152-B-9

1998-0086

24 Marill St.
Self Storage Bld.
Bruce Pike

on Spreadsheet

# CITY OF PORTLAND, MAINE
# ENGINEERING REVIEW FORM

Address of Proposed Site 24 Morrill Street Date 8/17/98

Project Description Self Storage Bldg Job # 19980086

Applicant Bruce Pike

Applicant's Mailing Address 2 Meadow Lane, Falmouth, ME 04105

| Site Review (Planning Department) | | Right-of-Way Review (Public Works Department) | |
|---|---|---|---|
| Review Engineer: | Jim Wendel | Review Engineer: | Tony Lombardo |
| Number of Estimated Hours: | 14 | Number of Estimated Hours: | 6 |
| Cost Per Hour: | $48.00 | Cost Per Hour: | $35.00 |
| Total Amount: | $672.00 | Total Amount: | $210.00 |

An engineering fee has been assessed in the amount of 882.00 for the review of your project located at 24 Morrill Street

Please make check payable to the City of Portland. The check should be submitted along with this form to the Portland Planning Department, City of Portland, 4th Floor, 389 Congress Street, Portland, ME 04101. Attn: Kandice Talbot

**Office Use Only**

Invoice Date: _____ Received: _____ date

Planning Revenue Code: _____

Public Works Revenue Code: _____

cc: Applicant - white
Planner - blue
Engineer - green
Public Works - yellow
Financial Officer - pink
Review/Inspection Fee File - golden

SebagoTechnics
Engineering & Planning for the Future

July 14, 1998
98180

Ms. Marge Schmukal, Zoning Administrator
City of Portland
389 Congress Street
Portland, Maine 04101

**Proposed Self-Storage Units - Bruce Pike, 24 Morrill Street**

Dear Marge:

Please find enclosed seven (7) copies of the minor site plan for Bruce Pike proposing an 80 unit mini self-storage facility at his 24 Morrill Street property. This site is currently located in the I-L and B-2 zoning districts and currently is the site for MAACO Auto Painting and Bodyworks.

The portion of the property proposed for new development is located behind the rear of Meineke Muffler, The Brass Rail Bar, and Fill-Up Please (Texaco) Station. The entire property encompasses 2.71 acres mostly located in the Light Industrial (I-L) Zone.

The proposed mini-storage building is 9,900 s.f. serviced by a paved driveway 11 feet wide with a larger paved radius around the building end for vehicle maneuvering. Access to the storage units will be through the existing MAACO entrance and exit through the westernmost driveway. The internal access will be controlled by an electric sliding gate activated by the customers card/key.

The proposed site including existing development utilizes 61.8% of the total area for impervious area which is less than the maximum 65% area for impervious area allowed in the I-L Zone. To handle the increase in runoff from the entire site, we have proposed a small detention pond behind the existing MAACO building to control discharge to an offsite 24 inch culvert which currently crosses the abutting Portland Terminal Company railroad tracks. Attached are our calculations for the 2, 10, and 25 year storms showing no increase in stormwater discharge rates.

12 Westbrook Common P.O. Box 1339 Westbrook, Maine 04098-1339 207-856-0277 Fax 207-856-2206

The landscaping for the site intends to enclose the storage area with chainlink fence and the improved employee parking area with stockade fencing while replanting existing pines and fir trees along the abutting properties for screening. All disturbed areas including the detention pond will be loamed and grassed. Lighting around the storage building will include 8-100 W wall packs (3-each side, 1-each end) with protective shields to divert lighting downward. Although the lighting is close to the Fill-It-Up Station the lighting is not as intense as the stations at the property line.

Lastly, there is an issue of encroachment along the Fill-It-Up Station. It appears that the gas station has installed a series of vacuum cleaners on Mr. Pike's property. Mr. Pike has notified the owner of this situation and is currently waiting for a response and may request that the City review its records to see if the abutters use at the encroachment, was permitted and approved the City.

We look forward to discussing this project with the Planning Staff as necessary and wish to start a review of the minor plan at the Staff's next meeting scheduled for Thursday, July 16, 1998. Please contact Mr. Pike or myself if any addition information or discussion is needed.

Sincerely,

SEBAGO TECHNICS, INC.

James R. Seymour

James R. Seymour
Project Engineer

JRS:dlf

Enclosures

cc: Bruce Pike

# STORMWATER MANAGEMENT PLAN

## SELF-STORAGE FACILITY
## 24 MORRILL STREET
## PORTLAND, Maine

### GENERAL

This Stormwater Management Plan has been prepared to evaluate the pre- and post-development conditions associated with the construction of a self-storage facility adjacent to Maaco on Morrill Street in Portland. The development proposal consists of the construction of self-storage units within a 9,900 square foot building, with related access and parking improvements.

### SITE CHARACTERISTICS

The project area is located on the site of the current Maaco facility. The development will occur to the northwest of their existing building. Current groundcover consists of impervious areas, grass and field. The topography of the site is relatively flat. Stormwater runoff generally drains easterly across the site, to a culvert crossing under the railroad tracks towards Canco Road, and eventually outletting into Back Cove.

### SOILS

The site is generally an old fill site. For the purpose of this stormwater analysis, a hydrologic soil group of "C" has been used.

### METHODOLOGY

The stormwater runoff analysis has been developed in accordance with methodology outlined in "Urban Hydrology for Small Watersheds", Technical Release No. 55, USDA Soil Conservation Service and HydroCAD stormwater modeling system. The 2-year, 10-year and 25-year, Type III, 24-hour storm events were used for the analysis.

### WATERSHED AND STORMWATER ANALYSIS

Based upon the topographical information, one study point was analyzed for both the pre- and post-development conditions. Study Point #1 is located just easterly of the property line adjacent to the Portland Terminal Company railroad tracks, at the inlet to the 24" culvert.

The pre-development analysis utilized two watershed areas. Watershed 10 consists of the existing Maaco building and gravel compound area, as well as the surrounding grass and field areas. Stormwater runoff flows in a northeasterly direction across the watershed into a small detention area at the inlet of the 24" culvert under the railroad tracks. Watershed 20 consists

of the entrances and the parking area for Maaco, as well as the associated landscaping. Stormwater flows easterly across the front of the site to a small swale adjacent to the railroad tracks, into the small detention area at the 24" culvert.

The post-development analysis utilized four watershed areas. Watershed 10 now consists of the self-storage units, the Maaco building, and the area between the two structures. Watershed 11 includes the paved access to the storage units, as well as a smaller, paved parking compound adjacent to Maaco. Watershed 12 consists of the landscaped area to the west of the storage units. These three watersheds drain through sheet flow, swales, or culverts in an easterly direction to a new detention pond located to the northeast of the Maaco building. This detention pond will outlet into the detention area at the inlet of the 24" culvert. Watershed 20 remains relatively unchanged, with stormwater runoff flowing as in the pre-developed condition.

## Stormwater Management

A 9,800 cubic foot detention pond will be constructed along the easterly property boundary to collect runoff from the portion of the site to be developed. A two-stage outlet control structure will be utilized to maintain pre-developed flow rates into the 24" culvert crossing under the railroad tracks for the 2-year, 10-year, and 25-year storm events. In the event of a storm larger than the 25-year storm, an emergency spillway will allow stormwater to be outletted prior to exceeding the pond's storage volume.

## Summary

The preceding evaluation has been prepared to address pre- and post-development stormwater management for the proposed self-storage units adjacent to the Maaco facility on Morrill Street in Portland. Stormwater runoff will be directed into a detention pond with a two stage outlet control structure and emergency spillway. This detention pond will maintain pre-developed rates of flow entering the 24" culvert under the railroad tracks.

Other drainage provisions include a specific grading plan and erosion control measures to be implemented throughout the construction cycle. The incorporation of these measures will minimize any adverse impacts on downstream properties due to the development of this project.

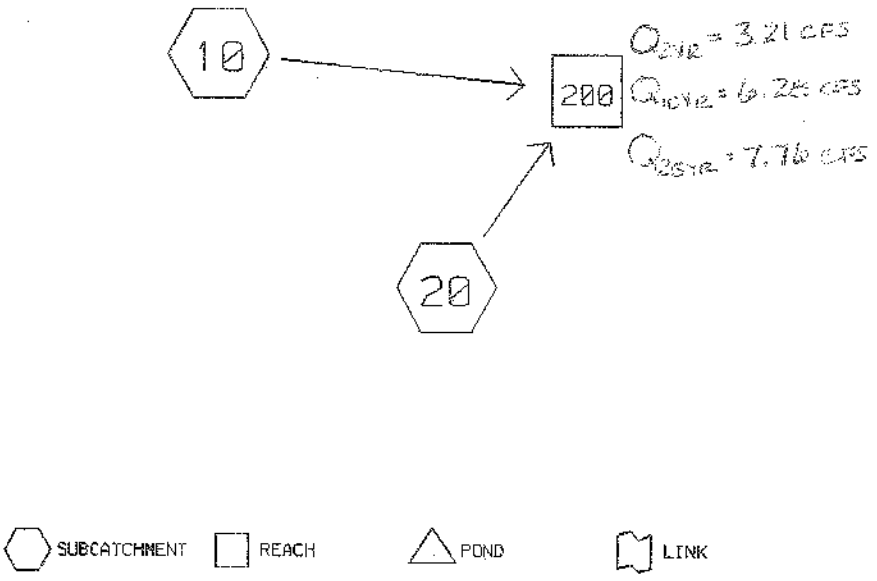
Prepared by:

SEBAGO TECHNICS, INC.

Jennifer L. Williams
Project Engineer

July 10, 1998

WATERSHED ROUTING




SUBCATCHMENT REACH POND LINK

RUNOFF BY SCS TR-20 METHOD: TYPE III 24-HOUR RAINFALL= 3.0 IN, SCS U.H.

RUNOFF SPAN = 0-20 HRS, dt= .10 HRS, 201 POINTS

| SUBCAT NUMBER | AREA (ACRE) | Tc (MIN) | --GROUND COVERS (%CN)-- | | | | WGT'D CN | C | PEAK (CFS) | Tpeak (HRS) | VOL (AF) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 1.95 | 21.6 | 38%74 | 3%71 | 36%89 | 23%98 | 85 | - | 2.32 | 12.26 | .24 |
| 20 | .87 | 9.8 | 59%74 | 7%89 | 34%98 | - | 83 | - | 1.24 | 12.11 | .10 |

## REACH ROUTING BY STOR-IND+TRANS METHOD

| REACH NO. | DIAM (IN) | BOTTOM WIDTH (FT) | DEPTH (FT) | SIDE SLOPES (FT/FT) | n | LENGTH (FT) | SLOPE (FT/FT) | PEAK VEL. (FPS) | TRAVEL TIME (MIN) | PEAK Qout (CFS) |
|---|---|---|---|---|---|---|---|---|---|---|
| 200 | - | - | - | - | - | - | - | 0.0 | 0.0 | 3.21 N |

SUBCATCHMENT 10 Portion of site to be developed

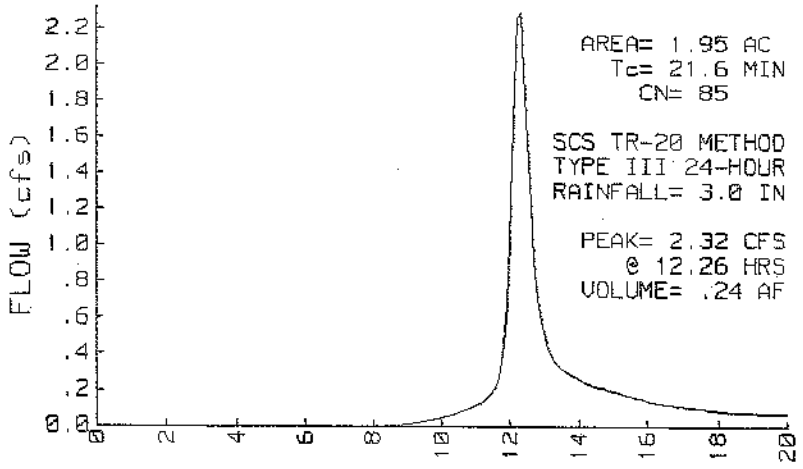
PEAK= 2.32 CFS @ 12.26 HRS, VOLUME= .24 AF

| ACRES | CN | |
|---|---|---|
| .75 | 74 | Grass - "C" |
| .06 | 71 | Field - "C" |
| .70 | 89 | Gravel - "C" |
| .44 | 98 | Impervious |
| 1.95 | 85 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 3.0 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 110 to 104.5 | 18.6 |
| Grass: Dense n=.24 L=170' P2=3 in s=.0324 '/' | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 104.5 to 103 | .3 |
| Unpaved Kv=16.1345 L=45' s=.0333 '/' V=2.94 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 103 to 102 | .9 |
| Unpaved Kv=16.1345 L=93' s=.0108 '/' V=1.68 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 102 to 101 | 1.5 |
| Short Grass Pasture Kv=7 L=75' s=.0133 '/' V=.81 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 101 to 96.5 | .3 |
| Short Grass Pasture Kv=7 L=38' s=.1184 '/' V=2.41 fps | | |
| | Total Length= 421 ft Total Tc= | 21.6 |

SUBCATCHMENT 10 RUNOFF
Portion of site to be developed



SUBCATCHMENT 20 Entrance & Maaco parking

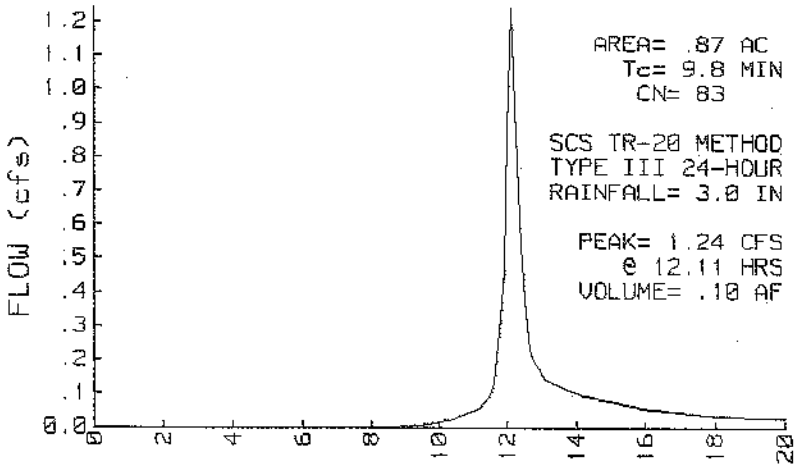
PEAK= 1.24 CFS @ 12.11 HRS, VOLUME= .10 AF

| ACRES | CN | |
|---|---|---|
| .51 | 74 | Grass - "C" |
| .06 | 89 | Gravel - "C" |
| .30 | 98 | Impervious |
| .87 | 83 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 3.0 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 109.5 to 107.75 | 5.2 |
| Grass: Dense n=.24 L=40' P2=3 in s=.0438 '/' | | |
| TR-55 SHEET FLOW | El. 107.75 to 104 | .6 |
| Smooth surfaces n=.011 L=65' P2=3 in s=.0577 '/' | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 104 to 103 | 2.0 |
| Paved Kv=20.3282 L=180' s=.0056 '/' V=1.52 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 103 to 102 | .6 |
| Paved Kv=20.3282 L=82' s=.0122 '/' V=2.25 fps | | |
| RECT/VEE/TRAP CHANNEL | El. 102 to 100 | 1.3 |
| W=5' D=1' SS= .1 '/' a=15 sq-ft Pw=25.1' r=.598' | | |
| s=.0082 '/' n=.03 V=3.18 fps L=245' Capacity=47.7 cfs | | |
| RECT/VEE/TRAP CHANNEL | El. 100 to 96.5 | .1 |
| W=5' D=1' SS= .2 '/' a=10 sq-ft Pw=15.2' r=.658' | | |
| s=.05 '/' n=.03 V=8.38 fps L=70' Capacity=83.8 cfs | | |
| | Total Length= 682 ft Total Tc= | 9.8 |

SUBCATCHMENT 20 RUNOFF
Entrance & Maaco parking



REACH 200

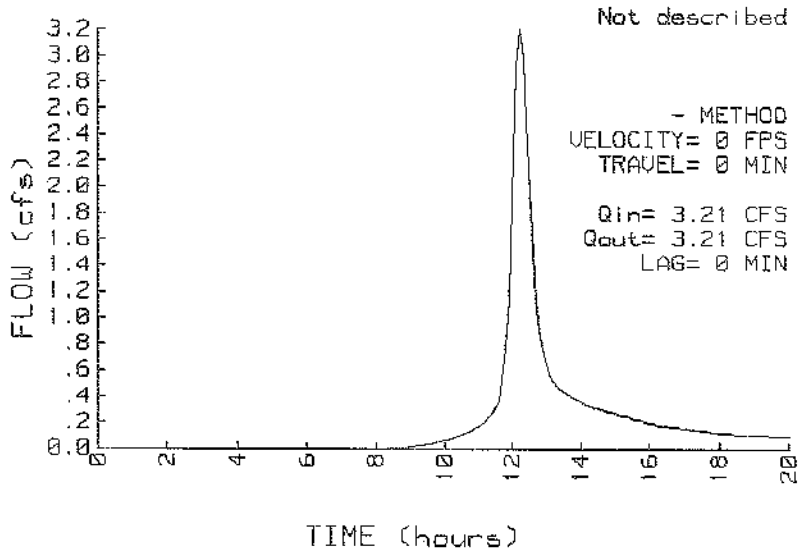
Not described

Qin = 3.21 CFS @ 12.21 HRS, VOLUME= .34 AF
Qout= 3.21 CFS @ 12.21 HRS, VOLUME= .34 AF, ATTEN= 0%, LAG= 0.0 MIN

DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS)

- METHOD
PEAK DEPTH= 0.00 FT
PEAK VELOCITY= 0.0 FPS
TRAVEL TIME = 0.0 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 200 INFLOW & OUTFLOW



RUNOFF BY SCS TR-20 METHOD: TYPE III 24-HOUR RAINFALL= 4.7 IN, SCS U.H.

RUNOFF SPAN = 0-20 HRS, dt= .10 HRS, 201 POINTS

| SUBCAT NUMBER | AREA (ACRE) | Tc (MIN) | --GROUND COVERS (%CN)-- | | | | WGT'D CN | C | PEAK (CFS) | Tpeak (HRS) | VOL (AF) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 1.95 | 21.6 | 38%74 | 3%71 | 36%89 | 23%98 | 85 | - | 4.55 | 12.25 | .47 |
| 20 | .87 | 9.8 | 59%74 | 7%89 | 34%98 | - | 83 | - | 2.49 | 12.10 | .20 |

## REACH ROUTING BY STOR-IND+TRANS METHOD

| REACH NO. | DIAM (IN) | BOTTOM WIDTH (FT) | DEPTH (FT) | SIDE SLOPES (FT/FT) | n | LENGTH (FT) | SLOPE (FT/FT) | PEAK VEL. (FPS) | TRAVEL TIME (MIN) | PEAK Qout (CFS) |
|---|---|---|---|---|---|---|---|---|---|---|
| 200 | - | - | - | - | - | - | - | 0.0 | 0.0 | 6.28 N |

SUBCATCHMENT 10 Portion of site to be developed

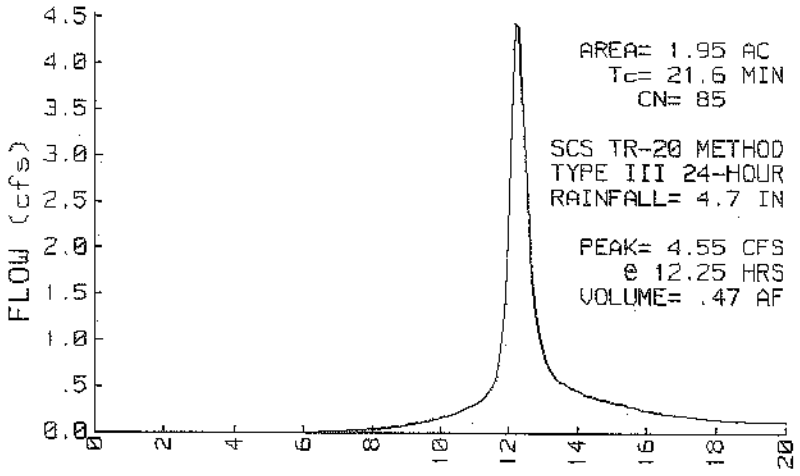
PEAK= 4.55 CFS @ 12.25 HRS, VOLUME= .47 AF

| ACRES | CN | |
|---|---|---|
| .75 | 74 | Grass - "C" |
| .06 | 71 | Field - "C" |
| .70 | 89 | Gravel - "C" |
| .44 | 98 | Impervious |
| 1.95 | 85 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 4.7 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 110 to 104.5 | 18.6 |
| Grass: Dense n=.24 L=170' P2=3 in s=.0324 '/' | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 104.5 to 103 | .3 |
| Unpaved Kv=16.1345 L=45' s=.0333 '/' V=2.94 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 103 to 102 | .9 |
| Unpaved Kv=16.1345 L=93' s=.0108 '/' V=1.68 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 102 to 101 | 1.5 |
| Short Grass Pasture Kv=7 L=75' s=.0133 '/' V=.81 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 101 to 96.5 | .3 |
| Short Grass Pasture Kv=7 L=38' s=.1184 '/' V=2.41 fps | | |
| | Total Length= 421 ft Total Tc= | 21.6 |

SUBCATCHMENT 10 RUNOFF
Portion of site to be developed



SUBCATCHMENT 20 Entrance & Maaco parking

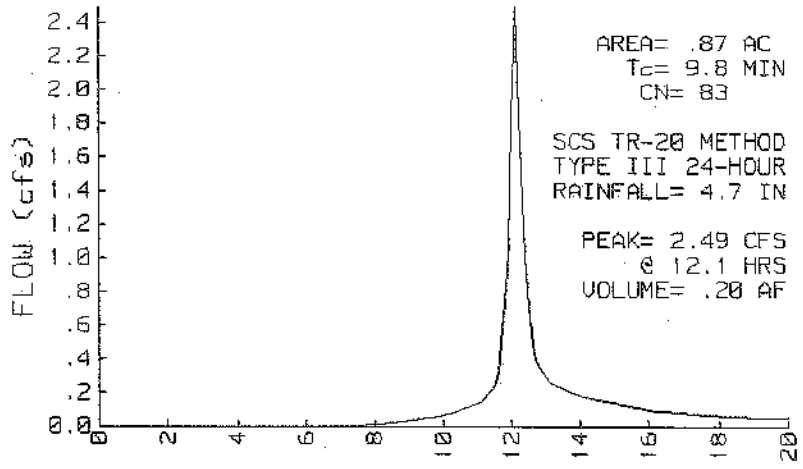
PEAK= 2.49 CFS @ 12.10 HRS, VOLUME= .20 AF

| ACRES | CN | |
|---|---|---|
| .51 | 74 | Grass - "C" |
| .06 | 89 | Gravel - "C" |
| .30 | 98 | Impervious |
| .87 | 83 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 4.7 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| **TR-55 SHEET FLOW** | El. 109.5 to 107.75 | 5.2 |
| Grass: Dense n=.24 L=40' P2=3 in s=.0438 '/' | | |
| **TR-55 SHEET FLOW** | El. 107.75 to 104 | .6 |
| Smooth surfaces n=.011 L=65' P2=3 in s=.0577 '/' | | |
| **SHALLOW CONCENTRATED/UPLAND FLOW** | El. 104 to 103 | 2.0 |
| Paved Kv=20.3282 L=180' s=.0056 '/' V=1.52 fps | | |
| **SHALLOW CONCENTRATED/UPLAND FLOW** | El. 103 to 102 | .6 |
| Paved Kv=20.3282 L=82' s=.0122 '/' V=2.25 fps | | |
| **RECT/VEE/TRAP CHANNEL** | El. 102 to 100 | 1.3 |
| W=5' D=1' SS= .1 '/' a=15 sq-ft Pw=25.1' r=.598' | | |
| s=.0082 '/' n=.03 V=3.18 fps L=245' Capacity=47.7 cfs | | |
| **RECT/VEE/TRAP CHANNEL** | El. 100 to 96.5 | .1 |
| W=5' D=1' SS= .2 '/' a=10 sq-ft Pw=15.2' r=.658' | | |
| s=.05 '/' n=.03 V=8.38 fps L=70' Capacity=83.8 cfs | | |
| | Total Length= 682 ft Total Tc= | 9.8 |

SUBCATCHMENT 20 RUNOFF
Entrance & Maaco parking



REACH 200

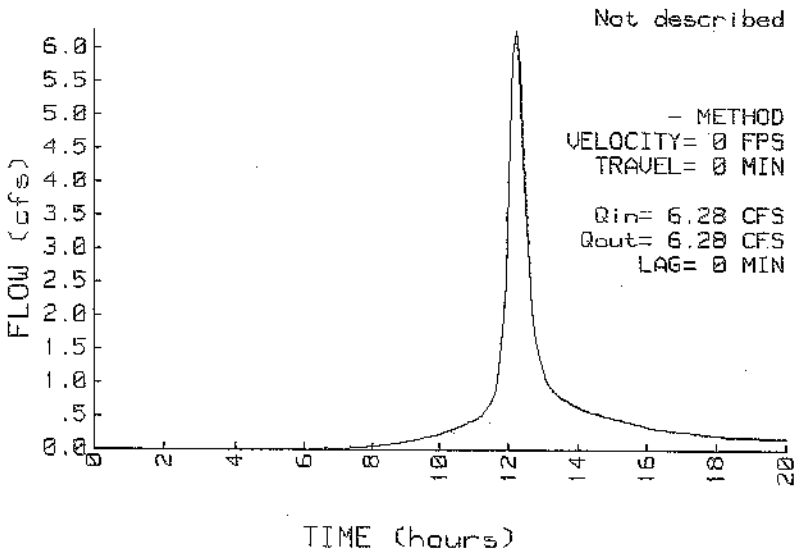
Not described

Qin = 6.28 CFS @ 12.19 HRS, VOLUME= .67 AF
Qout= 6.28 CFS @ 12.19 HRS, VOLUME= .67 AF, ATTEN= 0%, LAG= 0.0 MIN

| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|

- METHOD
PEAK DEPTH= 0.00 FT
PEAK VELOCITY= 0.0 FPS
TRAVEL TIME = 0.0 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 200 INFLOW & OUTFLOW



RUNOFF BY SCS TR-20 METHOD: TYPE III 24-HOUR RAINFALL= 5.5 IN, SCS U.H.

RUNOFF SPAN = 0-20 HRS, dt= .10 HRS, 201 POINTS

| SUBCAT NUMBER | AREA (ACRE) | Tc (MIN) | --GROUND COVERS (%CN)-- | | | | WGT'D CN | C | PEAK (CFS) | Tpeak (HRS) | VOL (AF) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 1.95 | 21.6 | 38%74 | 3%71 | 36%89 | 23%98 | 85 | - | 5.61 | 12.24 | .58 |
| 20 | .87 | 9.8 | 59%74 | 7%89 | 34%98 | - | 83 | - | 3.10 | 12.10 | .25 |

## REACH ROUTING BY STOR-IND+TRANS METHOD

| REACH NO. | DIAM (IN) | BOTTOM WIDTH (FT) | DEPTH (FT) | SIDE SLOPES (FT/FT) | n | LENGTH (FT) | SLOPE (FT/FT) | PEAK VEL. (FPS) | TRAVEL TIME (MIN) | PEAK Qout (CFS) |
|---|---|---|---|---|---|---|---|---|---|---|
| 200 | - | - | - | - | - | - | - | 0.0 | 0.0 | 7.76 N |

SUBCATCHMENT 10 Portion of site to be developed

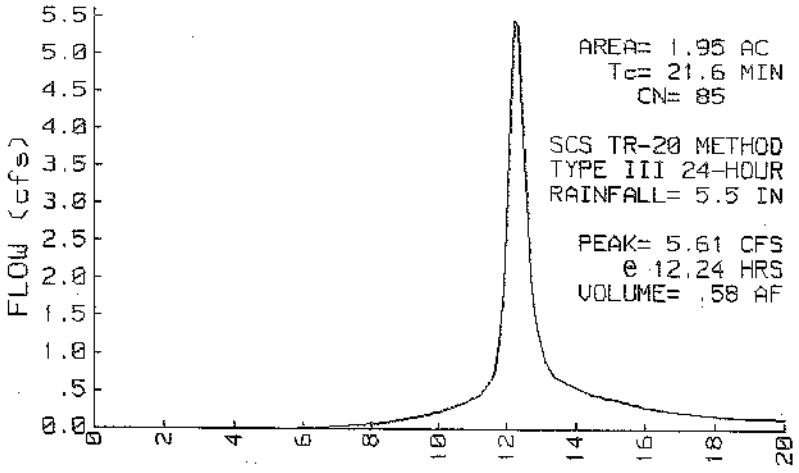
PEAK= 5.61 CFS @ 12.24 HRS, VOLUME= .58 AF

| ACRES | CN | |
|---|---|---|
| .75 | 74 | Grass - "C" |
| .06 | 71 | Field - "C" |
| .70 | 89 | Gravel - "C" |
| .44 | 98 | Impervious |
| 1.95 | 85 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 5.5 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 110 to 104.5 | 18.6 |
| Grass: Dense n=.24 L=170' P2=3 in s=.0324 '/' | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 104.5 to 103 | .3 |
| Unpaved Kv=16.1345 L=45' s=.0333 '/' V=2.94 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 103 to 102 | .9 |
| Unpaved Kv=16.1345 L=93' s=.0108 '/' V=1.68 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 102 to 101 | 1.5 |
| Short Grass Pasture Kv=7 L=75' s=.0133 '/' V=.81 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 101 to 96.5 | .3 |
| Short Grass Pasture Kv=7 L=38' s=.1184 '/' V=2.41 fps | | |
| | Total Length= 421 ft Total Tc= | 21.6 |

SUBCATCHMENT 10 RUNOFF
Portion of site to be developed



## SUBCATCHMENT 20 Entrance & Maaco parking

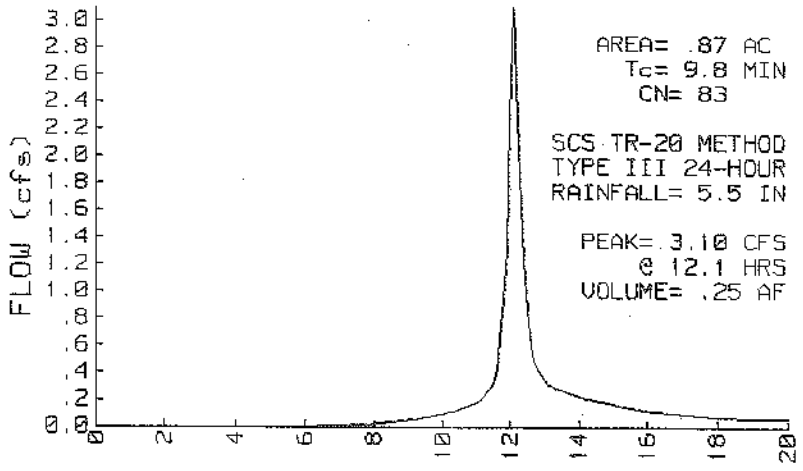
PEAK= 3.10 CFS @ 12.10 HRS, VOLUME= .25 AF

| ACRES | CN | |
|---|---|---|
| .51 | 74 | Grass - "C" |
| .06 | 89 | Gravel - "C" |
| .30 | 98 | Impervious |
| .87 | 83 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 5.5 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 109.5 to 107.75 | 5.2 |
| Grass: Dense n=.24 L=40' P2=3 in s=.0438 '/' | | |
| TR-55 SHEET FLOW | El. 107.75 to 104 | .6 |
| Smooth surfaces n=.011 L=65' P2=3 in s=.0577 '/' | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 104 to 103 | 2.0 |
| Paved Kv=20.3282 L=180' s=.0056 '/' V=1.52 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 103 to 102 | .6 |
| Paved Kv=20.3282 L=82' s=.0122 '/' V=2.25 fps | | |
| RECT/VEE/TRAP CHANNEL | El. 102 to 100 | 1.3 |
| W=5' D=1' SS= .1 '/' a=15 sq-ft Pw=25.1' r=.598' | | |
| s=.0082 '/' n=.03 V=3.18 fps L=245' Capacity=47.7 cfs | | |
| RECT/VEE/TRAP CHANNEL | El. 100 to 96.5 | .1 |
| W=5' D=1' SS= .2 '/' a=10 sq-ft Pw=15.2' r=.658' | | |
| s=.05 '/' n=.03 V=8.38 fps L=70' Capacity=83.8 cfs | | |
| | Total Length= 682 ft Total Tc= | 9.8 |

SUBCATCHMENT 20 RUNOFF
Entrance & Maaco parking



REACH 200

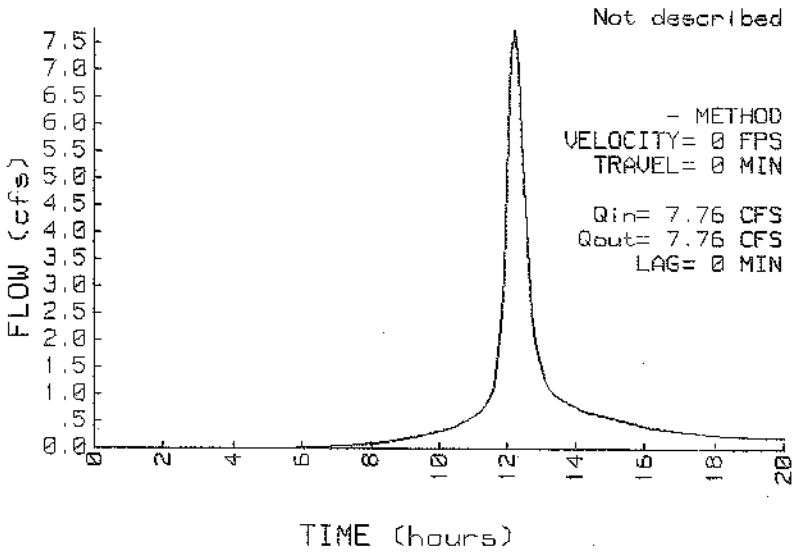
Not described

Qin = 7.76 CFS @ 12.19 HRS, VOLUME= .83 AF
Qout= 7.76 CFS @ 12.19 HRS, VOLUME= .83 AF, ATTEN= 0%, LAG= 0.0 MIN

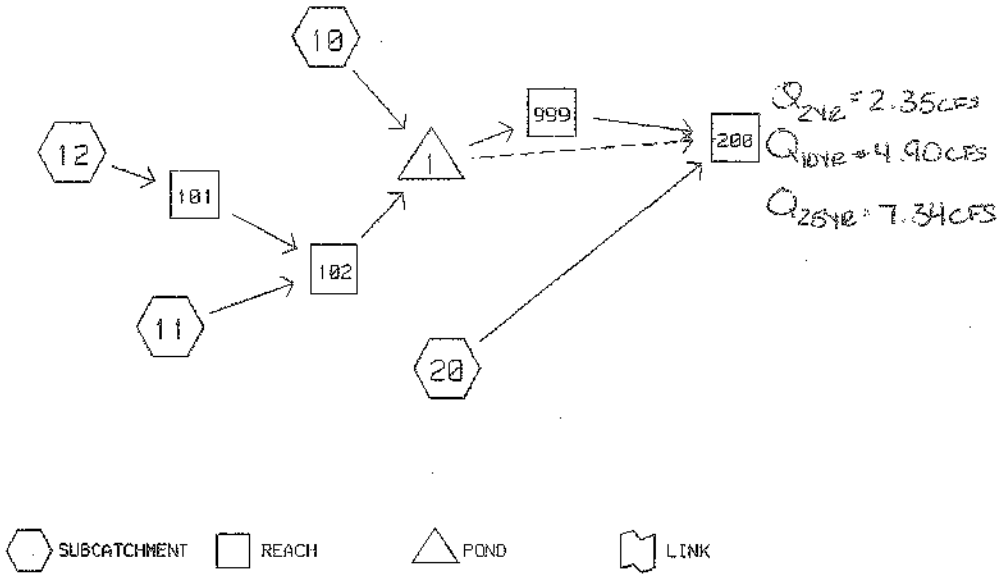
| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|

- METHOD
PEAK DEPTH= 0.00 FT
PEAK VELOCITY= 0.0 FPS
TRAVEL TIME = 0.0 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 200 INFLOW & OUTFLOW



## WATERSHED ROUTING



RUNOFF BY SCS TR-20 METHOD: TYPE III 24-HOUR RAINFALL= 3.0 IN, SCS U.H.

RUNOFF SPAN = 0-20 HRS, dt= .10 HRS, 201 POINTS

| SUBCAT NUMBER | AREA (ACRE) | Tc (MIN) | --GROUND COVERS (%CN)-- | | | | WGT'D CN | C | PEAK (CFS) | Tpeak (HRS) | VOL (AF) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 1.15 | 13.2 | 31%74 | 0%00 | 7%89 | 62%98 | 90 | - | 2.05 | 12.13 | .18 |
| 11 | .67 | 7.1 | 36%74 | 7%89 | 57%98 | - | 89 | - | 1.26 | 12.06 | .10 |
| 12 | .13 | 5.4 | 8%89 | 92%74 | - | - | 75 | - | .13 | 12.04 | .01 |
| 20 | .87 | 9.8 | 59%74 | 1%89 | 40%98 | - | 84 | - | 1.30 | 12.10 | .10 |

## REACH ROUTING BY STOR-IND+TRANS METHOD

| REACH NO. | DIAM (IN) | BOTTOM WIDTH (FT) | DEPTH (FT) | SIDE SLOPES (FT/FT) | | n | LENGTH (FT) | SLOPE (FT/FT) | PEAK VEL. (FPS) | TRAVEL TIME (MIN) | PEAK Qout (CFS) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 101 | 12.0 | - | - | - | - | .012 | 126 | .0050 | 1.8 | 1.1 | .12 |
| 102 | 15.0 | - | - | - | - | .012 | 152 | .0050 | 3.6 | .7 | 1.37 |
| 200 | - | - | - | - | - | - | - | - | 0.0 | 0.0 | 2.35 N |
| 999 | 10.0 | - | - | - | - | .010 | 25 | .0304 | 7.8 | .1 | 1.29 |

## POND ROUTING BY STOR-IND METHOD

| POND NO. | START ELEV. (FT) | FLOOD ELEV. (FT) | PEAK ELEV. (FT) | PEAK STORAGE (AF) | PEAK FLOW Qin (CFS) | PEAK FLOW Qout (CFS) | PEAK FLOW Qpri (CFS) | PEAK FLOW Qsec (CFS) | Qout ATTEN. (%) | Qout LAG (MIN) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 97.5 | 102.0 | 100.1 | .09 | 3.39 | 1.29 | 1.29 | 0.00 | 62 | 21.2 |

SUBCATCHMENT 10 Buildings and area between them

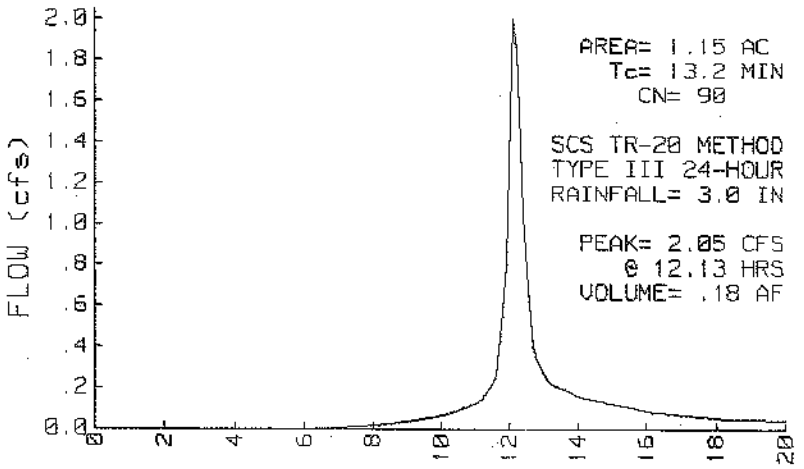
PEAK= 2.05 CFS @ 12.13 HRS, VOLUME= .18 AF

| ACRES | CN | |
|---|---|---|
| .36 | 74 | Grass - "C" |
| 0.00 | 0 | |
| .08 | 89 | Gravel - "C" |
| .71 | 98 | Impervious |
| 1.15 | 90 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 3.0 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 104 to 103 | 3.3 |
| Grass: Dense n=.24 L=23' P2=3 in s=.0435 '/' | | |
| TR-55 SHEET FLOW | El. 103 to 102 | 9.9 |
| Grass: Dense n=.24 L=57' P2=3 in s=.0175 '/' | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 102 to 101 | 0.0 |
| Grassed Waterway Kv=15 L=10' s=.1 '/' V=4.74 fps | | |
| | Total Length= 90 ft | Total Tc= 13.2 |

SUBCATCHMENT 10 RUNOFF
Buildings and area between them



SUBCATCHMENT 11 Access drive & parking areas

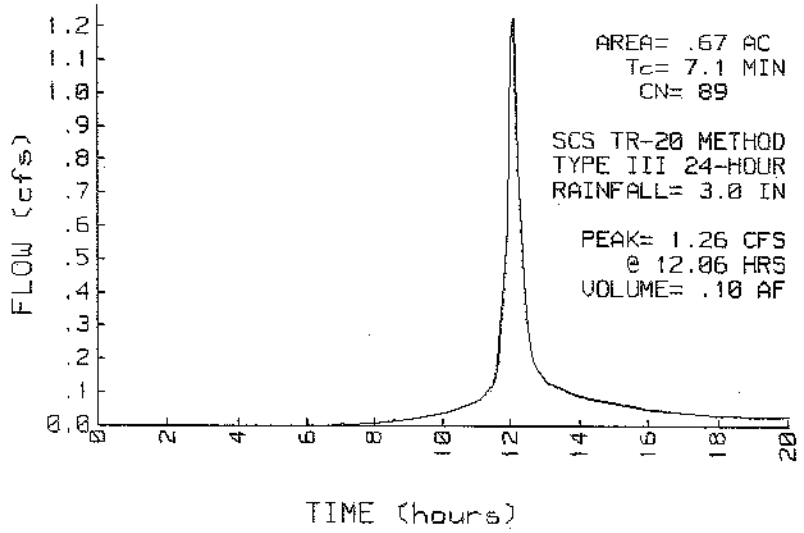
PEAK= 1.26 CFS @ 12.06 HRS, VOLUME= .10 AF

| ACRES | CN | |
|---|---|---|
| .24 | 74 | Grass - "C" |
| .05 | 89 | Gravel - "C" |
| .38 | 98 | Impervious |
| .67 | 89 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 3.0 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 108.5 to 106.5 | 4.2 |
| Grass: Dense n=.24 L=35' P2=3 in s=.0571 '/' | | |
| TR-55 SHEET FLOW | El. 106.5 to 104 | .4 |
| Smooth surfaces n=.011 L=45' P2=3 in s=.0556 '/' | | |
| TR-55 SHEET FLOW | El. 104 to 103.6 | 1.6 |
| Smooth surfaces n=.011 L=70' P2=3 in s=.0057 '/' | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 103.6 to 103 | .8 |
| Paved Kv=20.3282 L=80' s=.0075 '/' V=1.76 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 103 to 102.5 | .1 |
| Grassed Waterway Kv=15 L=12' s=.0417 '/' V=3.06 fps | | |
| | Total Length= 242 ft Total Tc= | 7.1 |

SUBCATCHMENT 11 RUNOFF
Access drive & parking areas



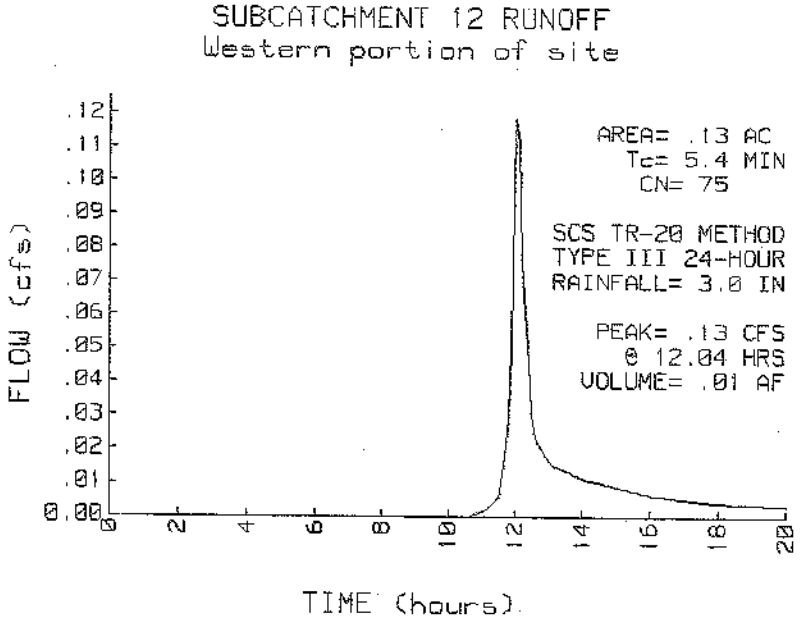
SUBCATCHMENT 12 Western portion of site

PEAK= .13 CFS @ 12.04 HRS, VOLUME= .01 AF

| ACRES | CN | |
|---|---|---|
| .01 | 89 | Gravel - "C" |
| .12 | 74 | Grass - "C" |
| .13 | 75 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 3.0 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 110 to 103.9 | 5.4 |
| Grass: Dense n=.24 L=63' P2=3 in s=.0968 '/' | | |



SUBCATCHMENT 20 Entrance & Maaco parking

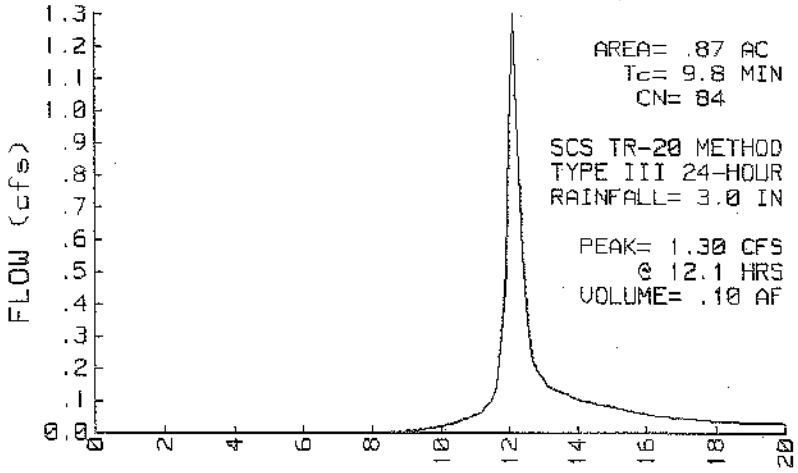
PEAK= 1.30 CFS @ 12.10 HRS, VOLUME= .10 AF

| ACRES | CN | |
|---|---|---|
| .51 | 74 | Grass - "C" |
| .01 | 89 | Gravel - "C" |
| .35 | 98 | Impervious |
| .87 | 84 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 3.0 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 109.5 to 107.75 | 5.2 |
| Grass: Dense n=.24 L=40' P2=3 in s=.0438 '/' | | |
| TR-55 SHEET FLOW | El. 107.75 to 104 | .6 |
| Smooth surfaces n=.011 L=65' P2=3 in s=.0577 '/' | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 104 to 103 | 2.0 |
| Paved Kv=20.3282 L=180' s=.0056 '/' V=1.52 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 103 to 102 | .6 |
| Paved Kv=20.3282 L=82' s=.0122 '/' V=2.25 fps | | |
| RECT/VEE/TRAP CHANNEL | El. 102 to 100 | 1.3 |
| W=5' D=1' SS= .1 '/' a=15 sq-ft Pw=25.1' r=.598' | | |
| s=.0082 '/' n=.03 V=3.18 fps L=245' Capacity=47.7 cfs | | |
| RECT/VEE/TRAP CHANNEL | El. 100 to 96.5 | .1 |
| W=5' D=1' SS= .2 '/' a=10 sq-ft Pw=15.2' r=.658' | | |
| s=.05 '/' n=.03 V=8.38 fps L=70' Capacity=83.8 cfs | | |
| | Total Length= 682 ft Total Tc= | 9.8 |

SUBCATCHMENT 20 RUNOFF
Entrance & Maaco parking



REACH 101 12" dia. storm drain

Qin = .13 CFS @ 12.04 HRS, VOLUME= .01 AF
Qout= .12 CFS @ 12.09 HRS, VOLUME= .01 AF, ATTEN= 5%, LAG= 3.2 MIN

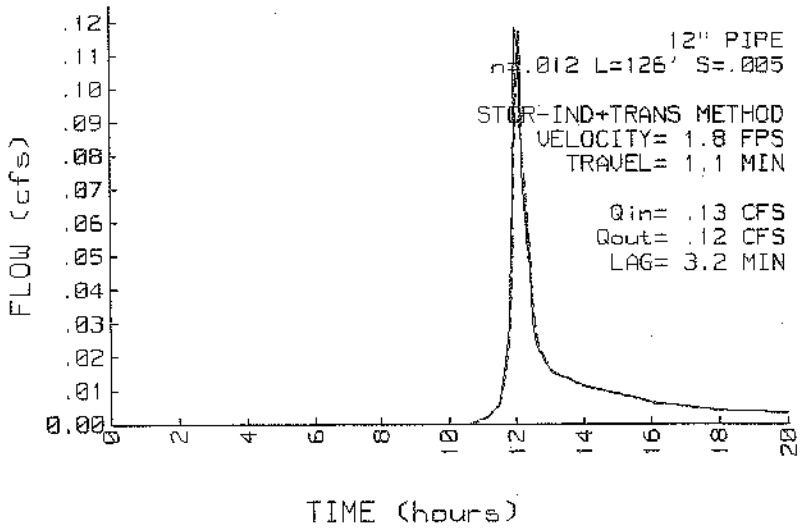
| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|
| 0.0 | 0.0 | 0.00 |
| .1 | 0.0 | .06 |
| .2 | .1 | .24 |
| .3 | .2 | .53 |
| .7 | .6 | 2.29 |
| .8 | .7 | 2.67 |
| .9 | .7 | 2.91 |
| .9 | .8 | 2.94 |
| 1.0 | .8 | 2.91 |
| 1.0 | .8 | 2.73 |

12" PIPE

n= .012
LENGTH= 126 FT
SLOPE= .005 FT/FT

STOR-IND+TRANS METHOD
PEAK DEPTH= .14 FT
PEAK VELOCITY= 1.8 FPS
TRAVEL TIME = 1.1 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 101 INFLOW & OUTFLOW
12" dia. storm drain



REACH 102 15" dia. storm drain

Qin = 1.38 CFS @ 12.07 HRS, VOLUME= .11 AF
Qout= 1.37 CFS @ 12.09 HRS, VOLUME= .11 AF, ATTEN= 0%, LAG= 1.4 MIN

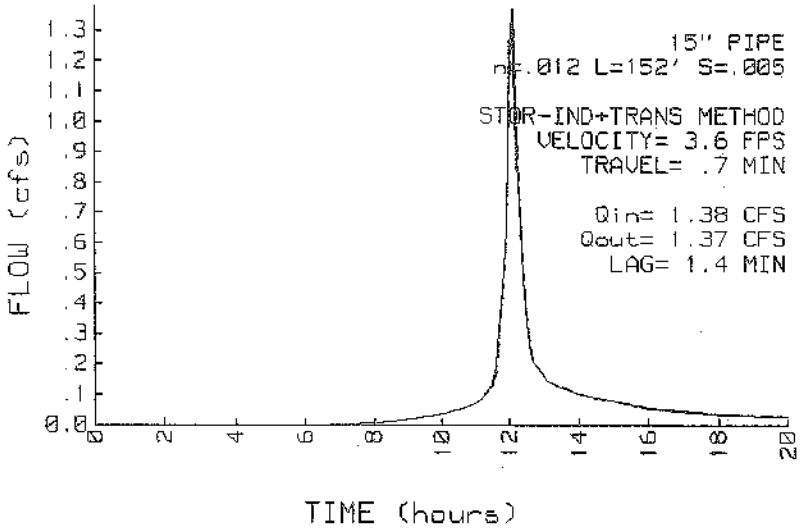
| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|
| 0.0 | 0.0 | 0.00 |
| .1 | .1 | .10 |
| .3 | .2 | .43 |
| .4 | .3 | .97 |
| .9 | .9 | 4.14 |
| 1.0 | 1.1 | 4.84 |
| 1.1 | 1.2 | 5.27 |
| 1.2 | 1.2 | 5.32 |
| 1.2 | 1.2 | 5.27 |
| 1.3 | 1.2 | 4.95 |

15" PIPE

n= .012
LENGTH= 152 FT
SLOPE= .005 FT/FT

STOR-IND+TRANS METHOD
PEAK DEPTH= .44 FT
PEAK VELOCITY= 3.6 FPS
TRAVEL TIME = .7 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 102 INFLOW & OUTFLOW
15" dia. storm drain



REACH 999 10" dia storm drain

Qin = 1.29 CFS @ 12.47 HRS, VOLUME= .27 AF
Qout= 1.29 CFS @ 12.47 HRS, VOLUME= .27 AF, ATTEN= 0%, LAG= .1 MIN

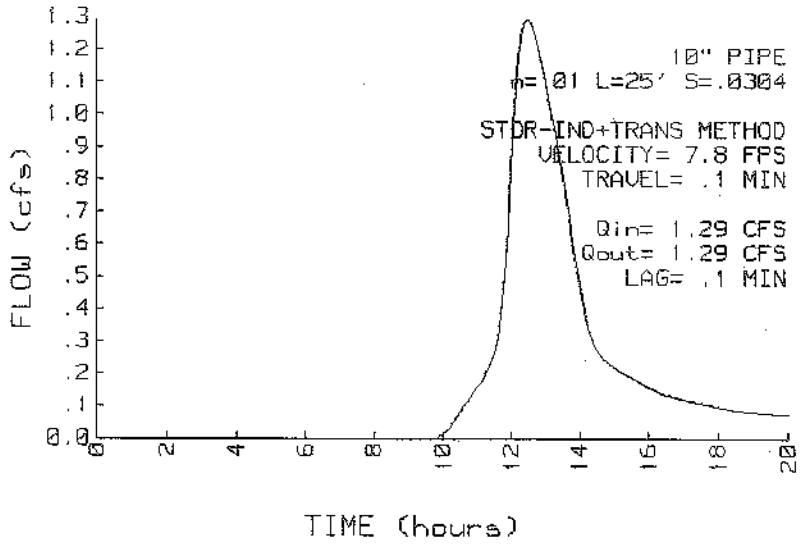
| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|
| 0.0 | 0.0 | 0.00 |
| .1 | 0.0 | .10 |
| .2 | .1 | .43 |
| .3 | .1 | .97 |
| .6 | .4 | 4.16 |
| .7 | .5 | 4.85 |
| .8 | .5 | 5.29 |
| .8 | .5 | 5.34 |
| .8 | .5 | 5.29 |
| .8 | .5 | 4.97 |

10" PIPE

n= .01
LENGTH= 25 FT
SLOPE= .0304 FT/FT

STOR-IND+TRANS METHOD
PEAK DEPTH= .28 FT
PEAK VELOCITY= 7.8 FPS
TRAVEL TIME = .1 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 999 INFLOW & OUTFLOW
10" dia storm drain



REACH 200

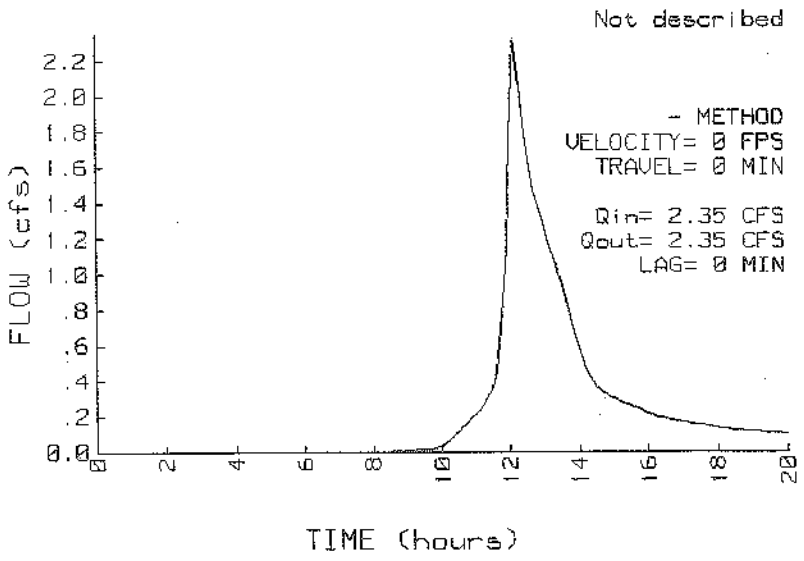
Not described

Qin = 2.35 CFS @ 12.13 HRS, VOLUME= .38 AF
Qout= 2.35 CFS @ 12.13 HRS, VOLUME= .38 AF, ATTEN= 0%, LAG= 0.0 MIN

| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|

- METHOD
PEAK DEPTH= 0.00 FT
PEAK VELOCITY= 0.0 FPS
TRAVEL TIME = 0.0 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 200 INFLOW & OUTFLOW



POND 1 Detention Pond

Qin = 3.39 CFS @ 12.11 HRS, VOLUME= .29 AF
Qout= 1.29 CFS @ 12.47 HRS, VOLUME= .27 AF, ATTEN= 62%, LAG= 21.2 MIN
Qpri= 1.29 CFS @ 12.47 HRS, VOLUME= .27 AF
Qsec= 0.00 CFS @ 0.00 HRS, VOLUME= 0.00 AF

| ELEVATION (FT) | AREA (SF) | INC.STOR (CF) | CUM.STOR (CF) |
|---|---|---|---|
| 97.5 | 600 | 0 | 0 |
| 98.0 | 940 | 385 | 385 |
| 99.0 | 1460 | 1200 | 1585 |
| 100.0 | 2250 | 1855 | 3440 |
| 101.0 | 3185 | 2718 | 6158 |
| 102.0 | 4280 | 3733 | 9890 |

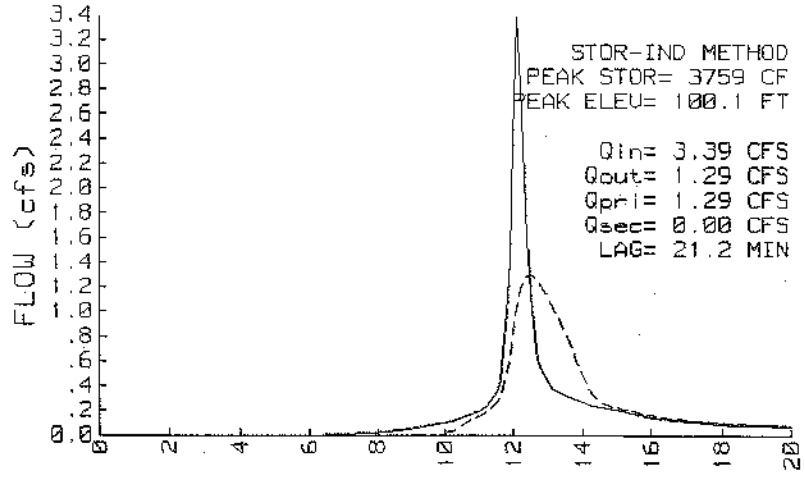
STOR-IND METHOD
PEAK STORAGE = 3759 CF
PEAK ELEVATION= 100.1 FT
FLOOD ELEVATION= 102.0 FT
START ELEVATION= 97.5 FT
SPAN= 0-20 HRS, dt=.1 HRS
Tdet= 50.6 MIN (.27 AF)

| # | ROUTE | INVERT | OUTLET DEVICES |
|---|---|---|---|
| 1 | P | 98.0' | 6" ORIFICE/GRATE<br>Q=.6 PI r^2 SQR(2g) SQR(H-r) |
| 2 | P | 100.8' | 4' BROAD-CRESTED RECTANGULAR WEIR<br>Q=C L H^1.5 C=3.32, 0, 0, 0, 0, 0, 0, 0 |
| 3 | S | 101.5' | 12' BROAD-CRESTED RECTANGULAR WEIR<br>Q=C L H^1.5 C=3.32, 0, 0, 0, 0, 0, 0, 0 |

Primary Discharge
├─1=Orifice/Grate
└─2=Broad-Crested Rectangular Weir

Secondary Discharge
└─3=Broad-Crested Rectangular Weir

POND 1 INFLOW & OUTFLOW
Detention Pond



RUNOFF BY SCS TR-20 METHOD: TYPE III 24-HOUR RAINFALL= 4.7 IN, SCS U.H.

RUNOFF SPAN = 0-20 HRS, dt= .10 HRS, 201 POINTS

| SUBCAT NUMBER | AREA (ACRE) | Tc (MIN) | --GROUND COVERS (%CN)-- | | | | WGT'D CN | C | PEAK (CFS) | Tpeak (HRS) | VOL (AF) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 1.15 | 13.2 | 31%74 | 0%00 | 7%89 | 62%98 | 90 | - | 3.63 | 12.13 | .32 |
| 11 | .67 | 7.1 | 36%74 | 7%89 | 57%98 | - | 89 | - | 2.27 | 12.06 | .18 |
| 12 | .13 | 5.4 | 8%89 | 92%74 | - | - | 75 | - | .31 | 12.03 | .02 |
| 20 | .87 | 9.8 | 59%74 | 1%89 | 40%98 | - | 84 | - | 2.56 | 12.10 | .20 |

## REACH ROUTING BY STOR-IND+TRANS METHOD

| REACH NO. | DIAM (IN) | BOTTOM WIDTH (FT) | DEPTH (FT) | SIDE SLOPES (FT/FT) | | n | LENGTH (FT) | SLOPE (FT/FT) | PEAK VEL. (FPS) | TRAVEL TIME (MIN) | PEAK Qout (CFS) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 101 | 12.0 | - | - | - | - | .012 | 126 | .0050 | 2.3 | .9 | .29 | |
| 102 | 15.0 | - | - | - | - | .012 | 152 | .0050 | 4.2 | .6 | 2.54 | |
| 200 | - | - | - | - | - | - | - | - | 0.0 | 0.0 | 4.90 | N |
| 999 | 10.0 | - | - | - | - | .010 | 25 | .0304 | 10.0 | 0.0 | 3.65 | |

## POND ROUTING BY STOR-IND METHOD

| POND NO. | START ELEV. (FT) | FLOOD ELEV. (FT) | PEAK ELEV. (FT) | PEAK STORAGE (AF) | PEAK FLOW Qin (CFS) | PEAK FLOW Qout (CFS) | PEAK FLOW Qpri (CFS) | PEAK FLOW Qsec (CFS) | Qout ATTEN. (%) | Qout LAG (MIN) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 97.5 | 102.0 | 101.1 | .15 | 6.09 | 3.66 | 3.66 | 0.00 | 40 | 13.6 |

## SUBCATCHMENT 10 Buildings and area between them

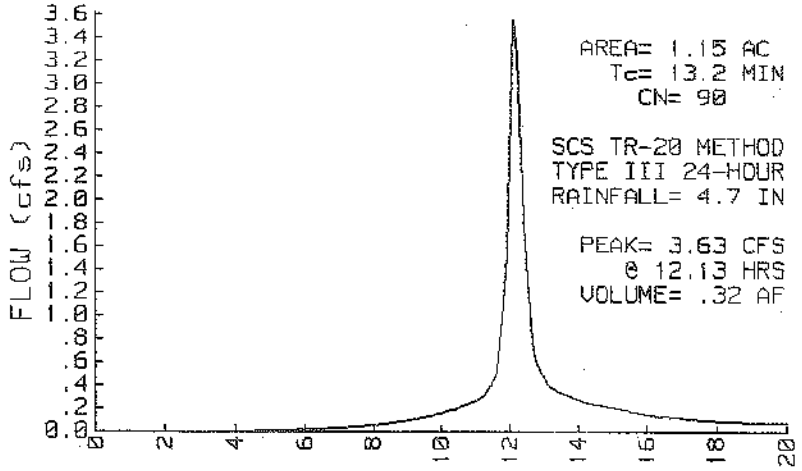
PEAK= 3.63 CFS @ 12.13 HRS, VOLUME= .32 AF

| ACRES | CN | |
|---|---|---|
| .36 | 74 | Grass - "C" |
| 0.00 | 0 | |
| .08 | 89 | Gravel - "C" |
| .71 | 98 | Impervious |
| 1.15 | 90 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 4.7 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 104 to 103 | 3.3 |
| Grass: Dense n=.24 L=23' P2=3 in s=.0435 '/' | | |
| TR-55 SHEET FLOW | El. 103 to 102 | 9.9 |
| Grass: Dense n=.24 L=57' P2=3 in s=.0175 '/' | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 102 to 101 | 0.0 |
| Grassed Waterway Kv=15 L=10' s=.1 '/' V=4.74 fps | | |
| | Total Length= 90 ft | Total Tc= 13.2 |

SUBCATCHMENT 10 RUNOFF
Buildings and area between them



SUBCATCHMENT 11 Access drive & parking areas

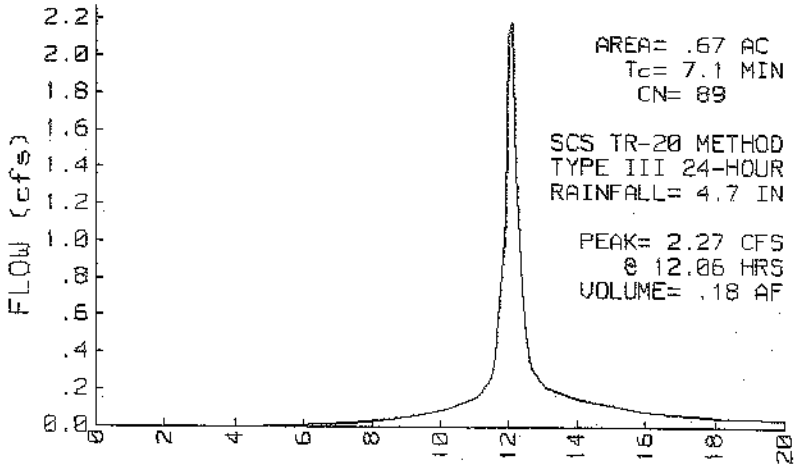
PEAK= 2.27 CFS @ 12.06 HRS, VOLUME= .18 AF

| ACRES | CN | |
|---|---|---|
| .24 | 74 | Grass - "C" |
| .05 | 89 | Gravel - "C" |
| .38 | 98 | Impervious |
| .67 | 89 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 4.7 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 108.5 to 106.5 | 4.2 |
| Grass: Dense n=.24 L=35' P2=3 in s=.0571 '/' | | |
| TR-55 SHEET FLOW | El. 106.5 to 104 | .4 |
| Smooth surfaces n=.011 L=45' P2=3 in s=.0556 '/' | | |
| TR-55 SHEET FLOW | El. 104 to 103.6 | 1.6 |
| Smooth surfaces n=.011 L=70' P2=3 in s=.0057 '/' | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 103.6 to 103 | .8 |
| Paved Kv=20.3282 L=80' s=.0075 '/' V=1.76 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 103 to 102.5 | .1 |
| Grassed Waterway Kv=15 L=12' s=.0417 '/' V=3.06 fps | | |
| | Total Length= 242 ft Total Tc= | 7.1 |

SUBCATCHMENT 11 RUNOFF
Access drive & parking areas



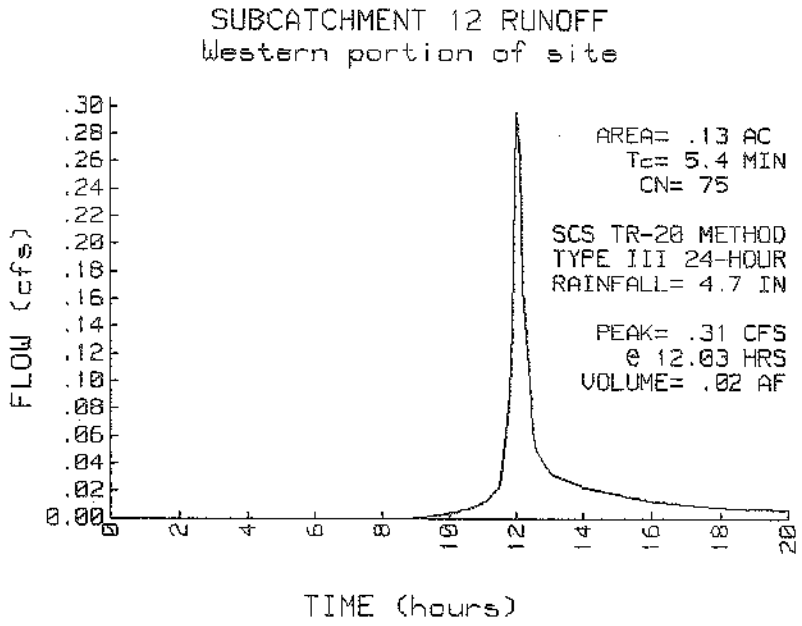
SUBCATCHMENT 12 Western portion of site

PEAK= .31 CFS @ 12.03 HRS, VOLUME= .02 AF

| ACRES | CN | |
|---|---|---|
| .01 | 89 | Gravel - "C" |
| .12 | 74 | Grass - "C" |
| .13 | 75 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 4.7 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 110 to 103.9 | 5.4 |
| Grass: Dense n=.24 L=63' P2=3 in s=.0968 '/' | | |



SUBCATCHMENT 20 Entrance & Maaco parking

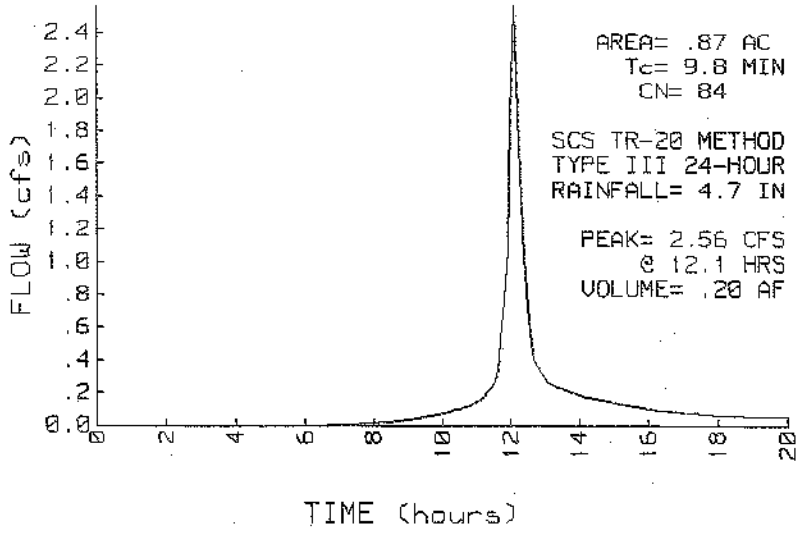
PEAK= 2.56 CFS @ 12.10 HRS, VOLUME= .20 AF

| ACRES | CN | |
|---|---|---|
| .51 | 74 | Grass - "C" |
| .01 | 89 | Gravel - "C" |
| .35 | 98 | Impervious |
| .87 | 84 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 4.7 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 109.5 to 107.75 | 5.2 |
| Grass: Dense n=.24 L=40' P2=3 in s=.0438 '/' | | |
| TR-55 SHEET FLOW | El. 107.75 to 104 | .6 |
| Smooth surfaces n=.011 L=65' P2=3 in s=.0577 '/' | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 104 to 103 | 2.0 |
| Paved Kv=20.3282 L=180' s=.0056 '/' V=1.52 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 103 to 102 | .6 |
| Paved Kv=20.3282 L=82' s=.0122 '/' V=2.25 fps | | |
| RECT/VEE/TRAP CHANNEL | El. 102 to 100 | 1.3 |
| W=5' D=1' SS= .1 '/' a=15 sq-ft Pw=25.1' r=.598' | | |
| s=.0082 '/' n=.03 V=3.18 fps L=245' Capacity=47.7 cfs | | |
| RECT/VEE/TRAP CHANNEL | El. 100 to 96.5 | .1 |
| W=5' D=1' SS= .2 '/' a=10 sq-ft Pw=15.2' r=.658' | | |
| s=.05 '/' n=.03 V=8.38 fps L=70' Capacity=83.8 cfs | | |
| | Total Length= 682 ft Total Tc= | 9.8 |

SUBCATCHMENT 20 RUNOFF
Entrance & Maaco parking



REACH 101 12" dia. storm drain

Qin = .31 CFS @ 12.03 HRS, VOLUME= .02 AF
Qout= .29 CFS @ 12.08 HRS, VOLUME= .02 AF, ATTEN= 7%, LAG= 2.7 MIN

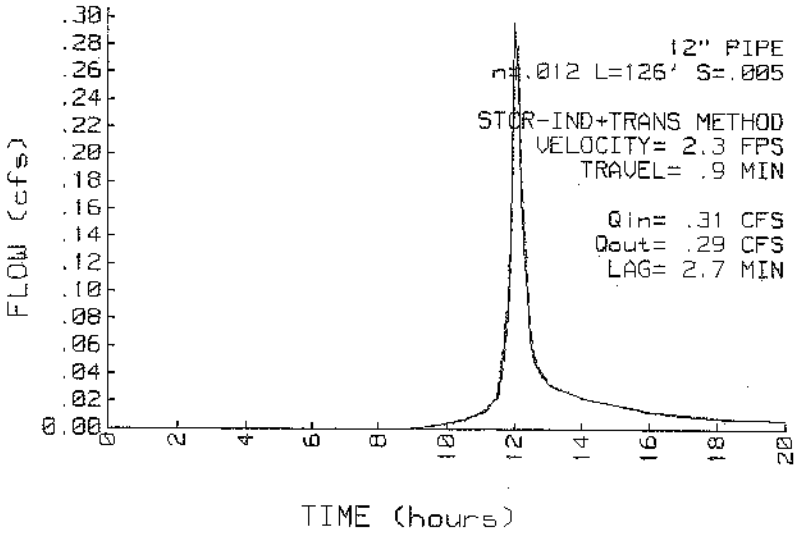
| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|
| 0.0 | 0.0 | 0.00 |
| .1 | 0.0 | .06 |
| .2 | .1 | .24 |
| .3 | .2 | .53 |
| .7 | .6 | 2.29 |
| .8 | .7 | 2.67 |
| .9 | .7 | 2.91 |
| .9 | .8 | 2.94 |
| 1.0 | .8 | 2.91 |
| 1.0 | .8 | 2.73 |

12" PIPE

n= .012
LENGTH= 126 FT
SLOPE= .005 FT/FT

STOR-IND+TRANS METHOD
PEAK DEPTH= .22 FT
PEAK VELOCITY= 2.3 FPS
TRAVEL TIME = .9 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 101 INFLOW & OUTFLOW
12" dia. storm drain



REACH 102 15" dia. storm drain

Qin = 2.55 CFS @ 12.06 HRS, VOLUME= .21 AF
Qout= 2.54 CFS @ 12.08 HRS, VOLUME= .21 AF, ATTEN= 1%, LAG= 1.3 MIN

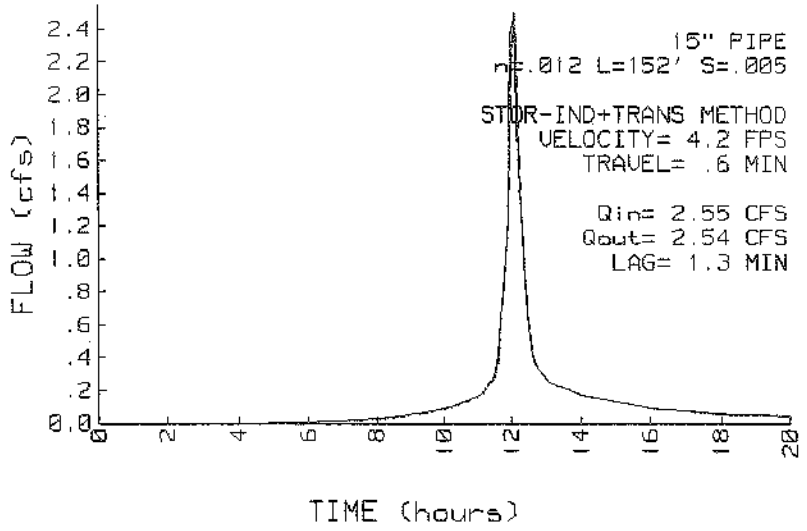
| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|
| 0.0 | 0.0 | 0.00 |
| .1 | .1 | .10 |
| .3 | .2 | .43 |
| .4 | .3 | .97 |
| .9 | .9 | 4.14 |
| 1.0 | 1.1 | 4.84 |
| 1.1 | 1.2 | 5.27 |
| 1.2 | 1.2 | 5.32 |
| 1.2 | 1.2 | 5.27 |
| 1.3 | 1.2 | 4.95 |

15" PIPE

n= .012
LENGTH= 152 FT
SLOPE= .005 FT/FT

STOR-IND+TRANS METHOD
PEAK DEPTH= .62 FT
PEAK VELOCITY= 4.2 FPS
TRAVEL TIME = .6 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 102 INFLOW & OUTFLOW
15" dia. storm drain



REACH 999 10" dia storm drain

Qin = 3.66 CFS @ 12.34 HRS, VOLUME= .52 AF
Qout= 3.65 CFS @ 12.34 HRS, VOLUME= .52 AF, ATTEN= 0%, LAG= .1 MIN

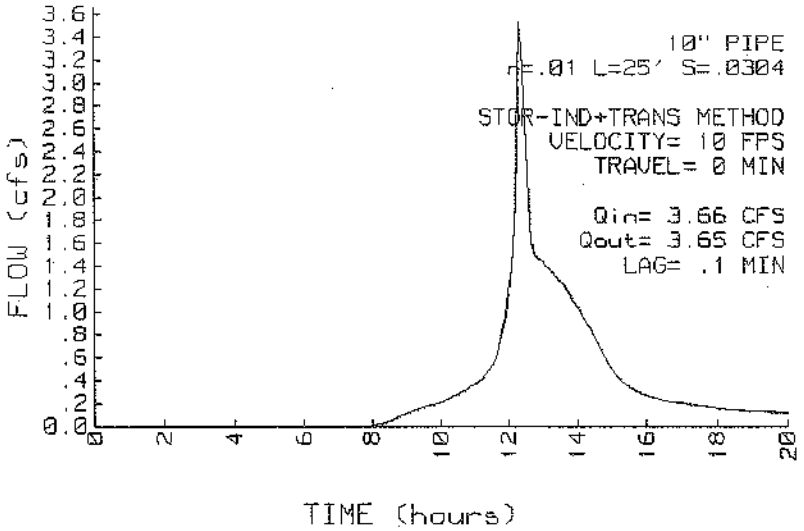
| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|
| 0.0 | 0.0 | 0.00 |
| .1 | 0.0 | .10 |
| .2 | .1 | .43 |
| .3 | .1 | .97 |
| .6 | .4 | 4.16 |
| .7 | .5 | 4.85 |
| .8 | .5 | 5.29 |
| .8 | .5 | 5.34 |
| .8 | .5 | 5.29 |
| .8 | .5 | 4.97 |

10" PIPE

n= .01
LENGTH= 25 FT
SLOPE= .0304 FT/FT

STOR-IND+TRANS METHOD
PEAK DEPTH= .52 FT
PEAK VELOCITY= 10.0 FPS
TRAVEL TIME = 0.0 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 999 INFLOW & OUTFLOW
10" dia storm drain



REACH 200

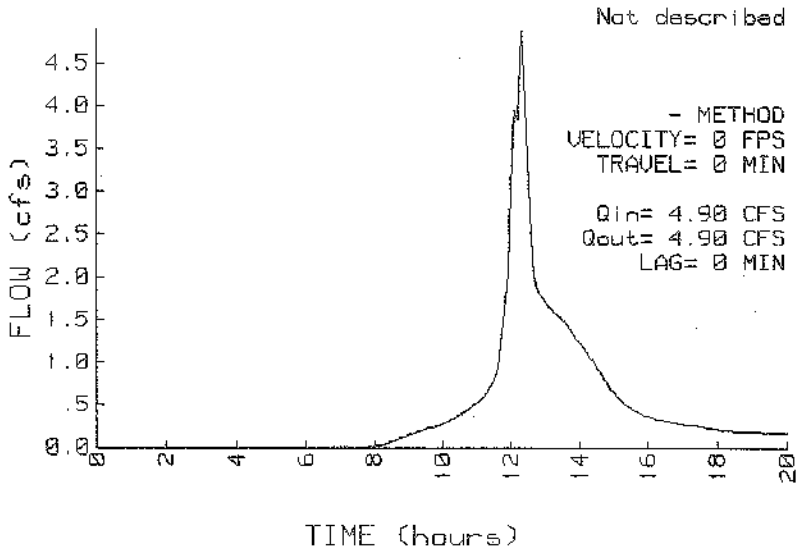
Not described

Qin = 4.90 CFS @ 12.32 HRS, VOLUME= .72 AF
Qout= 4.90 CFS @ 12.32 HRS, VOLUME= .72 AF, ATTEN= 0%, LAG= 0.0 MIN

| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|

- METHOD
PEAK DEPTH= 0.00 FT
PEAK VELOCITY= 0.0 FPS
TRAVEL TIME = 0.0 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 200 INFLOW & OUTFLOW



POND 1 Detention Pond

Qin = 6.09 CFS @ 12.11 HRS, VOLUME= .53 AF
Qout= 3.66 CFS @ 12.34 HRS, VOLUME= .52 AF, ATTEN= 40%, LAG= 13.6 MIN
Qpri= 3.66 CFS @ 12.34 HRS, VOLUME= .52 AF
Qsec= 0.00 CFS @ 0.00 HRS, VOLUME= 0.00 AF

| ELEVATION (FT) | AREA (SF) | INC.STOR (CF) | CUM.STOR (CF) |
|---|---|---|---|
| 97.5 | 600 | 0 | 0 |
| 98.0 | 940 | 385 | 385 |
| 99.0 | 1460 | 1200 | 1585 |
| 100.0 | 2250 | 1855 | 3440 |
| 101.0 | 3185 | 2718 | 6158 |
| 102.0 | 4280 | 3733 | 9890 |

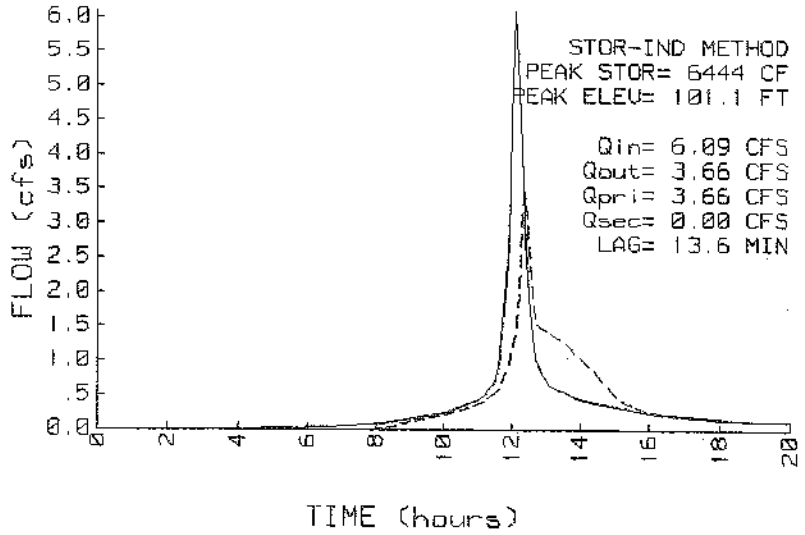
STOR-IND METHOD
PEAK STORAGE = 6444 CF
PEAK ELEVATION= 101.1 FT
FLOOD ELEVATION= 102.0 FT
START ELEVATION= 97.5 FT
SPAN= 0-20 HRS, dt=.1 HRS
Tdet= 46.7 MIN (.52 AF)

| # | ROUTE | INVERT | OUTLET DEVICES |
|---|---|---|---|
| 1 | P | 98.0' | 6" ORIFICE/GRATE<br>Q=.6 PI r^2 SQR(2g) SQR(H-r) |
| 2 | P | 100.8' | 4' BROAD-CRESTED RECTANGULAR WEIR<br>Q=C L H^1.5 C=3.32, 0, 0, 0, 0, 0, 0, 0 |
| 3 | S | 101.5' | 12' BROAD-CRESTED RECTANGULAR WEIR<br>Q=C L H^1.5 C=3.32, 0, 0, 0, 0, 0, 0, 0 |

Primary Discharge
├─1=Orifice/Grate
└─2=Broad-Crested Rectangular Weir

Secondary Discharge
└─3=Broad-Crested Rectangular Weir

POND 1 INFLOW & OUTFLOW
Detention Pond



RUNOFF BY SCS TR-20 METHOD: TYPE III 24-HOUR RAINFALL= 5.5 IN, SCS U.H.

RUNOFF SPAN = 0-20 HRS, dt= .10 HRS, 201 POINTS

| SUBCAT NUMBER | AREA (ACRE) | Tc (MIN) | --GROUND COVERS (%CN)-- | | | | WGT'D CN | C | PEAK (CFS) | Tpeak (HRS) | VOL (AF) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 1.15 | 13.2 | 31%74 | 0%00 | 7%89 | 62%98 | 90 | - | 4.37 | 12.13 | .40 |
| 11 | .67 | 7.1 | 36%74 | 7%89 | 57%98 | - | 89 | - | 2.74 | 12.06 | .22 |
| 12 | .13 | 5.4 | 8%89 | 92%74 | - | - | 75 | - | .40 | 12.03 | .03 |
| 20 | .87 | 9.8 | 59%74 | 1%89 | 40%98 | - | 84 | - | 3.17 | 12.10 | .25 |

## REACH ROUTING BY STOR-IND+TRANS METHOD

| REACH NO. | DIAM (IN) | BOTTOM WIDTH (FT) | DEPTH (FT) | SIDE SLOPES (FT/FT) | | n | LENGTH (FT) | SLOPE (FT/FT) | PEAK VEL. (FPS) | TRAVEL TIME (MIN) | PEAK Qout (CFS) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 101 | 12.0 | - | - | - | - | .012 | 126 | .0050 | 2.5 | .9 | .37 |
| 102 | 15.0 | - | - | - | - | .012 | 152 | .0050 | 4.3 | .6 | 3.09 |
| 200 | - | - | - | - | - | - | - | - | 0.0 | 0.0 | 7.34 N |
| 999 | 10.0 | - | - | - | - | .010 | 25 | .0304 | 10.4 | 0.0 | 5.17 |

## POND ROUTING BY STOR-IND METHOD

| POND NO. | START ELEV. (FT) | FLOOD ELEV. (FT) | PEAK ELEV. (FT) | PEAK STORAGE (AF) | PEAK FLOW Qin (CFS) | PEAK FLOW Qout (CFS) | PEAK FLOW Qpri (CFS) | PEAK FLOW Qsec (CFS) | ---Qout--- ATTEN. (%) | ---Qout--- LAG (MIN) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 97.5 | 102.0 | 101.2 | .16 | 7.37 | 5.15 | 5.15 | 0.00 | 30 | 9.6 |

SUBCATCHMENT 10 Buildings and area between them

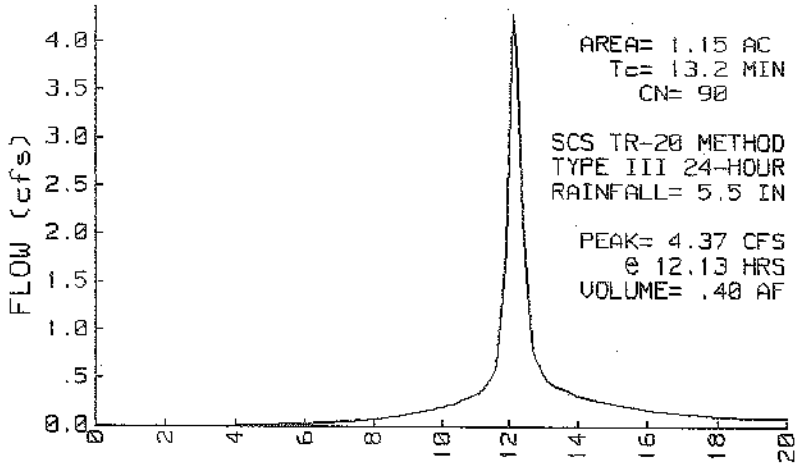
PEAK= 4.37 CFS @ 12.13 HRS, VOLUME= .40 AF

| ACRES | CN | |
|---|---|---|
| .36 | 74 | Grass - "C" |
| 0.00 | 0 | |
| .08 | 89 | Gravel - "C" |
| .71 | 98 | Impervious |
| 1.15 | 90 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 5.5 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 104 to 103 | 3.3 |
| Grass: Dense n=.24 L=23' P2=3 in s=.0435 '/' | | |
| TR-55 SHEET FLOW | El. 103 to 102 | 9.9 |
| Grass: Dense n=.24 L=57' P2=3 in s=.0175 '/' | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 102 to 101 | 0.0 |
| Grassed Waterway Kv=15 L=10' s=.1 '/' V=4.74 fps | | |
| | Total Length= 90 ft | Total Tc= 13.2 |

SUBCATCHMENT 10 RUNOFF
Buildings and area between them



SUBCATCHMENT 11 Access drive & parking areas

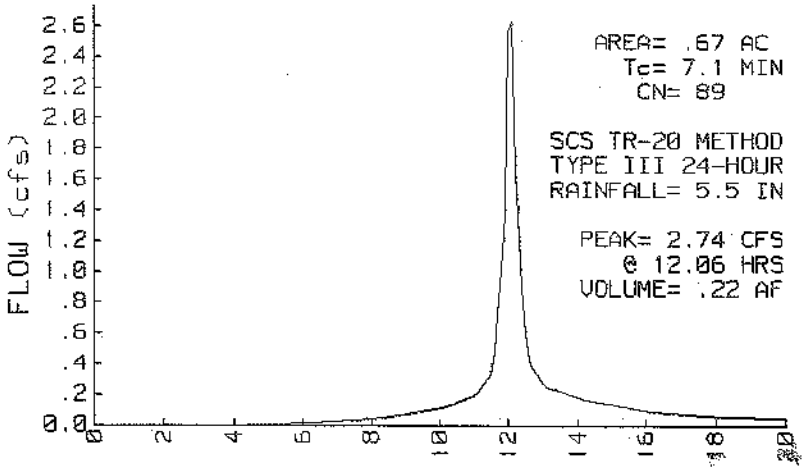
PEAK= 2.74 CFS @ 12.06 HRS, VOLUME= .22 AF

| ACRES | CN | |
|---|---|---|
| .24 | 74 | Grass - "C" |
| .05 | 89 | Gravel - "C" |
| .38 | 98 | Impervious |
| .67 | 89 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 5.5 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 108.5 to 106.5 | 4.2 |
| Grass: Dense n=.24 L=35' P2=3 in s=.0571 '/' | | |
| TR-55 SHEET FLOW | El. 106.5 to 104 | .4 |
| Smooth surfaces n=.011 L=45' P2=3 in s=.0556 '/' | | |
| TR-55 SHEET FLOW | El. 104 to 103.6 | 1.6 |
| Smooth surfaces n=.011 L=70' P2=3 in s=.0057 '/' | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 103.6 to 103 | .8 |
| Paved Kv=20.3282 L=80' s=.0075 '/' V=1.76 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 103 to 102.5 | .1 |
| Grassed Waterway Kv=15 L=12' s=.0417 '/' V=3.06 fps | | |
| | Total Length= 242 ft Total Tc= | 7.1 |

SUBCATCHMENT 11 RUNOFF
Access drive & parking areas



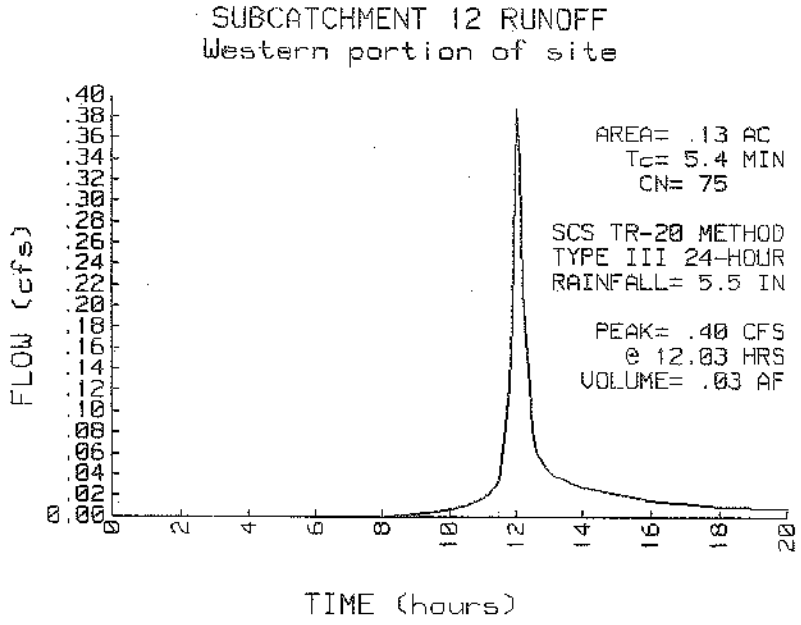
SUBCATCHMENT 12 Western portion of site

PEAK= .40 CFS @ 12.03 HRS, VOLUME= .03 AF

| ACRES | CN | |
|---|---|---|
| .01 | 89 | Gravel - "C" |
| .12 | 74 | Grass - "C" |
| .13 | 75 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 5.5 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 110 to 103.9 | 5.4 |
| Grass: Dense n=.24 L=63' P2=3 in s=.0968 '/' | | |



SUBCATCHMENT 20 Entrance & Maaco parking

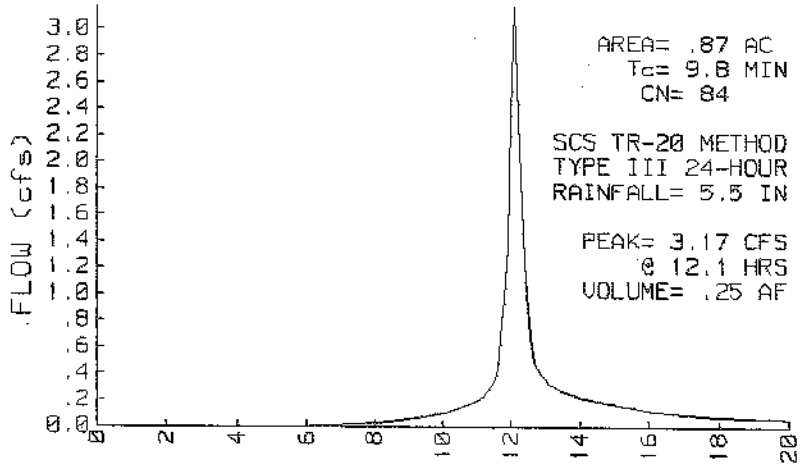
PEAK= 3.17 CFS @ 12.10 HRS, VOLUME= .25 AF

| ACRES | CN | |
|---|---|---|
| .51 | 74 | Grass - "C" |
| .01 | 89 | Gravel - "C" |
| .35 | 98 | Impervious |
| .87 | 84 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 5.5 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | El. 109.5 to 107.75 | 5.2 |
| Grass: Dense n=.24 L=40' P2=3 in s=.0438 '/' | | |
| TR-55 SHEET FLOW | El. 107.75 to 104 | .6 |
| Smooth surfaces n=.011 L=65' P2=3 in s=.0577 '/' | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 104 to 103 | 2.0 |
| Paved Kv=20.3282 L=180' s=.0056 '/' V=1.52 fps | | |
| SHALLOW CONCENTRATED/UPLAND FLOW | El. 103 to 102 | .6 |
| Paved Kv=20.3282 L=82' s=.0122 '/' V=2.25 fps | | |
| RECT/VEE/TRAP CHANNEL | El. 102 to 100 | 1.3 |
| W=5' D=1' SS= .1 '/' a=15 sq-ft Pw=25.1' r=.598' | | |
| s=.0082 '/' n=.03 V=3.18 fps L=245' Capacity=47.7 cfs | | |
| RECT/VEE/TRAP CHANNEL | El. 100 to 96.5 | .1 |
| W=5' D=1' SS= .2 '/' a=10 sq-ft Pw=15.2' r=.658' | | |
| s=.05 '/' n=.03 V=8.38 fps L=70' Capacity=83.8 cfs | | |
| | Total Length= 682 ft Total Tc= | 9.8 |

SUBCATCHMENT 20 RUNOFF
Entrance & Maaco parking



REACH 101 12" dia. storm drain

Qin = .40 CFS @ 12.03 HRS, VOLUME= .03 AF
Qout= .37 CFS @ 12.07 HRS, VOLUME= .03 AF, ATTEN= 7%, LAG= 2.5 MIN

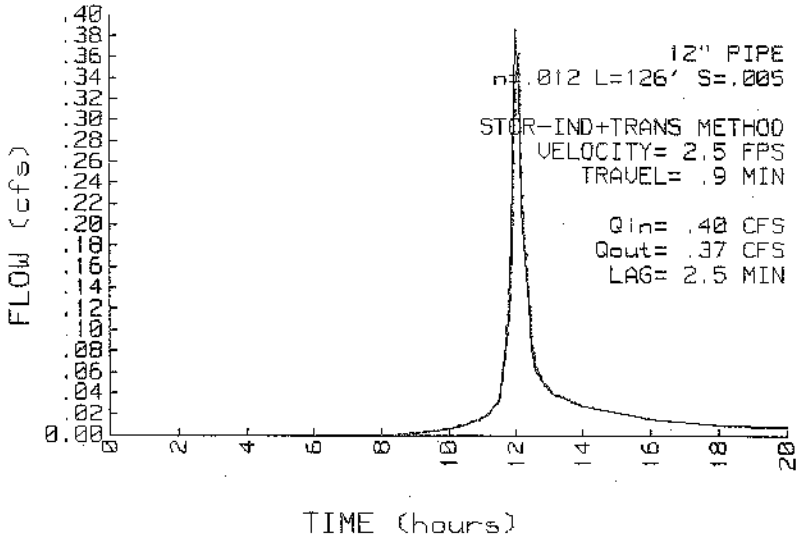
| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|
| 0.0 | 0.0 | 0.00 |
| .1 | 0.0 | .06 |
| .2 | .1 | .24 |
| .3 | .2 | .53 |
| .7 | .6 | 2.29 |
| .8 | .7 | 2.67 |
| .9 | .7 | 2.91 |
| .9 | .8 | 2.94 |
| 1.0 | .8 | 2.91 |
| 1.0 | .8 | 2.73 |

12" PIPE

n= .012
LENGTH= 126 FT
SLOPE= .005 FT/FT

STOR-IND+TRANS METHOD
PEAK DEPTH= .24 FT
PEAK VELOCITY= 2.5 FPS
TRAVEL TIME = .9 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 101 INFLOW & OUTFLOW
12" dia. storm drain



REACH 102 15" dia. storm drain

Qin = 3.11 CFS @ 12.06 HRS, VOLUME= .25 AF
Qout= 3.09 CFS @ 12.08 HRS, VOLUME= .25 AF, ATTEN= 0%, LAG= 1.4 MIN

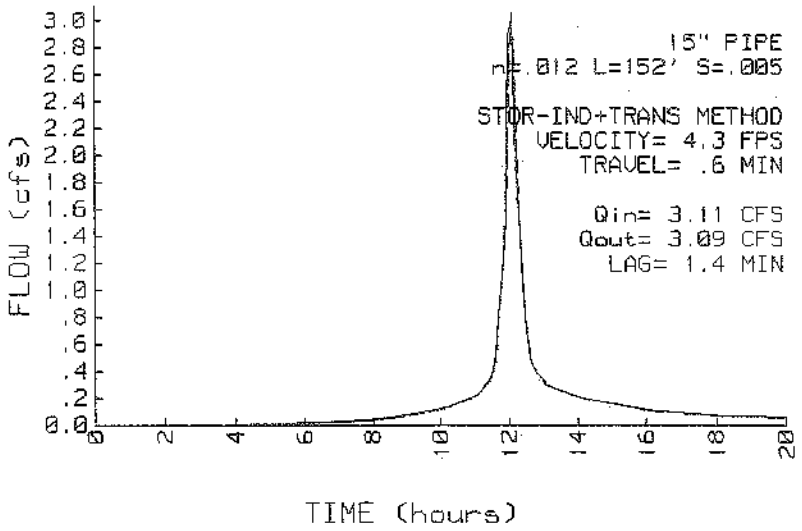
| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|
| 0.0 | 0.0 | 0.00 |
| .1 | .1 | .10 |
| .3 | .2 | .43 |
| .4 | .3 | .97 |
| .9 | .9 | 4.14 |
| 1.0 | 1.1 | 4.84 |
| 1.1 | 1.2 | 5.27 |
| 1.2 | 1.2 | 5.32 |
| 1.2 | 1.2 | 5.27 |
| 1.3 | 1.2 | 4.95 |

15" PIPE

n= .012
LENGTH= 152 FT
SLOPE= .005 FT/FT

STOR-IND+TRANS METHOD
PEAK DEPTH= .71 FT
PEAK VELOCITY= 4.3 FPS
TRAVEL TIME = .6 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 102 INFLOW & OUTFLOW
15" dia. storm drain



REACH 999 10" dia storm drain

Qin = 5.15 CFS @ 12.27 HRS, VOLUME= .63 AF
Qout= 5.17 CFS @ 12.27 HRS, VOLUME= .63 AF, ATTEN= 0%, LAG= .3 MIN

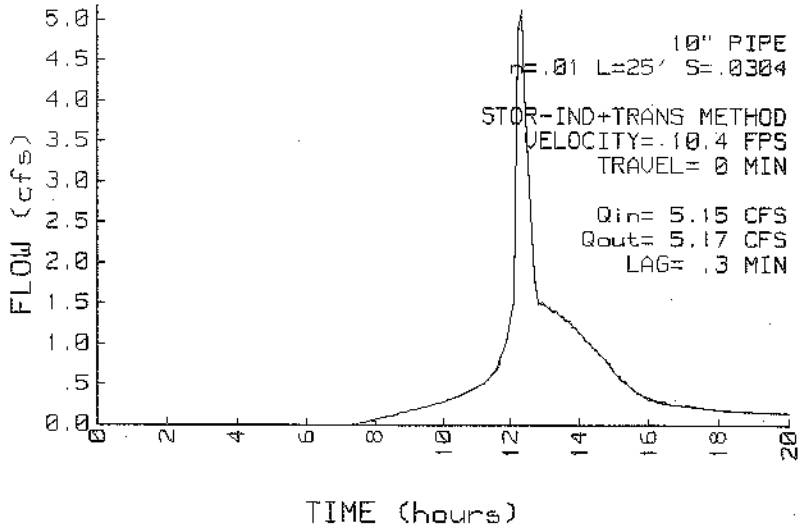
| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|
| 0.0 | 0.0 | 0.00 |
| .1 | 0.0 | .10 |
| .2 | .1 | .43 |
| .3 | .1 | .97 |
| .6 | .4 | 4.16 |
| .7 | .5 | 4.85 |
| .8 | .5 | 5.29 |
| .8 | .5 | 5.34 |
| .8 | .5 | 5.29 |
| .8 | .5 | 4.97 |

10" PIPE

n= .01
LENGTH= 25 FT
SLOPE= .0304 FT/FT

STOR-IND+TRANS METHOD
PEAK DEPTH= .72 FT
PEAK VELOCITY= 10.4 FPS
TRAVEL TIME = 0.0 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 999 INFLOW & OUTFLOW
10" dia storm drain



REACH 200

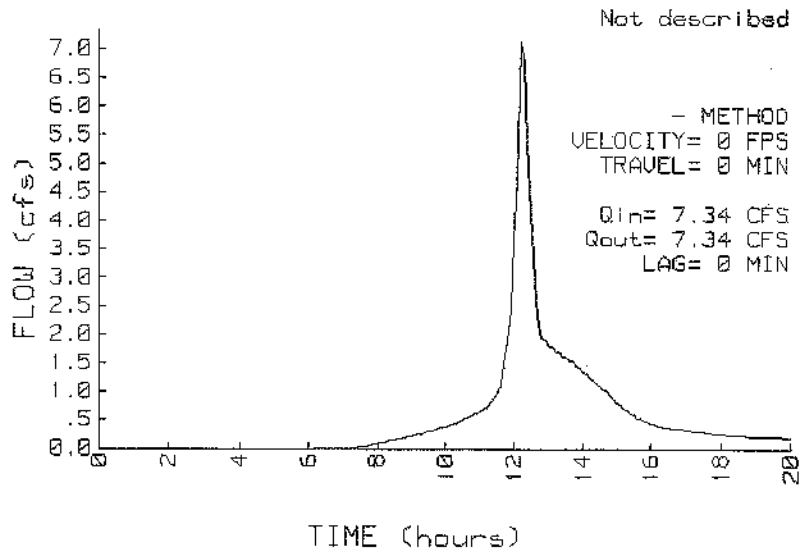
Not described

Qin = 7.34 CFS @ 12.24 HRS, VOLUME= .89 AF
Qout= 7.34 CFS @ 12.24 HRS, VOLUME= .89 AF, ATTEN= 0%, LAG= 0.0 MIN

| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|

- METHOD
PEAK DEPTH= 0.00 FT
PEAK VELOCITY= 0.0 FPS
TRAVEL TIME = 0.0 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 200 INFLOW & OUTFLOW



POND 1 Detention Pond

Qin = 7.37 CFS @ 12.11 HRS, VOLUME= .65 AF
Qout= 5.15 CFS @ 12.27 HRS, VOLUME= .63 AF, ATTEN= 30%, LAG= 9.6 MIN
Qpri= 5.15 CFS @ 12.27 HRS, VOLUME= .63 AF
Qsec= 0.00 CFS @ 0.00 HRS, VOLUME= 0.00 AF

| ELEVATION (FT) | AREA (SF) | INC.STOR (CF) | CUM.STOR (CF) |
|---|---|---|---|
| 97.5 | 600 | 0 | 0 |
| 98.0 | 940 | 385 | 385 |
| 99.0 | 1460 | 1200 | 1585 |
| 100.0 | 2250 | 1855 | 3440 |
| 101.0 | 3185 | 2718 | 6158 |
| 102.0 | 4280 | 3733 | 9890 |

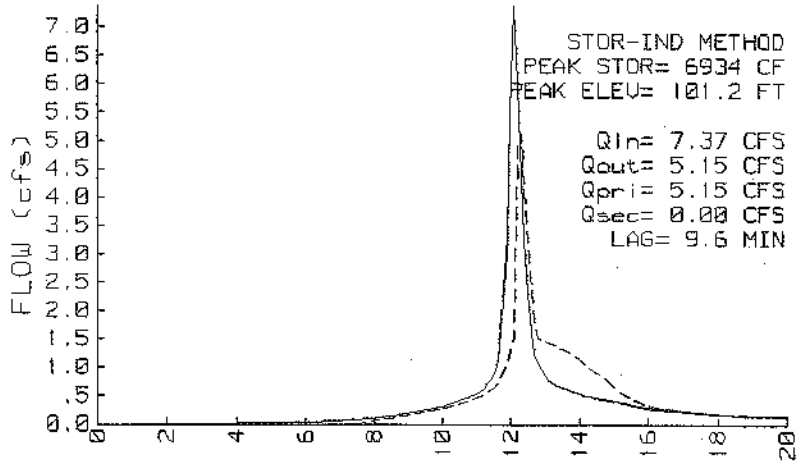
STOR-IND METHOD
PEAK STORAGE = 6934 CF
PEAK ELEVATION= 101.2 FT
FLOOD ELEVATION= 102.0 FT
START ELEVATION= 97.5 FT
SPAN= 0-20 HRS, dt=.1 HRS
Tdet= 42.9 MIN (.63 AF)

| # | ROUTE | INVERT | OUTLET DEVICES |
|---|---|---|---|
| 1 | P | 98.0' | 6" ORIFICE/GRATE<br>Q=.6 PI r^2 SQR(2g) SQR(H-r) |
| 2 | P | 100.8' | 4' BROAD-CRESTED RECTANGULAR WEIR<br>Q=C L H^1.5 C=3.32, 0, 0, 0, 0, 0, 0, 0 |
| 3 | S | 101.5' | 12' BROAD-CRESTED RECTANGULAR WEIR<br>Q=C L H^1.5 C=3.32, 0, 0, 0, 0, 0, 0, 0 |

Primary Discharge
├──1=Orifice/Grate
└──2=Broad-Crested Rectangular Weir

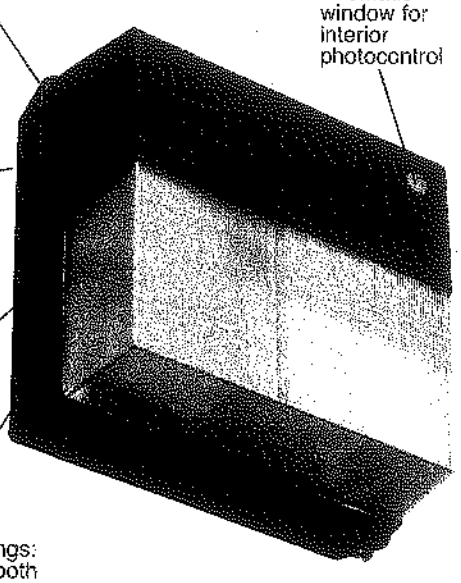
Secondary Discharge
└──3=Broad-Crested Rectangular Weir

POND 1 INFLOW & OUTFLOW
Detention Pond



# Perimaliter®

## Designed for General Area Illumination




### The energy-saving area lighter combining efficient lighting, vandal resistance and aesthetic appearance.

The growing demand for energy conservation has influenced luminaire designs to use energy-efficient lamps that provide maximum lighting performance. Hubbell Lighting's PERIMALITER® luminaire is a highly efficient lighting fixture designed for maximum spacing between luminaires, utilizing energy-efficient H.I.D. lamps. This luminaire can provide the same uniformity at a 6 to 1 spacing-to-mounting height ratio other wall lighters achieve at a 4 to 1 spacing-to-mounting height ratio.

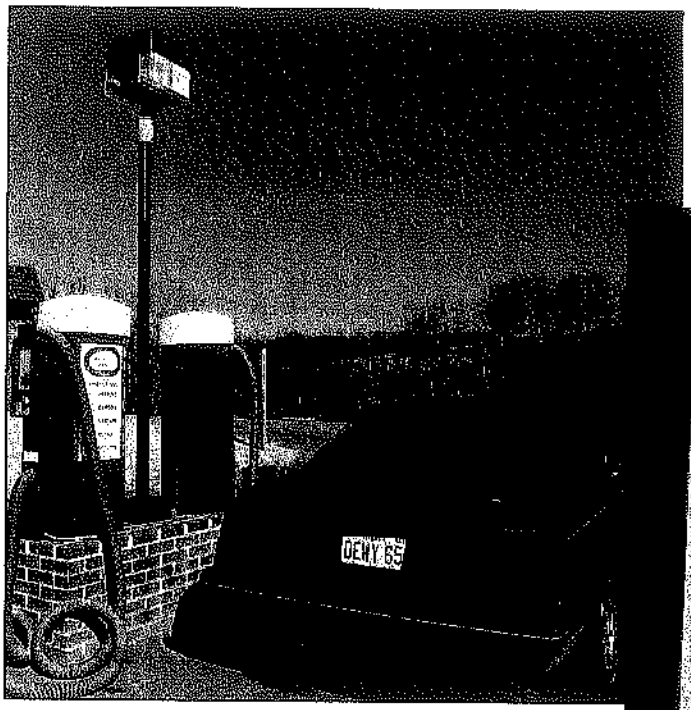
This luminaire is perfectly suited for safety and security applications, as well as commercial and industrial, wall and area lighting for:

- parking lots
- office buildings
- banks
- schools
- shopping centers
- stores
- fast food restaurants
- warehouses
- parking garages

In short, it can be used to illuminate the outside perimeter of virtually any building. With its optical efficiency and performance, fewer Perimaliter luminaires are needed to light any given area, thereby reducing electrical cost and energy consumption.

This lighting fixture's aesthetic appearance will complement any architectural setting, and its vandal-resistant construction is designed to last.

Specify Perimaliter for new installations or to retrolight existing systems. You get solid Hubbell reliability, energy savings, contemporary design and vandal resistance.



# Perimaliter® and Perimashield™

## Common Features

**Front Access Door Incorporating Lens Assembly** — Removable, one-piece, injection molded, UV stabilized door and clear lens hinges for full front access. Units feature polycarbonate for maximum vandal resistance. Interior door surface finished in bronze.

**Rear Housing** — One-piece, heavy-duty, die-cast aluminum for long life and cooler ballast operation.

**Reflector** — ANODAL® finished high quality specular grade aluminum for optimum photometrics and maximum light transmission.

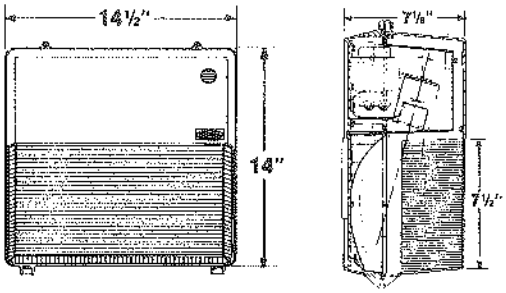
**Ballast** — Class "H" insulated, –20°F (–40°F for HPS) starting, 60 Hz, high power factor ballast. Normal power factor reactor ballast available for HPS (50 Hz ballasts also available). An aluminum ballast compartment cover isolates the electrical components from the optical assembly.

**Photocontrol Accessory** — A button-type photocell can be field installed behind the prismatic window for photocontrol operation. The prismatic window does not allow light below 90° to activate photocontrol.

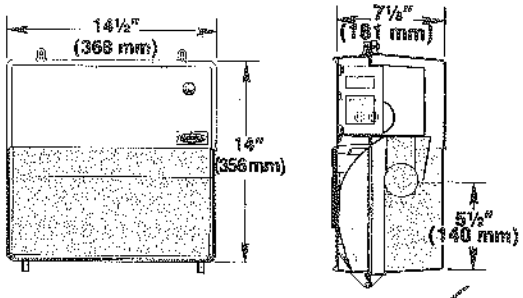
**Pole Mounting Accessory** — Aluminum slipfitter housing accepts 2⅜" O.D. tenon for field installation of single, or back to back double, post top mounted Perimaliter luminaires with Hubbell's bronze LEKTROCOTE® finish.

**Additional Features** — Bronze Lektrocote finish; two side entries provided for through conduit wiring if required; U.L. 1572 listed, suitable for wet locations.

## Dimension




PERIMALITER




PERIMASHIELD

## Mounting Details

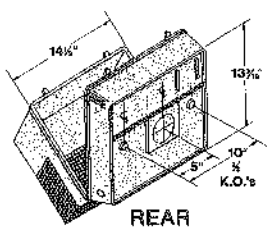
**Ease of installation:**

- Wall mounting
  Loosen captive lens retaining screws, and reflector retaining screws. Remove reflector.

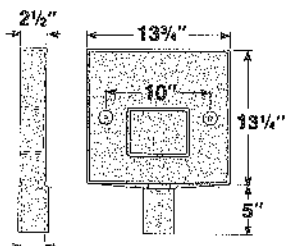
The two ⅜" K.O.'s with an industry standard 10" spacing are now accessible.

Perimaliter is designed for mounting directly over a 4" standard outlet box, and is also provided with ½" NPSM tapped and plugged hubs on both sides for surface conduit mounting.

- Pole Mounting
  Standard unit mounts directly to PVL-PT accessory for single, or double fixture mounting. Slipfit accessory onto pole tenon.




REAR
MOUNTING VIEW




PVL-PT

# Ordering Information

## Perimaliter®

### ORDERING INFORMATION

| Catalog Number | Lamps and Wattage | Voltage/Ballast | Weight | |
|---|---|---|---|---|
| | | | lbs. | kgs. |
| HIGH PRESSURE SODIUM | | | | |
| PVL-0070S-118 | 70 | Quad/AL (HPF) | 18 | 8 |
| PVL-0070S-511* | 70 | 120/Reactor (NPF) | 18 | 8 |
| PVL-0100S-118 | 100 | Quad/AL (HPF) | 19 | 9 |
| PVL-0100S-511* | 100 | 120/Reactor (NPF) | 19 | 9 |
| PVL-0150S-118 | 150** | Quad/AL (HPF) | 20 | 9 |
| PVL-0150S-511* | 150 | 120/Reactor (NPF) | 20 | 9 |
| METAL HALIDE† | | | | |
| PVL-0175H-118 | 175 | Quad/PLA | 21 | 10 |

Note: 50 Hz, 220/240 volt ballasts are also available. Consult factory.
*120 Volt only. Lamps included.
**Also available in 480 volt.
†Mercury lamps may also be operated on metal halide ballast.

## Perimashield™

### ORDERING INFORMATION

| Catalog Number | Lamps and Wattage* | Voltage/Ballast | Weight | |
|---|---|---|---|---|
| | | | lbs. | kgs. |
| HIGH PRESSURE SODIUM | | | | |
| PRS-0070S-118 | 70 | Quad/AL APF | 18 | 8 |
| PRS-0070S-511 | 70 | 120/Reactor NPF | 18 | 8 |
| PRS-0100S-118 | 100 | Quad/AL HPS | 19 | 9 |
| PRS-0100S-511 | 100 | 120/Reactor NPF | 19 | 9 |
| PRS-0150S-118 | 150 | Quad/AL HPS | 20 | 9 |
| PRS-0150S-511 | 150 | 120/Reactor NPF | 20 | 9 |
| METAL HALIDE | | | | |
| PRS-0100H-118 | 100 | Quad/PLA HPF | 20 | 9 |
| PRS-0175H-118 | 175 | Quad/PLA HPF | 21 | 9.5 |

*Medium Base Lamps Included.

## ACCESSORIES For field installation with Perimaliter and Perimashield series. Order separately.

| Catalog Number | Description |
|---|---|
| ECO-F | Single in-line fuse holder for 120 and 277 volts. (Fuse not included.) |
| ECO-FF | Double in-line fuse holder for 208 and 240 volts. (Fuse not included.) |
| FUSE-5A | Single in-line fuse and holder for 120 and 277 volts |
| FUSE-10A | Double in-line fuse and holder for 208 and 240 volts |
| PBT-1 | Photocontrol, 120 volt. (PVL-PK wiring kit required.) |
| PBT-2, 3, 4 | Photocontrol, 208, 240, 277 volt. (PVL-PK wiring kit required.) |
| PVL-PK | Gasket and wiring kit for photocontrol. (Photocontrol not included.) Required when photocontrol is used |
| PVL-PT | Aluminum slipfitter housing accepts 2⅜" O.D. tenon for single or back-to-back double, post-top mounted Permashield Bronze LEKTROCOTE® finish. EPA: 1.8 sq. ft. with fixtures. |
| PVL-TR | Tamper resistant hardware kit. |

# CITY OF PORTLAND
## Planning and Urban Development Department

## MEMORANDUM

**TO:** Duane Kline, Finance Department

**FROM:** Joseph E. Gray, Jr., Director of Planning and Urban Development

**DATE:** September 26, 2000

**SUBJECT:** Release of Performance Guarantee

Please release the remaining amount of $11,889.00 that is being held in a performance guarantee for the MASCO project located at 24 Morrill Street. If you have any questions, please do not hesitate to contact Kandi Talbot at ext. 8901.

**Approved:**

Joseph E. Gray, Jr.
Director of Planning and Urban Development

cc: Kandi Talbot, Planner
Code Enforcement
Jim Wendel, Development Review Coordinator

O:\PLAN\CORRESP\DRC\PERFORM\morrill.doc

Finance Department

Duane G. Kline
Director

# CITY OF PORTLAND

September 28, 2000

Benjamin C. Geci, Assistant Vice President
Peoples Heritage Bank
P.O. Box 9540
Portland, ME 04112-9540

Re: MASCO
Irrevocable Letter of Credit No. 61580-663

Dear Mr. Geci:

This is to inform you that I am authorizing the release and return of the above-named Irrevocable Letter of Credit. If you require any further information, please let me know.

Sincerely,

Duane G. Kline
Finance Director

pc: Joseph Gray, Director of Planning & Urban Development
Kandi Talbot, Planner

Finance Department

Duane G. Kline
Director

# CITY OF PORTLAND

July 9, 1999

Benjamin C. Geci, Assistant Vice President
Peoples Heritage Bank
P.O. Box 9540
Portland, ME 04112-9540

Re: MASCO
Irrevocable Letter of Credit No. 61580-663

Dear Mr. Geci:

This is to inform you that I am authorizing the reduction of the above-named letter of credit, in the amount of $33,168.00, by the amount of 21,279.00, which should leave a balance remaining of $11,889.00.

If you require any further information, please let me know.

Sincerely,

Duane G. Kline
Finance Director

389 Congress Street • Portland, Maine 04101 • (207) 874-8645 • FAX 874-8652 • TTY 874-8936

# CITY OF PORTLAND
## Planning and Urban Development Department

## MEMORANDUM

**TO:** Duane Kline, Finance Department

**FROM:** Joseph E. Gray, Jr., Director of Planning and Urban Development

**DATE:** July 1, 1999

**SUBJECT:** Request for Reduction of Performance Guarantee

A request by MASCO, 24 Morrill Street has been made for a reduction in the performance guarantee amount. This is the first request.

| | |
|---|---|
| Original Sum | $33,168.00 |
| Reduction Amount | $21,279.00 |
| Remaining Sum | $11,889.00 |

The remainder is the sum necessary to complete the items identified in a memo from Jim Wendel, dated June 4, 1999, to Kandi Talbot.

**Approved:**

Joseph E. Gray, Jr.
Director of Planning and Urban Development

cc: Kandi Talbot, Planner
Code Enforcement
Jim Wendel, Development Review Coordinator

O:\PLAN\CORRESP\DRC\PERFORM\24MORRIL.WPD

Peoples Heritage Bank

One Portland Square
P.O. Box 9540
Portland, ME 04112-9540

1-800-462-3666
Tel: 207-761-8500

# AMENDMENT TO IRREVOCABLE LETTER OF CREDIT

Peoples

March 2, 1999

City of Portland
389 Congress Street
Portland, Maine 04101

**Re: Letter of Credit No: 61580-663**
**Date of Issue: October 29, 1998**
**For the account of: MASCO, a Maine general partnership/24 Morrill Street, Portland**

Dear Sir or Madam:

Peoples Heritage Bank hereby issues its Irrevocable Letter of Credit for the account of MASCO, a Maine general partnership as developer, hereinafter referred to as the Developer, in the name of the City of Portland in the aggregate amount of $33,168.00.

The city, through its Director of Planning and Urban Development, may draw on this Letter of Credit by presentation of a sight draft and the original Letter of Credit and all amendments thereto, at Peoples Heritage Bank's offices located at One Portland Square, Portland, Maine stating that:

- The Developer has failed to complete by July 29, 1999, or by the expiration date of any temporary certificate of occupancy issued, whichever date comes first, at the Developer's expense, the work on the roads and other public improvements as set forth in a certain Schedule of Costs of Public Improvements dated October 20, 1998

- The Developer has failed to post the ten percent (10.0%) Defect Bond or Guarantee required by the Portland City Code sections 14-501 and 14-525; or,

- The Developer has failed to notify the City for inspections.

In the event of Peoples Heritage Bank's dishonor of the City of Portland's sight draft, Peoples Heritage Bank shall inform the City of Portland in writing of the reason or reasons therefor within three (3) working days of the dishonor.

After all underground work in the public right of way has been completed and inspected to the satisfaction of the Department of Public Works, including but not limited to

sanitary sewers, storm drains, catch basins, manholes, electrical conduits, and other required improvements constructed chiefly below grade, the City of Portland Director of Planning and Urban Development or the City of Portland Director of Finance as provided in section 14-501 of the Portland City Code may authorize Peoples Heritage Bank, by written certification, to reduce the available amount of this letter of credit by a specified amount.

It is a condition of this Letter of Credit that it is deemed to be automatically extended without amendment for period(s) of one year each from the current expiration date, or any future expiration date, unless at least sixty (60) days prior to any expiratin date Peoples Heritage Bank notifies the Director of Planning and Urban Development by registered mail at the above listed address that Peoples Heritage Bank elects not to consider this Letter of Credit renewed for any such additional period.

In the event of such notice, the City may draw hereunder by presentation of a sight draft drawn on the Bank, accompanied by the original Letter of Credit and all amendments thereto, and a statement purportedly signed by the Director of Planning and Urban Development reading as follows:

- This drawing results from notification that Peoples Heritage Bank has elected not to renew its Letter of Credit No. 61580-663;

- This drawing results from the Developer's failure to timely complete to the satisfaction of the City the public improvements set forth in a certain Schedule of Costs of Public Improvements dated October 20, 1998

- This drawing results from the Developer's failure to post a ten percent (10.0%) Defect Guarantee or Bond as provided in §14-501 of the Portland City Code; or,

- This drawing results from the Developer's failure to notify the City for inspections.

This Letter of Credit will automatically expire upon the earlier of:

- Peoples Heritage Bank's receipt of a written notification from the City of Portland that said work as outlined in a certain Schedule of Costs of Public Improvements dated October 20, 1998, between the Developer and the City of Portland has been completed in accordance with the City of Portland specifications and Peoples Heritage Bank's Letter of Credit No. 61580-663 may be canceled; or,

- The expiration date of July 29, 1999, or any automatically extended date as specified herein.

Partial drawings are permitted.

We engage with you that drafts drawn under and in compliance with the terms of this credit will be duly honored if presented at our offices at One Portland Square, Portland, on or before July 29, 1999, or any automatically extended date as specified herein

Sincerely,

**PEOPLES HERITAGE BANK**

By: _____
Benjamin C. Geci, Its Asst. Vice President

The City of Portland has accepted the providing of alternative security for the Developer's obligations to be performed pursuant to Section 14-501 and/or Section 14-525 of the Portland City Code.

Dated: 3/9/99, ____

By: _____
Joseph E. Gray Jr., Its Duly Authorized Director of Planning and Urban Development

**SEEN AND AGREED TO:**

Dated: March 3, 1999

**MASCO, a Maine general partnership**

By: _____
Bruce A. Pike, Its General Partner

By: _____
Wanda M. Pike, Its General Partner

Reviewed pursuant to Section 14-501 and/or Section 14-525, Portland City Code

Dated: _____, ____

By: _____
, Director of Finance

By: Penny Littell 3/8/99
Penny Littell, Corporation Counsel

Department of Planning and Urban Development
SUBDIVISION/SITE DEVELOPMENT

COST ESTIMATE OF IMPROVEMENTS TO BE COVERED BY PERFORMANCE GUARANTEE

Date 10/20/98

Name of Project Self Storage Facility

Address Location 24 Morrill St.

Developer Bruce Pike

Form of Performance Guarantee Letter of Credit

Type of Development: _____ Subdivision ✓ Site Plan (Major/Minor)

TO BE FILLED OUT BY APPLICANT:

| Item | PUBLIC Quantity | PUBLIC Unit Cost | PUBLIC Subtotal | PRIVATE Quantity | PRIVATE Unit Cost | PRIVATE Subtotal |
|---|---|---|---|---|---|---|
| 1. STREET/SIDEWALK | | | | | | |
| Road | | | | 17,320 Sq/ft | .55 | 9526 |
| Granite Curbing | | | | | | |
| Sidewalks | | | | | | |
| Esplanades | | | | | | |
| Monuments | | | | | | |
| Street Lighting | | | | | | |
| Other Paving | | | | 2025 Sq/yds | 7.70 | 15592 |
| | | | | | | 5,197 |
| 2. SANITARY SEWER | | | | | | |
| Manholes | | | | | | |
| Piping | | | | | | |
| Connections | | | | | | |
| Other | | | | | | |
| 3. STORM DRAINAGE | | | | | | |
| Manholes | | | | | | |
| Catchbasins | | | | 1 | 1575 | 1575 |
| Piping | | | | | | |
| Detention Basin | | | | 450 cuyds | 6.22 | 2800 |
| Other | | | | | | |
| 4. SITE LIGTING | | | | | | |
| 5. EROSION CONTROL | | | | | | 300 |
| 6. RECREATION AND OPEN SPACE AMENITIES | | | | | | |

| Item | PUBLIC Quantity | PUBLIC Unit Cost | PUBLIC Subtotal | PRIVATE Quantity | PRIVATE Unit Cost | PRIVATE Subtotal |
|---|---|---|---|---|---|---|
| 7. LANDSCAPING (Attach breakdown of plant materials, quantities, and unit costs) | | | | See List | | 3375 |
| 8. MISCELLANEOUS | | | | | | |
| TOTAL: | | | | | | |
| GRAND TOTAL: | | | | 33168 | | |

INSPECTION FEE (to be filled out by City)

| | PUBLIC | PRIVATE | TOTAL |
|---|---|---|---|
| A: 1.7% of totals: | | | |
| or | | | |
| B: Alternative Assessment: | | | |
| Assessed by: | (name) | (name) | |

8,572
3317
11,889

Peoples Heritage Bank

One Portland Square
P.O. Box 9540
Portland, ME 04112-9540

1-800-462-3666
Tel: 207-761-8500

Peoples

Date: October 29, 1998

Irrevocable Letter of Credit No.: 61580-663

City of Portland
389 Congress Street
Portland, Maine

Re: MASCO/24 Morrill Street, Portland, Maine

Gentlemen:

For value received, and for the account of MASCO, a Maine general partnership, we hereby authorize you to draw on us at sight up to an aggregate amount of U.S. $33,168.00.

This Letter of Credit is irrevocable and unconditional. The amount of this Letter of Credit shall be reduced as work is completed by the City of Portland. Such reduction shall be in an amount equal to the cost of the work which has been completed and approved.

Drafts drawn under this Letter of Credit must specify the number of this Letter of Credit, must be accompanied by the original Letter of Credit and must be presented at this office not later than July 29, 1999. Any number of partial draws are permitted hereunder, up to the full amount of this Letter of Credit.

We engage with you that drafts drawn under and in compliance with the terms of this Letter of Credit will be duly honored.

This Letter of Credit sets forth in full the terms of our obligations to you, and such undertaking shall not in any way be modified or amplified by any agreement referring to this Letter of Credit, to or to which this Letter of Credit relates, and any such reference shall not be deemed to incorporate herein by reference any agreement.

This Letter of Credit shall be interpreted and construed in accordance with, and shall be governed by, the Uniform Customs and Practice for Documentary Credits (1983 Revision), International Chamber of Commerce Publication No. 400, and to the extent not inconsistent therewith, by the Uniform Commercial Code as in effect from time to time in the State of Maine.

Very truly yours,

Peoples Heritage Savings Bank

By: _____
Its: AVP

P:\RBP\D64099\8611\StorageFacilityLoan\LETTERCR.WPD

# City of Portland, Maine
# Planning Department

City Hall
389 Congress Street, 4th Floor
Portland, Maine 04101
Fax Number: 756-8258

**FAX TRANSMISSION COVER SHEET**

**TO:** Ben Geci

**COMPANY:** People's — done

**FAX #:** 761-8660

**FROM:** Kandi Talbot

**# OF PAGES:** 4

**DATE:** November 6, 1998

**RE:** 24 Morrill Street

If you do not receive all of the pages, please call 874-8721 or 874-8719.

SAMPLE FORM

SITE PLANS/SUBDIVISIONS
PERFORMANCE GUARANTEE:
LETTER OF CREDIT
[Account # ]

(Date)

Joseph E. Gray, Jr., Director
Planning and Urban Development
389 Congress Street
City of Portland
Portland, Maine 04101

RE: [Project name and address]

**[The Bank]** hereby issues its Irrevocable Letter of Credit for the account of **[Name of Developer/Company]** as developer, hereinafter referred to as the Developer, in the name of the City of Portland in the aggregate amount of **[$ --- Amount of performance guarantee]**.

The City, through its Director of Planning and Urban Development, may draw on this Letter of Credit by presentation of a sight draft and the original Letter of Credit and all amendments thereto, at **[the Bank's]** offices located at **[Address of the appropriate local office of the Bank] [or in the case of an issuing bank which is not located within the City of Portland at (Name of local confirming bank's offices) located at (Address of the appropriate local confirming bank's office)]** stating that:

(1) the Developer has failed to complete by **[Date: within 2 years]** or by the expiration date of any temporary certificate of occupancy issued, whichever date comes first, at the Developer's expense, the work on the roads and other public improvements as set forth in a certain Schedule of Costs of Public Improvements dated **[insert date]**; or

(2) the Developer has failed to post the ten percent (10%) Defect Bond or Guarantee required by the Portland City Code sections 14-501 and 14-525; or

(3) the Developer has failed to notify the City for inspections.

In the event of **[The Bank's or local confirming bank's]** dishonor of the City of Portland's sight draft **[The Bank or local confirming bank]** shall inform the City of Portland in writing of the reason or reasons therefor within three (3) working days of the dishonor.

After all underground work in the public right of way has been completed and inspected to the satisfaction of the Department of Public Works, including but not limited to sanitary sewers, storm drains, catch basins, manholes, electrical conduits, and other required improvements constructed chiefly below grade, the City of Portland Director of Planning and Urban Development or the City of Portland Director of Finance as provided in section 14-501 of the Portland City Code may authorize **[the Bank],** by written certification, to reduce the available amount of this letter of credit by a specified amount.

It is a condition of this Letter of Credit that it is deemed to be automatically extended without amendment for period(s) of one year each from the current expiration date hereof, or any future expiration date, unless at least sixty (60) days prior to any expiration date, **[the Bank]** notifies the Director of Planning and Urban Development by registered mail at the above listed address that **[the Bank]** elects not to consider this Letter of Credit renewed for any such additional period.

In the event of such notice, the City may draw hereunder by presentation of a sight draft drawn on the Bank, accompanied by the original Letter of Credit and all amendments thereto, and a statement purportedly signed by the Director of Planning and Urban Development reading as follows:

> This drawing results from notification that [**The Bank**] has elected not to renew its Letter of Credit No_____; or
>
> This drawing results from the Developer's failure to timely complete to the satisfaction of the City the public improvements set forth in a certain Schedule of Costs of Public Improvements dated **[insert date]**; or
>
> This drawing results from the Developer's failure to post a ten percent (10%) Defect Guarantee or Bond as provided in §14-501 of the Portland City Code; or
>
> This drawing results from the Developer's failure to notify the City for inspections.

This Letter of Credit will automatically expire upon the earlier of:

1. **[The Bank's]** receipt of a written notification from the City of Portland that said work as outlined in a certain Schedule of Costs of Public Improvements dated **[insert date]** between the Developer and the City of Portland has been completed in accordance with the City of Portland specifications and [**The Bank's**] Letter of Credit No. _____ may be canceled; or

2. The expiration date of **[insert expiration date but not between the dates of September 15th and April 15th]** or any automatically extended date as specified herein.

Partial drawings are permitted.

We engage with you that drafts drawn under and in compliance with the terms of this credit will be duly honored if presented at our offices at **[insert address]** on or before **[insert date of expiration]** or any automatically extended date as specified herein.

Very truly yours,

**[The Bank]**

By:_____
Its Duly Authorized

The City of Portland has accepted the providing of alternative security for the Developer's obligations to be performed pursuant to Section 14-501 and/or Section 14-525 of the Portland City Code.

Dated:_____

By:_____
Joseph E. Gray, Jr.
Its Duly Authorized Director of Planning and Urban Development

Seen and Agreed to: Company

By:_____

Date:_____

Reviewed pursuant to Section 14-501 and/or Section 14-525, Portland City Code

By:_____
Director of Finance

Date:_____

By:_____
Corporation Counsel

Date:_____

Maaco

AMERICA'S SMART CHOICE
for Auto Painting • Bodywork • Collision Repair

October 26, 1998

Kandice Talbot
Planning Dept.
City of Portland

Re: Self-storage facility 24 Morrill ST

Dear Kandi

Please find enclosed the revised performance guarantee worksheet that we discussed last week. Also, be advised that in the next few days you should be receiving the following items.

1. Payment for site plan review ($882.00)
2. Payment for site inspection. ($563.86)
3. Performance guarantee for $33,168.00 in the form of a letter of credit.

Upon your receipt of these items we would like to begin construction of the roadway, install the drainage system, dig the detention pond, prep the site for the foundation, and grade the site. We do not intend to put the building up until next spring. I will submit a complete set of building plans as soon as I receive them from the building manufacturer. Please note that the required meeting with site contractor and city engineer has already been held and this schedule was discussed. Please advise if this plan is acceptable

Sincerely,
Bruce A. Pike

Enclosure (1)
BAP/bap

24 Morrill Street • Portland, ME 04103 • Tel. 207.878.9066

#3

52-7445/2112

DATE 10/29/92

PAY TO THE ORDER OF City of Portland $ 882.00

Eight Hundred Eighty Two and 00/100 DOLLARS

Peoples

38

FOR Engineering Review
24 Morrill St.

⑆211274450⑆ 0292 18361⑈

#4

52-7445/2112

DATE 10/29/92

PAY TO THE ORDER OF City of Portland $ 563.06

Five Hundred Sixty Three and 06/100 DOLLARS

Peoples

38

FOR Inspection Fee
24 Morrill St.

⑆211274450⑆ 0292 18361⑈

Planning & Urban Development

Joseph E. Gray Jr.
Director

# CITY OF PORTLAND

May 8, 2000

Bruce Pike
Morrill's Corner Self Storage
24 Morrill Street
Portland, ME 04103

RE: Morrill's Corner Self Storage, 24 Morrill Street

Dear Mr. Pike:

This letter is to confirm the revision to the approved site plan of the Morrill's Corner Self Storage project located at 24 Morrill Street. The approved revision includes a change in the type of plant materials. The revised plan has been reviewed and approved by the project review staff including representatives of the Planning, Public Works, Building Inspections, Fire and Parks Departments.

If you have any questions regarding the revision please contact the planning staff at 874-8901.

Sincerely,

Joseph E. Gray, Jr.
Director of Planning and Urban Development

cc: Alexander Jaegerman, Chief Planner
Kandice Talbot, Planner
P. Samuel Hoffses, Building Inspector
Jeff Tarling, City Arborist
William Bray, Director of Public Works
Tony Lombardo, Project Engineer
Lt. Gaylen McDougall, Fire Prevention
Penny Littell, Associate Corporation Counsel
Inspection Department
Development Review Coordinator
Lee Urban, Director of Economic Development
Susan Doughty, Assessor's Office
Approval Letter File

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# Morrill's Corner
# Self Storage

March 13, 2000

RE: self-storage project at 24 Morrill Street

Kandice Talbot
Portland Planning Department
City of Portland
4th Floor, 389 Congress Street
Portland, ME 04101

Dear Kandice Talbot:

I am in the process of scheduling the landscaping work, which will complete the above referenced project. The list of plant materials I submitted called for the use of among other things "Eastern White Pine". The landscape contractor who will be doing the work has recommended substituting "Arborvitae" for the "White Pine" (see enclosed letter). Therefore, this letter is to request approval from the planning Department to make this change. If you have any questions, you can call me at 878-9285. The work will be scheduled as soon as I get your go ahead.

Sincerely,

Bruce A. Pike
Enclosure (1)

3/10/2000

LUCAS
TREE EXPERTS
THE GREEN TEAM

636 Riverside St., P.O. Box 958, Portland, Maine 04104 (207) 797-7294

To whom it may concern.
In regards to a landscape plan, for the new construction, completed last fall, at the Maaco Auto collision center .24 Morril St. Portland Me. I would like to recommend that Dark American Arborvitae be substituted for Eastern White Pine. Arborvitae will be a much more appropriate plant for this site taking the mature size of plant into consideration .

\
Sincerely yours,

Joseph Dumais
Consulting Arborist

SebagoTechnics
*Engineering & Planning for the Future*

August 5, 1998
98180

Kandi Talbot, Planner
Planning Department - 4th Floor
City of Portland
389 Congress Street
Portland, ME 04101

**Proposed Self Storage Units - 24 Morrill Street**

Dear Kandi:

Please find enclosed copies of the revised site plan of the proposed self-storage facility located at 14 Morrill Street. The plans have been revised to reflect the comments of both the planning and engineering review. The following are the noted revisions, corrections, and responses to the staff's comments:

1. Per Jim Wendel's comments, we have revised the dumpster location to make access easier for trash removal. This relocation eliminated two parking spaces by the building, but one was recovered by the fence where the dumpster was originally located. Also, the fence enclosure was eliminated for two reasons: 1) the dumpster is accessed from three sides; and 2) the parking area where the dumpster is located is totally enclosed with a stockade fence.

2. All the catch basins have been revised with 2' sumps.

3. The field inlet has been shifted approximately 6' further away from the access drive shoulder to minimize sand/gravel deposition from the access drive.

4. A note regarding the construction sequence was added to the plan, as has a detail for the temporary riser pipe detail on the detention pond.

5. The stormwater management items listed by the engineer have been addressed as follows:

    a. Calculations have been attached showing the emergency spillway handling the 25-year storm and not exceeding the pre-developed runoff rate in the case that the outlet control is plugged.

    b. A timber weir has been installed across the spillway crest. A detail has been added showing timber size and crest width.

c. The sheet flow Tc were not altered from the suggested. We believe the Tc shown for the existing flow is longer than needed, but provides a conservative estimate which will limit the post-development to a lower allowable released runoff rate. A shorter Tc would allow more water to be allowed off site in the post-developed condition.

d. We have reviewed the off-site contribution to the culvert crossing the railroad tracks near our outlet from the proposed detention pond. Based on our site visit, estimated measurements, and topography, the culvert handles both land from the abutting gas station and railroad tracks. Calculations for the 24" culvert shown as Pond 200 are included for the post-condition. Land off site contributing to Pond 200 is shown as Subcatchments 999 and 1000.

The pond's outlet control performance is altered by the head effect on the 24" downstream culvert; however, the back-up effect will not effect the pond discharge. If the pond should be backed up, the pond spillway will provide the necessary release discharge and is not blocked by the back-up at the 24" culvert. It should be noted that the back-up only occurs in large storms (10 years or over).

It is our understanding the proposed site actually reduces site runoff and provides better stormwater management than any abutting land use. Fill-Up Gas currently has no detention or treatment facility, although alterations and repairing have recently occurred. The entire site (minus the store) sheet flows to the rear of the site to a railroad ditch. We feel that the majority of downstream impact at this culvert is the result of the gas station development and paving and that the proposed self storage use is not exasperating or increasing the existing downstream impacts.

6. In response to Kandi Talbot's concern regarding screening and landscaping, plantings have been added on the roadside on Forest Avenue next to the site sign and vine ivy will be planted 10' on center along the fence line between Fill-Up Gas and the site's property line.

7. Finally, a catalog cutout of the proposed wall-pak light fixture has been attached for your review.

Please feel free to contact us at Sebago Technics if you have any questions regarding our responses or any other details of this project.

Sincerely,

SEBAGO TECHNICS, INC.

James R Seymour

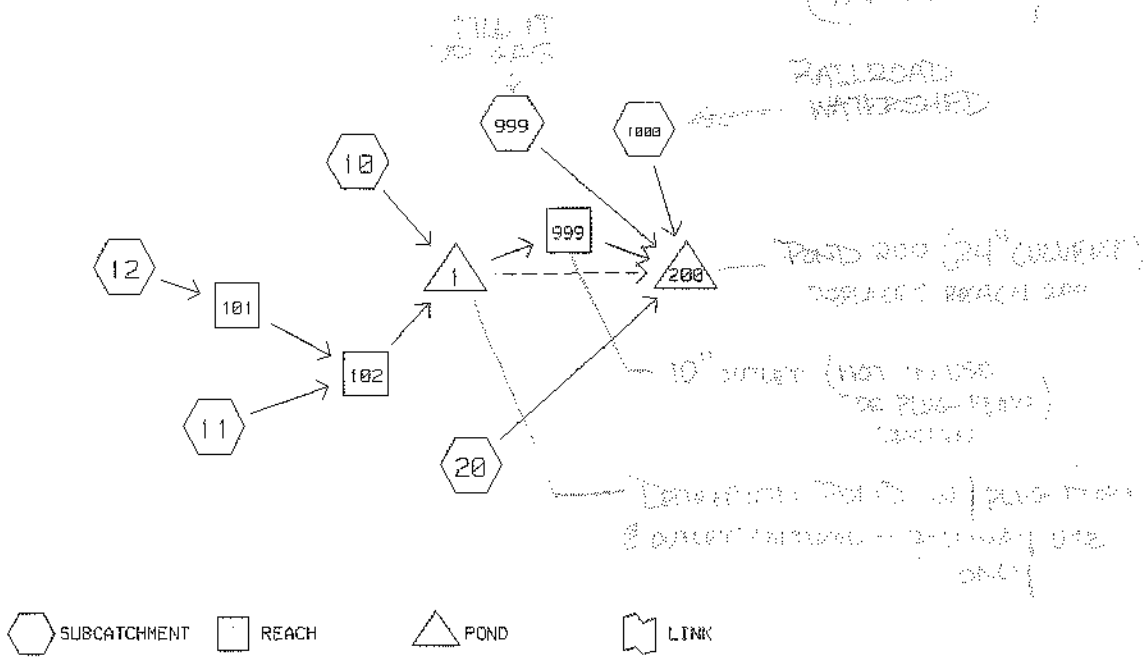
James R. Seymour
Project Engineer

JRS:jc
Enc.

cc: Bruce Pike

Data for 98180 - Pike, Self-Storage, Portland - Post
TYPE III 24-HOUR RAINFALL= 5.5 IN
Prepared by sebago technics, inc. 3 Aug 98
HydroCAD 4.53 000643 (c) 1986-1997 Applied Microcomputer Systems

WATERSHED ROUTING



RUNOFF BY SCS TR-20 METHOD: TYPE III 24-HOUR RAINFALL= 5.5 IN, SCS U.H.

RUNOFF SPAN = 0-20 HRS, dt= .10 HRS, 201 POINTS

| SUBCAT NUMBER | AREA (ACRE) | Tc (MIN) | --GROUND COVERS (%CN)-- | | | | WGT'D CN | C | PEAK (CFS) | Tpeak (HRS) | VOL (AF) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 999 | 1.50 | 3.7 | 100%98 | - | - | - | 98 | - | 8.06 | 12.00 | .63 |
| 1000 | 1.60 | 6.5 | 63%98 | 38%85 | - | - | 93 | - | 7.18 | 12.04 | .59 |

## REACH ROUTING BY STOR-IND+TRANS METHOD

| REACH NO. | DIAM (IN) | BOTTOM WIDTH (FT) | DEPTH (FT) | SIDE SLOPES (FT/FT) | n | LENGTH (FT) | SLOPE (FT/FT) | PEAK VEL. (FPS) | TRAVEL TIME (MIN) | PEAK Qout (CFS) |
|---|---|---|---|---|---|---|---|---|---|---|
| 999 | 10.0 | - | - | - - | .010 | 25 | .0304 | 0.0 | 0.0 | 0.00 |

## POND ROUTING BY STOR-IND METHOD

| POND NO. | START ELEV. (FT) | FLOOD ELEV. (FT) | PEAK ELEV. (FT) | PEAK STORAGE (AF) | PEAK FLOW Qin (CFS) | PEAK FLOW Qout (CFS) | PEAK FLOW Qpri (CFS) | PEAK FLOW Qsec (CFS) | Qout ATTEN. (%) | Qout LAG (MIN) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 99.0 | 102.0 | 101.8 | .17 | 7.37 | 6.99 | 0.00 | 6.99 | 5 | 2.2 |
| 200 | 96.0 | 103.0 | 99.4 | .02 | 22.94 | 21.29 | | | 7 | 2.5 |

SUBCATCHMENT 999 FILL-IT-UP GAS

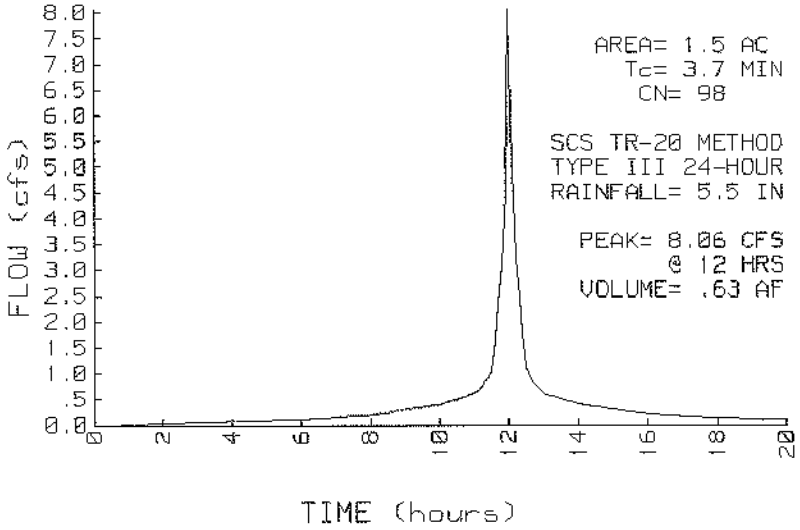
PEAK= 8.06 CFS @ 12.00 HRS, VOLUME= .63 AF

| ACRES | CN | |
|---|---|---|
| 1.50 | 98 | PAVED AREA |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 5.5 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | SHEET FLOW | 2.3 |
| Smooth surfaces n=.011 L=150' | P2=3 in s=.01 '/' | |
| SHALLOW CONCENTRATED/UPLAND FLOW | SHALLOW FLOW | 1.4 |
| Paved Kv=20.3282 L=270' s=.025 '/' | V=3.21 fps | |
| | Total Length= 420 ft Total Tc= | 3.7 |

SUBCATCHMENT 999 RUNOFF
FILL-IT-UP GAS



SUBCATCHMENT 1000 RR AREA / FILL IT UP PART2

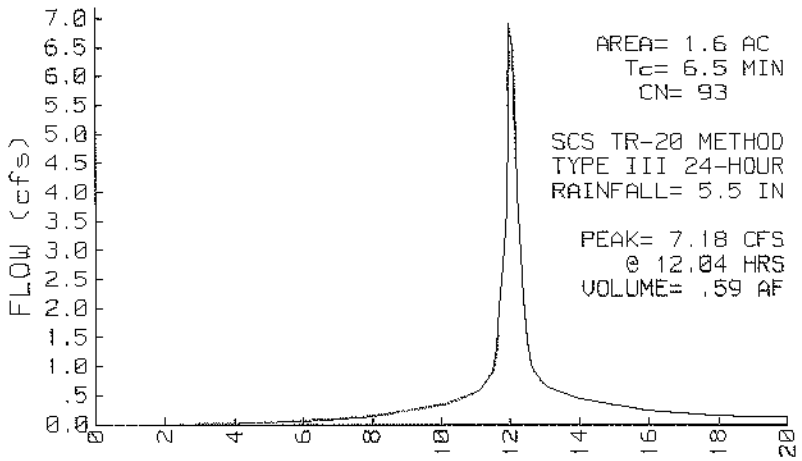
PEAK= 7.18 CFS @ 12.04 HRS, VOLUME= .59 AF

| ACRES | CN | |
|---|---|---|
| 1.00 | 98 | PAVED |
| .60 | 85 | GRAVEL/DIRT/RR YARD |
| 1.60 | 93 | |

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 5.5 IN
SPAN= 0-20 HRS, dt=.1 HRS

| Method | Comment | Tc (min) |
|---|---|---|
| TR-55 SHEET FLOW | SHEET FLOW | 1.7 |
| Smooth surfaces n=.011 L=100' | P2=3 in s=.01 '/' | |
| CHANNEL FLOW | SHALLOW FLOW | 4.8 |
| a=10 sq-ft Pw=12' r=.833' | | |
| s=.005 '/' n=.045 V=2.07 fps | L=600' Capacity=20.7 cfs | |
| | Total Length= 700 ft Total Tc= | 6.5 |

SUBCATCHMENT 1000 RUNOFF
RR AREA / FILL IT UP PART2



REACH 999 10" dia storm drain

Qin = 0.00 CFS @ 0.00 HRS, VOLUME= 0.00 AF
Qout= 0.00 CFS @ 0.00 HRS, VOLUME= 0.00 AF, ATTEN= 0%, LAG= 0.0 MIN

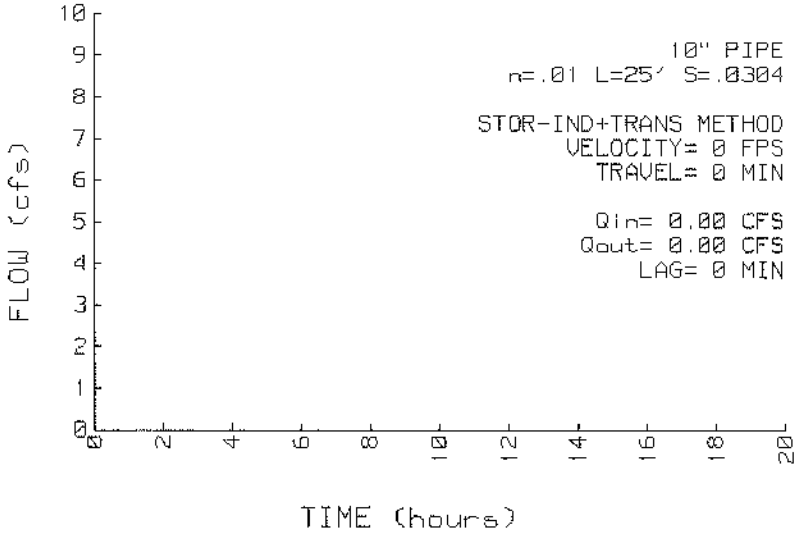
| DEPTH (FT) | END AREA (SQ-FT) | DISCH (CFS) |
|---|---|---|
| 0.0 | 0.0 | 0.00 |
| .1 | 0.0 | .10 |
| .2 | .1 | .43 |
| .3 | .1 | .97 |
| .6 | .4 | 4.16 |
| .7 | .5 | 4.85 |
| .8 | .5 | 5.29 |
| .8 | .5 | 5.34 |
| .8 | .5 | 5.29 |
| .8 | .5 | 4.97 |

10" PIPE

n= .01
LENGTH= 25 FT
SLOPE= .0304 FT/FT

STOR-IND+TRANS METHOD
PEAK DEPTH= 0.00 FT
PEAK VELOCITY= 0.0 FPS
TRAVEL TIME = 0.0 MIN
SPAN= 0-20 HRS, dt=.1 HRS

REACH 999 INFLOW & OUTFLOW
10" dia storm drain



Data for 98180 - Pike, Self-Storage, Portland - Post
TYPE III 24-HOUR RAINFALL= 5.5 IN
Prepared by sebago technics, inc. 3 Aug 98
HydroCAD 4.53 000643 (c) 1986-1997 Applied Microcomputer Systems

POND 1 Detention Pond

Qin = 7.37 CFS @ 12.11 HRS, VOLUME= .65 AF
Qout= 6.99 CFS @ 12.15 HRS, VOLUME= .51 AF, ATTEN= 5%, LAG= 2.2 MIN
Qpri= 0.00 CFS @ 0.00 HRS, VOLUME= 0.00 AF
Qsec= 6.99 CFS @ 12.15 HRS, VOLUME= .51 AF

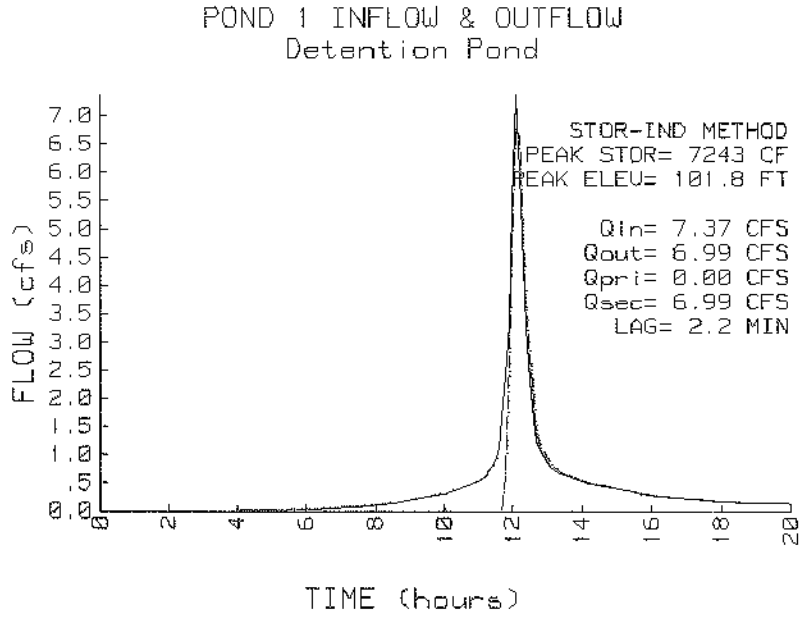
| ELEVATION (FT) | AREA (SF) | INC.STOR (CF) | CUM.STOR (CF) |
|---|---|---|---|
| 99.0 | 0 | 0 | 0 |
| 99.3 | 1460 | 219 | 219 |
| 100.0 | 2250 | 1299 | 1518 |
| 101.0 | 3185 | 2718 | 4235 |
| 102.0 | 4280 | 3733 | 7968 |

STOR-IND METHOD
PEAK STORAGE = 7243 CF
PEAK ELEVATION= 101.8 FT
FLOOD ELEVATION= 102.0 FT
START ELEVATION= 99.0 FT
SPAN= 0-20 HRS, dt=.1 HRS
Tdet= 98.1 MIN (.5 AF)

| # | ROUTE | INVERT | OUTLET DEVICES |
|---|---|---|---|
| 1 | S | 101.5' | 12' BROAD-CRESTED RECTANGULAR WEIR |
| | | | Q=C L H^1.5 C=3.32, 0, 0, 0, 0, 0, 0, 0 |

Primary Discharge

Secondary Discharge
└─1=Broad-Crested Rectangular Weir



Data for 98180 - Pike, Self-Storage, Portland - Post
TYPE III 24-HOUR RAINFALL= 5.5 IN
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POND 200 24 IN CULVERT CROSSING RR

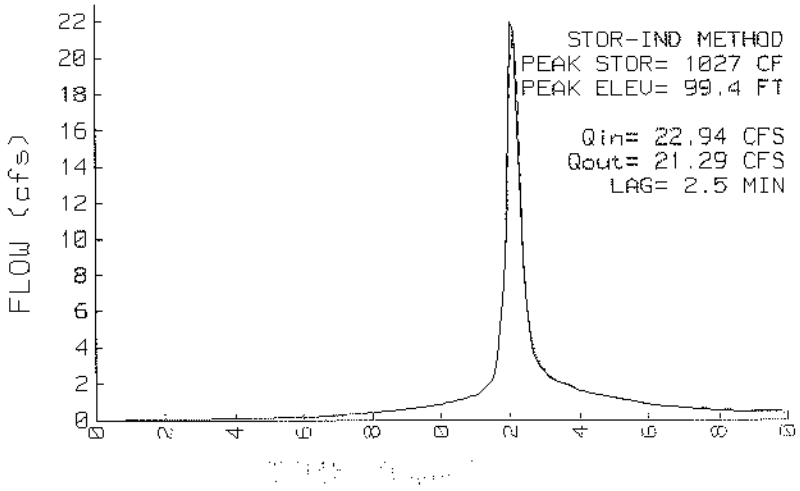
Qin = 22.94 CFS @ 12.04 HRS, VOLUME= 1.98 AF
Qout= 21.29 CFS @ 12.09 HRS, VOLUME= 1.99 AF, ATTEN= 7%, LAG= 2.5 MIN

| ELEVATION (FT) | AREA (SF) | INC.STOR (CF) | CUM.STOR (CF) |
|---|---|---|---|
| 96.0 | 10 | 0 | 0 |
| 97.0 | 30 | 20 | 20 |
| 98.0 | 150 | 90 | 110 |
| 99.0 | 750 | 450 | 560 |
| 100.0 | 1740 | 1245 | 1805 |
| 101.0 | 3600 | 2670 | 4475 |
| 102.0 | 10800 | 7200 | 11675 |

STOR-IND METHOD
PEAK STORAGE = 1027 CF
PEAK ELEVATION= 99.4 FT
FLOOD ELEVATION= 103.0 FT
START ELEVATION= 96.0 FT
SPAN= 0-20 HRS, dt=.1 HRS
2 x FINER ROUTING

| # | ROUTE | INVERT | OUTLET DEVICES |
|---|---|---|---|
| 1 | P | 96.4' | **24" CULVERT** n=.02 L=50' S=.04'/' Ke=.5 Cc=.9 Cd=.6 |

POND 200 INFLOW & OUTFLOW
24 IN CULVERT CROSSING RR




25 YR POST @ 24" CULVERT

POND 200 24 IN CULVERT CROSSING RR

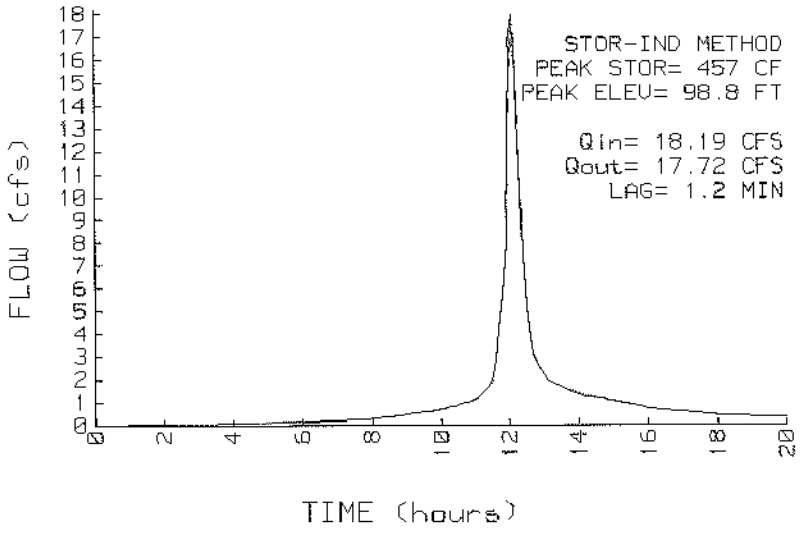
Qin = 18.19 CFS @ 12.07 HRS, VOLUME= 1.62 AF
Qout= 17.72 CFS @ 12.09 HRS, VOLUME= 1.61 AF, ATTEN= 3%, LAG= 1.2 MIN

| ELEVATION (FT) | AREA (SF) | INC.STOR (CF) | CUM.STOR (CF) |
|---|---|---|---|
| 96.0 | 10 | 0 | 0 |
| 97.0 | 30 | 20 | 20 |
| 98.0 | 150 | 90 | 110 |
| 99.0 | 750 | 450 | 560 |
| 100.0 | 1740 | 1245 | 1805 |
| 101.0 | 3600 | 2670 | 4475 |
| 102.0 | 10800 | 7200 | 11675 |

STOR-IND METHOD
PEAK STORAGE = 457 CF
PEAK ELEVATION= 98.8 FT
FLOOD ELEVATION= 103.0 FT
START ELEVATION= 96.0 FT
SPAN= 0-20 HRS, dt=.1 HRS
2 x FINER ROUTING
Tdet= 2.1 MIN (1.61 AF)

| # | ROUTE | INVERT | OUTLET DEVICES |
|---|---|---|---|
| 1 | P | 96.4' | 24" CULVERT |
| | | | n=.02 L=50' S=.04'/' Ke=.5 Cc=.9 Cd=.6 |

POND 200 INFLOW & OUTFLOW
24 IN CULVERT CROSSING RR




10 YR POST @ 24" CULVERT

Data for 98180 - Pike, Self-Storage, Portland - Post
TYPE III 24-HOUR RAINFALL= 3.0 IN
Prepared by sebago technics, inc. 4 Aug 98
HydroCAD 4.53 000643 (c) 1986-1997 Applied Microcomputer Systems

POND 200 24 IN CULVERT CROSSING RR

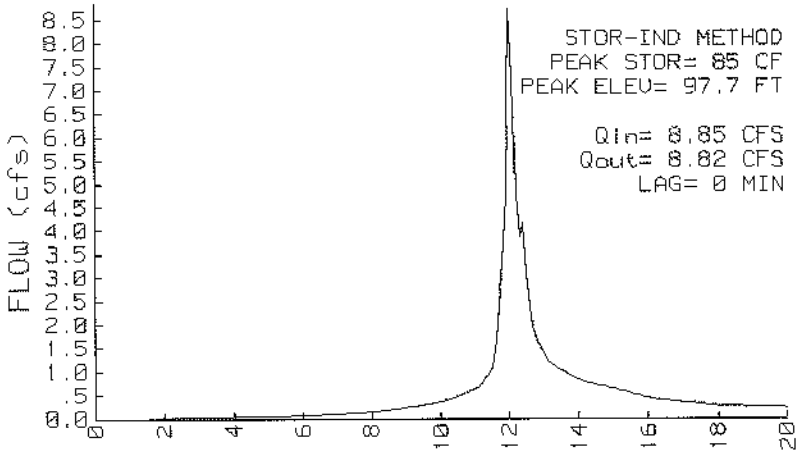
Qin = 8.85 CFS @ 12.02 HRS, VOLUME= .86 AF
Qout= 8.82 CFS @ 12.02 HRS, VOLUME= .86 AF, ATTEN= 0%, LAG= 0.0 MIN

| ELEVATION (FT) | AREA (SF) | INC.STOR (CF) | CUM.STOR (CF) |
|---|---|---|---|
| 96.0 | 10 | 0 | 0 |
| 97.0 | 30 | 20 | 20 |
| 98.0 | 150 | 90 | 110 |
| 99.0 | 750 | 450 | 560 |
| 100.0 | 1740 | 1245 | 1805 |
| 101.0 | 3600 | 2670 | 4475 |
| 102.0 | 10800 | 7200 | 11675 |

STOR-IND METHOD
PEAK STORAGE = 85 CF
PEAK ELEVATION= 97.7 FT
FLOOD ELEVATION= 103.0 FT
START ELEVATION= 96.0 FT
SPAN= 0-20 HRS, dt=.1 HRS
2 x FINER ROUTING
Tdet= .3 MIN (.86 AF)

| # | ROUTE | INVERT | OUTLET DEVICES |
|---|---|---|---|
| 1 | P | 96.4' | 24" CULVERT |
| | | | n=.02 L=50' S=.04'/' Ke=.5 Cc=.9 Cd=.6 |

POND 200 INFLOW & OUTFLOW
24 IN CULVERT CROSSING RR




2 yr Post @ 24" culvert

BK12123PG187

48540

QUITCLAIM DEED
Without Covenant

KNOW ALL BY THESE PRESENTS,

That It, APEX, INC., a Maine corporation, with its principal place of business at Portland, County of Cumberland and State of Maine, for and in consideration of One Dollar ($1.00) and other valuable consideration paid by Masco, a Maine general partnership, with a principal place of business in Falmouth, County of Cumberland and State of Maine and a mailing address of 2 Meadow Lane, Falmouth, Maine 04105, the receipt whereof it does hereby acknowledge, does hereby RELEASE and QUITCLAIM unto the said MASCO, its successors and assigns forever, the premises described as follows:

MAINE REAL ESTATE TAX PAID

A certain lot or parcel of land with buildings situated on the northerly sideline of Morrill Street, so called, and the easterly sideline of Forest Avenue, in the City of Portland, County of Cumberland, State of Maine, and being more particularly bounded and described as follows:

Beginning at a found 3/4 inch iron pipe on the northerly sideline of said Morrill Street, said iron pipe being the southeasterly corner of land now or formerly owned by Anne R. & Leonard Kovit as described in a deed dated September 5, 1984 and recorded in the Cumberland County Registry of Deeds in Book 6554, Page 219, said iron also being located S 84°-45'-24" E, 120.00 feet from the northeasterly intersection of Forest Avenue with said Morrill Street;

Thence S 84°-45'-24" E, 304.11 feet by and along said Morrill Street to a #5 rebar set at an angle point in said Morrill Street;

Thence N 78°-14'-36" E, 107.89 feet by and along the northerly sideline of said Morrill Street to a #5 rebar set on the southwesterly sideline of land now or formerly of Portland Terminal Company;

Thence in a northwesterly direction along a curve to the left having a radius of 1215.74 feet and an arc length of 251.50 feet by and along the southwesterly sideline of said Portland Terminal Company to a #5 rebar set on the southwesterly sideline of said Portland Terminal Co.;

Thence S 85°-52'-47" E, 10.02 feet by and along the southwesterly sideline of said Portland Terminal Co. to a #5 rebar set on the southwesterly sideline of said Portland Terminal Co.;

Thence in a northwesterly direction along a curve to the left having a radius of 1223.74 feet and an arc length of 123.35 feet by and along the southwesterly sideline of said Portland Terminal Co. to a point on the southwesterly sideline of said Portland Terminal Co. at the most easterly corner of land now or formerly of Francis X. & Brenda S. Downey as described in a deed recorded in the Cumberland County Registry of Deeds in Book 8523, Page 328;

Thence N 84°-55'-44" W, 273.82 feet by and along the southerly sideline of said Downey to a point at the easterly sideline of land now or formerly of Arthur A. & Kathleen A. Dillon as described in a deed recorded at said Registry of Deeds in Book 5084, Page 272;

Thence S 04°-36'-06" W, 23.79 feet by and along the easterly sideline of said Dillon to a #5 rebar set at Dillon's southeasterly corner;

Thence N 86°-53'-54" W, 53.30 feet by and along the southerly sideline of said Dillon to a found iron pipe on the easterly sideline of said Forest Avenue;

Thence S 03°-06'-06" W, 72.35 feet by and along the easterly sideline of said Forest Avenue to a #5 rebar set at the northwesterly corner of land now or formerly owned by Anne R. and Leonard Kovit as described in a deed dated September 5, 1984 and recorded in said Registry in Book 6554, Page 219;

Thence S 84°-47'-44" E, 119.99 feet by and along the northerly sideline of said Kovit to a found iron pipe located at said Kovit's northeasterly corner;

Thence S 04°-48'-50" W, 238.28 feet by and along the easterly sideline of said Kovit to the point of beginning.

Meaning and intending to convey a parcel of land containing 2.72 acres, more or less, and being shown on a plan of land entitled "Standard Boundary Survey of N. T. Fox Property, 24 Morrill Street, Portland, Maine for Philip White" by Sebago Technics, Inc. and dated January 13, 1988.

The above described premises are a part of the premises conveyed to Philip R. and Pamela A. White as described in a deed dated February 17, 1988 and recorded in Book 8181, Page 266 and all the land conveyed to said White in Book 8181, Page 270 at the Cumberland County Registry of Deeds.

Subject to, however, that portion of a reserved right-of-way 12 feet in width to Fidelity Trust Co., its successors and assigns to be used in common with N. T. Fox Co., Inc., its successors and assigns, as described in a deed recorded in the Cumberland County Registry of deeds in Book 1520, Page 486. Said right of way being located easterly of the easterly boundary of land of said Dillon and being more particularly bounded and described as follows:

Beginning at at set rebar at the southeasterly corner of land of said Dillon;

Thence S 86°-53'-54" E, 12.00 feet to a point;

Thence N 04°-36'-06" E, 23.80 feet, more or less, to a point on the southerly sideline of land conveyed to Francis X. & Brenda S. Downey and as described in Book 8523, Page 328 of the said Registry of Deeds;

Thence N 84°-55'-44" W, 12.00 feet, more or less, by and along the southerly sideline of said Downey to a point in the easterly sideline of land now or formerly of said Dillon;

Thence S 04°-36'-06" W, 23.79 feet by and along the easterly sideline of said Dillon to the point of beginning.

Also excepting and reserving a temporary easement granted to Central Maine Power Co. and New England Telephone & Telegraph Co. extending northeasterly from Forest Avenue to a pole numbered 0137-S recorded in the Cumberland County Registry of Deeds in Book 2066, Page 229. This easement shall terminate upon 90 days written notice by grantees or N. T. Fox Co., Inc.

Subject to an easement granted to Central Maine Power Company and New England Telephone and Telegraph Company by instrument dated July 22, 1964 and recorded in said Registry of Deeds in Book 2846, Page 330.

Bearings herein are magnetic, January 1988.

Being the same premises conveyed to the Grantor herein by Quitclaim Deed without Covenant from Peoples Heritage Savings Bank dated August 15, 1995 and recorded in the Cumberland County Registry of Deeds at Book 12076, Page 270.

SUBJECT to all outstanding real estate taxes and sewer assessments which the Grantee assumes and agrees to pay.

TO HAVE AND TO HOLD the same, together with all the privileges and appurtenances thereunto belonging, to the said Masco, its successors and assigns forever.

IN WITNESS WHEREOF, It, the said Apex, Inc. has caused these presents to be signed and its corporate seal to be affixed by Dana P. Wedge, its Vice President hereunto duly authorized this 19th day of September, 1995.

Signed, Sealed and Delivered
in presence of

Robert B Patterson Jr

APEX, INC.

By Dana P. Wedge
Name: Dana P. Wedge
Its: Vice-President

State of Maine
County of Cumberland, ss.

September ~~August~~ 19, 1995

Personally appeared the above-named Dana P. Wedge in his capacity as Vice President of said Apex, Inc. and acknowleged the foregoing instrument to be his free act and deed and the free act and deed of said Apex, Inc.

Before me, Robert B Patterson Jr
~~Notary Public~~ Attorney At Law
Robert B. Patterson, Jr.
(Please also print name)

3011W

RECEIVED
RECORDED REGISTRY OF DEEDS
95 SEP 20 PM 2:40
CUMBERLAND COUNTY
John B O'Brien

DELUCA-HOFFMAN ASSOCIATES, INC.
CONSULTING ENGINEERS

778 MAIN STREET
SUITE 8
SOUTH PORTLAND, MAINE 04106
TEL: 207 775 1121
FAX: 207 879 0896

- ROADWAY DESIGN
- ENVIRONMENTAL ENGINEERING
- TRAFFIC STUDIES AND MANAGEMENT
- PERMITTING
- AIRPORT ENGINEERING
- SITE PLANNING
- CONSTRUCTION ADMINISTRATION

# MEMORANDUM

**TO:** Kandi Talbot, Planner

**FROM:** Jim Wendel, Development Review Coordinator

**DATE:** July 24, 1998

**RE:** Site Plan Review
Self Storage Facility
24 Morrill Street

---

A review of the site plan submission rev A dated 7/13/98 has been completed. My comments are:

1. Operationally, access for the dumpster is very cumbersome; recommend that it be oriented to allow the driver of the trash hauling vehicle to easily back up to the dumpster location.

2. Since the storm drain pipe is flat and their will be gravel near the catch basins Recommend that the field inlet catch basins provide 2' sumps to collect and keep sand out of the pipe and eventually out of the detention basin.

3. Recommend that the field inlet between the storage facility and the parking lot be pulled away from the edge of gravel to minimize deposition of sand in the basin.

4. Recommend that a construction sequence of the major elements of the work be provided on the plan. The detention basin should be constructed at the beginning of the work with a temporary inlet riser pipe to contain sediment on the site. A detail of the riser pipe would be needed.

5. Stormwater Management

   a. The length of the emergency overflow weir is not defined; also the weir should be capable of flowing the 25 year storm event with the pond full. The calculations should be provided.

DeLUCA HOFFMAN ASSOCIATES, INC.
CONSULTING ENGINEERS

b. Recommend that a timber weir be installed across the emergency over flow weir set at the spillway elevation. This is needed to more precisely define the stage at which it will operate. Currently the emergency spillway will not operate at the specified elevation due to the porosity of the 14" thick riprap layer.

c. The sheet flow component for existing watershed 10 seems long; based on the contours I would estimate it to be approximately 90'. Also this observation seems appropriate when comparing the Tc's between watersheds 10 and 20. The difference between the Tc's seems to be too large.

d. Recommend that the analysis treat the receiving ditch line in the railroad right of way as a detention pond with a 24" outlet pipe instead of as a reach. This depression may act as a detention basin such that the ponded water will have a direct hydraulic influence on the operation and size of the site pond. Broadening the analysis will require defining the additional watershed that drains to it, "Fill It-Up Please" is one area, as well as a portion of the railroad right of way and possibly areas across Morrill Street up to Forest Avenue. Also the characteristics of the system downstream of the 24" culvert will also need to be defined and included in the analysis.

Should you have any questions please call.

JN1360.03/1350.10disk5/macomo1

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- ROADWAY DESIGN
- ENVIRONMENTAL ENGINEERING
- TRAFFIC STUDIES AND MANAGEMENT
- PERMITTING
- AIRPORT ENGINEERING
- SITE PLANNING
- CONSTRUCTION ADMINISTRATION

# MEMORANDUM

**TO:** Kandi Talbot, Planner

**FROM:** Jim Wendel, P.E., Development Review Coordinator

**DATE:** August 11, 1998

**RE:** Site Plan Review
Self-Storage Facility

Review of the site plan submission Rev 8, dated 8/4/98, has been completed.

All previous items noted in my memo dated July 24, 1998 have been satisfactorily revised.

JN1359.13-Aug11Memo

Department of Planning and Urban Development
SUBDIVISION/SITE DEVELOPMENT

COST ESTIMATE OF IMPROVEMENTS TO BE COVERED BY PERFORMANCE GUARANTEE

Date 8/24/98

Name of Project Self Storage facility

Address Location 24 Morrill St.

Developer Bruce Pike

Form of Performance Guarantee To be determined

Type of Development: _____ Subdivision ✓ Site Plan (Major/Minor)

TO BE FILLED OUT BY APPLICANT:

| | PUBLIC | | | PRIVATE | | |
|---|---|---|---|---|---|---|
| Item | Quantity | Unit Cost | Subtotal | Quantity | Unit Cost | Subtotal |
| 1. STREET SIDEWALK | | | | | | |
| Road | | | | 17,320 Sq/ft | $ .55 | 9526.00 |
| Granite Curbing | | | | | | |
| Sidewalks | | | | | | |
| Esplanades | | | | | | |
| Monuments | | | | | | |
| Street Lighting | | | | | | |
| Other Paving | | | | 2700 Sq/yds | $ 7.70 | 20800.00 |
| 2. SANITARY SEWER | | | | | | |
| Manholes | | | | | | |
| Piping | | | | | | |
| Connections | | | | | | |
| Other | | | | | | |
| 3. STORM DRAINAGE | | | | | | |
| Manholes | | | | 4 | $ 1575.00 | 6300.00 |
| Catchbasins | | | | 660' | $ 14.58 | 9623.00 |
| Piping | | | | 450 cuyds | $ 6.22 | 2800.00 |
| Detention Basin | | | | | | |
| Other | | | | | | |
| 4. SITE LIGTING | | | | | | |
| 5. EROSION CONTROL | | | | | | 300.00 |
| 6. RECREATION AND OPEN SPACE AMENITIES | | | | | | |

| Item | PUBLIC Quantity | PUBLIC Unit Cost | PUBLIC Subtotal | PRIVATE Quantity | PRIVATE Unit Cost | PRIVATE Subtotal |
|---|---|---|---|---|---|---|
| 7. LANDSCAPING (Attach breakdown of plant materials, quantities, and unit costs) | | | | See | List | 3375.00 |
| 8. MISCELLANEOUS | | | | | | |
| TOTAL: | | | | | | |
| GRAND TOTAL: | No Public Improvements | | | 52,724 | | |

INSPECTION FEE (to be filled out by City)

| | PUBLIC | PRIVATE | TOTAL |
|---|---|---|---|
| A: 1.7% of totals: | | 896.31 | |
| or | | | |
| B: Alternative Assessment: | | | |
| Assessed by: | (name) | (name) | |

Please direct all inquiry to

Bruce Pike
2 Meadow Lane
Falmouth, Me 04105
Ph# 207 450 0752

# LIST OF PLANTS

| QTY | DESCRIPTION | UNIT COST | SUBTOTAL |
|---|---|---|---|
| 30 | 4' WHITE PINES | $80.00 | $2400.00 |
| 21 | VINES | $20.00 | $420.00 |
| 5 | 15-18" JAP JUNIPERS | $71.00 | $355.00 |
| 2 | 18-24" DWF CRMSN BARBERRY | $100.00 | $200.00 |
| | | TOTAL | $3375. 00 |

Planning & Urban Development

Joseph E. Gray Jr.
Director

# CITY OF PORTLAND

September 10, 1998

Bruce Pike
2 Meadow Lane
Falmouth, ME 04105

Re: 24 Morrill Street

Dear Mr. Pike:

On August 14, 1998 the Portland Planning Authority granted minor site plan approval for a 9,900 sq. ft. self-storage building located at 24 Morrill Street.

The approval is based on the submitted site plan. If you need to make any modifications to the approved site plan, you must submit a revised site plan for staff review and approval.

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

1. The site plan approval will be deemed to have expired unless work in the development has commenced within one (1) year of the approval or within a time period agreed upon in writing by the City and the applicant. A one year extension may be granted by this department if requested by the applicant in writing prior to the expiration date of the site plan.

2. A performance guarantee in a form acceptable to the City of Portland and an inspection fee equal to 1.7% of the performance guarantee will have to be posted before beginning any site construction or issuance of a building permit.

3. A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.

4. Prior to construction, a preconstruction meeting shall be held at the project site with the contractor, development review coordinator, Public Work's representative and owner to review the construction schedule and critical aspects of the site work. At that time, the site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the preconstruction meeting.

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