Offset: 0	<input checked="" type="checkbox"/> Exclude First Node
	End Node: 13351	End Offset: 0	<input type="checkbox"/> Exclude Last Node
Route: 0026X	Start Node: 17060	Start Offset: 0	<input type="checkbox"/> Exclude First Node
	End Node: 17061	End Offset: 0	<input checked="" type="checkbox"/> Exclude Last Node

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary I

Nodes																
Node	Route -MP	Node Description	CU/R	Total Crashes	K	Injury Crashes				PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF	
17033	0100X - 3.39	0507451 POR,ALLEN,PENELL AVE.	2	3	0	0	0	2	1	66.7	6,897	0.14	0.36	0.00		
											Statewide Crash Rate:	0.16				
17034	0100X - 3.42	0507452 POR,ALLEN AVE,KNIGHT ST.	2	2	0	0	0	0	2	0.0	6,815	0.10	0.36	0.00		
											Statewide Crash Rate:	0.16				
17035	0100X - 3.51	0507453 POR,ALLEN AVE,ABBOTT ST.	2	3	0	0	0	0	3	0.0	6,809	0.15	0.36	0.00		
											Statewide Crash Rate:	0.16				
17061	0100X - 3.58	Int of ALLEN AV, WASHINGTON AV	9	50	0	0	5	10	35	30.0	12,385	1.35	0.99	1.36		
											Statewide Crash Rate:	0.66				
P13340	0100X - 3.63	0503754 POR,CYPRESS ST,WASHINGTON AVE.	9	10	0	0	0	2	8	20.0	8,218	0.41	1.06	0.00		
											Statewide Crash Rate:	0.66				
13350	0560010 - 0.12	0503764 POR,N,GATE SHOP.CTR.DR,ALLEN	2	6	0	0	0	1	5	16.7	3,921	0.51	0.38	1.35		
											Statewide Crash Rate:	0.14				
13351	0560010 - 0.17	0503765 POR,BROOK RD,ALLEN AVE.	2	0	0	0	0	0	0	0.0	4,431	0.00	0.37	0.00		
											Statewide Crash Rate:	0.14				
17060	0026X - 4.18	Int of MAPLEWOOD ST, WASHINGTON AV	2	7	0	0	0	1	6	14.3	7,638	0.31	0.35	0.00		
											Statewide Crash Rate:	0.16				
Study Years:	3.00			NODE TOTALS:	81	0	0	5	16	60	25.9	57.114	0.47	0.45	1.05	

Crash Summary I

Sections																		
Start Node	End Node	Element	Offset Begin - End	Route - MP	Section U/R Length	Total Crashes	K	Injury Crashes				Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF		
						A	B	C	PD									
17033 0507451	17034 POR.ALLEN,PENELL AVE.	192785	0 - 0.03	0100X - 3.39 ST RTE 100	0.03 2	0	0	0	0	0	0	0.0	0.00204	0.00	542.59	0.00		
						Statewide Crash Rate: 181.24												
17034 0507452	17035 POR.ALLEN AVE,KNIGHT ST.	192786	0 - 0.09	0100X - 3.42 ST RTE 100	0.09 2	3	0	0	0	2	1	66.7	0.00610	163.87	410.24	0.00		
						Statewide Crash Rate: 181.24												
17035 0507453	17061 POR.ALLEN AVE,ABBOTT ST.	192787	0 - 0.07	0100X - 3.51 ST RTE 100	0.07 2	14	0	0	0	1	13	7.1	0.00476	981.19	436.52	2.25		
						Statewide Crash Rate: 181.24												
13340 0503754	17061 POR.CYPRESS ST,WASHINGTON AVE.	188050	0 - 0.05	0100X - 3.53 ST RTE 100	0.05 2	2	0	0	0	1	1	50.0	0.00336	198.62	477.18	0.00		
						Statewide Crash Rate: 181.24												
13350 0503764	17061 POR,N.GATE SHOP,CTR.DR.ALLEN	188065	0 - 0.12	0560010 - 0 RD INV 05 60010	0.12 2	11	0	0	0	2	9	18.2	0.00413	887.93	397.21	2.24		
						Statewide Crash Rate: 152.12												
13350 0503764	13351 POR,N.GATE SHOP,CTR.DR.ALLEN	188064	0 - 0.05	0560010 - 0.07 RD INV 05 60010	0.05 2	0	0	0	0	0	0	0.0	0.00220	0.00	467.41	0.00		
						Statewide Crash Rate: 152.12												
17060	17061 Int of MAPLEWOOD ST, WASHINGTON AV	192806	0 - 0.11	0026X - 4.18 ST RTE 26	0.11 2	16	0	0	2	1	13	18.8	0.00860	619.89	377.73	1.64		
						Statewide Crash Rate: 181.24												
Study Years: 3.00					Section Totals:	0.52	46	0	0	2	7	37	19.6	0.03119	491.57	281.49	1.75	
					Grand Totals:	0.52	127	0	0	7	23	97	23.6	0.03119	1357.17	443.88	3.06	

PORTLAND, ME 04106

Portland

