

Listed below are key characters (in bold) for searching within this file.

Hold down the control key and select the “f” key. Enter either a key character from the list below or document name and select enter for a list of documents containing the search word you entered.

APL – all documents behind this target sheet pertain to the original application submitted by the Applicant.

REVIEW – all documents behind this target sheet pertain to those documents submitted to and from staff as part of the project review.

PBM1 – all documents behind this target sheet are any Planning Board memos with attachments that went to the Board.

PBR1 - all documents behind this target sheet are any Planning Board reports with attachments that went to the Board.

CC1 - all documents behind this target sheet are any City Council memos/reports that went to the City Council.

DRC1 - all documents behind this target sheet are those pertaining to the post review of the project by the Development Review Coordinator.

MISC1 - all documents behind this target sheet are those that may not be included in any of the categories above.

APL

**CITY OF PORTLAND, MAINE
DEVELOPMENT REVIEW APPLICATION
PLANNING DEPARTMENT PROCESSING FORM**

19990070

I. D. Number

Kennedy Peter

Applicant

18 Carroll St, Falmouth, ME 04105

Applicant's Mailing Address

SAA

Consultant/Agent

6/4/99

Application Date

Congress St

Project Name/Description

Congress St

Address of Proposed Site

217-a-008

Assessor's Reference: Chart-Block-Lot

Applicant or Agent Daytime Telephone, Fax

Proposed Development (check all that apply):
 New Building Building Addition Change Of Use Residential
 Office Retail Manufacturing Warehouse/Distribution Parking Lot Other (specify) **29 lot subdivision**

Proposed Building square Feet or # of Units **20 acres** **R3**
 Acreage of Site Zoning

Check Review Required:

- Site Plan (major/minor)
- Subdivision # of lots **29**
- PAD Review
- 14-403 Streets Review
- Flood Hazard
- Shoreland
- Historic Preservation
- DEP Local Certification
- Zoning Conditional Use (ZBA/PB)
- Zoning Variance
- Other _____

Fees Paid: Site Plan _____ Subdivision **\$725.00** Engineer Review _____ Date: **6/4/99**

Planning Approval Status:

Reviewer _____

- Approved
- Approved w/Conditions See Attached
- Denied

Approval Date _____ Approval Expiration _____ Extension to _____ Additional Sheets Attached

OK to Issue Building Permit _____ _____ _____
 signature date

Performance Guarantee Required* Not Required

* No building permit may be issued until a performance guarantee has been submitted as indicated below

<input type="checkbox"/> Performance Guarantee Accepted	_____	_____	_____
	date	amount	expiration date
<input type="checkbox"/> Inspection Fee Paid	_____	_____	
	date	amount	
<input type="checkbox"/> Building Permit Issued	_____		
	date		
<input type="checkbox"/> Performance Guarantee Reduced	_____	_____	_____
	date	remaining balance	signature
<input type="checkbox"/> Temporary Certificate of Occupancy	_____	<input type="checkbox"/> Conditions (See Attached)	
	date		
<input type="checkbox"/> Final Inspection	_____	_____	
	date	signature	
<input type="checkbox"/> Certificate Of Occupancy	_____		
	date		
<input type="checkbox"/> Performance Guarantee Released	_____	_____	
	date	signature	
<input type="checkbox"/> Defect Guarantee Submitted	_____	_____	_____
	submitted date	amount	expiration date

**Site Review Pre-Application
Multi-Family/Attached Single Family Dwellings/Two-Family Dwelling
or Commercial Structures and Additions Thereto**

In the interest of processing your application in the quickest possible manner, please complete the Information below for Site Plan Review

NOTEIf you or the property owner owes real estate or personal property taxes or user charges on ANY PROPERTY within the City, payment arrangements must be made before permits of any kind are accepted.**

<u>PETER KEANEY</u>	<u>3 JUNE 99</u>
Applicant <u>18 CARROLL ST.</u>	Application Date <u>RIVERS EDGE</u>
Applicant's Mailing Address <u>FALMOUTH, MAINE</u>	Project Name/Description <u>CONGRESS ST.</u>
Consultant/Agent _____	Address Of Proposed Site _____
Applicant/Agent Daytime telephone and FAX _____	Assessor's Reference, Chart#, Block, Lot# <u>21748</u>
Proposed Development (Check all that apply) <input type="checkbox"/> New Building <input type="checkbox"/> Building Addition <input type="checkbox"/> Change of Use <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Office <input type="checkbox"/> Retail	
<input type="checkbox"/> Manufacturing <input type="checkbox"/> Warehouse/Distribution <input type="checkbox"/> Other(Specify) _____	
<u>29 UNITS</u>	<u>20 ACRES</u>
Proposed Building Square Footage and /or # of Units	Acreage of Site
	<u>P-3</u>
	Zoning

You must Include the following with you application:

- 1) A Copy of Your Deed or Purchase and Sale Agreement
- 2) 7 sets of Site Plan packages containing the information found in the attached sample plans and checklist.

(Section 14-522 of the Zoning Ordinance outlines the process, copies are available for review at the counter, photocopies are \$ 0.25 per page)

I hereby certify that I am the Owner of record of the named property, or that the proposed work is authorized by the owner of record 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 an approval for the proposed project or use described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this approval at any reasonable hour to enforce the provisions of the codes applicable to this approval.

Signature of applicant: <u>[Signature]</u>	Date: <u>3 June 99</u>
--	------------------------

Site Review Fee: Major \$500.00 Minor 400.00

This application is for site review ONLY, a Building Permit application and associated fees will be required prior to construction.



170 U.S. Route One
Falmouth, Maine 04105
Tel: 207.781.5242
Fax: 207.781.4245

May 16, 2001
File: 00149

Mr. Steve Mohr
Mohr & Seredin
18 Pleasant Street
Portland, ME 04101

RE: RIVER'S EDGE SUBDIVISION, PORTLAND, ME

Dear Steve:

As requested we have modified the drawings and stormwater calculations in response to the May 1st memo from Jonathan Spencer of the City's Planning Department. Below is a summary of the items that are addressed with this submittal the numbering matches the memo. Items 1 and 2 are being addressed by you or Peter.

3. We have added silt fence to the plan. Note a stabilized entrance, catchbasin protection, check dams, and riprap were already shown. This road is currently roughed out so very little clearing and grading will be required. Most of the construction will consist of utility installation with gravel and paving.
4. Attached are riprap sizing criteria. We have modified the outlets of two culverts to be plunge pools versus aprons.
5. A revised cross section has been provided for the 5' diameter culvert at Station 19+00.
6. The culvert design has been revised. I assume you are processing the necessary permits.
7. The catch basins and stormdrains are not deep relative to existing ground. One section was placed below the sewer to minimize conflicts and best serve the project.
8. We have added some grading at culverts and pipe inlets. It is our experience the standard plan and profile drawings provide adequate information for the contractor to construct the road.



Mr. Steve Mohr
Mohr & Seredin
May 16, 2001
Page 2

9. The catch basin locations were selected to collect water at low points in the road and to avoid having water flow across intersections. At Station 13+0 the water will continue down the cul-de-sac to the catch basin at 14+11. We are comfortable that this plan is a good balance of design and cost of infrastructure.
10. The road design has been revised.
11. DMH #1 and 3 have been revised to reflect 6' diameter structures.

I believe this addresses the comments of the memo.

Sincerely,

PINKHAM & GREER

Thomas S. Greer, P.E.

The signature is a cursive script in black ink. Below the signature, the name "Thomas S. Greer, P.E." is printed in a sans-serif font. The word "Greer" is printed in a larger, bold font, and the "P.E." is in a smaller font to its right.

TSG/lh



170 U.S. Route One
Falmouth, Maine 04105
(207) 781-5242
FAX (207) 781-4245

JOB RIVER'S EDGE
SHEET NO. _____ OF _____
CALCULATED BY TSC DATE 5/15/01
CHECKED BY _____ DATE _____
SCALE _____

CHECK OF RIPRAP SIZE

PLANS SHOW $D_{50} = 6''$ EVERYWHERE EXCEPT AT 5' ϕ CULVERT

FLOW'S RANGE FROM 4.65 CFS $V = 2.2$ FT/SEC
TO 14 CFS OUT OF O/G #2

- 5' ϕ CULVERT HAS 133 CFS IN 25 YR STORM

PLUNGE POOLS USED AT HIGH FLOW LOCATIONS WITH 10' WIDE LIP. USING FLOW MASTER THE FOLLOWING VELOCITIES OVER THE LIP WERE CALCULATED

5 CFS	1.77 FT/SEC
14 CFS	2.62 FT/SEC
133 CFS	5.76 FT/SEC

ATTACHED IS PG M-6 FROM BMP MANUAL

6" D_{50} IS OK UP TO 6.4 FT/SEC

12" D_{50} IS OK UP TO 9.2 FT/SEC

BASED ON THIS $D_{50} = 6''$ OK EVERYWHERE

$D_{50} = 12''$ OK FOR 5' ϕ CULVERT

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: RIVER'S EDGE

Comment: VELOCITY AT LIP FOR RIPRAP SIZE

Solve For Depth

Given Input Data:

Bottom Width.....	10.00 ft
Manning's n.....	0.035
Channel Slope....	0.0100 ft/ft
Discharge.....	5.00 cfs

Computed Results:

Depth.....	0.28 ft
Velocity.....	1.77 fps
Flow Area.....	2.83 sf
Flow Top Width...	10.00 ft
Wetted Perimeter.	10.57 ft
Critical Depth...	0.20 ft
Critical Slope...	0.0323 ft/ft
Froude Number....	0.58 (flow is Subcritical)

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: RIVER'S EDGE

Comment: VELOCITY AT LIP FOR RIPRAP SIZE

Solve For Depth

Given Input Data:

Bottom Width.....	10.00 ft
Manning's n.....	0.035
Channel Slope....	0.0100 ft/ft
Discharge.....	133.00 cfs

Computed Results:

Depth.....	2.31 ft
Velocity.....	5.76 fps
Flow Area.....	23.09 sf
Flow Top Width...	10.00 ft
Wetted Perimeter.	14.62 ft
Critical Depth...	1.76 ft
Critical Slope...	0.0221 ft/ft
Froude Number....	0.67 (flow is Subcritical)

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: RIVER'S EDGE

Comment: VELOCITY AT LIP FOR RIPRAP SIZE

Solve For Depth

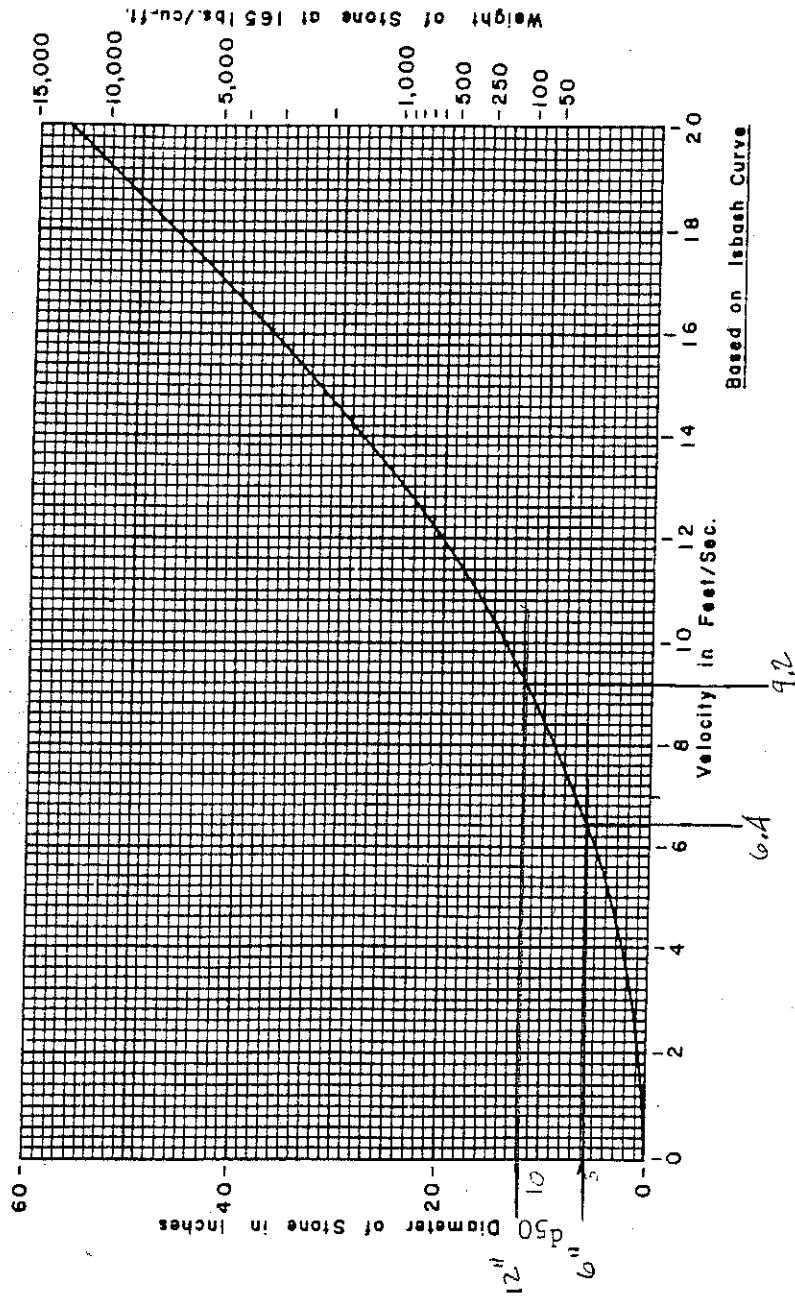
Given Input Data:

Bottom Width.....	10.00 ft
Manning's n.....	0.035
Channel Slope....	0.0100 ft/ft
Discharge.....	14.00 cfs

Computed Results:

Depth.....	0.54 ft
Velocity.....	2.62 fps
Flow Area.....	5.35 sf
Flow Top Width...	10.00 ft
Wetted Perimeter.	11.07 ft
Critical Depth...	0.39 ft
Critical Slope...	0.0270 ft/ft
Froude Number....	0.63 (flow is Subcritical)

Figure 70.1 STONE SIZE FOR RIPRAP (USDA Soil Conservation Service)



Traffic Impact Study

PROPOSED RIVER'S EDGE SUBDIVISION
Portland, Maine

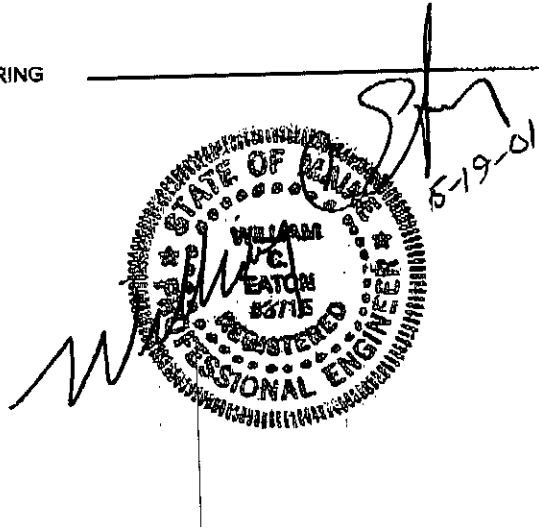
Prepared for

Mohr & Seredin
Portland, Maine



Brunswick, Maine

May 2000



PROPOSED RIVER'S EDGE SUBDIVISION
Congress Avenue - Portland, Maine
Traffic Impact Study

Introduction

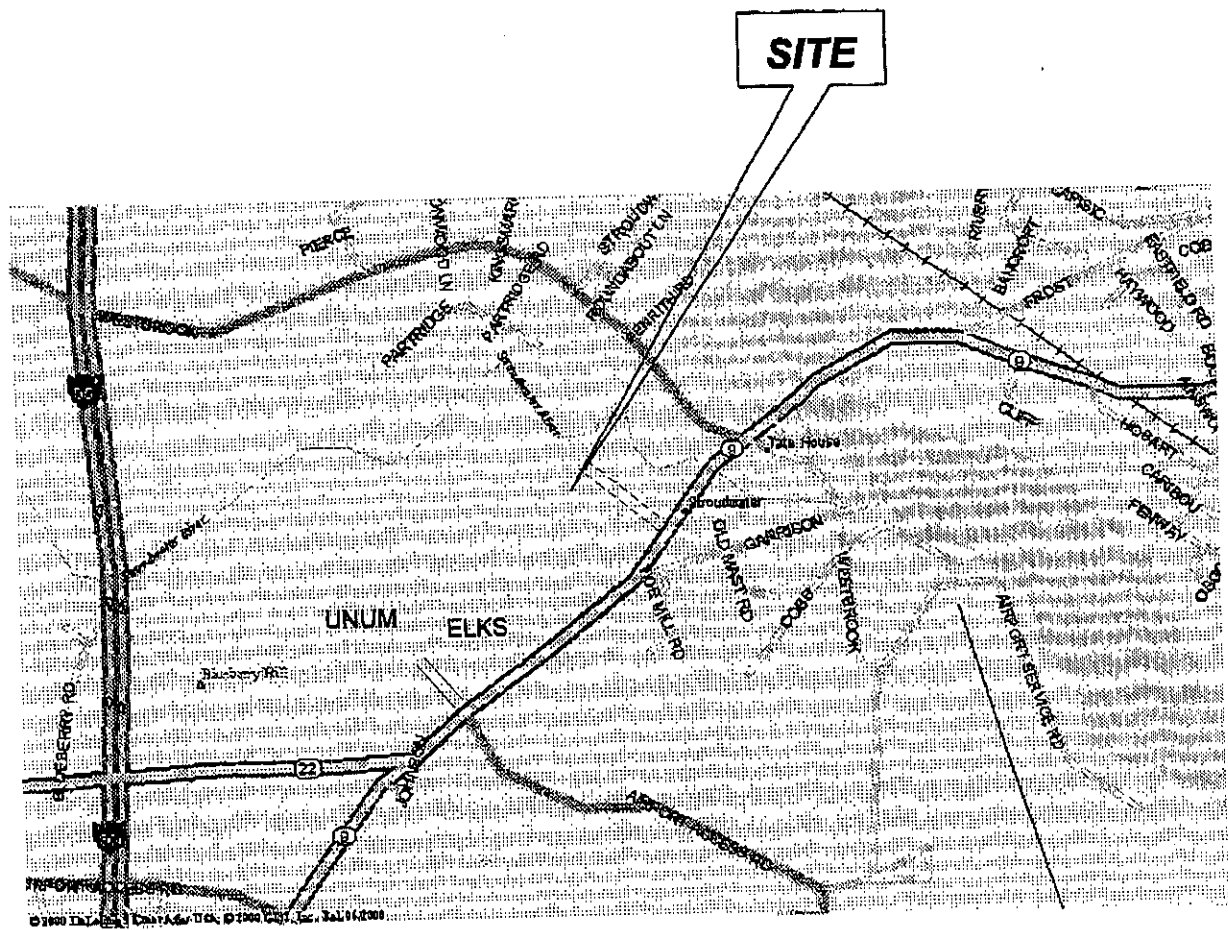
Stroudwater Farm Associates proposes to develop a 29 lot residential subdivision located on the northerly side of Congress Street just west of Westbrook Street in Portland, Maine (see Figure 1 on the following page). Access to the site is provided via a single two-way driveway located at an existing access to parking for Portland Trails.

Development in the immediate vicinity of the proposed development is generally residential in nature. In the vicinity of the proposed site access Congress Street is a 4 lane facility with a pavement width of 50± feet. The posted speed limit on Congress Street in the vicinity of the proposed site access is 30 MPH.

The purpose of this traffic impact study is to assess the impact of new traffic generated by the proposed project on roadways in the immediate vicinity of the site. To ensure that the scope of the study met the City of Portland's requirements, the project was discussed with the City Traffic Engineer, Larry Ash, who indicated that the study should include the intersections of Congress @ Jetport Road and Congress @ Westbrook, and that the analysis should include both the AM and PM peak hours.

Pre-Development AM and PM Peak Hour Traffic

Traffic impact analysis is typically performed for traffic conditions that occur during the weekday PM peak hour, as this is usually the time of heaviest traffic flow that occurs on a



SITE

LINUM ELKS

ete
EATON
TRAFFIC
ENGINEERING
2 Miranda St. - Brunswick, Maine
(207) 725-9505 Fax (207) 725-0847

Figure 1
SITE LOCATION AND ACCESS

RIVER'S EDGE SUBDIVISION / PORTLAND, MAINE

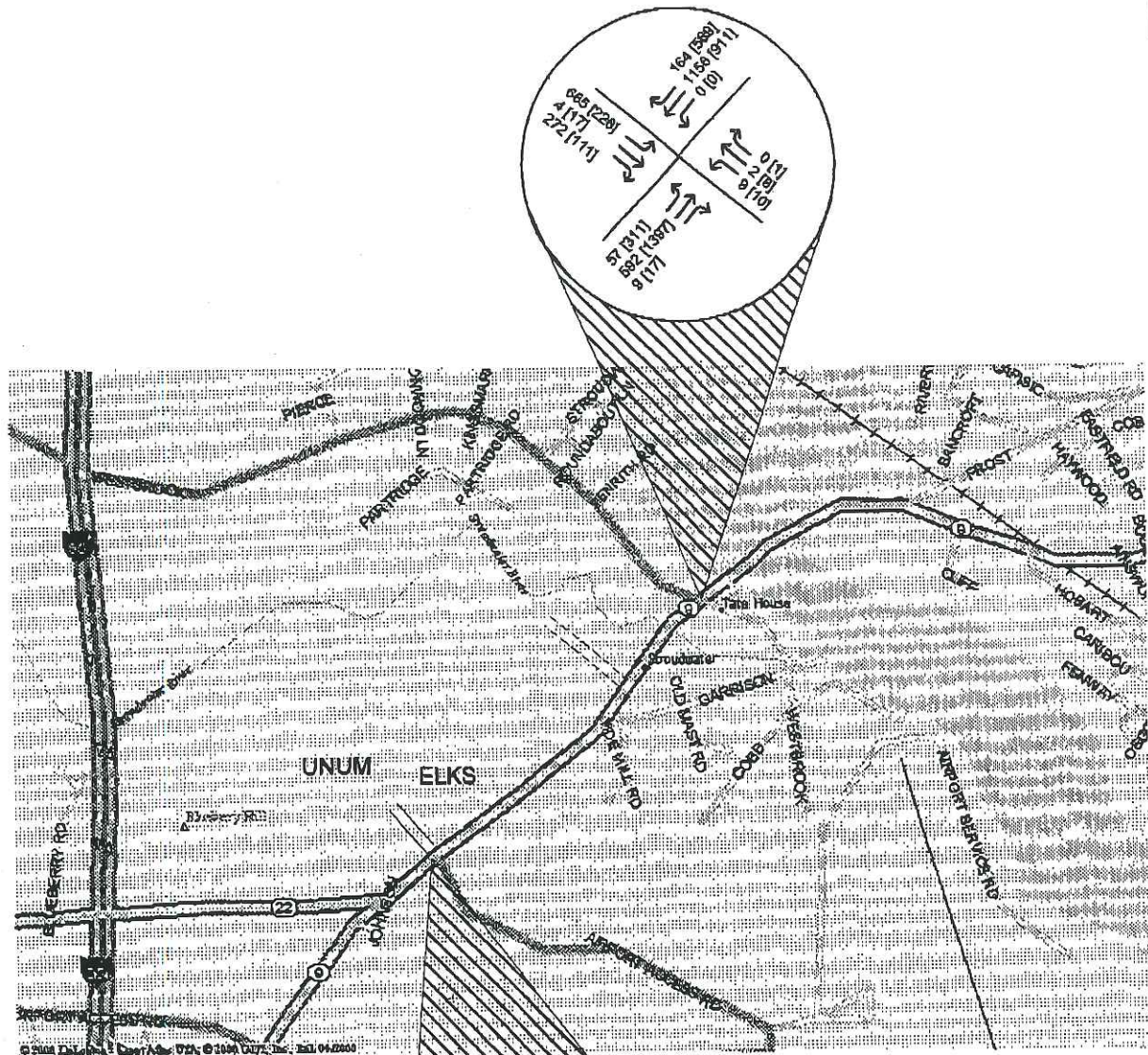
weekday. In this case, at the direction of the City of Portland Traffic Engineer, both the AM and PM peak hours were evaluated. As part of the process of estimating weekday AM and PM peak hour traffic volumes, manual traffic counts were conducted on April 20, May 1, and May 2, 2001 at the intersections of Congress @ Jetport and Congress @ Westbrook. This data provided information for peak hour traffic volumes in the area, and general traffic patterns in the area (the directional distribution to/from the proposed development).

Typically traffic count data is adjusted to reflect peak summer traffic volumes, and used for analysis. In this case the April traffic volumes were increased by 10 percent and the May volumes by 7 percent. The development is assumed to build out in 2002 thus the AM and PM peak hour volumes were increased using a 3.5 percent annual growth rate (based upon MDOT daily traffic count trends in the area). Figure 2 on the following page presents the estimated 2002 peak season weekday pre-development weekday AM and PM peak hour traffic volumes.

Site Generated PM Peak Hour Traffic

Trip generation was estimated using the report Trip Generation - Sixth Edition¹ for land use code 210 "Single Family Detached Housing". Applying the statistics to the proposed 29 units results in overall estimated trip generation of 22 trips during the AM peak hour - 5 entering the site and 17 exiting, and 29 trips during the PM peak hour - 19 entering the site and 10 exiting. The new trips were assigned to roadways in the vicinity of the site based upon the directional distribution data obtained from the AM and PM peak period counts conducted in late April and early May. Figure 3 on the following page presents the estimated assignment of AM and PM peak hour site generated traffic volumes in the vicinity of the site.

¹ Institute of Transportation Engineers, 1997



XX - AM PEAK HOUR
[XX] - PM PEAK HOUR

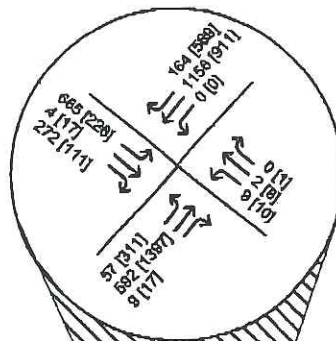
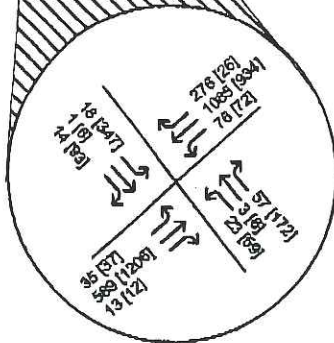
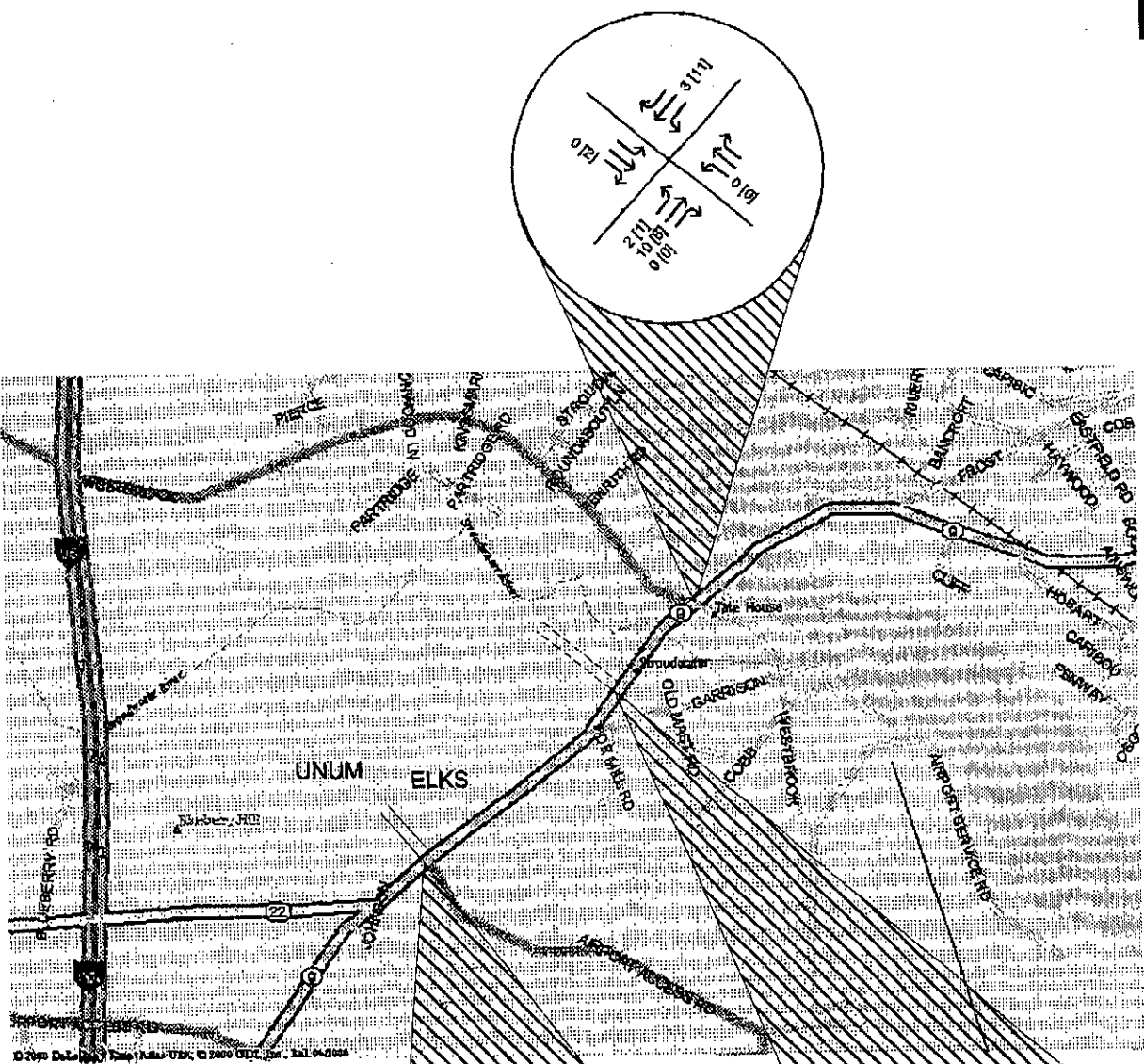


Figure 2
ESTIMATED 2002 AM [PM] PEAK HOUR TRAFFIC - PRE-DEVELOPMENT
RIVER'S EDGE SUBDIVISION / PORTLAND, MAINE



XX - AM PEAK HOUR
[XX] - PM PEAK HOUR

Figure 3
PROJECTED SITE GENERATED AM [PM] PEAK HOUR TRAFFIC
RIVER'S EDGE SUBDIVISION / PORTLAND, MAINE

Post-Development PM Peak Hour Traffic

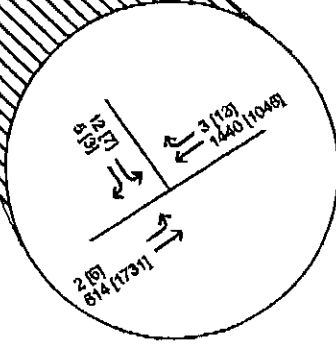
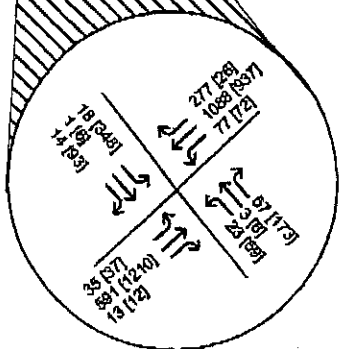
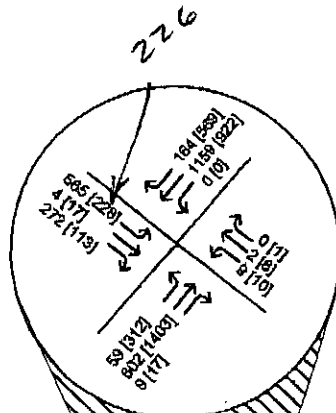
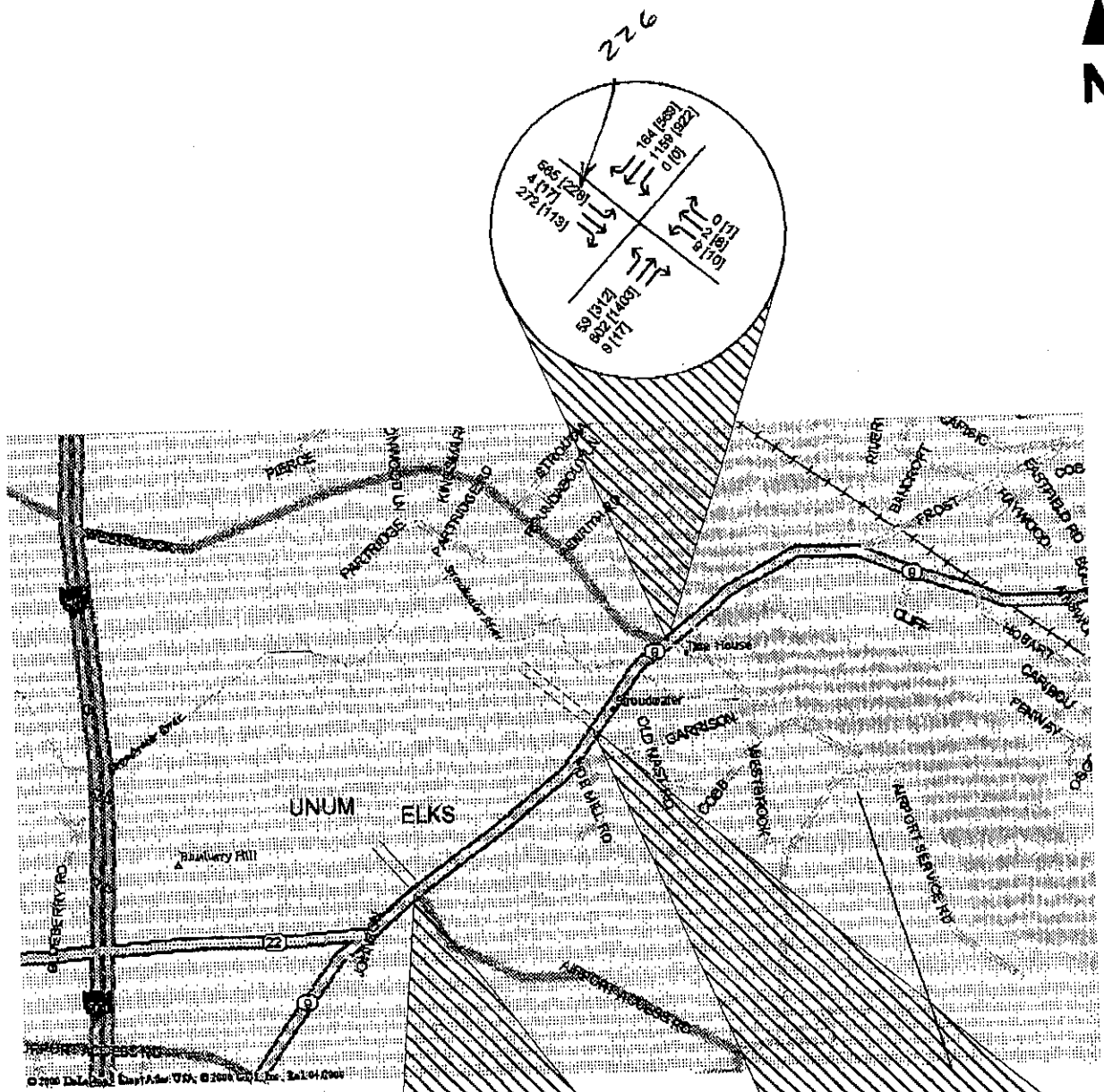
Post-development conditions are estimated by adding net site generated traffic volumes to the "base" or pre-development volumes. Figure 4 on the following page presents projected 2002 post-development weekday AM and PM peak hour traffic.

Operational Assessment Pre/ Post-Development Traffic Volumes

Capacity analysis was performed for the pre- and post-development AM and PM peak hour traffic projections for the intersections of Congress @ Jetport and Congress @ Westbrook, and post-development AM and PM peak hour traffic projections for the intersection of Congress @ Site Access per the procedures contained in the Highway Capacity Manual². Capacity analysis provides a quantitative assessment of the quality of traffic flow at an intersection, and "rates" this quality in terms of its Level of Service (LOS). LOS ratings range from A to F, and much like a school rank card, A indicates very good conditions, and F indicates extremely congested conditions with long delays.

LOS for **signalized** intersections is based upon the average control delay for all vehicles using the intersection, which includes deceleration delay, stopped delay, queue move-up time and acceleration delay. The relationship between LOS and control delay is shown in the table below.

² HCM 2000, Highway Capacity Manual, Transportation Research Board, 2000



XX - AM PEAK HOUR
 [XX] - PM PEAK HOUR

Figure 4
 PROJECTED 2002 AM [PM] PEAK HOUR TRAFFIC - POST-DEVELOPMENT

RIVER'S EDGE SUBDIVISION / PORTLAND, MAINE

Signalized Intersection Level of Service Measures

Level of Service	Control Delay Per Vehicle
A	≤ 10 Seconds
B	>10 - ≤ 20 Seconds
C	>20 - ≤ 35 Seconds
D	>35 - ≤ 55 Seconds
E	>55 - ≤ 80 Seconds
F	≥ 80 Seconds

For **unsignalized** intersections, analysis procedures are different than those used for signalized intersections, but LOS for unsignalized intersections is also based upon average control delay, which takes into account the delay involved in arriving, waiting in, and departing a vehicle queue. The relationship between LOS and average total delay is shown below:

Level of Service Measurement for Unsignalized Intersections

Level of Service	Average Total Delay Per Vehicle
A	≤ 10 Seconds
B	>10 - ≤ 15 Seconds
C	>15 - ≤ 25 Seconds
D	>25 - ≤ 35 Seconds
E	>35 - ≤ 50 Seconds
F	≥ 50 Seconds

The results of the analysis of the signalized intersections of Congress @ Jetport and Congress @ Westbrook are shown below. As can be seen, the proposed development does not significantly change the level of service or the control delay.

Signalized Intersection Analysis

Location	Pre-Development AM [PM]		Post-Development AM [PM]	
	LOS	Control Delay (sec)	LOS	Control Delay (sec)
<i>AM Peak Hour</i>				
Congress @ Jetport	B	12.5	B	12.5
Congress @ Westbrook	D	46.4	D	47.0
<i>PM Peak Hour</i>				
Congress @ Jetport	C	32.1	C	32.3
Congress @ Westbrook	D	43.0	D	43.8

The results of the analysis of the unsignalized intersection of Congress Street @ Site Access is presented below:

Unsignalized Intersection Analysis

Location	Pre-Development		Post-Development	
	LOS	Average Total Delay (sec)	LOS	Average Total Delay (sec)
AM Peak Hour				
Congress @ Site Access				
Left from Congress EB	na	na	B	13.1
Site Access	na	na	F	58.4
PM Peak Hour				
Congress @ Site Access				
Left from Congress EB	na	na	B	10.7
Site Access	na	na	F	71.4

At the intersection of Congress Street @ Site Access, it can be seen that vehicles wishing to exit the site will experience very long delays during the AM and PM peak hours. Vehicles turning left from Congress Street eastbound into the site will experience relatively minor delays. This delay could affect traffic in the inside lane of Congress Street eastbound, but because of the low projected left turn volumes (2 in the AM peak hour and 6 in the PM peak hour) this should not have any significant impact on Congress Street traffic flow. A check of the potential need for a left turn lane for traffic entering the site from Congress Street was conducted using the guidelines in Table IX-15 "Guide for Left Turn Lanes on Two Lane Highways" in the AASHTO "Green Book"³. A left turn lane was not found to be warranted.

³ A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, 1990

Safety

Safety data for the most recent available 3 year period (1997-99) was obtained from the Accident Records Section of the MDOT Bureau of Planning for roadways in the vicinity of the site. A summary of the accident history in the area is presented in the table below.

1997-99 Accident History in Site Vicinity

LOCATION	1997-99 ACCIDENTS	ANNUAL AVERAGE	CRITICAL RATE FACTOR ⁴
Congress Street @ Westbrook Street	36	12.00	0.80
Congress Street/Westbrook to Garrison	14	4.67	0.54
Congress Street @ Garrison	10	3.33	0.78
Congress Street/ Garrison to Johnson	42	14.00	1.02
Congress Street @ Johnson	24	8.00	0.57

MDOT guidelines for identification of a High Accident Location (HAL - indicating a potential safety deficiency) is that a location must experience both 8 or more accidents in a 3 year period and have a Critical Rate Factor of 1.00 or greater. One of the locations - Congress Street from Garrison Street to Johnson Road satisfies the criteria. Accordingly, a detailed collision diagram of this segment of Congress Street was prepared using accident reports on file at MDOT. A summary of the analysis of the collision diagram is as follows:

⁴ The Critical Rate Factor is a statistical measure which compares the accident frequency at a location to similar locations throughout the State. A Critical Rate Factor of 1.00 or greater indicates that the location has a higher frequency of accidents than would be expected due to random occurrence, with a 99 percent level of confidence.

Congress Street/ Garrison Street to Johnson Road: Interestingly, 5 of the 42 accidents included collisions with deer. A number of the accidents occurred at the intersection of Congress Street @ Jetport. (This intersection has not yet been classified a "node" by MDOT and the accidents at this location are reported as part of the link on Congress Street from Garrison Street to Johnson Road. It is likely that if this location had been classified as a node - which generally describes an intersection - it would not be a high accident location.) Approximately 20 of the accidents appear to have occurred at this location, and include 10 rear end collisions on Congress Street, 5 angle collisions between Congress Street and either the Jetport access road or the UNUM/Elks access road, and 4 left turn collisions on Congress Street. There were a number of lane change/sideswipe collisions on Congress Street west of Garrison Street. The remainder of the accidents were relatively random in type and location and included rear end collisions, sideswipes, vehicles leaving the roadway and one pedestrian accident. Overall the pattern and magnitude of accidents is not atypical of a section of a high volume roadway with a signalized intersection. Because of the relatively high incidence of rear end collisions on Congress Street at the Jetport intersection it is suggested that the clearance intervals for the signal be reviewed. The traffic at this location tends to travel at a high rate of speed and either the clearance interval needs to be extended or initial vehicle detection needs to be move farther back from the intersection on Congress Street.

An additional safety consideration is sight distance for vehicles exiting the proposed access driveway on MDOT recommended guidelines for exiting sight distance are as follows:

Recommended Exiting Sight Distance

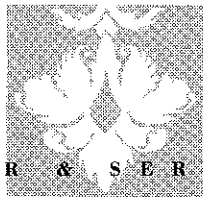
SPEED	LOW-MEDIUM VOLUME DRIVEWAY	HIGH VOLUME DRIVEWAY
25 MPH	250 FT	300 FT
30 MPH	300 FT	380 FT
35 MPH	350 FT	470 FT
40 MPH	400 FT	580 FT
45 MPH	450 FT	700 FT
50 MPH	500 FT	840 FT

Low and medium volume driveways (per MDOT guidelines) have peak hour driveway volumes of 150 vehicles or less, which is the case here. Thus for a 30 MPH roadway (posted limit on x at the proposed access road), recommended minimum sight distance is 300 feet. (Observation in the field indicates that vehicles are actually traveling 40-45 MPH thus practical safe exiting sight distance should be 400 - 450 feet.) Field measurements for the proposed access drive indicate that 800+ feet of sight distance are available to both the left (east) and the right (west). Accordingly, there is more than adequate sight distance for vehicles exiting the proposed access road on Congress Street.

Summary of Findings

The proposed development is projected to generate 22 vehicle trips during the AM peak and 29 during the PM peak hour. The intersections of Congress @ Jetport and Congress @ Westbrook are projected to operate at satisfactory levels of service for both pre and post-development traffic projections. The proposed site access on Congress Street is projected to operate satisfactorily overall, with very long delays for vehicles exiting the site during the AM and PM peak hours. There is one High Accident Locations in the immediate vicinity of the site, based

upon 1997-99 accident data, and suggestions to help reduce the accident experience at the intersection of Congress @ Jetport are contained in the "Safety" section of this report. Sight distance for vehicles exiting the proposed access to the site is more than adequate.



M O H R & S E R E D I N

Landscape Architects, Inc.

July 10, 2001

Mr. Jonathan Spence
Portland Planning Department
Portland City Hall
389 Congress St.
Portland, ME 04101

RE: River's Edge – Peter Kennedy

Dear Jonathan:

Attached please find the following submission information regarding the River's Edge subdivision:

- 1) Revised Final Subdivision Plan (with 11" x 17" reductions), rev. 7.10.01,
- 2) Revised Landscape Plan (with 11" x 17" reductions), rev. 7.10.01.

The Final Subdivision Plan was revised per Maine Department of Transportation (M.D.O.T.) and Portland Trails property line revisions. The lot acreages and buffer zones were revised accordingly.

The Landscape and Lighting Plan was further developed by clearly showing the buffer zones and preserved vegetation and adding text describing the proposed vegetation protection. Also, typical cul-de-sacs plantings were developed and added to the plan.

If you have any comments or questions regarding the information in this submission, please give me a call at 871-0003. Thank you.

Sincerely,

Michael King
Mohr & Seredin Landscape Architects, Inc.

cc: Peter Kennedy

May 21, 2001

Mr. Jonathan Spence, Planner
City of Portland Planning Department
389 Congress St.
Portland, ME 04101

RE: Stroudwater River's Edge Subdivision

Dear Mr. Spence:

Attached please find additional submission information requested by your department. These include:

- 1) Traffic Impact Study prepared by William Eaton, as requested by Mr. Larry Ash, City Traffic Engineer.
- 2) DEP Tier One approval permit for wetland fill totaling 11, 770 square feet.
- 3) Correspondence and revised plans from Pinkham and Greer Engineers addressing Mr. Bushey's comments #3 through #11 set forth in your letter of May 1, 2001.

In your letter of May 1, 2001 you requested a specific response on two issues, which we address as following:

- 1) Soils:

The soils depicted on S-1 are from the Cumberland Counties SCS Median Intensity Soils map, as modified by the wetlands mapping by Dale Brewer. The existing roadway was constructed six years ago, and is a stable base for the new construction proposed in the plans. The significant soil design criteria for this site are the hydric soils encountered in the flood plain. No bedrock has been encountered on the site.

The site plans depict the engineering recommendations for the pavement build-up, under drains and topsoil depths.

- 2) Lot Grading:

Lot grading plans for 12, 16, 17, 18 have been submitted to the City and to the DEP. Lots 26, 27, and 28 will require daylight basements to accommodate the steep slopes, and we will prepare grading plans for those lots at the time of final submission. The grading for the individual lots has been considered in the creation of the lots, but because the lots will be sold to individual buyers the lot grading plans are not considered binding on the buyers. Rather they are a study to indicated what we believe the appropriate grading should be for each lot.

Sincerely,


Stephen B. Mohr, ASLA

Traffic Impact Study

PROPOSED RIVER'S EDGE SUBDIVISION
Portland, Maine

Prepared for

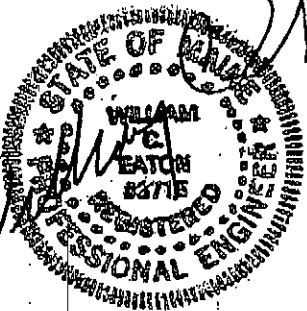
Mohr & Seredin
Portland, Maine



EATON
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Brunswick, Maine

May 2000



PROPOSED RIVER'S EDGE SUBDIVISION

Congress Avenue - Portland, Maine

Traffic Impact Study

Introduction

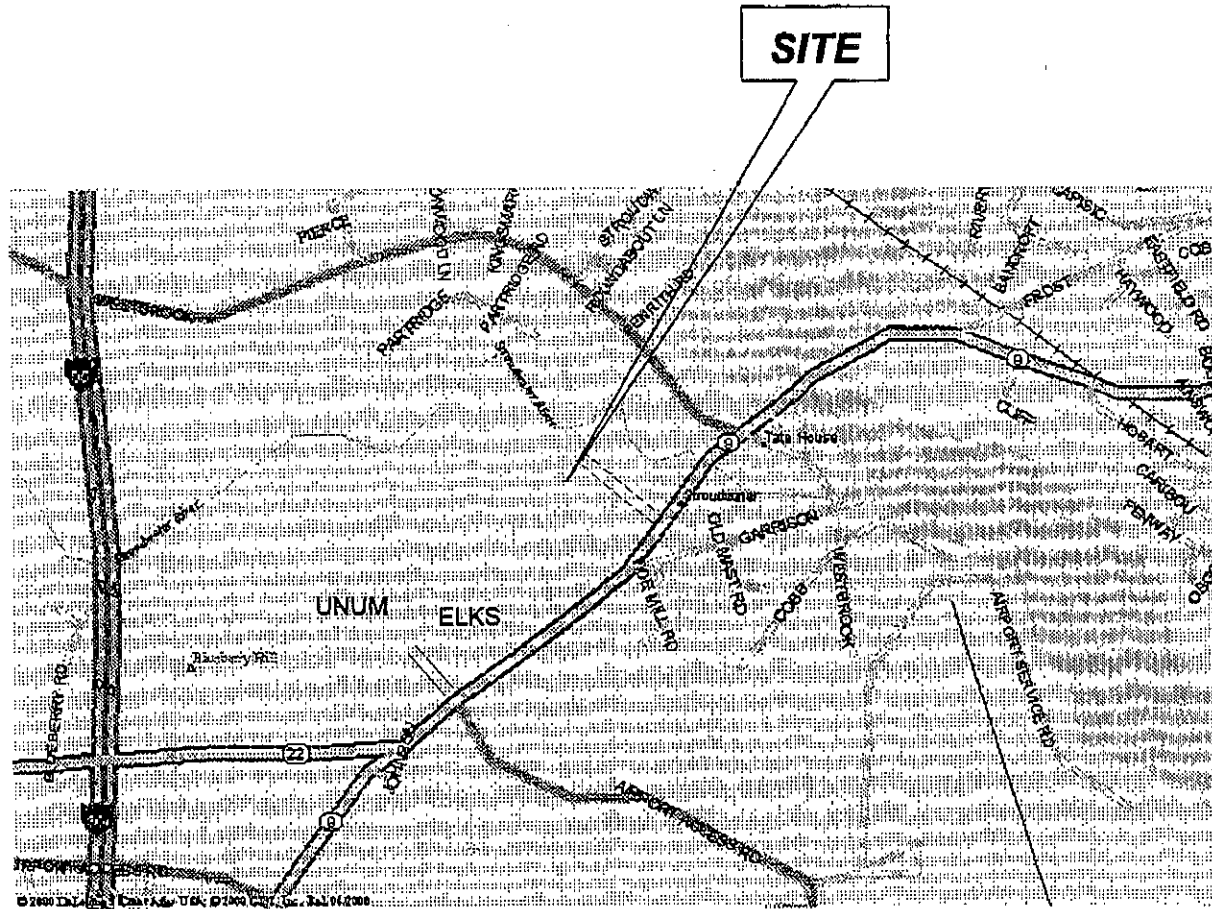
Stroudwater Farm Associates proposes to develop a 29 lot residential subdivision located on the northerly side of Congress Street just west of Westbrook Street in Portland, Maine (see Figure 1 on the following page). Access to the site is provided via a single two-way driveway located at an existing access to parking for Portland Trails.

Development in the immediate vicinity of the proposed development is generally residential in nature. In the vicinity of the proposed site access Congress Street is a 4 lane facility with a pavement width of 50± feet. The posted speed limit on Congress Street in the vicinity of the proposed site access is 30 MPH.

The purpose of this traffic impact study is to assess the impact of new traffic generated by the proposed project on roadways in the immediate vicinity of the site. To ensure that the scope of the study met the City of Portland's requirements, the project was discussed with the City Traffic Engineer, Larry Ash, who indicated that the study should include the intersections of Congress @ Jetport Road and Congress @ Westbrook, and that the analysis should include both the AM and PM peak hours.

Pre-Development AM and PM Peak Hour Traffic

Traffic impact analysis is typically performed for traffic conditions that occur during the weekday PM peak hour, as this is usually the time of heaviest traffic flow that occurs on a



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Figure 1
SITE LOCATION AND ACCESS

RIVER'S EDGE SUBDIVISION / PORTLAND, MAINE



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2 Miranda St. - Brunswick, Maine
(207) 725-8205 Fax (207) 725-0847

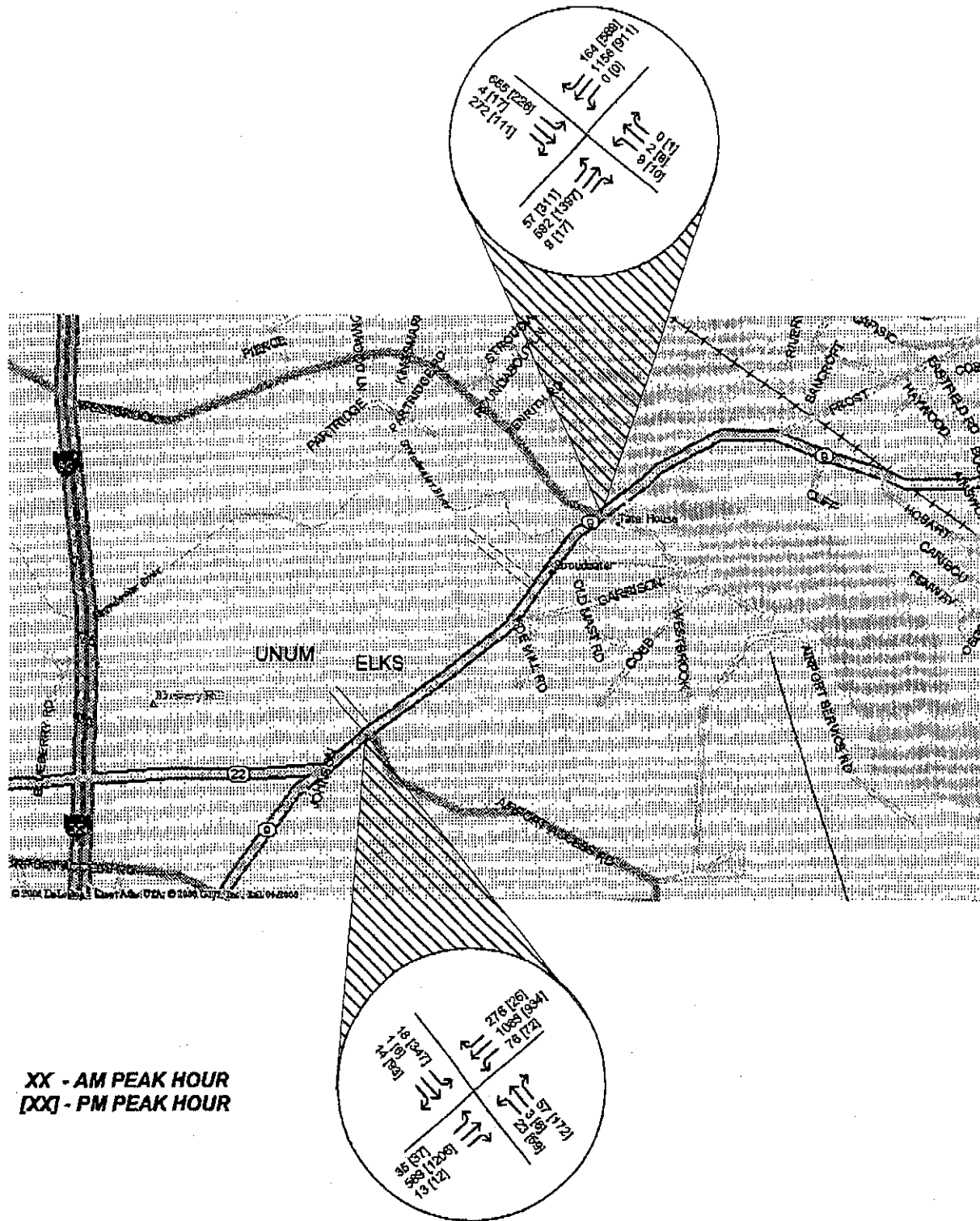
weekday. In this case, at the direction of the City of Portland Traffic Engineer, both the AM and PM peak hours were evaluated. As part of the process of estimating weekday AM and PM peak hour traffic volumes, manual traffic counts were conducted on April 20, May 1, and May 2, 2001 at the intersections of Congress @ Jetport and Congress @ Westbrook. This data provided information for peak hour traffic volumes in the area, and general traffic patterns in the area (the directional distribution to/from the proposed development).

Typically traffic count data is adjusted to reflect peak summer traffic volumes, and used for analysis. In this case the April traffic volumes were increased by 10 percent and the May volumes by 7 percent. The development is assumed to build out in 2002 thus the AM and PM peak hour volumes were increased using a 3.5 percent annual growth rate (based upon MDOT daily traffic count trends in the area). Figure 2 on the following page presents the estimated 2002 peak season weekday pre-development weekday AM and PM peak hour traffic volumes.

Site Generated PM Peak Hour Traffic

Trip generation was estimated using the report Trip Generation - Sixth Edition¹ for land use code 210 "Single Family Detached Housing". Applying the statistics to the proposed 29 units results in overall estimated trip generation of 22 trips during the AM peak hour - 5 entering the site and 17 exiting, and 29 trips during the PM peak hour - 19 entering the site and 10 exiting. The new trips were assigned to roadways in the vicinity of the site based upon the directional distribution data obtained from the AM and PM peak period counts conducted in late April and early May. Figure 3 on the following page presents the estimated assignment of AM and PM peak hour site generated traffic volumes in the vicinity of the site.

¹ Institute of Transportation Engineers, 1997



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Figure 2
ESTIMATED 2002 AM [PM] PEAK HOUR TRAFFIC - PRE-DEVELOPMENT

RIVER'S EDGE SUBDIVISION / PORTLAND, MAINE

Post-Development PM Peak Hour Traffic

Post-development conditions are estimated by adding net site generated traffic volumes to the "base" or pre-development volumes. Figure 4 on the following page presents projected 2002 post-development weekday AM and PM peak hour traffic.

Operational Assessment Pre/ Post-Development Traffic Volumes

Capacity analysis was performed for the pre- and post-development AM and PM peak hour traffic projections for the intersections of Congress @ Jetport and Congress @ Westbrook, and post-development AM and PM peak hour traffic projections for the intersection of Congress @ Site Access per the procedures contained in the Highway Capacity Manual². Capacity analysis provides a quantitative assessment of the quality of traffic flow at an intersection, and "rates" this quality in terms of its Level of Service (LOS). LOS ratings range from A to F, and much like a school rank card, A indicates very good conditions, and F indicates extremely congested conditions with long delays.

LOS for **signalized** intersections is based upon the average control delay for all vehicles using the intersection, which includes deceleration delay, stopped delay, queue move-up time and acceleration delay. The relationship between LOS and control delay is shown in the table below.

² HCM 2000, Highway Capacity Manual, Transportation Research Board, 2000

Signalized Intersection Level of Service Measures

Level of Service	Control Delay Per Vehicle
A	≤ 10 Seconds
B	>10 - ≤ 20 Seconds
C	>20 - ≤ 35 Seconds
D	>35 - ≤ 55 Seconds
E	>55 - ≤ 80 Seconds
F	≥ 80 Seconds

For **unsignalized** intersections, analysis procedures are different than those used for signalized intersections, but LOS for unsignalized intersections is also based upon average control delay, which takes into account the delay involved in arriving, waiting in, and departing a vehicle queue. The relationship between LOS and average total delay is shown below:

Level of Service Measurement for Unsignalized Intersections

Level of Service	Average Total Delay Per Vehicle
A	≤ 10 Seconds
B	>10 - ≤ 15 Seconds
C	>15 - ≤ 25 Seconds
D	>25 - ≤ 35 Seconds
E	>35 - ≤ 50 Seconds
F	≥ 50 Seconds

The results of the analysis of the signalized intersections of Congress @ Jetport and Congress @ Westbrook are shown below. As can be seen, the proposed development does not significantly change the level of service or the control delay.

Signalized Intersection Analysis

Location	Pre-Development AM [PM]		Post-Development AM [PM]	
	LOS	Control Delay (sec)	LOS	Control Delay (sec)
<i>AM Peak Hour</i>				
Congress @ Jetport	B	12.5	B	12.5
Congress @ Westbrook	D	46.4	D	47.0
<i>PM Peak Hour</i>				
Congress @ Jetport	C	32.1	C	32.3
Congress @ Westbrook	D	43.0	D	43.8

The results of the analysis of the unsignalized intersection of Congress Street @ Site Access is presented below:

Unsignalized Intersection Analysis

Location	Pre-Development		Post-Development	
	LOS	Average Total Delay (sec)	LOS	Average Total Delay (sec)
AM Peak Hour				
Congress @ Site Access				
Left from Congress EB	na	na	B	13.1
Site Access	na	na	F	58.4
PM Peak Hour				
Congress @ Site Access				
Left from Congress EB	na	na	B	10.7
Site Access	na	na	F	71.4

At the intersection of Congress Street @ Site Access, it can be seen that vehicles wishing to exit the site will experience very long delays during the AM and PM peak hours. Vehicles turning left from Congress Street eastbound into the site will experience relatively minor delays. This delay could affect traffic in the inside lane of Congress Street eastbound, but because of the low projected left turn volumes (2 in the AM peak hour and 6 in the PM peak hour) this should not have any significant impact on Congress Street traffic flow. A check of the potential need for a left turn lane for traffic entering the site from Congress Street was conducted using the guidelines in Table IX-15 "Guide for Left Turn Lanes on Two Lane Highways" in the AASHTO "Green Book"³. A left turn lane was not found to be warranted.

³ A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, 1990

Safety

Safety data for the most recent available 3 year period (1997-99) was obtained from the Accident Records Section of the MDOT Bureau of Planning for roadways in the vicinity of the site. A summary of the accident history in the area is presented in the table below.

1997-99 Accident History in Site Vicinity

LOCATION	1997-99 ACCIDENTS	ANNUAL AVERAGE	CRITICAL RATE FACTOR ⁴
Congress Street @ Westbrook Street	36	12.00	0.80
Congress Street/Westbrook to Garrison	14	4.67	0.54
Congress Street @ Garrison	10	3.33	0.78
Congress Street/ Garrison to Johnson	42	14.00	1.02
Congress Street @ Johnson	24	8.00	0.57

MDOT guidelines for identification of a High Accident Location (HAL - indicating a potential safety deficiency) is that a location must experience both 8 or more accidents in a 3 year period and have a Critical Rate Factor of 1.00 or greater. One of the locations - Congress Street from Garrison Street to Johnson Road satisfies the criteria. Accordingly, a detailed collision diagram of this segment of Congress Street was prepared using accident reports on file at MDOT. A summary of the analysis of the collision diagram is as follows:

⁴ The Critical Rate Factor is a statistical measure which compares the accident frequency at a location to similar locations throughout the State. A Critical Rate Factor of 1.00 or greater indicates that the location has a higher frequency of accidents than would be expected due to random occurrence, with a 99 percent level of confidence.

Congress Street/ Garrison Street to Johnson Road: Interestingly, 5 of the 42 accidents included collisions with deer. A number of the accidents occurred at the intersection of Congress Street @ Jetport. (This intersection has not yet been classified a "node" by MDOT and the accidents at this location are reported as part of the link on Congress Street from Garrison Street to Johnson Road. It is likely that if this location had been classified as a node - which generally describes an intersection - it would not be a high accident location.) Approximately 20 of the accidents appear to have occurred at this location, and include 10 rear end collisions on Congress Street, 5 angle collisions between Congress Street and either the Jetport access road or the UNUM/Elks access road, and 4 left turn collisions on Congress Street. There were a number of lane change/sideswipe collisions on Congress Street west of Garrison Street. The remainder of the accidents were relatively random in type and location and included rear end collisions, sideswipes, vehicles leaving the roadway and one pedestrian accident. Overall the pattern and magnitude of accidents is not atypical of a section of a high volume roadway with a signalized intersection. Because of the relatively high incidence of rear end collisions on Congress Street at the Jetport intersection it is suggested that the clearance intervals for the signal be reviewed. The traffic at this location tends to travel at a high rate of speed and either the clearance interval needs to be extended or initial vehicle detection needs to be move farther back from the intersection on Congress Street.

An additional safety consideration is sight distance for vehicles exiting the proposed access driveway on MDOT recommended guidelines for exiting sight distance are as follows:

Recommended Exiting Sight Distance

SPEED	LOW-MEDIUM VOLUME DRIVEWAY	HIGH VOLUME DRIVEWAY
25 MPH	250 FT	300 FT
30 MPH	300 FT	380 FT
35 MPH	350 FT	470 FT
40 MPH	400 FT	580 FT
45 MPH	450 FT	700 FT
50 MPH	500 FT	840 FT

Low and medium volume driveways (per MDOT guidelines) have peak hour driveway volumes of 150 vehicles or less, which is the case here. Thus for a 30 MPH roadway (posted limit on x at the proposed access road), recommended minimum sight distance is 300 feet. (Observation in the field indicates that vehicles are actually traveling 40-45 MPH thus practical safe exiting sight distance should be 400 - 450 feet.) Field measurements for the proposed access drive indicate that 800+ feet of sight distance are available to both the left (east) and the right (west). Accordingly, there is more than adequate sight distance for vehicles exiting the proposed access road on Congress Street.

Summary of Findings

The proposed development is projected to generate 22 vehicle trips during the AM peak and 29 during the PM peak hour. The intersections of Congress @ Jetport and Congress @ Westbrook are projected to operate at satisfactory levels of service for both pre and post-development traffic projections. The proposed site access on Congress Street is projected to operate satisfactorily overall, with very long delays for vehicles exiting the site during the AM and PM peak hours. There is one High Accident Locations in the immediate vicinity of the site, based

upon 1997-99 accident data, and suggestions to help reduce the accident experience at the intersection of Congress @ Jetport are contained in the "Safety" section of this report. Sight distance for vehicles exiting the proposed access to the site is more than adequate.

**RIVER'S EDGE HOMEOWNERS ASSOCIATION
PORTLAND, MAINE
BY-LAWS**

ARTICLE I
NAME

The name of this Association shall be RIVER'S EDGE HOMEOWNERS ASSOCIATION.

ARTICLE II
MEMBERSHIP

SECTION 1. Defined. Members of the Association shall be the owners of record of parcels of land (Lots) 1 through 29 at River's Edge, Portland, Maine in the area as defined on a plan entitled "Final Subdivision Plan, River's Edge, Congress Street, Portland, Maine" recorded in Plan Book _____, Page _____, Cumberland County Registry of Deeds.

An owner shall be defined as the owner(s) of record of any residential parcels (Lots) numbers 1 through 29 described on the aforementioned Plat. Each owner of a Lot shall automatically become and be a member of the Association as long as he/she continues as the owner of a Lot. Upon termination of interest of an owner in a Lot, his/her membership and any interest in the Association shall thereupon automatically terminate and transfer and inure to the next owner of his/her Lot succeeding him/her in interest.

ARTICLE III
MEETINGS

SECTION 1. Annual Meeting. The annual meeting of the members of the Association shall be held on the second Sunday of January in each year at 1:30 p.m., unless a different hour is fixed by the Directors and stated in the notice of the meeting. The purpose for which the annual meeting is to be held, in addition to those prescribed by law, the Articles of Incorporation, or by these By-Laws, may be specified by the Directors or the President provided that such purpose is set forth in the notice of meeting.

SECTION 2. Special Meetings. Special meetings of the members may be called by the President or by the Directors.

SECTION 3. Notice of Meetings. A written notice of every annual or special meeting of the members, stating the place, date and hour thereof, and the purpose for which the meeting is to be held shall be given by the Clerk or by the officer calling the meeting at least fifteen (15) days before the meeting to each member entitled to vote by leaving such notice with him/her or at his/her residence or usual place of business, or by mailing it postage prepaid and addressed to such member at his/her address as it appears upon the books of the Association. No notice need be given to any member if a written waiver of

notice, executed before or after the meeting by the member or his /her attorney is filed with the records of the meeting.

SECTION 4. Emergency Meetings. Emergency meetings may be called in the same manner as special meetings. The notice of such meetings shall be given in the same manner as set forth in Section 2, above, except that the notice for such meeting shall be 48 hours. The purpose of a special meeting shall be limited to action on such matters as are necessary to protect the health of members, to provide emergency access to members' property, to prevent further or unnecessary destruction of Association property or to meet other emergencies resulting from unforeseen or unanticipated damage, destruction or catastrophe. The amount of money to be appropriated or expended by the vote at any emergency meeting shall not exceed the total amount of the previous year's expenditures for maintenance.

SECTION 5. Quorums. Five (5) members shall constitute a quorum for any meeting but a lesser number may adjourn a meeting from time to time without further notice.

SECTION 6. Voting.

- A. There shall be only one vote per parcel as shown on the Subdivision Plat referred to above, regardless of the number of owners.
- B. A vote of the majority of the members present at any meeting shall be sufficient to decide any questions, except amendment of the By-Laws, provided there is a quorum present.

SECTION 7. Annual Budget. No later than thirty (30) days prior to each Annual Meeting of the members of the Association the Board of Directors shall estimate the Common Expenses for the following fiscal year and shall present the estimate to the members at their annual meeting as the proposed budget for such fiscal year. The annual assessment required to meet annual estimated Common Expenses for each fiscal year must be approved by majority vote of the members of the Association at their Annual Meeting held prior to the commencement of the fiscal year to which the estimated budget of Common Expenses applies. If the Lot owners disapprove such budget then the budget for the preceding fiscal year shall be the budget for the succeeding fiscal year.

ARTICLE IV
PURPOSE

SECTION 1. Purpose. The purpose of the Association is to perpetually hold, own, maintain, improve, develop and operate the land of the Association as identified in Exhibit ____ attached hereto and incorporated herein and to provide and maintain pedestrian and vehicular rights of ways and easements, utility and drainage easements, storm drainage, detention areas and roads and ways for the benefit of its

members and their families and to obtain insurance of all types for the protection of the parcel owners and property interests of the Association.

SECTION 2. Control of Land. The Association shall assume control of the affairs of the PRUD at such time as 20 of the lots in the PRUD have been conveyed to individual lot owners, and the owners are living in the PRUD.

SECTION 3. Road. As used in these By-Laws: "Road" means, collectively, all the area within the rights of way identified on the subdivision plan and identified as _____, _____, and _____, (street names).

SECTION 4. Drainage Easement. Those areas that are required to provide adequate drainage for all the roadway areas within the subdivision. Any or all drainage easements are shown on the Final Subdivision Plan for River's Edge, Congress Street, Portland, Maine dated _____. Homeowners shall not, in any way, obstruct any drainage easements.

SECTION 5. Responsibilities. The Association shall perform and be responsible for the maintenance, resurfacing, improvement, clearing and repair of, and snow removal from the Road and for the payment of any real estate taxes assessed thereon, and for the cost of any labor, equipment or materials and management related to the Road, drainage easements and detention basin and supervision therefore, provided the City has the right but not the obligation to maintain, clear, or repair drainage easements in the event of the Association's neglect or refusal to do so upon reasonable request by the City, in which case the cost thereof shall be assessed against the Association and shall be a lien on the property of the Association. In addition, the Association shall be responsible for the lighting of this PRUD, for the cost of trash removal from the properties contained within this PRUD, and for any and all landscaping and landscape maintenance therein. The _____ (Name of Road) shall at all times remain a private road and the Association shall be responsible for all maintenance, plowing and lighting along said road. The City shall not be responsible for providing these services, plowing or lighting of said road.

SECTION 6. Assessments.

- A. In furtherance of its purpose, the Association shall have the right to pay all expenses of maintenance, services and taxes assessed by the City of Portland on Association property and for the purpose of meeting these expenses shall have the right to assess the members on an equitable basis.
- B. All assessments shall be billed no later than two (2) weeks prior to the commencement of the succeeding fiscal year by the Treasurer of the

Association sending the bills therefore to the respective Lot owners at the address recorded in the Secretary's records either personally or by placing the bill in the United States mails, postage prepaid, addressed to the Lot owner as aforesaid.

- C. All sums so assessed and billed shall become due no later than the commencement of the fiscal year to which the assessment applies. If the assessment to a lot owner is not paid to the Association within thirty (30) days after the date when due, then said assessment shall be delinquent and shall be recoverable by the Association together with interest at the annual rate of eighteen percent (18%), costs of collection and reasonable attorneys' fees provided by the law to the Association.
- D. If the City exercises its right to maintain, clear, or repair drainage easements under Section 5 above, the Association shall pay the City of Portland its reasonable expenses for such work, and said sum shall be assessed to lot owners in the same manner as other assessments are assessed by the City of Portland in Section 6A above.

SECTION 7. Access. Furthermore, the Association, or its duly appointed representative, shall have the right to access any parcel at any reasonable hour and after reasonable notice to the owner of the parcel(s) encumbered and utility systems for their intended use and for the benefit of the Association's members and families. The Association shall have the power to take legal action to enforce payment of its assessments.

ARTICLE V DIRECTORS

SECTION 1. Number. There shall be three (3) Directors, one of whom shall be the President of the Association. Two Directors shall be elected at each annual meeting to serve until the next annual meeting and the President shall automatically become a member of the Board of Directors.

SECTION 2. Powers. The business and affairs of the Association shall be managed by the Board of Directors who may exercise all of the powers of the Association except as otherwise provided by law, by the Articles of Incorporation or by the By-Laws. In the event of a vacancy in the Board of Directors, except with regard to the office of President, the remaining Directors may fill the vacancy until the next annual meeting.

SECTION 3. Meetings. Regular meetings of the Directors may be held without call or notice at such places and at such times as the Directors from time to time determine, provided that any Director who is absent when such determination is made shall be given notice of the meeting.

Special meetings of the Directors may be held at any time and place designated in a notice by the President or two or more Directors. There shall be no time limit for such notice provided each Director has received actual notice of the meeting.

SECTION 4. Quorum. Three Directors shall constitute quorum and a vote of a majority of those Directors present shall be sufficient to decide any matter.

SECTION 5. Action by Consent. Any action by the Directors may be taken without a meeting if a written consent thereto is signed by all the Directors and filed with the records of the Directors' meetings. Such consent shall be treated as a vote of the Directors for all purposes.

ARTICLE VI OFFICERS

The officers of the Association shall be a President, Treasurer and Clerk.

SECTION 1. Election. The officers of the Association shall be elected annually at the annual meeting by a vote of a majority of all members present. To be eligible for election any individual must be an owner or one of the owners of record of a parcel of land as defined herein.

SECTION 2. Tenure. Each officer shall hold office from the date of his/her election until the next annual meeting of the members or until his successor is chosen and qualified. Any officer may resign by delivering his/her written resignation to the President of any Director and such resignation shall be effective upon receipt unless it is specified to be effective at some time or upon the happening of some other event.

SECTION 3. President. The President shall be the chief executive officer of the Association and a member of the Board of Directors. He/She shall have general supervision and control of the affairs of the Association and unless otherwise provided by the Directors he shall preside at all meetings of the members of the Directors.

SECTION 4. Treasurer. The Treasurer shall have general charge of the financial affairs of the Association and cause to be kept accurate books of account. He/She shall have custody of all funds and valuable documents of the Association and shall be the second certifying officer.

All checks and deposits for the payment of money shall be signed by the President or Treasurer or by such other individual as the Board of Directors may designate. The Treasurer shall act as President pro tem in the absence of the President.

SECTION 5. Clerk. The Clerk, or in his/her absence the Treasurer, shall keep a record of all meetings of the members. The Clerk shall be registered agent of the Association and maintain the registered office. The Clerk shall maintain an accurate list of members.

ARTICLE VII
MISCELLANEOUS PROVISIONS

SECTION 1. Fiscal Year. Except as from time to time otherwise determined by the members, the fiscal year of the Association shall be January 1st, to December 31st.

SECTION 2. Execution of Instruments. All deeds, leases, transfers, contracts, bonds, notes and other obligations authorized to be executed by an officer of the Association in its behalf shall be signed by the President and/or Treasurer or in particular cases as otherwise determined by the members.

SECTION 3. Amendments. These By-Laws may at any time be amended by a vote of two-thirds of the members present or voting by written proxy provided that notice of the substance of the proposed amendment is stated in the notice of the meeting, and a quorum is present.

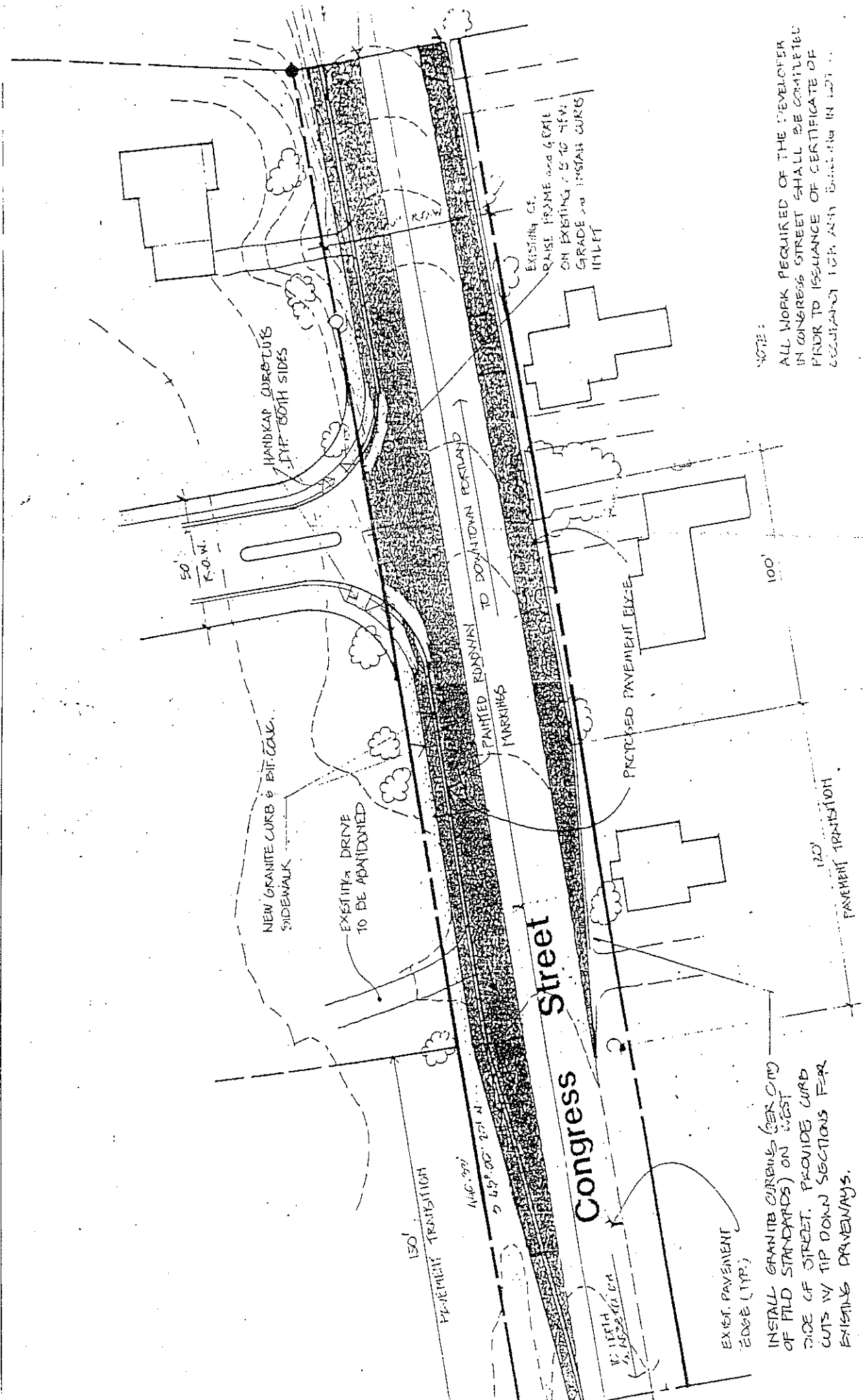
SECTION 4. Lot Owner Responsibilities. Each Lot owner shall perform and be responsible for the maintenance, resurfacing, improvement, clearing and repair of, and snow removal from the Driveway on his/her Lot, and for the cost of any labor, equipment or materials and management related to the Lot drainage and individual Lot improvements.

ARTICLE VIII
DISSOLUTION

In the event of dissolution of the Association, the net assets after payment of all creditors shall be distributed pro-rata among the members owning parcels described in the “River’s Edge Subdivision”. Each parcel shall receive an equal share in the distribution irrespective of the number of record owners.

_____ Dated

_____ Peter D. Kennedy, President
River’s Edge Homeowner’s Association



NOTE:
 ALL WORK REQUIRED OF THE DEVELOPER IN CONGRESS STREET SHALL BE COMPLETED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY FOR ANY BUILDING IN LOT.

an - Congress Street Improvements

required in Phase II

From: Larry Ash
To: Jonathan Spence
Date: Thu, Jun 7, 2001 1:00 PM
Subject: Stroudwater River's Edge Subdivision

Jonathan: I have reviewed the traffic report by Bill Eaton as regards this proposed development and do not have further traffic concerns or issues with the development.

If the development proceeds I would insist that 30 foot radius' be provided at the entrance/exit to facilitate the movement of vehicles into and out of the development.

Should you have further questions please call.



170 U.S. Route One
Falmouth, Maine 04105
Tel: 207.781.5242
Fax: 207.781.4245

May 16, 2001
File: 00149

Mr. Steve Mohr
Mohr & Seredin
18 Pleasant Street
Portland, ME 04101

RE: RIVER'S EDGE SUBDIVISION, PORTLAND, ME

Dear Steve:

As requested we have modified the drawings and stormwater calculations in response to the May 1st memo from Jonathan Spencer of the City's Planning Department. Below is a summary of the items that are addressed with this submittal the numbering matches the memo. Items 1 and 2 are being addressed by you or Peter.

3. We have added silt fence to the plan. Note a stabilized entrance, catchbasin protection, check dams, and riprap were already shown. This road is currently roughed out so very little clearing and grading will be required. Most of the construction will consist of utility installation with gravel and paving.
4. Attached are riprap sizing criteria. We have modified the outlets of two culverts to be plunge pools versus aprons.
5. A revised cross section has been provided for the 5' diameter culvert at Station 19+00.
6. The culvert design has been revised. I assume you are processing the necessary permits.
7. The catch basins and stormdrains are not deep relative to existing ground. One section was placed below the sewer to minimize conflicts and best serve the project.
8. We have added some grading at culverts and pipe inlets. It is our experience the standard plan and profile drawings provide adequate information for the contractor to construct the road.



Mr. Steve Mohr
Mohr & Seredin
May 16, 2001
Page 2

9. The catch basin locations were selected to collect water at low points in the road and to avoid having water flow across intersections. At Station 13+0 the water will continue down the cul-de-sac to the catch basin at 14+11. We are comfortable that this plan is a good balance of design and cost of infrastructure.

10. The road design has been revised.

11. DMH #1 and 3 have been revised to reflect 6' diameter structures.

I believe this addresses the comments of the memo.

Sincerely,

PINKHAM & GREER



Thomas S. Greer, P.E.

TSG/lh



170 U.S. Route One
Falmouth, Maine 04105
(207) 781-5242
FAX (207) 781-4245

JOB RIVER'S EDGE
SHEET NO. _____ OF _____
CALCULATED BY TSC DATE 5/15/01
CHECKED BY _____ DATE _____
SCALE _____

CHECK OF RIPRAP SIZE

PLANS SHOW $D_{50} = 6''$ EVERYWHERE EXCEPT AT 5' ϕ CULVERT

FLOW'S RANGE FROM 4.65 CFS $V = 2.2$ FT/SEC
TO 14 CFS OUT OF O/S #2

- 5' ϕ CULVERT HAS 133 CFS IN 25 YR STORM

PLUNGE POOLS USED AT HIGH FLOW LOCATIONS WITH 10' WIDE LIP. USING FLOW MASTER THE FOLLOWING VELOCITIES OVER THE LIP WERE CALCULATED

5 CFS	1.77 FT/SEC
14 CFS	2.62 FT/SEC
133 CFS	5.76 FT/SEC

ATTACHED IS PG M-6 FROM DMP MANUAL

6" D_{50} IS OK UP TO 6.4 FT/SEC

12" D_{50} IS OK UP TO 9.2 FT/SEC

BASED ON THIS $D_{50} = 6''$ OK EVERYWHERE

$D_{50} = 12''$ OK FOR 5' ϕ CULVERT

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: RIVER'S EDGE

Comment: VELOCITY AT LIP FOR RIPRAP SIZE

Solve For Depth

Given Input Data:

Bottom Width.....	10.00 ft
Manning's n.....	0.035
Channel Slope....	0.0100 ft/ft
Discharge.....	5.00 cfs

Computed Results:

Depth.....	0.28 ft
Velocity.....	1.77 fps
Flow Area.....	2.83 sf
Flow Top Width...	10.00 ft
Wetted Perimeter.	10.57 ft
Critical Depth...	0.20 ft
Critical Slope...	0.0323 ft/ft
Froude Number....	0.58 (flow is Subcritical)

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: RIVER'S EDGE

Comment: VELOCITY AT LIP FOR RIPRAP SIZE

Solve For Depth

Given Input Data:

Bottom Width.....	10.00 ft
Manning's n.....	0.035
Channel Slope....	0.0100 ft/ft
Discharge.....	133.00 cfs

Computed Results:

Depth.....	2.31 ft
Velocity.....	5.76 fps
Flow Area.....	23.09 sf
Flow Top Width...	10.00 ft
Wetted Perimeter.	14.62 ft
Critical Depth...	1.76 ft
Critical Slope...	0.0221 ft/ft
Froude Number....	0.67 (flow is Subcritical)

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: RIVER'S EDGE

Comment: VELOCITY AT LIP FOR RIPRAP SIZE

Solve For Depth

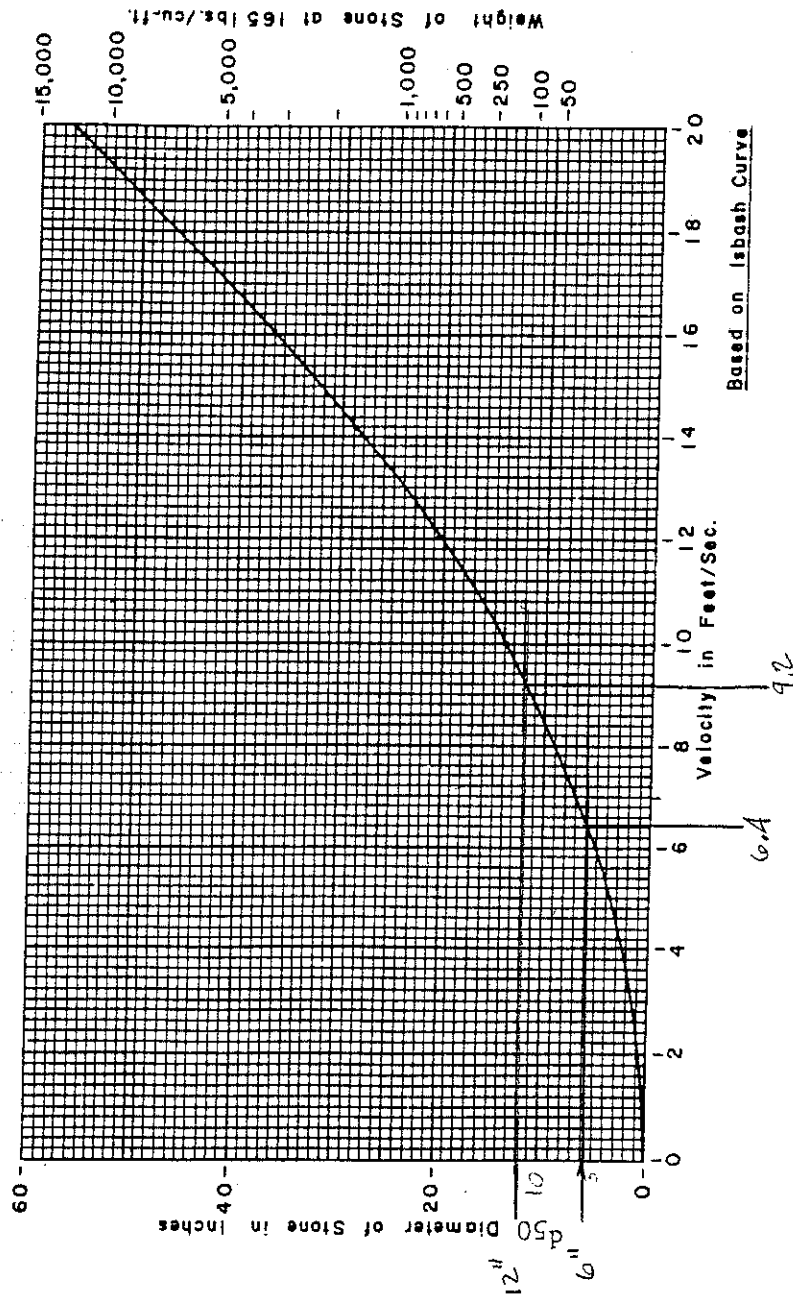
Given Input Data:

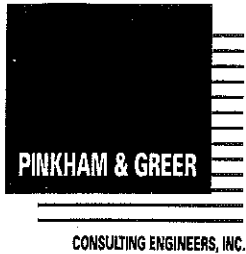
Bottom Width.....	10.00 ft
Manning's n.....	0.035
Channel Slope....	0.0100 ft/ft
Discharge.....	14.00 cfs

Computed Results:

Depth.....	0.54 ft
Velocity.....	2.62 fps
Flow Area.....	5.35 sf
Flow Top Width...	10.00 ft
Wetted Perimeter.	11.07 ft
Critical Depth...	0.39 ft
Critical Slope...	0.0270 ft/ft
Froude Number....	0.63 (flow is Subcritical)

Figure 70.1 STONE SIZE FOR RIPRAP (USDA Soil Conservation Service)





170 U.S. Route One
Falmouth, Maine 04105
Tel: 207.781.5242
Fax: 207.781.4245

May 16, 2001
File: 00149

Mr. Steve Mohr
Mohr & Seredin
18 Pleasant Street
Portland, ME 04101

RE: RIVER'S EDGE SUBDIVISION, PORTLAND, ME

Dear Steve:

As requested we have modified the drawings and stormwater calculations in response to the May 1st memo from Jonathan Spencer of the City's Planning Department. Below is a summary of the items that are addressed with this submittal the numbering matches the memo. Items 1 and 2 are being addressed by you or Peter.

3. We have added silt fence to the plan. Note a stabilized entrance, catchbasin protection, check dams, and riprap were already shown. This road is currently roughed out so very little clearing and grading will be required. Most of the construction will consist of utility installation with gravel and paving.
4. Attached are riprap sizing criteria. We have modified the outlets of two culverts to be plunge pools versus aprons.
5. A revised cross section has been provided for the 5' diameter culvert at Station 19+00.
6. The culvert design has been revised. I assume you are processing the necessary permits.
7. The catch basins and stormdrains are not deep relative to existing ground. One section was placed below the sewer to minimize conflicts and best serve the project.
8. We have added some grading at culverts and pipe inlets. It is our experience the standard plan and profile drawings provide adequate information for the contractor to construct the road.

June 7, 2001

Mr. Jonathan Spence
Portland Planning Department
Portland City Hall
389 Congress St.
Portland, ME 04101

RE: Kennedy's Stroudwater Subdivision

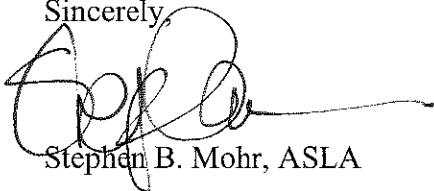
Dear Jonathan:

I appreciated the time that you took yesterday to meet with us to go over the staff comments on the Stroudwater project. Pinkham & Greer have completed the plan revisions identified by Mr. Bushey, and we will be forwarding complete sets to you under separate cover. In order to meet your deadline for getting material in, I am submitting the following information to you to include in the Planning Board's packet for next Tuesday's workshop.

- 1) A reduced copy of the subdivision plan.
- 2) Copies of the grading plans for the lots that have limitations based on steep slopes and wet areas.

With respect to the question of what occurs within the buffer areas indicated on the subdivision plan, we propose to add a note on the recording plat that will identify the restrictions that occur within the buffer zone. Our current thinking is that there will be no vegetative clearing, structures, or accessory uses permitted within the buffer zone that occurs on each lot. These areas will be left in their natural condition, but the lot owners will be able to clear the understory for a 5' widewalking trail down through the wooded areas to provide access on their property. We will refine this and discuss it with the Planning Board at the workshop. Please call if I have not addressed all of your issues.

Sincerely,



Stephen B. Mohr, ASLA

Cc: Peter Kennedy

May 21, 2001

Mr. Jonathan Spence, Planner
City of Portland Planning Department
389 Congress St.
Portland, ME 04101

RE: Stroudwater River's Edge Subdivision

Dear Mr. Spence:

Attached please find additional submission information requested by your department. These include:

- 1) Traffic Impact Study prepared by William Eaton, as requested by Mr. Larry Ash, City Traffic Engineer.
- 2) DEP Tier One approval permit for wetland fill totaling 11, 770 square feet.
- 3) Correspondence and revised plans from Pinkham and Greer Engineers addressing Mr. Bushey's comments #3 through #11 set forth in your letter of May 1, 2001.

In your letter of May 1, 2001 you requested a specific response on two issues, which we address as following:

- 1) Soils:

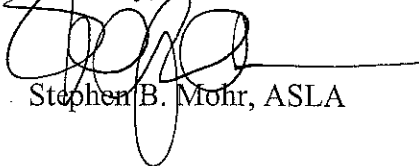
The soils depicted on S-1 are from the Cumberland Counties SCS Median Intensity Soils map, as modified by the wetlands mapping by Dale Brewer. The existing roadway was constructed six years ago, and is a stable base for the new construction proposed in the plans. The significant soil design criteria for this site are the hydric soils encountered in the flood plain. No bedrock has been encountered on the site.

The site plans depict the engineering recommendations for the pavement build-up, under drains and topsoil depths.

- 2) Lot Grading:

Lot grading plans for 12, 16, 17, 18 have been submitted to the City and to the DEP. Lots 26, 27, and 28 will require daylight basements to accommodate the steep slopes, and we will prepare grading plans for those lots at the time of final submission. The grading for the individual lots has been considered in the creation of the lots, but because the lots will be sold to individual buyers the lot grading plans are not considered binding on the buyers. Rather they are a study to indicated what we believe the appropriate grading should be for each lot.

Sincerely,



Stephen B. Mohr, ASLA



Mr. Steve Mohr
Mohr & Seredin
May 16, 2001
Page 2

9. The catch basin locations were selected to collect water at low points in the road and to avoid having water flow across intersections. At Station 13+0 the water will continue down the cul-de-sac to the catch basin at 14+11. We are comfortable that this plan is a good balance of design and cost of infrastructure.

10. The road design has been revised.

11. DMH #1 and 3 have been revised to reflect 6' diameter structures.

I believe this addresses the comments of the memo.

Sincerely,

PINKHAM & GREER

A handwritten signature in black ink, appearing to read 'Thomas S. Greer', is written over the typed name. The signature is fluid and cursive.

Thomas S. Greer, P.E.

TSG/lh



170 U.S. Route One
Falmouth, Maine 04105
(207) 781-5242
FAX (207) 781-4245

JOB RIVER'S EDGE
SHEET NO. _____ OF _____
CALCULATED BY TSC DATE 5/15/01
CHECKED BY _____ DATE _____
SCALE _____

CHECK OF RIPRAP SIZE

PLANS SHOW $D_{50} = 6''$ EVERYWHERE EXCEPT AT 5' ϕ CULVERT

FLOWS RANGE FROM 4.65 CFS $V = 2.2$ FT/SEC
TO 14 CFS OUT OF 0/G #2

- 5' ϕ CULVERT HAS 133 CFS IN 25 YD STORM

PUMPING POOLS USED AT HIGH FLOW LOCATIONS WITH 10' WIDE LIP. USING FLOW MASTER THE FOLLOWING VELOCITIES OVER THE LIP WERE CALCULATED

5 CFS	1.77 FT/SEC
14 CFS	2.62 FT/SEC
133 CFS	5.76 FT/SEC

ATTACHED IS PG M-6 FROM BMP MANUAL

6" D_{50} IS OK UP TO 6.4 FT/SEC

12" D_{50} IS OK UP TO 9.2 FT/SEC

BASED ON THIS $D_{50} = 6''$ OK EVERYWHERE

$D_{50} = 12''$ OK FOR 5' ϕ CULVERT

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: RIVER'S EDGE

Comment: VELOCITY AT LIP FOR RIPRAP SIZE

Solve For Depth

Given Input Data:

Bottom Width.....	10.00 ft
Manning's n.....	0.035
Channel Slope....	0.0100 ft/ft
Discharge.....	5.00 cfs

Computed Results:

Depth.....	0.28 ft
Velocity.....	1.77 fps
Flow Area.....	2.83 sf
Flow Top Width...	10.00 ft
Wetted Perimeter.	10.57 ft
Critical Depth...	0.20 ft
Critical Slope...	0.0323 ft/ft
Froude Number....	0.58 (flow is Subcritical)

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: RIVER'S EDGE

Comment: VELOCITY AT LIP FOR RIPRAP SIZE

Solve For Depth

Given Input Data:

Bottom Width.....	10.00 ft
Manning's n.....	0.035
Channel Slope....	0.0100 ft/ft
Discharge.....	133.00 cfs

Computed Results:

Depth.....	2.31 ft
Velocity.....	5.76 fps
Flow Area.....	23.09 sf
Flow Top Width...	10.00 ft
Wetted Perimeter.	14.62 ft
Critical Depth...	1.76 ft
Critical Slope...	0.0221 ft/ft
Froude Number....	0.67 (flow is Subcritical)

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: RIVER'S EDGE

Comment: VELOCITY AT LIP FOR RIPRAP SIZE

Solve For Depth

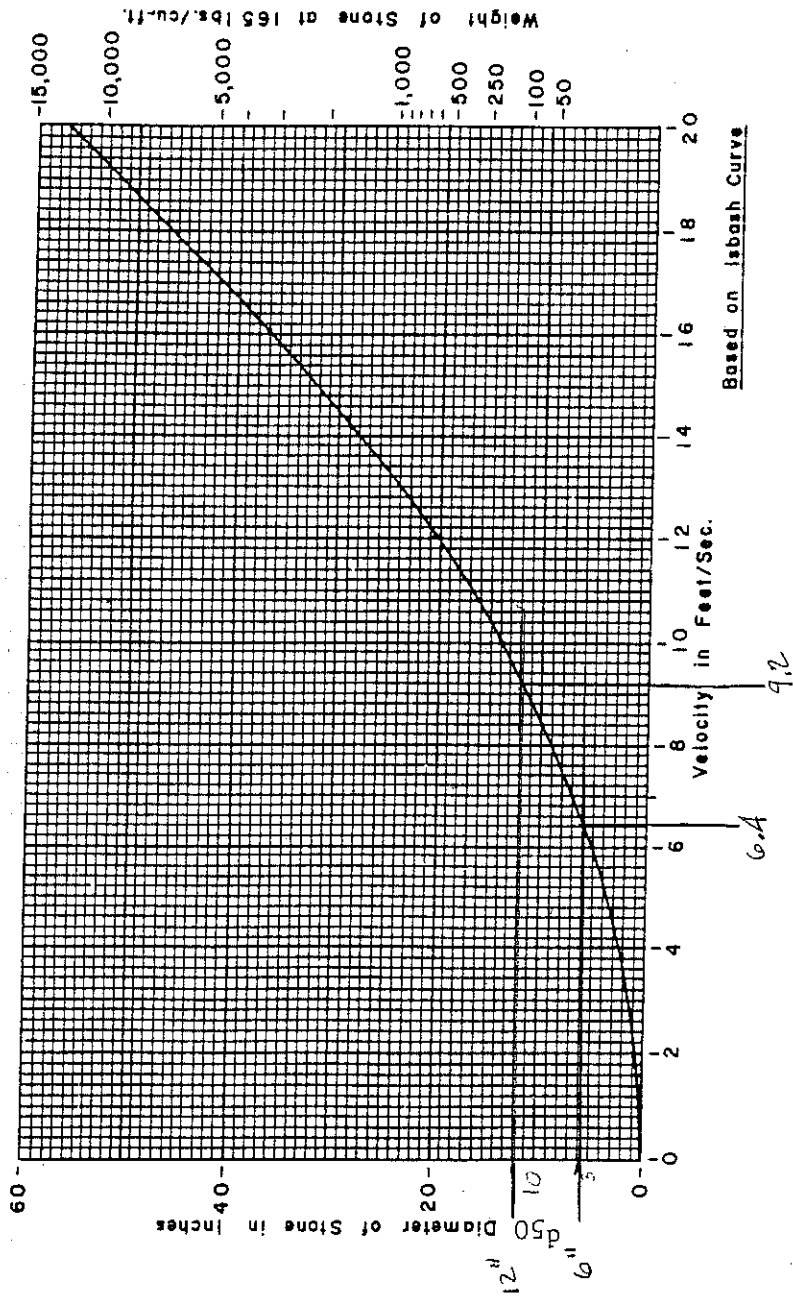
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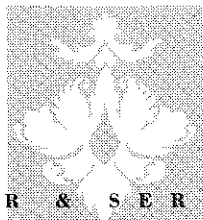
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Manning's n.....	0.035
Channel Slope....	0.0100 ft/ft
Discharge.....	14.00 cfs

Computed Results:

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Velocity.....	2.62 fps
Flow Area.....	5.35 sf
Flow Top Width...	10.00 ft
Wetted Perimeter.	11.07 ft
Critical Depth...	0.39 ft
Critical Slope...	0.0270 ft/ft
Froude Number....	0.63 (flow is Subcritical)

Figure 70.1 STONE SIZE FOR RIPRAP (USDA Soil Conservation Service)





M O H R & S E R E D I N

Landscape Architects, Inc.

July 10, 2001

Mr. Jonathan Spence
Portland Planning Department
Portland City Hall
389 Congress St.
Portland, ME 04101

RE: River's Edge – Peter Kennedy

Dear Jonathan:

Attached please find the following submission information regarding the River's Edge subdivision:

- 1) Revised Final Subdivision Plan (with 11" x 17" reductions), rev. 7.10.01,
- 2) Revised Landscape Plan (with 11" x 17" reductions), rev. 7.10.01.

The Final Subdivision Plan was revised per Maine Department of Transportation (M.D.O.T.) and Portland Trails property line revisions. The lot acreages and buffer zones were revised accordingly.

The Landscape and Lighting Plan was further developed by clearly showing the buffer zones and preserved vegetation and adding text describing the proposed vegetation protection. Also, typical cul-de-sacs plantings were developed and added to the plan.

If you have any comments or questions regarding the information in this submission, please give me a call at 871-0003. Thank you.

Sincerely,

Michael King
Mohr & Sereidin Landscape Architects, Inc.

cc: Peter Kennedy