

24-D-1

2004-0225

160 Fox St.

Somerset Marketplace

The Gottesman Co.

on spreadsheet

(add to file on G: Drive)

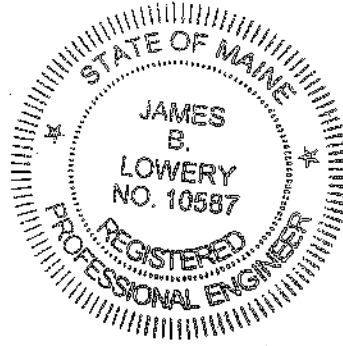
Additional site visits may be necessary to follow up on specific issues and after runoff producing storm events.

Prepared by:

SEBAGO TECHNICS, INC.



James B. Lowery, P.E.
Senior Project Engineer



JBL:jbl/jc
November 2, 2004

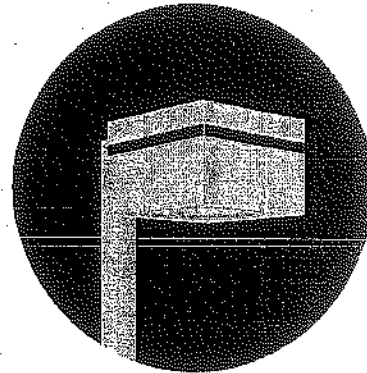
Site Lighting

PROFORMER-XL

MEDIUM/LARGE

Features

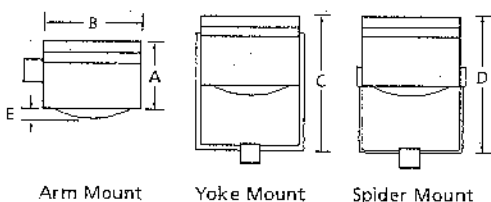
- Square, formed aluminum housing with embossed decorative band. Optional color vinyl trim stripe available.
- Formed aluminum door with round, clear, convex tempered glass lens, fully gasketed to housing, secured with hinge and two captive screws.
- Optional flat glass lens requires reduced-envelope lamp.
- Specular, anodized aluminum, segmented reflectors for vertical lamp, provide Type III, IV, V square, or V rectangular light patterns. IESNA Full Cutoff lighting classification achieved with flat lens. Tool-less fasteners allow easy access to ballast. Type IV optics rotatable (consult factory)
- Extruded aluminum arm available for pole mount. Spider mount has four twin-tube arms attaching housing to pole top fitter. Yoke mount has two square arms securing housing to pole top fitter.
- Mogul porcelain socket, pulse rated, with spring loaded, nickel plated center contact and reinforced lamp grip screw shell.
- CWA type ballast, HPF, starting rated at -20°F (-40°F for HPS).



Ordering Information Example: PFL - A - P1K - V5 - C - Q - GR

Series	Mount	Lamp/Watts	Orient./Dist.	Lens	Volts	Color
Series		Lamp Orientation/Distribution		Options Continued		
PFL	250-400W	V3	Vert. III	RRD	Reveal (Red)	
PFL	450-1000W	V4	Vert. IV	RFG	Reveal (Forest Green)	
Mounting		V5	Vert. V (square) ²	L	Lamp	
A	Arm Mount (arm not included, order separately)	VT	Vert. V (rectangle) ³			
Lens						
S4	Spider Mount - Pad (4" square pole)(PFM only)					
S5	Spider Mount - Pad (5" square pole)					
S6	Spider Mount - Pad (6" square pole) (PFL only)					
ST	Spider Mount (2 3/8" tenon)					
Y4A	Yoke Mount - Pad (4" sq. alum. pole)(PFM only)					
Y5A	Yoke Mount - Pad (5" sq. alum. pole)(PFM only)					
Y6A	Yoke Mount - Pad (6" sq. alum. pole)					
Y4S	Yoke Mount - Pad (4" sq. steel pole)(PFM only)					
Y5S	Yoke Mount - Pad (5" sq. steel pole)(PFM only)					
Y6S	Yoke Mount - Pad (6" sq. steel pole)					
YT	Yoke Mount (2 3/8" tenon)					
Lamp Type/Wattage						
Metal Halide						
H25	250W (ED-28)					
H40	400W (ED-37) ¹					
H1K	1000W (BT-56) ¹					
Pulse Start Metal Halide						
P25	250W (ED-28)					
P32	320W (ED-37) ¹					
P35	350W (ED-37) ¹					
P40	400W (ED-37) ¹					
P45	450W (ED-37) ¹					
P75	750W (BT-37) ²					
P1K	1000W (BT-37) ²					
High Pressure Sodium						
S25	250W (ED-18)					
S40	400W (ED-18)					
S1K	1000W (E-25) ¹					
Color						
DB	Dark Bronze					
BL	Black					
WH	White					
GR	Gray					
PS	Platinum Silver					
RD	Red (Premium Color)					
FG	Forest Green (Premium Color)					
CC	Custom Color (Consult Factory)					
Options						
F1	Fusing - 120V					
F2	Fusing - 208V					
F3	Fusing - 240V					
F4	Fusing - 277V					
F5	Fusing - 480V					
F6	Fusing - 347V					
PR1	Photo Cell Receptacle - 120V					
PR2	Photo Cell Receptacle - 208V					
PR3	Photo Cell Receptacle - 240V					
PR4	Photo Cell Receptacle - 277V					
PR5	Photo Cell Receptacle - 480V					
PR6	Photo Cell Receptacle - 347V					
QZ	Quartz RS with lamp					
H5	Internal House Side Shield					
RDB	Reveal (Dark Bronze)					
RBL	Reveal (Black)					
RWH	Reveal (White)					
RGR	Reveal (Gray)					
RPS	Reveal (Platinum Silver)					
Options Continued						
RRD	Reveal (Red)					
RFG	Reveal (Forest Green)					
L	Lamp					
Arm Logic - Order Separately						
Series						
ARM	Rigid Arm					
Luminaire Shape						
S	Square					
Arm Length						
6	6" Arm (EPA = 0.24 ft ² , 3.5 lbs) (0.02 m ² , 1.5 kg)					
12	12 1/2" Arm (EPA = 0.5 ft ² , 6 lbs) (0.04 m ² , 2.7 kg) ⁵					
Pole Shape						
S	Square					
R4	Round Straight (4-4.5")					
R5	Round Straight (5")					
R6	Round Straight (6")					
T2	Round Tapered (2.5")					
T3	Round Tapered (3")					
T35	Round Tapered (3.5")					
T4	Round Tapered (4")					
Color						
DR	Dark Bronze					
BL	Black					
WH	White					
GR	Gray					
PS	Platinum Silver					
RD	Red (Premium Color)					
FG	Forest Green (Premium Color)					
1	Reduced-envelope lamp required with flat lens.					
2	ED-37 lamp required with 1000W HPS.					
3	PFL (convex lens) only.					
4	Factory wired for highest voltage unless specified.					
5	Required for 90° configurations.					
6	Flat lens only.					
7	277V, 347V, 480V only.					
Note	For Photocontrol Equipment, see Hubbell Outdoor offering.					

Dimensions



	A	B	C	D	E	EPA	Weight
PFL-Flat	12"	21 1/8"	37 1/4"	39 1/2"	-	2.2 ft ²	46 lbs.
PFL-Convex	305 mm	537 mm	946 mm	1003 mm	-	0.2 m ²	20.8 kg
PFL-Flat	12"	21 1/8"	37 1/4"	39 1/2"	2 7/8"	2.3 ft ²	47 lbs.
PFL-Convex	305 mm	537 mm	946 mm	1003 mm	73 mm	0.2 m ²	21.3 kg
PFL-Flat	16"	25"	45 1/2"	46"	-	3.4 ft ²	77 lbs.
PFL-Convex	406 mm	635 mm	1156 mm	1168 mm	-	0.3 m ²	34.9 kg
PFL-Flat	16"	25"	45 1/2"	46"	4"	3.5 ft ²	79 lbs.
PFL-Convex	406 mm	635 mm	1156 mm	1168 mm	102 mm	0.3 m ²	35.8 kg

Note Spider mount adds: Medium - 0.5 EPA (9 lbs), Large - (0.6 EPA (11 lbs))
 Note Yoke mount adds: Medium - 1.6 EPA (11 lbs), Large - 2.6 EPA (18 lbs)

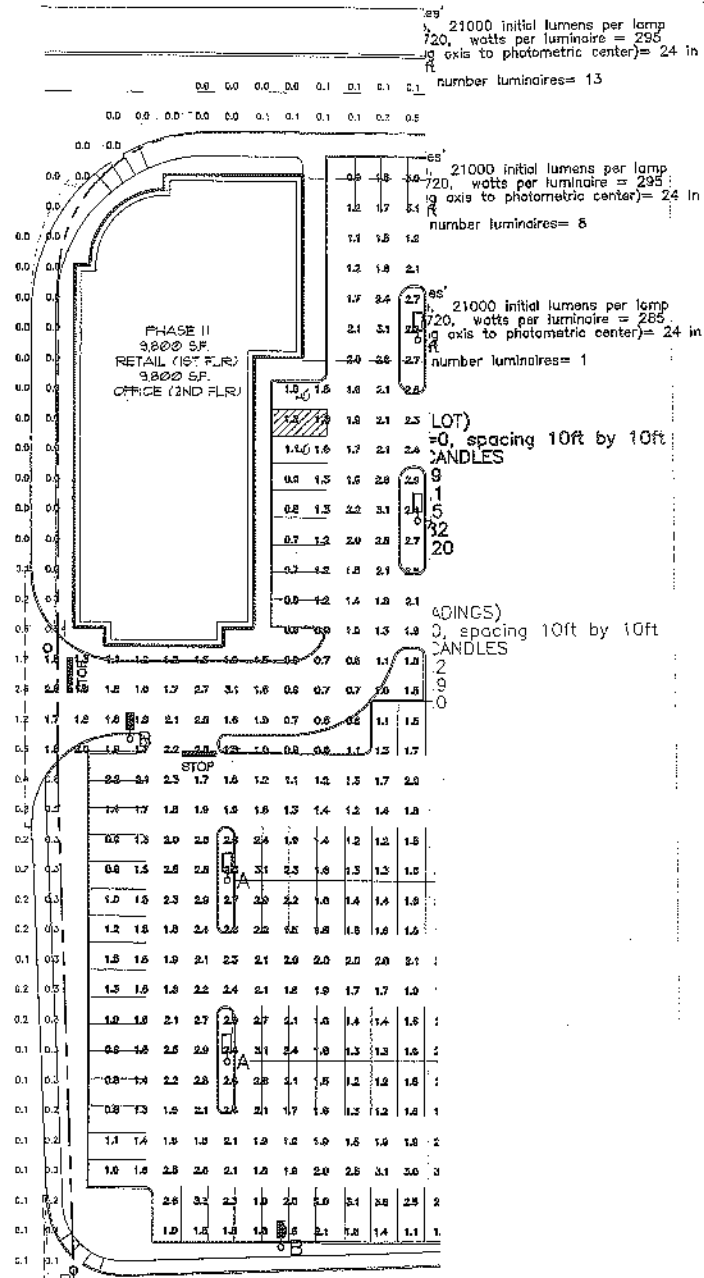
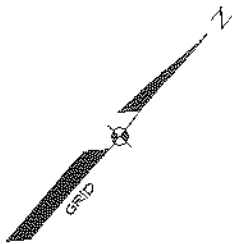
SPAULDING
LIGHTING

Submitted By:

Comments:

Type:

Job:

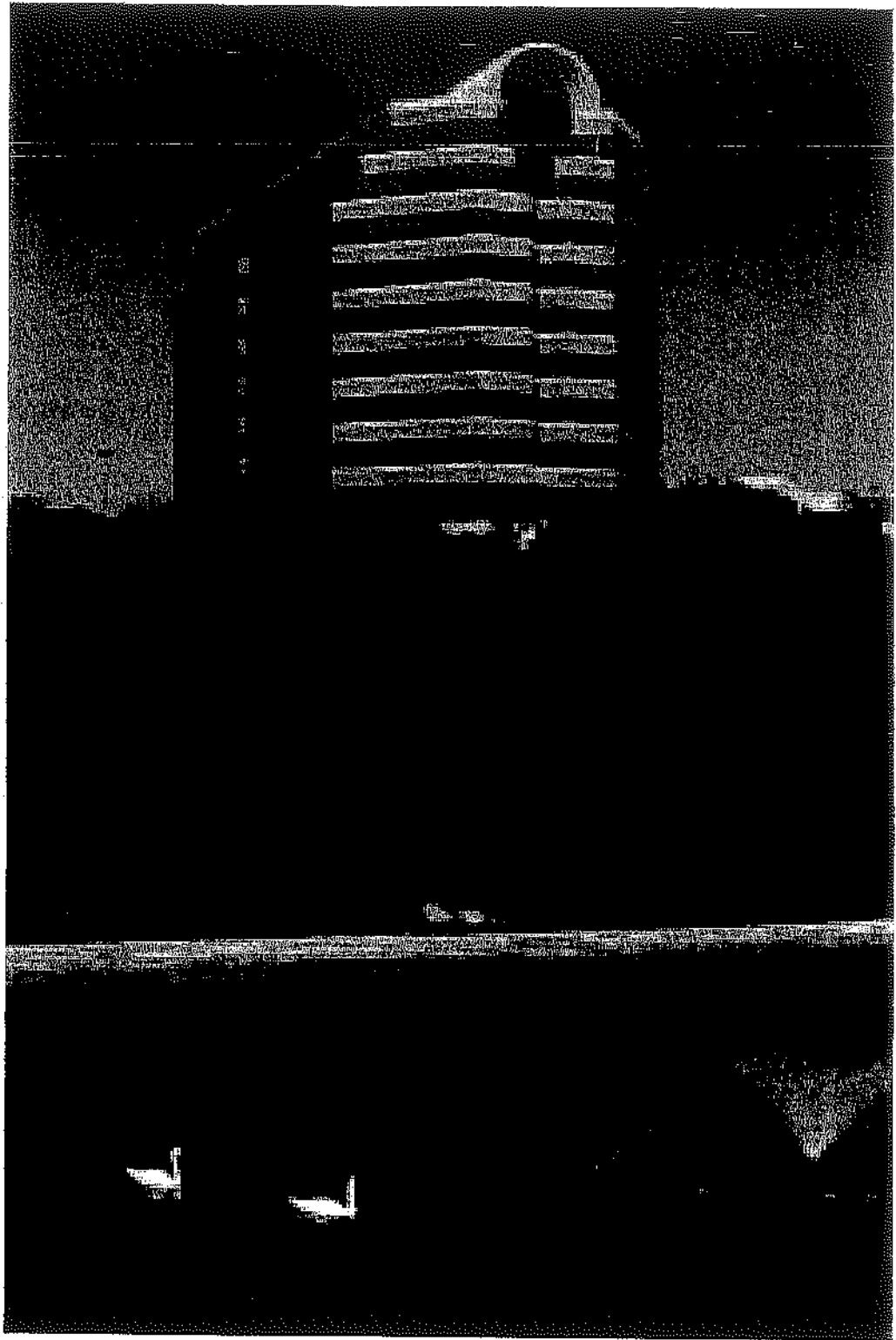


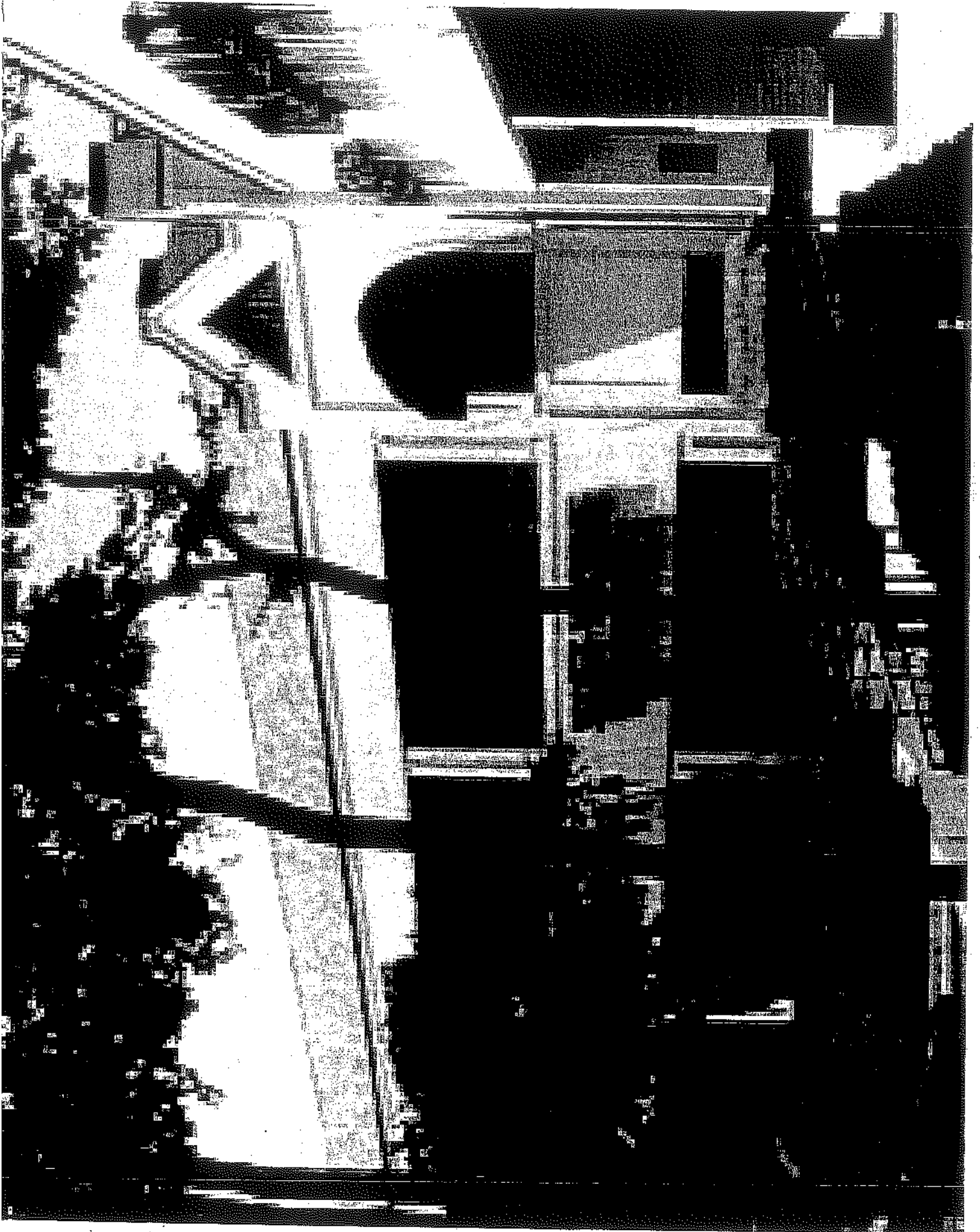
APPLICATIONS DEPARTMENT
 VOICE: 513-541-3486
 FACSIMILE: 513-541-5813
 EMAIL: applications@spauldinglighting.com
 SPAULDING LIGHTING SALES AGENCY:
 SWANEY LTD.
 BEV WHITE

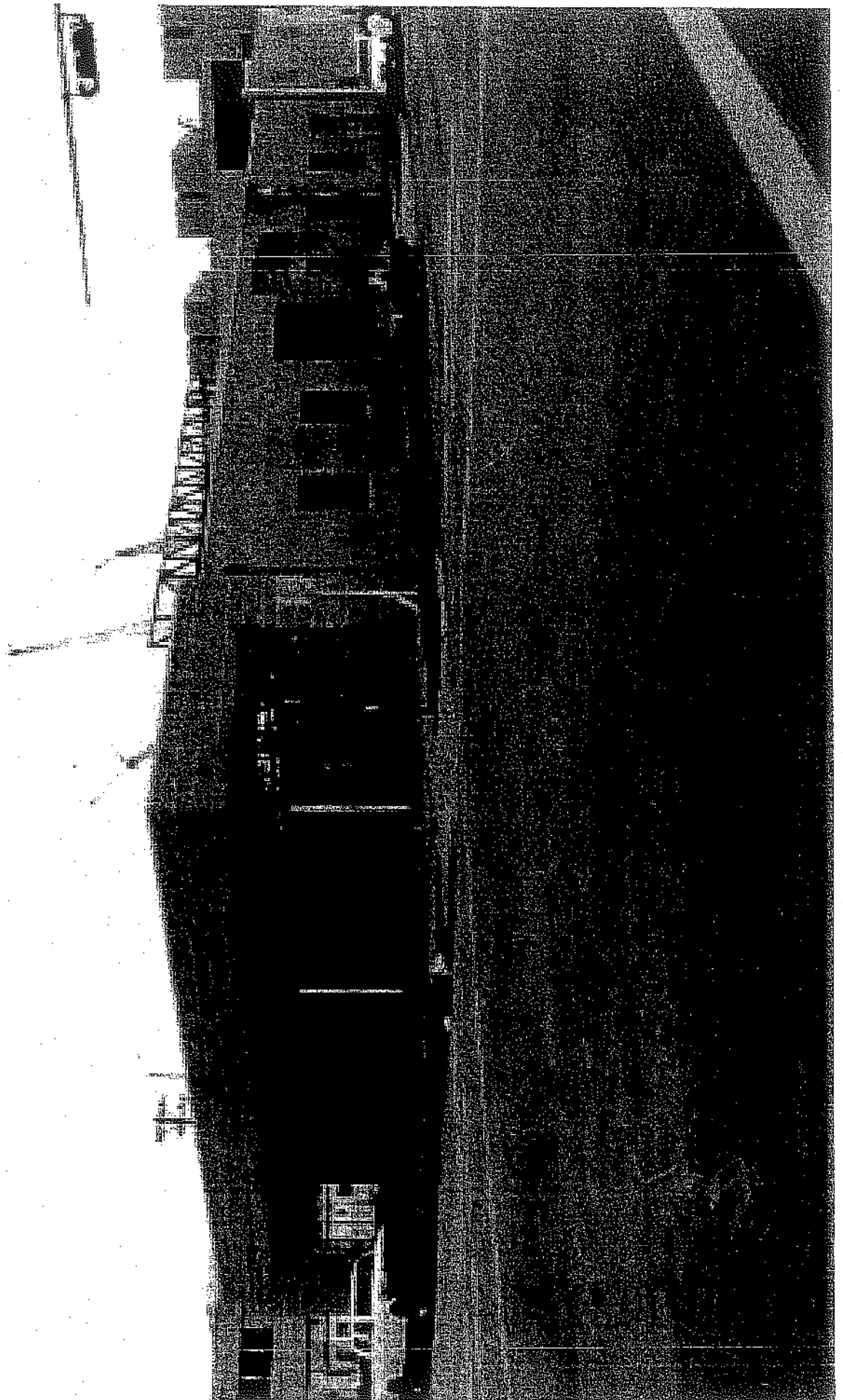
PROJECT NAME:
 SOMERSET MARKETPLACE

FILE: SP-1227-R1
 DATE: 11-05-04

NO 45223
 Footcandle readings are based on uniform ceiling conditions with lamp output at its rated value.
 A uniform footcandle reading is based on uniform ceiling conditions with lamp output at its rated value.
 A uniform footcandle reading is based on uniform ceiling conditions with lamp output at its rated value.

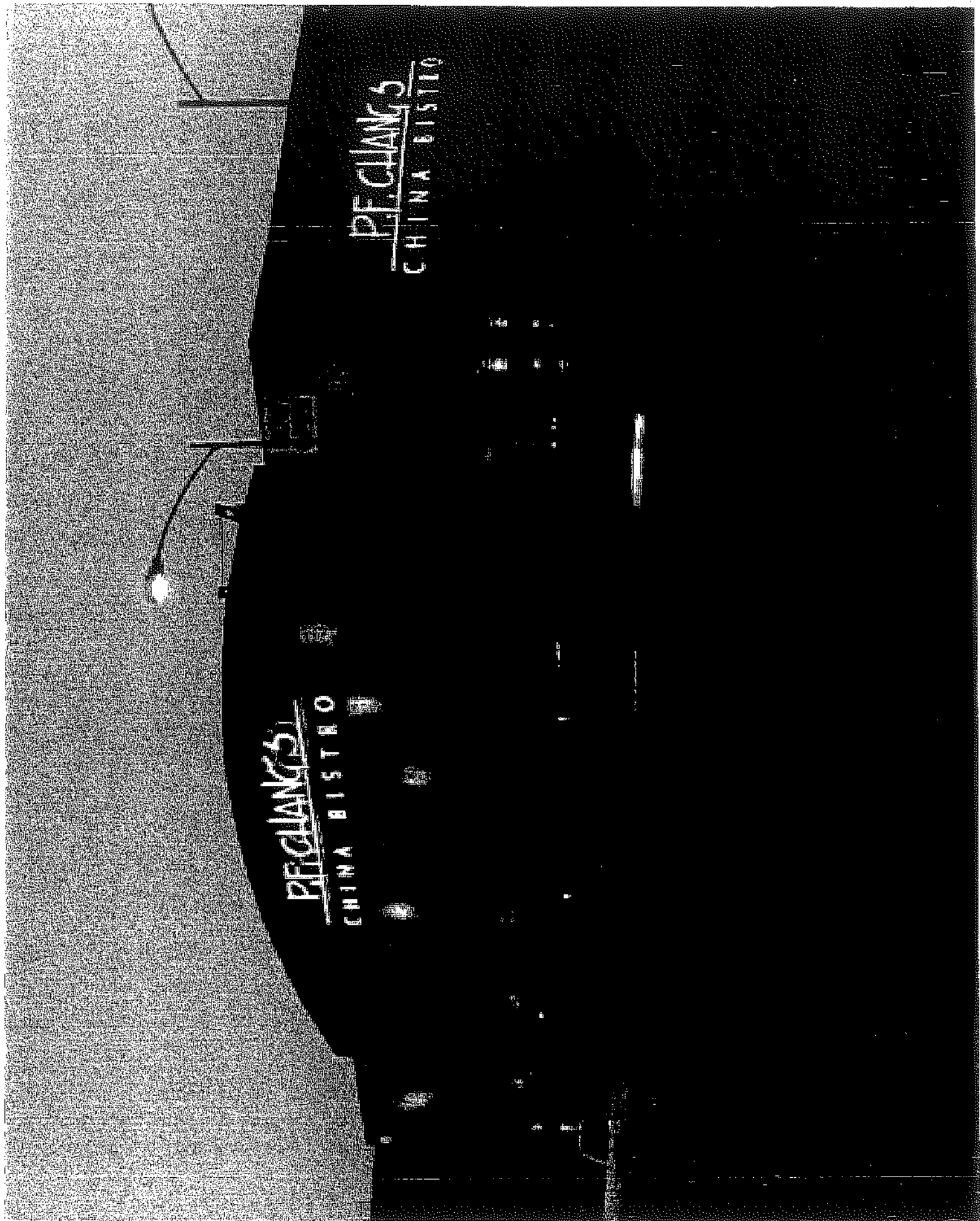


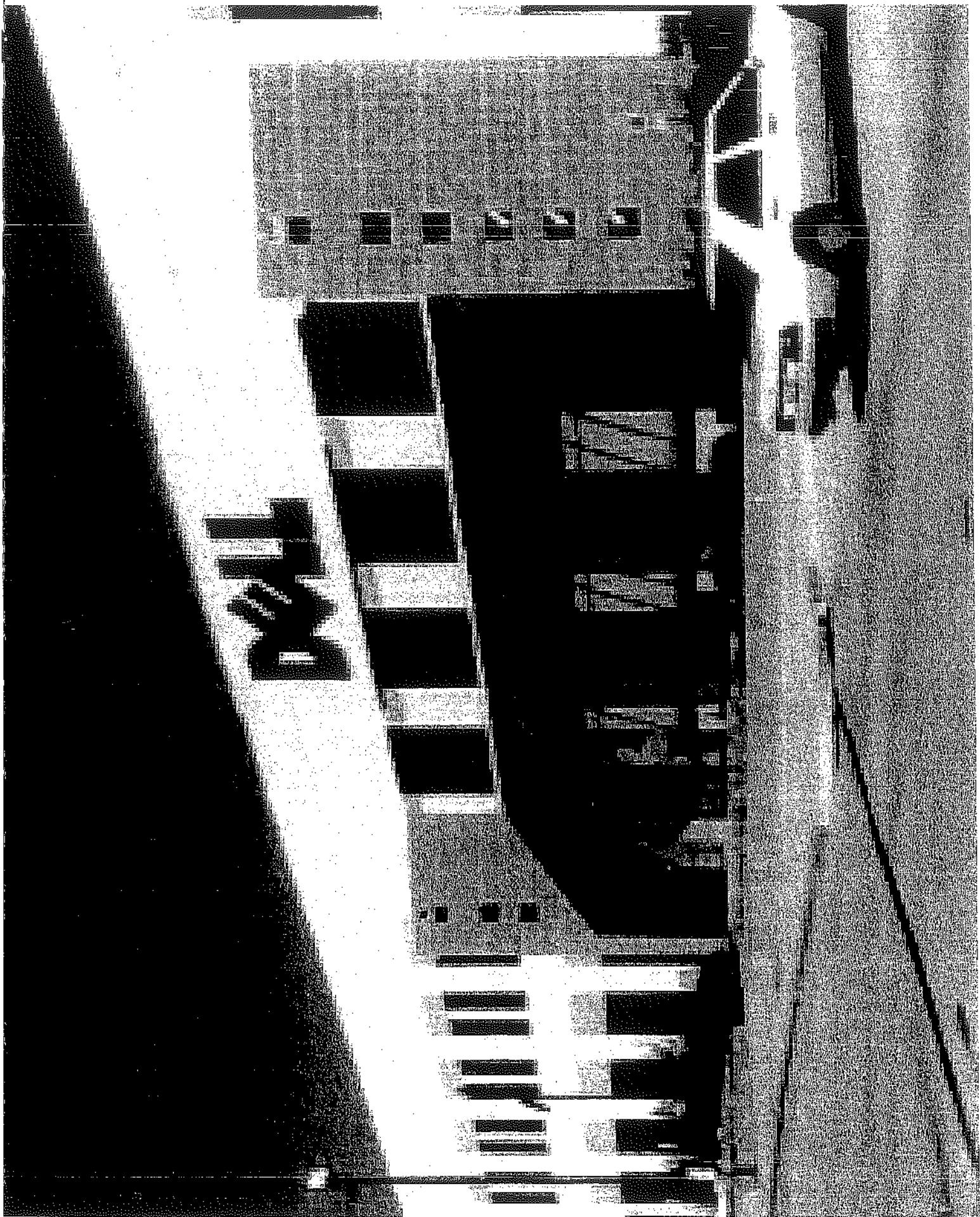




PF. CHANG'S
CHINA BISTRO

PF. CHANG'S
CHINA BISTRO





Stormwater Management

STORMWATER RUNOFF EVALUATION

Somerset Marketplace
Franklin Arterial and Somerset Street
Portland, Maine
November 2, 2004

General

The following Stormwater Management Plan has been prepared for the proposed renovation of the existing site at the intersection of Franklin Street and Somerset Street in Portland, Maine. The Gottesman Company plans to demolish the existing structures on site and construct a 46,116 square-foot retail building and a 9,800 square-foot building for retail and office use.

Site Characteristics

The existing site is approximately 4.58-acres with approximately 4.44-acres of combined rooftops, pavement, and gravel surfaces. The site is currently used for wholesale distribution and sales. The topography of the site is generally flat with little relief between the pavement around the buildings and the property boundaries. Catch basins are located throughout the site and discharge into the combined sewer system located within the streets that border the property.

The proposed renovation of the property will also utilize storm drainage connections into the surrounding storm drainage systems. The proposed developed conditions of the site will have approximately 4.00 acres of impervious area. This equates to a reduction in impervious surfaces of approximately 10%. Two six-foot diameter Downstream Defender water quality units are proposed to treat stormwater runoff from the majority of the paved surfaces (parking and loading areas) of the site.

Soils

Soil information was obtained from the USDA/SCS Medium Intensity Soil Survey. The survey indicates the on-site soil as Scarboro Sandy Loam. The Scarboro Sandy Loam is classified under the Hydrologic Group (HSG) D per Technical Release TR-55 of the Soil Conservation Service.

Drainage Characteristics (Pre and Post-Development)

The site was divided into five subcatchments (labeled 10S, 11S, 12S, 13S, and 2S) for the pre-development analysis. Subcatchment 10S includes the portion of the site that is adjacent to Somerset Street and discharges into the storm sewer system within Somerset Street.

Subcatchment 11S is the portion of the site adjacent to Pearl Street and discharges into the combined sewer system within Pearl Street. Subcatchment 12S includes the northernmost portion of the site (pavement and rooftop) adjacent to the Franklin Arterial and flows into the combined sewer system within the Franklin Arterial. Subcatchment 13S includes the existing railroad bed and portions of the two existing buildings that discharge into the combined sewer system within Somerset Street. Stormwater discharge from Subcatchments 10S, 11S, 12S and 13S combines at Study Point #1 and continues within the combined sewer system towards I-295.

Subcatchment 20S discharges into a storm drain system along the eastern boundary of the site that collects runoff from the adjacent property. This storm drain crosses the Franklin Arterial and has an overflow system that connects with the storm drainage system conveying runoff to Study Point #1.

The site was divided into four subcatchments in the post-development model to represent stormwater runoff from the property. The basic runoff patterns from the pre-development model are used in the post-development model. However, the western portion of the site that discharges to Study Point #1 was divided into three subcatchments (labeled as 10S, 11S and 12S). Subcatchment 10S encompasses the majority of the parking and loading areas and discharges to Downstream Defender #1 prior to entering the storm drainage system within Somerset/Fox Street. The rooftop runoff from Subcatchments 11 and 12 is conveyed directly into the storm drain system within Somerset Street, while the overland runoff flows into the combined sewer systems along Pearl Street and the Franklin Arterial, respectively. The eastern portion of the site (Subcatchment 20S) drains through Downstream Defender #2 and onto Study Point #2.

Pre- and Post-Development Stormwater Management Plans are provided with this report.

Stormwater Management

In order to evaluate drainage characteristics as a result of the proposed development activities, a quantitative analysis was performed to determine peak rates of runoff for the 2, 10 and 25-year storm events in the pre- and post-development conditions. The evaluation was performed using the methodology outlined in the USDA Soil Conservation Service's "Urban Hydrology for Small Watersheds - Technical Release #55 (TR-55)". HydroCAD computer software was utilized to perform the calculations. The HydroCAD Data output sheets from this analysis are appended to this report, along with pre- and post-development watershed maps.

The following table presents the watershed data for the pre-development and actual post-development conditions, as delineated for the analysis.

Somerset Marketplace Watershed Data Summary Table						
Subcatchment (Watershed)	Pre-Development (Existing)			Post-Development (Proposed)		
	Area (Ac)	Cn	Tc (Min)	Area (Ac)	Cn	Tc (Min)
10	1.20	97	5	1.42	97	5
11	1.00	98	5	1.38	98	5
12	0.81	98	5	0.38	94	5
13	1.26	98	5	-	-	-
20	0.31	92	5	1.40	96	5
Totals	4.58	97	-	4.58	97	-

The following table summarizes the results of the stormwater runoff calculations for the assumed maximum and actual post-development conditions.

Somerset Marketplace Stormwater Runoff Summary						
Study Point	Pre-Development (Existing)			Post-Development (Proposed)		
	2-year (cfs)	10-year (cfs)	25-year (cfs)	2-year (cfs)	10-year (cfs)	25-year (cfs)
SP #1	12.43	19.70	23.11	8.78	14.29	16.86
SP #2	0.77	1.32	1.58	3.94	6.36	7.48
Overall Site	13.20	21.02	24.69	12.72	20.65	24.34

A specific Erosion & Sedimentation Control Plan will also be implemented as an integral part of the stormwater management plan regulating both during and after construction activities. These measures will include the placement of sedimentation barriers (siltation fence) along downgradient areas, together with specific requirements for the use of erosion control blanket and temporary/permanent revegetation measures. These construction requirements have been developed following Best Management Practice guidelines and have been placed directly on the design plans for construction reference.

Water Quality

Although no specific total suspended solids removal rate is required for the proposed project, we have proposed two six-foot diameter Downstream Defender water quality units. Both units have been sized to provide a 60% total suspended solids removal rate (as allowed by the Maine Department of Environmental Protection). The two units have been placed to collect approximately 96% of the proposed parking and loading areas and approximately 65% of the total proposed impervious areas of the site.

Summary

The Somerset Marketplace proposes a decrease in impervious surfaces, and the overall stormwater discharge from the site will be lower in the post-development conditions as compared to the pre-development levels. Two Downstream Defender water quality units have been proposed to provide total suspended solids removal from the parking and loading areas of the development. Although the rooftops of the proposed buildings discharge directly into the public storm sewer system, these roof areas do not contribute a significant amount of suspended solids as compared to the paved parking and loading areas.

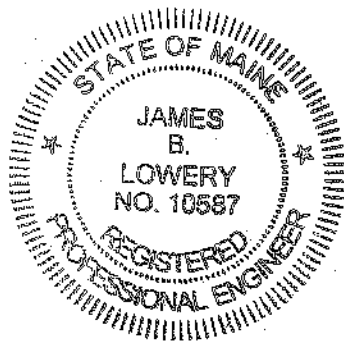
A site-specific erosion and sedimentation control plan is also proposed to address during and after construction conditions. Temporary erosion control measures will be required to be implemented during the construction phase of the project as specified on the site plans. Permanent erosion control measures have also been incorporated into the plan for long-term stabilization of the site. These measures will be integrated with the overall site development, which includes catch basin inlet protection and permanent revegetation for previously impervious areas.

Prepared by:

SEBAGO TECHNICS, INC.



James B. Lowery, P.E.
Senior Project Engineer



JBL:jbl/jc

November 1, 2004

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Type III 24-hr Rainfall=4.70"
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10S: (new node)

Tc=5.0 min CN=97 Area=1.200 ac Runoff= 5.51 cfs 0.407 af

Subcatchment 11S: (new node)

Tc=5.0 min CN=98 Area=1.000 ac Runoff= 4.62 cfs 0.345 af

Subcatchment 12S: (new node)

Tc=5.0 min CN=98 Area=0.810 ac Runoff= 3.75 cfs 0.280 af

Subcatchment 13S: (new node)

Tc=5.0 min CN=98 Area=1.260 ac Runoff= 5.83 cfs 0.435 af

Subcatchment 20S: (new node)

Tc=5.0 min CN=92 Area=0.310 ac Runoff= 1.32 cfs 0.093 af

Reach SP1: (new node)

Inflow= 19.70 cfs 1.467 af
Outflow= 19.70 cfs 1.467 af

Reach SP2: (new node)

Inflow= 1.32 cfs 0.093 af
Outflow= 1.32 cfs 0.093 af

Runoff Area = 4.580 ac Volume = 1.560 af Average Depth = 4.09"

Subcatchment 10S: (new node)

Runoff = 5.51 cfs @ 12.07 hrs, Volume= 0.407 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=4.70"

Area (ac)	CN	Description
0.340	98	Ex. building
0.820	98	Ex. pavement
0.040	80	>75% Grass cover, Good, HSG D
1.200	97	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 11S: (new node)

Runoff = 4.62 cfs @ 12.07 hrs, Volume= 0.345 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=4.70"

Area (ac)	CN	Description
0.490	98	Ex. building
0.510	98	Ex. pavement
1.000	98	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 12S: (new node)

Runoff = 3.75 cfs @ 12.07 hrs, Volume= 0.280 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=4.70"

Area (ac)	CN	Description
0.520	98	Ex. building
0.290	98	Ex. pavement
0.810	98	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 13S: (new node)

Runoff = 5.83 cfs @ 12.07 hrs, Volume= 0.435 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=4.70"

Area (ac)	CN	Description
0.110	98	Ex. railroad bed
1.150	98	Ex. building
1.260	98	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 20S: (new node)

Runoff = 1.32 cfs @ 12.07 hrs, Volume= 0.093 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs.
Type III 24-hr Rainfall=4.70"

Area (ac)	CN	Description
0.100	80	>75% Grass cover, Good, HSG D
0.110	98	Ex. pavement
0.100	98	Ex. building
0.310	92	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Reach SP1: (new node)

Inflow = 19.70 cfs @ 12.07 hrs, Volume= 1.467 af
Outflow = 19.70 cfs @ 12.07 hrs, Volume= 1.467 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP2: (new node)

Inflow = 1.32 cfs @ 12.07 hrs, Volume= 0.093 af
Outflow = 1.32 cfs @ 12.07 hrs, Volume= 0.093 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

This page contains a detailed description of the Parcel ID you selected. Press the **New Search** button at the bottom of the screen to submit a new query.

Current Owner Information

Card Number	1 of 1
Parcel ID	024 C006001
Location	135 WILMOT ST
Land Use	VACANT LAND
Owner Address	SOMERSET DEVELOPMENT LLC ONE CANAL PLAZA PORTLAND ME 04101
Book/Page	21572/117
Legal	24-C-6 END WILMOT ST 10772 SF

Valuation Information

Land	Building	Total
\$14,700	\$ 0.00	\$14,700

Building Information

Bldg #	Year Built	# Units	Bldg Sq. Ft.	Identical Units
		0	0	0

Total Acres	Total Buildings	Sq. Ft.	Structure Type	Building Name
0.247	0			

Exterior/Interior Information

Section	Levels	Size	Use

Height	Walls	Heating	A/C

Building Other Features

Line	Structure Type	Identical Units

Yard Improvements

Year Built	Structure Type	Length or Sq. Ft.	# Units

Sales Information

Date	Type	Price	Book/Page
07/20/2004	LAND	\$500,000	21572-117
09/01/2002	LAND + BLDING		18026-37
12/01/1998	LAND + BLDING		14348-141

Picture and Sketch

[Picture](#) [Sketch](#) [Tax Map](#)

[Click here](#) to view Tax Roll Information.

Any information concerning tax payments should be directed to the Treasury office at 874-8490 or [e-mailed](#).

[New Search!](#)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Type III 24-hr Rainfall=5.50"
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10S: (new node)

Tc=5.0 min CN=97 Area=1.200 ac Runoff= 6.47 cfs 0.480 af

Subcatchment 11S: (new node)

Tc=5.0 min CN=98 Area=1.000 ac Runoff= 5.42 cfs 0.406 af

Subcatchment 12S: (new node)

Tc=5.0 min CN=98 Area=0.810 ac Runoff= 4.39 cfs 0.329 af

Subcatchment 13S: (new node)

Tc=5.0 min CN=98 Area=1.260 ac Runoff= 6.83 cfs 0.512 af

Subcatchment 20S: (new node)

Tc=5.0 min CN=92 Area=0.310 ac Runoff= 1.58 cfs 0.112 af

Reach SP1: (new node)

Inflow= 23.11 cfs 1.727 af
Outflow= 23.11 cfs 1.727 af

Reach SP2: (new node)

Inflow= 1.58 cfs 0.112 af
Outflow= 1.58 cfs 0.112 af

Runoff Area = 4.580 ac Volume = 1.839 af Average Depth = 4.82"

Subcatchment 10S: (new node)

Runoff = 6.47 cfs @ 12.07 hrs, Volume= 0.480 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=5.50"

Area (ac)	CN	Description
0.340	98	Ex. building
0.820	98	Ex. pavement
0.040	80	>75% Grass cover, Good, HSG D
1.200	97	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 11S: (new node)

Runoff = 5.42 cfs @ 12.07 hrs, Volume= 0.406 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=5.50"

Area (ac)	CN	Description
0.490	98	Ex. building
0.510	98	Ex. pavement
1.000	98	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 12S: (new node)

Runoff = 4.39 cfs @ 12.07 hrs, Volume= 0.329 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=5.50"

Area (ac)	CN	Description
0.520	98	Ex. building
0.290	98	Ex. pavement
0.810	98	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 13S: (new node)

Runoff = 6.83 cfs @ 12.07 hrs, Volume= 0.512 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr Rainfall=5.50"

Area (ac)	CN	Description
0.110	98	Ex. railroad bed
1.150	98	Ex. building
1.260	98	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 20S: (new node)

Runoff = 1.58 cfs @ 12.07 hrs, Volume= 0.112 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr Rainfall=5.50"

Area (ac)	CN	Description
0.100	80	>75% Grass cover, Good, HSG D
0.110	98	Ex. pavement
0.100	98	Ex. building
0.310	92	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Reach SP1: (new node)

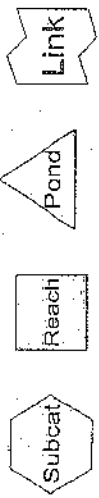
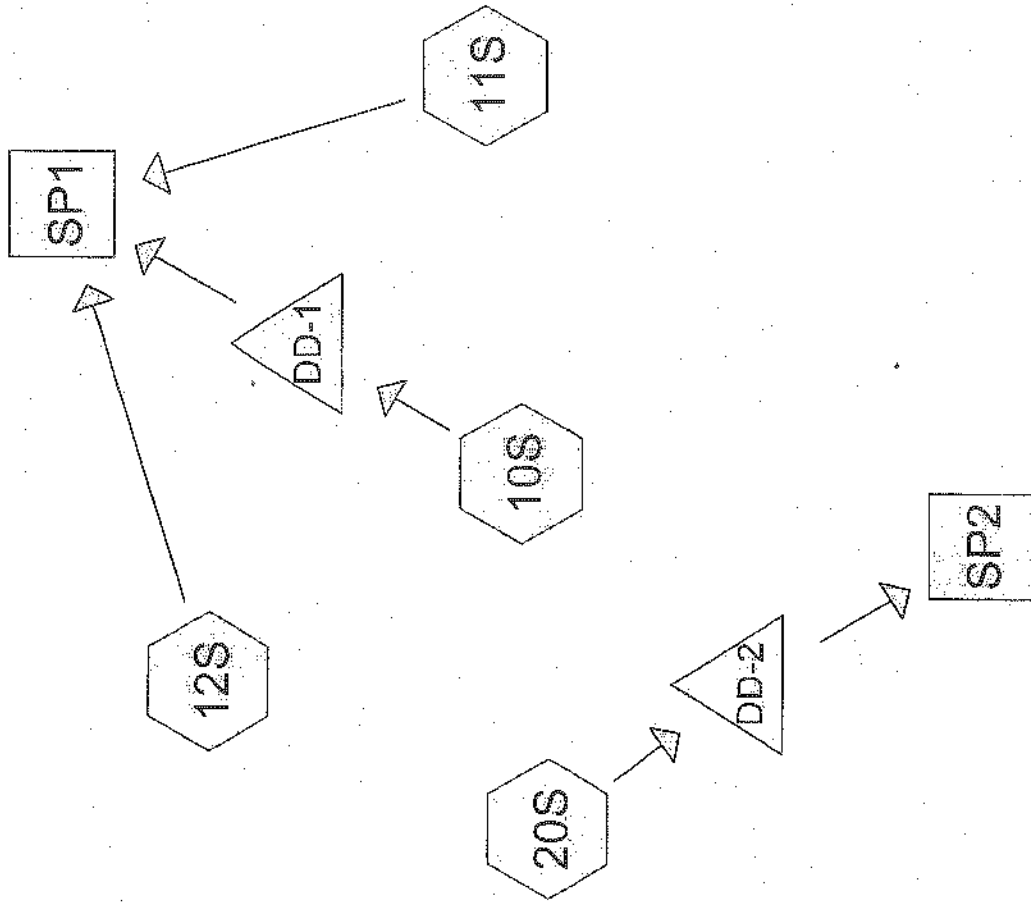
Inflow = 23.11 cfs @ 12.07 hrs, Volume= 1.727 af
 Outflow = 23.11 cfs @ 12.07 hrs, Volume= 1.727 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP2: (new node)

Inflow = 1.58 cfs @ 12.07 hrs, Volume= 0.112 af
 Outflow = 1.58 cfs @ 12.07 hrs, Volume= 0.112 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



Drainage Diagram for 04187 POST
 Prepared by Sebago Technics, Inc 11/2/2004
 HydroCAD® 6.00 s/n 001856 © 1986-2001 Applied Microcomputer Systems

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
 Runoff by SCS TR-20 method, UH=SCS, Type III 24-hr Rainfall=3.00"
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10S: (new node)

Tc=5.0 min CN=97 Area=1.420 ac Runoff= 4.08 cfs 0.296 af

Subcatchment 11S: (new node)

Tc=5.0 min CN=94 Area=1.380 ac Runoff= 3.68 cfs 0.255 af

Subcatchment 12S: (new node)

Tc=5.0 min CN=94 Area=0.380 ac Runoff= 1.01 cfs 0.070 af

Subcatchment 20S: (new node)

Tc=5.0 min CN=96 Area=1.400 ac Runoff= 3.94 cfs 0.281 af

Reach SP1: (new node)

Inflow= 8.78 cfs 0.622 af

Outflow= 8.78 cfs 0.622 af

Reach SP2: (new node)

Inflow= 3.94 cfs 0.281 af

Outflow= 3.94 cfs 0.281 af

Pond DD-1: Downstream Defender #1

Inflow= 4.08 cfs 0.296 af

Primary= 4.08 cfs 0.296 af

Pond DD-2: Downstream Defender #2

Inflow= 3.94 cfs 0.281 af

Primary= 3.94 cfs 0.281 af

Runoff Area = 4.580 ac Volume = 0.903 af Average Depth = 2.37"

Subcatchment 10S: (new node)

Runoff = 4.08 cfs @ 12.07 hrs, Volume= 0.296 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=3.00"

Area (ac)	CN	Description
1.360	98	Paved parking & roofs
0.060	80	>75% Grass cover, Good, HSG D
1.420	97	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 11S: (new node)

Runoff = 3.68 cfs @ 12.07 hrs, Volume= 0.255 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=3.00"

Area (ac)	CN	Description
0.290	80	>75% Grass cover, Good, HSG D
1.060	98	Proposed building
0.030	98	Paved parking & roofs
1.380	94	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 12S: (new node)

Runoff = 1.01 cfs @ 12.07 hrs, Volume= 0.070 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=3.00"

Area (ac)	CN	Description
0.080	98	Paved parking & roofs
0.220	98	Proposed building
0.080	80	>75% Grass cover, Good, HSG D
0.380	94	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 20S: (new node)

Runoff = 3.94 cfs @ 12.07 hrs, Volume= 0.281 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=3.00"

Area (ac)	CN	Description
1.250	98	Paved parking & roofs
0.150	80	>75% Grass cover, Good, HSG D
1.400	96	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Reach SP1: (new node)

Inflow = 8.78 cfs @ 12.07 hrs, Volume= 0.622 af
Outflow = 8.78 cfs @ 12.07 hrs, Volume= 0.622 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP2: (new node)

Inflow = 3.94 cfs @ 12.07 hrs, Volume= 0.281 af
Outflow = 3.94 cfs @ 12.07 hrs, Volume= 0.281 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond DD-1: Downstream Defender #1

Inflow = 4.08 cfs @ 12.07 hrs, Volume= 0.296 af
Primary = 4.08 cfs @ 12.07 hrs, Volume= 0.296 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond DD-2: Downstream Defender #2

Inflow = 3.94 cfs @ 12.07 hrs, Volume= 0.281 af
Primary = 3.94 cfs @ 12.07 hrs, Volume= 0.281 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Type III 24-hr Rainfall=4.70"
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10S: (new node)

Tc=5.0 min CN=97 Area=1.420 ac Runoff= 6.52 cfs 0.481 af

Subcatchment 11S: (new node)

Tc=5.0 min CN=94 Area=1.380 ac Runoff= 6.10 cfs 0.436 af

Subcatchment 12S: (new node)

Tc=5.0 min CN=94 Area=0.380 ac Runoff= 1.68 cfs 0.120 af

Subcatchment 20S: (new node)

Tc=5.0 min CN=96 Area=1.400 ac Runoff= 6.36 cfs 0.464 af

Reach SP1: (new node)

Inflow= 14.29 cfs 1.037 af
Outflow= 14.29 cfs 1.037 af

Reach SP2: (new node)

Inflow= 6.36 cfs 0.464 af
Outflow= 6.36 cfs 0.464 af

Pond DD-1: Downstream Defender #1

Inflow= 6.52 cfs 0.481 af
Primary= 6.52 cfs 0.481 af

Pond DD-2: Downstream Defender #2

Inflow= 6.36 cfs 0.464 af
Primary= 6.36 cfs 0.464 af

Runoff Area = 4.580 ac Volume = 1.501 af Average Depth = 3.93"

Subcatchment 10S: (new node)

Runoff = 6.52 cfs @ 12.07 hrs, Volume= 0.481 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=4.70"

Area (ac)	CN	Description
1.360	98	Paved parking & roofs
0.060	80	>75% Grass cover, Good, HSG D
1.420	97	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 11S: (new node)

Runoff = 6.10 cfs @ 12.07 hrs, Volume= 0.436 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=4.70"

Area (ac)	CN	Description
0.290	80	>75% Grass cover, Good, HSG D
1.060	98	Proposed building
0.030	98	Paved parking & roofs
1.380	94	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 12S: (new node)

Runoff = 1.68 cfs @ 12.07 hrs, Volume= 0.120 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=4.70"

Area (ac)	CN	Description
0.080	98	Paved parking & roofs
0.220	98	Proposed building
0.080	80	>75% Grass cover, Good, HSG D
0.380	94	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 20S: (new node)

Runoff = 6.36 cfs @ 12.07 hrs, Volume= 0.464 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=4.70"

Area (ac)	CN	Description
1.250	98	Paved parking & roofs
0.150	80	>75% Grass cover, Good, HSG D
1.400	96	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Reach SP1: (new node)

Inflow = 14.29 cfs @ 12.07 hrs, Volume= 1.037 af
Outflow = 14.29 cfs @ 12.07 hrs, Volume= 1.037 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP2: (new node)

Inflow = 6.36 cfs @ 12.07 hrs, Volume= 0.464 af
Outflow = 6.36 cfs @ 12.07 hrs, Volume= 0.464 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond DD-1: Downstream Defender #1

Inflow = 6.52 cfs @ 12.07 hrs, Volume= 0.481 af
Primary = 6.52 cfs @ 12.07 hrs, Volume= 0.481 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond DD-2: Downstream Defender #2

Inflow = 6.36 cfs @ 12.07 hrs, Volume= 0.464 af
Primary = 6.36 cfs @ 12.07 hrs, Volume= 0.464 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Type III 24-hr Rainfall=5.50"
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10S: (new node)

Tc=5.0 min CN=97 Area=1.420 ac Runoff= 7.65 cfs 0.568 af

Subcatchment 11S: (new node)

Tc=5.0 min CN=94 Area=1.380 ac Runoff= 7.22 cfs 0.521 af

Subcatchment 12S: (new node)

Tc=5.0 min CN=94 Area=0.380 ac Runoff= 1.99 cfs 0.143 af

Subcatchment 20S: (new node)

Tc=5.0 min CN=96 Area=1.400 ac Runoff= 7.48 cfs 0.550 af

Reach SP1: (new node)

Inflow= 16.86 cfs 1.232 af
Outflow= 16.86 cfs 1.232 af

Reach SP2: (new node)

Inflow= 7.48 cfs 0.550 af
Outflow= 7.48 cfs 0.550 af

Pond DD-1: Downstream Defender #1

Inflow= 7.65 cfs 0.568 af
Primary= 7.65 cfs 0.568 af

Pond DD-2: Downstream Defender #2

Inflow= 7.48 cfs 0.550 af
Primary= 7.48 cfs 0.550 af

Runoff Area = 4.580 ac Volume = 1.782 af Average Depth = 4.67"

Subcatchment 10S: (new node)

Runoff = 7.65 cfs @ 12.07 hrs, Volume= 0.568 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr Rainfall=5.50"

Area (ac)	CN	Description
1.360	98	Paved parking & roofs
0.060	80	>75% Grass cover, Good, HSG D
1.420	97	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 11S: (new node)

Runoff = 7.22 cfs @ 12.07 hrs, Volume= 0.521 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr Rainfall=5.50"

Area (ac)	CN	Description
0.290	80	>75% Grass cover, Good, HSG D
1.060	98	Proposed building
0.030	98	Paved parking & roofs
1.380	94	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 12S: (new node)

Runoff = 1.99 cfs @ 12.07 hrs, Volume= 0.143 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr Rainfall=5.50"

Area (ac)	CN	Description
0.080	98	Paved parking & roofs
0.220	98	Proposed building
0.080	80	>75% Grass cover, Good, HSG D
0.380	94	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Subcatchment 20S: (new node)

Runoff = 7.48 cfs @ 12.07 hrs, Volume= 0.550 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr Rainfall=5.50"

Area (ac)	CN	Description
1.250	98	Paved parking & roofs
0.150	80	>75% Grass cover, Good, HSG D
1.400	96	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum

Reach SP1: (new node)

Inflow = 16.86 cfs @ 12.07 hrs, Volume= 1.232 af
 Outflow = 16.86 cfs @ 12.07 hrs, Volume= 1.232 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP2: (new node)

Inflow = 7.48 cfs @ 12.07 hrs, Volume= 0.550 af
 Outflow = 7.48 cfs @ 12.07 hrs, Volume= 0.550 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond DD-1: Downstream Defender #1

Inflow = 7.65 cfs @ 12.07 hrs, Volume= 0.568 af
 Primary = 7.65 cfs @ 12.07 hrs, Volume= 0.568 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond DD-2: Downstream Defender #2

Inflow = 7.48 cfs @ 12.07 hrs, Volume= 0.550 af
 Primary = 7.48 cfs @ 12.07 hrs, Volume= 0.550 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond DD-1: Downstream Defender #1

Inflow = 3.36 cfs @ 12.07 hrs, Volume= 0.241 af
Primary = 3.36 cfs @ 12.07 hrs, Volume= 0.241 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond DD-2: Downstream Defender #2

Inflow = 3.22 cfs @ 12.07 hrs, Volume= 0.227 af
Primary = 3.22 cfs @ 12.07 hrs, Volume= 0.227 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Project: Somerset Marketplace

Date: 11/2/04

Storm Sewer Calculations

n = 0.011

STRUCTURE	DA	c	Inc.	c*A	Tc	L ₂₅	Q	INVERT ELEVATIONS		LENGTH	SLOPE	DIAMETER	CAP.	REMARKS
FROM	TO	acres			min	in/hr	cfs	Upper	Lower	ft	ft/ft	in	cfs	
CB-5	CB-6	0.52	0.95	0.49	5	6.20	3.06	4.38	3.80	193	0.003	15	4.19	
CB-6	CB-7	0.17	0.95	0.16	5	6.20	4.06	3.70	3.50	68	0.003	15	4.14	
CB-7	DD-1	0.55	0.95	0.52	5	6.20	7.30	3.40	2.11	73	0.018	15	10.15	
CB-4	CB-3	0.35	0.70	0.25	10	4.90	1.20	4.74	4.50	48	0.005	12	2.98	
CB-3	DMH-1	0.47	0.95	0.45	10	4.90	3.39	4.40	4.00	40	0.010	15	7.63	
TD	CB-1	0.12	0.95	0.11	5	6.20	0.71	6.00	5.30	60	0.012	10	2.80	
CB-1	CB-2	0.24	0.95	0.23	5	6.20	2.12	5.20	4.85	38	0.009	12	4.04	
CB-2	DMH-1	0.66	0.70	0.46	10	4.90	3.94	4.75	4.00	70	0.011	12	4.36	
DMH-1	DD-2	0.00	0.95	0.00	10	4.90	7.33	3.90	2.60	10	0.130	15	27.53	

Erosion Control Plan

EROSION AND SEDIMENT CONTROL PLAN

**Somerset Marketplace
Franklin Arterial and Somerset Street
Portland, Maine
November 2, 2004**

Procedures

- A. Prior to the start of construction, inlet protection will be placed around all existing catch basins that collect stormwater from the site and sediment control fencing (filter fabric) will be staked across the drainage courses, just down slope from improvements, and/or just above any adjacent wetland to protect against construction related erosion. Prior to the start of construction, a pre-construction meeting shall be held with the owner, site contractor, site design engineer, and City Engineer to discuss the scheduling of the site construction.
- B. Those areas undergoing actual construction will be left in an untreated or unvegetated condition for a minimum of time. Areas that will not be completed within 14 days of disturbance shall be protected with temporary erosion control measures within 14 days of disturbance.
- C. Loam will be saved and stockpiled on site for future use. All stockpiled loam shall be seeded with Rye at 3 lbs./1,000 square feet and mulched. Silt fencing or erosion control mix shall be placed down gradient from stockpiled loam.
- D. At a minimum, the silt fences, erosion control berms, and hay bale barriers shall be inspected and repaired once a week or immediately following any significant rainfall or snow melt. Sediment trapped behind the hay bale barriers shall be excavated and regraded onto the site when it reaches a depth of 6 inches. If the hay bale barriers prove to be ineffective, the applicant shall reinforce them with silt fencing. All silt fences and hay bale barriers shall be installed where shown on the plans and according to the engineer's specifications.
- E. Any fill used on the site will meet MDOT standard 703.18 for common borrow, 703.06(b) for sub-base aggregate (maximum 3 inch), and 703.06(a) for base gravel.
- F. If final seeding of the disturbed areas is not completed by September 15th of the year of construction, then after that date these areas shall be graded and smoothed, then seeded to a winter cover crop of Rye at the rate of 112 lbs./acre or 3 lbs./1,000 square feet. The Rye seeding will be preceded by an application of 3 tons of lime and 1,000 lbs of 10-10-10 fertilizer, or its equivalent per acre. If the Rye seeding cannot be completed by October 15th, then on that date hay mulch will be applied at a rate of 2 tons per acre to provide winter protection. If rye does not make adequate growth by December 1st, then on that date additional hay mulch at the above rates will be added.

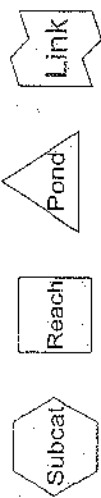
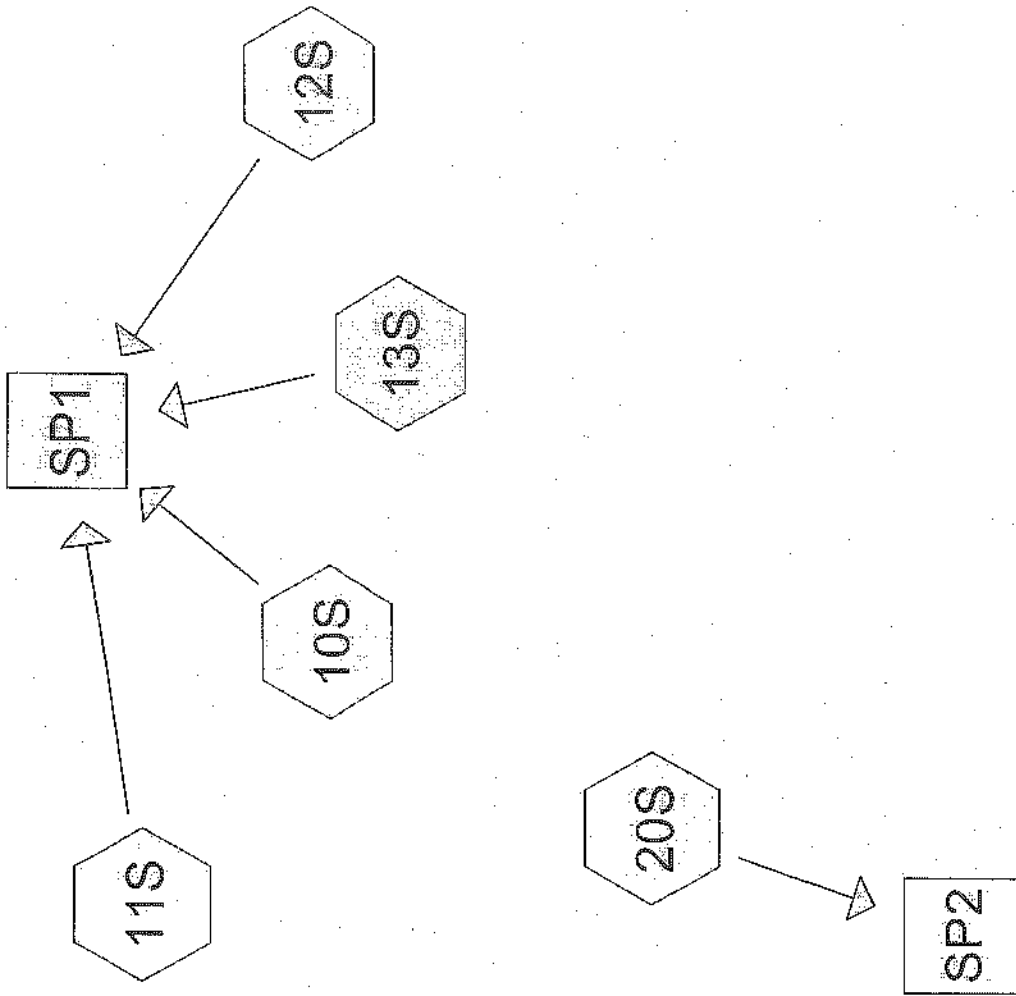
- G. Construction traffic shall use a stabilized construction entrance to be installed at the site entrance.

Dust Control

- A. In order to control dust on construction sites and roads, water or stone should be used. Exposed surfaces should be periodically moistened with adequate water or covered with crushed stone or coarse gravel. In areas adjacent to waterways, chemically stable aggregate shall be utilized.
- B. Repetitive treatments shall be applied when temporary dust control measures are utilized in order to effectively reduce the movement of dust from exposed soil surfaces.
- C. When the use of water or stone is not practical, calcium chloride shall be applied in either a granular or liquid form. The rate of application of calcium chloride should be sufficient to control dust, but not overly excessive as to cause plant damage or pollution.
- D. Other construction management practices, such as restricting traffic to predetermined routes, maintaining natural vegetation, using temporary mulching or vegetative cover, using permanent mulching and vegetative cover, and utilizing mechanical sweepers on paved areas should be incorporated into the construction planning. Stationary sources of dust (e.g., rock crushers) should utilize fine water sprays to control dust.

Winter Construction

- A. If final stabilization has not been completed on any areas of the construction site by November 15th of the construction year, then winter stabilization measures shall be taken to protect the site from soil erosion. No construction activity shall result in a non-stabilized area of more than 1 acre outside of the building footprint at any one time. Exposed areas should be limited to those areas in which work will be conducted within the following 15 calendar days. Hay and mulch shall be spread at a rate of 150 lbs./1,000 square foot (3tons/acre) and shall be properly anchored after the completion of work in that area. No additional areas shall be exposed for construction until after the area being worked on is stabilized. A double line of sediment barriers will be placed between disturbed areas and any natural resource or its associated buffer area.
- B. Stockpiles of soil shall be mulched over with hay or straw at a rate of 150 lbs./1,000 square feet or with a 4 inch layer of erosion control mix within 24 hours of stockpiling and re-established before any rainfall or snowfall event and shall not be located within 100 feet from any natural resources.



Drainage Diagram for 04187 PRE
 Prepared by Sebago Technics, Inc 11/2/2004
 HydroCAD® 6.00 s/n 001856 © 1986-2001 Applied Microcomputer Systems

PLANNING REPORT #7-05

**SOMERSET MARKETPLACE
VICINITY OF PEARL ST., SOMERSET ST./FOX ST. AND PEARL ST.
THE GOTTESMAN COMPANY, APPLICANT**

Submitted to:

Portland Planning Board
Portland, Maine

Submitted by:

Richard Knowland, Senior Planner
February 8, 2004

I. INTRODUCTION

A public hearing has been scheduled to consider a proposed retail and office development on the corner of Franklin Street, Somerset Street (160 Fox Street) and Pearl Street. The development is named Somerset Marketplace. The Applicant is the Gottesman Company. The project site includes two parcels each with existing metal buildings (former C.H. Robinson building and the Sondik Supply building) that will be removed to accommodate this development. The development application and revised site plan are shown on Attachments A and B.

The development is subject to Site Plan Review, Site Location of Development Law Review and a Traffic Movement Permit.

II. FINDINGS

Land Area:	4.58 acres
Zoning:	B-5
Development/Uses:	Retail Building: 46,116 sq. ft. Retail/Office Building: Retail on 1st floor (9,800 sq. ft) Office on 2 nd floor (9,800 sq. ft)
Street Frontage:	Franklin Street (410 ft.); Somerset/Fox Street (460 ft.); Pearl Street (400 sq. ft.)
Existing Uses:	Warehousing, offices
Proposed Uses:	Retail, offices
Height:	Retail Building: Height varies from 23 feet with a flat roof along the parking lot to about 30 feet along part of Franklin and Somerset Streets with the highest roof sections 46 feet. Primarily a tall one-story building with a partial 2 nd story (along Somerset Street). Retail/Office: Building 32 feet high, 2 stories
Parking:	239 spaces

Proposed Development

Two buildings are proposed on the site. The property has street frontage on three streets and is in a highly visible location. Both buildings are intended to fill out the two street corners of the site. The larger of the two buildings is sited near the corner of Somerset Street (Fox St.) and Franklin Street. The large retail building is not quite tight to the street line because of the odd street right-of-way line and a sewer easement adjacent to Franklin Street.

The two-story Retail/Office building is located less than ten feet from Somerset Street and Pearl Street.

Surface parking is located between the large retail building and the smaller retail/office building.

The development is intended to be completed in three phases. The large retail use will be constructed in the first phase along with the off-site traffic improvements referenced in the traffic report. The developer has stated that the pad for the smaller retail building will also be constructed this phase. The second phase is the construction of the 19,600 square foot retail/office building at the corner of Pearl and Somerset Streets. The third phase entails a 9,352 square foot expansion of the retail/office building along the Somerset Street frontage of the site. This helps fill in the building wall along Somerset Street. The submission states that the third phase requires acquisition of additional land to extend a full width Lancaster Street right-of-way to Franklin Street and is subject to provisions for additional off-site public parking and is not part of this approval.

The ideal site plan includes the full 3 phases since it maximizes the amount of development on this site and maximizes the amount of building frontage along Somerset Street. The Applicant's requirement concerning the re-creation of Lancaster Street to Franklin Street seems unrelated to the actual physical needs of expanding the building for the 3rd phase.

Site Context

This parcel occupies a large and highly visible site with over 1,200 feet of street frontage. With its exposure from I-295 and Franklin Street, it is a gateway into Bayside and the Downtown.

Nearby uses include E.W. Noyes Moving and Storage; a vacant parcel used for Oakhurst Dairy truck parking; several scrap yards; the F W Webb Plumbing Supply site and the Rent-A-Center building. Across the street on Franklin Street is housing and to the south on Oxford Street is the beginning of the residential neighborhood of Bayside including Unity Village housing. AVESTA is proposing a 100 unit residential development on the F.W. Webb site (corner of Pearl-Oxford-Lancaster Streets).

A New Vision for Bayside, the revitalization plan for Bayside, was adopted as part of the City's Comprehensive Plan. The plan envisions Bayside as an urban mixed-use neighborhood with compact and an intensive land development pattern. Key development principles of the plan emphasize Bayside as an urban gateway; providing economic and employment opportunities; a walkable district; a critical mass of housing; a transit oriented development; multi-level parking structures; a neighborhood center; environmental remediation and scrap yard redevelopment.

III. STAFF REVIEW

The plan has been reviewed by staff for conformance with the applicable standards of the Site Plan Ordinance including the Site Location of Development Law and Traffic Movement Permit.

1. Traffic

Driveway Entrances

Four driveway entrances are shown on the plan. Normally this would seem an excessive number but in this case because of the size of the property, the frontage on three streets and the street grid network in Bayside, the number of entrances is reasonable. A driveway on Pearl Street lines up with Kennebec Street, a second driveway lines up (as much as possible) with Lancaster Street. The Lancaster Street driveway extends to Franklin Street where it is one-way (entry only) from Franklin Street. A fourth driveway is shown on Somerset/Fox Street.

Somerset/Fox driveway....The Somerset/Fox Streets driveway is intended to be right-in and right-out only because of the potential for vehicles backing up into the Fox/Franklin Street intersection. There are plenty of ways to get into the site. Vehicles wanting to take a left hand turn from Fox/Somerset Streets can take a left hand turn at the Somerset/Pearl Streets intersection and enter the Pearl Street driveway. Also, vehicles headed southbound on Franklin Street can enter the site from Franklin Street.

Franklin/Lancaster Street driveway...The site plan shows vehicle access from Franklin Street but restricted as a right hand turn in only. This driveway follows part of the old Lancaster Street right-of-way, which used to connect into Franklin Street but was discontinued years ago. The driveway is one-way only from Franklin Street to Pearl Street. The driveway lines up with Lancaster Street (from Pearl Street) as much as possible. (It was not possible to use the entire width of the old Lancaster Street right-of-way since E.W. Noyes owns the remainder.) Should redevelopment occur on the Noyes site sometime in the future, perhaps the full width of Lancaster Street could be re-established.

Traffic Report

A traffic report has been submitted as part of a Traffic Movement Permit Application. The traffic report indicates that the project is forecast to generate 678 trip ends in the p.m. peak hour and 726 trip ends in the Saturday peak hour. Off-site improvements include adding a turn lane along Franklin Street to access the site and adding a lane along Fox Street. A pedestrian light is proposed for pedestrians crossing Franklin Street at the Somerset Street/Fox Street intersection.

During the review of this project, we have focused our attention on the following traffic questions/issues:

- (1) What is the impact of the development on the existing street network?
- (2) What are the existing deficiencies in the nearby street network?
- (3) What are the appropriate traffic related improvements required to mitigate the project impact in light of the above two questions?
- (4) Proposed site development/traffic improvements should follow the recommendations of the Portland Peninsula Traffic Study.
- (5) Provision for safe pedestrian circulation on and between the site and adjacent streets.

At the January 25th workshop, three important maps were presented in the Planning Board packet.

- “Offsite Roadway Improvements Concept Plan” . . . This is an aerial photo showing the traffic improvements proposed by the Applicant.
- “Franklin Arterial 2025 Concept Plan – Portland Peninsula Study” . . . This is an aerial photo showing the project area and the recommendations of the Portland Peninsula Study.
- “Peninsula Study Street Overlay – Somerset Marketplace” . . . This depicts the project site plan with most of their proposed off-site traffic improvements along with the Portland Peninsula Traffic Study recommended improvements.

Tom Errico, Traffic Review Engineer, has updated his comments from the January 25th workshop. His earlier comments are shown on Attachment E. His latest comments are shown on Attachment DD. Mr. Errico is no longer recommending a monetary contribution for improvements related to the Portland Peninsula Traffic Study rather he is recommending that the developer be responsible for adding an eastbound travel lane at Marginal Way at the Marginal Way/Franklin St. intersection. This improvement is shown on Attachment F, figure 1.

Mr. Errico's updated recommendations are shown in their entirety below.

1. I continue to suggest that the applicant implement some improvements at the Franklin Arterial/Marginal Way intersection prior to occupancy. I have been in communication with Maine DOT about this issue and they have noted that the Traffic Movement Permit Rules and Regulations specifies that the improvements scheduled for implementation should be in place within three years of the initial occupancy of the development. Accordingly, it is my recommendation that the improvements identified for the Marginal Way eastbound approach at Franklin Arterial be implemented by the applicant or other parties within three years following initial occupancy of the development.
2. Based upon the magnitude of costs associated with the implementation of item #1 above, as contained in the Gorrill-Palmer Consulting Engineers, Inc. letter to you dated February 3, 2005 and the fact that the improvements in Item #1 are consistent with future Peninsula Traffic Study recommendations, I no longer suggest that the applicant make a monetary contribution to long-term Franklin Arterial improvements.
3. Gorrill-Palmer Consulting Engineer, Inc. has concluded that the construction of the median on Fox Street/Somerset Street cannot be accommodated within the existing right-of-way and therefore requires land acquisition on the north side. I continue to be concerned about the current access design and the possibility of illegal movements entering the Fox Street/Somerset Street. In my professional opinion the current design does not adequately prevent the left-turn entry movement, and has the potential to be unsafe. I would ask that other design options be considered to ensure a safe access condition is provided.
4. The applicant needs to provide information about the possible accommodation of METRO bus service at or adjacent to the site.
5. Pedestrians to the site that originate from Franklin Arterial near the one-way entry connection will not follow the circuitous path to the store entry. Other direct options should be considered.

A letter from Gorrill-Palmer responding to Mr. Errico's comments from the previous workshop is shown on Attachment EE.

Parking

The B-5 zone does not require parking. Sec. 14-526(1)(b) of the site plan ordinance requires the Board determine the appropriate parking requirement for new structures totaling over 50,000 sq. ft. of floor area (which this project does.) Calculations provided by Sebago Technics estimated a demand for 231 parking spaces for this development. 239 parking spaces are shown on the site plan.

Tom Errico has calculated the parking demand for this project using the ITE Parking Generation Manual (third edition) (Attachment E-5). Mr. Errico calculated two scenarios of a parking demand of 188 parking spaces and 227 parking spaces. These calculations are for non-December parking characteristics.

The Technical and Design Standards and Guidelines minimum parking space standard is nine feet by nineteen feet. Many of the proposed parking spaces are eighteen feet deep. Unfortunately the geometry of the site does not allow a full size space given the number of spaces the use needs for this site. A waiver from these standards has been requested by the applicant for these undersized spaces. The reduction in size is only one foot and with a standard aisle width of 24 feet, this waiver request appears reasonable.

Pedestrian Circulation

New sidewalks are planned along the entire street frontage of the property. The site is located in a "brick district" according to the City sidewalk policy therefore, the public street sidewalks will need to be brick. Along Pearl Street the sidewalk width is 10 feet. Along Somerset Street/Fox Street the width varies. By the office building, the sidewalk width is 10 feet while at the edge of the outside cafeteria, the width is 7.2 feet. The remainder of the sidewalk along Somerset Street should be 10 feet where possible. Since the latest site plan does not have specific sidewalk dimensions, the site plan should be revised accordingly. An 8 foot sidewalk is shown on Franklin Street. The applicant will need to convey a sidewalk easement to the City since the Pearl Street and Somerset Street right-of-way is not wide enough to accommodate the entire sidewalk width.

Within the site, pedestrian circulation has improved since the original submission. A sidewalk runs through the middle of the site from the Pearl Street driveway (at Kennebec Street) to the front of the store. The raised sidewalk is 10 feet wide within the parking lot which provides an appropriate width while also providing a barrier so cars don't randomly drive through the parking lot. In order to get to the raised sidewalk from Pearl Street there is a sidewalk along the side of the office building that leads to a crosswalk and then the raised sidewalk. Planning staff is recommending that a similar walkway and crosswalk be installed on the opposite side of the driveway otherwise pedestrians will need to cross the main driveway to walk into the site. This will result in eliminating some understory plantings but deciduous trees can still be squeezed in.

There is a flat walkway along the front face of the large retail building (between the two entrances) connecting to the raised walkway.

A 6 foot wide sidewalk is proposed along the old Lancaster Street driveway from Pearl Street into the site. Crosswalks lead to the front store. We discussed the possibility of shifting the crosswalks to the store side but grade issues were indicated as obstacles. Mr. Errico indicates that "pedestrians to the site that originate from Franklin Arterial, near the one-way entry connection, will not follow a circuitous path to the store entry. Other direct options should be considered."

4. Bulk, location or height of proposed buildings will not cause health and safety problem

The existing site has two buildings (former C.H. Robinson building and Sondik Supply building) having larger building footprints than the proposed development. Overall proposed building coverage is less under this proposal than the existing site conditions. There are no known factors associated with this development relating to health or safety problems associated with this standard.

5. Bulk, location or height of proposed buildings minimize diminution in the value or utility to neighboring structures

See #4 above. The largest building on the site is a one-story building. It will not adversely affect the value or utility of neighboring structures.

6. Sewers, storm drains, water, solid waste disposal

A letter from the Portland Water District indicates that they "have sufficient capacity available to serve this proposed project and meet all normal fire protection and domestic service demands." See Attachment K. The large retail building will tie into an existing 20 inch water main in Somerset Street. The plan indicates that the office building will be served by a water main in Pearl Street.

Sanitary service for the large building will be from Somerset Street while the office building will be served from Pearl Street.

Excess stormwater from the site will be piped into storm drains in Somerset Street and Franklin Street.

7/8. Landscaping

Street trees are shown along the street frontage of the project. Trees are spaced at 40 foot intervals along Somerset/Fox Street (8 trees) and also along Pearl Street except in the area adjacent to the parking lot where the spacing is at 20 foot intervals. The street trees will be placed in granite curb planters (4 ft. by 6 ft.) along the street edge of the sidewalk except along Pearl Street where the trees will be placed in a landscaped strip between the sidewalk and the large parking lot.

In order to create more of a "street edge" along Somerset Street and Pearl Street adjacent to the large parking areas, a granite post pipe and rail fence is proposed. See Attachment BB, sheet 6. This is a fence detail the City will be installing along the proposed Chestnut Street extension adjacent to a parking area.

On the previous plan there was a transformer near the Somerset/Franklin Street intersection. Given its highly visible location, we had asked details on the color and size of it and whether it can be relocated or made less conspicuous. On the revised site plan, the transformer has been shifted slightly to the east with landscaping around it. It would be helpful to know the size and color of the transformers since it could offset the landscaping treatment.

Along Franklin Street the landscaping plan is generally denser. Seven trees are proposed adjacent to the sidewalk. Additional landscaping is proposed between the sidewalk and the building edge.

Landscaped islands are generally proposed at the end of each parking aisle within the parking lot.

Jeff Tarling had reviewed an earlier version of the plan but has not had the opportunity to review the latest plan.

9. Soil and Drainage

Eight (8) catch basins are proposed within the parking lot. The stormdrain system is connected into the City storm drains in the adjacent streets. Two Downstream Defender water quality units will provide stormwater treatment.

Stormwater runoff calculations were submitted. See Attachment L. According to this report, the proposed developed condition will have approximately 4.00 acres of impervious surface. This equates to a reduction in impervious surface of approximately 10%. This results in an overall decrease of stormwater discharge from the site.

An erosion and sedimentation plan is shown as Attachment M.

10. Lighting

In this week's site plan was a revised lighting plan. The light poles have been raised from 20 feet to 28 feet. The photometric plan for the parking lot indicates a 2.2 average foot candle value. The selected fixture (Proformer-XL) is a shoe-box fixture with a cut-off feature.

11. Fire

Lt. McDougall of the Fire Department has reviewed the site plan and finds it acceptable.

12. Infrastructure existing or planned by the City

The on-site development as well as the proposed traffic related improvements are compatible with future improvements associated with the Portland Peninsula Traffic Study.

Staff is recommending that the Applicant be responsible for installing street lights (esplanade series) along the Pearl Street and Somerset Street/Fox Street frontage of the property. This light fixture was installed for the Unity Village development. This fixture will be the official light fixture for the Bayside neighborhood district. The fixture will be installed this year when Chestnut Street is extended to Marginal Way as well as the Riverview development. The type of bracket, pole and color has not been determined yet but will be finalized prior to construction.

A note on Attachment BB, sheet 2, note 24 indicates the applicant will "install" (presumably responsible) for street lights on Pearl, Somerset/Fox Streets.

13. Natural Resources

The property is in an existing developed condition in an urban area. Over 80% of the existing site is covered by an impervious surface. There are no wetlands or unusual natural areas on this site. Stormwater runoff from paved areas will be treated by a stormwater quality unit.

14. Groundwater Aquifer

Not applicable. The site is served by public water and sewer.

15. Signs

Specific sign information has not been submitted.

16. B-5 Standards

a. Shared Infrastructure:

Presently the site is divided into 2 separate properties. The site plan consolidates the site into one with driveways, parking, walkways shared in common. A driveway has been planned over a portion of the old Lancaster Street right-of-way connecting Franklin Street to Pearl Street. This preserves the opportunity to re-establish Lancaster Street in the future, should the adjacent property owner (Noyes) agree to relinquish the remaining half of the right-of-way.

- b. Buildings and uses shall be located close to the street where practicable. Corner lots shall fill into the corner and shall provide an architectural presence and focus to mark the corner.

Both of the large retail and retail office buildings are located close to the street as practicable. The large retail building is offset a bit from the corner of Franklin/Somerset Street because of the odd street alignment at the corner.

It is important given the gateway location of the site to “provide(s) an architectural presence and focus to mark the corner”. The design of the building is progressing but we are recommending that the final design of the building façade be subject to Planning staff review and approval as a condition of site plan approval to assure that this standard is met.

- c. Buildings shall be oriented toward the street and shall include prominent facades with windows and entrances oriented toward the street. Uses that include public access to a building or commercial/office uses in mixed-use developments shall be oriented toward major streets whenever possible.

The retail/office building is oriented to Somerset and Pearl Streets with a main entrance at the corner.

The large retail building is clearly oriented to Pearl Street although it is a considerable distance from the street. Assuming that the café has a functional doorway (entrance/exit) on Somerset street and the café fencing is permeable and has appropriate openings to facilitate pedestrian access from Somerset Street, presumably this standard is met on Somerset Street.

Along Franklin Street, the design has tried to enliven the building façade. There is no useable entrance along this street. The Franklin Street side of the building has “back house” activity such as storage. The Applicant indicates given the situation, it is not possible to have an entrance on Franklin Street. If the Board believes that the building, because of Franklin Street, does not meet the above standard, the Board may want to consider modifying the requirement for Franklin Street only. (See paragraph e. below)

- d. Parking lots shall be located to the maximum extent practicable toward the rear of the property and shall be located long property lines where joint use or combined parking areas with abutting properties are proposed or anticipated.

The site plan anticipates joint use of the parking lot from the large retail and the retail/office building.

The site has frontage on three streets with two buildings on the property. The retail/office building has parking adjacent to it on the side and the rear. The large retail building (from Pearl Street) has parking in the front and side. From Franklin Street, the parking is to the rear.

- e. Modifications to siting standards for the B-5 zone: In the B-5 zone, the Planning Board may modify or waive standards “a” through “d” of this subsection as may be reasonably necessary to suit the operational or marketing needs of the user(s) of the property.

If the Board believes any of the above standards are not met, the Board may modify the requirement as provided for in this section.

IV. RECOMMENDATION

The Board has had 3 workshops on this application, with the more recent workshop taking place on January 25th. The developer has indicated he has a very constrained timeframe. On Wednesday, we received an updated site plan from Sebago Technics. The number of conditions of approval is reflective of this tight schedule. Basic engineering issues at this point are relatively minor. Traffic issues have been clearly defined. The exterior design of the building has progressed but will need further refinements beyond Tuesday’s meeting. There are also miscellaneous details on the site plan that need further work. However, we believe the conditions of approval are manageable and the application may be considered for final action at Tuesday’s meeting. If there are any major unresolved issues associated with staff reviews, the matter will be referred back to the Planning Board.

V. MOTIONS FOR THE BOARD TO CONSIDER

On the basis of plans and materials submitted by the applicant and on the basis of information contained in Planning Board Report #7-05:

1. The plan is in conformance with the Site Plan Ordinance of the Land Use Code including Site Location of Development Law.

Potential Conditions of Approval:

- i. That the revised final site plan shall be reviewed and approved by Stephen Bushey, Engineering Review Consultant.
- ii. That the final façade elevations for all buildings shall be reviewed and approved by Planning Staff. (If there is not a common resolution between staff and the applicant, this matter will return for Board review)
- iii. That deeds for the sidewalk easement and widening of Somerset Street shall be submitted for Corporation Counsel review and approval.
- iv. That all exterior signs shall be reviewed and approved by Planning Staff.
- v. That the revised landscaping plan shall be submitted for review and approval by the City Arborist.
- vi. That a sewer capacity letter substantiating the ability to serve this project shall be obtained from Public Works.
- vii. That the width of the sidewalk between the Somerset Street driveway and Somerset Street/Franklin Street intersection shall be increased to a width of 10 feet where practicable.
- viii. That the submitted lighting plan shall be approved by the Planning Staff.

2. That the plan is in conformance with the Traffic Movement Permit standards.

Potential Condition of Approval:

- i. That the development shall be in compliance with the comments of Tom Errico (Traffic Review Engineer).

3. That the Planning Board [finds or does not find] that extraordinary conditions exist or that under hardship may result from strict compliance with these regulations so that substantial justice may be done and the public interest secured, therefore the Planning Board [does or does not] modify the parking stall depth standards of the Technical and Design Standards and Guidelines for this development as shown on the submitted site plan.

ATTACHMENTS:

- AA. Site Plan application (November 2, 2004)
- BB. Revised Site Plan (received February 2, 2005)
- CC. Cover Letter for Revised Site Plan (dated February 2, 2005)
- DD. Memo from Tom Errico, Traffic Review Engineer (dated February 3, 2005)
- EE. Letter from Gorrill Palmer on Traffic Issues (dated February 3, 2005)

ATTACHMENTS FROM JANUARY 25, 2005 WORKSHOP PACKET:

- A. Revised Site Plan
- B. Planning Staff Site Plan Review Comments (dated January 14, 2005 and January 19, 2005)
- C. Sebago Technics Comments to Staff Comments (dated January 19, 2005)
- D. Memo from Stephen Bushey, Engineering Review Consultant (dated January 19, 2005)
- E. Memo from Tom Errico, Traffic Review Engineer Consultant (dated January 14, 2005)
- F. Gorrill Palmer Traffic Related Information (dated January 20, 2005 and December 23, 2004)
- G. Memo from Carrie Marsh, Urban Designer (dated January 20, 2005)
- H. Revised Building Façade Design

OTHER ATTACHMENTS:

- I. Traffic Movement Permit Application and Traffic Impact study (dated October 2, 2004 to December, 2004)
- J. Parking Demand Study (dated December 9, 2004)
- K. Utility Capacity Letters
- L. Stormwater Evaluation (dated November 2004)
- M. Erosion and Sedimentation Control (dated November 2004)
- N. Preliminary Site and Subsurface Characteristics (dated November 30, 2004)
- O. Lighting
- P. Neighborhood Meeting Information



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Planning and Development Department
Lee D. Urban, Director

Planning Division
Alexander Jaegerman, Director

March 6, 2008

Jan Wiegman, PE
Senior Engineer/Project Manager
Sebago Technics, Inc.
400 Center Street
Auburn, Maine 04210

RE: Final Site Inspection, C of O, Performance Guarantee to Defect Guarantee Reduction,
(Project # 2004-0225), (CBL 024 D 001001)

Dear Mr. Wiegman:

This letter is in response to a telephone conversation that took place on February 27, 2008 between you and Barbara Barhydt concerning questions you had about obtaining a permanent certificate of occupancy, and reducing the performance guarantee to the defect guarantee for the Whole Foods project on Fox Street.

During several inspections it was observed that certain site improvements were either incomplete or not in compliance with the approved site plan. The items noted in the attached punch list must be completed **prior** to the issuance of a permanent certificate of occupancy (as outlined and agreed to in the conditions of approval relating to your site plan).

The City's site plan ordinance specifies that certificates of occupancy and reductions to defect guarantees may not be issued during the winter between November 1 and April 15th. Due to the seasonal nature of some of the required work, it is unlikely that the permanent certificate of occupancy would be issued prior to April 15, 2008. Once the outstanding work is completed, a permanent certificate of occupancy will be issued. At the same time, the performance guarantee will be reduced to the defect guarantee for an amount equal to 10% of the original performance guarantee amount. The defect guarantee then remains in effect for 1 year, after which a final inspection is performed. Assuming no defects have occurred and all site improvements are in acceptable condition, the defect guarantee is then released.

TO: Barbara Barhydt, Rick Knowland

FROM: Philip DiPierro, Development Review Coordinator

DATE: March 6, 2008

RE: Punch List for 160 Fox Street, Whole Foods
(Id#2004-0225)(CBL 024 D 001001)

After visiting the site, I have the following comments:

Site work incomplete:

1. Landscaping,
2. The installation of a "Stop" sign at the Pearl Street entrance/exit,
3. In response to complaints from the general public, we will need confirmation that the lighting in the area of the loading dock has glare shields like the parking lot fixtures meeting design guidelines and technical standards, in compliance with the approved site plan,

I anticipate this work can be completed by **June 1, 2008**.

Fore River Company 5 Milk Street P.O. Box 7525 Portland, ME 04112 (207) 772-6404

October 29, 2004

Sandy Gottesman
The Gottesman Company
One American Center
600 Congress Ave / Suite 400
Austin, TX 78701

Re: 2 Somerset Street—corner of Somerset and Fox Streets, Portland, Maine

Dear Sandy,


Somerset Properties has entered into various agreements with The Gottesman Company which we and you hope will lead to redevelopment of Peter Anastos' warehouse at the corner of Franklin Street and Fox Street (Select Robinson), and of our adjacent warehouse, owned by Somerset Properties and managed by Fore River Company, at the corner of Pearl and Fox/Somerset Streets (Perkins and Sondik).


The Gottesman Company is gearing up to commence some of the necessary permitting required for such redevelopment, and has asked Somerset Properties to consent to The Gottesman Company filing the following applications relating to our 2 Somerset properties:

1. a Site Plan Application with the City of Portland,
2. a MDOT Traffic Movement Permit Application with the City of Portland (under the City's Delegated Review Authority from the MDOT),
3. a Site Location Application with the City of Portland (under the City's Delegated Review Authority from the MeDEP), and
4. a VRAP application to the Maine Department of Environmental Protection (Maine DEP).

Somerset Properties hereby consents to the Gottesman Company or its duly-authorized agents pursuing all of such applications with the respect to its real estate identified above.

Sincerely,


T. Ricardo Quesada
President of Somerset Properties


read and agreed to by The Gottesman Company
by:
Its:

Fore River Company 5 Milk Street P.O. Box 7525 Portland, ME 04112 (207) 772-6404

October 29, 2004

Sandy Gottesman
The Gottesman Company
One American Center
600 Congress Ave / Suite 400
Austin, TX 78701

Re: 2 Somerset Street—corner of Somerset and Fox Streets, Portland, Maine

Dear Sandy,

Under separate letter, we have agreed to provide you authority for access to our Somerset Street property to pursue your development applications. That separate letter addresses your authority but does not deal with your obligations to us as you pursue those applications. In an earlier draft, I had suggested that a single letter be signed and delivered covering both issues. The City apparently objected to the format of that letter including both, so what follows is a separate recitation of those obligations which you have agreed to:

- 1. The Gottesman Company ("TGC") will supply copies to Somerset Properties ("SP") of all filed applications and, in the case of the VRAP application to the Maine DEP, no filing will be made without SP's advance review and approval prior to any submission, which approval shall not be unreasonably withheld.
2. TGC agrees to pay all fees and costs associated with the authorized permitting activities.
3. TGC agrees not to permit any liens to be placed on the subject property by contractors involved in permitting and, in the event liens are filed, to discharge or bond over them immediately.
4. TGC hereby indemnifies SP from and against all losses or damages incurred by SP arising out of TGC's breach of the agreements herein or in the separate access letter including, without limitation, all costs of defending against such claims and in enforcing this indemnity, including reasonable attorney's fees for such purposes; provided, however TGC shall not be liable for any damages or losses SP suffers arising out of clean-up directives from Maine DEP triggered by a VRAP filing which SP has previously approved.

We reserve the right to withdraw our consent to proceed with permitting upon ten days' prior written notice to TGC.

Both parties acknowledge certain confidentiality agreements between them with the respect to public disclosure of this proposed development. TGC and SP agree that the submission of the separate authority letter will not constitute a breach of any applicable confidentiality agreements.

To indicate your agreement to the above, please sign and return a copy of this letter. Thank you for your assistance.

Sincerely,

[Signature]
T. Ricardo Quesada
President of Somerset Properties

[Signature]
read and agreed to by The Gottesman Company
by:
Its.

FIRST AMENDMENT TO CONTRACT

THIS FIRST AMENDMENT TO CONTRACT (this "Amendment") is made to be effective as of May 18, 2004, by and between LOCAL YOKEL, LLC, a Maine limited liability company ("Seller"), and THE GOTTESMAN COMPANY, a Texas corporation ("Purchaser") (Seller and Purchaser sometimes collectively referred to herein as the "Parties").

Recitals

A. The Parties entered into that certain Real Estate Contract dated effective ^{April 30} May 18, 2004 (the "Contract"), pursuant to which Purchaser agreed to purchase from Seller certain real property locally known as 160 Fox Street, Portland, Maine, such real property being more particularly described therein.

B. The Parties desire to amend the Contract as hereinafter set forth.

Amendment

For and in consideration of the premises and the mutual covenants and agreements hereinafter made, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Seller and Purchaser hereby agree as follows:

1. Review Period. Notwithstanding anything to the contrary in the Contract, the Review Period shall not expire until July 1, 2004 @ 5:00 PM ET.

2. Extension of Review Period. Notwithstanding anything to the contrary in the Contract, Purchaser shall have the right to extend the Review Period thru July 15, 2004 @ 5:00 PM ET by delivering, prior to the expiration of the then current Review Period, written notice to Seller of Purchaser's election to so extend the Review Period and depositing with the Escrow Agent the cash amount of \$[REDACTED] as additional Escrow Deposit. Such additional Escrow Deposit shall be non-refundable if Purchaser terminates the Contract before the expiration of the Review Period (as so extended), but shall be applied and credited against the total purchase price for the Property in the event that the Closing occurs.

3. Miscellaneous.

a. All terms and conditions of the Contract not expressly modified by this Amendment shall remain in full force and effect, and, in the event of any inconsistencies between this Amendment and the terms of the Contract, the terms set forth in this Amendment shall govern and control. Except as expressly amended hereby, the Contract shall remain in full force and effect as of the date thereof. Unless specifically defined herein or the context requires otherwise, all capitalized terms used herein shall have the meaning ascribed to them in the Contract.

b. This Amendment may be executed in one or more counterparts which shall be construed together as one document. For purposes of the execution hereof, telecopied signatures may be treated as originals.

c. This Amendment (i) shall be binding upon and shall inure to the benefit of each of the Parties and their respective successors, assigns, receivers and trustees; and (ii) may be modified or amended only by a written agreement executed by each of the Parties.

EXECUTED as of the date first written above.

SELLER:

LOCAL YOKEL, LLC, a Maine limited liability company

By: [Signature], its
Manager

By: [Signature]
Name: Peter A. Gotsman
Title: _____

PURCHASER:

THE GOTTESMAN COMPANY, a Texas corporation

By: [Signature]
Sanford L. Gottesman, President

REAL ESTATE CONTRACT

LOCAL YOKEL, LLC, a Maine limited liability company (referred to herein as "Seller"), agrees to sell and convey to THE GOTTESMAN COMPANY, a Texas corporation ("Purchaser"), and Purchaser agrees to buy, upon the terms and conditions hereof, approximately 2.127 acres of land locally known as 160 Fox Street, Portland, Maine, together with all improvements located thereon and all rights and appurtenances relating or pertaining thereto (collectively, the "Property"), free and clear of any encumbrances except those permitted under this Real Estate Contract (this "Contract"), such land being more particularly described on Exhibit A attached hereto.

1. Purchase Price. The total purchase price for the Property shall be \$██████████ to be paid by Purchaser to Seller in cash (or by cashier's check, wire transfer or other funds acceptable to the Title Company for immediate disbursement at Closing), subject to adjustments under paragraph 6 of this Contract.

2. Escrow Deposit. The cash sum of \$██████████ (the "Escrow Deposit") shall be deposited, upon full execution of this Contract by Seller and Purchaser, with **Malone Commercial Brokers** (the "Escrow Agent"). Provided that this Contract is not terminated by Purchaser in accordance with the provisions of paragraph 8 below, on or prior to the expiration of the Review Period (defined below), Purchaser shall deposit an additional \$██████████ in cash with the Escrow Agent, which sum shall constitute and be treated for all purposes hereunder as part of the Escrow Deposit. The Escrow Deposit shall be applied toward the payment of the purchase price at the Closing, or otherwise disbursed in accordance with this Contract. The Escrow Deposit shall be invested by the Escrow Agent as directed by Purchaser, and all interest accrued thereon shall belong and be paid to Purchaser, regardless of the ultimate disposition of all or any part of the Escrow Deposit itself.



3. Title Commitment; Survey.

a. Purchaser (at its sole expense) shall obtain (i) a current commitment from a title company mutually acceptable to Purchaser and Seller (the "Title Company") showing title to the Property to be good and indefeasible and vested solely in Seller (the "Title Commitment"); and (ii) a full, complete and legible copy of each and every document referred to in the Title Commitment.

b. Purchaser (at its sole expense) shall obtain a current-on-the-ground land title survey (the "Survey") and field notes description of the Property.

c. Seller (at its sole expense) shall furnish to Purchaser, within one (1) day after the effective date of this Contract, any and all documents and instruments in Seller's possession affecting the Property, including, but not limited to: all site plans, surveys, soil and substrata studies, environmental site assessments, architectural renderings, plans and specifications, engineering plans and studies, landscape plans and other plans, diagrams or studies of any kind, if any; plus copies of all existing federal, state or municipal land use or development related permits, approvals or consents, including utility tap receipts, approved site plan(s), zoning ordinances and subdivision materials; plus copies of all invoices and work orders for repairs or replacements exceeding \$250.00

performed with respect to the Property since January 1, 2003, copies of leases and other occupancy agreements pertaining to the Property, and copies of all accounting reports for calendar year 2003, and year-to-date for calendar year 2004, pertaining to the Property; plus all other related items, if any, in Seller's possession or reasonable control which relate to the Property or the operation, maintenance or occupancy thereof (collectively, the "Documents"). If the transaction contemplated by this Contract shall fail to be consummated, Purchaser shall return promptly to Seller all of the Documents and any copies thereof made by Purchaser.

d. Purchaser shall have until the expiration of the Review Period (defined below) to review the Title Commitment, the Documents and the Survey (and any subsequent amendment or supplement thereto). If Purchaser objects to any title exceptions shown in or by the Title Commitment, the Documents or the Survey or any provisions thereof, Purchaser shall give written notice thereof to Seller, and Seller shall have the option, but not the obligation, to cure any title objections. If Seller fails or elects not to cure Purchaser's objections, Purchaser shall, at Purchaser's option to be exercised prior to the expiration of the Review Period, either (i) terminate this Contract, whereupon the Escrow Deposit shall be returned to Purchaser and the parties thereafter shall have no further obligation or liability hereunder, or (ii) waive the objections and consummate the purchase of the Property subject to the objections. Any matters not objected to by Purchaser or otherwise accepted by Purchaser hereunder shall constitute "Permitted Exceptions." Notwithstanding the foregoing provisions of this paragraph 3.d, Seller shall be required to cure, prior to or contemporaneous with Closing, all monetary liens encumbering the Property, as well as any encumbrances which are voluntarily placed on the Property by Seller after the effective date of this Contract.

4. Closing; Closing Documents.

a. The closing of this transaction (the "Closing") shall be held at the offices of the Title Company upon the earlier of: (i) the date that is thirty (30) days after Purchaser provides Seller with notice or (ii) December 15, 2004. Possession of the Property shall be delivered to Purchaser at Closing free and clear of any and all liens, restrictions or other encumbrances other than the Permitted Exceptions.

b. Seller agrees to deliver at Closing, the following, in form and substance acceptable to Purchaser, at Seller's expense:

- (i) a general warranty deed conveying the Property to Purchaser;
- (ii) an assignment in favor of Purchaser of any tenant or commercial leases or other agreements affecting the Property, including, without limitation, that certain lease agreement between Seller, as landlord, and The Colrane Company dated January 1999 and subsequently assigned to International Paper, as tenant, by instrument dated September 30, 2000 (the "Lease");
- (iii) executed original of the Lease, together with all other written documents pertaining to the tenant thereunder, including, but not limited to, all deposit agreements, lease applications, correspondence and credit reports relating to such tenant;

- (iv) A letter from Seller to all tenants and occupants advising them of the sale of the Property and that all future rents are to be paid to Purchaser, and of the delivery to Purchaser of the security deposits held by Seller;
- (v) evidence of Seller's authority to consummate the contemplated transaction satisfactory to the Title Company and Purchaser;
- (vi) a certificate satisfactory for compliance with Internal Revenue Service reporting purposes;
- (vii) an assignment, in general warranty form, of all of Seller's interest in any and all land use and development permits, approvals, consents, licenses, and related items (including site plan approvals, curb cut permits, utility service tap fee receipts and deposits, utility connection permits, right to participate in regional water, wastewater or stormwater detention facilities, maintenance agreements, and all other related items);
- (viii) an estoppel reasonably acceptable to Purchaser executed by the tenant under the Lease stating (i) that there have been no amendments or changes in or supplements to the Lease, (ii) that the landlord is not in breach or default under any provision in the Lease and to tenant's knowledge no condition then exists which, if not corrected, would result in a breach or default by the landlord, or describing any breach or default that does exist, and that the Lease is in full force and effect, (iii) the date through which rents have been paid, (iv) the amount of any prepaid rents or security deposits paid by the tenant, (v) that there are no agreements regarding the leased space (including without limitation any rent concessions or agreements to construct improvements for the tenant) other than as set forth in the Lease, (vi) that all improvements, if any, the landlord was required to make to the leased space as complying with the terms of the Lease, (vii) that the tenant has accepted the leased space under the Lease have been assigned or pledged to any person, and (viii) such other matters as may be reasonably requested by Purchaser; and
- (ix) any other documents required by this Contract or otherwise reasonably requested by Purchaser that are customary for real estate transactions similar to the transactions contemplated hereunder.

Purchaser shall be responsible, at its own expense, for obtaining an acceptable owners policy of title insurance from the Title Company covering the Property. The deed shall be free of liens, encumbrances, and exceptions other than the Permitted Exceptions. Seller agrees to indemnify and hold Purchaser harmless from any and all liabilities, claims, and actions arising or accruing prior to Closing and which are related to the ownership or operation of the Property, and all related expenses, including without limitation court costs and attorneys' fees.

5. Default. Should Purchaser fail to carry out the terms of this Contract for any reason except the failure of any condition to Purchaser's obligations hereunder, Seller shall have, as Seller's sole and exclusive remedy hereunder, the right to receive the Escrow Deposit as liquidated damages

and not as a penalty. Should Seller fail to comply with any of the requirements of this Contract, Purchaser shall have the option of (a) canceling this Contract by giving Seller written notice thereof, and in such event the Escrow Deposit shall be immediately returned to Purchaser and the parties shall have no further obligation or liability hereunder; or (b) enforcing Seller's specific performance of this Contract.

6. Prorations: Closing Costs. General real estate taxes and assessments and any rental income from leases, if any, shall be prorated as of the Closing. Taxes for the year of Closing and subsequent years shall be assumed by Purchaser, and any assessments for prior years due to change in ownership or use shall be paid by Seller. Purchaser and Seller will share equally in the cost of any transfer taxes applicable to the conveyance of the Property to Purchaser. Except as is otherwise provided herein, each party shall pay its own customary closing expenses and its own attorneys' fees. If the tax figures used for the closing adjustments are based on estimated figures, the parties agree to make any necessary adjustments between themselves when the actual figures for the year of Closing are known. Purchaser will receive a credit on the total purchase price in the amount of all the tenant security deposits and other escrows held by Seller in connection with the Lease.

7. Damage and Condemnation. Prior to the Closing, all risk of loss with regard to the Property shall be borne by Seller. If, prior to the Closing, any portion of the Property is destroyed or damaged, or becomes subject to a taking by virtue of eminent domain, to any extent whatsoever, Purchaser may, at Purchaser's option, either (i) terminate this Contract, whereupon the Escrow Agent shall deliver the Escrow Deposit to Purchaser immediately and the parties thereafter shall have no further liability or obligation hereunder, or (ii) elect to close on the purchase of the Property, in which event Seller's rights and interests in any proceeds or awards that may be payable in connection with such destruction, damage or taking, as the case may be, shall be assigned to Purchaser.

8. Review Period. Purchaser shall until June 14, 2004 (the "Review Period") in which to investigate and review the status of the utilities, zoning, development suitability and feasibility, environmental condition and all other aspects of the Property. Purchaser shall have the right during this Review Period to go on the Property and conduct all necessary inspections, soil tests, assessments and other studies and to apply for or seek any zoning and site development permits and approvals desired by Purchaser for the development and operation of the Property, provided that Purchaser shall not allow any such permits or approvals become final or otherwise effective against the Property prior to the Closing. Seller agrees that it shall reasonably cooperate with Purchaser's efforts to obtain the approvals and permits necessary for Purchaser's intended use, provided that such cooperation shall not require any expenditure on the part of Seller and such use changes will not be effective until after Closing. All such inspections and other activities shall be at Purchaser's sole risk and expense and if the Closing does not occur, the Property shall be restored to its present condition in the event of any damage caused by any such tests or studies. Seller hereby agrees that Purchaser (without any obligation to be reasonable or to specify which aspects of the Property are unsatisfactory) may terminate this Contract by giving written notice of termination to Seller within this Review Period, along with the sum of \$100.00, which Purchaser shall pay to Seller as consideration for this option. If the termination notice provided in this paragraph 8 is timely given, then this Contract will terminate and the Escrow Agent shall be obligated to immediately return the Escrow Deposit to Purchaser without the need for any approval by Seller, and even despite any potential objection by Seller, it being agreed that the Escrow Agent may conclusively rely upon the

certification of Purchaser and that Seller's sole remedy, if the certification is incorrect, is against the Purchaser and not against the Escrow Agent. If Purchaser shall fail to provide such written notice to Seller prior to the expiration of the Review Period, Purchaser shall be deemed to have waived its right to terminate the Contract pursuant to the option herein provided and the Contract shall remain in full force and effect.

9. Representations, Warranties and Covenants of Seller. Seller represents, warrants and covenants to Purchaser as follows:

- a. Seller is the owner of and has good and indefeasible title to all of the Property. Seller and each of the persons signing this Contract for Seller have the authority and power to sign this Contract, to sell the Property, to perform all of Seller's obligations under this Contract, and to sign and deliver all of Seller's closing documents.
- b. There is no existing or pending litigation, actions, suits, proceedings, claims, condemnation or sales in lieu thereof, contracts of sale, options to purchase or rights of first refusal with respect to the Property, or any part thereof, nor have any such actions, suits, proceedings, claims or other such matters been, to the best of Seller's knowledge and belief, threatened or asserted against Seller or the Property which could materially or adversely affect the Property.
- c. Seller has received no notice and has not knowledge of any pending improvements, liens or special assessments to be made against the Property by any governmental authority.
- d. From and after the date of this Contract, prior to the Closing or earlier termination hereof, Seller warrants and covenants that it shall not, without the prior written consent of Purchaser, (i) execute, modify or renew any leases affecting the Property, (ii) make any capital repairs or improvements to the Property, (iii) pursue any use change consent, or (iv) grant or convey any easement, lease, license, permit or any other legal or beneficial interest in or to the Property. Seller shall do or cause to be done all things reasonably within its control to preserve intact and unimpaired any and all rights-of-way, easements, grants, appurtenances, privileges and licenses in favor of or constituting any portion of the Property.
- e. Except for the Lease, there are no parties in possession of any portion of the Property as lessees, tenants at will or at sufferance, trespassers or otherwise, and no person or party other than Purchaser has any right or option to lease, purchase, occupy, use or possess the Property, or any portion thereof or any interest therein.

All representations, warranties and covenants of Seller set forth in this paragraph 9 shall be deemed to be reiterated as of the date of the Closing and shall be true and correct as of that date and shall survive the Closing for a period of one (1) year, and Seller hereby indemnifies and holds Purchaser harmless for any and all losses, costs, expenses and other damages, including, without limitation, reasonable attorneys' fees, incurred or suffered by Purchaser and relating to any breach by Seller of its representations, warranties and covenants set forth in this paragraph 9. The obligations of Purchaser hereunder, including, that to close this transaction, are expressly conditioned and contingent upon the satisfaction and/or truth and accuracy of the foregoing representations,

warranties and covenants of Seller as of the date of the Closing. If at the Closing, any of such representations, warranties or covenants is not materially true and accurate, in addition to any other remedies provided to Purchaser herein, Purchaser shall be entitled to terminate this Contract and receive a refund of the Escrow Deposit.

10. Brokers. Seller and Purchaser represent and warrant to each other that they have dealt with no broker, finder or similar agent in connection with the transaction provided for in this Contract, except David Latulippe and Joe Malone (the "Brokers"), to which Seller agrees to pay a commission in accordance with the terms and provisions of a separate written agreement between Seller and the Brokers, if and only if this transaction is consummated. Seller shall indemnify Purchaser from and against any claim made by any broker or agent (including the Brokers) claiming to have dealt with Seller in connection with this transaction (including reasonable attorneys' fees and court costs), and Purchaser shall indemnify Seller from and against any claim made by any broker or agent (other than the Brokers) claiming to have dealt with Purchaser in connection with this transaction (including reasonable attorneys' fees and court costs).

11. Assignment of Contract. Subject to the provisions of paragraph 14 below, neither party hereto may assign this Contract at any time without the written consent or prior approval of the other, provided, however, that Purchaser shall be permitted to assign its rights under this Contract to a limited partnership that is majority-owned and controlled by Howard Biel and Sanford L. Gottesman or by affiliates controlled by such persons.

12. Confidentiality. Purchaser and Seller agree that each of them (and each of their respective agents, employees and representatives) shall hold the terms and existence of this Contract in confidence, and shall not disclose its content to any third parties without the prior written consent of the other. The provisions of this paragraph 13 shall survive the Closing and any termination of this Contract.

13. Like Kind Exchange. Seller and Purchaser acknowledge that, in the receipt and/or payment of the total purchase price for the Property, Purchaser may use proceeds derived from a prior exchange transaction, or Seller may use the proceeds derived from the instant transaction for a future exchange transaction, under the provisions of Section 1031 of the Internal Revenue Code of 1954, as amended. Seller and Purchaser both agree that it shall reasonably cooperate with the other party in its completion of the exchange transaction(s) and shall enter into and/or consummate any documents or instruments reasonably necessary to permit Seller and/or Purchaser to effectuate the completion of such transaction(s), including the acceptance of exchange proceeds from any entity used by Purchaser or to be used by Seller for the facilitation of the consummation of such exchange transaction, provided Seller or Purchaser shall not incur any additional cost or expense, debt obligation or other liability of any kind.

14. Miscellaneous.

- a. Time is of the essence of this Contract.
- b. The provisions of this Contract shall not merge into the documents and shall survive the Closing and the execution and delivery of the deed. This Contract constitutes the entire

agreement of the parties hereto and may not be modified, amended or supplemented except by a written agreement signed by Seller and Purchaser and dated subsequent to the date hereof. If any provision of this Contract shall be held invalid or unenforceable, the remainder of the Contract shall not be affected thereby.

c. This Contract shall be construed and interpreted under the laws of the State of Maine, and shall be binding on the parties hereto and their heirs, successors and assigns.

d. Any notice hereunder must be in writing, and shall be effective upon the expiration of three (3) days after having been deposited in the United States Mail, Certified Return Receipt Requested, addressed to the parties as set forth below (or as may be designated from time to time as provided in this paragraph 14.d), or when actually received by the party to be notified.

e. The "effective date" of this Contract has been agreed by both parties to be April 30, 2004

f. This Contract may be executed in multiple originals or in counterparts, each of which will be an original and all of which taken together shall constitute one contract.

g. If any date set forth in the Contract for the performance of any obligation by Purchaser or Seller for the delivery of any instrument or notice should be on a Saturday, Sunday or legal holiday, the compliance with such obligation or delivery shall be deemed acceptable on the next business day following such Saturday, Sunday, or legal holiday. For purposes of this paragraph "legal holiday" shall mean any state or federal holiday for which financial institutions or post offices are generally closed in Cumberland County, Maine or in Travis County, Texas, for the observance thereof.

h. This Contract and the terms and provisions hereof shall insure to the benefit of and be binding upon the parties hereto and their respective heirs, legal representatives, successors and assigns wherever the context so requires or admits.

EXECUTED by the parties hereto on the dates set forth below, but to be effective as of the effective date of this Contract as defined above.

SELLER:

LOCAL YOKEL, LLC, a Maine limited liability company

By: [Signature] its
Manager

By: [Signature]
Name: John Antonio
Title: _____

Address: _____

Date Signed by Seller: April 30, 2004

PURCHASER:

THE GOTTESMAN COMPANY, a Texas corporation

By: [Signature]
Sanford L. Gottesman, President

Address: 600 Congress Avenue, Suite 400
Austin, Texas 78701

Date Signed by Purchaser: APRIL 29, 2004

The undersigned, Malone Commercial Brokers, hereby acknowledges receipt of the "Escrow Deposit" required thereunder in the amount of \$ [REDACTED] and agrees to perform the duties of the Escrow Agent, including disbursement of the Escrow Deposit, strictly in accordance with the terms of the Contract.

ESCROW AGENT:

MALONE COMMERCIAL BROKERS

By: _____
Name: _____
Title: _____

Date: _____, 2004

**IMPORTANT NOTICE FROM CITY OF PORTLAND
PLANNING DIVISION**

**TO RESIDENTS AND PROPERTY OWNERS
IN THE VICINITY OF FRANKLIN ARTERIAL AND SOMERSET STREET**

WHAT The Portland Planning Board will hold a public hearing to consider a plan by The Gottesman Company to construct a 50,000 sq. ft. retail building and a 2-story retail and office building, with a total floor area of 19,600 sq. ft. There will also be a 253 space parking lot with access from Franklin Arterial, Pearl and Somerset Streets. Zoning for the site is B-5 Business. Land area is 4.58 acres. The project will be reviewed for conformance with the Site Plan Ordinance of the Land Use Code, a Site Location Development permit, a Traffic Movement permit and a Stormwater permit.

Public Comments will be taken at this meeting.

WHEN Tuesday, February 8th, 2005
7:30 p.m.
Room 209, 2nd Floor, City Hall

FOR MORE INFORMATION

Plans are available in the Portland Planning Division, 4th Floor, City Hall. If you wish to submit written comments, address them to Richard Knowland, Senior Planner, Planning Division, City Hall, 4th Floor, 389 Congress Street, Portland, Maine 04101; by phone at 874-8725 or e-mail at rwk@portlandmaine.gov

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STORMWATER DRAINAGE SYSTEM
MAINTENANCE AGREEMENT

In consideration of Major Site Plan Approval granted by the Planning Board of the City of Portland to a plan entitled **SITE PLAN OF SOMERSET MARKETPLACE** dated February 1, 2005 and filed with the City of Portland, Department of Planning and Development, 389 Congress Street, Portland, Maine, and pursuant to a condition thereof, Franklin and Somerset Portland, ME, LLC, a corporation with a place of business at 550 Bowie Street, Austin, TX 78703, the owner of the subject premises, does hereby agree, for itself, its successors and assigns (the "Owner"), as follows:

That it will, at its own cost and expense and at all time in perpetuity, maintain in good repair and in proper working order the stormwater drainage system, as shown on said plan, including but not limited to the treatment units and outlets therefrom. The Owner of the subject premises further agrees to periodically clean out said treatment units in accordance with the manufacturer's specifications as included on Exhibit A, attached hereto and incorporated herein by reference (Manufacturer: Hydro International, 94 Hutchins Drive, Portland, ME 04102-1930) and to keep a log detailing: 1) the date and nature of the maintenance performed; and 2) who performed said maintenance. Such log shall be made available for inspection by the City of Portland upon reasonable notice and request. Said agreement is for the benefit of the said City of Portland and all persons in lawful possession of said premises and abutters thereto; further, that the said City of Portland, said persons in lawful possession and said abutters, or any of them, may enforce this Agreement by an action at law or in equity in any court of competent jurisdiction; further, that after giving the Owner written notice and a reasonable time to perform, the said City of Portland, by its authorized agents or representatives, may, but is not obligated to enter upon said premises to maintain, repair or replace said stormwater drainage system, including but not limited to , treatment units and outlets thereon in the event of any failure or neglect thereof, the cost and expense thereof to be reimbursed in full to the said City of Portland by the Owner upon demand.

This Agreement shall not confer upon the City of Portland or any person the right to utilize said stormwater drainage system for public use or for the development of any other property, and the Owner shall bear no financial responsibility by virtue of this

Agreement for enlarging the capacity of said surface water drainage system for any reason whatsoever.

This Agreement shall bind the undersigned only so long as it retains any interest in said premises, and shall run with the land and be binding upon its successors and assigns as their interests may from time to time appear.

Dated at ^{AUSTIN TEXAS} Portland, Maine this 31st day of JANUARY, 2006

Signature: *Patricia D. Yost*
By: PATRICIA D. YOST
Its: ASST. SECRETARY

STATE OF MAINE
CUMBERLAND, ss.

Date: JANUARY 31, 2006

Personally appeared the above named PATRICIA D. YOST, and
Acknowledged the foregoing instrument to be his/her free act and deed in his/her said
capacity, and the free act and said deed of said PATRICIA D. YOST.



Before me,

Candis Simons-Barrie
Notary Public/Attorney at Law

Print Name: CANDIS SIMONS-BARRIE

EXHIBIT A

Somerset Marketplace Stormwater Management Facilities Maintenance Plan

The following plan provides for the protection of the resources in the project vicinity through the maintenance of the development's stormwater drainage system, parking areas, and permanent erosion control measures. Inspections should be done by a qualified inspector familiar with Stormwater quality devices such as Downstream Defender units, to ensure that the stormwater management provides effective treatment of stormwater discharges.

Site - Annually (Spring)

1. All parking areas, loading areas, and other paved surfaces shall be swept to remove winter sand and on an as-needed basis to minimize sediment transport during significant rainfall events.
2. All catch basins shall have their sumps cleaned of accumulated sediment and debris.
3. Before disposal of sediment occurs, contact the City of Portland Public Works Department for recommendations for reuse. The sediments should be appropriate as a loam or soil amendment. The removed materials must be disposed of in accordance with Maine Solid Waste Disposal Rules.

Downstream Defender Maintenance program

The Purpose of an effective maintenance program is to ensure the stormwater is being collected and directed through the Downstream Defender[®] and to ensure the pollutant accumulations do not exceed pollutant storage capacities. The following bi-annual inspections, monitoring and clean-out procedures are recommended (note – may require more frequent inspection / cleanout depending on the quality and quantity of the flow):

1. Bi-annual inspection and annual clean-out of the unit to monitor and remove pollutants (sediments, oils and floatables) and ensure proper operation and free flow of stormwater through the unit. Removed pollutant should be disposed of in accordance with Maine Solid Waste Disposal Rules.
2. An annual maintenance report should be completed for each unit summarizing the monitoring logs that document observations as well as the volume of sediment, oils and floatables that have been removed.

Bi-Annual inspection procedures

The following procedures outline the work to be completed as part of the maintenance program:

1. Coordinated inspections with the property owner, facility manager, or assigned contact person to ensure that access to the immediate upstream and downstream structures and the unit is possible.
2. Opening to the immediate upstream and downstream structures from the Downstream Defender[®] should be inspected to ensure debris is not preventing stormwater from being collected in the drainage system and directed into the unit. Any debris should be removed and properly disposed of.
3. The Downstream Defender[®] should be inspected for floatables and sediment accumulation. Maintenance logs for the treatment should be completed for each site visit.

Annual clean-out procedures

1. Care should be taken during the clean-out operations. Improper handling can result in damage to components and accessories.
2. For higher risk sites where the potential for spills or accumulation of extra hazardous materials exists, a chemical analysis of floatables, oils and sediment should be carried out prior to removal and disposal.
3. Removal of floatables and sediments from the Downstream Defender[®] using a vacuum tanker or similar equipment.
4. Evacuating of water and oil should be performed by fully trained and authorized personnel only, and the equipment used, such as cleansing hoses must be equipped with protective nozzles to avoid damage to the Downstream Defender[®] components.
5. Every time the unit is emptied the internal components should be checked and any damage repaired. Any damage liable to affect the units operation should be reported immediately to the supplier.
6. After emptying, the unit should be thoroughly cleansed using clean water at sufficient pressure. The unit must be then filled with clean water (not storm water) until discharge from the outlet commences. Then all the covers should be replaced securely.

**Somerset Marketplace
Stormwater Management Facility Maintenance Log**

	Annual Inspection (Spring '07)	Bi-Annual Inspection (Fall '07)	Annual Inspection (Spring '08)	Bi-Annual Inspection (Fall '08)	Annual Inspection (Spring '09)
Date Inspected					
Inspector					
Debris Found					
Downstream Defenders					
Parking Lot Sweeping					
Catch Basin Cleaning					
Sediment Disposal					
Comments					

07/29/2004 16:26 9727895166
JUL 29 04 11:00P
07/29/2004 11:38 972 11:56
PAPA RIVER CO

R GREENE
R GREENE
(211) 772-8078

PAGE 02/10

1 of 3
→ see section
922.789.5166

LICENSE FOR ACCESS

This LICENSE FOR ACCESS (the "License") is made as of the 27th day of July, 2004, by Somerset Properties Inc ("Licensor") in favor of THE GOTTESMAN COMPANY ("Licensee").

RECITALS

WHEREAS, Licensor is the owner of certain real property located at the southeast corner of Franklin Arrial and Fox Street in Portland, Maine, 2 Somerset Street (the "Property"), and

(see Real St on some City maps)

WHEREAS, Licensor and Licensee are considering entering into an agreement regarding the Property (the "Transaction"); and

PLW
7-29-04

WHEREAS, in furtherance of the Transaction, Licensee has requested that Licensor allow Licensee, and its agents, contractors and consultants, access onto the Property for purposes of performing diligence regarding the Property, including certain tests and studies as further detailed in this Agreement, and Licensor is willing to grant such access on and subject to the provisions hereof, which largely relate to minimizing inconvenience to existing tenants of the Property.

NOW, THEREFORE, in consideration of Ten and No/100 Dollars (\$10.00) and other valuable consideration, the receipt of which is hereby acknowledged by Licensee, Licensor does hereby agree as follows:

- Recitals: The above recitals are incorporated herein and made a part hereof.
- Grant of Access: Licensor hereby grants to Licensee, upon prior oral notice to Licensor and agreement as to a mutually agreeable time (including Licensor's consultation with existing tenants) for itself, its agents, employees, contractors and consultants, including, without limitation, Acadia Environmental, a license to enter onto the Property for the purpose of performing examinations, inspections and engineering, environmental and other tests (including soil tests, assessments and other studies) as Licensee reasonably requires, subject to Licensor's reasonable approval, at Licensee's sole cost and expense; Licensee acknowledges its awareness that Licensor's tenants have a right of quiet enjoyment at the Property, and permission for testing within each leased premises is therefore subject to the prior approval of such tenants, particularly as it relates to testing which may disrupt such tenants quiet enjoyment. In addition, Licensee shall have the right to contact any applicable governmental agencies regarding the Property and may provide the results of any of the tests or studies Licensee has performed to such governmental agencies for any purpose, including, without limitation, for the purpose of obtaining consents, approvals or clearances for Licensee's proposed development and use of the Property.

3. Indemnification By entering onto the Property, Licensee hereby agrees to defend, indemnify and hold Licensor and its successors and assigns harmless from and against any and all loss, claim, damage, expense or liability (including, without limitation, reasonable attorneys' fees and costs) arising out of or in connection with Licensee's, its agents', employees', consultants' and contractors' activities on the Property, provided however that Licensee shall not be liable for any condition which existed prior to Licensee's (or such other parties') entry onto the Property or for any damage which is the result of the negligence or intentional acts of Licensor, its agents, employees, or contractors.

4. License The rights herein granted to Licensee shall be deemed a license in favor of Licensee for the purposes as set forth herein. Notwithstanding anything to the contrary herein contained, this License shall automatically expire at 12:00 noon on September 30, 2004, unless extended in writing by Licensor, or, if sooner, upon the occurrence of the execution of a definitive agreement regarding the Transaction between Licensor to Licensee.

5. Licensee Responsible for Safety and Property Licensee's activities within the Property shall be at its sole cost and risk, and Licensor shall not be responsible in any event for the safety of Licensee or its agents, employees, consultants or contractors, or for the condition or loss of any items of personal property brought onto the Property by Licensee.

6. Entire Agreement This License contains the entire understanding between the parties and shall not be amended or modified unless in writing by the parties to be charged. All notices shall be by overnight mail or confirmed facsimile transmission to the following addresses.

As to Licensor:

Somerset Properties
 5 Milk Street
 PO Box 7525
 X Portland, ME 04112 (street address zip is 04101)
 207 772-6404
 fax 207 772 9078

As to Licensee:

The Gottesman Company
 600 Congress Avenue, Suite 400
 Austin, Texas 78701
 Attention: Sanford L. Gottesman

The parties agree that, until written notice by either party, communications relating to scheduling access may proceed orally and/or by email.

7. Not a Public Dedication This License is not, and shall not be deemed to be, a public dedication of any sort, and no party shall have any rights in, to, or under this License or as a result of same except as expressly granted, permitted or contemplated hereunder.

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Counterparts: Facsimile Signatures. This License may be executed in multiple counterparts, each of which shall be deemed an original and all of which collectively shall constitute one instrument. Further, Licensor confirms and agrees that this License may be executed and delivered by facsimile signature and transmission.

IN WITNESS WHEREOF, Licensor has executed this License as of the day and year first above written.

LICENSOR:

[Handwritten Signature]

By Patricia W. [Handwritten]
Name _____
Title _____

Accepted and agreed to this 29th day of July, 2004

LICENSEE

THE GOTTESMAN COMPANY

By *[Handwritten Signature]*
Name Ray Gottesman
Title CEO

HCM Signalized Intersection Capacity Analysis
64: Marginal Way & Franklin St. Art.

T:\1021\TISFiles\2006PrePM.sy7
12/20/2004

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.85		1.00	0.95	1.00
Flt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		0.97	1.00		0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1809	1615		1888	1553	1805	3195		1770	3574	1538
Flt Permitted		0.66	1.00		0.84	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1231	1615		1592	1553	1805	3195		1770	3574	1538
Volume (vph)	376	109	337	18	115	191	232	1666	12	110	699	222
Peak-hour factor, PHF	1.00	0.72	0.90	0.90	0.83	1.00	0.83	0.99	1.00	0.69	0.90	0.58
Adj. Flow (vph)	376	151	374	20	139	191	280	1683	12	159	777	383
RTOR Reduction (vph)	0	0	218	0	0	108	0	1	0	0	0	168
Lane Group Flow (vph)	0	527	156	0	159	83	280	1694	0	159	777	215
Heavy Vehicles (%)	2%	0%	0%	0%	0%	4%	0%	1%	0%	2%	1%	5%
Turn Type	pm+pt		Perm	Perm		Perm	Prot			Prot		Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8		8						6
Actuated Green, G (s)		39.0	39.0		39.0	39.0	13.0	42.0		7.0	36.0	36.0
Effective Green, g (s)		39.0	39.0		39.0	39.0	13.0	42.0		7.0	36.0	36.0
Actuated g/C Ratio		0.39	0.39		0.39	0.39	0.13	0.42		0.07	0.36	0.36
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	8.0		3.0	3.0	3.0
Lane Grp Cap (vph)		480	630		621	606	235	1342		124	1287	554
v/s Ratio Prot							0.16	c0.53		c0.09	0.22	
v/s Ratio Perm		c0.43	0.10		0.10	0.05						0.14
v/c Ratio		1.10	0.25		0.26	0.14	1.19	1.26		1.28	0.60	0.39
Uniform Delay, d1		30.5	20.6		20.7	19.7	43.5	29.0		46.5	26.2	23.8
Progression Factor		1.00	1.00		1.00	1.00	0.70	0.57		1.00	1.00	1.00
Incremental Delay, d2		70.4	0.2		0.2	0.1	108.1	121.8		174.9	2.1	2.0
Delay (s)		100.9	20.8		20.9	19.8	138.8	138.2		221.4	28.3	25.8
Level of Service		F	C		C	B	F	F		F	C	C
Approach Delay (s)		67.6			20.3			138.3			50.8	
Approach LOS		E			C			F			D	

Intersection Summary

HCM Average Control Delay	89.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EET	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		A	P		A	P	T	TP	T	T	TP	P
Volume (vph)	376	109	337	18	115	191	232	1666	12	110	699	222
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	1.00	0.72	0.90	0.90	0.83	1.00	0.83	0.99	1.00	0.89	0.90	0.58
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	0%	0%	0%	4%	0%	1%	0%	2%	1%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	527	374	0	159	191	280	1695	0	159	777	383
Turn Type	prn+pt		Perm	Perm		Perm	Prot			Prot		Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8	8							6
Detector Phases	7	4	4	8	8	8	5	2		1	6	6
Minimum Initial (s)	4.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	8.0	8.0	18.0	18.0	18.0	8.0	21.0		8.0	21.0	21.0
Total Split (s)	25.0	43.0	43.0	18.0	18.0	18.0	17.0	46.0	0.0	11.0	40.0	40.0
Total Split (%)	25.0%	43.0%	43.0%	18.0%	18.0%	18.0%	17.0%	46.0%	0.0%	11.0%	40.0%	40.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead			Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
v/c Ratio		1.94	0.44		0.24	0.27	1.19	1.26		1.28	0.60	0.53
Control Delay		461.4	4.5		21.8	4.9	139.3	142.1		214.3	28.6	10.8
Queue Delay		0.0	0.0		0.0	0.0	0.0	1.3		0.0	0.0	0.0
Total Delay		461.4	4.5		21.8	4.9	139.3	143.4		214.3	28.6	10.8
Queue Length 50th (ft)		~522	6		67	5	~220	~812		~130	210	52
Queue Length 95th (ft)		#544	64		104	48	m#287	m#925		#178	273	30
Internal Link Dist (ft)		415			202			447			108	
Turn Bay Length (ft)							250			100		100
Base Capacity (vph)		271	848		662	714	235	1342		124	1287	722
Starvation Cap Reductn		0	0		0	0	0	3		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		1.94	0.44		0.24	0.27	1.19	1.27		1.28	0.60	0.53

Intersection Summary

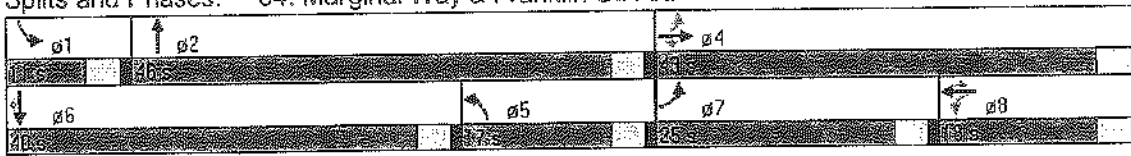
Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 12 (12%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

-- Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 64: Marginal Way & Franklin St. Art.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑	↘	↔	↑	↗	↔	↕	↗	↔	↕	↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1900	1615	1805	1900	1553	1805	3191		1770	3574	1538
Flt Permitted	0.67	1.00	1.00	0.67	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1242	1900	1615	1267	1900	1553	1805	3191		1770	3574	1538
Volume (vph)	362	104	362	39	110	181	239	1741	29	105	753	214
Peak-hour factor, PHF	1.00	0.72	0.90	0.90	0.83	1.00	0.83	0.99	1.00	0.69	0.90	0.58
Adj. Flow (vph)	362	144	402	43	133	181	288	1759	29	152	837	369
RTOR Reduction (vph)	0	0	322	0	0	119	0	1	0	0	0	149
Lane Group Flow (vph)	362	144	80	43	133	62	288	1787	0	152	837	220
Heavy Vehicles (%)	2%	0%	0%	0%	0%	4%	0%	1%	0%	2%	1%	5%
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						6
Actuated Green, G (s)	20.0	20.0	20.0	13.2	13.2	13.2	20.0	47.4		9.4	36.8	36.8
Effective Green, g (s)	20.0	20.0	20.0	13.2	13.2	13.2	20.0	47.4		9.4	36.8	36.8
Actuated g/C Ratio	0.20	0.20	0.20	0.13	0.13	0.13	0.20	0.47		0.09	0.37	0.37
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	8.0		3.0	3.0	3.0
Lane Grp Cap (vph)	322	380	323	206	251	205	361	1513		166	1315	566
v/s Ratio Prot	c0.16	0.08		0.02	c0.07		0.16	c0.56		c0.09	0.23	
v/s Ratio Perm	c0.07		0.05	0.01		0.04						0.14
v/c Ratio	1.12	0.38	0.25	0.21	0.53	0.30	0.80	1.18		0.92	0.64	0.39
Uniform Delay, d1	45.2	34.6	33.7	39.0	40.5	39.2	38.1	26.3		44.9	26.1	23.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.78	0.69		1.00	1.00	1.00
Incremental Delay, d2	88.0	0.6	0.4	0.5	2.0	0.8	6.8	85.6		45.7	2.4	2.0
Delay (s)	133.2	35.3	34.1	39.5	42.5	40.1	36.4	103.6		90.6	28.4	25.3
Level of Service	F	D	C	D	D	D	D	F		F	C	C
Approach Delay (s)		73.8			40.9			94.3			34.6	
Approach LOS		E			D			F			C	

Intersection Summary

HCM Average Control Delay	69.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings
64: Marginal Way & Franklin St. Art.

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12/20/2004

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Volume (vph)	362	104	362	39	110	181	239	1741	29	105	753	214
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	1.00	0.72	0.90	0.90	0.83	1.00	0.83	0.99	1.00	0.69	0.90	0.58
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	0%	0%	0%	4%	0%	1%	0%	2%	1%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	362	144	402	43	133	181	288	1788	0	152	837	369
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						6
Detector Phases	7	4	4	3	8	8	5	2		1	6	6
Minimum Initial (s)	4.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	8.0	8.0	8.0	18.0	18.0	8.0	21.0		8.0	21.0	21.0
Total Split (s)	18.0	27.0	27.0	9.0	18.0	18.0	24.0	53.0	0.0	11.0	40.0	40.0
Total Split (%)	18.0%	27.0%	27.0%	9.0%	18.0%	18.0%	24.0%	53.0%	0.0%	11.0%	40.0%	40.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
v/c Ratio	1.21	0.38	0.62	0.19	0.60	0.60	0.80	1.14		0.91	0.61	0.50
Control Delay	156.3	38.5	7.5	40.8	48.2	18.6	49.6	94.9		98.0	27.6	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6		0.0	0.0	0.0
Total Delay	156.3	38.5	7.5	40.8	48.2	18.6	49.6	96.5		98.0	27.6	11.3
Queue Length 50th (ft)	-318	88	0	25	81	26	150	-770		98	224	57
Queue Length 95th (ft)	#446	110	84	57	128	92	m203	m#917		#170	298	38
Internal Link Dist (ft)		415			202			447			108	
Turn Bay Length (ft)			300				250			100		100
Base Capacity (vph)	300	467	700	225	266	335	361	1565		167	1373	736
Starvation Cap Reductn	0	0	0	0	0	0	0	5		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.21	0.31	0.57	0.19	0.50	0.54	0.80	1.15		0.91	0.61	0.50

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

- Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 64: Marginal Way & Franklin St. Art.

↙ p1	↑ p2	↔ p4	↘ p3
↓ p6	↖ p5	↗ p7	← p8

HCM Signalized Intersection Capacity Analysis
 49: Fox Street & Franklin St. Art.

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 12/20/2004

	↖	→	↗	↖	←	↗	↖	↑	↗	↘	↓	↘
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↗	↖	↗	↖	↗	↖
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Friction	1.00	0.96			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1787			1726	1599	1687	3563		1752	3552	
Flt Permitted	0.71	1.00			0.92	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1342	1787			1615	1599	1687	3563		1752	3552	
Volume (vph)	342	35	11	21	45	172	33	1396	24	171	848	35
Peak-hour factor, PHF	1.00	1.00	0.90	0.95	1.00	0.98	0.90	0.97	1.00	0.90	0.93	1.00
Adj. Flow (vph)	342	35	12	22	45	176	37	1439	24	190	912	35
RTOR Reduction (vph)	0	9	0	0	0	130	0	1	0	0	2	0
Lane Group Flow (vph)	342	38	0	0	67	46	37	1462	0	190	945	0
Heavy Vehicles (%)	1%	3%	0%	11%	7%	1%	7%	1%	5%	3%	1%	3%
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	26.0	26.0			26.0	26.0	3.6	48.4		13.6	58.4	
Effective Green, g (s)	26.0	26.0			26.0	26.0	3.6	48.4		13.6	58.4	
Actuated g/C Ratio	0.26	0.26			0.26	0.26	0.04	0.48		0.14	0.58	
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	349	465			420	416	61	1724		238	2074	
v/s Ratio Prot		0.02					0.02	c0.41		c0.11	0.27	
v/s Ratio Perm	c0.25				0.04	0.03						
v/c Ratio	0.98	0.08			0.16	0.11	0.61	0.85		0.80	0.46	
Uniform Delay, d1	36.7	28.0			28.6	28.2	47.5	22.6		41.9	11.8	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.12	0.97	
Incremental Delay, d2	42.2	0.1			0.2	0.1	15.9	5.4		13.7	0.6	
Delay (s)	79.0	28.1			28.7	28.3	63.4	28.0		60.4	12.0	
Level of Service	E	C			C	C	E	C		E	B	
Approach Delay (s)		72.8			28.4			28.9			20.1	
Approach LOS		E			C			C			C	

Intersection Summary

HCM Average Control Delay	31.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

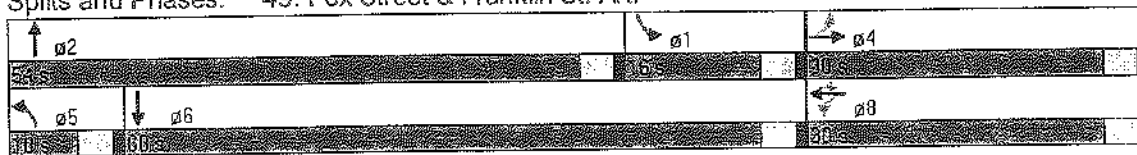
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	342	35	11	21	45	172	33	1396	24	171	846	35
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	1.00	1.00	0.90	0.95	1.00	0.98	0.90	0.97	1.00	0.90	0.93	1.00
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	0%	11%	7%	1%	7%	1%	5%	3%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	342	47	0	0	67	176	37	1463	0	190	947	0
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phases	4	4		8	8	8	5	2		1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	8.0	8.0	8.0	20.0		8.0	20.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	30.0	10.0	54.0	0.0	16.0	60.0	0.0
Total Split (%)	30.0%	30.0%	0.0%	30.0%	30.0%	30.0%	10.0%	54.0%	0.0%	16.0%	60.0%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
v/c Ratio	0.98	0.10			0.16	0.32	0.37	0.82		0.90	0.44	
Control Delay	81.9	23.2			29.9	6.3	55.8	26.0		80.7	7.3	
Queue Delay	0.0	0.0			0.0	0.1	0.0	113.1		0.0	0.5	
Total Delay	81.9	23.2			29.9	6.4	55.8	139.1		80.7	7.8	
Queue Length 50th (ft)	217	17			33	0	23	398		129	54	
Queue Length 95th (ft)	#398	46			69	50	56	497		#259	176	
Internal Link Dist (ft)		236			387			176			447	
Turn Bay Length (ft)	200					200	200			200		
Base Capacity (vph)	349	474			420	546	101	1784		210	2133	
Starvation Cap Reductn	0	0			0	0	0	0		0	687	
Spillback Cap Reductn	0	0			0	30	0	613		0	0	
Storage Cap Reductn	0	0			0	0	0	0		0	0	
Reduced v/c Ratio	0.98	0.10			0.16	0.34	0.37	1.25		0.90	0.65	

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 12 (12%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 49: Fox Street & Franklin St. Art.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	TH	T		T	T	T	T	TH		T	TH	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.90			1.00	0.85	1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3487	1693			1709	1599	1687	3563		1752	3554	
Flt Permitted	0.95	1.00			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3467	1693			1709	1599	1687	3563		1752	3554	
Volume (vph)	504	42	76	34	45	165	101	1340	24	171	948	35
Peak-hour factor, PHF	1.00	1.00	0.90	0.95	1.00	0.98	0.90	0.97	1.00	0.90	0.93	1.00
Adj. Flow (vph)	504	42	84	36	45	168	112	1381	24	190	1019	35
RTOR Reduction (vph)	0	71	0	0	0	153	0	1	0	0	3	0
Lane Group Flow (vph)	504	55	0	0	81	15	112	1404	0	190	1051	0
Heavy Vehicles (%)	1%	3%	0%	11%	7%	1%	7%	1%	5%	3%	1%	3%
Turn Type	Split		Split		Perm		Prot		Prot			
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	15.4	15.4			5.7	8.7	10.1	47.8		12.1	49.8	
Effective Green, g (s)	15.4	15.4			5.7	8.7	10.1	47.8		12.1	49.8	
Actuated g/C Ratio	0.15	0.15			0.09	0.09	0.10	0.48		0.12	0.50	
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	534	261			149	139	170	1703		212	1770	
v/s Ratio Prot	c0.15	0.03			c0.05		0.07	c0.39		c0.11	0.30	
v/s Ratio Perm						0.01						
v/c Ratio	0.94	0.21			0.54	0.11	0.66	0.82		0.90	0.59	
Uniform Delay, d1	41.9	37.0			43.7	42.1	43.3	22.5		43.3	17.9	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		0.92	0.71	
Incremental Delay, d2	25.5	0.4			4.0	0.3	8.9	4.7		30.0	1.2	
Delay (s)	67.4	37.4			47.8	42.4	52.2	27.2		69.7	13.9	
Level of Service	E	D			D	D	D	C		E	B	
Approach Delay (s)		61.4			44.1			29.0			22.4	
Approach LOS		E			D			C			C	
Intersection Summary												
HCM Average Control Delay			33.4		HCM Level of Service				C			
HCM Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)		16.0					
Intersection Capacity Utilization			78.3%		ICU Level of Service				D			
Analysis Period (min)			15									
c Critical Lane Group												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	504	42	76	34	45	165	101	1340	24	171	948	35
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	1.00	1.00	0.90	0.95	1.00	0.98	0.90	0.97	1.00	0.90	0.93	1.00
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	0%	11%	7%	1%	7%	1%	5%	3%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	504	126	0	0	81	168	112	1405	0	190	1054	0
Turn Type	Split			Split		Perm	Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						
Detector Phases	4	4		8	8	8	5	2		1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	19.4	19.4		8.0	8.0	8.0	8.0	20.0		8.0	20.0	
Total Split (s)	19.4	19.4	0.0	13.6	13.6	13.6	15.0	51.0	0.0	16.0	52.0	0.0
Total Split (%)	19.4%	19.4%	0.0%	13.6%	13.6%	13.6%	15.0%	51.0%	0.0%	16.0%	52.0%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
v/c Ratio	0.94	0.38			0.55	0.58	0.66	0.82		0.90	0.59	
Control Delay	70.1	18.6			54.1	14.3	57.2	27.7		93.8	32.4	
Queue Delay	19.6	0.0			0.0	16.8	0.0	1.0		0.0	0.7	
Total Delay	89.7	18.6			54.1	31.0	57.2	28.7		93.8	33.1	
Queue Length 50th (ft)	165	24			50	0	69	397		125	338	
Queue Length 95th (ft)	#265	77			98	61	#135	497		#256	376	
Internal Link Dist (ft)		236			387			176			447	
Turn Bay Length (ft)						200	200			200		
Base Capacity (vph)	534	332			164	305	186	1708		210	1775	
Starvation Cap Reductn	0	0			0	0	0	0		0	365	
Spillback Cap Reductn	46	0			0	119	0	118		0	0	
Storage Cap Reductn	0	0			0	0	0	0		0	0	
Reduced v/c Ratio	1.03	0.38			0.49	0.90	0.60	0.88		0.90	0.75	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 38 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green

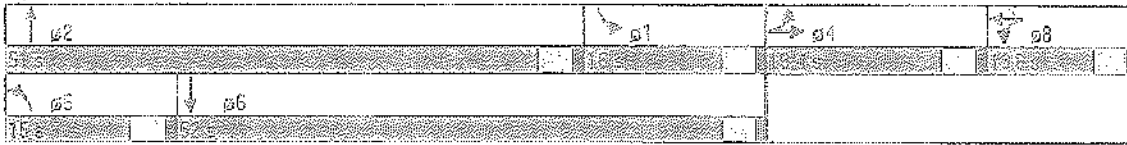
Natural Cycle: 90

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer

Queue shown is maximum after two cycles.

Splits and Phases: 49: Fox Street & Franklin St. Art.



	↖	→	↘	↙	←	↖	↘	↑	↗	↙	↓	↘
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕				↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	16	12	12	16	12	12	16	12
Grade (%)	2%			-2%				-4%			4%	
Total Lost time (s)	4.0			4.0				4.0			4.0	
Lane Util. Factor	1.00			1.00				1.00			1.00	
Frt	0.98			1.00				0.96			0.98	
Flt Protected	1.00			1.00				0.99			0.98	
Satd. Flow (prot)	2021			2141				2086			2014	
Flt Permitted	0.97			0.99				0.90			0.81	
Satd. Flow (perm)	1960			2119				1904			1660	
Volume (vph)	31	335	58	9	231	9	99	248	107	20	29	11
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	0.78	1.00	0.67	0.92	0.73	0.75	1.00	0.98
Adj. Flow (vph)	31	335	58	9	296	9	148	270	147	27	29	11
RTOR Reduction (vph)	0	11	0	0	2	0	0	18	0	0	5	0
Lane-Group Flow (vph)	0	413	0	0	312	0	0	547	0	0	62	0
Heavy Vehicles (%)	0%	4%	0%	3%	1%	0%	1%	0%	0%	0%	1%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	4			8				2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	15.8			15.8				28.3			28.3	
Effective Green, g (s)	15.8			15.8				28.3			28.3	
Actuated g/C Ratio	0.30			0.30				0.54			0.54	
Clearance Time (s)	4.0			4.0				4.0			4.0	
Vehicle Extension (s)	3.0			3.0				3.0			3.0	
Lane Grp Cap (vph)	594			643				1034			902	
v/s Ratio Prot												
v/s Ratio Perm	c0.21			0.15				c0.29			0.04	
v/c Ratio	0.70			0.49				0.53			0.07	
Uniform Delay, d1	16.0			14.8				7.6			5.6	
Progression Factor	1.00			1.00				1.00			1.00	
Incremental Delay, d2	3.5			0.6				1.9			0.1	
Delay (s)	19.6			15.4				9.6			5.8	
Level of Service	B			B				A			A	
Approach Delay (s)	19.6			15.4				9.6			5.8	
Approach LOS	B			B				A			A	
Intersection Summary												
HCM Average Control Delay	13.8		HCM Level of Service				B					
HCM Volume to Capacity ratio	0.59											
Actuated Cycle Length (s)	52.1		Sum of lost time (s)				8.0					
Intersection Capacity Utilization	70.0%		ICU Level of Service				C					
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings
125: Cumberland Ave. & Pearl Street

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12/20/2004

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		*			*			*			*	
Volume (vph)	31	335	58	9	231	9	99	248	107	20	29	11
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	1.00	1.00	1.00	1.00	0.78	1.00	0.67	0.92	0.73	0.75	1.00	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	0%	3%	1%	0%	1%	0%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	424	0	0	314	0	0	665	0	0	67	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	28.0	28.0	0.0	28.0	28.0	0.0	32.0	32.0	0.0	32.0	32.0	0.0
Total Split (%)	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
v/c Ratio		0.70			0.49			0.54			0.07	
Control Delay		17.8			15.6			10.8			6.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.8			15.6			10.8			6.8	
Queue Length 50th (ft)		108			76			90			7	
Queue Length 95th (ft)		182			108			225			28	
Internal Link Dist (ft)		499			369			433			337	
Turn Bay Length (ft)												
Base Capacity (vph)		791			849			1046			894	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.54			0.37			0.54			0.07	

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 52.1
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated

Splits and Phases: 125: Cumberland Ave. & Pearl Street

↖ p2	↗ p4
32s	20s
↘ p6	↙ p8
32s	28s

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	⇕			⇕			⇕			⇕		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	16	12	12	16	12	12	16	12
Grade (%)		2%			-2%			-4%			4%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Fr _t		0.98			0.98			0.97			0.97	
Fl _t Protected		0.99			1.00			0.99			0.98	
Satd. Flow (prot)		2021			2116			2091			2000	
Fl _t Permitted		0.94			0.99			0.89			0.70	
Satd. Flow (perm)		1909			2095			1883			1440	
Volume (vph)	46	322	56	9	222	41	95	262	103	48	39	24
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	0.78	1.00	0.67	0.92	0.73	0.75	1.00	0.98
Adj. Flow (vph)	46	322	56	9	285	41	142	285	141	64	39	24
RTOR Reduction (vph)	0	10	0	0	10	0	0	17	0	0	11	0
Lane Group Flow (vph)	0	414	0	0	325	0	0	551	0	0	116	0
Heavy Vehicles (%)	0%	4%	0%	3%	1%	0%	1%	0%	0%	0%	1%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		16.1			16.1			28.3			28.3	
Effective Green, g (s)		16.1			16.1			28.3			28.3	
Actuated g/C Ratio		0.31			0.31			0.54			0.54	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		587			644			1017			778	
v/s Ratio Prot												
v/s Ratio Perm		0.22			0.16			0.29			0.08	
v/c Ratio		0.70			0.51			0.54			0.15	
Uniform Delay, d1		16.0			14.9			7.8			6.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.8			0.6			2.1			0.4	
Delay (s)		19.9			15.5			9.9			6.4	
Level of Service		B			B			A			A	
Approach Delay (s)		19.9			15.5			9.9			6.4	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM Average Control Delay			13.8				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			52.4				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			74.9%				ICU Level of Service				D	
Analysis Period (min)			15									
c	Critical Lane Group											

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		*			*			*			*	
Volume (vph)	46	322	56	9	222	41	95	262	103	48	39	24
Confl. Feds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	1.00	1.00	1.00	1.00	0.78	1.00	0.67	0.92	0.73	0.75	1.00	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	0%	3%	1%	0%	1%	0%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	0	424	0	0	335	0	0	568	0	0	127	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	28.0	28.0	0.0	28.0	28.0	0.0	32.0	32.0	0.0	32.0	32.0	0.0
Total Split (%)	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
v/c Ratio		0.72			0.51			0.55			0.16	
Control Delay		18.1			15.3			11.2			7.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.1			15.3			11.2			7.1	
Queue Length 50th (ft)		109			79			94			14	
Queue Length 95th (ft)		185			113			230			47	
Internal Link Dist (ft)		499			369			433			337	
Turn Bay Length (ft)												
Base Capacity (vph)		770			846			1027			804	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.55			0.40			0.55			0.16	

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 52.4
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated

Splits and Phases: 125: Cumberland Ave. & Pearl Street

↑ p2	→ p4
32 s	28 s
↓ p6	← p8
32 s	28 s

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			-3%			0%	
Volume (veh/h)	8	0	5	21	9	33	4	384	72	84	26	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	9	0	6	23	10	37	4	427	80	93	29	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (ft)	1002											
pX, platoon unblocked												
vC, conflicting volume	733	731	29	697	691	467	29			507		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	733	731	29	697	691	467	29			507		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	99	93	97	94	100			91		
cM capacity (veh/h)	288	318	1049	331	336	598	1591			1063		
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	14	70	511	122								
Volume Left	9	23	4	93								
Volume Right	6	37	80	0								
cSH	400	433	1591	1063								
Volume to Capacity	0.04	0.16	0.00	0.09								
Queue Length 95th (ft)	3	14	0	7								
Control Delay (s)	14.3	14.9	0.1	6.8								
Lane LOS	B	B	A	A								
Approach Delay (s)	14.3	14.9	0.1	6.8								
Approach LOS	B	B										
Intersection Summary												
Average Delay				3.0								
Intersection Capacity Utilization				44.6%	ICU Level of Service	A						
Analysis Period (min)				15								

Movement	EBT	EBR	WBT	WBR	NBL	NBR
Lane Configurations	T		T		T	
Sign Control	Free		Free		Stop	
Grade	0%		0%		-3%	
Volume (veh/h)	92	13	97	84	117	308
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	102	14	108	93	130	342
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (vsh)	1					
Median type	None					
Median storage veh						
Upstream signal (ft)	596					
pX, platoon unblocked						
vC, conflicting volume			117		418	109
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			117		418	109
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tE (s)			2.2		3.5	3.3
p0 queue free %			93		76	64
cM capacity (veh/h)			1459		550	947
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	117	201	472			
Volume Left	0	108	130			
Volume Right	14	0	342			
cSH	1700	1459	1307			
Volume to Capacity	0.07	0.07	0.36			
Queue Length 95th (ft)	0	6	42			
Control Delay (s)	0.0	4.4	11.7			
Lane LOS	A		B			
Approach Delay (s)	0.0	4.4	11.7			
Approach LOS	A		B			
Intersection Summary						
Average Delay	8.1					
Intersection Capacity Utilization	31.4%					
ICU Level of Service	A					
Analysis Period (min)	15					

To: Lee URBAN

From: SANDY GOTTESMAN

slw
Rick
Whaddaya think?
Lee

RECEIVED AUG 10 2004



DATE: 8/10/04
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 SCALE: AS SHOWN

CONCEPT LAYOUT PLAN
 CP-7

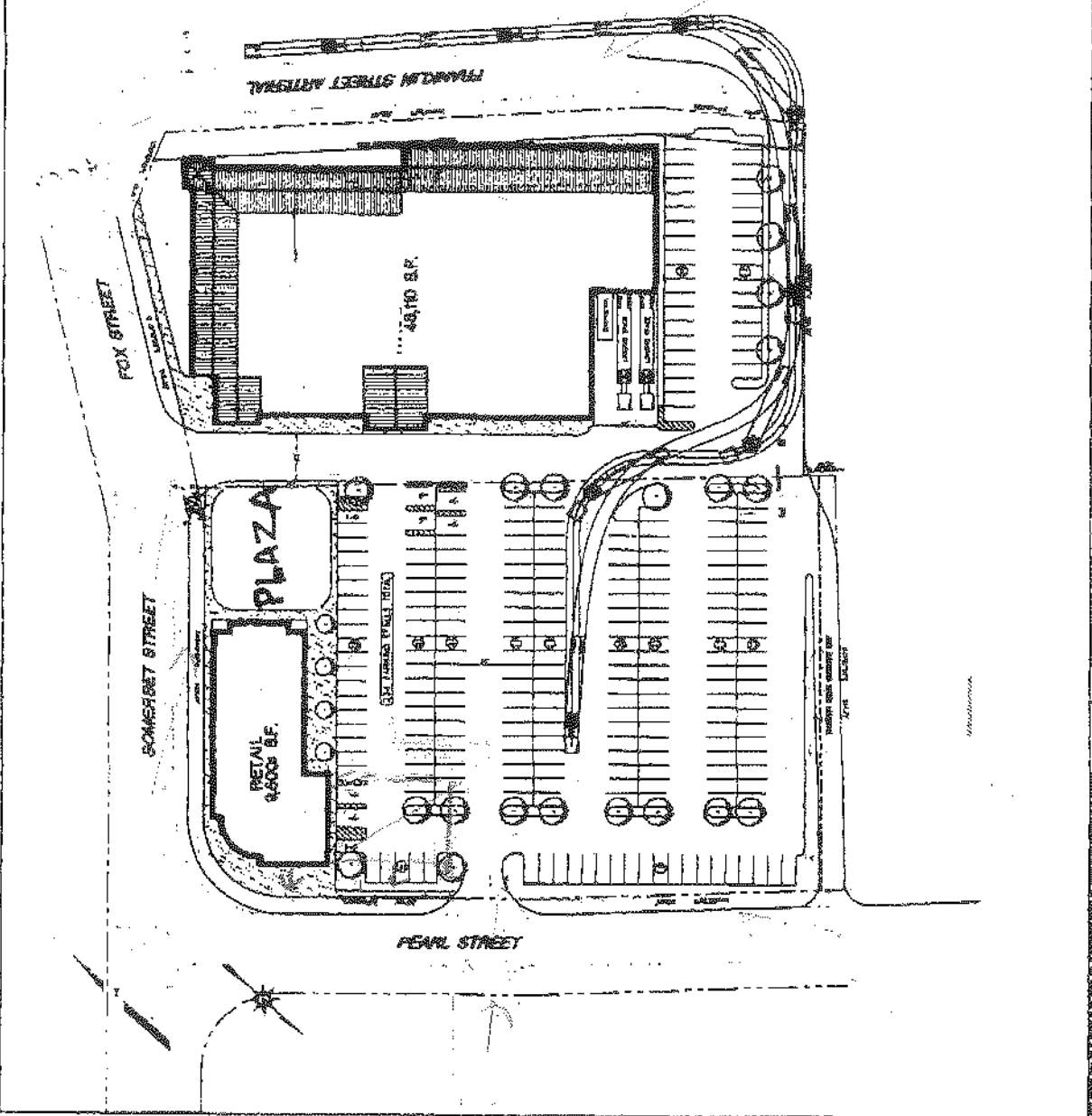
ACCESS INFORMATION

NO.	DESCRIPTION	REMARKS
1	Access to building from [Location]	See [Reference]
2	Access to parking area	See [Reference]
3	Access to [Location]	See [Reference]
4	Access to [Location]	See [Reference]
5	Access to [Location]	See [Reference]
6	Access to [Location]	See [Reference]
7	Access to [Location]	See [Reference]
8	Access to [Location]	See [Reference]
9	Access to [Location]	See [Reference]
10	Access to [Location]	See [Reference]

PARKING INFORMATION

NO.	DESCRIPTION	REMARKS
1	Number of parking spaces	1,412
2	Number of handicapped spaces	24
3	Number of bicycle spaces	11
4	Number of motor vehicle spaces	1,377
5	Number of car spaces	1,377
6	Number of truck spaces	1,377
7	Number of bus spaces	1,377
8	Number of van spaces	1,377
9	Number of motorcycle spaces	1,377
10	Number of other spaces	1,377

GENERAL NOTES:
 1. All dimensions are in feet and inches.
 2. All elevations are in feet above mean sea level.
 3. All materials shall be as specified in the contract documents.
 4. All work shall be in accordance with the contract documents.
 5. All work shall be completed by the specified date.





Gorrill-Palmer Consulting Engineers, Inc.

Traffic 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

December 23, 2004

Mr. Rick Knowland
City of Portland
389 Congress Street
Portland, ME 04101

RE: Somerset Market Place
Response to Traffic Comments

Dear Rick:

Gorrill-Palmer Consulting Engineers, Inc. is pleased to respond to the review comments made by Tom Errico of Wilbur-Smith Associates we received via email on December 16th regarding the above referenced project. We are also providing more information regarding his earlier comments. For ease of review, each comment has been repeated below followed by our response.

Please note that since our prior response, the postdevelopment analyses have been revised to include improvements at the intersection of Marginal Way and Franklin Street Arterial. In addition, the site driveway on Somerset/Fox Street has been modified to provide an entry for right turning vehicles only; this approach will be channelized so as to prohibit left turns from entering the site at this location. The turning movement diagrams have been revised to reflect this modification.

Comment 1 – The level of service conclusions (level of service grade and delay) should be HCM based. Please revise the conclusions according the HCM output in the Synchro program.

Response – The HCM-based capacity printouts are enclosed with this letter. In addition, revised LOS tables are enclosed for the signalized study area intersections.

Comment 2 – Please provide the backup trip generation calculations that results in the estimate in Section III on page 5.

Response – A copy of the trip generation calculations is enclosed with this letter.

Comment 3 – I was surprised at the estimate of traffic volume that is projected to turn left from Chestnut Street onto Marginal Way. Can you provide some documentation on how this was derived? Is this connection in the PACTS model? It may be helpful to get Kevin Hooper to provide the data.

Mr. Rick Knowland
December 23, 2004
Page 2 of 4

Response – Based on a conversation with Kevin Hooper, the volumes at this location not only include assignment of traffic from nearby streets, but also traffic from the Bayside redevelopment plan. Based on Kevin's comments, the turning volumes at the intersection were halved to reflect volumes for the current development levels of Bayside. This change does not have an effect on the relocation of existing volumes from Franklin Street Arterial. The "other development" sheet has been revised to reflect this change.

Comment 4 – With the proposed connection to the site off of Franklin Arterial, I would expect that non-site related traffic will use this connection. Has this been accounted for in the volume forecasts?

Response – Based on the postdevelopment volumes utilized for this project, the existing volumes likely to be redistributed to the site connection are right turns from Franklin Street Arterial southbound to Somerset/Fox Street. In addition, right turns from Franklin Street Arterial southbound to Cumberland Avenue may utilize this connection. These volumes total approximately 70 in the PM peak hour. Based on turning movements at Somerset and Pearl as well as Cumberland and Pearl, approximately 48% of the right turns onto Somerset may use this connection and 16% of the right turns to Cumberland may use this connection, for a total of 23 vehicles. Assuming half of these eligible vehicles change their route to use the connection, 12 vehicles would be rerouted. As this volume results in only intermittent changes to the traffic flow, it is the opinion of our office that these volumes do not warrant reassignment for the purposes of the traffic impact study.

Comment 5 – The Synchro calculations have some movements that have Peak Hour Factor of 1.00. Please provide justification for use of such factors. It is my suggestion that you use factors that are based upon existing flow characteristics.

Response – Our office utilizes the overall peak 15 minute period of total entering volumes at an intersection for the purposes of determining peak hour factors. It is our opinion that utilization of a single 15-minute period results in more accurate results in terms of capacity analysis. In addition, our office calculates peak hour factors by movement based on the overall peak of the intersection. In the event that a movement does not experience its peak during the overall intersection peak, the peak hour factor is in fact greater than 1.00, in which case the value is truncated at 1.00. Therefore, this methodology results in conservative results for the overall peak 15-minute period.

Comment 6 – The Synchro calculation at the Franklin Arterial/Somerset Street intersection indicates Franklin Arterial will have a dual left-turn phase (northbound and southbound left turn movements move on the same phase). I believe the current system has Lead/Lag phasing, which it related to overlap issues for vehicle turning paths due to the wide center median.

Response – Our office concurs with this assessment. Furthermore, as the lead/lag phasing may prove beneficial for pedestrians given the split nature of the crossing, the revised printouts reflect the retention of this phase structure.

In addition to the above responses, our office has prepared additional responses to comments issued by Tom Errico in his email of December 10th.

December 10th Comment 2 - I do not agree with the stated conclusion that "The level of service analyses shows that site traffic can be accommodated by the existing street system with the construction of an additional left turn lane for the Somerset Street approach onto Franklin Street Arterial". Level of service conclusions noted that both the Franklin / Arterial/Fox Street/Somerset Street and Franklin Arterial/Marginal Way intersections will operate at unacceptable levels of service following build-out of the project with proposed mitigation. Mitigation improvements should be recommended that improve the above mentioned study intersections such that they operate at acceptable levels of service.

Response - The following additional improvements have been considered in association with this project:

Marginal Way/Franklin Street Arterial

- Modifying of the eastbound approach to include a 125-foot right turn lane, resulting in an exclusive left turn lane, through lane, and right turn lane.
- Widening of the westbound approach to include a 100-foot right turn lane, resulting in an exclusive left turn lane, through lane, and right turn lane.
- Signal improvements/modifications including protected/permitted operation for Marginal Way westbound.

Gorrill-Palmer Consulting Engineers, Inc. does not recommend the above improvements since they are not consistent with the long-term vision of the Peninsula Study.

Somerset Street/Fox Street/Franklin Street Arterial

- Extend northbound left turn lane to 200 feet
- Extend southbound left turn lane to 200 feet

As stated previously, updated LOS printouts (based on the HCM methodology, as requested) are enclosed with this letter.

December 10th Comment 4 - A plan should be provided that illustrates how the proposed project will be compatible with draft improvements from the Portland Peninsula Traffic Study.

Response - A plan illustrating the requested areas was provided at the December 14th Planning Board meeting and is enclosed with this letter.

Mr. Rick Knowland
December 23, 2004
Page 4 of 4

December 10th Comment 6 - The Applicant should provide a summary table of vehicles queues at the study intersections following build-out of the project. This table should also note existing lane storage conditions.

Response – Please refer to the enclosed queue tables with this letter. Based on the results, the left turn lanes on Franklin Street Arterial at Fox/Somerset Street will be extended to reflect the 95th percentile queue lengths.

December 10th Comment 7 - The evaluation of operations at the Franklin Arterial/Fox Street/Somerset Street and Franklin Arterial/Marginal Way intersections should account for unequal vehicle distribution on Franklin Arterial in the northbound direction. Due to heavy traffic movements to I-295 northbound, a higher percentage of vehicles travel in the curbside lane.

Response – Based on the information provided in the Portland Peninsula Plan, there is approximately a ten percent imbalance between northbound and southbound volumes heading onto I-295 from Franklin Street Arterial. This imbalance has been reflected in the revised analysis, with the lane utilization factor reduced to 0.85.

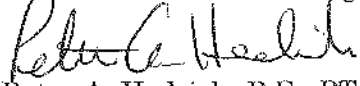
December 10th Comment 9 - Modifications/recommendations to the existing traffic signals that are proposed need to be specifically detailed. For example, the pedestrian equipment will be modified at the Franklin Arterial/Fox Street/Somerset Street intersection. What is specifically changing relative to signal equipment, vehicle phases, pedestrian phases, signal coordination, crosswalks, curb ramps, etc.?

Response – This information is provided on the plan enclosed with this letter.

Gorrill-Palmer Consulting Engineers, Inc. appreciates the opportunity to respond to these comments and looks forward to your review of our responses. Should you have any questions or require any additional information, please feel free to contact me.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.


Peter A. Hedrich, P.E., PTOE
Vice President of Transportation

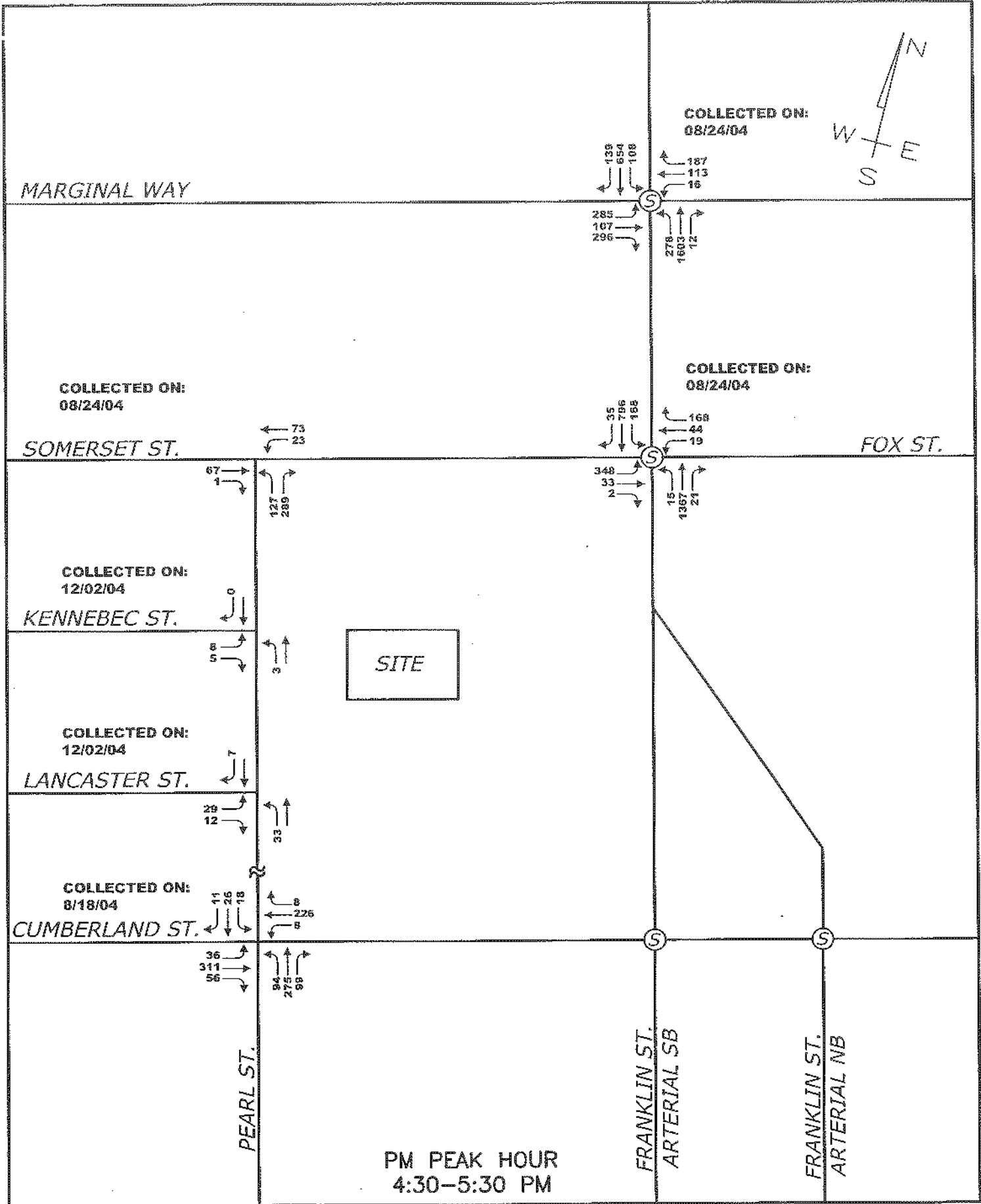
Enclosure

CC: Tom Errico, Wilbur-Smith Associates
Sandy Gottesman
Jan Wiegman

PAH/jjb/JN1021.01/KnowlandC&R12-20-04.doc



Turning Movement Diagrams



Design: JJB	Date: DEC 04
Draft: DB	Job No.: 1021
Checked: RLB	Scale: NONE
File Name: 1021-traffic.dwg	

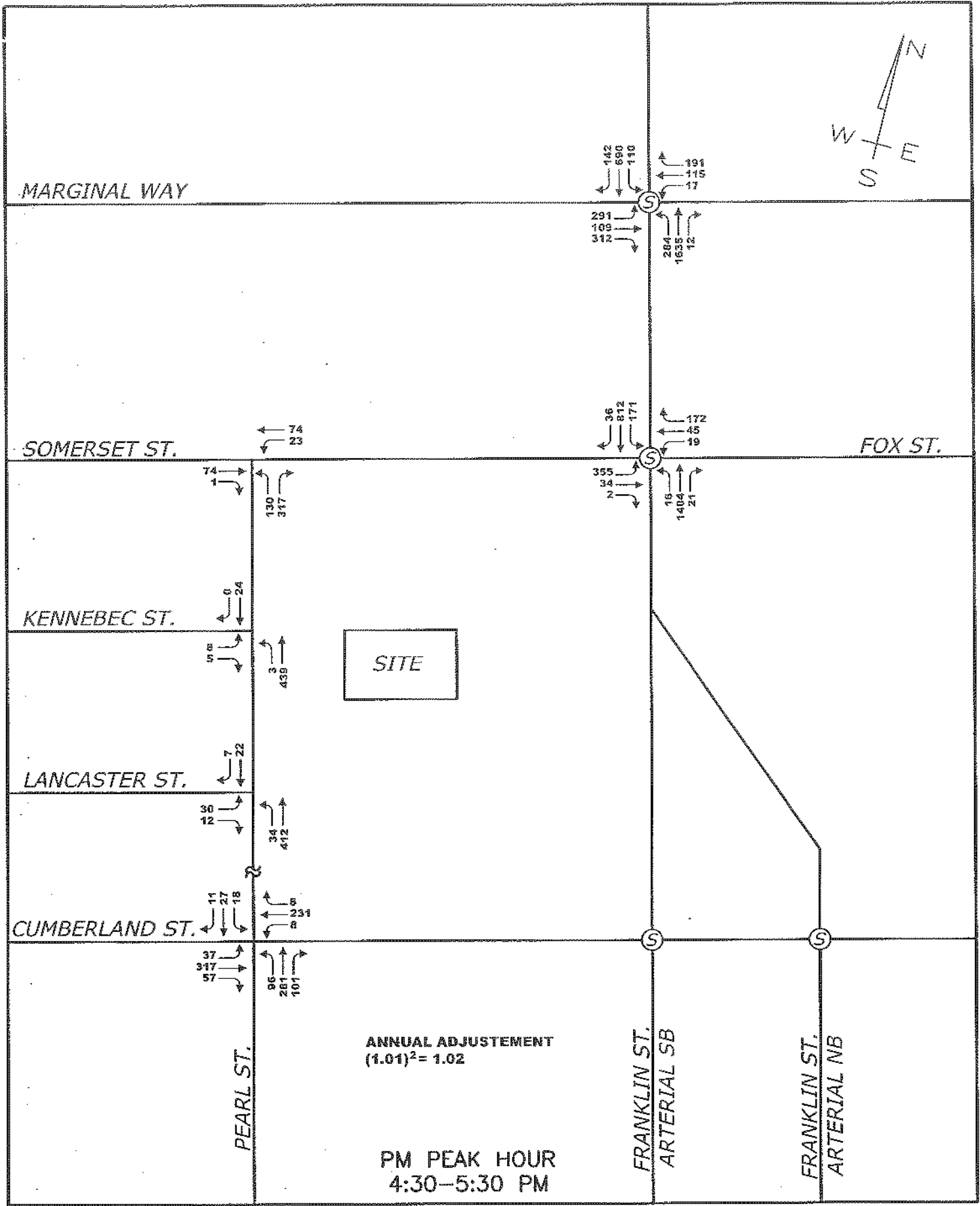
GP Gorrill-Palmer Consulting Engineers, Inc.
Traffic and Civil Engineering Services

PO Box 1237 Phone: 207-657-6910
15 Shaker Road Fax: 207-657-6912
Gray, ME 04039 Email: mailbox@gorrillpalmer.com

Drawing Name: **Raw Volumes**

Project: **PROPOSED RETAIL CENTER
PORTLAND, MAINE**

Figure No.
2



Design: JJB	Date: DEC 04
Draft: DB	Job No.: 1021
Checked: RLB	Scale: NONE
File Name: 1021-traffic.dwg	

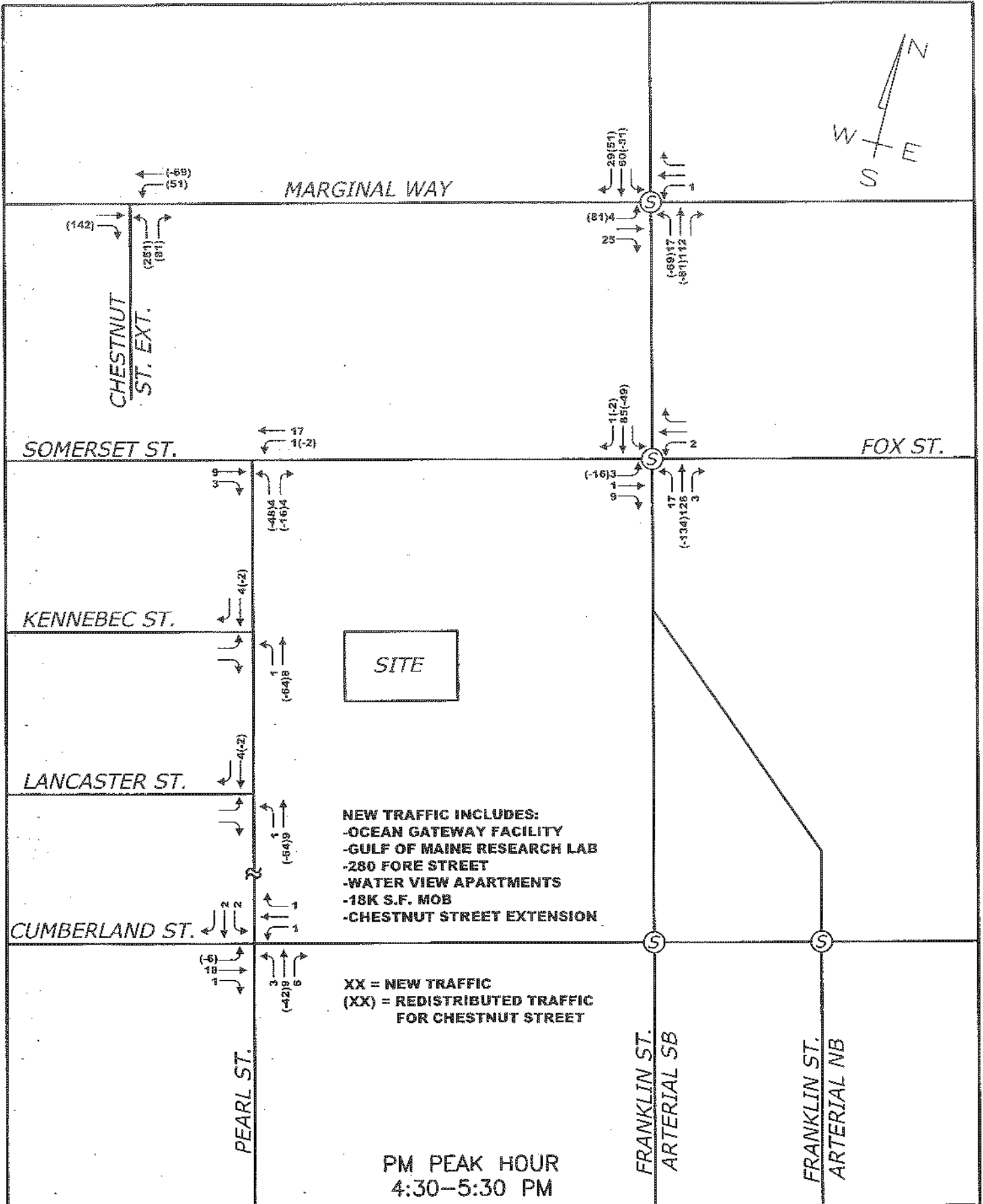
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 15 Shaker Road Fax: 207-657-6912
 Gray, ME 04039 Email: mailbox@gorrillpalmer.com

Drawing Name: **2006 Adjusted & Balanced Volumes**

Project: **PROPOSED RETAIL CENTER PORTLAND, MAINE**

Figure No.
3



Design: JJB	Date: DEC 04
Draft: DB	Job No.: 1021
Checked: RLB	Scale: NONE
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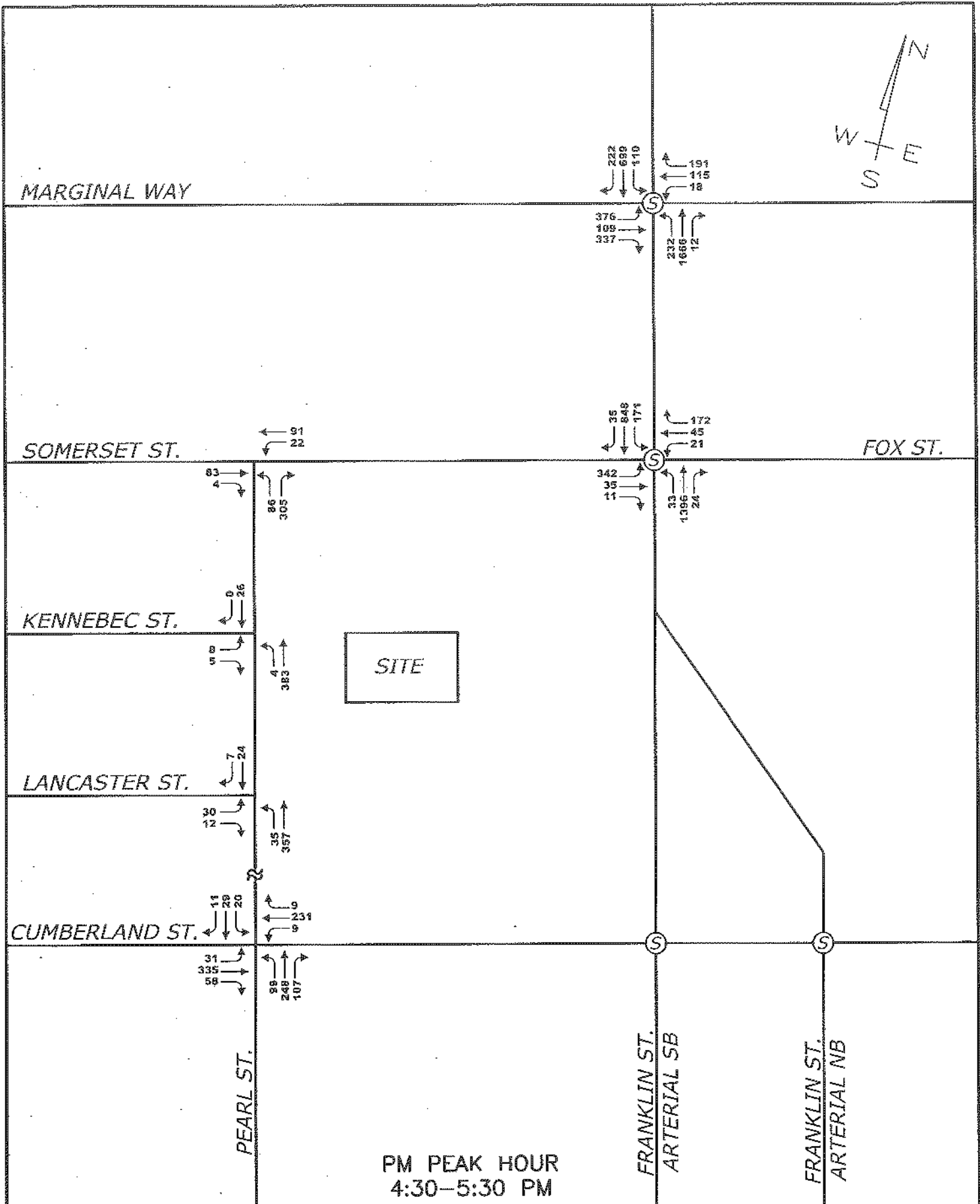
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 Traffic and Civil Engineering Services

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 Gray, ME 04039 Email: mailbox@gorrilpalmer.com

Drawing Name: **Other Development**

Project: **PROPOSED RETAIL CENTER
 PORTLAND, MAINE**

Figure No. **4**



Design: JJB	Date: DEC 04
Draft: DB	Job No.: 1021
Checked: RLB	Scale: NONE
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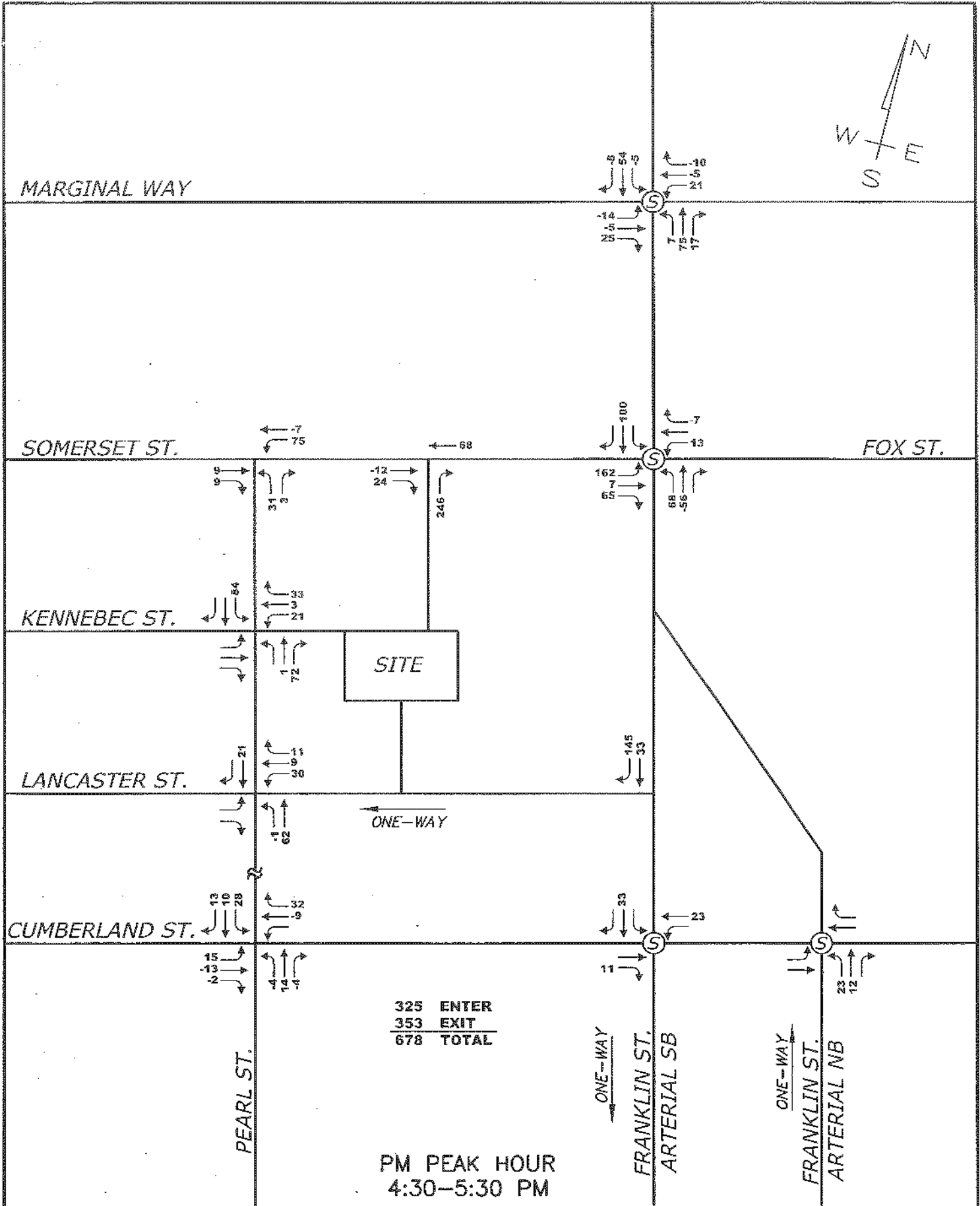
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Drawing Name:
2006 Predevelopment Volumes

Project: **PROPOSED RETAIL CENTER
PORTLAND, MAINE**

Figure No.
5

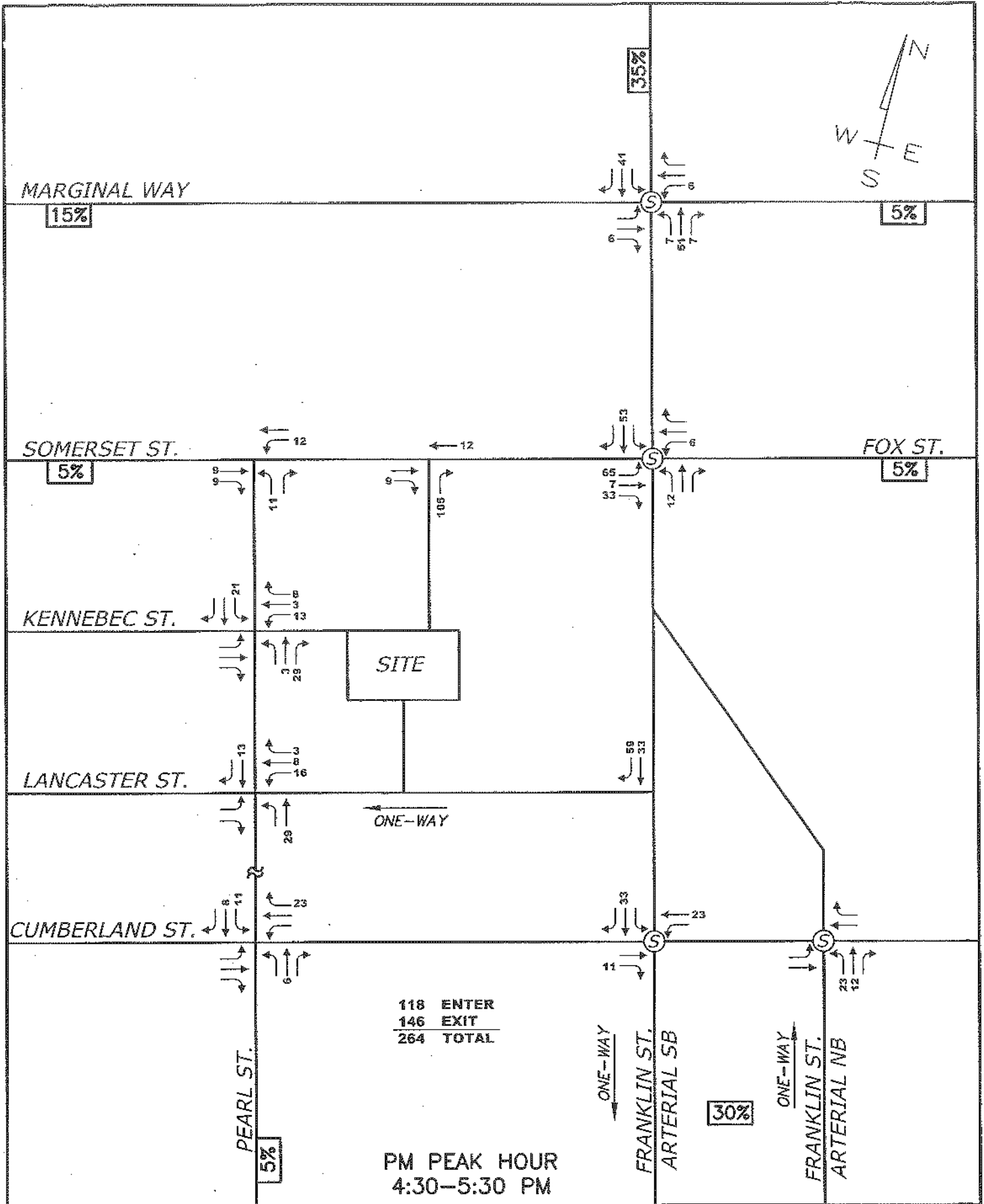


Design: JJB	Date: DEC 04
Draft: DB	Job No.: 1021
Checked: RLB	Scale: NONE
File Name: 1021-traffic.dwg	


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 15 Shaker Road Fax: 207-657-6912
 Gray, ME 04039 Email: mailto:mail@gorrillpalmer.com

Drawing Name: **Trip Assignment**
 Project: **PROPOSED RETAIL CENTER PORTLAND, MAINE**

Figure No. **6**



Design: JJB	Date: DEC 04
Draft: DB	Job No.: 1021
Checked: RLB	Scale: NONE
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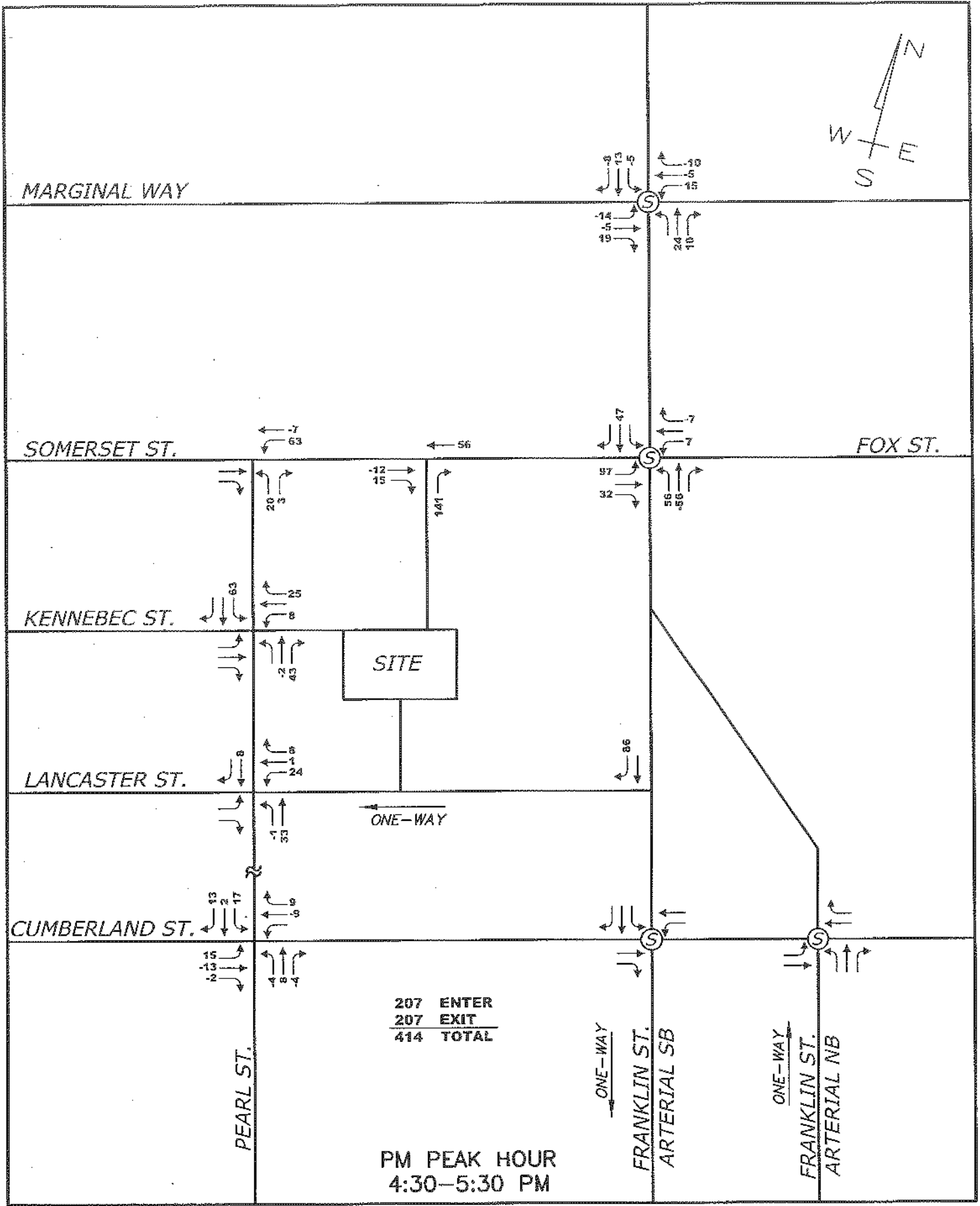
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 15 Shaker Road Fax: 207-657-6912
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Drawing Name: **Primary Trips**

Project: **PROPOSED RETAIL CENTER
 PORTLAND, MAINE**

Figure No. **6A**



Design: JJB	Date: DEC 04
Draft: DB	Job No.: 1021
Checked: RLB	Scale: NONE
File Name: 1021-trait.dwg	

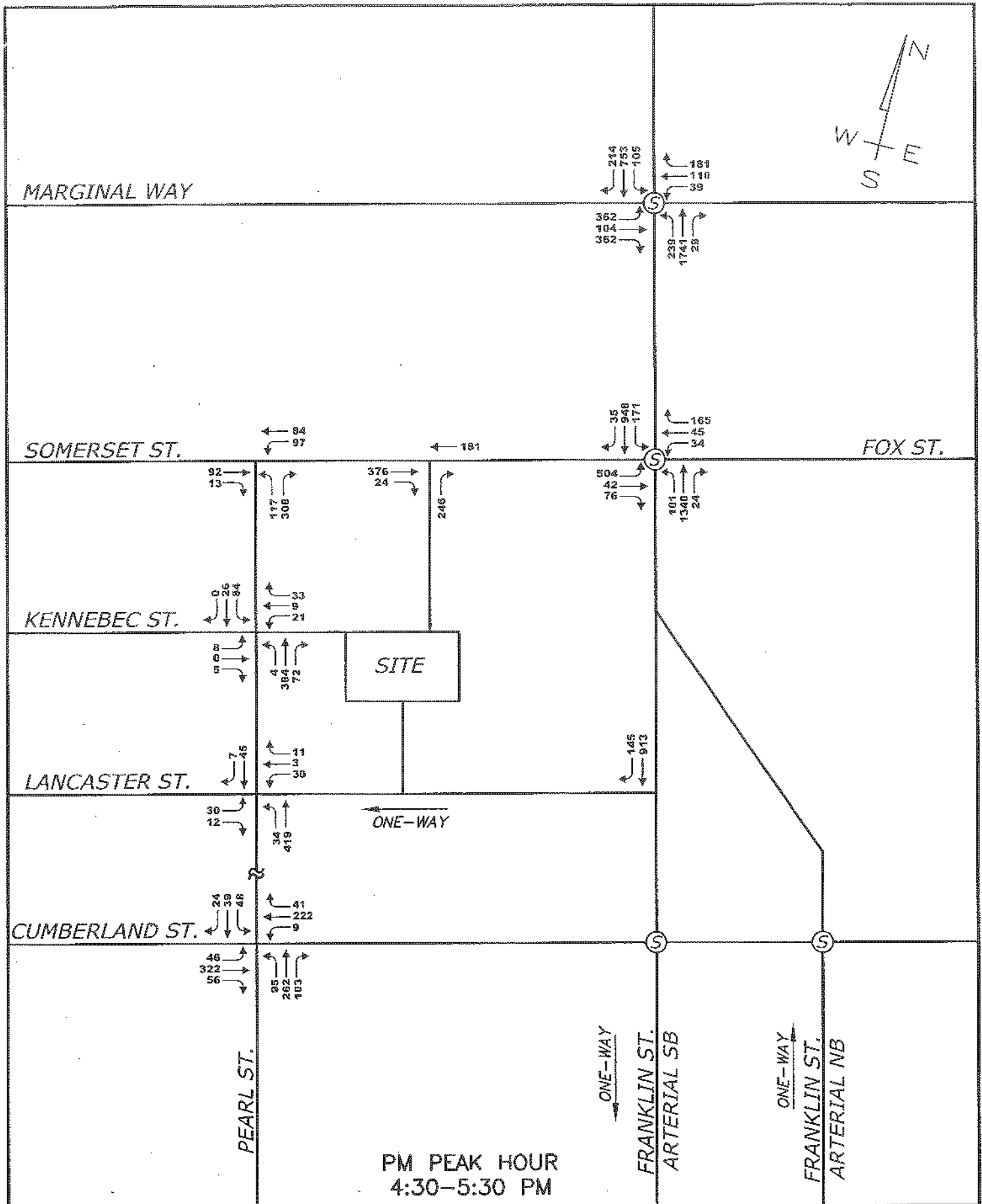
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15 Shaker Road Fax: 207-657-6912
Gray, ME 04039 Email: mailbox@gorrillpalmer.com

Drawing Name: **Secondary Trips**

Project: **PROPOSED RETAIL CENTER
PORTLAND, MAINE**

Figure No. **6B**



Design: JJB	Date: DEC 04
Draft: DB	Job No.: 1021
Checked: RLB	Scale: NONE
File Name: 1021-traffic.dwg	

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Traffic and Civil Engineering Services

PO Box 1237 Phone: 207-657-6910
15 Shaker Road Fax: 207-657-6912
Gray, ME 04038 Email: mailbox@gorrillpalmer.com

Drawing Name: 2006 Postdevelopment Volumes

Project: PROPOSED RETAIL CENTER
PORTLAND, MAINE

Figure No. 7

LOS/Queue Summary Tables

Level of Service Summary Based on HCM

Level of Service for Franklin Street Arterial at Marginal Way/I-295 Ramps

Lane Group	2006 PM Peak Hour			
	Predevelopment		Postdevelopment	
	Delay	LOS	Delay	LOS
Marginal Way EB Left	N/A	N/A	>80	F
Marginal Way EB Left/Through	>80	F	N/A	N/A
Marginal Way EB Through	N/A	N/A	35	D
Marginal Way EB Right	21	C	34	C
Marginal Way WB Left	N/A	N/A	40	D
Marginal Way WB Left/Through	21	C	N/A	N/A
Marginal Way WB Through	N/A	N/A	43	D
Marginal Way WB Right	20	C	40	D
Franklin St. Art. NB Left	>80	F	36	D
Franklin St. Art. NB Through/Right	>80	F	>80	F
Franklin St. Art. SB Left	>80	F	>80	F
Franklin St. Art. SB Through	28	C	28	C
Franklin St. Art. SB Right	26	C	25	C
Overall	90	F	69	E

Based on the above analysis, the overall operations at this location are expected to improve following the improvements proposed as part of this project (Separate L,T,R lanes on Marginal Way approaches). Overall intersection delay is reduced. Although some movements still experience delay, this is acceptable in an urban compact area per MaineDOT traffic movement rules.

Level of Service for Franklin Street Arterial at Fox/Somerset Street

Lane Group	2006 PM Peak Hour			
	Predevelopment		Postdevelopment	
	Delay	LOS	Delay	LOS
Fox/Somerset St. EB Left	79	E	67	E
Fox/Somerset St. EB Through/Right	28	C	37	D
Fox/Somerset St. WB Left/Through	29	C	48	D
Fox/Somerset St. WB Right	28	C	42	D
Franklin St. Art. NB Left	63	E	52	D
Franklin St. Art. NB Through/Right	28	C	27	C
Franklin St. Art. SB Left	60	E	70	E
Franklin St. Art. SB Through/Right	12	B	22	C
Overall	31	C	33	C

With the addition of dual left turn lanes from Somerset Street to Franklin Street, the traffic from the site can be mitigated. It should be noted that delay does not increase for the northbound through movement on Franklin Street Arterial. Although some movements still experience delay, this is acceptable in an urban compact area per MaineDOT traffic movement rules.

Level of Service for Pearl Street at Cumberland Avenue

Lane Group	2006 PM Peak Hour			
	Predevelopment		Postdevelopment	
	Delay	LOS	Delay	LOS
Cumberland Ave. EB Left/Through/Right	20	B	20	B
Cumberland Ave. WB Left/Through/Right	15	B	16	B
Pearl St. NB Left/Through/Right	10	A	10	A
Pearl St. SB Left/Through/Right	6	A	6	A
Overall	14	B	14	B

Based on the above table, this intersection operates acceptably for both predevelopment and postdevelopment scenarios. Addition of site-generated traffic does not affect the level of service at this location.

Level of Service for Pearl Street at Lancaster Street (Unsignalized)

Lane Group	2006 PM Peak Hour			
	Predevelopment		Postdevelopment	
	Delay	LOS	Delay	LOS
Lancaster St. EB Left/Right	12	B	13	B
Lancaster Ext. WB Left/Through/Right	N/A	N/A	14	B
Pearl St. NB Left/Through	1	A	1	A
Pearl St. SB Through/Right	<1	A	<1	A

Based on the above table, this intersection operates acceptably for both predevelopment and postdevelopment scenarios. Addition of site-generated traffic does not affect the level of service at this location.

Level of Service for Pearl Street at Kennebec Street (Unsignalized)

Lane Group	2006 PM Peak Hour			
	Predevelopment		Postdevelopment	
	Delay	LOS	Delay	LOS
Kennebec St. EB Left/Through/Right	10	B	14	B
Site Full Access WB Left/Through/Right	N/A	N/A	15	B
Pearl St. NB Left/Through/Right	<1	A	<1	A
Pearl St. SB Left/Through/Right	<1	A	7	A

Based on the above table, this intersection operates acceptably for both predevelopment and postdevelopment scenarios. Addition of site-generated traffic does not affect the level of service at this location.

Level of Service for Pearl Street at Somerset Street (Unsignalized)

Lane Group	2006 PM Peak Hour			
	Predevelopment		Postdevelopment	
	Delay	LOS	Delay	LOS
Somerset St. EB Through/Right	<1	A	<1	A
Somerset WB Left/Through	2	A	4	A
Pearl St. NB Left/Right	11	B	12	B

Based on the previous table, this intersection operates acceptably for both predevelopment and postdevelopment scenarios. Addition of site-generated traffic does not affect the level of service at this location.

Level of Service Somerset/Fox Street at Site Right-Turn Drive (Unsignalized)

Lane Group	2006 PM Peak Hour			
	Predevelopment		Postdevelopment	
	Delay	LOS	Delay	LOS
Somerset St. EB Through	N/A	N/A	<1	A
Somerset WB Through	N/A	N/A	<1	A
Site Drive NB Right	N/A	N/A	12	B

Based on the above table, this proposed intersection is anticipated to operate acceptably.

95th Percentile Queue Summary Based on Synchro

Queuing for Franklin Street Arterial at Marginal Way/I-295 Ramps

Lane Group	Length Available	2006 PM Peak Hour	
		Predevelopment	Postdevelopment
Marginal Way EB Left	N/A	N/A	450'
Marginal Way EB Left/Through	N/A	550'	N/A
Marginal Way EB Through	N/A	N/A	125'
Marginal Way EB Right	100'	75'	100'
Marginal Way WB Left	N/A	N/A	50'
Marginal Way WB Left/Through	N/A	100'	N/A
Marginal Way WB Through	N/A	N/A	125'
Marginal Way WB Right	100'	50'	100'
Franklin St. Art. NB Left	250'	300'	200'
Franklin St. Art. NB Through/Right	525'	925'	925'
Franklin St. Art. SB Left*	100'	175'	175'
Franklin St. Art. SB Through	N/A	275'	300'
Franklin St. Art. SB Right*	100'	100'	50'

*Lengths Constrained by I-295 NB Off-Ramp.

Based on the above analysis, northbound and southbound queues along Franklin Street Arterial spill back into adjacent intersections. Improvements associated with the Portland Peninsula Plan will address these issues. Stacking on Marginal Way can be accommodated by the proposed improvements associated with this project.

Queuing for Franklin Street Arterial at Fox/Somerset Street

Lane Group	Length Available	2006 PM Peak Hour	
		Predevelopment	Postdevelopment
Fox/Somerset St. EB Left	275'	400'	275'
Fox/Somerset St. EB Through/Right	N/A	50'	75'
Fox/Somerset St. WB Left/Through	N/A	75'	100'
Fox/Somerset St. WB Right	75'	50'	75'
Franklin St. Art. NB Left	150'	75'	150'
Franklin St. Art. NB Through/Right	1200'	500'	500'
Franklin St. Art. SB Left	250'	250'	250'
Franklin St. Art. SB Through/Right	525'	175'	375'

The proposed storage lengths are forecast to provide sufficient stacking distance to accommodate forecast queues.

Queuing for Pearl Street at Cumberland Avenue

Lane Group	Length Available	2006 PM Peak Hour	
		Predevelopment	Postdevelopment
Cumberland Ave. EB Left/Th/Right	N/A	200'	200'
Cumberland Ave. WB Left/Th/Right	N/A	100'	125'
Pearl St. NB Left/Through/Right	N/A	225'	225'
Pearl St. SB Left/Through/Right	N/A	25'	50'

Based on the above table, queuing is not significantly affected by addition of site-generated traffic.

HCM/Synchro Results

	→	↘	↙	←	↗	↖
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↓			↑		↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	376	24	0	181	0	246
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	418	27	0	201	0	273
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type None						
Median storage veh						
Upstream signal (ft) 316						
pX, platoon unblocked						
vC, conflicting volume 444 632 222						
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol 444 632 222						
tC, single (s) 4.1 6.8 6.9						
tC, 2 stage (s)						
tF (s) 2.2 3.5 3.3						
p0 queue free % 100 100 65						
cM capacity (veh/h) 1119 415 784						
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	279	166	201	273		
Volume Left	0	0	0	0		
Volume Right	0	27	0	273		
cSH	1700	1700	1700	784		
Volume to Capacity	0.16	0.10	0.12	0.35		
Queue Length 95th (ft)	0	0	0	39		
Control Delay (s)	0.0	0.0	0.0	12.0		
Lane LOS					B	
Approach Delay (s)	0.0	0.0		12.0		
Approach LOS					B	
Intersection Summary						
Average Delay				3.6		
Intersection Capacity Utilization	33.1%			ICU Level of Service	A	
Analysis Period (min)	15					

Trip Generation Calculations

JN: 1021.01
 Project Description: Gottesman Company
 Project Location: Franklin St, Portland, ME
 Date: 11/5/2004

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

**Warehousing
 Land Use Code (LUC) 150**

Gross Floor Area (ft²): 121,000

Fitted Curve

Time Period	ITE Trip Rate	Trip Ends	Directional Split*		Directional Distribution	
			IN	OUT	IN	OUT
Weekday	$T = 3.86 (X) + 350.27$	817	50%	50%	409	408
AM Peak Adjacent Street	$\ln(T) = 0.71 \ln(X) + 1.15$	95	80%	20%	76	19
PM Peak Adjacent Street	$\ln(T) = 0.79 \ln(X) + 0.54$	76	25%	75%	19	57
AM Peak of Generator	$T = 0.39 \ln(X) + 63.12$	65	60%	40%	39	26
PM Peak of Generator	$T = 0.46 \ln(X) + 53.12$	55	10%	90%	6	49
Saturday	---	---	50%	50%	---	---
Saturday Peak Hour of Gen.	---	---	65%	35%	---	---

*Percentages rounded to nearest 5%

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Directional Split*		Directional Distribution	
			IN	OUT	IN	OUT
Weekday	$T = 4.96 (X)$	600	50%	50%	300	300
AM Peak Adjacent Street	$T = 0.45 (X)$	54	80%	20%	43	11
PM Peak Adjacent Street	$T = 0.47 (X)$	57	25%	75%	14	43
AM Peak of Generator	$T = 0.57 (X)$	69	60%	40%	41	28
PM Peak of Generator	$T = 0.61 (X)$	74	10%	90%	7	67
Saturday	$T = 1.22 (X)$	148	50%	50%	74	74
Saturday Peak Hour of Gen.	$T = 0.12 (X)$	15	65%	35%	10	5

*Percentages rounded to nearest 5%

JN: 1021.1
 Project Description: Franklin/Fox Site
 Project Location: Portland
 Date: 10/15/2004

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

**General Office Building
 Land Use Code (LUC) 710**

Gross Floor Area (ft²): 14,470

Time Period	ITE Trip Rate	Trip Ends	Directional Split *		Directional Distribution	
			IN	OUT	IN	OUT
Weekday	$\ln(T) = 0.77 \ln(X) + 3.65$	301	50%	50%	151	150
AM Peak Hour	$\ln(T) = 0.80 \ln(X) + 1.55$	40	90%	10%	36	4
AM Peak Hour	$T = 1.55 (X)$	22	90%	10%	20	2
PM Peak Hour	$T = 1.12 (X) + 78.81$	95	15%	85%	14	81
PM Peak Hour	$T = 1.49 (X)$	22	15%	85%	3	19
Saturday	$T = 2.14 (X) + 18.47$	49	50%	50%	25	24
Peak Hour of Generator	$\ln(T) = 0.81 \ln(X) - 0.12$	8	55%	45%	4	4

* Percentages rounded to nearest 5%

Note: GPCEI based the PM Peak Hour trip generation on a ratio of AM to PM peak hour trip generation using the average rate. Therefore, the PM peak hour trip generation was estimated to be 40 trips, with a distribution of 6 In and 34 Out.

JN: 1021.1
 Project Description: Franklin/Fox Site
 Project Location: Portland
 Date: October 15, 2004

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

**Shopping Center
 Land Use Code (LUC) 820**

Gross Floor Area (ft²): 79,040 14,470

Trip Ends Based on Fitted Curve Equation

Time Period	ITE Trip Rate	Trip Ends	Directional Split *		Directional Distribution	
			IN	OUT	IN	OUT
Weekday	$\ln(T) = 0.65 \ln(X) + 5.83$	5828	50%	50%	2914	2914
AM Peak Adjacent Street	$\ln(T) = 0.60 \ln(X) + 2.29$	136	60%	40%	82	54
PM Peak Adjacent Street	$\ln(T) = 0.66 \ln(X) + 3.40$	536	50%	50%	268	268
Saturday	$\ln(T) = 0.63 \ln(X) + 6.23$	7967	50%	50%	3984	3983
Saturday Peak Hour of Gen.	$\ln(T) = 0.65 \ln(X) + 3.77$	743	50%	50%	372	371

* Percentages rounded to nearest 5%

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Directional Split *		Directional Distribution	
			IN	OUT	IN	OUT
Weekday	$T = 42.94 (X)$	3394	50%	50%	1697	1697
AM Peak Adjacent Street	$T = 1.03 (X)$	81	60%	40%	49	32
PM Peak Adjacent Street	$T = 3.75 (X)$	296	50%	50%	148	148
Saturday	$T = 49.97 (X)$	3950	50%	50%	1975	1975
Saturday Peak Hour of Gen.	$T = 4.97 (X)$	393	50%	50%	196	197

* Percentages rounded to nearest 5%

PM Peak Trip Rate = 536 trips/79.04k s.f. = 6.78 trips/k s.f. 98
 Saturday Trip Rate = 743 trips/79.04k s.f. = 9.4 trips/k s.f. 136

50%	50%	49	49
50%	50%	68	68

JN: 1021.01
 Project Description: Franklin/Fox Site
 Project Location: Portland
 Date: 10/15/2004

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

**Supermarket
 Land Use Code (LUC) 850**

Gross Floor Area (ft²): 50,100

Trip Ends Based on Equation

Time Period	ITE Trip Rate	Trip Ends	Directional Split*		Directional Distribution	
			IN	OUT	IN	OUT
Daily	$T = 66.95 (X) + 1391.56$	4746	50%	50%	2373	2373
AM Peak Adjacent Street	$\ln(T) = 1.70 \ln(X) - 1.42$	188	60%	40%	113	75
PM Peak Adjacent Street	$\ln(T) = 0.79 \ln(X) + 3.20$	540	50%	50%	270	270
AM Peak of Generator	$T = 12.87 (X) - 109.76$	535	50%	50%	268	267
PM Peak of Generator	$\ln(T) = 0.79 \ln(X) + 3.21$	546	55%	45%	300	246
Saturday	$T = 177.59 (X)$	8897	50%	50%	4449	4448
Saturday Peak Hour of Gen.	$\ln(T) = 0.74 \ln(X) + 3.47$	582	50%	50%	291	291

*Percentages rounded to nearest 5%

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Directional Split*		Directional Distribution	
			IN	OUT	IN	OUT
Daily	$T = 102.24 (X)$	5122	50%	50%	2561	2561
AM Peak Adjacent Street	$T = 3.25 (X)$	163	60%	40%	98	65
PM Peak Adjacent Street	$T = 10.45 (X)$	524	50%	50%	262	262
AM Peak of Generator	$T = 10.05 (X)$	504	50%	50%	252	252
PM Peak of Generator	$T = 12.02 (X)$	602	55%	45%	331	271
Saturday	$T = 177.59 (X)$	8897	50%	50%	4449	4448
Saturday Peak Hour of Gen.	$T = 10.76 (X)$	539	50%	50%	270	269

*Percentages rounded to nearest 5%