# *Appendix G*
# *Preliminary Hydrology and Stormwater Drainage Study*



# Preliminary Hydrology Study

## *Monterey Park Market Place*

**DRAFT**

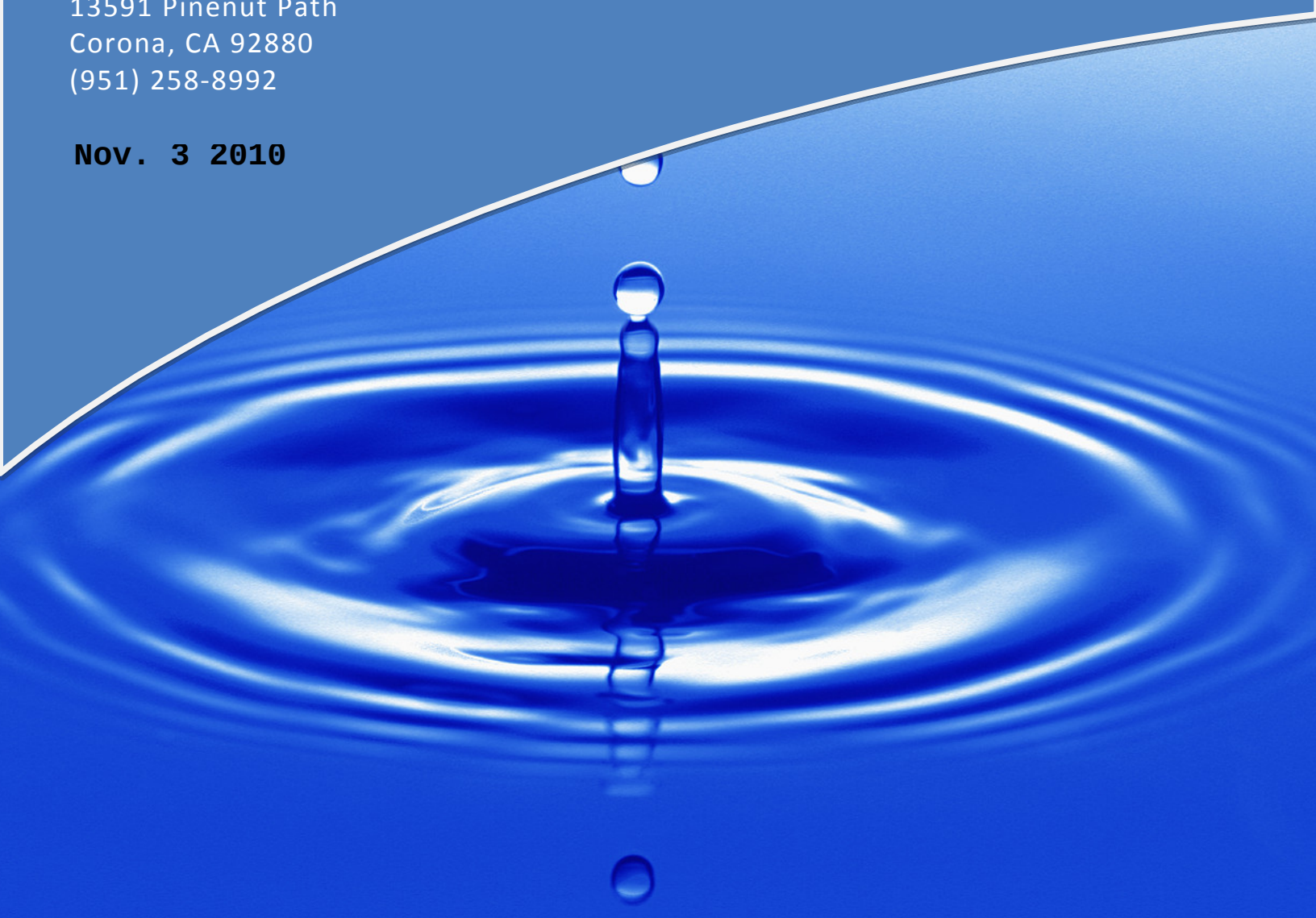
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**Nov. 3 2010**



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## 1.0 Purpose

The purpose of this Hydrology Study is to determine the drainage facility and mitigation requirements for a proposed 600,000 square foot shopping center known as the Monterey Park Market Place. The triangular-shaped, 44.6 acre project site is located in the southeast portion of the City of Monterey Park immediately north of the Pomona Freeway (State Route 60) and west of Paramount Boulevard. The project site is bound by Southern California Edison (SCE) corridors to the northwest and northeast.

## 2.0 Background

This site is a remainder portion of a OII Superfund Site bisected by California State Route 60, also known as the Pomona freeway, into the South Parcel consisting of 145 acres and the North Parcel consisting of approximately 44.6 acres. Approximately 10 acres of the western side of the North Parcel was used as a landfill that received primarily construction debris between 1948 and 1954. The landfill portion of the North Parcel is subject to meet Probable Maximum Precipitation (PMP) criteria. The remedy work associated with the North Parcel was completed by the OII Trust and New Cure, Inc. on June 2009.

Other hydrology reports prepared for this site have indicated that about 75 percent (33 acres) of the existing project site was paved and therefore forming an impervious surface of the same percentage. Recent clear and grub as well as removals of existing paving have changed the impervious surface to about 20 percent of the site. Nevertheless, a 75% impervious surface was used for the existing condition to match the site's condition prior to any development related work.

The site is not located within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or the City of Monterey Park and L. A. County Seismic Safety Element hazard maps.

An existing Leachate Treatment Plant (LTP) will remain in operation to serve the gas treatment and control of the South Parcel. This hydrology study accounts for the drainage from the area (referred to a proposed Subarea 45).

## 3.0 Existing Condition

Presently, the site topography is relatively flat with the exception of an existing slope on the north and westerly boundaries and a berm reaching 40-feet high on the southerly boundary separating the Caltrans ROW and the proposed development. Drainage of surface water across the project site is by sheet flow over the relatively flat surfaces from the east to the southwest. However, 9.2 acres drain directly south into Caltrans ROW where it is collected by an existing inlet drain, which is then conveyed southerly across the freeway.

At the southwesterly portion of the project, west of the LTP site, the existing stormwater control system consists of perimeter swales, a temporary basin, 48-inch HDPE pipes, 36-inch HDPE pipes and 24-inch HDPE pipes. The LTP area, and the southwesterly portion of the site (known as the home improvement site) are collected via swales, inlet drains and pipes and routed through a temporary basin then discharged to the existing ditch located on the Southern California Edison (SCE) property via a 48 inch HDPE pipe.

Runoff from approximately 3 acres (Subarea 14b) is intercepted by a catch basin then conveyed southerly across Caltrans right-of-way into an existing concrete ditch that conveys flows to an existing SCE natural drainage swale. The existing drainage facilities within the development property will be removed, relocated or replaced.

# 4.0 Proposed Condition

## 4.1 Over the home improvement site

The stormwater management system on the landfill portion of the site consists of primarily three storm drain lines identified as Lines SD-1, SD-2 and SD-3. The storm drain lines and site design will accommodate a Probable Maximum Precipitation storm event consisting of a rainfall of 17.5 inches for this site, which is three times higher than the normal 50-year storm event (5.85 inches). The grading design, catch basin locations, perimeter concrete curbs and proper pipe sizing will work together to keep the PMP runoff from overtopping the site unto and across the landfill slopes. Lines SD-1 and SD-2 collect runoff from the home improvement site and convey it to a detention/water quality facility just north of the home improvement building (Retail A) outside of the landfill limits. The mitigated and treated flows are conveyed to an existing natural drainage ditch at the SCE property on the westerly side of the project just south of the Greenwood Avenue. Storm drain line SD-3 collects runoff from the LTP area and conveys it across the parking lot to an existing SCE natural drainage swale. Hydraulic calculations were prepared for these lines and are included in this report to assure that the area over the landfill and the treatment plant are protected against a PMP storm event.

## 4.2 Over the remaining site

The remaining portion of the site was designed to accommodate a 50-year storm as required in the Los Angeles County Department of Public Works Hydrology Manual (LACDPWHM). The proposed onsite runoff will be intercepted via catch basins strategically located throughout the site. Calculations are included in this report using the weir equation methodology to properly size the proposed catch basins (also referred to as drain inlets). Storm drain lines are proposed along the main collector drive aisle and behind the retail buildings to convey the intercepted flows to the proposed detention basin. Hydraulic calculations will be prepared with the Final Hydrology Report.

The peak storm runoff will be mitigated to a pre-development condition. All storm events will be mitigated. However, this study focuses on the 50-year storm event because of the higher flow rates. Said 50-year storm event will not be exceeded at the SCE downstream discharge points. This will be achieved by the construction of a basin that will serve both detention and water quality purposes. Therefore downstream improvements will not be adversely or significantly impacted by this development.

# 5.0 Pre-Development and Post-Development Comparison for a 50-yr storm

**Table 1 Existing Hydrology Summary Table**

| Summary Table - Existing Hydrology | | |
|---|---|---|
| | Acres | Flow (cfs) |
| Tributary Offsite SCE Flow | 13.3 | 34.7 |
| Ex. Flow to Caltrans ROW thru site | 9.2 | 36.8 |
| Ex. Flow in Caltrans ROW | 10.8 | 21.8 |
| Onsite Ex. Flow | 45.4 | 83.7 |
| | **78.7** | **177.1** |

**Table 2 Proposed Hydrology Summary Table**

| Summary Table - Proposed Hydrology | | |
|---|---|---|
| | Acres | Flow (cfs) |
| Tributary Offsite SCE Flow | 12.2 | 31.6 |
| Flow to Caltrans ROW thru site | 6.9 | 21.7 |
| Flow in Caltrans ROW | 10.6 | 20.4 |
| Onsite Flow | 49 | 108.3 |
| | **78.7** | **182.0** |

The SCE tributary offsite runoff was reduced since approximately 1.1 acres become part of the development. The proposed drainage to the Caltrans ROW was reduced since existing subareas "2a" and "14 b" and a portion of "1ao" were redirected across the proposed developed site. Said runoff will be collected via catch basins and storm drain lines and conveyed to a detention basin within the developed site. As a result, the tributary drainage to the Caltrans ROW will be reduced by 2.5 acres plus another 3 acres from area 14b for a total of 5.5 acres.

# 6.0 Detention Basin

## 6.1 Mitigation Requirement

The overall runoff increase is 4.9 cfs (182-177.1 cfs). However, the peak storm mitigation should account for the added runoff that was redirected from the Caltrans ROW. Although the drainage pattern does not change, accounting for the redirected flow is needed since the point of discharge at the SCE property is upstream from the pre-developed point of discharge. Therefore the mitigation amount is expected to increase from 118.5 cfs to 139.9 cfs during a peak 50-year storm. Consequently, the basin will need to detain at least 21.4 cfs (to later release after the peak storm has passed).

## 6.2 Basin Sizing

The detention basin requires a minimum capacity of 1.44 ac-ft at a 3.5-foot storage depth. However, the proposed basin will contain a capacity of approximately 2.89 acre-feet. An irregular shaped underground detention facility is proposed at the southwesterly portion of the site in front of Retail "A" as shown in Figure 4 of Appendix E. The facility will have an area of approximately 18,000 SF and a depth of 7.0-feet (or 2.89 ac-ft). The proposed capacity will permit the basin to also be used as a water quality detention facility which will accommodate the first flush event consisting of a rainfall of 0.75 inches across the entire developed site (44.6 acres).

While PMP rainfall was used to properly size the storm drain lines and catch basins in the home improvement site (subarea "D") and the treatment plant area (subarea 45), runoff from a standard rainfall (5.85-inches) was used to size the detention basin.

## 6.3 Hydrograph

The hydrograph was determined by adding the hydrograph of each subarea. Said hydrographs were calculated using the Los Angeles County's Time of Concentration program.

### 6.4 Basin Routing

The Modified Puls method was used for the basin routing as recommended in the LACDPWHM. This method applies the continuity equation and relates the Inflow, Storage, and Outflow for a given period of time using the storm's Inflow Hydrograph. Appendix C shows the storage versus elevation of the detention basin and the basin discharge for the selected orifice control. This study accounts for a 54-inch pipe orifice control. For levels under 1.4 feet, the weir equation controls the outflow. For levels above 1.4 feet, the orifice equation controls the outflow. The routing calculations are also included in Appendix C that model the inflow, storage and outflow for a specific time period. Said routing calculations demonstrate that the peak storm inflow of 182 cfs will be mitigated to 154.8 cfs, thus detaining 27.2 cfs while creating a water depth of 3.5 in the proposed basin.

### 6.5 Methodology

The storm drainage system was analyzed using the methodology presented in the Los Angeles County Department of Public Works Hydrology Manual (LACDPWHM). The drainage characteristics are shown below. The storm drain system was sized for a 50-year storm event in accordance with criteria in the Hydrology Manual. WSPGW hydraulic software program was used to validate pipe sizes within the home improvement site. Hydraulic calculations for the remaining pipes will be performed during the Final Hydrology / Hydraulic Study.

## 7.0 Technical Criteria Used:

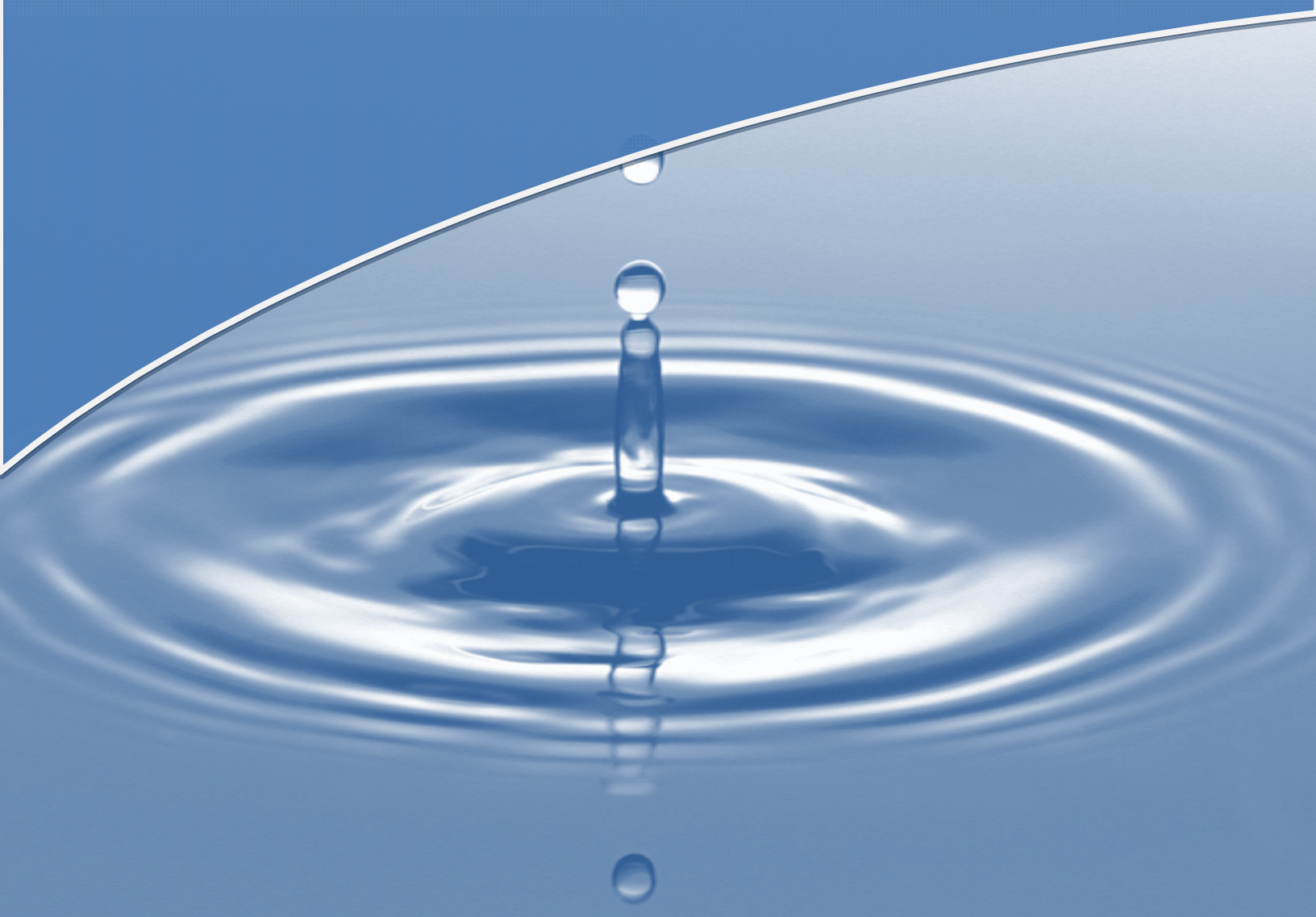
| | |
|---|---|
| Soil Type | 2 and 13, (Soil 2 was used since it covers 85%) |
| Rainfall from Isohyet | 5.85 inches |
| PMP Rainfall | 17.5 inches |
| Debris Potential Area | DPA-6 |
| Precipitation Zone | L |

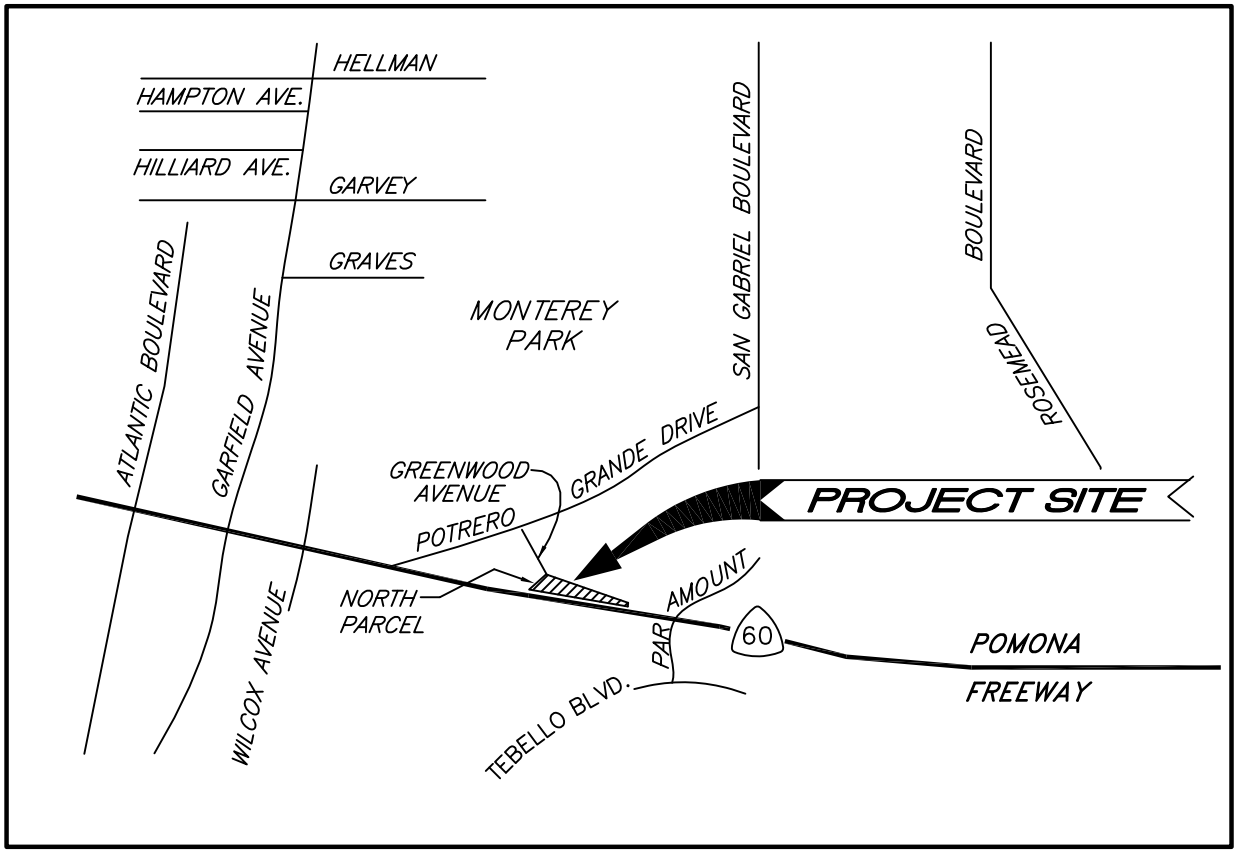
## 8.0 Conclusion

The results in this study show that the mitigated developed flow will be less than the existing flow. The proposed basin will mitigate peak runoff to less than pre-development levels. As a result, downstream storm drain facilities will benefit from the proposed development.

The Leachate Treatment Plan site and the home improvement site (subarea "D") will be protected from a Probable Maximum Precipitation event.

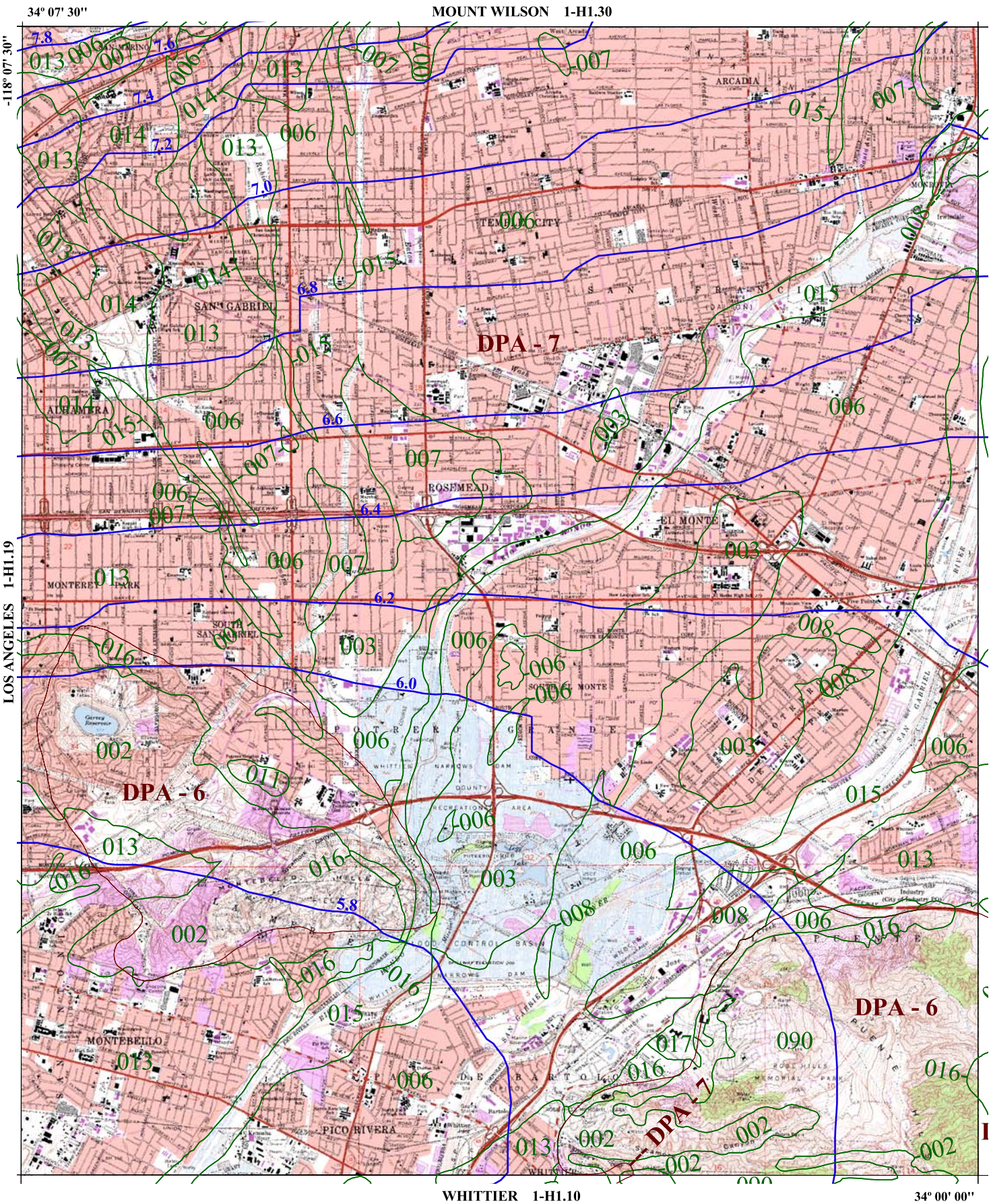
# APPENDIX A






# VICINITY MAP

NTS




016 SOIL CLASSIFICATION AREA

7.2 INCHES OF RAINFALL

DPA - 6 DEBRIS POTENTIAL AREA

N W E S

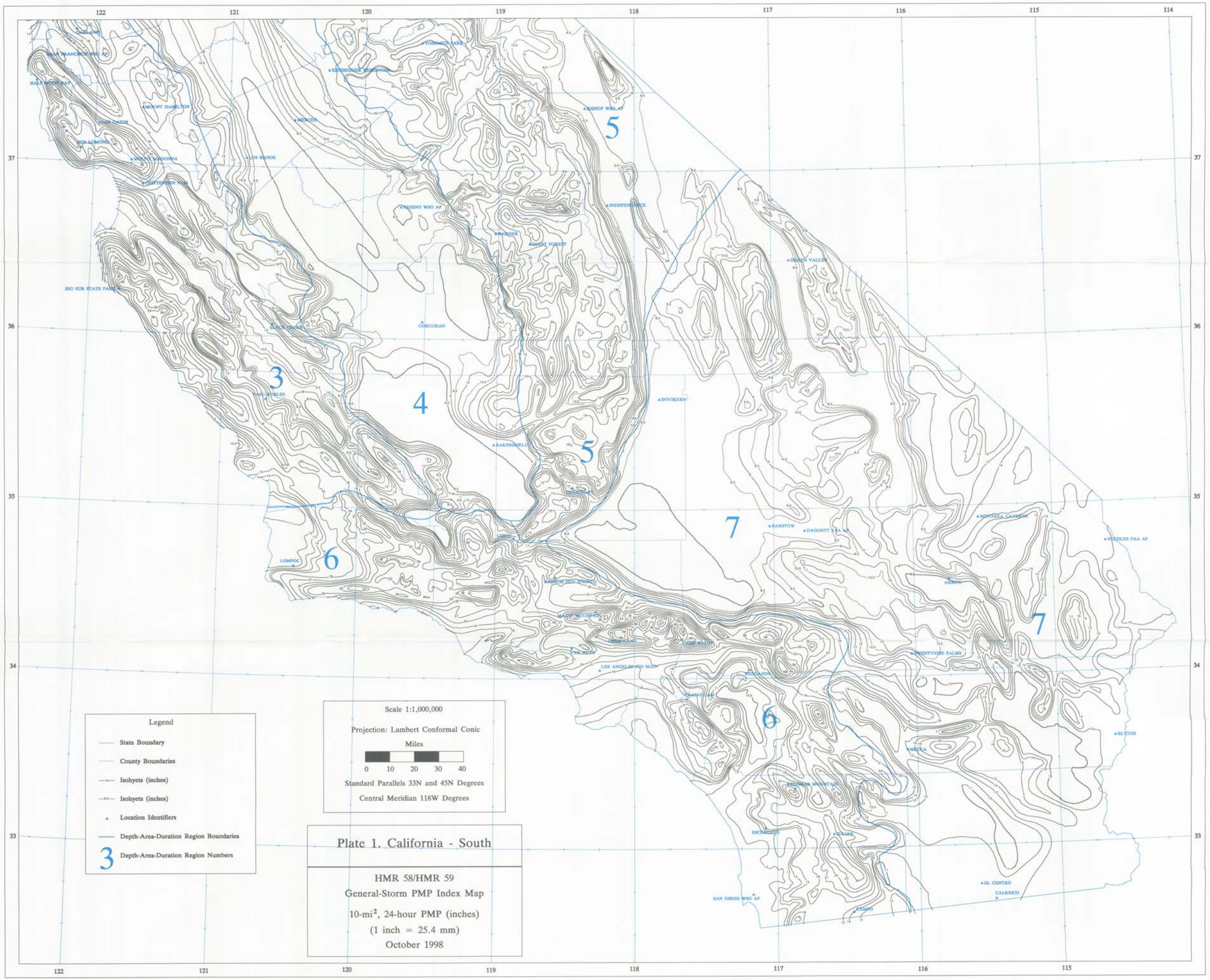
1 0 1 2 Miles

25-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.878
10-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.714

# EL MONTE
# 50-YEAR 24-HOUR ISOHYET

1-H1.20

LOS ANGELES COUNTY PUBLIC WORKS Public Service That Works

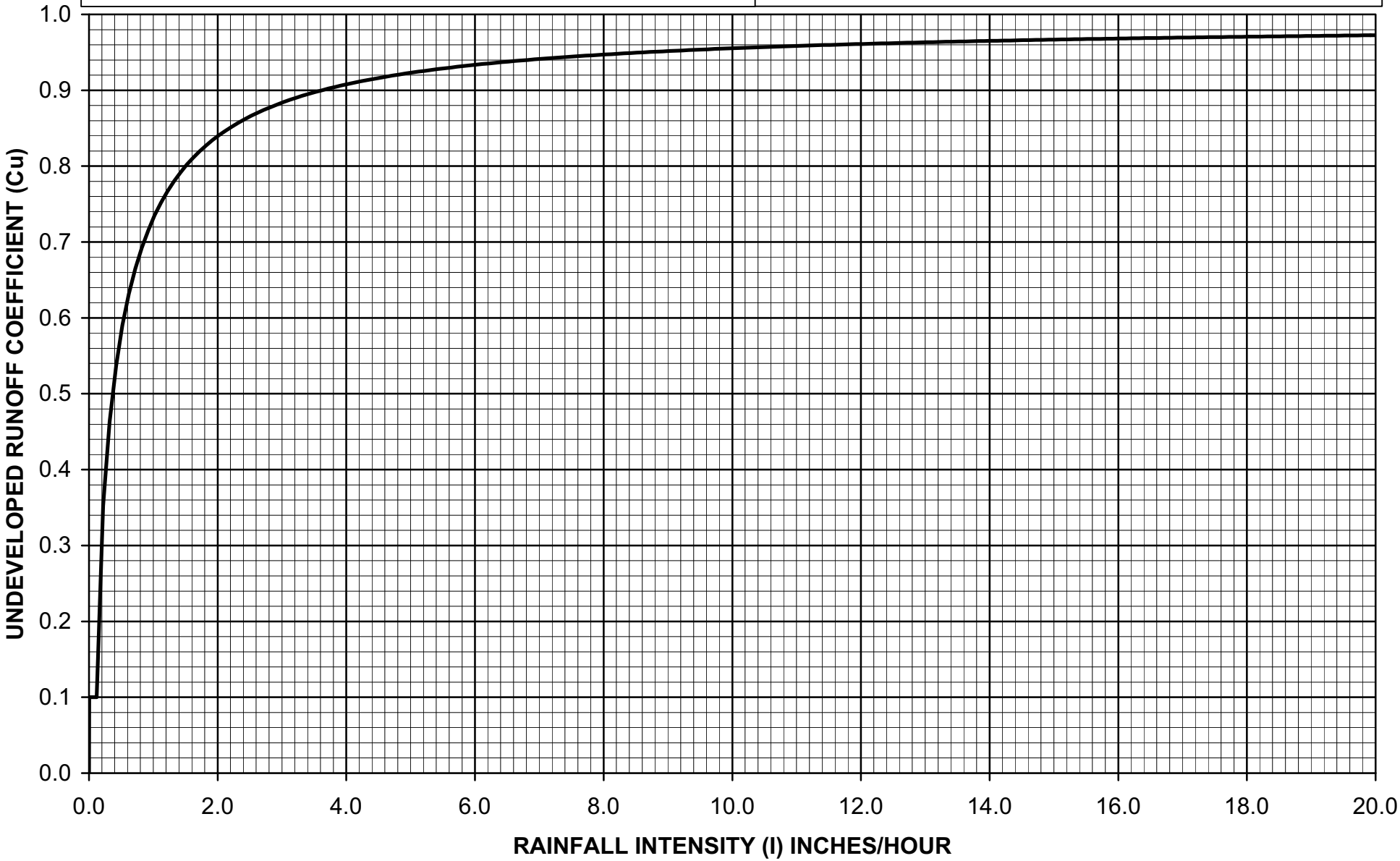

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6
7
OAKLAND
SAN FRANCISCO WSO AP
HALF MOON BAY
MOUNT HAMILTON
SAN JOSE
MERCED
YOSEMITE PARK
BISHOP WSO AP
MOUNT MADONNA
LOS BANOS
CRITTENDEN FARM
FRESNO WSO AP
INDEPENDENCE
PANOCHE
GIANT FOREST
DEATH VALLEY
RIO SUB STATE FARM
CORCORAN
BLACK BUTTE
LAKE BERRYESSA
BAKERSFIELD
INYOKERN
LOMPOC
SANDBERG
BARSTOW
DAGGETT FAA AP
AMBOY
NEEDLES FAA AP
LOS ANGELES DOWNTOWN USC
PALMDALE
LANCASTER
PALMDALE
PALM SPRINGS
MECCA
BLYTHE
SALTON SEA
RIVERSIDE
MARCH
SAN DIEGO WSO AP
EL CENTRO
CALEXICO
CAMPO
Legend
State Boundary
County Boundaries
Isohyets (inches)
Isohyets (inches)
Location Identifiers
Depth-Area-Duration Region Boundaries
Depth-Area-Duration Region Numbers
Scale 1:1,000,000
Projection: Lambert Conformal Conic
Miles
0 10 20 30 40
Standard Parallels 33N and 45N Degrees
Central Meridian 118W Degrees
Plate 1. California - South
HMR 58/HMR 59
General-Storm PMP Index Map
10-mi², 24-hour PMP (inches)
(1 inch = 25.4 mm)
October 1998

$C_D = (0.9 * IMP) + (1.0 - IMP) * C_U$

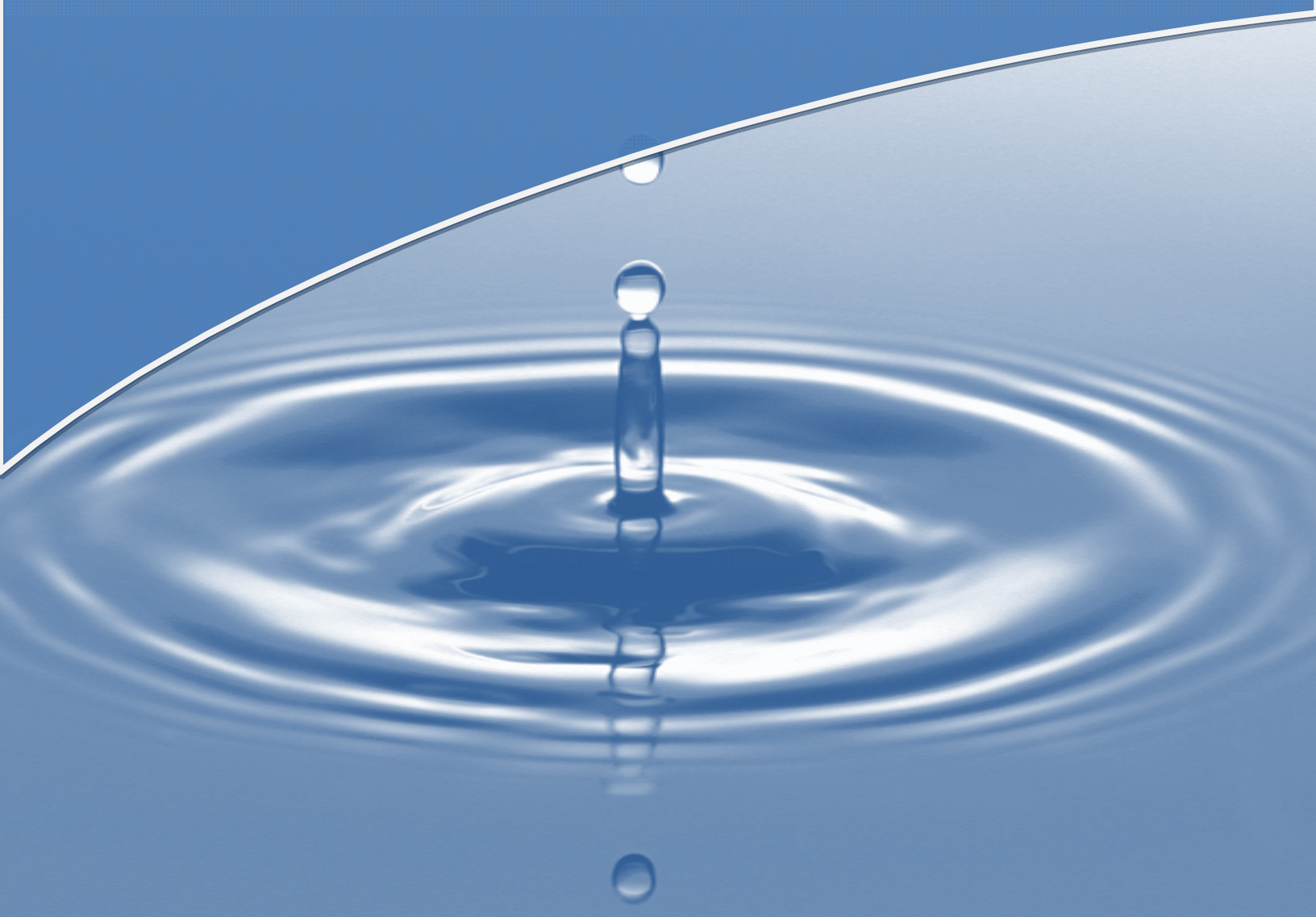
Where: $C_D$ = Developed Runoff Coefficient
IMP = Proportion Impervious
$C_U$ = Undeveloped runoff coefficient

Los Angeles County Department of Public Works

# RUNOFF COEFFICIENT CURVE
# SOIL TYPE NO. 002



# APPENDIX "B"



# Existing Hydrology

| Subarea | Area (acres) | %imp | Frequency | Soil Type | Length (ft) | Slope (ft/ft) | Isohyet (in.) | Calculated Tc (min.) | Intensity (in./hr) | Cu | Cd | Flow rate (cfs) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1Ao | 7.4 | 0.2 | 50 | 2 | 420 | 0.064 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 23.24 |
| 2Ao | 1.8 | 0.75 | 50 | 2 | 205 | 0.029 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 5.6 |
| 3F | 2.9 | 0.5 | 50 | 2 | 1055 | 0.011 | 5.85 | 11 | 2.41 | 0.86 | 0.88 | 6.15 |
| 4Bo | 1.5 | 0.2 | 50 | 2 | 210 | 0.143 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 4.71 |
| 5Bo | 2.7 | 0.2 | 50 | 2 | 600 | 0.057 | 5.85 | 6 | 3.2 | 0.89 | 0.89 | 7.69 |
| 6B | 29.2 | 0.75 | 50 | 2 | 2745 | 0.022 | 5.85 | 18 | 1.91 | 0.83 | 0.88 | 49.08 |
| 7Bo | 1.1 | 0.2 | 50 | 2 | 585 | 0.002 | 5.85 | 11 | 2.41 | 0.86 | 0.87 | 2.31 |
| 8Bo | 6.3 | 0.2 | 50 | 2 | 875 | 0.034 | 5.85 | 8 | 2.8 | 0.87 | 0.88 | 15.52 |
| 9B | 3.9 | 0.75 | 50 | 2 | 730 | 0.038 | 5.85 | 7 | 2.98 | 0.88 | 0.9 | 10.46 |
| 10Bo | 1.7 | 0.2 | 50 | 2 | 650 | 0.031 | 5.85 | 7 | 2.98 | 0.88 | 0.88 | 4.46 |
| 11B | 4.7 | 0.75 | 50 | 2 | 820 | 0.023 | 5.85 | 8 | 2.8 | 0.87 | 0.89 | 11.71 |
| 12B | 2.5 | 0.2 | 50 | 2 | 430 | 0.098 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 7.85 |
| 13B | 2.1 | 0.2 | 50 | 2 | 1125 | 0.032 | 5.85 | 10 | 2.52 | 0.86 | 0.87 | 4.6 |
| 14B | 3 | 0.75 | 50 | 2 | 600 | 0.025 | 5.85 | 7 | 2.98 | 0.88 | 0.9 | 8 |
| 15F | 5.1 | 0.2 | 50 | 2 | 2550 | 0.023 | 5.85 | 18 | 1.91 | 0.83 | 0.84 | 8.18 |
| 16F | 2.8 | 0.95 | 50 | 2 | 830 | 0.051 | 5.85 | 7 | 2.98 | 0.88 | 0.9 | 7.51 |

# Proposed Hydrology 50-yr Storm

| Subarea | Area (acres) | %imp | Frequency | Soil Type | Length (ft) | Slope (ft/ft) | Isohyet (in.) | Calculated Tc (min.) | Intensity (in./hr) | Cu | Cd | Flow rate (cfs) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A1 | 7.2 | 0.95 | 50 | 2 | 1790 | 0.020 | 5.85 | 14 | 2.15 | 0.85 | 0.9 | 13.9 |
| A2 | 14.8 | 0.95 | 50 | 2 | 1190 | 0.012 | 5.85 | 12 | 2.31 | 0.85 | 0.9 | 30.8 |
| 15Bo | 1.5 | 0.2 | 50 | 2 | 210 | 0.143 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 4.7 |
| 16Bo | 2.7 | 0.2 | 50 | 2 | 600 | 0.057 | 5.85 | 6 | 3.2 | 0.89 | 0.89 | 7.7 |
| 22Bo | 1.1 | 0.2 | 50 | 2 | 585 | 0.002 | 5.85 | 11 | 2.41 | 0.86 | 0.87 | 2.3 |
| 26Bo | 6.3 | 0.2 | 50 | 2 | 875 | 0.034 | 5.85 | 8 | 2.8 | 0.87 | 0.88 | 15.5 |
| 27Bo | 0.6 | 0.2 | 50 | 2 | 620 | 0.008 | 5.85 | 9 | 2.65 | 0.87 | 0.88 | 1.4 |
| B1 | 2.9 | 0.95 | 50 | 2 | 1280 | 0.016 | 5.85 | 12 | 2.31 | 0.85 | 0.9 | 6.0 |
| B2 | 6.2 | 0.95 | 50 | 2 | 1370 | 0.003 | 5.85 | 17 | 1.96 | 0.84 | 0.9 | 10.9 |
| B3 | 2.5 | 0.95 | 50 | 2 | 690 | 0.013 | 5.85 | 8 | 2.8 | 0.87 | 0.9 | 6.3 |
| D | 11.3 | 0.95 | 50 | 2 | 730 | 0.016 | 5.85 | 8 | 2.8 | 0.87 | 0.9 | 28.5 |
| C | 1.4 | 0.95 | 50 | 2 | 370 | 0.039 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 4.4 |
| 45 | 2.3 | 0.95 | 50 | 2 | 420 | 0.007 | 5.85 | 7 | 2.98 | 0.88 | 0.9 | 6.2 |
| 46 | 0.4 | 0.2 | 50 | 2 | 240 | 0.167 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 1.3 |
| 47F | 0.5 | 0.2 | 50 | 2 | 960 | 0.006 | 5.85 | 12 | 2.31 | 0.85 | 0.86 | 1.0 |
| 48F | 4.3 | 0.2 | 50 | 2 | 2550 | 0.019 | 5.85 | 18 | 1.91 | 0.83 | 0.84 | 6.9 |
| 49F | 2.8 | 0.95 | 50 | 2 | 1740 | 0.024 | 5.85 | 13 | 2.23 | 0.85 | 0.9 | 5.6 |
| 50F | 2.5 | 0.5 | 50 | 2 | 1020 | 0.012 | 5.85 | 11 | 2.41 | 0.86 | 0.88 | 5.3 |
| 51F | 0.5 | 0.2 | 50 | 2 | 110 | 0.200 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 1.6 |
| 52 | 6.9 | 0.2 | 50 | 2 | 360 | 0.056 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 21.7 |

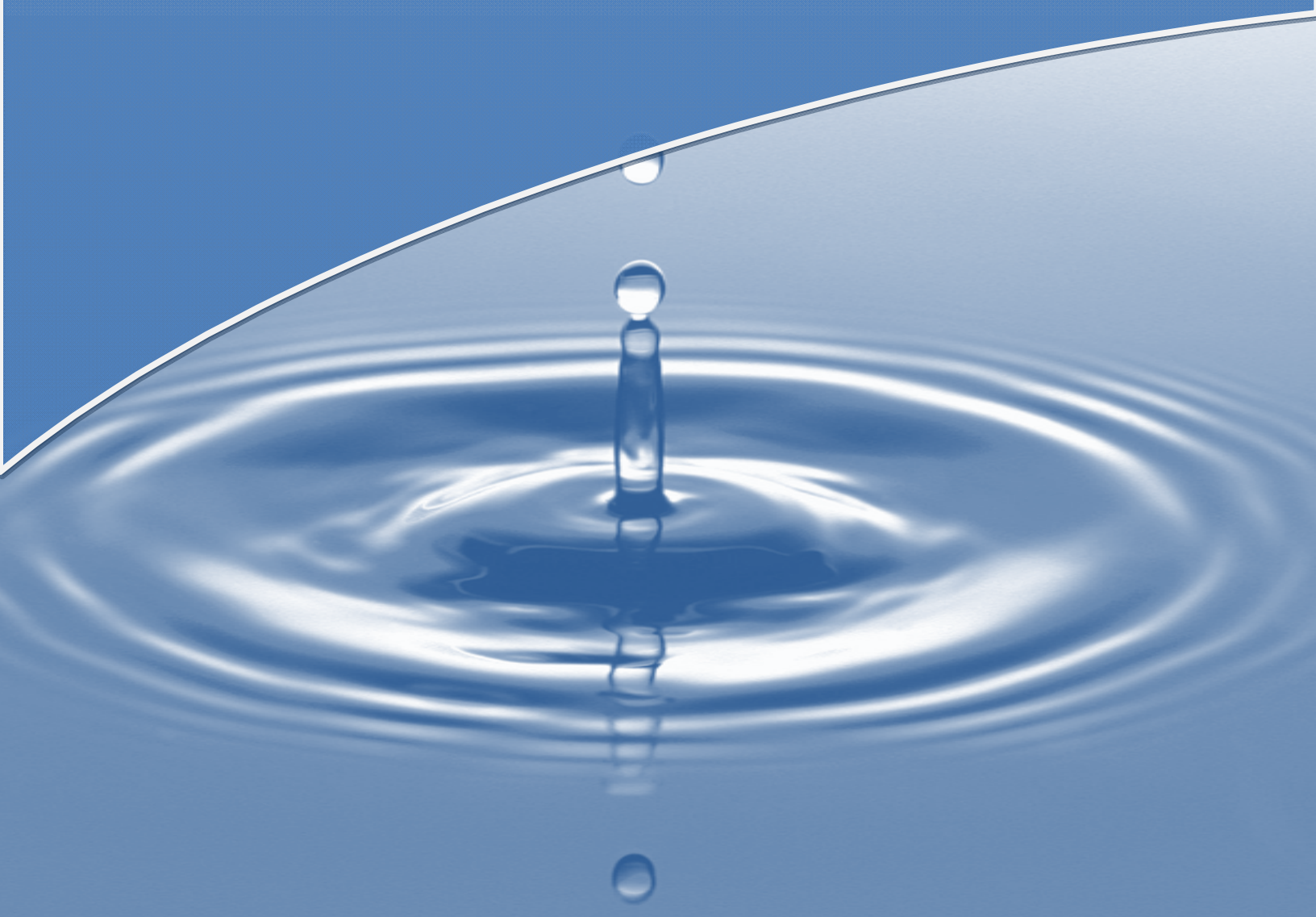
# PMP Hydrology at Area D

| Subarea | Area (acres) | %imp | Frequency | Soil Type | Length (ft) | Slope (ft/ft) | Isohyet (in.) | Calculated Tc (min.) | Intensity (in./hr) | Cu | Cd | Flow rate (cfs) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1A | 1 | 0.95 | 50 | 2 | 760 | 0.032 | 5.85 | 7 | 2.98 | 0.88 | 0.9 | 2.68 |
| 2A | 0.6 | 0.95 | 50 | 2 | 350 | 0.011 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 1.88 |
| 3A | 0.6 | 0.95 | 50 | 2 | 270 | 0.015 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 1.88 |
| 4A | 0.7 | 0.95 | 50 | 2 | 730 | 0.007 | 5.85 | 10 | 2.52 | 0.86 | 0.9 | 1.59 |
| 5A | 1.8 | 0.95 | 50 | 2 | 610 | 0.014 | 5.85 | 8 | 2.8 | 0.87 | 0.9 | 4.54 |
| 6A | 1.5 | 0.95 | 50 | 2 | 490 | 0.010 | 5.85 | 7 | 2.98 | 0.88 | 0.9 | 4.02 |
| 7A | 1 | 0.95 | 50 | 2 | 670 | 0.009 | 5.85 | 9 | 2.65 | 0.87 | 0.9 | 2.39 |
| 8A | 2 | 0.95 | 50 | 2 | 530 | 0.006 | 5.85 | 8 | 2.8 | 0.87 | 0.9 | 5.04 |
| 9A | 2.9 | 0.95 | 50 | 2 | 610 | 0.014 | 5.85 | 8 | 2.8 | 0.87 | 0.9 | 7.31 |
| 10A | 4 | 0.95 | 50 | 2 | 630 | 0.012 | 5.85 | 8 | 2.8 | 0.87 | 0.9 | 10.08 |
| 11A | 2.1 | 0.95 | 50 | 2 | 320 | 0.014 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 6.6 |
| 12A | 2.9 | 0.95 | 50 | 2 | 620 | 0.013 | 5.85 | 8 | 2.8 | 0.87 | 0.9 | 7.31 |
| 13A | 0.9 | 0.95 | 50 | 2 | 350 | 0.020 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 2.83 |
| 14B | 0.7 | 0.95 | 50 | 2 | 760 | 0.018 | 5.85 | 8 | 2.8 | 0.87 | 0.9 | 1.76 |
| 15Bo | 1.5 | 0.2 | 50 | 2 | 210 | 0.143 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 4.71 |
| 16Bo | 2.7 | 0.2 | 50 | 2 | 600 | 0.057 | 5.85 | 6 | 3.2 | 0.89 | 0.89 | 7.69 |
| 17B | 1.4 | 0.95 | 50 | 2 | 590 | 0.015 | 5.85 | 7 | 2.98 | 0.88 | 0.9 | 3.75 |
| 18B | 0.8 | 0.95 | 50 | 2 | 610 | 0.014 | 5.85 | 7 | 2.98 | 0.88 | 0.9 | 2.15 |
| 19B | 0.9 | 0.95 | 50 | 2 | 190 | 0.005 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 2.83 |
| 20B | 0.8 | 0.95 | 50 | 2 | 190 | 0.005 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 2.51 |
| 21B | 0.8 | 0.95 | 50 | 2 | 190 | 0.005 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 2.51 |
| 22Bo | 1.1 | 0.2 | 50 | 2 | 585 | 0.002 | 5.85 | 11 | 2.41 | 0.86 | 0.87 | 2.31 |
| 23B | 1.1 | 0.95 | 50 | 2 | 190 | 0.007 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 3.46 |
| 24B | 1.4 | 0.95 | 50 | 2 | 190 | 0.007 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 4.4 |
| 25B | 1.2 | 0.95 | 50 | 2 | 250 | 0.008 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 3.77 |
| 26Bo | 6.3 | 0.2 | 50 | 2 | 875 | 0.034 | 5.85 | 8 | 2.8 | 0.87 | 0.88 | 15.52 |
| 27Bo | 0.6 | 0.2 | 50 | 2 | 620 | 0.008 | 5.85 | 9 | 2.65 | 0.87 | 0.88 | 1.4 |
| 28B | 1.1 | 0.95 | 50 | 2 | 550 | 0.021 | 5.85 | 7 | 2.98 | 0.88 | 0.9 | 2.95 |
| 29B | 0.2 | 0.95 | 50 | 2 | 170 | 0.016 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 0.63 |
| 30B | 1.2 | 0.95 | 50 | 2 | 520 | 0.018 | 5.85 | 6 | 3.2 | 0.89 | 0.9 | 3.46 |
| 31D | 0.9 | 0.95 | 50 | 2 | 150 | 0.007 | 17.5 | 5 | 10.44 | 0.9 | 0.9 | 8.46 |
| 33D | 0.8 | 0.95 | 50 | 2 | 220 | 0.005 | 17.5 | 5 | 10.44 | 0.9 | 0.9 | 7.52 |
| 34D | 0.7 | 0.95 | 50 | 2 | 270 | 0.015 | 17.5 | 5 | 10.44 | 0.9 | 0.9 | 6.58 |

# PMP Hydrology at Area D

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35D | 0.4 | 0.95 | 50 | 2 | 190 | 0.018 | 17.5 | 5 | 10.44 | 0.9 | 0.9 | 3.76 |
| 36D | 2.1 | 0.95 | 50 | 2 | 410 | 0.022 | 17.5 | 5 | 10.44 | 0.9 | 0.9 | 19.73 |
| 37D | 0.2 | 0.95 | 50 | 2 | 290 | 0.018 | 17.5 | 5 | 10.44 | 0.9 | 0.9 | 1.88 |
| 38D | 0.9 | 0.95 | 50 | 2 | 300 | 0.007 | 17.5 | 5 | 10.44 | 0.9 | 0.9 | 8.46 |
| 39D | 0.3 | 0.95 | 50 | 2 | 490 | 0.016 | 17.5 | 5 | 10.44 | 0.9 | 0.9 | 2.82 |
| 40D | 1.9 | 0.95 | 50 | 2 | 580 | 0.019 | 17.5 | 5 | 10.44 | 0.9 | 0.9 | 17.85 |
| 41D | 3.1 | 0.95 | 50 | 2 | 580 | 0.021 | 17.5 | 5 | 10.44 | 0.9 | 0.9 | 29.13 |
| 42C | 0.4 | 0.95 | 50 | 2 | 315 | 0.023 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 1.26 |
| 43C | 0.3 | 0.95 | 50 | 2 | 380 | 0.045 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 0.94 |
| 44C | 0.7 | 0.95 | 50 | 2 | 370 | 0.039 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 2.2 |
| 45 | 2.3 | 0.95 | 50 | 2 | 420 | 0.007 | 17.5 | 5 | 10.44 | 0.9 | 0.9 | 21.61 |
| 46 | 0.4 | 0.2 | 50 | 2 | 240 | 0.167 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 1.26 |
| 47F | 0.5 | 0.2 | 50 | 2 | 960 | 0.006 | 5.85 | 12 | 2.31 | 0.85 | 0.86 | 0.99 |
| 48F | 4.3 | 0.2 | 50 | 2 | 2550 | 0.019 | 5.85 | 18 | 1.91 | 0.83 | 0.84 | 6.9 |
| 49F | 2.8 | 0.95 | 50 | 2 | 1740 | 0.024 | 5.85 | 13 | 2.23 | 0.85 | 0.9 | 5.62 |
| 50F | 2.5 | 0.5 | 50 | 2 | 1020 | 0.012 | 5.85 | 11 | 2.41 | 0.86 | 0.88 | 5.3 |
| 51F | 0.5 | 0.2 | 50 | 2 | 110 | 0.200 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 1.57 |
| 52 | 6.9 | 0.2 | 50 | 2 | 360 | 0.056 | 5.85 | 5 | 3.49 | 0.9 | 0.9 | 21.67 |

# APPENDIX "C"



# DETENTION / WATER QUALITY BASIN
## Storage vs. Depth vs. Outflow Table

| | | | |
|---|---|---|---|
| | | Orifice Plate | |
| | Pipe Size (inches) & Cross Area= | **48** | 12.56 |
| Color = Manual Input Fills | Perimeter of Outlet Pipe= | | 12.56 |
| | C (Sharp Crested Weir)= | | 3.5 |
| Weir Flow Equation $Q=CLH^{1.5}$ | | | |
| | Time Interval (min) | | 5 |
| Orifice Equation $Q=KA\sqrt{(2gH)}$ | | | |
| | K (Sharp Edge Orifice)= | 0.65 | |

| Elevation | Depth in Basin | Depth Over Riser | Area | Total Volume | Ac-Ft | Orifice Qout Outlet Pipe | Weir Qout Outlet Pipe | Modified Puls Method 2S/Δt+O (cfs) | Modified Puls Method 2S/Δt-O (cfs) |
|---|---|---|---|---|---|---|---|---|---|
| 663 | 0 | 0 | 17950 | 0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 |
| 663.5 | 0.5 | 0.5 | 17951 | 8,976 | 0.21 | 46.34 | 15.5 | 106.2 | 13.5 |
| 664 | 1 | 1 | 17952 | 17,952 | 0.41 | 65.54 | 44.0 | 185.2 | 54.1 |
| 664.5 | 1.5 | 1.5 | 17953 | 26,928 | 0.62 | 80.27 | 80.8 | 259.8 | 99.3 |
| 665 | 2 | 2 | 17954 | 35,905 | 0.82 | 92.68 | 124.4 | 332.0 | 146.7 |
| 665.5 | 2.5 | 2.5 | 17955 | 44,883 | 1.03 | 103.62 | 173.8 | 402.8 | 195.6 |
| 666 | 3 | 3 | 17956 | 53,861 | 1.24 | 113.51 | 228.5 | 472.6 | 245.6 |
| 666.5 | 3.5 | 3.5 | 17957 | 62,839 | 1.44 | 122.61 | 287.9 | 541.5 | 296.3 |
| 667 | 4 | 4 | 17958 | 71,818 | 1.65 | 131.07 | 351.8 | 609.9 | 347.7 |
| 667.5 | 4.5 | 4.5 | 17959 | 80,798 | 1.85 | 139.02 | 419.8 | 677.7 | 399.6 |
| 668 | 5 | 5 | 17960 | 89,778 | 2.06 | 146.54 | 491.6 | 745.1 | 452.0 |
| 668.5 | 5.5 | 5.5 | 17961 | 98,758 | 2.27 | 153.70 | 567.2 | 812.1 | 504.7 |
| 669 | 6 | 6 | 17962 | 107,739 | 2.47 | 160.53 | 646.3 | 878.8 | 557.7 |
| 669.5 | 6.5 | 6.5 | 17963 | 116,721 | 2.68 | 167.09 | 728.7 | 945.2 | 611.1 |
| 670 | 7 | 7 | 17964 | 125,703 | **2.89** | 173.39 | 814.4 | 1011.4 | 664.6 |

| | Input from TC_Vol_Calcs | | Modified Puls Method | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | Use for Range | (by Interpolation) | (by Interpolation) |
| | | | | | Y2 | Outflow | Depth |
| Time Index | Time (min) | Inflow ($I_n$) (cfs) | $I_n+I_n+1$ (cfs) | $2S/\Delta t-O$ (cfs) | $2S/\Delta t+O$ (cfs) | $O_{n+1}$ (cfs) | in Basin |
| 1 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 22 | 8.4 | 8.4 | 0.0 | 8.4 | 3.7 | 0.0 |
| 3 | 27 | 8.4 | 16.9 | 1.1 | 17.9 | 7.8 | 0.1 |
| 4 | 32 | 8.5 | 16.9 | 2.3 | 19.2 | 8.4 | 0.1 |
| 5 | 37 | 8.6 | 17.1 | 2.4 | 19.5 | 8.5 | 0.1 |
| 6 | 42 | 8.6 | 17.2 | 2.5 | 19.7 | 8.6 | 0.1 |
| 7 | 47 | 8.6 | 17.3 | 2.5 | 19.8 | 8.6 | 0.1 |
| 8 | 52 | 8.7 | 17.3 | 2.5 | 19.8 | 8.6 | 0.1 |
| 9 | 57 | 8.7 | 17.3 | 2.5 | 19.8 | 8.7 | 0.1 |
| 10 | 62 | 8.7 | 17.4 | 2.5 | 19.9 | 8.7 | 0.1 |
| 11 | 67 | 8.7 | 17.4 | 2.5 | 19.9 | 8.7 | 0.1 |
| 12 | 72 | 8.7 | 17.4 | 2.5 | 20.0 | 8.7 | 0.1 |
| 13 | 77 | 8.7 | 17.5 | 2.5 | 20.0 | 8.7 | 0.1 |
| 14 | 82 | 8.8 | 17.5 | 2.5 | 20.1 | 8.8 | 0.1 |
| 15 | 87 | 8.8 | 17.6 | 2.5 | 20.1 | 8.8 | 0.1 |
| 16 | 92 | 8.8 | 17.6 | 2.6 | 20.1 | 8.8 | 0.1 |
| 17 | 97 | 8.8 | 17.6 | 2.6 | 20.2 | 8.8 | 0.1 |
| 18 | 102 | 8.8 | 17.7 | 2.6 | 20.2 | 8.8 | 0.1 |
| 19 | 107 | 8.9 | 17.7 | 2.6 | 20.3 | 8.9 | 0.1 |
| 20 | 112 | 8.9 | 17.7 | 2.6 | 20.3 | 8.9 | 0.1 |
| 21 | 117 | 8.9 | 17.8 | 2.6 | 20.4 | 8.9 | 0.1 |
| 22 | 122 | 8.9 | 17.8 | 2.6 | 20.4 | 8.9 | 0.1 |
| 23 | 127 | 8.9 | 17.9 | 2.6 | 20.5 | 8.9 | 0.1 |
| 24 | 132 | 9.0 | 17.9 | 2.6 | 20.5 | 9.0 | 0.1 |
| 25 | 137 | 9.0 | 17.9 | 2.6 | 20.6 | 9.0 | 0.1 |
| 26 | 142 | 9.0 | 18.0 | 2.6 | 20.6 | 9.0 | 0.1 |
| 27 | 147 | 9.0 | 18.0 | 2.6 | 20.6 | 9.0 | 0.1 |
| 28 | 152 | 9.0 | 18.1 | 2.6 | 20.7 | 9.0 | 0.1 |
| 29 | 157 | 9.1 | 18.1 | 2.6 | 20.7 | 9.1 | 0.1 |

| | **Input from TC_Vol_Calcs** | | | | Use for Range | (by Interpolation) | (by Interpolation) |
|---|---|---|---|---|---|---|---|
| | | | | | Y2 | Outflow | Depth |
| Time Index | Time (min) | Inflow ($I_n$) (cfs) | $I_n+I_{n+1}$ (cfs) | $2S/\Delta t-O$ (cfs) | $2S/\Delta t+O$ (cfs) | $O_{n+1}$ (cfs) | in Basin |
| 30 | 162 | 9.1 | 18.2 | 2.6 | 20.8 | 9.1 | 0.1 |
| 31 | 167 | 9.1 | 18.2 | 2.6 | 20.8 | 9.1 | 0.1 |
| 32 | 172 | 9.1 | 18.2 | 2.6 | 20.9 | 9.1 | 0.1 |
| 33 | 177 | 9.2 | 18.3 | 2.7 | 20.9 | 9.1 | 0.1 |
| 34 | 182 | 9.2 | 18.3 | 2.7 | 21.0 | 9.2 | 0.1 |
| 35 | 187 | 9.2 | 18.4 | 2.7 | 21.0 | 9.2 | 0.1 |
| 36 | 192 | 9.2 | 18.4 | 2.7 | 21.1 | 9.2 | 0.1 |
| 37 | 197 | 9.2 | 18.5 | 2.7 | 21.1 | 9.2 | 0.1 |
| 38 | 202 | 9.3 | 18.5 | 2.7 | 21.2 | 9.3 | 0.1 |
| 39 | 207 | 9.3 | 18.6 | 2.7 | 21.2 | 9.3 | 0.1 |
| 40 | 212 | 9.3 | 18.6 | 2.7 | 21.3 | 9.3 | 0.1 |
| 41 | 217 | 9.3 | 18.6 | 2.7 | 21.4 | 9.3 | 0.1 |
| 42 | 222 | 9.4 | 18.7 | 2.7 | 21.4 | 9.3 | 0.1 |
| 43 | 227 | 9.4 | 18.7 | 2.7 | 21.5 | 9.4 | 0.1 |
| 44 | 232 | 9.4 | 18.8 | 2.7 | 21.5 | 9.4 | 0.1 |
| 45 | 237 | 9.4 | 18.8 | 2.7 | 21.6 | 9.4 | 0.1 |
| 46 | 242 | 9.5 | 18.9 | 2.7 | 21.6 | 9.4 | 0.1 |
| 47 | 247 | 9.5 | 18.9 | 2.7 | 21.7 | 9.5 | 0.1 |
| 48 | 252 | 9.5 | 19.0 | 2.8 | 21.7 | 9.5 | 0.1 |
| 49 | 257 | 9.5 | 19.0 | 2.8 | 21.8 | 9.5 | 0.1 |
| 50 | 262 | 9.5 | 19.1 | 2.8 | 21.8 | 9.5 | 0.1 |
| 51 | 267 | 9.6 | 19.1 | 2.8 | 21.9 | 9.6 | 0.1 |
| 52 | 272 | 9.6 | 19.2 | 2.8 | 22.0 | 9.6 | 0.1 |
| 53 | 277 | 9.6 | 19.2 | 2.8 | 22.0 | 9.6 | 0.1 |
| 54 | 282 | 9.7 | 19.3 | 2.8 | 22.1 | 9.6 | 0.1 |
| 55 | 287 | 9.7 | 19.3 | 2.8 | 22.1 | 9.7 | 0.1 |
| 56 | 292 | 9.7 | 19.4 | 2.8 | 22.2 | 9.7 | 0.1 |
| 57 | 297 | 9.7 | 19.4 | 2.8 | 22.3 | 9.7 | 0.1 |
| 58 | 302 | 9.8 | 19.5 | 2.8 | 22.3 | 9.7 | 0.1 |
| 59 | 307 | 9.8 | 19.5 | 2.8 | 22.4 | 9.8 | 0.1 |
| 60 | 312 | 9.8 | 19.6 | 2.8 | 22.4 | 9.8 | 0.1 |

| | Input from TC_Vol_Calcs | | | | Use for Range | (by Interpolation) | (by Interpolation) |
|---|---|---|---|---|---|---|---|
| | | | | | Y2 | Outflow | Depth |
| Time Index | Time (min) | Inflow ($I_n$) (cfs) | $I_n+I_{n+1}$ (cfs) | 2S/Δt-O (cfs) | 2S/Δt+O (cfs) | $O_{n+1}$ (cfs) | in Basin |
| 61 | 317 | 9.8 | 19.6 | 2.9 | 22.5 | 9.8 | 0.1 |
| 62 | 322 | 9.9 | 19.7 | 2.9 | 22.6 | 9.8 | 0.1 |
| 63 | 327 | 9.9 | 19.8 | 2.9 | 22.6 | 9.9 | 0.1 |
| 64 | 332 | 9.9 | 19.8 | 2.9 | 22.7 | 9.9 | 0.1 |
| 65 | 337 | 10.1 | 20.0 | 2.9 | 22.9 | 10.0 | 0.1 |
| 66 | 342 | 10.1 | 20.2 | 2.9 | 23.1 | 10.1 | 0.1 |
| 67 | 347 | 10.1 | 20.3 | 2.9 | 23.2 | 10.1 | 0.1 |
| 68 | 352 | 10.2 | 20.3 | 2.9 | 23.3 | 10.2 | 0.1 |
| 69 | 357 | 10.2 | 20.4 | 3.0 | 23.3 | 10.2 | 0.1 |
| 70 | 362 | 10.2 | 20.4 | 3.0 | 23.4 | 10.2 | 0.1 |
| 71 | 367 | 10.3 | 20.5 | 3.0 | 23.5 | 10.2 | 0.1 |
| 72 | 372 | 10.3 | 20.6 | 3.0 | 23.5 | 10.3 | 0.1 |
| 73 | 377 | 10.3 | 20.6 | 3.0 | 23.6 | 10.3 | 0.1 |
| 74 | 382 | 10.4 | 20.7 | 3.0 | 23.7 | 10.3 | 0.1 |
| 75 | 387 | 10.4 | 20.7 | 3.0 | 23.8 | 10.4 | 0.1 |
| 76 | 392 | 10.4 | 20.8 | 3.0 | 23.8 | 10.4 | 0.1 |
| 77 | 397 | 10.4 | 20.9 | 3.0 | 23.9 | 10.4 | 0.1 |
| 78 | 402 | 10.5 | 20.9 | 3.0 | 24.0 | 10.5 | 0.1 |
| 79 | 407 | 10.5 | 21.0 | 3.0 | 24.0 | 10.5 | 0.1 |
| 80 | 412 | 10.5 | 21.1 | 3.1 | 24.1 | 10.5 | 0.1 |
| 81 | 417 | 10.6 | 21.1 | 3.1 | 24.2 | 10.6 | 0.1 |
| 82 | 422 | 10.6 | 21.2 | 3.1 | 24.3 | 10.6 | 0.1 |
| 83 | 427 | 10.6 | 21.3 | 3.1 | 24.3 | 10.6 | 0.1 |
| 84 | 432 | 10.7 | 21.3 | 3.1 | 24.4 | 10.7 | 0.1 |
| 85 | 437 | 10.7 | 21.4 | 3.1 | 24.5 | 10.7 | 0.1 |
| 86 | 442 | 10.8 | 21.5 | 3.1 | 24.6 | 10.7 | 0.1 |
| 87 | 447 | 10.8 | 21.5 | 3.1 | 24.7 | 10.8 | 0.1 |
| 88 | 452 | 10.8 | 21.6 | 3.1 | 24.7 | 10.8 | 0.1 |
| 89 | 457 | 10.9 | 21.7 | 3.1 | 24.8 | 10.8 | 0.1 |
| 90 | 462 | 10.9 | 21.8 | 3.2 | 24.9 | 10.9 | 0.1 |
| 91 | 467 | 10.9 | 21.8 | 3.2 | 25.0 | 10.9 | 0.1 |

| | Input from TC_Vol_Calcs | | | | Use for Range | (by Interpolation) | (by Interpolation) |
|---|---|---|---|---|---|---|---|
| | | | | | Y2 | Outflow | Depth |
| Time Index | Time (min) | Inflow ($I_n$) (cfs) | $I_n+I_{n+1}$ (cfs) | 2S/Δt-O (cfs) | 2S/Δt+O (cfs) | $O_{n+1}$ (cfs) | in Basin |
| 92 | 472 | 11.0 | 21.9 | 3.2 | 25.1 | 10.9 | 0.1 |
| 93 | 477 | 11.0 | 22.0 | 3.2 | 25.2 | 11.0 | 0.1 |
| 94 | 482 | 11.0 | 22.1 | 3.2 | 25.2 | 11.0 | 0.1 |
| 95 | 487 | 11.1 | 22.1 | 3.2 | 25.3 | 11.1 | 0.1 |
| 96 | 492 | 11.1 | 22.2 | 3.2 | 25.4 | 11.1 | 0.1 |
| 97 | 497 | 11.2 | 22.3 | 3.2 | 25.5 | 11.1 | 0.1 |
| 98 | 502 | 11.4 | 22.5 | 3.2 | 25.8 | 11.2 | 0.1 |
| 99 | 507 | 11.4 | 22.7 | 3.3 | 26.0 | 11.4 | 0.1 |
| 100 | 512 | 11.4 | 22.8 | 3.3 | 26.1 | 11.4 | 0.1 |
| 101 | 517 | 11.5 | 22.9 | 3.3 | 26.2 | 11.4 | 0.1 |
| 102 | 522 | 11.5 | 23.0 | 3.3 | 26.3 | 11.5 | 0.1 |
| 103 | 527 | 11.6 | 23.1 | 3.3 | 26.4 | 11.5 | 0.1 |
| 104 | 532 | 11.6 | 23.2 | 3.4 | 26.5 | 11.6 | 0.1 |
| 105 | 537 | 11.6 | 23.3 | 3.4 | 26.6 | 11.6 | 0.1 |
| 106 | 542 | 11.7 | 23.3 | 3.4 | 26.7 | 11.7 | 0.1 |
| 107 | 547 | 11.7 | 23.4 | 3.4 | 26.8 | 11.7 | 0.1 |
| 108 | 552 | 11.8 | 23.5 | 3.4 | 26.9 | 11.8 | 0.1 |
| 109 | 557 | 11.8 | 23.6 | 3.4 | 27.0 | 11.8 | 0.1 |
| 110 | 562 | 11.9 | 23.7 | 3.4 | 27.1 | 11.8 | 0.1 |
| 111 | 567 | 11.9 | 23.8 | 3.4 | 27.2 | 11.9 | 0.1 |
| 112 | 572 | 12.0 | 23.9 | 3.5 | 27.3 | 11.9 | 0.1 |
| 113 | 577 | 12.0 | 24.0 | 3.5 | 27.5 | 12.0 | 0.1 |
| 114 | 582 | 12.1 | 24.1 | 3.5 | 27.6 | 12.0 | 0.1 |
| 115 | 587 | 12.1 | 24.2 | 3.5 | 27.7 | 12.1 | 0.1 |
| 116 | 592 | 12.2 | 24.3 | 3.5 | 27.8 | 12.1 | 0.1 |
| 117 | 597 | 12.2 | 24.4 | 3.5 | 27.9 | 12.2 | 0.1 |
| 118 | 602 | 12.3 | 24.5 | 3.5 | 28.0 | 12.2 | 0.1 |
| 119 | 607 | 12.3 | 24.6 | 3.6 | 28.1 | 12.3 | 0.1 |
| 120 | 612 | 12.4 | 24.7 | 3.6 | 28.3 | 12.3 | 0.1 |
| 121 | 617 | 12.4 | 24.8 | 3.6 | 28.4 | 12.4 | 0.1 |
| 122 | 622 | 12.6 | 25.1 | 3.6 | 28.7 | 12.5 | 0.1 |

| | Input from TC_Vol_Calcs | | | | Use for Range | (by Interpolation) | (by Interpolation) |
|---|---|---|---|---|---|---|---|
| | | | | | Y2 | Outflow | Depth |
| Time Index | Time (min) | Inflow ($I_n$) (cfs) | $I_n+I_{n+1}$ (cfs) | 2S/Δt-O (cfs) | 2S/Δt+O (cfs) | $O_{n+1}$ (cfs) | in Basin |
| 123 | 627 | 12.7 | 25.3 | 3.6 | 29.0 | 12.7 | 0.1 |
| 124 | 632 | 12.8 | 25.5 | 3.7 | 29.1 | 12.7 | 0.1 |
| 125 | 637 | 12.8 | 25.6 | 3.7 | 29.3 | 12.8 | 0.1 |
| 126 | 642 | 12.9 | 25.7 | 3.7 | 29.4 | 12.8 | 0.1 |
| 127 | 647 | 12.9 | 25.8 | 3.7 | 29.5 | 12.9 | 0.1 |
| 128 | 652 | 13.0 | 25.9 | 3.8 | 29.7 | 12.9 | 0.1 |
| 129 | 657 | 13.0 | 26.0 | 3.8 | 29.8 | 13.0 | 0.1 |
| 130 | 662 | 13.1 | 26.2 | 3.8 | 29.9 | 13.1 | 0.1 |
| 131 | 667 | 13.2 | 26.3 | 3.8 | 30.1 | 13.1 | 0.1 |
| 132 | 672 | 13.2 | 26.4 | 3.8 | 30.2 | 13.2 | 0.1 |
| 133 | 677 | 13.3 | 26.5 | 3.8 | 30.4 | 13.3 | 0.1 |
| 134 | 682 | 13.4 | 26.7 | 3.9 | 30.5 | 13.3 | 0.1 |
| 135 | 687 | 13.4 | 26.8 | 3.9 | 30.7 | 13.4 | 0.1 |
| 136 | 692 | 13.5 | 26.9 | 3.9 | 30.8 | 13.5 | 0.1 |
| 137 | 697 | 13.6 | 27.1 | 3.9 | 31.0 | 13.5 | 0.1 |
| 138 | 702 | 13.6 | 27.2 | 3.9 | 31.1 | 13.6 | 0.1 |
| 139 | 707 | 13.7 | 27.3 | 4.0 | 31.3 | 13.7 | 0.1 |
| 140 | 712 | 14.0 | 27.7 | 4.0 | 31.6 | 13.8 | 0.1 |
| 141 | 717 | 14.0 | 28.0 | 4.0 | 32.0 | 14.0 | 0.2 |
| 142 | 722 | 14.1 | 28.1 | 4.1 | 32.2 | 14.1 | 0.2 |
| 143 | 727 | 14.2 | 28.3 | 4.1 | 32.4 | 14.1 | 0.2 |
| 144 | 732 | 14.3 | 28.4 | 4.1 | 32.6 | 14.2 | 0.2 |
| 145 | 737 | 14.3 | 28.6 | 4.1 | 32.7 | 14.3 | 0.2 |
| 146 | 742 | 14.4 | 28.7 | 4.2 | 32.9 | 14.4 | 0.2 |
| 147 | 747 | 14.5 | 28.9 | 4.2 | 33.1 | 14.4 | 0.2 |
| 148 | 752 | 14.6 | 29.1 | 4.2 | 33.3 | 14.5 | 0.2 |
| 149 | 757 | 14.7 | 29.2 | 4.2 | 33.5 | 14.6 | 0.2 |
| 150 | 762 | 14.7 | 29.4 | 4.3 | 33.7 | 14.7 | 0.2 |
| 151 | 767 | 14.8 | 29.6 | 4.3 | 33.9 | 14.8 | 0.2 |
| 152 | 772 | 14.9 | 29.8 | 4.3 | 34.1 | 14.9 | 0.2 |
| 153 | 777 | 15.0 | 29.9 | 4.3 | 34.3 | 15.0 | 0.2 |

| | Input from TC_Vol_Calcs | | | | Use for Range | (by Interpolation) | (by Interpolation) |
|---|---|---|---|---|---|---|---|
| | | | | | Y2 | Outflow | Depth |
| Time Index | Time (min) | Inflow ($I_n$) (cfs) | $I_n+I_{n+1}$ (cfs) | 2S/Δt-O (cfs) | 2S/Δt+O (cfs) | $O_{n+1}$ (cfs) | in Basin |
| 154 | 782 | 15.3 | 30.3 | 4.4 | 34.7 | 15.1 | 0.2 |
| 155 | 787 | 15.4 | 30.7 | 4.4 | 35.1 | 15.3 | 0.2 |
| 156 | 792 | 15.5 | 30.9 | 4.5 | 35.4 | 15.4 | 0.2 |
| 157 | 797 | 15.6 | 31.1 | 4.5 | 35.6 | 15.5 | 0.2 |
| 158 | 802 | 15.7 | 31.3 | 4.5 | 35.8 | 15.6 | 0.2 |
| 159 | 807 | 15.8 | 31.5 | 4.6 | 36.1 | 15.7 | 0.2 |
| 160 | 812 | 15.9 | 31.7 | 4.6 | 36.3 | 15.8 | 0.2 |
| 161 | 817 | 16.0 | 31.9 | 4.6 | 36.5 | 15.9 | 0.2 |
| 162 | 822 | 16.1 | 32.1 | 4.6 | 36.8 | 16.1 | 0.2 |
| 163 | 827 | 16.2 | 32.4 | 4.7 | 37.0 | 16.2 | 0.2 |
| 164 | 832 | 16.4 | 32.6 | 4.7 | 37.3 | 16.3 | 0.2 |
| 165 | 837 | 16.5 | 32.8 | 4.7 | 37.6 | 16.4 | 0.2 |
| 166 | 842 | 16.6 | 33.1 | 4.8 | 37.8 | 16.5 | 0.2 |
| 167 | 847 | 16.7 | 33.3 | 4.8 | 38.1 | 16.6 | 0.2 |
| 168 | 852 | 16.8 | 33.6 | 4.8 | 38.4 | 16.8 | 0.2 |
| 169 | 857 | 17.2 | 34.0 | 4.9 | 38.9 | 17.0 | 0.2 |
| 170 | 862 | 17.3 | 34.5 | 4.9 | 39.5 | 17.2 | 0.2 |
| 171 | 867 | 17.5 | 34.8 | 5.0 | 39.8 | 17.4 | 0.2 |
| 172 | 872 | 17.6 | 35.1 | 5.1 | 40.1 | 17.5 | 0.2 |
| 173 | 877 | 17.7 | 35.3 | 5.1 | 40.4 | 17.7 | 0.2 |
| 174 | 882 | 17.9 | 35.6 | 5.1 | 40.8 | 17.8 | 0.2 |
| 175 | 887 | 18.0 | 35.9 | 5.2 | 41.1 | 17.9 | 0.2 |
| 176 | 892 | 18.2 | 36.2 | 5.2 | 41.5 | 18.1 | 0.2 |
| 177 | 897 | 18.4 | 36.6 | 5.3 | 41.8 | 18.3 | 0.2 |
| 178 | 902 | 18.5 | 36.9 | 5.3 | 42.2 | 18.4 | 0.2 |
| 179 | 907 | 18.7 | 37.2 | 5.4 | 42.6 | 18.6 | 0.2 |
| 180 | 912 | 18.9 | 37.6 | 5.4 | 43.0 | 18.8 | 0.2 |
| 181 | 917 | 19.0 | 37.9 | 5.5 | 43.4 | 18.9 | 0.2 |
| 182 | 922 | 19.2 | 38.3 | 5.5 | 43.8 | 19.1 | 0.2 |
| 183 | 927 | 19.4 | 38.7 | 5.6 | 44.2 | 19.3 | 0.2 |
| 184 | 932 | 19.6 | 39.0 | 5.6 | 44.7 | 19.5 | 0.2 |

| | Input from TC_Vol_Calcs | | | | Use for Range | (by Interpolation) | (by Interpolation) |
|---|---|---|---|---|---|---|---|
| | | | | | Y2 | Outflow | Depth |
| Time Index | Time (min) | Inflow ($I_n$) (cfs) | $I_n+I_{n+1}$ (cfs) | 2S/Δt-O (cfs) | 2S/Δt+O (cfs) | $O_{n+1}$ (cfs) | in Basin |
| 185 | 937 | 19.8 | 39.4 | 5.7 | 45.1 | 19.7 | 0.2 |
| 186 | 942 | 20.0 | 39.9 | 5.7 | 45.6 | 19.9 | 0.2 |
| 187 | 947 | 20.2 | 40.3 | 5.8 | 46.1 | 20.1 | 0.2 |
| 188 | 952 | 20.5 | 40.7 | 5.9 | 46.6 | 20.3 | 0.2 |
| 189 | 957 | 20.7 | 41.2 | 5.9 | 47.1 | 20.6 | 0.2 |
| 190 | 962 | 21.2 | 41.9 | 6.0 | 47.9 | 20.9 | 0.2 |
| 191 | 967 | 21.5 | 42.7 | 6.1 | 48.8 | 21.3 | 0.2 |
| 192 | 972 | 21.7 | 43.2 | 6.2 | 49.4 | 21.6 | 0.2 |
| 193 | 977 | 22.0 | 43.7 | 6.3 | 50.0 | 21.8 | 0.2 |
| 194 | 982 | 22.3 | 44.3 | 6.4 | 50.6 | 22.1 | 0.2 |
| 195 | 987 | 22.6 | 44.9 | 6.4 | 51.3 | 22.4 | 0.2 |
| 196 | 992 | 22.9 | 45.5 | 6.5 | 52.0 | 22.7 | 0.2 |
| 197 | 997 | 23.2 | 46.1 | 6.6 | 52.7 | 23.0 | 0.2 |
| 198 | 1002 | 23.6 | 46.8 | 6.7 | 53.5 | 23.3 | 0.3 |
| 199 | 1007 | 23.9 | 47.5 | 6.8 | 54.3 | 23.7 | 0.3 |
| 200 | 1012 | 24.3 | 48.2 | 6.9 | 55.1 | 24.0 | 0.3 |
| 201 | 1017 | 25.0 | 49.2 | 7.0 | 56.2 | 24.5 | 0.3 |
| 202 | 1022 | 25.4 | 50.4 | 7.1 | 57.5 | 25.1 | 0.3 |
| 203 | 1027 | 25.8 | 51.2 | 7.3 | 58.5 | 25.5 | 0.3 |
| 204 | 1032 | 26.3 | 52.1 | 7.4 | 59.5 | 26.0 | 0.3 |
| 205 | 1037 | 26.8 | 53.1 | 7.6 | 60.6 | 26.5 | 0.3 |
| 206 | 1042 | 27.3 | 54.1 | 7.7 | 61.8 | 27.0 | 0.3 |
| 207 | 1047 | 28.2 | 55.5 | 7.9 | 63.3 | 27.6 | 0.3 |
| 208 | 1052 | 28.8 | 57.0 | 8.0 | 65.0 | 28.4 | 0.3 |
| 209 | 1057 | 29.4 | 58.2 | 8.3 | 66.5 | 29.0 | 0.3 |
| 210 | 1062 | 30.1 | 59.5 | 8.4 | 67.9 | 29.7 | 0.3 |
| 211 | 1067 | 30.8 | 60.9 | 8.6 | 69.5 | 30.4 | 0.3 |
| 212 | 1072 | 31.6 | 62.4 | 8.8 | 71.3 | 31.1 | 0.3 |
| 213 | 1077 | 32.5 | 64.1 | 9.1 | 73.1 | 31.9 | 0.3 |
| 214 | 1082 | 33.4 | 65.9 | 9.3 | 75.2 | 32.8 | 0.4 |
| 215 | 1087 | 34.9 | 68.3 | 9.6 | 77.8 | 34.0 | 0.4 |

| | Input from TC_Vol_Calcs | | | | Use for Range | (by Interpolation) | (by Interpolation) |
|---|---|---|---|---|---|---|---|
| | | | | | Y2 | Outflow | Depth |
| Time Index | Time (min) | Inflow ($I_n$) (cfs) | $I_n+I_{n+1}$ (cfs) | 2S/Δt-O (cfs) | 2S/Δt+O (cfs) | $O_{n+1}$ (cfs) | in Basin |
| 216 | 1092 | 36.0 | 70.9 | 9.9 | 80.7 | 35.2 | 0.4 |
| 217 | 1097 | 37.3 | 73.3 | 10.3 | 83.5 | 36.5 | 0.4 |
| 218 | 1102 | 38.7 | 76.0 | 10.6 | 86.6 | 37.8 | 0.4 |
| 219 | 1107 | 40.3 | 79.0 | 11.0 | 90.0 | 39.3 | 0.4 |
| 220 | 1112 | 42.7 | 83.0 | 11.4 | 94.4 | 41.2 | 0.4 |
| 221 | 1117 | 44.9 | 87.5 | 12.0 | 99.5 | 43.4 | 0.5 |
| 222 | 1122 | 47.4 | 92.3 | 12.7 | 105.0 | 45.8 | 0.5 |
| 223 | 1127 | 51.2 | 98.6 | 13.3 | 111.9 | 47.7 | 0.5 |
| 224 | 1132 | 55.1 | 106.3 | 16.5 | 122.8 | 50.4 | 0.6 |
| 225 | 1137 | 61.0 | 116.1 | 22.0 | 138.1 | 54.1 | 0.7 |
| 226 | 1142 | 68.3 | 129.4 | 29.9 | 159.3 | 59.2 | 0.8 |
| 227 | 1147 | 81.2 | 149.5 | 40.8 | 190.3 | 66.5 | 1.0 |
| 228 | 1152 | 126.1 | 207.2 | 57.2 | 264.5 | 81.1 | 1.5 |
| 229 | 1157 | **139.9** | 266.0 | 102.3 | 368.3 | 98.3 | 2.3 |
| 230 | 1162 | 134.7 | 274.6 | 171.8 | 446.4 | 109.8 | 2.8 |
| 231 | 1167 | 122.4 | 257.1 | 226.8 | 483.9 | **115.0** | **3.1** |
| 232 | 1172 | 96.7 | 219.1 | 253.9 | 473.0 | 113.6 | 3.0 |
| 233 | 1177 | 44.8 | 141.5 | 245.8 | 387.3 | 101.2 | 2.4 |
| 234 | 1182 | 36.4 | 81.1 | 184.9 | 266.0 | 81.3 | 1.5 |
| 235 | 1187 | 31.6 | 67.9 | 103.3 | 171.3 | 62.2 | 0.9 |
| 236 | 1192 | 28.7 | 60.2 | 47.0 | 107.2 | 46.6 | 0.5 |
| 237 | 1197 | 26.1 | 54.8 | 14.0 | 68.8 | 30.0 | 0.3 |
| 238 | 1202 | 24.1 | 50.2 | 8.7 | 59.0 | 25.7 | 0.3 |
| 239 | 1207 | 22.7 | 46.9 | 7.5 | 54.4 | 23.7 | 0.3 |
| 240 | 1212 | 21.6 | 44.3 | 6.9 | 51.2 | 22.4 | 0.2 |
| 241 | 1217 | 20.3 | 41.9 | 6.5 | 48.4 | 21.1 | 0.2 |
| 242 | 1222 | 19.5 | 39.8 | 6.2 | 46.0 | 20.1 | 0.2 |
| 243 | 1227 | 18.8 | 38.3 | 5.8 | 44.1 | 19.2 | 0.2 |
| 244 | 1232 | 18.1 | 36.8 | 5.6 | 42.5 | 18.5 | 0.2 |
| 245 | 1237 | 17.5 | 35.6 | 5.4 | 41.0 | 17.9 | 0.2 |
| 246 | 1242 | 16.7 | 34.3 | 5.2 | 39.5 | 17.2 | 0.2 |

| | Input from TC_Vol_Calcs | | | | Use for Range | (by Interpolation) | (by Interpolation) |
|---|---|---|---|---|---|---|---|
| | | | | | Y2 | Outflow | Depth |
| Time Index | Time (min) | Inflow ($I_n$) (cfs) | $I_n+I_{n+1}$ (cfs) | 2S/Δt-O (cfs) | 2S/Δt+O (cfs) | $O_{n+1}$ (cfs) | in Basin |
| 247 | 1247 | 16.3 | 33.0 | 5.0 | 38.0 | 16.6 | 0.2 |
| 248 | 1252 | 15.8 | 32.1 | 4.8 | 36.9 | 16.1 | 0.2 |
| 249 | 1257 | 15.4 | 31.3 | 4.7 | 35.9 | 15.7 | 0.2 |
| 250 | 1262 | 14.9 | 30.3 | 4.6 | 34.8 | 15.2 | 0.2 |
| 251 | 1267 | 14.5 | 29.4 | 4.4 | 33.8 | 14.8 | 0.2 |
| 252 | 1272 | 14.2 | 28.7 | 4.3 | 33.0 | 14.4 | 0.2 |
| 253 | 1277 | 13.7 | 27.9 | 4.2 | 32.1 | 14.0 | 0.2 |
| 254 | 1282 | 13.4 | 27.2 | 4.1 | 31.2 | 13.6 | 0.1 |
| 255 | 1287 | 13.2 | 26.6 | 4.0 | 30.6 | 13.4 | 0.1 |
| 256 | 1292 | 12.9 | 26.1 | 3.9 | 30.0 | 13.1 | 0.1 |
| 257 | 1297 | 12.7 | 25.6 | 3.8 | 29.5 | 12.9 | 0.1 |
| 258 | 1302 | 12.3 | 25.0 | 3.7 | 28.8 | 12.6 | 0.1 |
| 259 | 1307 | 12.1 | 24.4 | 3.7 | 28.1 | 12.3 | 0.1 |
| 260 | 1312 | 11.9 | 24.0 | 3.6 | 27.6 | 12.1 | 0.1 |
| 261 | 1317 | 11.7 | 23.7 | 3.5 | 27.2 | 11.9 | 0.1 |
| 262 | 1322 | 11.6 | 23.3 | 3.5 | 26.8 | 11.7 | 0.1 |
| 263 | 1327 | 11.4 | 23.0 | 3.4 | 26.4 | 11.5 | 0.1 |
| 264 | 1332 | 11.1 | 22.5 | 3.4 | 25.8 | 11.3 | 0.1 |
| 265 | 1337 | 10.9 | 22.0 | 3.3 | 25.3 | 11.0 | 0.1 |
| 266 | 1342 | 10.8 | 21.7 | 3.2 | 24.9 | 10.9 | 0.1 |
| 267 | 1347 | 10.7 | 21.4 | 3.2 | 24.6 | 10.7 | 0.1 |
| 268 | 1352 | 10.5 | 21.2 | 3.1 | 24.3 | 10.6 | 0.1 |
| 269 | 1357 | 10.4 | 20.9 | 3.1 | 24.0 | 10.5 | 0.1 |
| 270 | 1362 | 10.3 | 20.7 | 3.1 | 23.7 | 10.3 | 0.1 |
| 271 | 1367 | 10.1 | 20.4 | 3.0 | 23.4 | 10.2 | 0.1 |
| 272 | 1372 | 9.9 | 20.0 | 3.0 | 23.0 | 10.0 | 0.1 |
| 273 | 1377 | 9.8 | 19.7 | 2.9 | 22.6 | 9.9 | 0.1 |
| 274 | 1382 | 9.7 | 19.5 | 2.9 | 22.3 | 9.7 | 0.1 |
| 275 | 1387 | 9.6 | 19.3 | 2.8 | 22.1 | 9.6 | 0.1 |
| 276 | 1392 | 9.5 | 19.1 | 2.8 | 21.9 | 9.5 | 0.1 |
| 277 | 1397 | 9.4 | 18.9 | 2.8 | 21.6 | 9.4 | 0.1 |

| | Input from TC_Vol_Calcs | | | | Use for Range | (by Interpolation) | (by Interpolation) |
|---|---|---|---|---|---|---|---|
| | | | | | Y2 | Outflow | Depth |
| Time Index | Time (min) | Inflow ($I_n$) (cfs) | $I_n+I_{n+1}$ (cfs) | 2S/Δt-O (cfs) | 2S/Δt+O (cfs) | $O_{n+1}$ (cfs) | in Basin |
| 278 | 1402 | 9.3 | 18.7 | 2.8 | 21.4 | 9.3 | 0.1 |
| 279 | 1407 | 9.2 | 18.5 | 2.7 | 21.2 | 9.3 | 0.1 |
| 280 | 1412 | 9.1 | 18.3 | 2.7 | 21.0 | 9.2 | 0.1 |
| 281 | 1417 | 9.0 | 18.1 | 2.7 | 20.8 | 9.1 | 0.1 |
| 282 | 1422 | 8.9 | 18.0 | 2.6 | 20.6 | 9.0 | 0.1 |
| 283 | 1427 | 8.9 | 17.8 | 2.6 | 20.4 | 8.9 | 0.1 |
| 284 | 1432 | 8.8 | 17.7 | 2.6 | 20.2 | 8.8 | 0.1 |
| 285 | 1437 | 8.7 | 17.5 | 2.6 | 20.1 | 8.8 | 0.1 |
| 286 | 1442 | 7.8 | 16.5 | 2.6 | 19.0 | 8.3 | 0.1 |
| 287 | 1447 | 5.8 | 13.5 | 2.4 | 16.0 | 7.0 | 0.1 |
| 288 | 1452 | 3.8 | 9.6 | 2.0 | 11.7 | 5.1 | 0.1 |
| 289 | 1457 | 1.9 | 5.8 | 1.5 | 7.2 | 3.2 | 0.0 |
| 290 | 1462 | 0.0 | 1.9 | 0.9 | 2.8 | 1.2 | 0.0 |
| 291 | 1467 | 0.0 | 0.0 | 0.4 | 0.4 | 0.2 | 0.0 |
| 292 | 1472 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 293 | 1477 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | Range Lookup | | | | |
|---|---|---|---|---|---|---|
| | $(2S/\Delta t+O)_{n+1}$ | $2S/\Delta t+O$ (cfs) | Outflow $O_{n+1}$ (cfs) | Outflow $O_n$ (cfs) | Water Depth | |
| | Highest | Lowest | Highest | Lowest | High | Low |
| **Time Index** | **X3** | **X1** | **Y3** | **Y1** | **Y3a** | **Y1a** |
| 1 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 2 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 3 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 4 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 5 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 6 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 7 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 8 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 9 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 10 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 11 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 12 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 13 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 14 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 15 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 16 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 17 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 18 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 19 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 20 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 21 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 22 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 23 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 24 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 25 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 26 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 27 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 28 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 29 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |

| | $(2S/\Delta t+O)_{n+1}$ | $2S/\Delta t+O$ (cfs) | $O_{n+1}$ (cfs) | $O_n$ (cfs) | | |
|---|---|---|---|---|---|---|
| | Highest | Lowest | Highest | Lowest | High | Low |
| **Time Index** | **X3** | **X1** | **Y3** | **Y1** | **Y3a** | **Y1a** |
| 30 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 31 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 32 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 33 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 34 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 35 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 36 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 37 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 38 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 39 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 40 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 41 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 42 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 43 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 44 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 45 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 46 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 47 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 48 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 49 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 50 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 51 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 52 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 53 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 54 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 55 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 56 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 57 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 58 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 59 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 60 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |

| | $(2S/\Delta t+O)_{n+1}$ | $2S/\Delta t+O$ (cfs) | $O_{n+1}$ (cfs) | $O_n$ (cfs) | | |
|---|---|---|---|---|---|---|
| | Highest | Lowest | Highest | Lowest | High | Low |
| **Time Index** | **X3** | **X1** | **Y3** | **Y1** | **Y3a** | **Y1a** |
| 61 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 62 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 63 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 64 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 65 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 66 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 67 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 68 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 69 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 70 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 71 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 72 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 73 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 74 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 75 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 76 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 77 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 78 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 79 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 80 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 81 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 82 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 83 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 84 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 85 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 86 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 87 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 88 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 89 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 90 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 91 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |

| | $(2S/\Delta t+O)_{n+1}$ | $2S/\Delta t+O$ (cfs) | $O_{n+1}$ (cfs) | $O_n$ (cfs) | | |
|---|---|---|---|---|---|---|
| | Highest | Lowest | Highest | Lowest | High | Low |
| **Time Index** | **X3** | **X1** | **Y3** | **Y1** | **Y3a** | **Y1a** |
| 92 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 93 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 94 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 95 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 96 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 97 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 98 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 99 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 100 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 101 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 102 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 103 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 104 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 105 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 106 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 107 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 108 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 109 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 110 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 111 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 112 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 113 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 114 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 115 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 116 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 117 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 118 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 119 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 120 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 121 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 122 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |

| | $(2S/\Delta t+O)_{n+1}$ | $2S/\Delta t+O$ (cfs) | $O_{n+1}$ (cfs) | $O_n$ (cfs) | | |
|---|---|---|---|---|---|---|
| | Highest | Lowest | Highest | Lowest | High | Low |
| **Time Index** | **X3** | **X1** | **Y3** | **Y1** | **Y3a** | **Y1a** |
| 123 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 124 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 125 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 126 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 127 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 128 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 129 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 130 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 131 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 132 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 133 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 134 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 135 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 136 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 137 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 138 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 139 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 140 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 141 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 142 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 143 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 144 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 145 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 146 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 147 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 148 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 149 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 150 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 151 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 152 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 153 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |

| | $(2S/\Delta t+O)_{n+1}$ | $2S/\Delta t+O$ (cfs) | $O_{n+1}$ (cfs) | $O_n$ (cfs) | | |
|---|---|---|---|---|---|---|
| | Highest | Lowest | Highest | Lowest | High | Low |
| **Time Index** | **X3** | **X1** | **Y3** | **Y1** | **Y3a** | **Y1a** |
| 154 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 155 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 156 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 157 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 158 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 159 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 160 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 161 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 162 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 163 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 164 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 165 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 166 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 167 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 168 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 169 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 170 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 171 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 172 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 173 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 174 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 175 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 176 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 177 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 178 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 179 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 180 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 181 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 182 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 183 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 184 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |

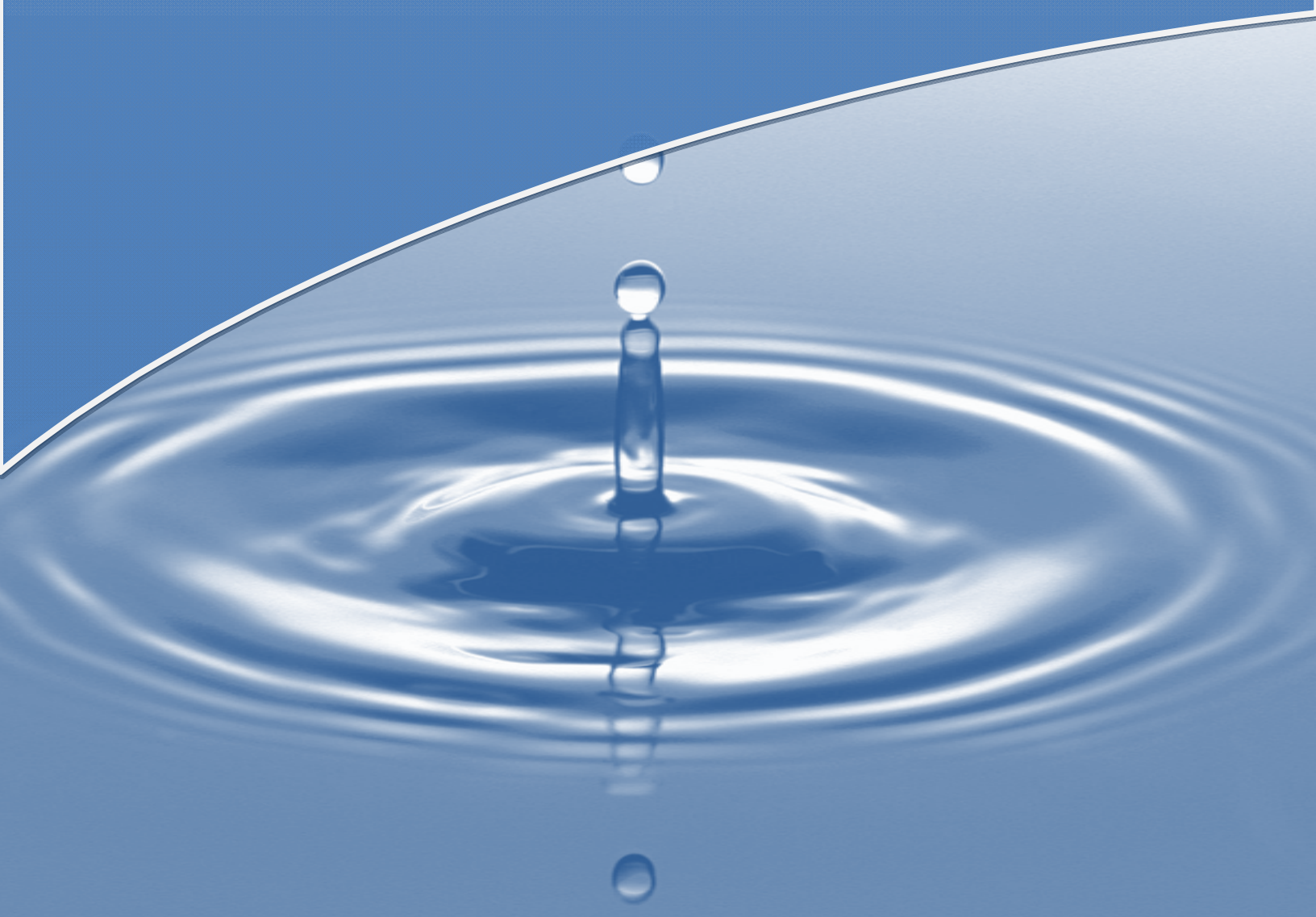
| | $(2S/\Delta t+O)_{n+1}$ | $2S/\Delta t+O$ (cfs) | $O_{n+1}$ (cfs) | $O_n$ (cfs) | | |
|---|---|---|---|---|---|---|
| | Highest | Lowest | Highest | Lowest | High | Low |
| **Time Index** | **X3** | **X1** | **Y3** | **Y1** | **Y3a** | **Y1a** |
| 185 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 186 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 187 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 188 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 189 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 190 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 191 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 192 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 193 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 194 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 195 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 196 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 197 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 198 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 199 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 200 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 201 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 202 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 203 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 204 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 205 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 206 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 207 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 208 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 209 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 210 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 211 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 212 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 213 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 214 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 215 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |

| | $(2S/\Delta t+O)_{n+1}$ | $2S/\Delta t+O$ (cfs) | $O_{n+1}$ (cfs) | $O_n$ (cfs) | | |
|---|---|---|---|---|---|---|
| | Highest | Lowest | Highest | Lowest | High | Low |
| **Time Index** | **X3** | **X1** | **Y3** | **Y1** | **Y3a** | **Y1a** |
| 216 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 217 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 218 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 219 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 220 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 221 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 222 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 223 | 185.21 | 106.18 | 65.54 | 46.34 | 1.00 | 0.50 |
| 224 | 185.21 | 106.18 | 65.54 | 46.34 | 1.00 | 0.50 |
| 225 | 185.21 | 106.18 | 65.54 | 46.34 | 1.00 | 0.50 |
| 226 | 185.21 | 106.18 | 65.54 | 46.34 | 1.00 | 0.50 |
| 227 | 259.79 | 185.21 | 80.27 | 65.54 | 1.50 | 1.00 |
| 228 | 332.05 | 259.79 | 92.68 | 80.27 | 2.00 | 1.50 |
| 229 | 402.84 | 332.05 | 103.62 | 92.68 | 2.50 | 2.00 |
| 230 | 472.58 | 402.84 | 113.51 | 103.62 | 3.00 | 2.50 |
| 231 | 541.53 | 472.58 | 122.61 | 113.51 | 3.50 | 3.00 |
| 232 | 541.53 | 472.58 | 122.61 | 113.51 | 3.50 | 3.00 |
| 233 | 402.84 | 332.05 | 103.62 | 92.68 | 2.50 | 2.00 |
| 234 | 332.05 | 259.79 | 92.68 | 80.27 | 2.00 | 1.50 |
| 235 | 185.21 | 106.18 | 65.54 | 46.34 | 1.00 | 0.50 |
| 236 | 185.21 | 106.18 | 65.54 | 46.34 | 1.00 | 0.50 |
| 237 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 238 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 239 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 240 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 241 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 242 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 243 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 244 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 245 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 246 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |

| | $(2S/\Delta t+O)_{n+1}$ | $2S/\Delta t+O$ (cfs) | $O_{n+1}$ (cfs) | $O_n$ (cfs) | | |
|---|---|---|---|---|---|---|
| | Highest | Lowest | Highest | Lowest | High | Low |
| **Time Index** | **X3** | **X1** | **Y3** | **Y1** | **Y3a** | **Y1a** |
| 247 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 248 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 249 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 250 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 251 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 252 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 253 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 254 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 255 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 256 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 257 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 258 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 259 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 260 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 261 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 262 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 263 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 264 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 265 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 266 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 267 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 268 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 269 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 270 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 271 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 272 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 273 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 274 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 275 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 276 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 277 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |

| | $(2S/\Delta t+O)_{n+1}$ | $2S/\Delta t+O$ (cfs) | $O_{n+1}$ (cfs) | $O_n$ (cfs) | | |
|---|---|---|---|---|---|---|
| | Highest | Lowest | Highest | Lowest | High | Low |
| **Time Index** | **X3** | **X1** | **Y3** | **Y1** | **Y3a** | **Y1a** |
| 278 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 279 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 280 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 281 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 282 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 283 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 284 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 285 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 286 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 287 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 288 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 289 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 290 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 291 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 292 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |
| 293 | 106.18 | 0.00 | 46.34 | 0.00 | 0.50 | 0.00 |

# APPENDIX "D"



# Inlet Capacity Calculations

**C (Weir)= 3**

**Weir Flow Equation: $Q=CPH^{1.5}$**

**Weir Eq. solving for P: $P=Q/(C*H^{1.5})$**

0.0

| Subarea | Flow (cfs) | Depth at FL | Minimum Grate Perimeter "P" (ft) | Increase by 25% for Clogging | Grate Width Use (ft) | Grate Length Use (ft) | Actual Perimeter (ft) |
|---|---|---|---|---|---|---|---|
| 1A | 2.7 | 0.5 | 2.5 | 3.2 | 1.0 | 1.0 | 4.0 |
| 2A | 1.9 | 0.5 | 1.8 | 2.2 | 1.0 | 1.0 | 4.0 |
| 3A | 1.9 | 0.5 | 1.8 | 2.2 | 1.0 | 1.0 | 4.0 |
| 4A | 1.6 | 0.5 | 1.5 | 1.9 | 1.0 | 1.0 | 4.0 |
| 5A | 4.5 | 0.5 | 4.3 | 5.4 | 1.5 | 1.5 | 6.0 |
| 6A | 4.0 | 0.5 | 3.8 | 4.7 | 1.0 | 1.5 | 5.0 |
| 7A | 2.4 | 0.5 | 2.3 | 2.8 | 1.0 | 1.0 | 4.0 |
| 8A | 5.0 | 0.5 | 4.8 | 5.9 | 1.5 | 1.5 | 6.0 |
| 9A | 7.3 | 0.5 | 6.9 | 8.6 | 2.0 | 3.0 | 10.0 |
| 10A | 10.1 | 0.5 | 9.5 | 11.9 | 2.0 | 4.0 | 12.0 |
| 11A | 6.6 | 0.5 | 6.2 | 7.8 | 2.0 | 2.0 | 8.0 |
| 12A | 7.3 | 0.5 | 6.9 | 8.6 | 2.0 | 3.0 | 10.0 |
| 13A | 2.8 | 0.5 | 2.7 | 3.3 | 1.0 | 1.0 | 4.0 |
| 14B | 1.8 | 0.5 | 1.7 | 2.1 | 1.0 | 1.0 | 4.0 |
| 15Bo | 4.7 | 0.5 | 4.4 | 5.6 | 1.0 | 2.0 | 6.0 |
| 16Bo | 7.7 | 0.5 | 7.3 | 9.1 | 2.0 | 3.0 | 10.0 |
| 17B | 3.8 | 0.5 | 3.5 | 4.4 | 1.5 | 1.5 | 6.0 |
| 18B | 2.2 | 0.5 | 2.0 | 2.5 | 1.0 | 1.0 | 4.0 |
| 19B | 2.8 | 0.5 | 2.7 | 3.3 | 1.0 | 1.0 | 4.0 |
| 20B | 2.5 | 0.5 | 2.4 | 3.0 | 1.0 | 1.0 | 4.0 |
| 21B | 2.5 | 0.5 | 2.4 | 3.0 | 1.0 | 1.0 | 4.0 |
| 22Bo | 2.3 | 0.5 | 2.2 | 2.7 | 1.0 | 1.0 | 4.0 |
| 23B | 3.5 | 0.5 | 3.3 | 4.1 | 1.5 | 1.5 | 6.0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 24B | 4.4 | 0.5 | 4.1 | 5.2 | 1.5 | 1.5 | 6.0 |
| 25B | 3.8 | 0.5 | 3.6 | 4.4 | 1.5 | 1.5 | 6.0 |
| *** 26Bo** | **15.5** | **0.67** | **9.4** | **11.8** | **2.0** | **4.0** | **12.0** |
| 27Bo | 1.4 | 0.5 | 1.3 | 1.6 | 1.0 | 1.0 | 4.0 |
| 28B | 3.0 | 0.5 | 2.8 | 3.5 | 1.0 | 1.0 | 4.0 |
| 29B | 0.6 | 0.5 | 0.6 | 0.7 | 1.0 | 1.0 | 4.0 |
| 30B | 3.5 | 0.5 | 3.3 | 4.1 | 1.5 | 1.5 | 6.0 |
| 31D | 8.5 | 0.5 | 8.0 | 10.0 | 2.0 | 3.0 | 10.0 |
| 33D | 7.5 | 0.5 | 7.1 | 8.9 | 2.0 | 3.0 | 10.0 |
| 34D | 6.6 | 0.5 | 6.2 | 7.8 | 2.0 | 2.0 | 8.0 |
| 35D | 3.8 | 0.5 | 3.5 | 4.4 | 1.5 | 1.5 | 6.0 |
| *** 36D** | **19.7** | **0.67** | **12.0** | **15.0** | **3.0** | **5.0** | **16.0** |
| 37D | 1.9 | 0.5 | 1.8 | 2.2 | 1.0 | 1.0 | 4.0 |
| 38D | 8.5 | 0.5 | 8.0 | 10.0 | 2.0 | 3.0 | 10.0 |
| 39D | 2.8 | 0.5 | 2.7 | 3.3 | 1.0 | 1.0 | 4.0 |
| *** 40D** | **17.9** | **0.67** | **10.8** | **13.6** | **3.0** | **5.0** | **16.0** |
| **** 41D** | **29.1** | **0.67** | **17.7** | **22.1** | **4.0** | **8.0** | **24.0** |
| 42C | 1.3 | 0.5 | 1.2 | 1.5 | 1.0 | 1.0 | 4.0 |
| 43C | 0.9 | 0.5 | 0.9 | 1.1 | 1.0 | 1.0 | 4.0 |
| 44C | 2.2 | 0.5 | 2.1 | 2.6 | 1.0 | 1.0 | 4.0 |
| *****45** | **21.6** | **0.67** | **13.1** | **16.4** | **4.0** | **5.0** | **18.0** |
| 46 | 1.3 | 0.5 | 1.2 | 1.5 | 1.0 | 1.0 | 4.0 |
| 47F | 1.0 | 0.5 | 0.9 | 1.2 | 1.0 | 1.0 | 4.0 |
| 48F | 6.9 | 0.5 | 6.5 | 8.1 | 2.0 | 2.0 | 8.0 |
| 49F | 5.6 | 0.5 | 5.3 | 6.6 | 2.0 | 2.0 | 8.0 |
| 50F | 5.3 | 0.5 | 5.0 | 6.2 | 2.0 | 2.0 | 8.0 |
| 51F | 1.6 | 0.5 | 1.5 | 1.9 | 1.0 | 1.0 | 4.0 |
| *****52** | **21.7** | **0.67** | **13.2** | **16.5** | **3.0** | **6.0** | **18.0** |

* Create 2" local depression

** Use Dual 4'x4' grates or curb catch basin plus grate

*** Use Dual 3'x3' inlet grates

Note: The Orifice Equation needs to be applied when the depth of water (head) exceeds 1.4 feet.
However, all proposed inlet basins are kept under 1.4 feet, therefore the Weir equation is appropriate in every case.

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING 

| CARD CODE | SECT NO | CHN TYPE | NO OF PIER/PIP | AVE PIER WIDTH | HEIGHT 1 DIAMETER | BASE WIDTH | ZL | ZR | INV DROP | Y(1) | Y(2) | Y(3) | Y(4) | Y(5) | Y(6) | Y(7) | Y(8) | Y(9) | Y(10) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CD | 1 | 4 | 1 | | 4.000 | | | | | | | | | | | | | | |
| CD | 2 | 4 | 1 | | 3.000 | | | | | | | | | | | | | | |
| CD | 3 | 4 | 1 | | 3.500 | | | | | | | | | | | | | | |
| CD | 4 | 4 | 1 | | 2.000 | | | | | | | | | | | | | | |
| CD | 5 | 4 | 1 | | 2.500 | | | | | | | | | | | | | | |
| CD | 6 | 4 | 1 | | 2.000 | | | | | | | | | | | | | | |
| CD | 7 | 4 | 1 | | 2.500 | | | | | | | | | | | | | | |
| CD | 8 | 4 | 1 | | 1.500 | | | | | | | | | | | | | | |
| CD | 9 | 3 | 0 | .000 | 3.000 | 3.000 | .000 | .000 | .00 | | | | | | | | | | |



WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

Monterey Park Market Place

HEADING LINE NO 2 IS -

**Line SD-1**

HEADING LINE NO 3 IS -

Using PMP Flow



WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

| U/S DATA | STATION | INVERT | SECT | W S ELEV |
|---|---|---|---|---|
| | 185.170 | 363.880 | 1 | 363.880 |

ELEMENT NO 2 IS A REACH * * *

| U/S DATA | STATION | INVERT | SECT | N | RADIUS | ANGLE | ANG PT | MAN H |
|---|---|---|---|---|---|---|---|---|
| | 365.050 | 364.810 | 1 | .013 | .000 | .000 | .000 | 0 |

ELEMENT NO 3 IS A JUNCTION * * * * * * * *

| U/S DATA | STATION | INVERT | SECT | LAT-1 | LAT-2 | N | Q3 | Q4 | INVERT-3 | INVERT-4 | PHI 3 | PHI 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 368.710 | 365.360 | 3 | 2 | 0 | .013 | 29.100 | .000 | 365.000 | .000 | 90.000 | .000 |

| RADIUS | ANGLE |
|---|---|
| .000 | .000 |

ELEMENT NO 4 IS A REACH * * *

| U/S DATA | STATION | INVERT | SECT | N | RADIUS | ANGLE | ANG PT | MAN H |
|---|---|---|---|---|---|---|---|---|
| | 428.520 | 365.660 | 3 | .013 | .000 | .000 | 90.000 | 0 |

ELEMENT NO 5 IS A JUNCTION * * * * * * * *

| U/S DATA | STATION | INVERT | SECT | LAT-1 | LAT-2 | N | Q3 | Q4 | INVERT-3 | INVERT-4 | PHI 3 | PHI 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 431.190 | 366.690 | 5 | 4 | 0 | .013 | 20.700 | .000 | 366.000 | .000 | 90.000 | .000 |

| RADIUS | ANGLE |
|---|---|
| .000 | .000 |

ELEMENT NO 6 IS A REACH * * *

| U/S DATA | STATION | INVERT | SECT | N | RADIUS | ANGLE | ANG PT | MAN H |
|---|---|---|---|---|---|---|---|---|
| | 790.820 | 368.490 | 5 | .013 | .000 | .000 | .000 | 0 |

ELEMENT NO 7 IS A JUNCTION * * * * * * * *

| U/S DATA | STATION | INVERT | SECT | LAT-1 | LAT-2 | N | Q3 | Q4 | INVERT-3 | INVERT-4 | PHI 3 | PHI 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 793.490 | 368.470 | 7 | 6 | 0 | .013 | 8.500 | .000 | 368.700 | .000 | 90.000 | .000 |

| RADIUS | ANGLE |
|---|---|
| .000 | .000 |

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 8 IS A REACH * * *

| U/S DATA | STATION | INVERT | SECT | N | RADIUS | ANGLE | ANG PT | MAN H |
|---|---|---|---|---|---|---|---|---|
| | 1298.650 | 370.990 | 7 | .013 | .000 | .000 | .000 | 0 |



WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 9 IS A JUNCTION * * * * * * *

| U/S DATA | STATION | INVERT | SECT | LAT-1 | LAT-2 | N | Q3 | Q4 | INVERT-3 | INVERT-4 | PHI 3 | PHI 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1301.520 | 371.510 | 7 | 8 | 0 | .013 | 1.900 | .000 | 371.500 | .000 | 90.000 | .000 |

| RADIUS | ANGLE |
|---|---|
| .000 | .000 |

ELEMENT NO 10 IS A REACH * * *

| U/S DATA | STATION | INVERT | SECT | N | RADIUS | ANGLE | ANG PT | MAN H |
|---|---|---|---|---|---|---|---|---|
| | 1412.770 | 372.070 | 7 | .013 | .000 | .000 | .000 | 0 |

ELEMENT NO 11 IS A WALL ENTRANCE *

| U/S DATA | STATION | INVERT | SECT | FP |
|---|---|---|---|---|
| | 1412.770 | 372.070 | 6 | .500 |

ELEMENT NO 12 IS A SYSTEM HEADWORKS * *

| U/S DATA | STATION | INVERT | SECT | W S ELEV |
|---|---|---|---|---|
| | 1412.770 | 372.070 | 6 | 372.070 |

Program Package Serial Number: 1734

WATER SURFACE PROFILE LISTING Date: 8-27-2010 Time: 4:36:18

Monterey Park Market Place
Line SD-1
Using PMP Flow

| Station | Invert Elev | Depth (FT) | Water Elev | Q (CFS) | Vel (FPS) | Vel Head | Energy Grd.El. | Super Elev | Critical Depth | Flow Top Width | Height/ Dia.-FT | Base Wt or I.D. | ZL | No Wth Prs/Pip |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L/Elem | Ch Slope | | | | | SF Ave | HF | SE Dpth | Froude N | Norm Dp | "N" | X-Fall | ZR | Type Ch |
| 185.170 | 363.880 | 2.642 | 366.522 | 79.90 | 9.07 | 1.28 | 367.80 | .00 | 2.71 | 3.79 | 4.000 | .000 | .00 | 1 .0 |
| 160.496 | .0052 | | | | | .0052 | .83 | 2.64 | 1.05 | 2.64 | .013 | .00 | .00 | PIPE |
| 345.666 | 364.710 | 2.642 | 367.351 | 79.90 | 9.07 | 1.28 | 368.63 | .00 | 2.71 | 3.79 | 4.000 | .000 | .00 | 1 .0 |
| 19.384 | .0052 | | | | | .0050 | .10 | 2.64 | 1.05 | 2.64 | .013 | .00 | .00 | PIPE |
| 365.050 | 364.810 | 2.707 | 367.517 | 79.90 | 8.83 | 1.21 | 368.73 | .00 | 2.71 | 3.74 | 4.000 | .000 | .00 | 1 .0 |
| JUNCT STR | .1503 | | | | | .0037 | .01 | 2.71 | 1.00 | | .013 | .00 | .00 | PIPE |
| 368.710 | 365.360 | 3.624 | 368.984 | 50.80 | 5.28 | .43 | 369.42 | .00 | 2.23 | .00 | 3.500 | .000 | .00 | 1 .0 |
| 59.810 | .0050 | | | | | .0025 | .15 | 3.62 | .00 | 2.18 | .013 | .00 | .00 | PIPE |
| 428.520 | 365.660 | 3.606 | 369.266 | 50.80 | 5.28 | .43 | 369.70 | .00 | 2.23 | .00 | 3.500 | .000 | .00 | 1 .0 |
| JUNCT STR | .3858 | | | | | .0040 | .01 | 3.61 | .00 | | .013 | .00 | .00 | PIPE |
| 431.190 | 366.690 | 2.944 | 369.634 | 30.10 | 6.13 | .58 | 370.22 | .00 | 1.87 | .00 | 2.500 | .000 | .00 | 1 .0 |
| 359.630 | .0050 | | | | | .0054 | 1.94 | 2.94 | .00 | 2.14 | .013 | .00 | .00 | PIPE |
| 790.820 | 368.490 | 3.080 | 371.570 | 30.10 | 6.13 | .58 | 372.15 | .00 | 1.87 | .00 | 2.500 | .000 | .00 | 1 .0 |
| JUNCT STR | -.0075 | | | | | .0041 | .01 | 3.08 | .00 | | .013 | .00 | .00 | PIPE |
| 793.490 | 368.470 | 3.678 | 372.148 | 21.60 | 4.40 | .30 | 372.45 | .00 | 1.58 | .00 | 2.500 | .000 | .00 | 1 .0 |
| 505.160 | .0050 | | | | | .0028 | 1.40 | 3.68 | .00 | 1.61 | .013 | .00 | .00 | PIPE |
| 1298.650 | 370.990 | 2.559 | 373.549 | 21.60 | 4.40 | .30 | 373.85 | .00 | 1.58 | .00 | 2.500 | .000 | .00 | 1 .0 |
| JUNCT STR | .1812 | | | | | .0025 | .01 | 2.56 | .00 | | .013 | .00 | .00 | PIPE |

Program Package Serial Number: 1734

WATER SURFACE PROFILE LISTING Date: 8-27-2010 Time: 4:36:18

Monterey Park Market Place
Line SD-1
Using PMP Flow

| Station | Invert Elev | Depth (FT) | Water Elev | Q (CFS) | Vel (FPS) | Vel Head | Energy Grd.El. | Super Elev | Critical Depth | Flow Top Width | Height/ Dia.-FT | Base Wt or I.D. | ZL | No Wth Prs/Pip |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L/Elem | Ch Slope | | | | | SF Ave | HF | SE Dpth | Froude N | Norm Dp | "N" | X-Fall | ZR | Type Ch |
| 1301.520 | 371.510 | 2.088 | 373.598 | 19.70 | 4.50 | .31 | 373.91 | .00 | 1.51 | 1.85 | 2.500 | .000 | .00 | 1 .0 |
| 27.354 | .0050 | | | | | .0023 | .06 | 2.09 | .52 | 1.51 | .013 | .00 | .00 | PIPE |
| 1328.874 | 371.648 | 1.983 | 373.631 | 19.70 | 4.72 | .35 | 373.98 | .00 | 1.51 | 2.02 | 2.500 | .000 | .00 | 1 .0 |
| 23.946 | .0050 | | | | | .0026 | .06 | 1.98 | .58 | 1.51 | .013 | .00 | .00 | PIPE |
| 1352.820 | 371.768 | 1.890 | 373.659 | 19.70 | 4.95 | .38 | 374.04 | .00 | 1.51 | 2.15 | 2.500 | .000 | .00 | 1 .0 |
| 21.540 | .0050 | | | | | .0029 | .06 | 1.89 | .64 | 1.51 | .013 | .00 | .00 | PIPE |
| 1374.360 | 371.877 | 1.806 | 373.683 | 19.70 | 5.19 | .42 | 374.10 | .00 | 1.51 | 2.24 | 2.500 | .000 | .00 | 1 .0 |
| 19.781 | .0050 | | | | | .0032 | .06 | 1.81 | .70 | 1.51 | .013 | .00 | .00 | PIPE |
| 1394.141 | 371.976 | 1.728 | 373.704 | 19.70 | 5.44 | .46 | 374.16 | .00 | 1.51 | 2.31 | 2.500 | .000 | .00 | 1 .0 |
| 18.355 | .0050 | | | | | .0036 | .07 | 1.73 | .77 | 1.51 | .013 | .00 | .00 | PIPE |
| 1412.496 | 372.069 | 1.656 | 373.725 | 19.70 | 5.71 | .51 | 374.23 | .00 | 1.51 | 2.36 | 2.500 | .000 | .00 | 1 .0 |
| .274 | .0050 | | | | | .0038 | .00 | 1.66 | .83 | 1.51 | .013 | .00 | .00 | PIPE |
| WALL | ENTRANCE | | | | | | | | | | | | | |
| 1412.770 | 372.070 | 1.656 | 373.726 | 19.70 | 7.08 | .78 | 374.50 | .00 | 1.59 | 1.51 | 2.000 | .000 | .00 | 0 .0 |

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING 

| CARD CODE | SECT NO | CHN TYPE | NO OF PIER/PIP | AVE PIER WIDTH | HEIGHT 1 DIAMETER | BASE WIDTH | ZL | ZR | INV DROP | Y(1) | Y(2) | Y(3) | Y(4) | Y(5) | Y(6) | Y(7) | Y(8) | Y(9) | Y(10) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CD | 1 | 4 | 1 | | 2.500 | | | | | | | | | | | | | | |
| CD | 2 | 4 | 1 | | 1.500 | | | | | | | | | | | | | | |
| CD | 3 | 4 | 1 | | 2.000 | | | | | | | | | | | | | | |
| CD | 4 | 3 | 0 | .000 | 3.000 | 3.000 | .000 | .000 | .00 | | | | | | | | | | |



WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

MONTEREY PARK MARKET PLACE

HEADING LINE NO 2 IS -

**LINE SD-2**

HEADING LINE NO 3 IS -

USING PMP VALUE



WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

| U/S DATA | STATION | INVERT | SECT | W S ELEV |
|---|---|---|---|---|
| | 1173.730 | 365.400 | 1 | 365.900 |

ELEMENT NO 2 IS A REACH * * *

| U/S DATA | STATION | INVERT | SECT | N | RADIUS | ANGLE | ANG PT | MAN H |
|---|---|---|---|---|---|---|---|---|
| | 1231.630 | 376.010 | 1 | .013 | .000 | .000 | -45.000 | 0 |

ELEMENT NO 3 IS A JUNCTION * * * * * * *

| U/S DATA | STATION | INVERT | SECT | LAT-1 | LAT-2 | N | Q3 | Q4 | INVERT-3 | INVERT-4 | PHI 3 | PHI 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1234.290 | 376.250 | 1 | 2 | 0 | .013 | 3.800 | .000 | 376.700 | .000 | 90.000 | .000 |

| RADIUS | ANGLE |
|---|---|
| .000 | .000 |

ELEMENT NO 4 IS A REACH * * *

| U/S DATA | STATION | INVERT | SECT | N | RADIUS | ANGLE | ANG PT | MAN H |
|---|---|---|---|---|---|---|---|---|
| | 1549.750 | 378.140 | 1 | .013 | .000 | .000 | .000 | 0 |

ELEMENT NO 5 IS A REACH * * *

| U/S DATA | STATION | INVERT | SECT | N | RADIUS | ANGLE | ANG PT | MAN H |
|---|---|---|---|---|---|---|---|---|
| | 1686.820 | 378.960 | 1 | .013 | .000 | .000 | -15.000 | 1 |

ELEMENT NO 6 IS A JUNCTION * * * * * * *

| U/S DATA | STATION | INVERT | SECT | LAT-1 | LAT-2 | N | Q3 | Q4 | INVERT-3 | INVERT-4 | PHI 3 | PHI 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1689.490 | 379.480 | 3 | 2 | 0 | .013 | 6.600 | .000 | 379.470 | .000 | 90.000 | .000 |

| RADIUS | ANGLE |
|---|---|
| .000 | .000 |

ELEMENT NO 7 IS A REACH * * *

| U/S DATA | STATION | INVERT | SECT | N | RADIUS | ANGLE | ANG PT | MAN H |
|---|---|---|---|---|---|---|---|---|
| | 1933.280 | 381.430 | 3 | .013 | .000 | .000 | 90.000 | 0 |

ELEMENT NO 8 IS A JUNCTION * * * * * * *

| U/S DATA | STATION | INVERT | SECT | LAT-1 | LAT-2 | N | Q3 | Q4 | INVERT-3 | INVERT-4 | PHI 3 | PHI 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1935.950 | 381.451 | 3 | 2 | 0 | .013 | 7.500 | .000 | 381.440 | .000 | 90.000 | .000 |

| RADIUS | ANGLE |
|---|---|
| .000 | .000 |



WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 9 IS A REACH * * *

```
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                               2113.590  382.870    3              .013                           .000     .000      .000     0
ELEMENT NO  10 IS A REACH              *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                               2239.430  383.880    3              .013                           .000     .000      .000     0
ELEMENT NO  11 IS A  WALL  ENTRANCE                    *
                    U/S DATA   STATION    INVERT  SECT             FP
                               2239.430  383.880    4              .500
ELEMENT NO  12 IS A SYSTEM HEADWORKS                   *                        *
                    U/S DATA   STATION    INVERT  SECT                                W S ELEV
                               2239.430  383.880    4                              383.880
```

Program Package Serial Number: 1734

WATER SURFACE PROFILE LISTING Date:11-30-2009 Time:10:59:53

MONTEREY PARK MARKET PLACE
LINE SD-2
USING PMP VALUE

| Station / L/Elem | Invert Elev / Ch Slope | Depth (FT) | Water Elev | Q (CFS) | Vel (FPS) / SF Ave | Vel Head / HF | Energy Grd.El. / SE Dpth | Super Elev / Froude N | Critical Depth / Norm Dp | Flow Top Width / "N" | Height/Dia.-FT or I.D. / X-Fall | Base Wt / ZR | ZL | No Wth Prs/Pip / Type Ch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1173.730 | 365.400 | .716 | 366.116 | 26.40 | 22.71 | 8.01 | 374.13 | .00 | 1.75 | 2.26 | 2.500 | .000 | .00 | 1 .0 |
| 1.932 | .1832 | | | | | .1279 | .25 | .72 | 5.58 | .66 | .013 | .00 | .00 | PIPE |
| 1175.662 | 365.754 | .720 | 366.474 | 26.40 | 22.57 | 7.91 | 374.38 | .00 | 1.75 | 2.26 | 2.500 | .000 | .00 | 1 .0 |
| 10.776 | .1832 | | | | | .1188 | 1.28 | .72 | 5.53 | .66 | .013 | .00 | .00 | PIPE |
| 1186.439 | 367.729 | .745 | 368.474 | 26.40 | 21.52 | 7.19 | 375.66 | .00 | 1.75 | 2.29 | 2.500 | .000 | .00 | 1 .0 |
| 7.925 | .1832 | | | | | .1040 | .82 | .74 | 5.18 | .66 | .013 | .00 | .00 | PIPE |
| 1194.364 | 369.181 | .771 | 369.952 | 26.40 | 20.52 | 6.54 | 376.49 | .00 | 1.75 | 2.31 | 2.500 | .000 | .00 | 1 .0 |
| 6.155 | .1832 | | | | | .0911 | .56 | .77 | 4.84 | .66 | .013 | .00 | .00 | PIPE |
| 1200.519 | 370.309 | .798 | 371.107 | 26.40 | 19.56 | 5.94 | 377.05 | .00 | 1.75 | 2.33 | 2.500 | .000 | .00 | 1 .0 |
| 4.951 | .1832 | | | | | .0798 | .39 | .80 | 4.53 | .66 | .013 | .00 | .00 | PIPE |
| 1205.470 | 371.216 | .826 | 372.042 | 26.40 | 18.65 | 5.40 | 377.45 | .00 | 1.75 | 2.35 | 2.500 | .000 | .00 | 1 .0 |
| 4.075 | .1832 | | | | | .0699 | .28 | .83 | 4.24 | .66 | .013 | .00 | .00 | PIPE |
| 1209.545 | 371.963 | .855 | 372.818 | 26.40 | 17.79 | 4.91 | 377.73 | .00 | 1.75 | 2.37 | 2.500 | .000 | .00 | 1 .0 |
| 3.411 | .1832 | | | | | .0613 | .21 | .86 | 3.96 | .66 | .013 | .00 | .00 | PIPE |
| 1212.956 | 372.588 | .886 | 373.474 | 26.40 | 16.96 | 4.47 | 377.94 | .00 | 1.75 | 2.39 | 2.500 | .000 | .00 | 1 .0 |
| 2.889 | .1832 | | | | | .0537 | .16 | .89 | 3.70 | .66 | .013 | .00 | .00 | PIPE |
| 1215.844 | 373.117 | .917 | 374.035 | 26.40 | 16.17 | 4.06 | 378.09 | .00 | 1.75 | 2.41 | 2.500 | .000 | .00 | 1 .0 |
| 2.469 | .1832 | | | | | .0471 | .12 | .92 | 3.46 | .66 | .013 | .00 | .00 | PIPE |

Program Package Serial Number: 1734

WATER SURFACE PROFILE LISTING Date:11-30-2009 Time:10:59:53

MONTEREY PARK MARKET PLACE
LINE SD-2
USING PMP VALUE

| Station | Invert Elev | Depth (FT) | Water Elev | Q (CFS) | Vel (FPS) | Vel Head | Energy Grd.El. | Super Elev | Critical Depth | Flow Top Width | Height/ Dia.-FT | Base Wt or I.D. | ZL | No Wth Prs/Pip |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L/Elem | Ch Slope | | | | | SF Ave | HF | SE Dpth | Froude N | Norm Dp | "N" | X-Fall | ZR | Type Ch |
| 1218.313 | 373.570 | .950 | 374.520 | 26.40 | 15.42 | 3.69 | 378.21 | .00 | 1.75 | 2.43 | 2.500 | .000 | .00 | 1 .0 |
| 2.122 | .1832 | | | | | .0413 | .09 | .95 | 3.23 | .66 | .013 | .00 | .00 | PIPE |
| 1220.435 | 373.958 | .985 | 374.943 | 26.40 | 14.70 | 3.35 | 378.30 | .00 | 1.75 | 2.44 | 2.500 | .000 | .00 | 1 .0 |
| 1.831 | .1832 | | | | | .0362 | .07 | .98 | 3.02 | .66 | .013 | .00 | .00 | PIPE |
| 1222.266 | 374.294 | 1.020 | 375.314 | 26.40 | 14.01 | 3.05 | 378.36 | .00 | 1.75 | 2.46 | 2.500 | .000 | .00 | 1 .0 |
| 1.585 | .1832 | | | | | .0318 | .05 | 1.02 | 2.82 | .66 | .013 | .00 | .00 | PIPE |
| 1223.851 | 374.584 | 1.058 | 375.642 | 26.40 | 13.36 | 2.77 | 378.41 | .00 | 1.75 | 2.47 | 2.500 | .000 | .00 | 1 .0 |
| 1.372 | .1832 | | | | | .0279 | .04 | 1.06 | 2.63 | .66 | .013 | .00 | .00 | PIPE |
| 1225.222 | 374.836 | 1.097 | 375.932 | 26.40 | 12.74 | 2.52 | 378.45 | .00 | 1.75 | 2.48 | 2.500 | .000 | .00 | 1 .0 |
| 1.187 | .1832 | | | | | .0246 | .03 | 1.10 | 2.46 | .66 | .013 | .00 | .00 | PIPE |
| 1226.410 | 375.053 | 1.137 | 376.191 | 26.40 | 12.15 | 2.29 | 378.48 | .00 | 1.75 | 2.49 | 2.500 | .000 | .00 | 1 .0 |
| 1.026 | .1832 | | | | | .0216 | .02 | 1.14 | 2.29 | .66 | .013 | .00 | .00 | PIPE |
| 1227.435 | 375.241 | 1.180 | 376.421 | 26.40 | 11.58 | 2.08 | 378.50 | .00 | 1.75 | 2.50 | 2.500 | .000 | .00 | 1 .0 |
| .882 | .1832 | | | | | .0190 | .02 | 1.18 | 2.14 | .66 | .013 | .00 | .00 | PIPE |
| 1228.317 | 375.403 | 1.224 | 376.627 | 26.40 | 11.04 | 1.89 | 378.52 | .00 | 1.75 | 2.50 | 2.500 | .000 | .00 | 1 .0 |
| .753 | .1832 | | | | | .0167 | .01 | 1.22 | 1.99 | .66 | .013 | .00 | .00 | PIPE |
| 1229.071 | 375.541 | 1.271 | 376.812 | 26.40 | 10.53 | 1.72 | 378.53 | .00 | 1.75 | 2.50 | 2.500 | .000 | .00 | 1 .0 |
| .638 | .1832 | | | | | .0147 | .01 | 1.27 | 1.85 | .66 | .013 | .00 | .00 | PIPE |

Program Package Serial Number: 1734

WATER SURFACE PROFILE LISTING Date:11-30-2009 Time:10:59:53

MONTEREY PARK MARKET PLACE
LINE SD-2
USING PMP VALUE

| Station | Invert Elev | Depth (FT) | Water Elev | Q (CFS) | Vel (FPS) | Vel Head | Energy Grd.El. | Super Elev | Critical Depth | Flow Top Width | Height/ Dia.-FT | Base Wt or I.D. | ZL | No Wth Prs/Pip |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L/Elem | Ch Slope | | | | | SF Ave | HF | SE Dpth | Froude N | Norm Dp | "N" | X-Fall | ZR | Type Ch |
| 1229.709 | 375.658 | 1.320 | 376.978 | 26.40 | 10.04 | 1.57 | 378.54 | .00 | 1.75 | 2.50 | 2.500 | .000 | .00 | 1 .0 |
| .533 | .1832 | | | | | .0130 | .01 | 1.32 | 1.72 | .66 | .013 | .00 | .00 | PIPE |
| 1230.242 | 375.756 | 1.372 | 377.127 | 26.40 | 9.57 | 1.42 | 378.55 | .00 | 1.75 | 2.49 | 2.500 | .000 | .00 | 1 .0 |
| .437 | .1832 | | | | | .0115 | .01 | 1.37 | 1.60 | .66 | .013 | .00 | .00 | PIPE |
| 1230.679 | 375.836 | 1.426 | 377.262 | 26.40 | 9.13 | 1.29 | 378.56 | .00 | 1.75 | 2.48 | 2.500 | .000 | .00 | 1 .0 |
| .348 | .1832 | | | | | .0101 | .00 | 1.43 | 1.49 | .66 | .013 | .00 | .00 | PIPE |
| 1231.027 | 375.900 | 1.483 | 377.383 | 26.40 | 8.70 | 1.18 | 378.56 | .00 | 1.75 | 2.46 | 2.500 | .000 | .00 | 1 .0 |
| .266 | .1832 | | | | | .0090 | .00 | 1.48 | 1.38 | .66 | .013 | .00 | .00 | PIPE |
| 1231.293 | 375.948 | 1.544 | 377.492 | 26.40 | 8.30 | 1.07 | 378.56 | .00 | 1.75 | 2.43 | 2.500 | .000 | .00 | 1 .0 |
| .188 | .1832 | | | | | .0079 | .00 | 1.54 | 1.28 | .66 | .013 | .00 | .00 | PIPE |
| 1231.481 | 375.983 | 1.608 | 377.591 | 26.40 | 7.91 | .97 | 378.56 | .00 | 1.75 | 2.40 | 2.500 | .000 | .00 | 1 .0 |
| .111 | .1832 | | | | | .0070 | .00 | 1.61 | 1.18 | .66 | .013 | .00 | .00 | PIPE |
| 1231.592 | 376.003 | 1.677 | 377.680 | 26.40 | 7.54 | .88 | 378.56 | .00 | 1.75 | 2.35 | 2.500 | .000 | .00 | 1 .0 |
| .038 | .1832 | | | | | .0063 | .00 | 1.68 | 1.09 | .66 | .013 | .00 | .00 | PIPE |
| 1231.630 | 376.010 | 1.751 | 377.761 | 26.40 | 7.19 | .80 | 378.56 | .00 | 1.75 | 2.29 | 2.500 | .000 | .00 | 1 .0 |
| JUNCT STR | .0902 | | | | | .0044 | .01 | 1.75 | 1.00 | | .013 | .00 | .00 | PIPE |
| 1234.290 | 376.250 | 2.086 | 378.336 | 22.60 | 5.16 | .41 | 378.75 | .00 | 1.62 | 1.86 | 2.500 | .000 | .00 | 1 .0 |
| 21.821 | .0060 | | | | | .0031 | .07 | 2.09 | .59 | 1.56 | .013 | .00 | .00 | PIPE |

Program Package Serial Number: 1734

WATER SURFACE PROFILE LISTING Date:11-30-2009 Time:10:59:53

MONTEREY PARK MARKET PLACE
LINE SD-2
USING PMP VALUE

| Station | Invert Elev | Depth (FT) | Water Elev | Q (CFS) | Vel (FPS) | Vel Head | Energy Grd.El. | Super Elev | Critical Depth | Flow Top Width | Height/ Dia.-FT | Base Wt or I.D. | ZL | No Wth Prs/Pip |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L/Elem | Ch Slope | | | | | SF Ave | HF | SE Dpth | Froude N | Norm Dp | "N" | X-Fall | ZR | Type Ch |
| 1256.111 | 376.381 | 1.981 | 378.362 | 22.60 | 5.42 | .46 | 378.82 | .00 | 1.62 | 2.03 | 2.500 | .000 | .00 | 1 .0 |
| 18.331 | .0060 | | | | | .0034 | .06 | 1.98 | .67 | 1.56 | .013 | .00 | .00 | PIPE |
| 1274.442 | 376.491 | 1.888 | 378.379 | 22.60 | 5.68 | .50 | 378.88 | .00 | 1.62 | 2.15 | 2.500 | .000 | .00 | 1 .0 |
| 15.592 | .0060 | | | | | .0038 | .06 | 1.89 | .74 | 1.56 | .013 | .00 | .00 | PIPE |
| 1290.034 | 376.584 | 1.804 | 378.388 | 22.60 | 5.96 | .55 | 378.94 | .00 | 1.62 | 2.24 | 2.500 | .000 | .00 | 1 .0 |
| 12.824 | .0060 | | | | | .0042 | .05 | 1.80 | .81 | 1.56 | .013 | .00 | .00 | PIPE |
| 1302.858 | 376.661 | 1.727 | 378.387 | 22.60 | 6.25 | .61 | 378.99 | .00 | 1.62 | 2.31 | 2.500 | .000 | .00 | 1 .0 |
| 7.241 | .0060 | | | | | .0048 | .03 | 1.73 | .88 | 1.56 | .013 | .00 | .00 | PIPE |
| 1310.099 | 376.704 | 1.655 | 378.359 | 22.60 | 6.55 | .67 | 379.03 | .00 | 1.62 | 2.37 | 2.500 | .000 | .00 | 1 .0 |
| HYDRAULIC JUMP | | | | | | | | | | | | | | |
| 1310.099 | 376.704 | 1.559 | 378.263 | 22.60 | 7.02 | .77 | 379.03 | .00 | 1.62 | 2.42 | 2.500 | .000 | .00 | 1 .0 |
| 212.586 | .0060 | | | | | .0060 | 1.27 | 1.56 | 1.07 | 1.56 | .013 | .00 | .00 | PIPE |
| 1522.685 | 377.978 | 1.559 | 379.537 | 22.60 | 7.02 | .77 | 380.30 | .00 | 1.62 | 2.42 | 2.500 | .000 | .00 | 1 .0 |
| 27.065 | .0060 | | | | | .0060 | .16 | 1.56 | 1.07 | 1.56 | .013 | .00 | .00 | PIPE |
| 1549.750 | 378.140 | 1.559 | 379.699 | 22.60 | 7.02 | .76 | 380.46 | .00 | 1.62 | 2.42 | 2.500 | .000 | .00 | 1 .0 |
| 122.765 | .0060 | | | | | .0060 | .73 | 1.56 | 1.07 | 1.56 | .013 | .00 | .00 | PIPE |
| 1672.515 | 378.874 | 1.559 | 380.434 | 22.60 | 7.02 | .76 | 381.20 | .00 | 1.62 | 2.42 | 2.500 | .000 | .00 | 1 .0 |
| 14.305 | .0060 | | | | | .0057 | .08 | 1.56 | 1.07 | 1.56 | .013 | .00 | .00 | PIPE |

Program Package Serial Number: 1734

WATER SURFACE PROFILE LISTING Date:11-30-2009 Time:10:59:53

MONTEREY PARK MARKET PLACE
LINE SD-2
USING PMP VALUE

| Station / L/Elem | Invert Elev / Ch Slope | Depth (FT) | Water Elev | Q (CFS) | Vel (FPS) / SF Ave | Vel Head / HF | Energy Grd.El. / SE Dpth | Super Elev / Froude N | Critical Depth / Norm Dp | Flow Top Width / "N" | Height/Dia.-FT / X-Fall | Base Wt or I.D. / ZR | ZL | No Wth Prs/Pip / Type Ch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1686.820 | 378.960 | 1.617 | 380.577 | 22.60 | 6.73 | .70 | 381.28 | .00 | 1.62 | 2.39 | 2.500 | .000 | .00 | 1 .0 |
| JUNCT STR | .1948 | | | | .0050 | .01 | 1.62 | 1.00 | | .013 | | .00 | .00 | PIPE |
| 1689.490 | 379.480 | 1.745 | 381.225 | 16.00 | 5.50 | .47 | 381.69 | .00 | 1.44 | 1.33 | 2.000 | .000 | .00 | 1 .0 |
| 14.628 | .0080 | | | | .0047 | .07 | 1.74 | .66 | 1.34 | .013 | | .00 | .00 | PIPE |
| 1704.118 | 379.597 | 1.650 | 381.247 | 16.00 | 5.77 | .52 | 381.76 | .00 | 1.44 | 1.52 | 2.000 | .000 | .00 | 1 .0 |
| 10.630 | .0080 | | | | .0052 | .06 | 1.65 | .75 | 1.34 | .013 | | .00 | .00 | PIPE |
| 1714.747 | 379.682 | 1.569 | 381.251 | 16.00 | 6.05 | .57 | 381.82 | .00 | 1.44 | 1.64 | 2.000 | .000 | .00 | 1 .0 |
| 2.544 | .0080 | | | | .0057 | .01 | 1.57 | .84 | 1.34 | .013 | | .00 | .00 | PIPE |
| 1717.292 | 379.702 | 1.496 | 381.199 | 16.00 | 6.35 | .63 | 381.82 | .00 | 1.44 | 1.74 | 2.000 | .000 | .00 | 1 .0 |
| HYDRAULIC JUMP | | | | | | | | | | | | | | |
| 1717.292 | 379.702 | 1.342 | 381.044 | 16.00 | 7.14 | .79 | 381.84 | .00 | 1.44 | 1.88 | 2.000 | .000 | .00 | 1 .0 |
| 176.054 | .0080 | | | | .0080 | 1.41 | 1.34 | 1.15 | 1.34 | .013 | | .00 | .00 | PIPE |
| 1893.345 | 381.111 | 1.342 | 382.452 | 16.00 | 7.14 | .79 | 383.24 | .00 | 1.44 | 1.88 | 2.000 | .000 | .00 | 1 .0 |
| 33.945 | .0080 | | | | .0077 | .26 | 1.34 | 1.15 | 1.34 | .013 | | .00 | .00 | PIPE |
| 1927.291 | 381.382 | 1.379 | 382.761 | 16.00 | 6.93 | .74 | 383.51 | .00 | 1.44 | 1.85 | 2.000 | .000 | .00 | 1 .0 |
| 5.990 | .0080 | | | | .0070 | .04 | 1.38 | 1.09 | 1.34 | .013 | | .00 | .00 | PIPE |
| 1933.280 | 381.430 | 1.442 | 382.872 | 16.00 | 6.60 | .68 | 383.55 | .00 | 1.44 | 1.79 | 2.000 | .000 | .00 | 1 .0 |
| JUNCT STR | .0079 | | | | .0040 | .01 | 1.44 | 1.00 | | .013 | | .00 | .00 | PIPE |

Program Package Serial Number: 1734

WATER SURFACE PROFILE LISTING Date:11-30-2009 Time:10:59:53

MONTEREY PARK MARKET PLACE
LINE SD-2
USING PMP VALUE

| Station | Invert Elev | Depth (FT) | Water Elev | Q (CFS) | Vel (FPS) | Vel Head | Energy Grd.El. | Super Elev | Critical Depth | Flow Top Width | Height/ Dia.-FT | Base Wt or I.D. | ZL | No Wth Prs/Pip |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L/Elem | Ch Slope | | | | | SF Ave | HF | SE Dpth | Froude N | Norm Dp | "N" | X-Fall | ZR | Type Ch |
| 1935.950 | 381.451 | 2.353 | 383.804 | 8.50 | 2.71 | .11 | 383.92 | .00 | 1.04 | .00 | 2.000 | .000 | .00 | 1 .0 |
| 53.676 | .0080 | | | | | .0014 | .08 | 2.35 | .00 | .90 | .013 | .00 | .00 | PIPE |
| 1989.626 | 381.880 | 2.000 | 383.880 | 8.50 | 2.71 | .11 | 383.99 | .00 | 1.04 | .00 | 2.000 | .000 | .00 | 1 .0 |
| 25.910 | .0080 | | | | | .0013 | .03 | 2.00 | .00 | .90 | .013 | .00 | .00 | PIPE |
| 2015.536 | 382.087 | 1.815 | 383.901 | 8.50 | 2.84 | .13 | 384.03 | .00 | 1.04 | 1.16 | 2.000 | .000 | .00 | 1 .0 |
| 14.188 | .0080 | | | | | .0013 | .02 | 1.81 | .31 | .90 | .013 | .00 | .00 | PIPE |
| 2029.723 | 382.200 | 1.707 | 383.907 | 8.50 | 2.98 | .14 | 384.04 | .00 | 1.04 | 1.41 | 2.000 | .000 | .00 | 1 .0 |
| 11.363 | .0080 | | | | | .0014 | .02 | 1.71 | .37 | .90 | .013 | .00 | .00 | PIPE |
| 2041.086 | 382.291 | 1.618 | 383.909 | 8.50 | 3.12 | .15 | 384.06 | .00 | 1.04 | 1.57 | 2.000 | .000 | .00 | 1 .0 |
| 9.693 | .0080 | | | | | .0015 | .01 | 1.62 | .42 | .90 | .013 | .00 | .00 | PIPE |
| 2050.779 | 382.368 | 1.540 | 383.909 | 8.50 | 3.27 | .17 | 384.08 | .00 | 1.04 | 1.68 | 2.000 | .000 | .00 | 1 .0 |
| 8.471 | .0080 | | | | | .0017 | .01 | 1.54 | .46 | .90 | .013 | .00 | .00 | PIPE |
| 2059.251 | 382.436 | 1.470 | 383.906 | 8.50 | 3.43 | .18 | 384.09 | .00 | 1.04 | 1.77 | 2.000 | .000 | .00 | 1 .0 |
| 7.504 | .0080 | | | | | .0019 | .01 | 1.47 | .51 | .90 | .013 | .00 | .00 | PIPE |
| 2066.755 | 382.496 | 1.406 | 383.902 | 8.50 | 3.60 | .20 | 384.10 | .00 | 1.04 | 1.83 | 2.000 | .000 | .00 | 1 .0 |
| 6.665 | .0080 | | | | | .0021 | .01 | 1.41 | .56 | .90 | .013 | .00 | .00 | PIPE |
| 2073.420 | 382.549 | 1.347 | 383.896 | 8.50 | 3.78 | .22 | 384.12 | .00 | 1.04 | 1.88 | 2.000 | .000 | .00 | 1 .0 |
| 5.904 | .0080 | | | | | .0024 | .01 | 1.35 | .61 | .90 | .013 | .00 | .00 | PIPE |

Program Package Serial Number: 1734

WATER SURFACE PROFILE LISTING Date:11-30-2009 Time:10:59:53

MONTEREY PARK MARKET PLACE
LINE SD-2
USING PMP VALUE

| Station | Invert Elev | Depth (FT) | Water Elev | Q (CFS) | Vel (FPS) | Vel Head | Energy Grd.El. | Super Elev | Critical Depth | Flow Top Width | Height/ Dia.-FT | Base Wt or I.D. | ZL | No Wth Prs/Pip |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L/Elem | Ch Slope | | | | | SF Ave | HF | SE Dpth | Froude N | Norm Dp | "N" | X-Fall | ZR | Type Ch |
| 2079.324 | 382.596 | 1.292 | 383.888 | 8.50 | 3.96 | .24 | 384.13 | .00 | 1.04 | 1.91 | 2.000 | .000 | .00 | 1 .0 |
| 5.162 | .0080 | | | | | .0027 | .01 | 1.29 | .66 | .90 | .013 | .00 | .00 | PIPE |
| 2084.485 | 382.637 | 1.240 | 383.877 | 8.50 | 4.15 | .27 | 384.15 | .00 | 1.04 | 1.94 | 2.000 | .000 | .00 | 1 .0 |
| 4.425 | .0080 | | | | | .0030 | .01 | 1.24 | .71 | .90 | .013 | .00 | .00 | PIPE |
| 2088.910 | 382.673 | 1.191 | 383.864 | 8.50 | 4.36 | .29 | 384.16 | .00 | 1.04 | 1.96 | 2.000 | .000 | .00 | 1 .0 |
| .175 | .0080 | | | | | .0034 | .00 | 1.19 | .77 | .90 | .013 | .00 | .00 | PIPE |
| 2089.085 | 382.674 | 1.145 | 383.819 | 8.50 | 4.57 | .32 | 384.14 | .00 | 1.04 | 1.98 | 2.000 | .000 | .00 | 1 .0 |
| HYDRAULIC JUMP | | | | | | | | | | | | | | |
| 2089.085 | 382.674 | .904 | 383.578 | 8.50 | 6.17 | .59 | 384.17 | .00 | 1.04 | 1.99 | 2.000 | .000 | .00 | 1 .0 |
| 24.505 | .0080 | | | | | .0080 | .20 | .90 | 1.31 | .90 | .013 | .00 | .00 | PIPE |
| 2113.590 | 382.870 | .904 | 383.773 | 8.50 | 6.17 | .59 | 384.36 | .00 | 1.04 | 1.99 | 2.000 | .000 | .00 | 1 .0 |
| 64.830 | .0080 | | | | | .0080 | .52 | .90 | 1.31 | .90 | .013 | .00 | .00 | PIPE |
| 2178.420 | 383.390 | .904 | 384.294 | 8.50 | 6.17 | .59 | 384.88 | .00 | 1.04 | 1.99 | 2.000 | .000 | .00 | 1 .0 |
| 42.387 | .0080 | | | | | .0077 | .32 | .90 | 1.31 | .90 | .013 | .00 | .00 | PIPE |
| 2220.807 | 383.731 | .928 | 384.659 | 8.50 | 5.95 | .55 | 385.21 | .00 | 1.04 | 1.99 | 2.000 | .000 | .00 | 1 .0 |
| 13.000 | .0080 | | | | | .0069 | .09 | .93 | 1.24 | .90 | .013 | .00 | .00 | PIPE |
| 2233.807 | 383.835 | .963 | 384.798 | 8.50 | 5.68 | .50 | 385.30 | .00 | 1.04 | 2.00 | 2.000 | .000 | .00 | 1 .0 |
| 4.528 | .0080 | | | | | .0060 | .03 | .96 | 1.16 | .90 | .013 | .00 | .00 | PIPE |

Program Package Serial Number: 1734

WATER SURFACE PROFILE LISTING Date:11-30-2009 Time:10:59:53

MONTEREY PARK MARKET PLACE
LINE SD-2
USING PMP VALUE

| Station | Invert Elev | Depth (FT) | Water Elev | Q (CFS) | Vel (FPS) | Vel Head | Energy Grd.El. | Super Elev | Critical Depth | Flow Top Width | Height/ Dia.-FT | Base Wt or I.D. | ZL | No Wth Prs/Pip |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L/Elem | Ch Slope | | | | | SF Ave | HF | SE Dpth | Froude N | Norm Dp | "N" | X-Fall | ZR | Type Ch |
| 2238.334 | 383.871 | 1.000 | 384.871 | 8.50 | 5.41 | .46 | 385.33 | .00 | 1.04 | 2.00 | 2.000 | .000 | .00 | 1 .0 |
| 1.095 | .0080 | | | | | .0053 | .01 | 1.00 | 1.08 | .90 | .013 | .00 | .00 | PIPE |
| 2239.430 | 383.880 | 1.039 | 384.919 | 8.50 | 5.16 | .41 | 385.33 | .00 | 1.04 | 2.00 | 2.000 | .000 | .00 | 1 .0 |
| WALL | ENTRANCE | | | | | | | | | | | | | |
| 2239.430 | 383.880 | 1.548 | 385.428 | 8.50 | 1.83 | .05 | 385.48 | .00 | .63 | 3.00 | 3.000 | 3.000 | .00 | 0 .0 |

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

| CARD CODE | SECT NO | CHN TYPE | NO OF PIER/PIP | AVE PIER WIDTH | HEIGHT 1 DIAMETER | BASE WIDTH | ZL | ZR | INV DROP | Y(1) | Y(2) | Y(3) | Y(4) | Y(5) | Y(6) | Y(7) | Y(8) | Y(9) | Y(10) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CD | 1 | 4 | 1 | | 2.500 | | | | | | | | | | | | | | |
| CD | 2 | 3 | 0 | .000 | 3.000 | 2.000 | .000 | .000 | .00 | | | | | | | | | | |



WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

MONTEREY PARK MARKET PLACE

HEADING LINE NO 2 IS -

**LINE SD-3**

HEADING LINE NO 3 IS -

USING PMP VALUES



WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

| U/S DATA | STATION | INVERT | SECT | W S ELEV |
|---|---|---|---|---|
| | 1000.000 | 338.160 | 1 | 338.160 |

ELEMENT NO 2 IS A REACH * * *

| U/S DATA | STATION | INVERT | SECT | N | RADIUS | ANGLE | ANG PT | MAN H |
|---|---|---|---|---|---|---|---|---|
| | 1199.840 | 359.970 | 1 | .013 | .000 | .000 | .000 | 0 |

ELEMENT NO 3 IS A REACH * * *

| U/S DATA | STATION | INVERT | SECT | N | RADIUS | ANGLE | ANG PT | MAN H |
|---|---|---|---|---|---|---|---|---|
| | 1388.570 | 361.170 | 1 | .013 | .000 | .000 | 45.000 | 1 |

ELEMENT NO 4 IS A REACH * * *

| U/S DATA | STATION | INVERT | SECT | N | RADIUS | ANGLE | ANG PT | MAN H |
|---|---|---|---|---|---|---|---|---|
| | 1674.570 | 362.700 | 1 | .013 | .000 | .000 | -11.000 | 0 |

ELEMENT NO 5 IS A REACH * * *

| U/S DATA | STATION | INVERT | SECT | N | RADIUS | ANGLE | ANG PT | MAN H |
|---|---|---|---|---|---|---|---|---|
| | 1763.890 | 363.150 | 1 | .013 | .000 | .000 | 20.000 | 1 |

ELEMENT NO 6 IS A WALL ENTRANCE *

| U/S DATA | STATION | INVERT | SECT | FP |
|---|---|---|---|---|
| | 1763.890 | 363.150 | 2 | .500 |

ELEMENT NO 7 IS A SYSTEM HEADWORKS * *

| U/S DATA | STATION | INVERT | SECT | W S ELEV |
|---|---|---|---|---|
| | 1763.890 | 363.150 | 2 | 363.150 |

Program Package Serial Number: 1734

WATER SURFACE PROFILE LISTING Date:11-30-2009 Time:11:12:58

MONTEREY PARK MARKET PLACE
LINE SD-3
USING PMP VALUES

| Station | Invert Elev | Depth (FT) | Water Elev | Q (CFS) | Vel (FPS) | Vel Head | Energy Grd.El. | Super Elev | Critical Depth | Flow Top Width | Height/ Dia.-FT | Base Wt or I.D. | ZL | No Wth Prs/Pip |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L/Elem | Ch Slope | | | | | SF Ave | HF | SE Dpth | Froude N | Norm Dp | "N" | X-Fall | ZR | Type Ch |
| 1000.000 | 338.160 | .675 | 338.835 | 21.60 | 20.20 | 6.34 | 345.17 | .00 | 1.58 | 2.22 | 2.500 | .000 | .00 | 1 .0 |
| 24.274 | .1091 | | | | | .1091 | 2.65 | .67 | 5.13 | .67 | .013 | .00 | .00 | PIPE |
| 1024.274 | 340.809 | .675 | 341.484 | 21.60 | 20.20 | 6.34 | 347.82 | .00 | 1.58 | 2.22 | 2.500 | .000 | .00 | 1 .0 |
| 80.939 | .1091 | | | | | .1030 | 8.34 | .67 | 5.13 | .67 | .013 | .00 | .00 | PIPE |
| 1105.213 | 349.643 | .696 | 350.338 | 21.60 | 19.36 | 5.82 | 356.16 | .00 | 1.58 | 2.24 | 2.500 | .000 | .00 | 1 .0 |
| 27.622 | .1091 | | | | | .0908 | 2.51 | .70 | 4.84 | .67 | .013 | .00 | .00 | PIPE |
| 1132.835 | 352.657 | .720 | 353.377 | 21.60 | 18.46 | 5.29 | 358.67 | .00 | 1.58 | 2.26 | 2.500 | .000 | .00 | 1 .0 |
| 15.399 | .1091 | | | | | .0795 | 1.22 | .72 | 4.53 | .67 | .013 | .00 | .00 | PIPE |
| 1148.234 | 354.338 | .745 | 355.083 | 21.60 | 17.60 | 4.81 | 359.90 | .00 | 1.58 | 2.29 | 2.500 | .000 | .00 | 1 .0 |
| 10.410 | .1091 | | | | | .0696 | .72 | .74 | 4.24 | .67 | .013 | .00 | .00 | PIPE |
| 1158.644 | 355.474 | .771 | 356.245 | 21.60 | 16.79 | 4.37 | 360.62 | .00 | 1.58 | 2.31 | 2.500 | .000 | .00 | 1 .0 |
| 7.691 | .1091 | | | | | .0610 | .47 | .77 | 3.96 | .67 | .013 | .00 | .00 | PIPE |
| 1166.335 | 356.313 | .798 | 357.111 | 21.60 | 16.00 | 3.98 | 361.09 | .00 | 1.58 | 2.33 | 2.500 | .000 | .00 | 1 .0 |
| 5.979 | .1091 | | | | | .0534 | .32 | .80 | 3.71 | .67 | .013 | .00 | .00 | PIPE |
| 1172.315 | 356.966 | .826 | 357.792 | 21.60 | 15.26 | 3.62 | 361.41 | .00 | 1.58 | 2.35 | 2.500 | .000 | .00 | 1 .0 |
| 4.802 | .1091 | | | | | .0468 | .22 | .83 | 3.47 | .67 | .013 | .00 | .00 | PIPE |
| 1177.117 | 357.490 | .855 | 358.346 | 21.60 | 14.55 | 3.29 | 361.63 | .00 | 1.58 | 2.37 | 2.500 | .000 | .00 | 1 .0 |
| 3.938 | .1091 | | | | | .0410 | .16 | .86 | 3.24 | .67 | .013 | .00 | .00 | PIPE |

Program Package Serial Number: 1734

WATER SURFACE PROFILE LISTING Date:11-30-2009 Time:11:12:58

MONTEREY PARK MARKET PLACE
LINE SD-3
USING PMP VALUES

| Station | Invert Elev | Depth (FT) | Water Elev | Q (CFS) | Vel (FPS) | Vel Head | Energy Grd.El. | Super Elev | Critical Depth | Flow Top Width | Height/ Dia.-FT | Base Wt or I.D. | ZL | No Wth Prs/Pip |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L/Elem | Ch Slope | | | | | SF Ave | HF | SE Dpth | Froude N | Norm Dp | "N" | X-Fall | ZR | Type Ch |
| 1181.055 | 357.920 | .886 | 358.806 | 21.60 | 13.87 | 2.99 | 361.79 | .00 | 1.58 | 2.39 | 2.500 | .000 | .00 | 1 .0 |
| 3.277 | .1091 | | | | | .0359 | .12 | .89 | 3.03 | .67 | .013 | .00 | .00 | PIPE |
| 1184.333 | 358.278 | .918 | 359.195 | 21.60 | 13.23 | 2.72 | 361.91 | .00 | 1.58 | 2.41 | 2.500 | .000 | .00 | 1 .0 |
| 2.757 | .1091 | | | | | .0315 | .09 | .92 | 2.83 | .67 | .013 | .00 | .00 | PIPE |
| 1187.090 | 358.579 | .950 | 359.529 | 21.60 | 12.61 | 2.47 | 362.00 | .00 | 1.58 | 2.43 | 2.500 | .000 | .00 | 1 .0 |
| 2.332 | .1091 | | | | | .0276 | .06 | .95 | 2.65 | .67 | .013 | .00 | .00 | PIPE |
| 1189.422 | 358.833 | .985 | 359.818 | 21.60 | 12.02 | 2.24 | 362.06 | .00 | 1.58 | 2.44 | 2.500 | .000 | .00 | 1 .0 |
| 1.984 | .1091 | | | | | .0242 | .05 | .98 | 2.47 | .67 | .013 | .00 | .00 | PIPE |
| 1191.406 | 359.050 | 1.021 | 360.070 | 21.60 | 11.46 | 2.04 | 362.11 | .00 | 1.58 | 2.46 | 2.500 | .000 | .00 | 1 .0 |
| 1.686 | .1091 | | | | | .0213 | .04 | 1.02 | 2.31 | .67 | .013 | .00 | .00 | PIPE |
| 1193.092 | 359.234 | 1.058 | 360.292 | 21.60 | 10.93 | 1.86 | 362.15 | .00 | 1.58 | 2.47 | 2.500 | .000 | .00 | 1 .0 |
| 1.435 | .1091 | | | | | .0187 | .03 | 1.06 | 2.15 | .67 | .013 | .00 | .00 | PIPE |
| 1194.527 | 359.390 | 1.097 | 360.487 | 21.60 | 10.42 | 1.69 | 362.17 | .00 | 1.58 | 2.48 | 2.500 | .000 | .00 | 1 .0 |
| 1.215 | .1091 | | | | | .0164 | .02 | 1.10 | 2.01 | .67 | .013 | .00 | .00 | PIPE |
| 1195.742 | 359.523 | 1.138 | 360.660 | 21.60 | 9.94 | 1.53 | 362.19 | .00 | 1.58 | 2.49 | 2.500 | .000 | .00 | 1 .0 |
| 1.022 | .1091 | | | | | .0144 | .01 | 1.14 | 1.87 | .67 | .013 | .00 | .00 | PIPE |
| 1196.764 | 359.634 | 1.180 | 360.814 | 21.60 | 9.47 | 1.39 | 362.21 | .00 | 1.58 | 2.50 | 2.500 | .000 | .00 | 1 .0 |
| .853 | .1091 | | | | | .0127 | .01 | 1.18 | 1.75 | .67 | .013 | .00 | .00 | PIPE |

Program Package Serial Number: 1734

WATER SURFACE PROFILE LISTING Date:11-30-2009 Time:11:12:58

MONTEREY PARK MARKET PLACE
LINE SD-3
USING PMP VALUES

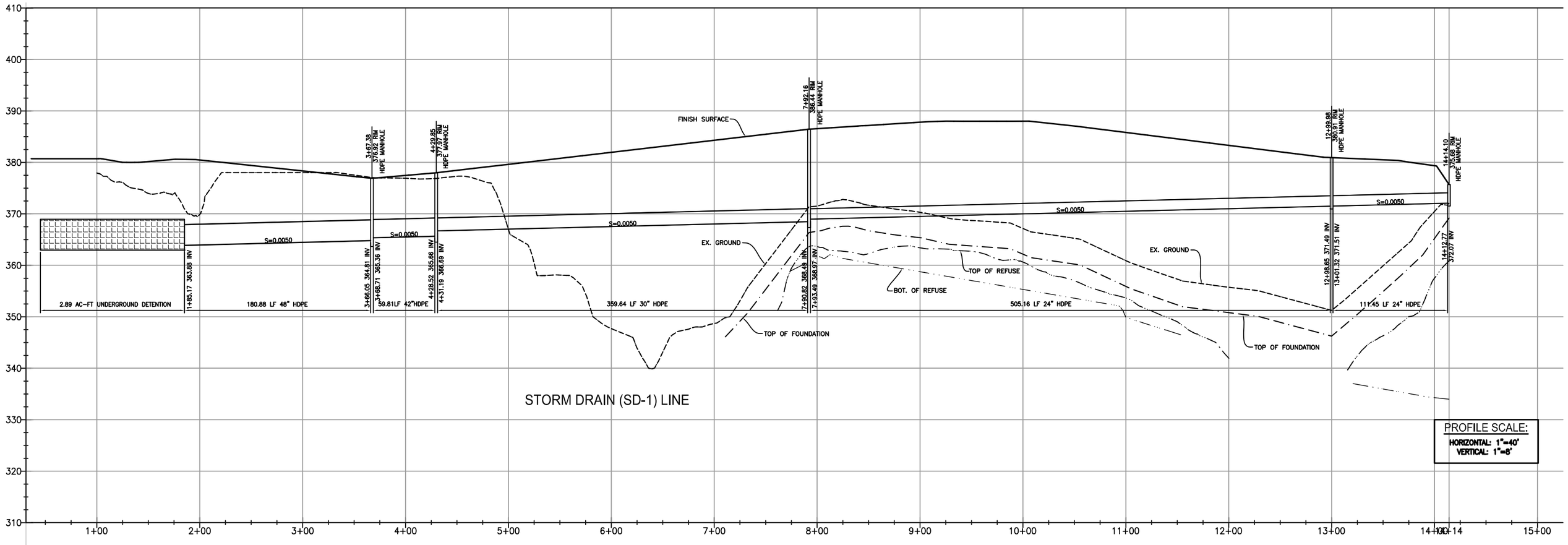
| Station | Invert Elev | Depth (FT) | Water Elev | Q (CFS) | Vel (FPS) | Vel Head | Energy Grd.El. | Super Elev | Critical Depth | Flow Top Width | Height/ Dia.-FT | Base Wt or I.D. | ZL | No Wth Prs/Pip |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L/Elem | Ch Slope | | | | | SF Ave | HF | SE Dpth | Froude N | Norm Dp | "N" | X-Fall | ZR | Type Ch |
| 1197.617 | 359.727 | 1.225 | 360.952 | 21.60 | 9.03 | 1.27 | 362.22 | .00 | 1.58 | 2.50 | 2.500 | .000 | .00 | 1 .0 |
| .699 | .1091 | | | | | .0112 | .01 | 1.22 | 1.63 | .67 | .013 | .00 | .00 | PIPE |
| 1198.316 | 359.804 | 1.271 | 361.075 | 21.60 | 8.61 | 1.15 | 362.23 | .00 | 1.58 | 2.50 | 2.500 | .000 | .00 | 1 .0 |
| .561 | .1091 | | | | | .0099 | .01 | 1.27 | 1.52 | .67 | .013 | .00 | .00 | PIPE |
| 1198.877 | 359.865 | 1.320 | 361.185 | 21.60 | 8.21 | 1.05 | 362.23 | .00 | 1.58 | 2.50 | 2.500 | .000 | .00 | 1 .0 |
| .435 | .1091 | | | | | .0087 | .00 | 1.32 | 1.41 | .67 | .013 | .00 | .00 | PIPE |
| 1199.313 | 359.912 | 1.372 | 361.284 | 21.60 | 7.83 | .95 | 362.24 | .00 | 1.58 | 2.49 | 2.500 | .000 | .00 | 1 .0 |
| .319 | .1091 | | | | | .0077 | .00 | 1.37 | 1.31 | .67 | .013 | .00 | .00 | PIPE |
| 1199.631 | 359.947 | 1.426 | 361.373 | 21.60 | 7.47 | .87 | 362.24 | .00 | 1.58 | 2.48 | 2.500 | .000 | .00 | 1 .0 |
| .208 | .1091 | | | | | .0068 | .00 | 1.43 | 1.22 | .67 | .013 | .00 | .00 | PIPE |
| 1199.840 | 359.970 | 1.483 | 361.453 | 21.60 | 7.12 | .79 | 362.24 | .00 | 1.58 | 2.46 | 2.500 | .000 | .00 | 1 .0 |
| 141.991 | .0064 | | | | | .0064 | .90 | 1.48 | 1.13 | 1.48 | .013 | .00 | .00 | PIPE |
| 1341.831 | 360.873 | 1.483 | 362.356 | 21.60 | 7.12 | .79 | 363.14 | .00 | 1.58 | 2.46 | 2.500 | .000 | .00 | 1 .0 |
| 36.901 | .0064 | | | | | .0062 | .23 | 1.48 | 1.13 | 1.48 | .013 | .00 | .00 | PIPE |
| 1378.733 | 361.107 | 1.509 | 362.616 | 21.60 | 6.98 | .76 | 363.37 | .00 | 1.58 | 2.45 | 2.500 | .000 | .00 | 1 .0 |
| 9.837 | .0064 | | | | | .0057 | .06 | 1.51 | 1.09 | 1.48 | .013 | .00 | .00 | PIPE |
| 1388.570 | 361.170 | 1.571 | 362.741 | 21.60 | 6.65 | .69 | 363.43 | .00 | 1.58 | 2.42 | 2.500 | .000 | .00 | 1 .0 |
| 283.538 | .0053 | | | | | .0053 | 1.52 | 1.57 | 1.01 | 1.57 | .013 | .00 | .00 | PIPE |

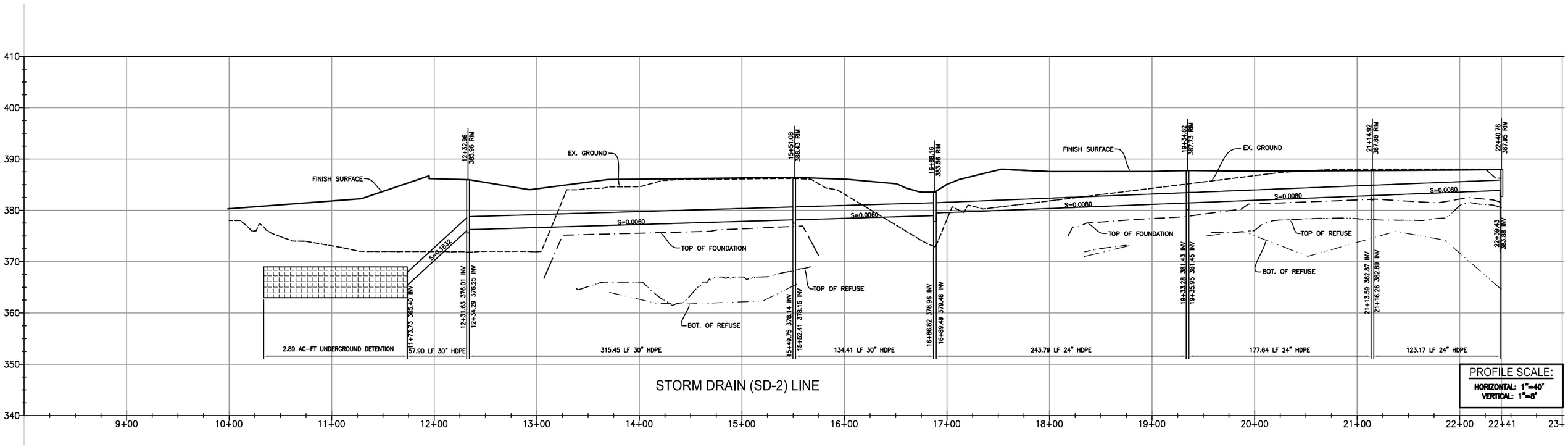
Program Package Serial Number: 1734

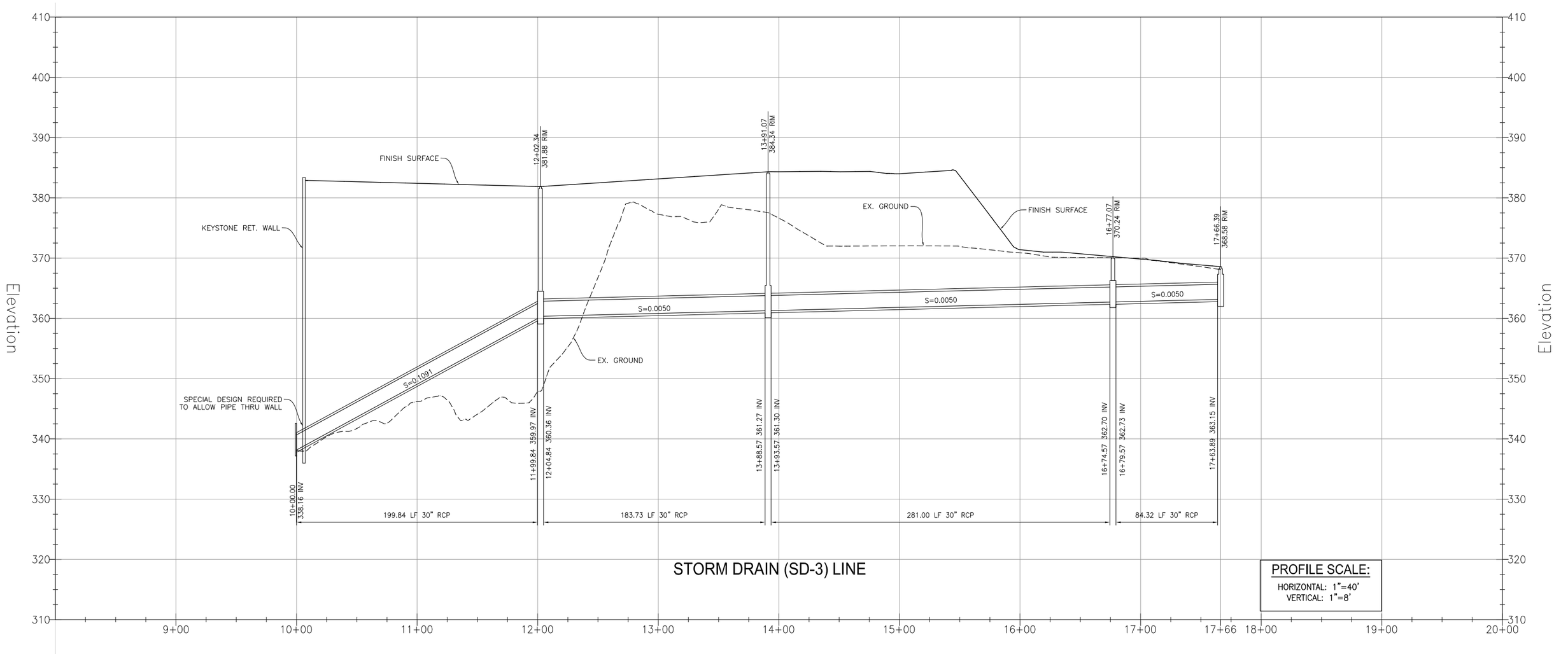
WATER SURFACE PROFILE LISTING Date:11-30-2009 Time:11:12:58

MONTEREY PARK MARKET PLACE
LINE SD-3
USING PMP VALUES

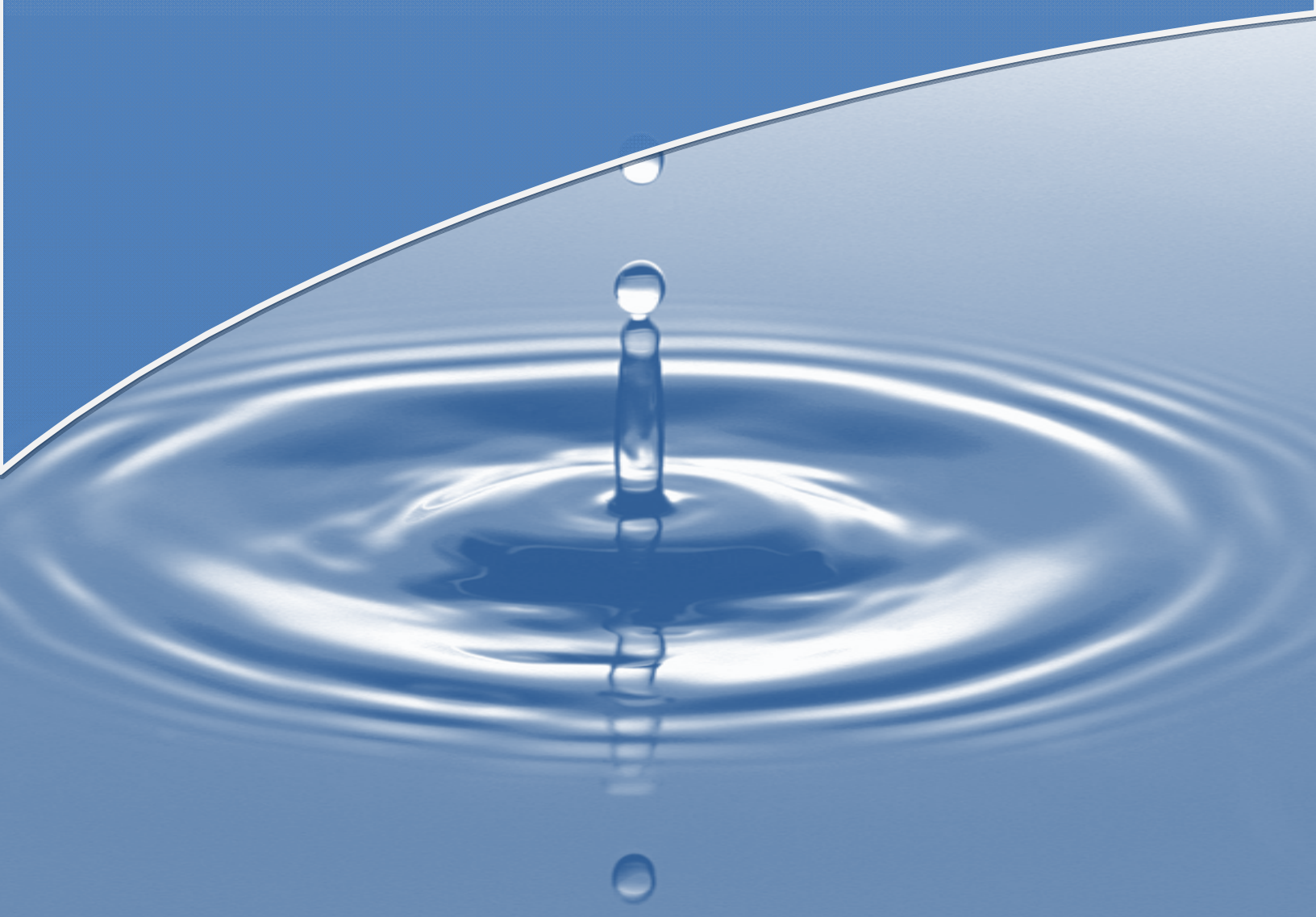
| Station / L/Elem | Invert Elev / Ch Slope | Depth (FT) | Water Elev | Q (CFS) | Vel (FPS) / SF Ave | Vel Head / HF | Energy Grd.El. / SE Dpth | Super Elev / Froude N | Critical Depth / Norm Dp | Flow Top Width / "N" | Height/Dia.-FT / X-Fall | Base Wt or I.D. / ZR | ZL | No Wth Prs/Pip / Type Ch |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1672.108 | 362.687 | 1.571 | 364.258 | 21.60 | 6.65 | .69 | 364.94 | .00 | 1.58 | 2.42 | 2.500 | .000 | .00 | 1 .0 |
| 2.462 | .0053 | | | | .0053 | .01 | 1.57 | 1.01 | 1.57 | .013 | .00 | .00 | | PIPE |
| 1674.570 | 362.700 | 1.580 | 364.280 | 21.60 | 6.61 | .68 | 364.96 | .00 | 1.58 | 2.41 | 2.500 | .000 | .00 | 1 .0 |
| 6.952 | .0050 | | | | .0051 | .04 | 1.58 | 1.00 | 1.60 | .013 | .00 | .00 | | PIPE |
| 1681.522 | 362.735 | 1.603 | 364.338 | 21.60 | 6.49 | .66 | 364.99 | .00 | 1.58 | 2.40 | 2.500 | .000 | .00 | 1 .0 |
| 82.368 | .0050 | | | | .0050 | .41 | 1.60 | .97 | 1.60 | .013 | .00 | .00 | | PIPE |
| WALL | ENTRANCE | | | | | | | | | | | | | |
| 1763.890 | 363.150 | 1.604 | 364.754 | 21.60 | 6.73 | .70 | 365.46 | .00 | 1.54 | 2.00 | 3.000 | 2.000 | .00 | 0 .0 |


410
400
390
380
370
360
350
340
330
320
310
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00
11+00
12+00
13+00
14+00
14+14
15+00
FINISH SURFACE
EX. GROUND
TOP OF REFUSE
BOT. OF REFUSE
TOP OF FOUNDATION
EX. GROUND
TOP OF FOUNDATION
3+67.38
376.92 RIM
HDPE MANHOLE
4+29.85
377.39 RIM
HDPE MANHOLE
7+92.16
386.44 RIM
HDPE MANHOLE
12+99.98
380.91 RIM
HDPE MANHOLE
14+14.10
375.68 RIM
HDPE MANHOLE
1+85.17 363.88 INV
3+66.05 364.81 INV
3+68.71 365.36 INV
4+28.52 365.66 INV
4+31.19 366.69 INV
7+90.82 368.49 INV
7+93.49 368.97 INV
12+98.65 371.49 INV
13+01.32 371.51 INV
14+12.77
372.07 INV
S=0.0050
S=0.0050
S=0.0050
S=0.0050
S=0.0050
2.89 AC-FT UNDERGROUND DETENTION
180.88 LF 48" HDPE
59.81LF 42"HDPE
359.64 LF 30" HDPE
505.16 LF 24" HDPE
111.45 LF 24" HDPE
STORM DRAIN (SD-1) LINE
PROFILE SCALE:
HORIZONTAL: 1"=40'
VERTICAL: 1"=8'


410
400
390
380
370
360
350
340
9+00
10+00
11+00
12+00
13+00
14+00
15+00
16+00
17+00
18+00
19+00
20+00
21+00
22+00
22+41
23+
FINISH SURFACE
EX. GROUND
TOP OF FOUNDATION
TOP OF REFUSE
BOT. OF REFUSE
S=0.0080
S=0.1832
11+75.73 385.40 INV
12+31.63 376.01 INV
12+34.29 376.25 INV
15+49.75 378.14 INV
15+52.41 376.15 INV
16+86.82 378.96 INV
16+89.49 379.48 INV
19+33.28 381.43 INV
19+35.95 381.45 INV
21+13.59 382.87 INV
21+16.26 382.89 INV
22+39.43 383.88 INV
12+32.96 385.96 RIM
15+51.08 386.43 RIM
16+88.16 383.56 RIM
19+34.62 387.73 RIM
21+14.92 387.86 RIM
22+40.76 387.95 RIM
2.89 AC-FT UNDERGROUND DETENTION
57.90 LF 30" HDPE
315.45 LF 30" HDPE
134.41 LF 30" HDPE
243.79 LF 24" HDPE
177.64 LF 24" HDPE
123.17 LF 24" HDPE
STORM DRAIN (SD-2) LINE
PROFILE SCALE:
HORIZONTAL: 1"=40'
VERTICAL: 1"=8'


Elevation
410
400
390
380
370
360
350
340
330
320
310
9+00
10+00
11+00
12+00
13+00
14+00
15+00
16+00
17+00
17+66
18+00
19+00
20+00
FINISH SURFACE
KEYSTONE RET. WALL
SPECIAL DESIGN REQUIRED TO ALLOW PIPE THRU WALL
EX. GROUND
EX. GROUND
FINISH SURFACE
S=0.1091
S=0.0050
S=0.0050
S=0.0050
12+02.34
381.88 RIM
13+91.07
384.34 RIM
16+77.07
370.24 RIM
17+66.39
368.58 RIM
10+00.00
338.16 INV
11+99.84
359.97 INV
12+04.84
360.36 INV
13+88.57
361.27 INV
13+93.57
361.30 INV
16+74.57
362.70 INV
16+79.57
362.73 INV
17+63.89
363.15 INV
199.84 LF 30" RCP
183.73 LF 30" RCP
281.00 LF 30" RCP
84.32 LF 30" RCP
STORM DRAIN (SD-3) LINE
PROFILE SCALE:
HORIZONTAL: 1"=40'
VERTICAL: 1"=8'

# APPENDIX "E"






| | Subarea | Area (acres) | Length (ft) | Slope (ft/ft) | Flow rate (cfs) |
|---|---|---|---|---|---|
| * | 1Ao | 7.4 | 0.2 | 50 | 23.2 |
| * | 2Ao | 1.8 | 0.75 | 50 | 5.6 |
| | 3F | 2.9 | 0.5 | 50 | 6.2 |
| | 4Bo | 1.5 | 0.2 | 50 | 4.7 |
| | 5Bo | 2.7 | 0.2 | 50 | 7.7 |
| | 6B | 29.2 | 0.75 | 50 | 49.1 |
| | 7Bo | 1.1 | 0.2 | 50 | 2.3 |
| | 8Bo | 6.3 | 0.2 | 50 | 15.5 |
| | 9B | 3.9 | 0.75 | 50 | 10.5 |
| | 10Bo | 1.7 | 0.2 | 50 | 4.5 |
| | 11B | 4.7 | 0.75 | 50 | 11.7 |
| | 12B | 2.5 | 0.2 | 50 | 7.9 |
| | 13B | 2.1 | 0.2 | 50 | 4.6 |
| * | 14B | 3 | 0.75 | 50 | 8.0 |
| | 15F | 5.1 | 0.2 | 50 | 8.2 |
| | 16F | 2.8 | 0.95 | 50 | 7.5 |

* AREAS THAT DRAIN TO CALTRANS ROW FROM PROJECT

| Summary Table - Existing Hydrology | | |
|---|---|---|
| | Acres | Flow (cfs) |
| Tributary Offsite SCE Flow | 13.3 | 34.7 |
| Ex. Flow to Caltrans ROW thru site | 12.2 | 36.8 |
| Ex. Flow in Caltrans ROW | 10.8 | 21.8 |
| Onsite Ex. Flow | 42.4 | 83.7 |
| | **78.7** | **177.1** |

LEGEND

SUBAREA DESCRIPTION / AREA SIZE — 10A / 2.1AC

LENGTH — L=500'

FLOW ARROW

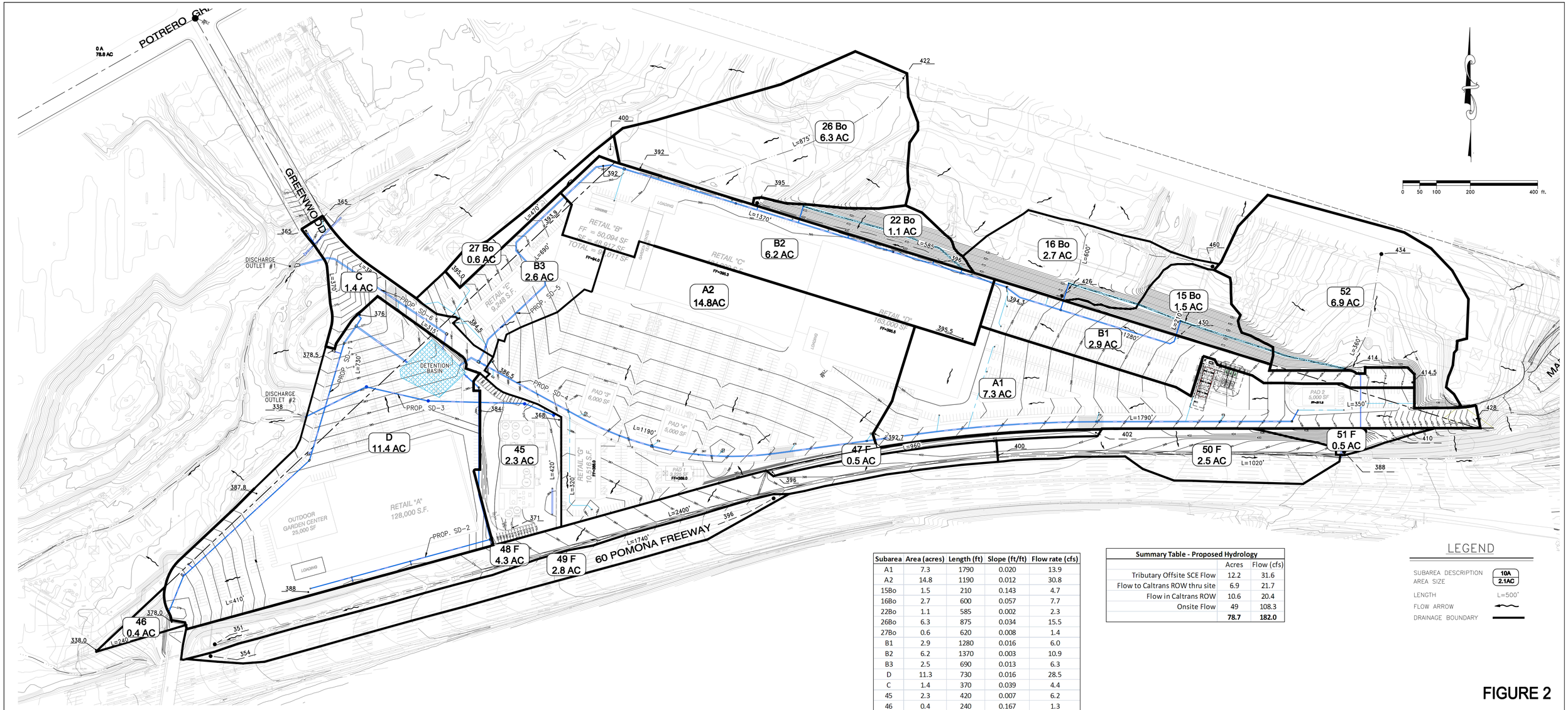
DRAINAGE BOUNDARY

0 75 150 300 600 ft.

# FIGURE 1

## MONTEREY PARK MARKET PLACE

## EXISTING HYDROLOGY MAP




| Subarea | Area (acres) | Length (ft) | Slope (ft/ft) | Flow rate (cfs) |
|---|---|---|---|---|
| A1 | 7.3 | 1790 | 0.020 | 13.9 |
| A2 | 14.8 | 1190 | 0.012 | 30.8 |
| 15Bo | 1.5 | 210 | 0.143 | 4.7 |
| 16Bo | 2.7 | 600 | 0.057 | 7.7 |
| 22Bo | 1.1 | 585 | 0.002 | 2.3 |
| 26Bo | 6.3 | 875 | 0.034 | 15.5 |
| 27Bo | 0.6 | 620 | 0.008 | 1.4 |
| B1 | 2.9 | 1280 | 0.016 | 6.0 |
| B2 | 6.2 | 1370 | 0.003 | 10.9 |
| B3 | 2.5 | 690 | 0.013 | 6.3 |
| D | 11.3 | 730 | 0.016 | 28.5 |
| C | 1.4 | 370 | 0.039 | 4.4 |
| 45 | 2.3 | 420 | 0.007 | 6.2 |
| 46 | 0.4 | 240 | 0.167 | 1.3 |
| 47F | 0.5 | 960 | 0.006 | 1.0 |
| 48F | 4.3 | 2550 | 0.019 | 6.9 |
| 49F | 2.8 | 1740 | 0.024 | 5.6 |
| 50F | 2.5 | 1020 | 0.012 | 5.3 |
| 51F | 0.5 | 110 | 0.200 | 1.6 |
| 52 | 6.9 | 360 | 0.056 | 21.7 |

| Summary Table - Proposed Hydrology | | |
|---|---|---|
| | Acres | Flow (cfs) |
| Tributary Offsite SCE Flow | 12.2 | 31.6 |
| Flow to Caltrans ROW thru site | 6.9 | 21.7 |
| Flow in Caltrans ROW | 10.6 | 20.4 |
| Onsite Flow | 49 | 108.3 |
| | **78.7** | **182.0** |

LEGEND

SUBAREA DESCRIPTION / AREA SIZE — 10A / 2.1AC

LENGTH — L=500'

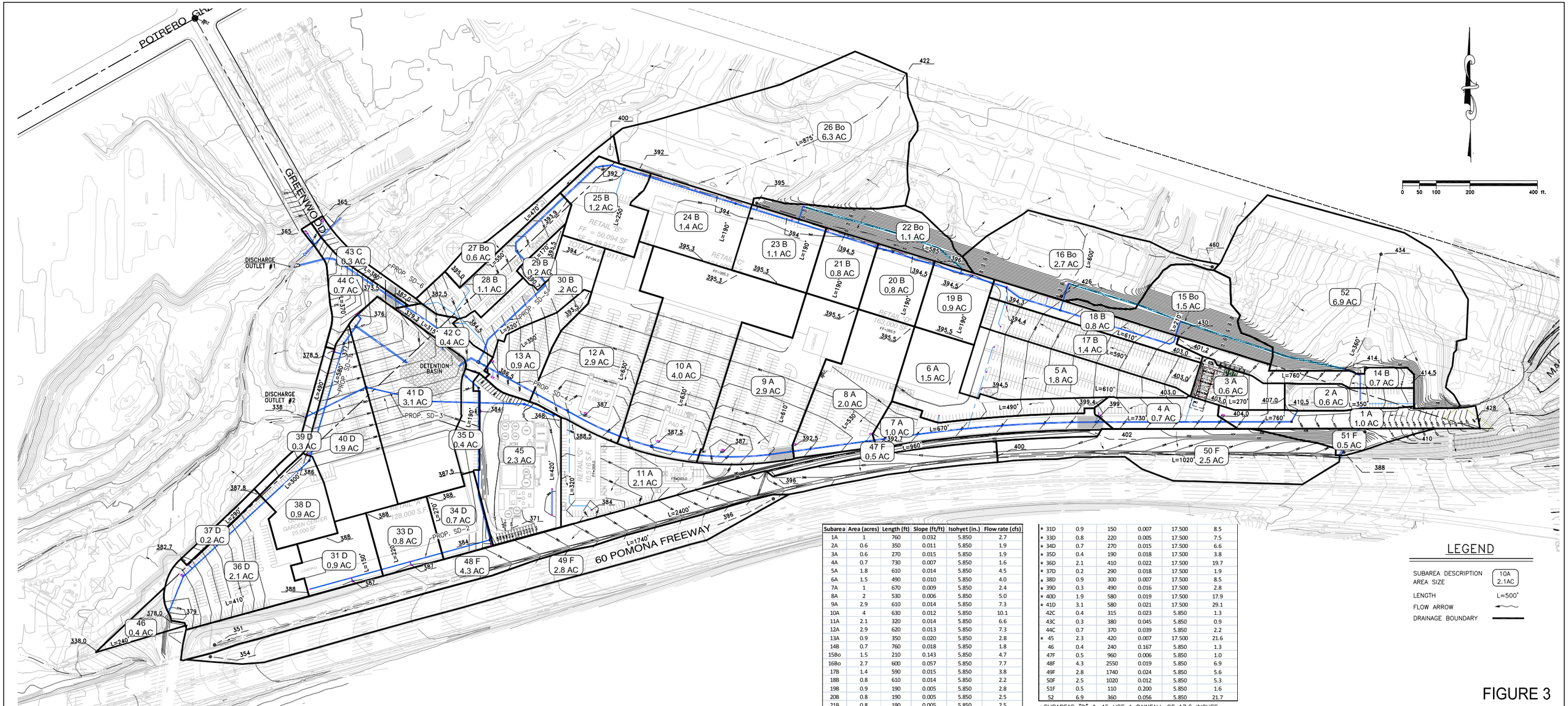
FLOW ARROW

DRAINAGE BOUNDARY

# FIGURE 2

## MONTEREY PARK MARKET PLACE

## PROPOSED HYDROLOGY MAP




| Subarea | Area (acres) | Length (ft) | Slope (ft/ft) | Isohyet (in.) | Flow rate (cfs) |
|---|---|---|---|---|---|
| 1A | 1 | 760 | 0.032 | 5.850 | 2.7 |
| 2A | 0.6 | 350 | 0.011 | 5.850 | 1.9 |
| 3A | 0.6 | 270 | 0.015 | 5.850 | 1.9 |
| 4A | 0.7 | 730 | 0.007 | 5.850 | 1.6 |
| 5A | 1.8 | 610 | 0.014 | 5.850 | 4.5 |
| 6A | 1.5 | 490 | 0.010 | 5.850 | 4.0 |
| 7A | 1 | 670 | 0.009 | 5.850 | 2.4 |
| 8A | 2 | 530 | 0.006 | 5.850 | 5.0 |
| 9A | 2.9 | 610 | 0.014 | 5.850 | 7.3 |
| 10A | 4 | 630 | 0.012 | 5.850 | 10.1 |
| 11A | 2.1 | 320 | 0.014 | 5.850 | 6.6 |
| 12A | 2.9 | 620 | 0.013 | 5.850 | 7.3 |
| 13A | 0.9 | 350 | 0.020 | 5.850 | 2.8 |
| 14B | 0.7 | 760 | 0.018 | 5.850 | 1.8 |
| 15Bo | 1.5 | 210 | 0.143 | 5.850 | 4.7 |
| 16Bo | 2.7 | 600 | 0.057 | 5.850 | 7.7 |
| 17B | 1.4 | 590 | 0.015 | 5.850 | 3.8 |
| 18B | 0.8 | 610 | 0.014 | 5.850 | 2.2 |
| 19B | 0.9 | 190 | 0.005 | 5.850 | 2.8 |
| 20B | 0.8 | 190 | 0.005 | 5.850 | 2.5 |
| 21B | 0.8 | 190 | 0.005 | 5.850 | 2.5 |
| 22Bo | 1.1 | 585 | 0.002 | 5.850 | 2.3 |
| 23B | 1.1 | 190 | 0.007 | 5.850 | 3.5 |
| 24B | 1.4 | 190 | 0.007 | 5.850 | 4.4 |
| 25B | 1.2 | 250 | 0.008 | 5.850 | 3.8 |
| 26Bo | 6.3 | 875 | 0.034 | 5.850 | 15.5 |
| 27Bo | 0.6 | 620 | 0.008 | 5.850 | 1.4 |
| 28B | 1.1 | 550 | 0.021 | 5.850 | 3.0 |
| 29B | 0.2 | 170 | 0.016 | 5.850 | 0.6 |
| 30B | 1.2 | 520 | 0.018 | 5.850 | 3.5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| * | 31D | 0.9 | 150 | 0.007 | 17.500 | 8.5 |
| * | 33D | 0.8 | 220 | 0.005 | 17.500 | 7.5 |
| * | 34D | 0.7 | 270 | 0.015 | 17.500 | 6.6 |
| * | 35D | 0.4 | 190 | 0.018 | 17.500 | 3.8 |
| * | 36D | 2.1 | 410 | 0.022 | 17.500 | 19.7 |
| * | 37D | 0.2 | 290 | 0.018 | 17.500 | 1.9 |
| * | 38D | 0.9 | 300 | 0.007 | 17.500 | 8.5 |
| * | 39D | 0.3 | 490 | 0.016 | 17.500 | 2.8 |
| * | 40D | 1.9 | 580 | 0.019 | 17.500 | 17.9 |
| * | 41D | 3.1 | 580 | 0.021 | 17.500 | 29.1 |
| | 42C | 0.4 | 315 | 0.023 | 5.850 | 1.3 |
| | 43C | 0.3 | 380 | 0.045 | 5.850 | 0.9 |
| | 44C | 0.7 | 370 | 0.039 | 5.850 | 2.2 |
| * | 45 | 2.3 | 420 | 0.007 | 17.500 | 21.6 |
| | 46 | 0.4 | 240 | 0.167 | 5.850 | 1.3 |
| | 47F | 0.5 | 960 | 0.006 | 5.850 | 1.0 |
| | 48F | 4.3 | 2550 | 0.019 | 5.850 | 6.9 |
| | 49F | 2.8 | 1740 | 0.024 | 5.850 | 5.6 |
| | 50F | 2.5 | 1020 | 0.012 | 5.850 | 5.3 |
| | 51F | 0.5 | 110 | 0.200 | 5.850 | 1.6 |
| | 52 | 6.9 | 360 | 0.056 | 5.850 | 21.7 |

*SUBAREAS "D" & 45 USE A RAINFALL OF 17.5 INCHES TO ACCOUNT FOR PROBABLE MAXIMUM PRECIPITATION (PMP)

| Summary Table - Proposed PMP Hydrology | | |
|---|---|---|
| | Acres | Flow (cfs) |
| Tributary Offsite SCE Flow | 12.2 | 31.6 |
| Flow to Caltrans ROW thru site | 6.9 | 21.7 |
| Flow in Caltrans ROW | 10.6 | 20.4 |
| Onsite Flow | 49 | 225.8 |
| | **78.7** | **299.5** |

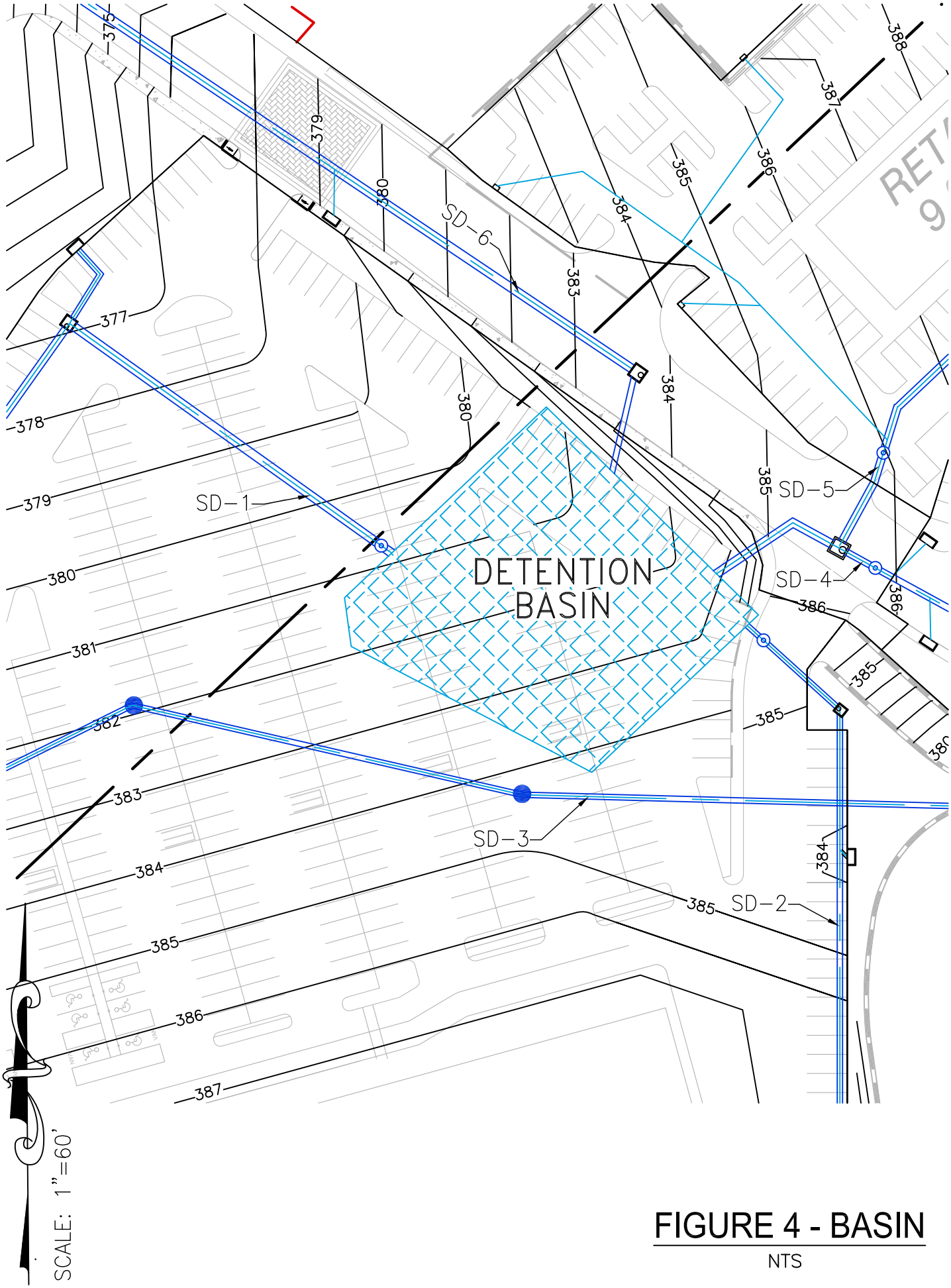
## LEGEND

SUBAREA DESCRIPTION
AREA SIZE — 10A 2.1AC
LENGTH — L=500'
FLOW ARROW
DRAINAGE BOUNDARY

FIGURE 3

MONTEREY PARK MARKET PLACE

HYDROLOGY MAP
PROBABLE MAXIMUM PRECIPITATION




# FIGURE 4 - BASIN

NTS