

JANUARY 26, 1999

# SUPPLEMENTAL CALCULATIONS

FOR

JEFFERSON COMMONS II

Lot 6 (portion)

Bank / Retail / Office

Albuquerque, New Mexico

BY



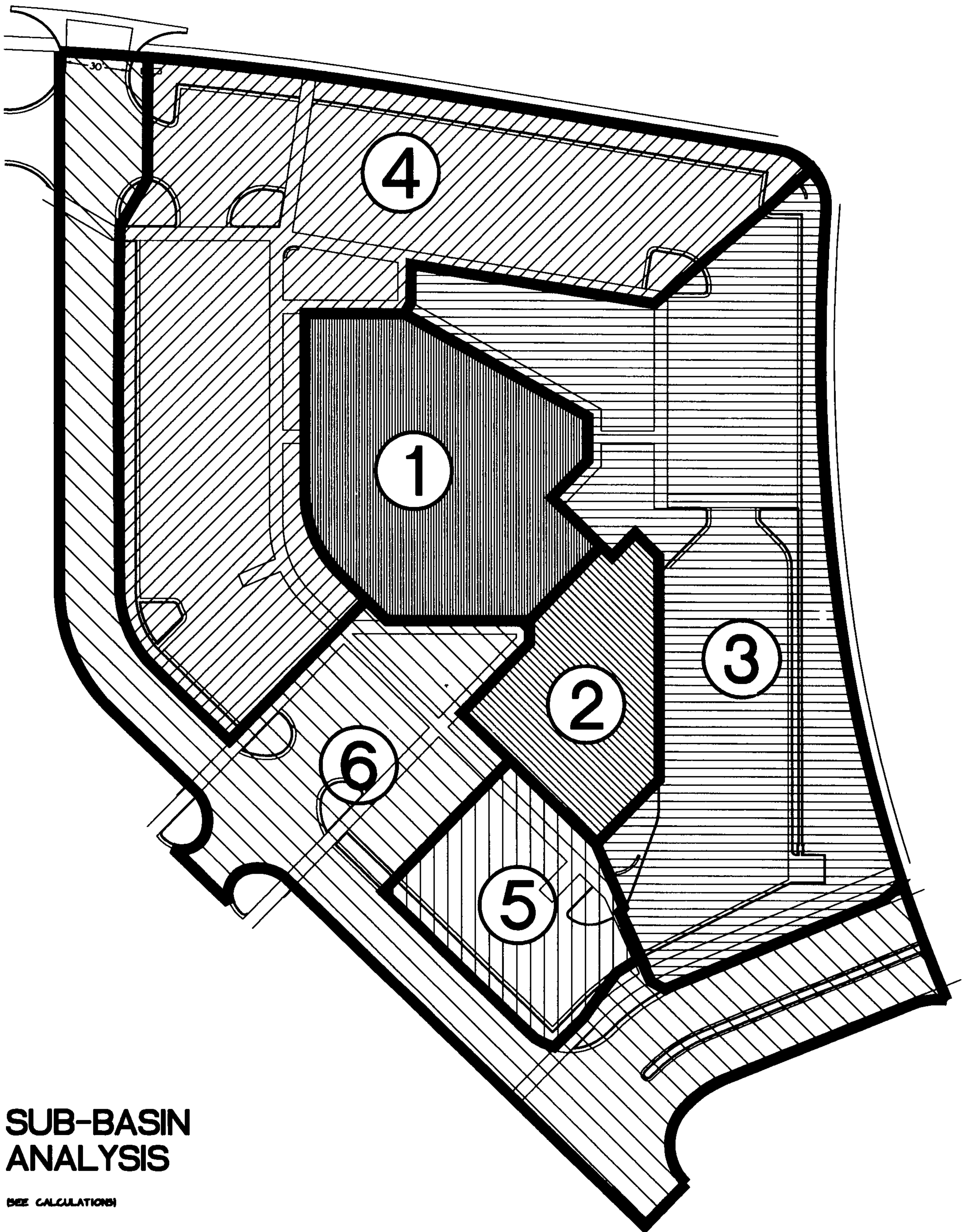
C.L. WEISS ENGINEERING, INC.

Alvarado Office: 1100 Alvarado Dr. NE, Albuquerque, NM 87110 \* Phone / Fax 266-3444  
East Mountain Office: P.O. Box 97, Sandia Park, NM 87047 \* Phone / Fax 281-1800

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## SUB-BASIN ANALYSIS

(SEE CALCULATIONS)

**CALCULATIONS:**

Calculations are based on the Drainage Design Criteria for City of Albuquerque, Section 22.2, DPM, Vol 2, dated Jan., 1993

**ON-SITE**

**AREA OF SITE:** 142648 SF = 3.275 Ac.

**HISTORIC FLOWS:**

On-Site Historic Land Condition

|            |   |                                                                         |    |
|------------|---|-------------------------------------------------------------------------|----|
| Area a     | = | <span style="border: 1px solid black; padding: 2px 20px;">0</span>      | SF |
| Area b     | = | <span style="border: 1px solid black; padding: 2px 20px;">0</span>      | SF |
| Area c     | = | <span style="border: 1px solid black; padding: 2px 20px;">142648</span> | SF |
| Area d     | = | <span style="border: 1px solid black; padding: 2px 20px;">0</span>      | SF |
| Total Area | = | <span style="border: 1px solid black; padding: 2px 20px;">142648</span> | SF |

**DEVELOPED FLOWS:**

On-Site Developed Land Condition

|            |   |                                                                         |    |
|------------|---|-------------------------------------------------------------------------|----|
| Area a     | = | <span style="border: 1px solid black; padding: 2px 20px;">0</span>      | SF |
| Area b     | = | <span style="border: 1px solid black; padding: 2px 20px;">28135</span>  | SF |
| Area c     | = | <span style="border: 1px solid black; padding: 2px 20px;">0</span>      | SF |
| Area d     | = | <span style="border: 1px solid black; padding: 2px 20px;">114513</span> | SF |
| Total Area | = | <span style="border: 1px solid black; padding: 2px 20px;">142648</span> | SF |

**EXCESS PRECIPITATION:**

|              |                                                                    |
|--------------|--------------------------------------------------------------------|
| Precip. Zone | <span style="border: 1px solid black; padding: 2px 20px;">2</span> |
| Ea           | = 0.53                                                             |
| Eb           | = 0.78                                                             |
| Ec           | = 1.13                                                             |
| Ed           | = 2.12                                                             |

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted E} = \frac{EaAa + EbAb + EcAc + EdAd}{Aa + Ab + Ac + Ad}$$

|            |   |                                                                           |             |   |                                                                           |
|------------|---|---------------------------------------------------------------------------|-------------|---|---------------------------------------------------------------------------|
| Historic E | = | <span style="border: 1px solid black; padding: 2px 20px;">1.13 in.</span> | Developed E | = | <span style="border: 1px solid black; padding: 2px 20px;">1.86 in.</span> |
|------------|---|---------------------------------------------------------------------------|-------------|---|---------------------------------------------------------------------------|

On-Site Volume of Runoff:  $V_{360} = E \cdot A / 12$ 

|                    |   |                                                                        |    |                     |   |                                                                        |    |
|--------------------|---|------------------------------------------------------------------------|----|---------------------|---|------------------------------------------------------------------------|----|
| Historic $V_{360}$ | = | <span style="border: 1px solid black; padding: 2px 20px;">13433</span> | CF | Developed $V_{360}$ | = | <span style="border: 1px solid black; padding: 2px 20px;">22059</span> | CF |
|--------------------|---|------------------------------------------------------------------------|----|---------------------|---|------------------------------------------------------------------------|----|

On-Site Peak Discharge Rate:  $Q_p = Q_{pa}Aa + Q_{pb}Ab + Q_{pc}Ac + Q_{pd}Ad / 43,560$ 

For Precipitation Zone 2

|          |   |                                                                       |          |   |                                                                       |
|----------|---|-----------------------------------------------------------------------|----------|---|-----------------------------------------------------------------------|
| $Q_{pa}$ | = | <span style="border: 1px solid black; padding: 2px 20px;">1.56</span> | $Q_{pc}$ | = | <span style="border: 1px solid black; padding: 2px 20px;">3.14</span> |
| $Q_{pb}$ | = | <span style="border: 1px solid black; padding: 2px 20px;">2.28</span> | $Q_{pd}$ | = | <span style="border: 1px solid black; padding: 2px 20px;">4.70</span> |

|                |   |                                                                       |     |                 |   |                                                                       |     |
|----------------|---|-----------------------------------------------------------------------|-----|-----------------|---|-----------------------------------------------------------------------|-----|
| Historic $Q_p$ | = | <span style="border: 1px solid black; padding: 2px 20px;">10.3</span> | CFS | Developed $Q_p$ | = | <span style="border: 1px solid black; padding: 2px 20px;">13.8</span> | CFS |
|----------------|---|-----------------------------------------------------------------------|-----|-----------------|---|-----------------------------------------------------------------------|-----|

**SUB-BASIN 1 - ROOF FLOWS TO BE PIPED INTO INLET #2**

|                         |                                                                        |    |   |                                                                      |     |
|-------------------------|------------------------------------------------------------------------|----|---|----------------------------------------------------------------------|-----|
| Area of sub-basin flows | <span style="border: 1px solid black; padding: 2px 20px;">14417</span> | SF | = | <span style="border: 1px solid black; padding: 2px 20px;">0.3</span> | Ac. |
|-------------------------|------------------------------------------------------------------------|----|---|----------------------------------------------------------------------|-----|

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

|            |   |                                                                           |
|------------|---|---------------------------------------------------------------------------|
| Weighted E | = | <span style="border: 1px solid black; padding: 2px 20px;">2.12 in.</span> |
|------------|---|---------------------------------------------------------------------------|

Sub-basin Volume of Runoff (see formula above)

|           |   |                                                                       |    |
|-----------|---|-----------------------------------------------------------------------|----|
| $V_{360}$ | = | <span style="border: 1px solid black; padding: 2px 20px;">2547</span> | CF |
|-----------|---|-----------------------------------------------------------------------|----|

Sub-basin Peak Discharge Rate: (see formula above)

|       |   |                                                                      |     |
|-------|---|----------------------------------------------------------------------|-----|
| $Q_p$ | = | <span style="border: 1px solid black; padding: 2px 20px;">1.6</span> | cfs |
|-------|---|----------------------------------------------------------------------|-----|

| TREATMENT |      |
|-----------|------|
| A =       | 0%   |
| B =       | 0%   |
| C =       | 0%   |
| D =       | 100% |

**SUB-BASIN 2 - ROOF FLOWS TO BE PIPED INTO INLET #3**

|                         |                                                                       |    |   |                                                                      |     |
|-------------------------|-----------------------------------------------------------------------|----|---|----------------------------------------------------------------------|-----|
| Area of sub-basin flows | <span style="border: 1px solid black; padding: 2px 20px;">7433</span> | SF | = | <span style="border: 1px solid black; padding: 2px 20px;">0.2</span> | Ac. |
|-------------------------|-----------------------------------------------------------------------|----|---|----------------------------------------------------------------------|-----|

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

|            |   |                                                                           |
|------------|---|---------------------------------------------------------------------------|
| Weighted E | = | <span style="border: 1px solid black; padding: 2px 20px;">2.12 in.</span> |
|------------|---|---------------------------------------------------------------------------|

Sub-basin Volume of Runoff (see formula above)

|           |   |                                                                       |    |
|-----------|---|-----------------------------------------------------------------------|----|
| $V_{360}$ | = | <span style="border: 1px solid black; padding: 2px 20px;">1313</span> | CF |
|-----------|---|-----------------------------------------------------------------------|----|

Sub-basin Peak Discharge Rate: (see formula above)

|       |   |                                                                      |     |
|-------|---|----------------------------------------------------------------------|-----|
| $Q_p$ | = | <span style="border: 1px solid black; padding: 2px 20px;">0.8</span> | cfs |
|-------|---|----------------------------------------------------------------------|-----|

| TREATMENT |      |
|-----------|------|
| A =       | 0%   |
| B =       | 0%   |
| C =       | 0%   |
| D =       | 100% |

**SUB-BASIN 3 - TO BE ROUTED INTO PROPOSED ON-SITE STORM DRAIN INLET #1**

Area of sub-basin flows 

|       |    |
|-------|----|
| 35621 | SF |
|-------|----|

 = 

|     |     |
|-----|-----|
| 0.8 | Ac. |
|-----|-----|

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

|            |   |          |
|------------|---|----------|
| Weighted E | = | 1.57 in. |
|------------|---|----------|

Sub-basin Volume of Runoff (see formula above)

|      |   |         |
|------|---|---------|
| V360 | = | 4662 CF |
|------|---|---------|

Sub-basin Peak Discharge Rate: (see formula above)

|    |   |         |
|----|---|---------|
| Qp | = | 3.0 cfs |
|----|---|---------|

| TREATMENT |     |
|-----------|-----|
| A =       | 0%  |
| B =       | 41% |
| C =       | 0%  |
| D =       | 59% |

using orifice equation  $Q=CA * (2gh)^{0.5}$

|   |   |       |
|---|---|-------|
| C | = | 0.6   |
| A | = | 4.80  |
| g | = | 32.2  |
| h | = | 0.5   |
| Q | = | 16.34 |

Note: Area (A) at left, is based on the open area of a single COA Albuquerque Grate. Based on calculations shown, a single inlet with a head of 0.5' will accept 16.3 cfs. In order to provide for clogging conditions, it must be assumed that the grate will be 50% restricted or 8.1 cfs > 3.0 cfs required. OK

**SUB-BASIN 4 - TO BE ROUTED INTO PROPOSED ON-SITE STORM DRAIN INLET #2**

Area of sub-basin flows 

|       |    |
|-------|----|
| 40083 | SF |
|-------|----|

 = 

|     |     |
|-----|-----|
| 0.9 | Ac. |
|-----|-----|

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

|            |   |          |
|------------|---|----------|
| Weighted E | = | 1.84 in. |
|------------|---|----------|

Sub-basin Volume of Runoff (see formula above)

|      |   |         |
|------|---|---------|
| V360 | = | 6141 CF |
|------|---|---------|

Sub-basin Peak Discharge Rate: (see formula above)

|    |   |         |
|----|---|---------|
| Qp | = | 3.9 cfs |
|----|---|---------|

| TREATMENT |     |
|-----------|-----|
| A =       | 0%  |
| B =       | 21% |
| C =       | 0%  |
| D =       | 79% |

Based on Neenah Test Data using the formula  $Q = k * D^{5/3}$

|                |   |      |
|----------------|---|------|
| S <sub>T</sub> | = | 0.04 |
| S <sub>L</sub> | = | 0.01 |
| k              | = | 20   |
| D at gutter    | = | 0.35 |
| Q              | = | 3.48 |

Note: Area (A) at left, is based on the open area of a single COA Alternate Grate (= Neenah R-3578, Vane Type L). Calculations show the inlet will accept 3.5 cfs < 3.9 cfs required. Excess flows during major storm events will bypass the inlet and will be picked up at the street inlet #4.

**SUB-BASIN 5 - TO BE ROUTED INTO PROPOSED ON-SITE STORM DRAIN INLET #3**

Area of sub-basin flows 8046 SF = 0.2 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.84 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 1233 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 0.8 cfs

| TREATMENT |     |
|-----------|-----|
| A =       | 0%  |
| B =       | 21% |
| C =       | 0%  |
| D =       | 79% |

Based on Neenah Test Data using the formula  $Q = k * D^{5/3}$

$S_T = 0.04$

$S_L = 0.01$

$k = 20$

D at gutter = 0.2

Q = 1.37

Note: Area (A) at left, is based on the open area of a single COA Alternate Grate (= Neenah R-3578, Vane Type L). Calculations show the inlet will accept 1.4 cfs > 0.8 cfs required. Any flows which pass the inlet will be picked up at the street inlet #4.

**SUB-BASIN 6 - TO DRAIN INTO PROPOSED ON-SITE STORM DRAIN INLET #4**

Area of sub-basin flows 37065 SF = 0.9 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 2.00 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 6176 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 3.8 cfs

| TREATMENT |     |
|-----------|-----|
| A =       | 0%  |
| B =       | 9%  |
| C =       | 0%  |
| D =       | 91% |

using orifice equation  $Q = CA * (2gh)^{0.5}$

C = 0.6

A = 4.80

g = 32.2

h = 0.5

Q = 16.34

Note: Area (A) at left, is based on the open area of a single COA Albuquerque Grate. Based on calculations shown, a single inlet with a head of 0.5' will accept 16.3 cfs. In order to provide for clogging conditions, it must be assumed that the grate will be 50% restricted or 8.1 cfs > 3.8 cfs required. Thus, this inlet has the capacity to capture any flows which pass inlets #2 and #3. OK

**SUMMARY**

|                                        |   |          |
|----------------------------------------|---|----------|
| Developed Discharge Rate - Sub-Basin 1 | = | 1.6 cfs  |
| Developed Discharge Rate - Sub-Basin 2 | = | 0.8 cfs  |
| Developed Discharge Rate - Sub-Basin 3 | = | 3.0 cfs  |
| Developed Discharge Rate - Sub-Basin 4 | = | 3.9 cfs  |
| Developed Discharge Rate - Sub-Basin 5 | = | 0.8 cfs  |
| Developed Discharge Rate - Sub-Basin 6 | = | 3.8 cfs  |
| Total Developed Discharge              | = | 13.8 cfs |

## Worksheet for Rectangular Channel

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### Project Description

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|              |                             |
|--------------|-----------------------------|
| Project File | c:\haestad\fmw\chantfsb.fm2 |
| Worksheet    | 'U' Shaped Concrete Channel |
| Flow Element | Rectangular Channel         |
| Method       | Manning's Formula           |
| Solve For    | Discharge                   |

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### Input Data

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|                      |                |
|----------------------|----------------|
| Mannings Coefficient | 0.013          |
| Channel Slope        | 0.005000 ft/ft |
| Depth                | 0.67 ft        |
| Bottom Width         | 1.00 ft        |

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### Results

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|                  |          |                 |
|------------------|----------|-----------------|
| Discharge        | 2.34     | cfs             |
| Flow Area        | 0.67     | ft <sup>2</sup> |
| Wetted Perimeter | 2.33     | ft              |
| Top Width        | 1.00     | ft              |
| Critical Depth   | 0.55     | ft              |
| Critical Slope   | 0.008104 | ft/ft           |
| Velocity         | 3.51     | ft/s            |
| Velocity Head    | 0.19     | ft              |
| Specific Energy  | 0.86     | ft              |
| Froude Number    | 0.76     |                 |

Flow is subcritical.

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### **Storm Sewer Summary Data**

Refer to the Hydroflow Plan View for an overall view of the Jefferson Commons II storm sewer (SS) system. The area being analyzed by this submittal references the Master Storm Sewer Lines 10 - 16 (existing) and SS lines 26 - 31 (proposed extension for First Security Bank site).

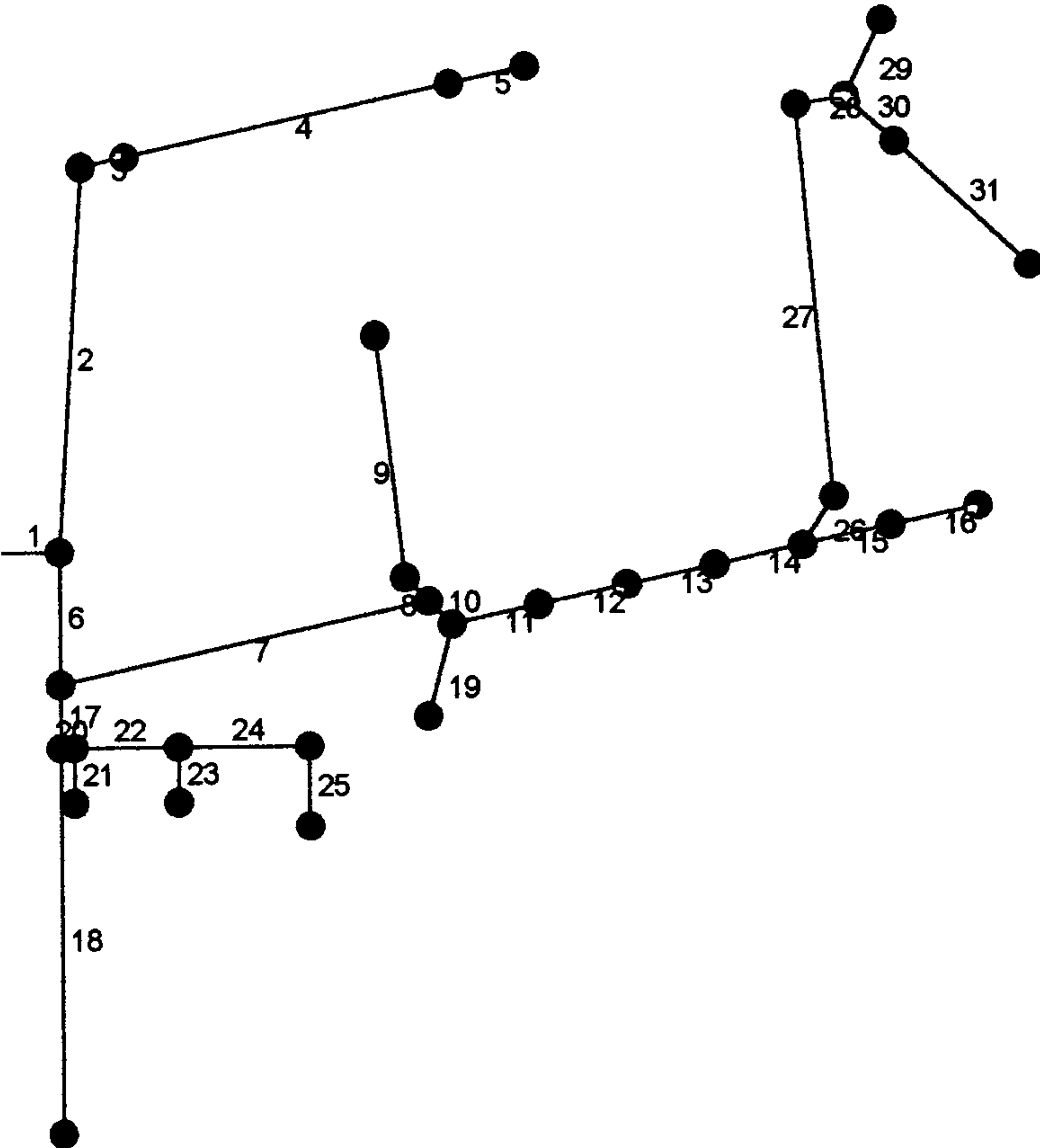
Flow distribution into the SS line, section 10 - 16, is picked up by inlets #'s 4B - 4G and was initially projected as 6 cfs/inlet, as defined in the Master Drainage Plan for JC II. As development of the adjacent lots progresses, flow rates are adjusted to reflect the basin redistribution draining to this reach of the SS.

As shown by the following data, the portion of Lot #6 being developed for the bank site will drain to an existing inlet, Inlet #4E, on the master storm sewer for Jefferson Commons II. Flow rate into this inlet from the proposed bank development will be 13.8 cfs. However, Inlets 4E, 4F and 4G each had been projected at 6 cfs/inlet, for a total flow rate downstream from Inlet 4E of 18 cfs. Flow from the as-yet adjacent undeveloped Lot 1, projected as 11 cfs, will be picked up by Inlets 4D, 4E, 4F and 4G. The final distribution into each inlet will have to be analyzed when Lot 1 is developed, but it is not unreasonable to assume at this time that the distribution into each inlet will be spread out among the four inlets, or 2.8 cfs/inlet. The only other area which would drain to any of these inlets would be the small area between the Jefferson St. access road and the landscaped zone. To account for this area, flow rates to each inlet were adjusted to 3 cfs/inlet for this analysis.

The following data summarizes the effect on this redistribution of flows into this reach of the existing SS system, identified as Line 10 through Line 16, which is situated between Lot 6 and Lots 1 - 2. As shown on the Summary report and SS Profile, the existing SS reach continues to operate under non-pressure conditions for the proposed redistribution of flows.

Following the data for the existing system is the proposed SS extension for the bank site, identified as Line 26 through 31. This reach of SS is expected to serve only the bank site, with the remaining Lot 6 area drainage being picked up by other Master SS Inlets, # 2C, #4, and #'s 4A - 4D.

# Hydraflow Plan View

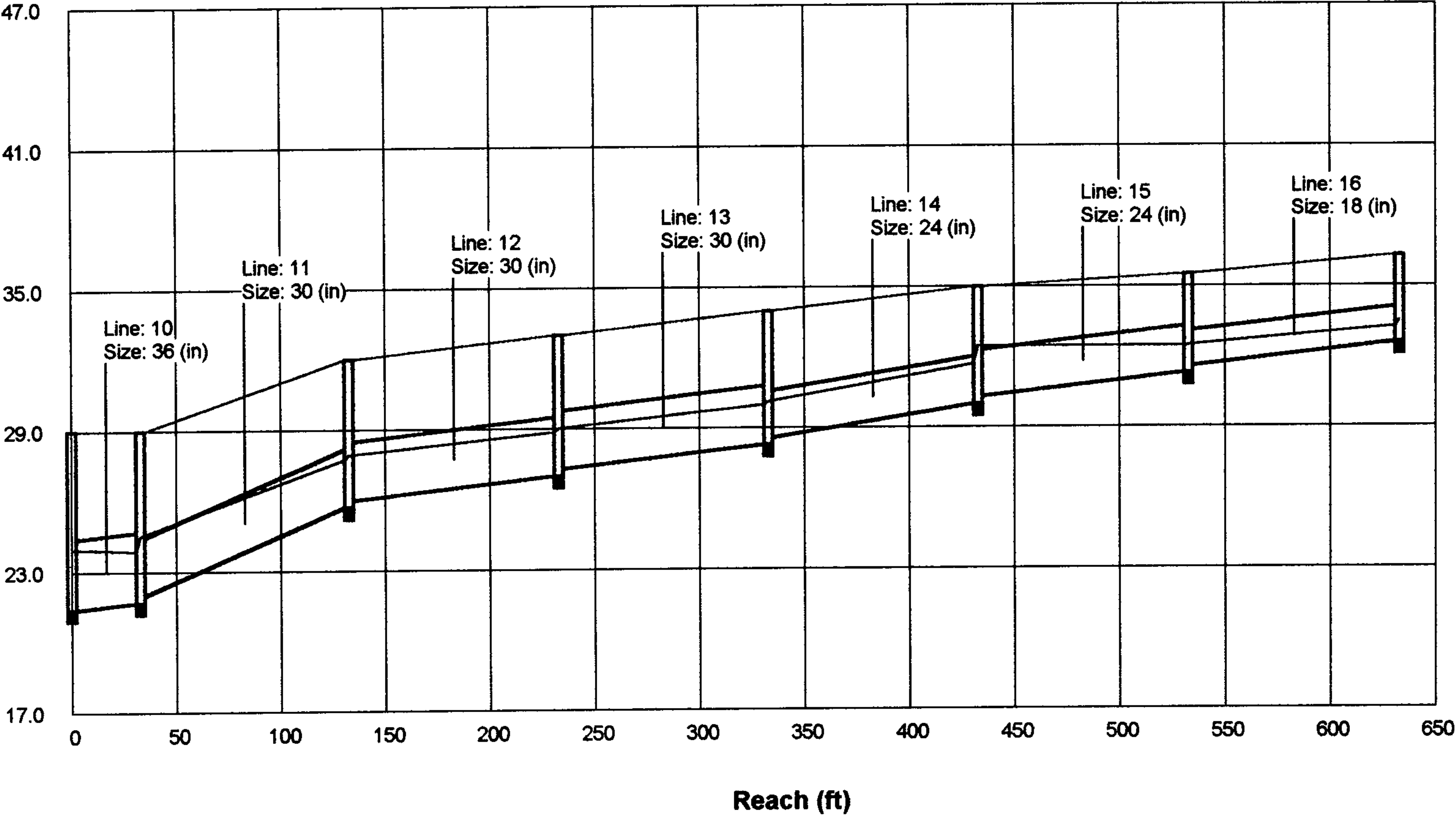


# Hydraflow Summary Report

| Line No.                                                                                                 | Line ID      | Flow rate (cfs) | Line size (in) | Line length (ft) | Invert EL Dn (ft) | Invert EL Up (ft)   | Line slope (%) | HGL down (ft) | HGL up (ft)          | Minor loss (ft) | Dns line No. |
|----------------------------------------------------------------------------------------------------------|--------------|-----------------|----------------|------------------|-------------------|---------------------|----------------|---------------|----------------------|-----------------|--------------|
| 10                                                                                                       | Inlet 4-MH 2 | 38.70           | 36 c           | 32.8             | 21.40             | 21.70               | 0.915          | 23.99         | 23.88                | 0.66            | 7            |
| 11                                                                                                       | MH2-Inlet 4B | 37.90           | 30 c           | 100.0            | 22.00             | 25.70               | 3.700          | 24.53         | 27.76                | 0.18            | 10           |
| 12                                                                                                       | Inlet 4B-4C  | 31.90           | 30 c           | 100.0            | 26.00             | 27.00               | 1.000          | 27.94         | 28.89                | 0.15            | 11           |
| 13                                                                                                       | Inlet 4C-4D  | 25.90           | 30 c           | 100.0            | 27.30             | 28.30               | 1.000          | 29.04         | 30.00                | 0.12            | 12           |
| 14                                                                                                       | Inlet 4D-4E  | 22.90           | 24 c           | 100.0            | 28.60             | 30.00               | 1.400          | 30.12         | 31.69                | 0.76            | 13           |
| 15                                                                                                       | Inlet 4E-4F  | 6.00            | 24 c           | 100.0            | 30.30             | 31.30               | 1.000          | 32.45         | 32.46                | 0.02            | 14           |
| 16                                                                                                       | Inlet 4F-4G  | 3.00            | 18 c           | 100.0            | 31.60             | 32.60               | 1.000          | 32.48         | 33.26                | 0.25            | 15           |
| Project File: Jcrev.stm                                                                                  |              |                 | I-D-F File: =  |                  |                   | Total No. Lines: 31 |                |               | Run Date: 01-22-1999 |                 |              |
| NOTES: c = circular; e = elliptical; b = box; Return period = 100 Yrs.; * Indicates surcharge condition. |              |                 |                |                  |                   |                     |                |               |                      |                 |              |

# Storm Sewer Profile

Elev. (ft)

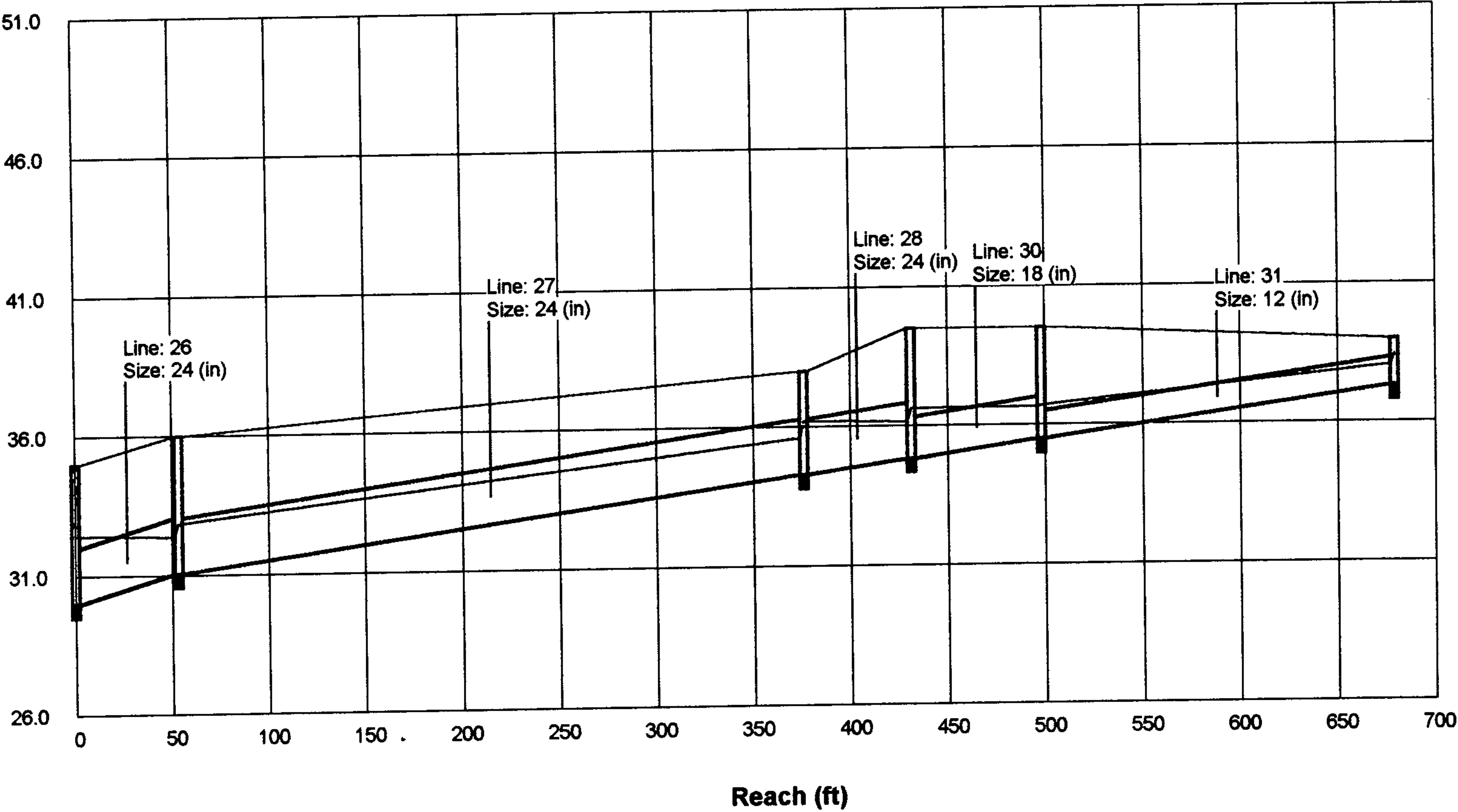


# Hydraflow Summary Report

| Line No.                                                                                                 | Line ID | Flow rate (cfs) | Line size (in) | Line length (ft) | Invert EL Dn (ft) | Invert EL Up (ft)   | Line slope (%) | HGL down (ft) | HGL up (ft)          | Minor loss (ft) | Dns line No. |
|----------------------------------------------------------------------------------------------------------|---------|-----------------|----------------|------------------|-------------------|---------------------|----------------|---------------|----------------------|-----------------|--------------|
| 26                                                                                                       | FSB 1   | 13.90           | 24 c           | 53.2             | 30.00             | 31.06               | 1.992          | 32.45         | 32.38                | 0.47            | 14           |
| 27                                                                                                       | FSB 2   | 13.90           | 24 c           | 322.6            | 31.06             | 34.29               | 1.001          | 32.85         | 35.61                | 0.62            | 26           |
| 28                                                                                                       | FSB 3   | 13.90           | 24 c           | 55.3             | 34.29             | 34.84               | 0.995          | 36.23         | 36.16                | 0.47            | 27           |
| 29                                                                                                       | FSB 4   | 5.50            | 18 c           | 74.4             | 34.84             | 35.58               | 0.995          | 36.63         | 36.71                | 0.23            | 28           |
| 30                                                                                                       | FSB 5   | 4.60            | 18 c           | 66.7             | 34.84             | 35.51               | 1.004          | 36.63         | 36.68                | 0.02            | 28           |
| 31                                                                                                       | FSB 6   | 3.00            | 12 c           | 181.2            | 35.51             | 37.32               | 0.999          | 36.70         | 38.06                | 0.36            | 30           |
| Project File: Jcrev.stm                                                                                  |         |                 | I-D-F File: =  |                  |                   | Total No. Lines: 31 |                |               | Run Date: 01-22-1999 |                 |              |
| NOTES: c = circular; e = elliptical; b = box; Return period = 100 Yrs.; * Indicates surcharge condition. |         |                 |                |                  |                   |                     |                |               |                      |                 |              |

# Storm Sewer Profile

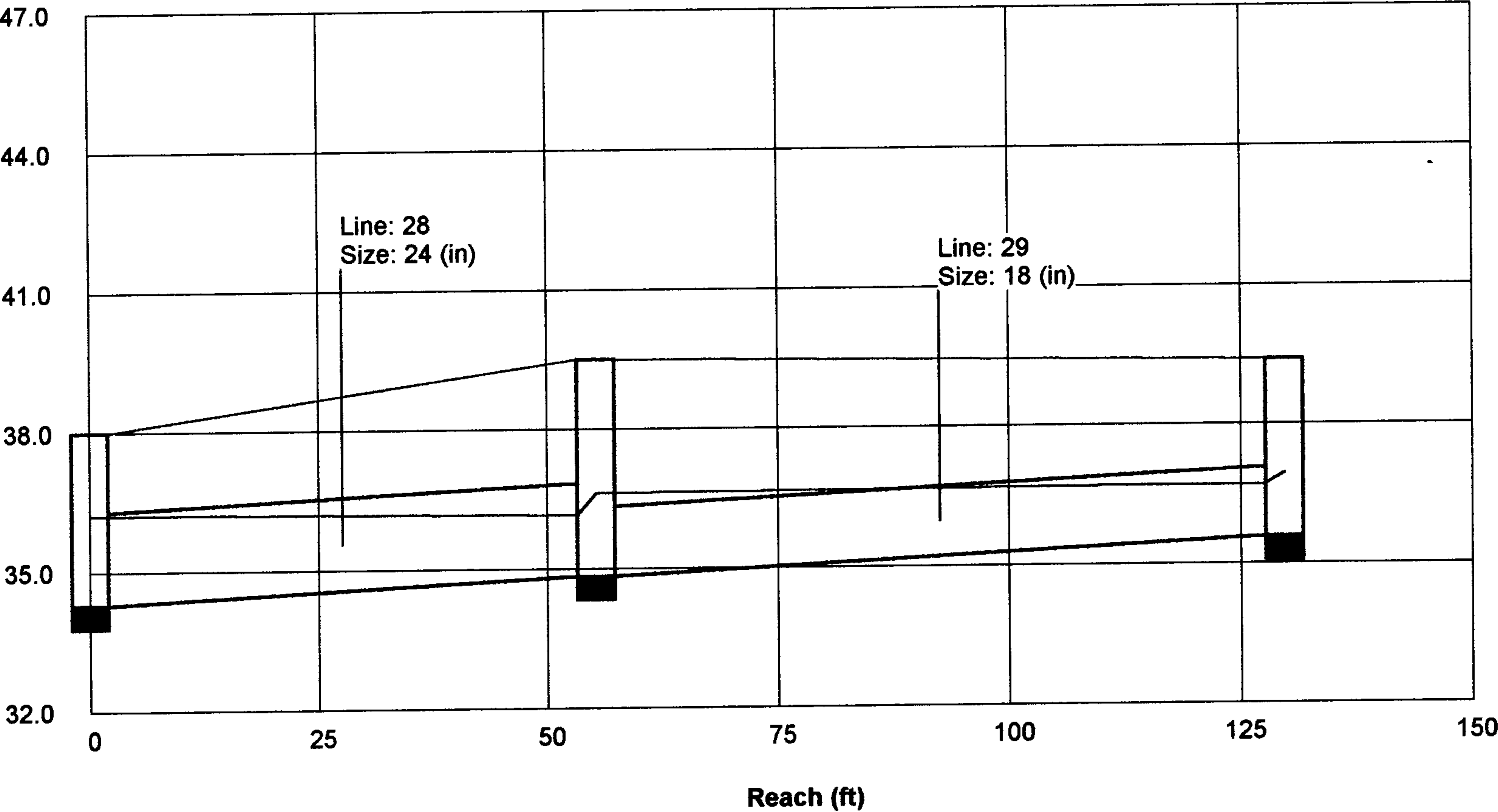
Elev. (ft)



# Storm Sewer Profile

Proj. file: Jcrev.stm

Elev. (ft)





# ***City of Albuquerque***

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 22, 2000

Chris Weiss, P.E.  
C.L. Weiss Engineering  
P.O. Box 97  
Sandia Park, NM 87047

***RE: JEFFERSON COMMONS II - FIRST SECURITY BANK, 5501 Jefferson NE (F17-D74). ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY APPROVAL. ENGINEER'S STAMP DATED JUNE 12, 2000.***

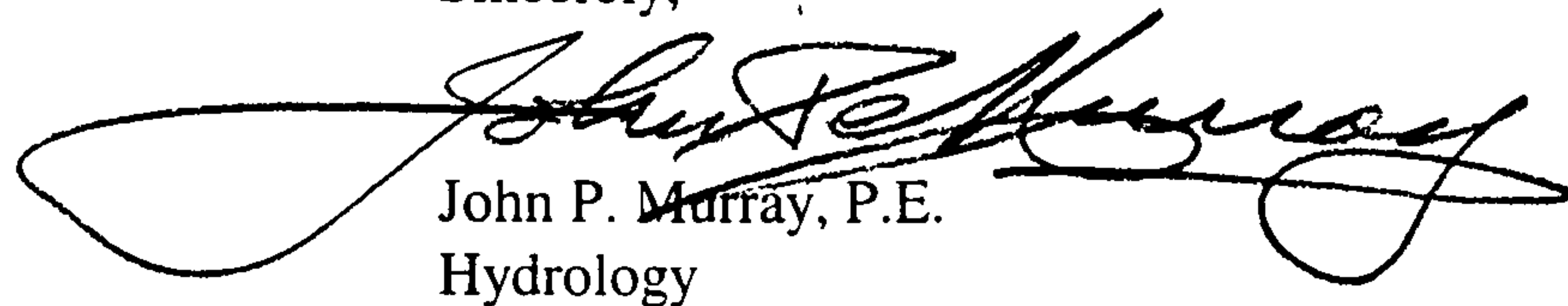
Dear Mr. Weiss:

Based on the information provided on your June 13, 2000 submittal, the above referenced project is approved for Certificate of Occupancy.

This submittal contains Supplemental Calculations for Jefferson Commons II, Lot 6 to which this completed project was actually built. A Temporary Certificate of Occupancy had been issued over a year ago. While not yet occupied, this Certification covers the Retail and Office portions of this complex.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

  
John P. Murray, P.E.  
Hydrology

c: Whitney Reiersen  
✓ File

**DRAINAGE INFORMATION SHEET**

PROJECT TITLE: Jefferson Commons II - First Security Bank ZONE ATLAS / DRNG. FILE #: F17-D74  
LEGAL DESCRIPTION: A portion of Parcel 6 - Digital Properties, Albuquerque, NM  
CITY ADDRESS: N/A 5501 Jefferson NE

|                                                    |                                |
|----------------------------------------------------|--------------------------------|
| ENGINEERING FIRM: <u>C.L. Weiss Engineering</u>    | CONTACT: <u>Chris Weiss</u>    |
| ADDRESS: <u>P.O. Box 97, Sandia Park NM, 87047</u> | PHONE: <u>281-1800</u>         |
| OWNER: <u>Chant and Associates</u>                 | CONTACT: <u>Greg Chant</u>     |
| ADDRESS: <u>5501 Midway Park Pl. NE</u>            | PHONE: <u>344-1633</u>         |
| ARCHITECT: <u>Berent Groth</u>                     | CONTACT: <u>Berent Groth</u>   |
| ADDRESS: <u>1100 Alvarado Dr. NE</u>               | PHONE: <u>266-6700</u>         |
| SURVEYOR: <u>Forstbauer Surveying Co.</u>          | CONTACT: <u>Ron Forstbauer</u> |
| ADDRESS: <u>1100 Alvarado Dr. NE - 87110</u>       | PHONE: <u>268-2112</u>         |
| CONTRACTOR FIRM: <u>N/A</u>                        | CONTACT: _____                 |
| ADDRESS: _____                                     | PHONE: _____                   |

**PRE-DESIGN MEETING:**

\_\_\_\_ YES  
\_\_\_\_ NO  
\_\_\_\_ COPY OF CONFERENCE RECAP SHEET PROVIDED

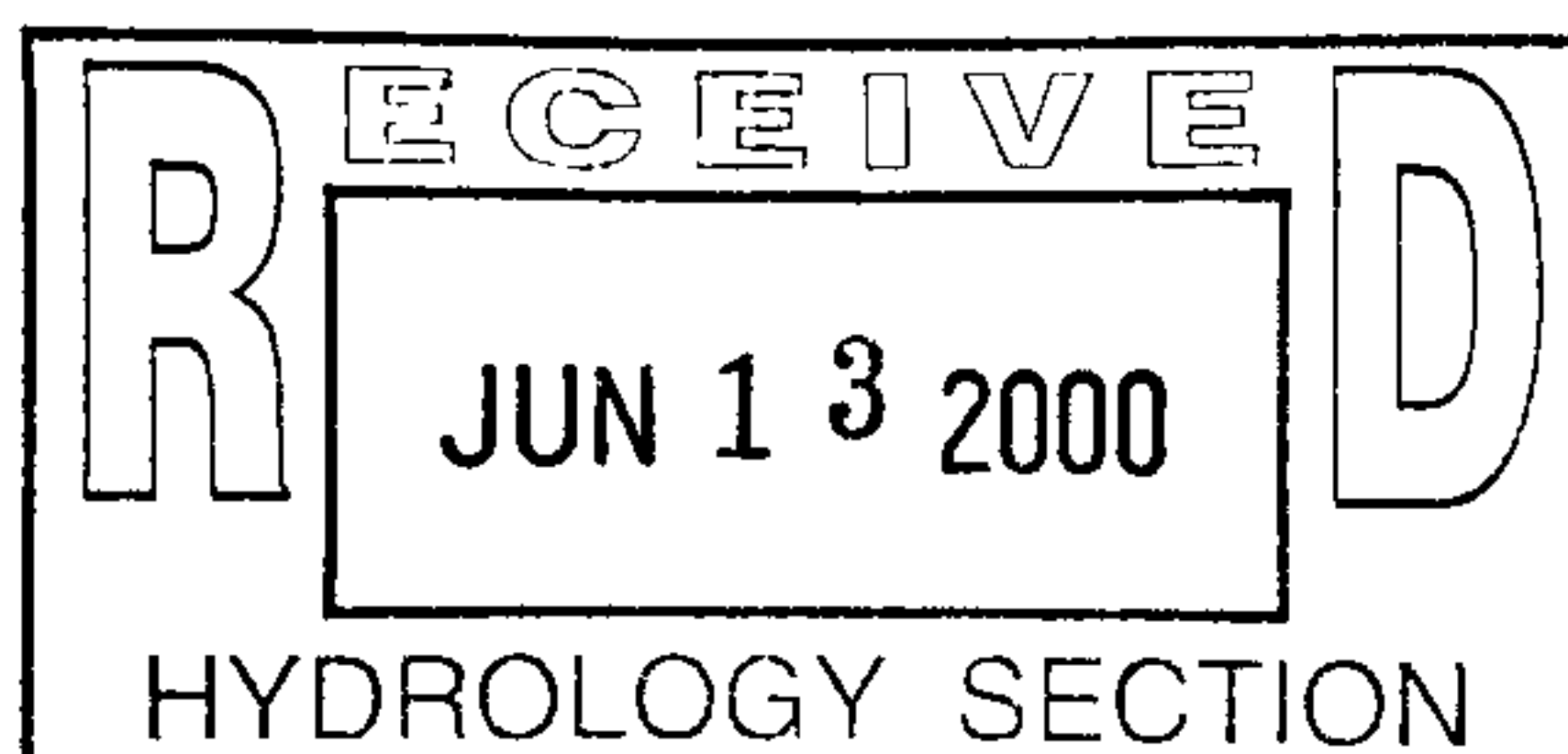
DRB NO. 97366  
EPC NO. 9720  
PROJ. NO. \_\_\_\_\_

**TYPE OF SUBMITTAL:**

\_\_\_\_ DRAINAGE REPORT  
X DRAINAGE PLAN  
\_\_\_\_ CONCEPTUAL GRADING & DRAINAGE PLAN  
X GRADING PLAN  
\_\_\_\_ EROSION CONTROL PLAN  
and X ENGINEER'S CERTIFICATION

**CHECK TYPE OF APPROVAL SOUGHT:**

\_\_\_\_ SKETCH PLAT  
\_\_\_\_ PRELIMINARY PLAT  
\_\_\_\_ SITE DEVELOPMENT PLAN  
\_\_\_\_ FINAL PLAT  
X BUILDING PERMIT  
\_\_\_\_ FOUNDATION PERMIT  
X CERT. OF OCCUPANCY (Temporary)  
\_\_\_\_ ROUGH GRADING PERMIT  
\_\_\_\_ GRADING / PAVING PERMIT  
\_\_\_\_ OTHER \_\_\_\_\_



DATE SUBMITTED: June 12, 2000 - RESUBMITTAL  
BY: C.L. Weiss Engineering, Inc.

5501

Jefferson  
NE

60-day 6/19



C.L. Weiss Engineering, Inc  
Post Office Box 97  
Sandia Park, N.M. 87047

Phone / Fax (505) 281-1800  
Alvarado Office (505) 266-3444

June 13, 2000

Mr. John Murray, P.E.  
C.O.A. Hydrology Dept.  
P.O. Box 1293  
Albuquerque, New Mexico 87 103

RE: AS-BUILT DATA FOR TEMPORARY CERTIFICATE OF OCCUPANCY

Dear Mr. Murray:

Enclosed with this letter is one copy of the revised grading plan and supplemental information for the SS system for the above referenced project. Since obtaining building permit approval, the storm drainage system shown on the City file copy underwent some revisions to simplify the design and adapt some cost saving parameters at the request of the client. We provided the redesign to the client and the project was completed based on that plan. When the client recently request drainage certification for temporary C.O., we realized that the SS revisions had never been submitted to the City. We sincerely apologize for this oversight. In order to get the revisions current with the pending final certification, we are asking for review and approvals of the attached grading / drainage plan.

Sub-basin data establishing peak flow rates previously submitted with the original plan remains unchanged, except for sub-basins #9 and #10, which were combined to drain to a single inlet (inlet #4). This inlet had sufficient capacity for the total flow. Additional attachments include overall site information previously submitted for Lot 6, showing the relationship of the First Security Bank with other JCII improvements.

We are also including with this submittal, a current as-built of the site construction to request a temporary C.O. for the bank facility. Once the remainder of the site is complete, we will submit for final C.O. The construction thus far is in substantial compliance with this most recently submittal DG Plan.

Please don't hesitate to call me at 281-1800 with any questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Christopher L. Weiss". The signature is fluid and cursive, with the first name "Christopher" being more prominent than the last name "Weiss".

Christopher L. Weiss, P.E.  
C. L. Weiss, Engineering, Inc.

JUNE 12, 2000

# SUPPLEMENTAL CALCULATIONS

FOR

## JEFFERSON COMMONS II

### Lot 6 (portion)

Bank / Retail / Office

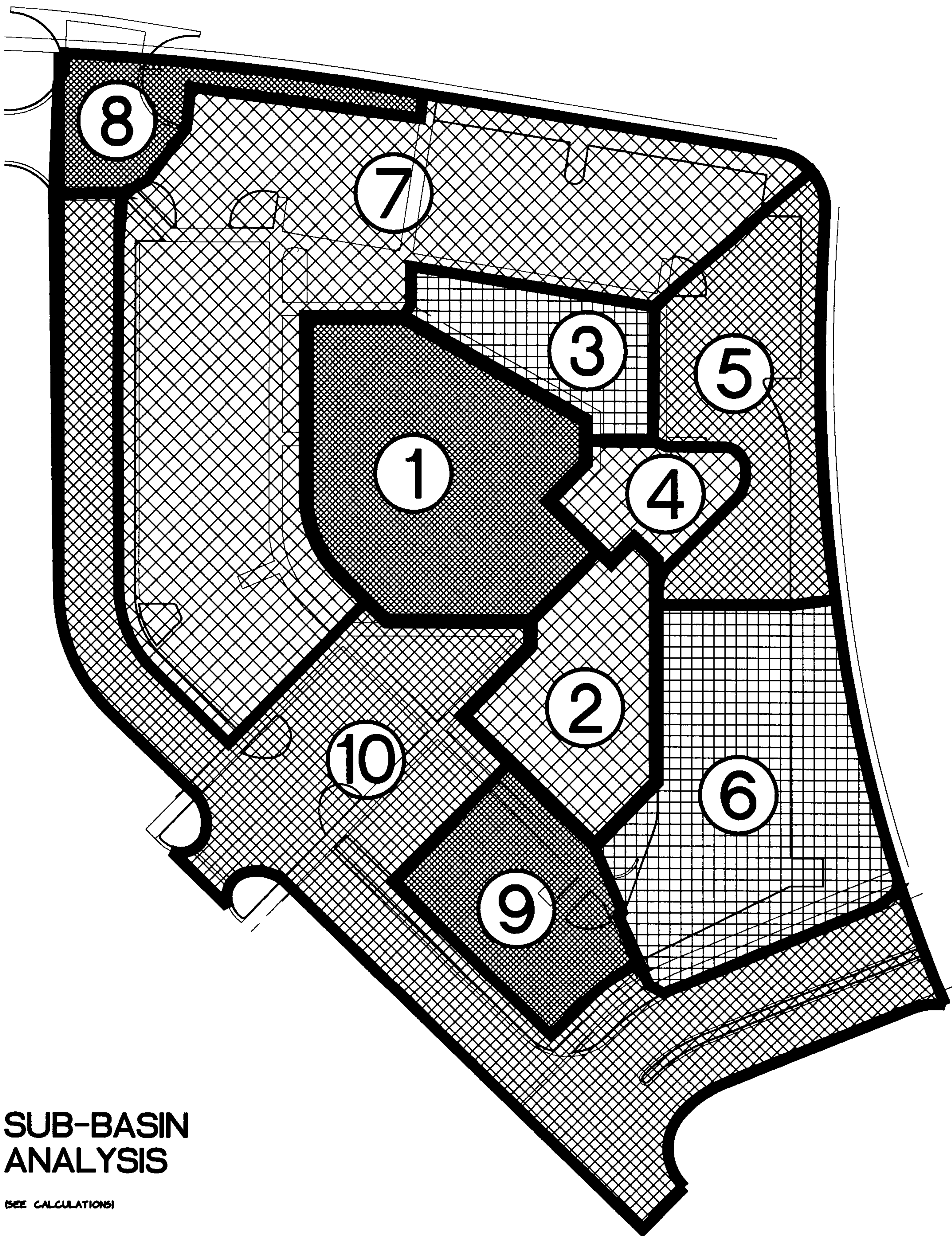
Albuquerque, New Mexico

BY



C.L. WEISS ENGINEERING, INC.

Alvarado Office: 1100 Alvarado Dr. NE, Albuquerque, NM 87110 \* Phone / Fax 266-3444  
East Mountain Office: P.O. Box 97, Sandia Park, NM 87047 \* Phone / Fax 281-1800



## SUB-BASIN ANALYSIS

(SEE CALCULATIONS)

**CALCULATIONS:**

Calculations are based on the Drainage Design Criteria for City of Albuquerque, Section 22.2, DPM, Vol 2, dated Jan., 1993

**ON-SITE**

AREA OF SITE: 142648 SF = 3.2747 Ac.

**HISTORIC FLOWS:**

On-Site Historic Land Condition

|            |   |        |    |
|------------|---|--------|----|
| Area a     | = | 0      | SF |
| Area b     | = | 0      | SF |
| Area c     | = | 142648 | SF |
| Area d     | = | 0      | SF |
| Total Area | = | 142648 | SF |

**DEVELOPED FLOWS:**

On-Site Developed Land Condition

|            |   |        |    |
|------------|---|--------|----|
| Area a     | = | 0      | SF |
| Area b     | = | 23980  | SF |
| Area c     | = | 0      | SF |
| Area d     | = | 118668 | SF |
| Total Area | = | 142648 | SF |

**EXCESS PRECIPITATION:**

|              |        |
|--------------|--------|
| Precip. Zone | 2      |
| Ea           | = 0.53 |
| Eb           | = 0.78 |
| Ec           | = 1.13 |
| Ed           | = 2.12 |

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

Weighted E =  $\frac{EaAa + EbAb + EcAc + EdAd}{Aa + Ab + Ac + Ad}$

|            |   |          |             |   |          |
|------------|---|----------|-------------|---|----------|
| Historic E | = | 1.13 in. | Developed E | = | 1.89 in. |
|------------|---|----------|-------------|---|----------|

On-Site Volume of Runoff: V360 =  $E \cdot A / 12$

|               |   |          |                |   |          |
|---------------|---|----------|----------------|---|----------|
| Historic V360 | = | 13433 CF | Developed V360 | = | 22523 CF |
|---------------|---|----------|----------------|---|----------|

On-Site Peak Discharge Rate:  $Qp = QpaAa + QpbAb + QpcAc + QpdAd / 43,560$

For Precipitation Zone 2

|     |   |      |     |   |      |
|-----|---|------|-----|---|------|
| Qpa | = | 1.56 | Qpc | = | 3.14 |
| Qpb | = | 2.28 | Qpd | = | 4.70 |

|             |   |          |              |   |          |
|-------------|---|----------|--------------|---|----------|
| Historic Qp | = | 10.3 CFS | Developed Qp | = | 14.1 CFS |
|-------------|---|----------|--------------|---|----------|

**SUB-BASIN 1 - ROOF FLOWS TO BE PIPED INTO INLET #6**

Area of sub-basin flows = 14417 SF = 0.3 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

|            |   |          |
|------------|---|----------|
| Weighted E | = | 2.12 in. |
|------------|---|----------|

Sub-basin Volume of Runoff (see formula above)

|      |   |         |
|------|---|---------|
| V360 | = | 2547 CF |
|------|---|---------|

Sub-basin Peak Discharge Rate: (see formula above)

|    |   |         |
|----|---|---------|
| Qp | = | 1.6 cfs |
|----|---|---------|

| TREATMENT |      |
|-----------|------|
| A =       | 0%   |
| B =       | 0%   |
| C =       | 0%   |
| D =       | 100% |

**SUB-BASIN 2 - ROOF FLOWS TO BE PIPED INTO INLET #5**

Area of sub-basin flows = 7433 SF = 0.2 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

|            |   |          |
|------------|---|----------|
| Weighted E | = | 2.12 in. |
|------------|---|----------|

Sub-basin Volume of Runoff (see formula above)

|      |   |         |
|------|---|---------|
| V360 | = | 1313 CF |
|------|---|---------|

Sub-basin Peak Discharge Rate: (see formula above)

|    |   |         |
|----|---|---------|
| Qp | = | 0.8 cfs |
|----|---|---------|

| TREATMENT |      |
|-----------|------|
| A =       | 0%   |
| B =       | 0%   |
| C =       | 0%   |
| D =       | 100% |

**SUB-BASIN 3 - TO BE ROUTED INTO PROPOSED ON-SITE STORM DRAIN INLET #1**

Area of sub-basin flows = 5092 SF = 0.1 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

|            |   |          |
|------------|---|----------|
| Weighted E | = | 0.97 in. |
|------------|---|----------|

Sub-basin Volume of Runoff (see formula above)

|      |   |        |
|------|---|--------|
| V360 | = | 411 CF |
|------|---|--------|

Sub-basin Peak Discharge Rate: (see formula above)

|    |   |         |
|----|---|---------|
| Qp | = | 0.3 cfs |
|----|---|---------|

| TREATMENT |     |
|-----------|-----|
| A =       | 0%  |
| B =       | 86% |
| C =       | 0%  |
| D =       | 14% |

using orifice equation  $Q=CA * (2gh)^{0.5}$

|   |   |      |
|---|---|------|
| C | = | 0.6  |
| A | = | 0.32 |
| g | = | 32.2 |
| h | = | 0.5  |
| Q | = | 1.09 |

Note: Area (A) at left, is based on the open area of a NDS 12" Round Grate (part no. 1250). Based on calculations shown, a single inlet with a head of 0.5' will accept 1.09 cfs. In order to provide for clogging conditions, it must be assumed that the grate will be 50% restricted or 0.5 cfs > 0.3 cfs required. OK

**SUB-BASIN 4 - TO BE ROUTED INTO PROPOSED ON-SITE STORM DRAIN INLET #2**

Area of sub-basin flows = 3336 SF = 0.1 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 0.90 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 250 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 0.2 cfs

| TREATMENT |     |
|-----------|-----|
| A =       | 0%  |
| B =       | 91% |
| C =       | 0%  |
| D =       | 9%  |

using orifice equation  $Q=CA * (2gh)^{0.5}$

|   |   |      |
|---|---|------|
| C | = | 0.6  |
| A | = | 0.32 |
| g | = | 32.2 |
| h | = | 0.5  |
| Q | = | 1.09 |

Note: Area (A) at left, is based on the open area of a NDS 12" Round Grate (part no. 1250). Based on calculations shown, a single inlet with a head of 0.5' will accept 1.09 cfs. In order to provide for clogging conditions, it must be assumed that the grate will be 50% restricted or 0.5 cfs > 0.3 cfs required. OK

**SUB-BASIN 5 - TO BE ROUTED INTO PROPOSED ON-SITE STORM DRAIN INLET #3**

Area of sub-basin flows = 11027 SF = 0.3 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.77 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 1628 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 1.0 cfs

| TREATMENT |     |
|-----------|-----|
| A =       | 0%  |
| B =       | 26% |
| C =       | 0%  |
| D =       | 74% |

using orifice equation  $Q=CA * (2gh)^{0.5}$

|   |   |       |
|---|---|-------|
| C | = | 0.6   |
| A | = | 4.80  |
| g | = | 32.2  |
| h | = | 0.5   |
| Q | = | 16.34 |

Note: Area (A) at left, is based on the open area of a single COA Albuquerque Grate. Based on calculations shown, a single inlet with a head of 0.5' will accept 16.3 cfs. In order to provide for clogging conditions, it must be assumed that the grate will be 50% restricted or 8.1 cfs > 1.0 cfs required. OK

**SUB-BASIN 6 - TO BE ROUTED INTO PROPOSED ON-SITE STORM DRAIN INLET #4**

Area of sub-basin flows = 16142 SF = 0.4 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 2.07 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 2780 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 1.7 cfs

| TREATMENT |     |
|-----------|-----|
| A =       | 0%  |
| B =       | 4%  |
| C =       | 0%  |
| D =       | 96% |

using orifice equation  $Q=CA * (2gh)^{0.5}$

|   |   |      |
|---|---|------|
| C | = | 0.6  |
| A | = | 4.80 |
| g | = | 32.2 |
| h | = | 0.5  |

Note: Area (A) at left, is based on the open area of a single COA Albuquerque Grate. Based on calculations shown, a single inlet with a head of 0.5' will accept 16.3 cfs. In order to provide for clogging conditions, it must be assumed that the grate will be 50% restricted or 8.1 cfs > 1.7 cfs required. OK

1.7 cfs required. OK

Q = 16.34

SUB-BASIN 7 - TO BE ROUTED INTO PROPOSED ON-SITE STORM DRAIN INLET #6

Area of sub-basin flows = 38157 SF = 0.9 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.89 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 6017 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 3.8 cfs

| TREATMENT |     |
|-----------|-----|
| A =       | 0%  |
| B =       | 17% |
| C =       | 0%  |
| D =       | 83% |

Based on Neenah Test Data using the formula  $Q = k * D^{5/3}$

|             |   |      |
|-------------|---|------|
| $S_T$       | = | 0.04 |
| $S_L$       | = | 0.01 |
| k           | = | 20   |
| D at gutter | = | 0.35 |
| Q           | = | 3.48 |

Note: Area (A) at left, is based on the open area of a single COA Alternate Grate (= Neenah R-3578, Vane Type L). Calculations show the inlet will accept 3.5 cfs < 3.8 cfs required. Excess flows during major storm events will bypass the inlet and will be picked up at the street inlet #7.

SUB-BASIN 8 - FLOWS TO BE DISCHARGED TO SINGER BLVD. AND ADJACENT LOT

Area of sub-basin flows = 4449 SF = 0.1 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.65 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 612 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 0.4 cfs

| TREATMENT |     |
|-----------|-----|
| A =       | 0%  |
| B =       | 35% |
| C =       | 0%  |
| D =       | 65% |

Note: Approximately 0.3 cfs will discharge to Singer Blvd. at the proposed site access drive. This will have an insignificant affect on downstream conditions. The remaining 0.1 cfs will discharge to the property to the west (continuation of Lot 6 - same owner) and will be addressed as part of the hydrology for that portion of the lot.

SUB-BASIN 9 - TO BE ROUTED INTO PROPOSED ON-SITE STORM DRAIN INLET #5

Area of sub-basin flows = 7047 SF = 0.2 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.97 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 1158 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 0.7 cfs

| TREATMENT |     |
|-----------|-----|
| A =       | 0%  |
| B =       | 11% |
| C =       | 0%  |
| D =       | 89% |

Based on Neenah Test Data using the formula  $Q = k * D^{5/3}$

|             |   |      |
|-------------|---|------|
| $S_T$       | = | 0.04 |
| $S_L$       | = | 0.01 |
| k           | = | 20   |
| D at gutter | = | 0.2  |
| Q           | = | 1.37 |

Note: Area (A) at left, is based on the open area of a single COA Alternate Grate (= Neenah R-3578, Vane Type L). Calculations show the inlet will accept 1.4 cfs > 0.7 cfs required. Any flows which pass the inlet will be picked up at the street inlet #7.

SUB-BASIN 10 - TO DRAIN INTO PROPOSED ON-SITE STORM DRAIN INLET #7

Area of sub-basin flows = 35779 SF = 0.8 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.96 in.

Sub-basin Volume of Runoff (see formula above)

| TREATMENT |    |
|-----------|----|
| A =       | 0% |

|                                                    |   |      |     |
|----------------------------------------------------|---|------|-----|
| V360                                               | = | 5842 | CF  |
| Sub-basin Peak Discharge Rate: (see formula above) |   |      |     |
| Qp                                                 | = | 3.6  | cfs |

|     |     |
|-----|-----|
| B = | 12% |
| C = | 0%  |
| D = | 88% |

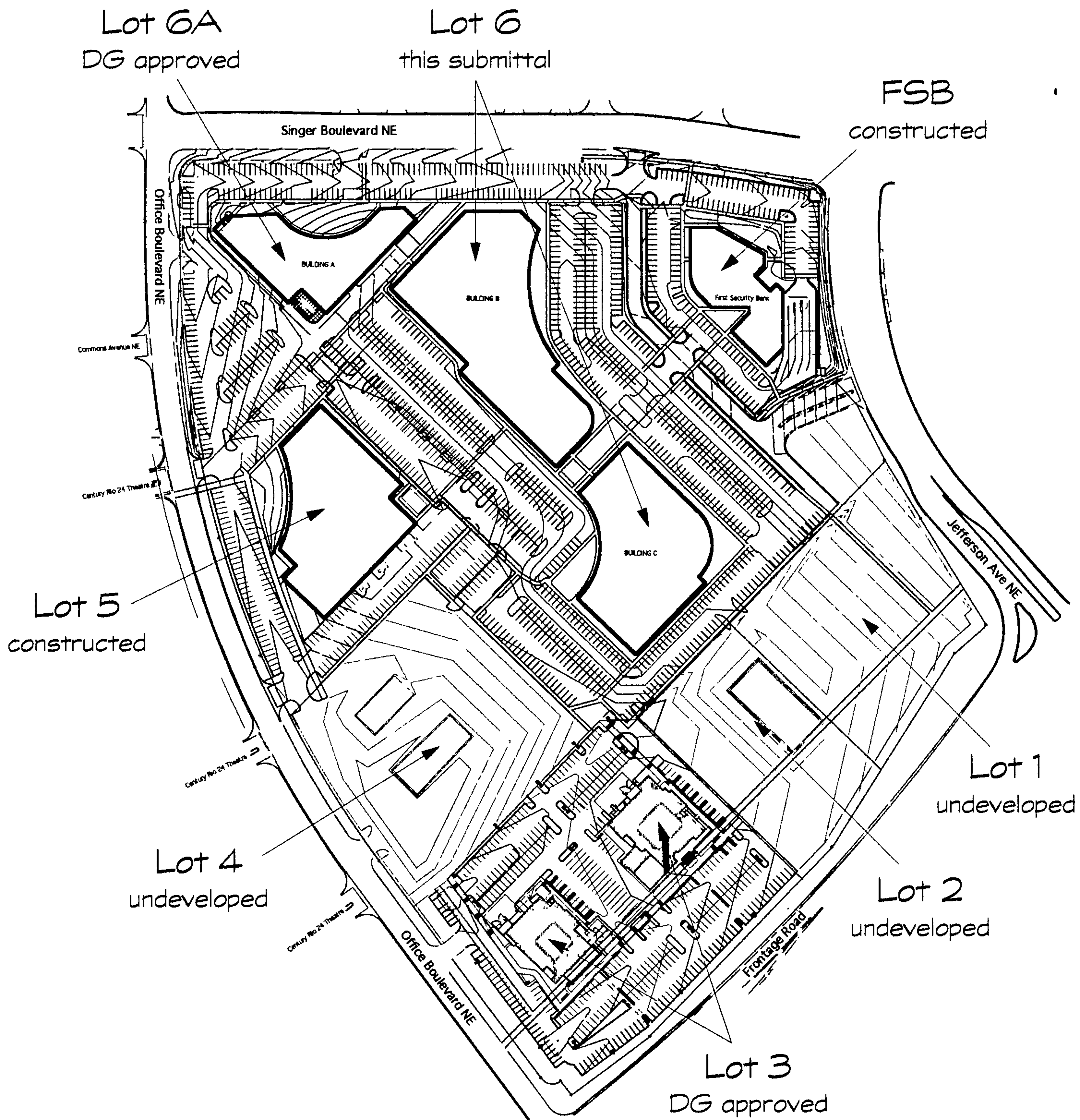
using orifice equation  $Q=CA * (2gh)^{0.5}$

|   |   |       |
|---|---|-------|
| C | = | 0.6   |
| A | = | 4.80  |
| g | = | 32.2  |
| h | = | 0.5   |
| Q | = | 16.34 |

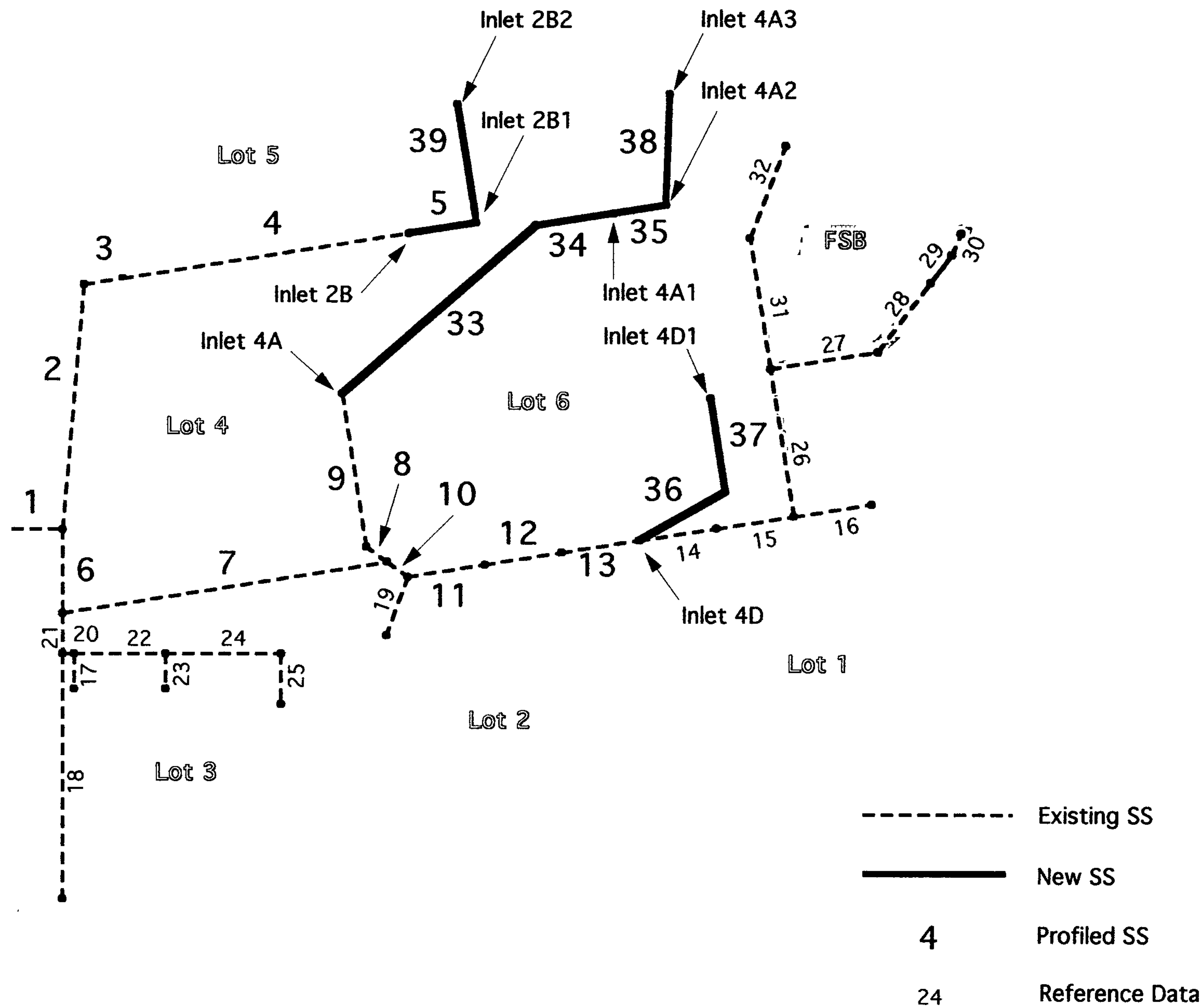
Note: Area (A) at left, is based on the open area of a single COA Albuquerque Grate. Based on calculations shown, a single inlet with a head of 0.5' will accept 16.3 cfs. In order to provide for clogging conditions, it must be assumed that the grate will be 50% restricted or 8.1 cfs > 3.6 cfs required. Thus, this inlet has the capacity to capture any flows which pass inlets #2 and #3. OK

SUMMARY

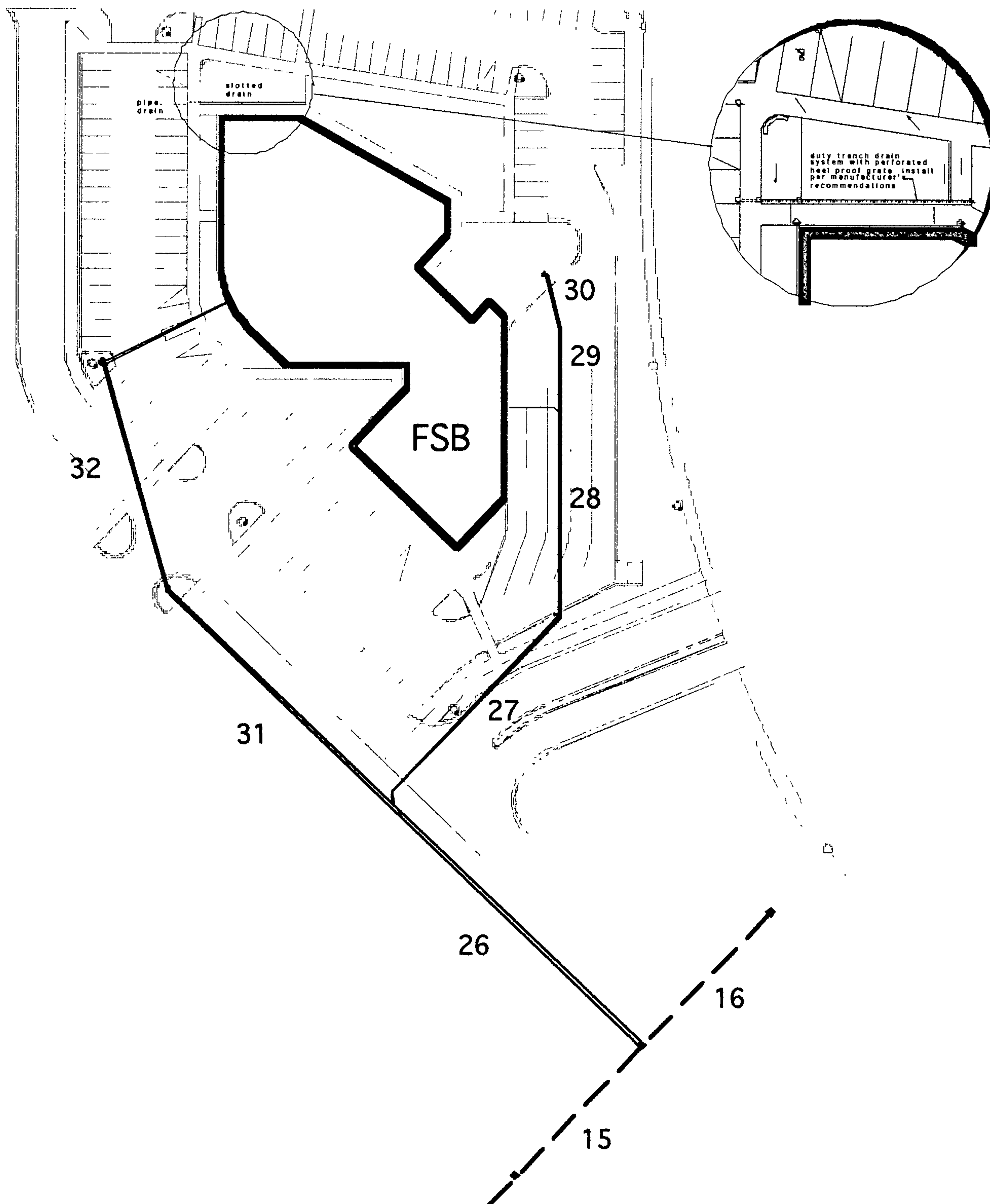
|                                        |   |      |     |
|----------------------------------------|---|------|-----|
| Developed Discharge Rate - Sub-Basin 1 | = | 1.6  | cfs |
| Developed Discharge Rate - Sub-Basin 2 | = | 0.8  | cfs |
| Developed Discharge Rate - Sub-Basin 3 | = | 0.3  | cfs |
| Developed Discharge Rate - Sub-Basin 4 | = | 0.2  | cfs |
| Developed Discharge Rate - Sub-Basin 5 | = | 1.0  | cfs |
| Developed Discharge Rate - Sub-Basin 6 | = | 1.7  | cfs |
| Developed Discharge Rate - Sub-Basin 7 | = | 3.8  | cfs |
| Developed Discharge Rate - Sub-Basin 8 | = | 0.4  | cfs |
| Developed Discharge Rate - Sub-Basin 9 | = | 0.7  | cfs |
| Developed Dschrge Rate - Sub-Basin 10  | = | 3.6  | cfs |
| Total Developed Discharge              | = | 14.1 | cfs |



## Jefferson Commons II



SS Index Map



Revised SS for FSB, JC II

# Hydraflow Summary Report

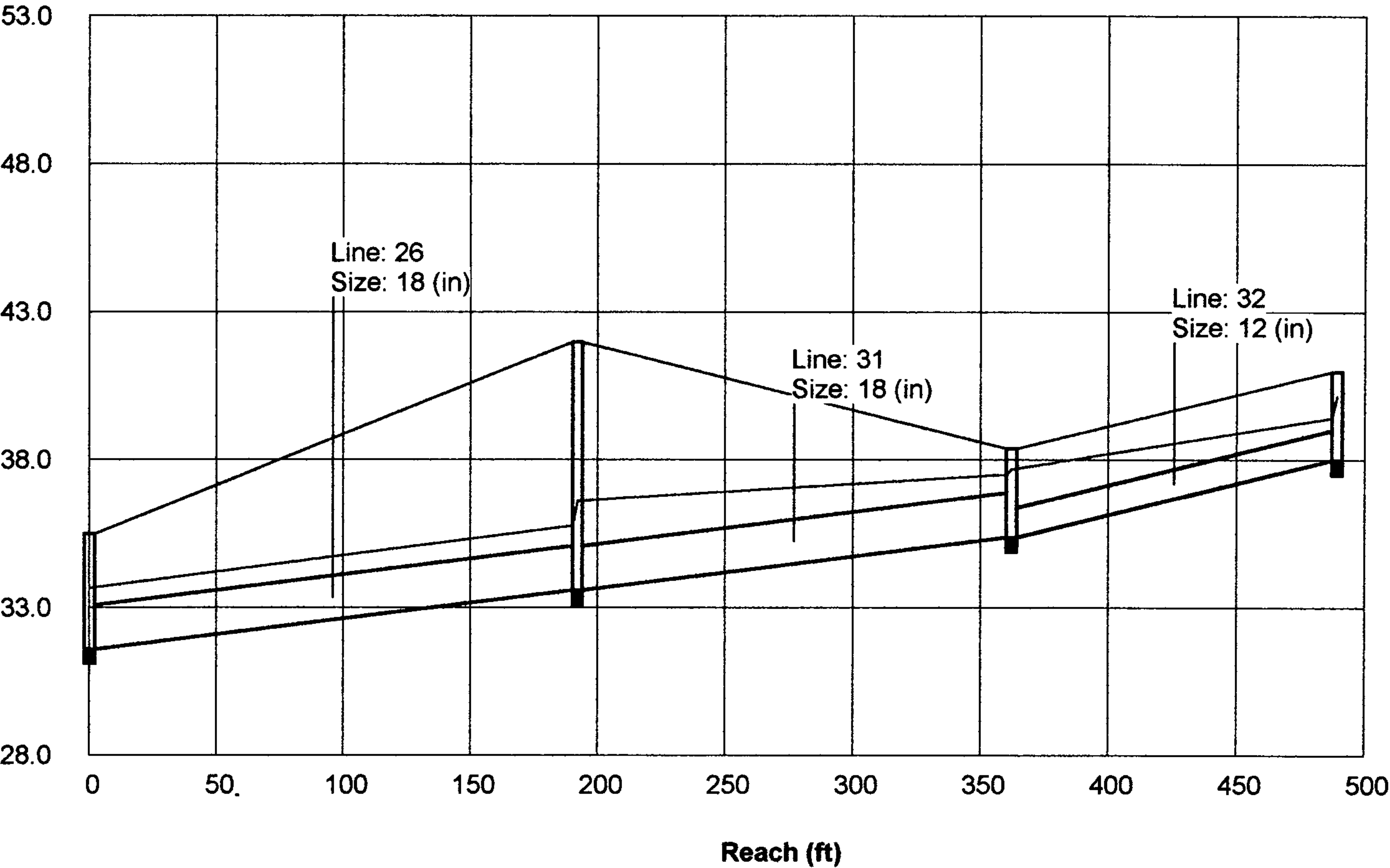
[illegible]

# Hydraflow Storm Sewer Tabulation

| Station                                                                                                           |            | Len<br><br>(ft) | Drng Area        |                   | Rnoff<br>coeff<br><br>(C) | Area x C          |                    | Tc                 |                   | Rain<br>(l)<br><br>(in/hr) | Total<br>flow<br><br>(cfs) | Cap<br>full<br><br>(cfs) | Vel<br><br>(ft/s) | Pipe             |                  | Invert Eley               |                | HGL Elev       |                | Gmd / Rim Elev       |                | Line ID |
|-------------------------------------------------------------------------------------------------------------------|------------|-----------------|------------------|-------------------|---------------------------|-------------------|--------------------|--------------------|-------------------|----------------------------|----------------------------|--------------------------|-------------------|------------------|------------------|---------------------------|----------------|----------------|----------------|----------------------|----------------|---------|
| Line                                                                                                              | To<br>Line |                 | Incr<br><br>(ac) | Total<br><br>(ac) |                           | Incr<br><br>(min) | Total<br><br>(min) | Inlet<br><br>(min) | Syst<br><br>(min) |                            |                            |                          |                   | Size<br><br>(in) | Slope<br><br>(%) | Up<br><br>(ft)            | Dn<br><br>(ft) | Up<br><br>(ft) | Dn<br><br>(ft) | Up<br><br>(ft)       | Dn<br><br>(ft) |         |
| 26                                                                                                                | 15         | 192.0           | 0.00             | 0.00              | 0.00                      | 0.00              | 0.00               | 0.0                | 1.8               | 0.0                        | 13.00                      | 12.67                    | 7.36              | 18               | 1.04             | 33.60                     | 31.60          | 35.78          | 33.67          | 35.50                | 42.00          | Fsb 1   |
| 27                                                                                                                | 26         | 138.0           | 0.00             | 0.00              | 0.00                      | 0.00              | 0.00               | 0.0                | 1.0               | 0.0                        | 4.00                       | 8.63                     | 5.36              | 12               | 3.48             | 38.40                     | 33.60          | 39.25          | 36.62          | 42.00                | 42.30          | Fsb1E   |
| 28                                                                                                                | 27         | 111.0           | 0.00             | 0.00              | 0.00                      | 0.00              | 0.00               | 0.0                | 0.4               | 0.0                        | 2.30                       | 2.83                     | 4.28              | 10               | 0.99             | 39.50                     | 38.40          | 40.28          | 39.62          | 42.30                | 43.50          | Fsb2E   |
| 29                                                                                                                | 28         | 45.0            | 0.00             | 0.00              | 0.00                      | 0.00              | 0.00               | 0.0                | 0.2               | 0.0                        | 1.50                       | 1.65                     | 4.30              | 8                | 1.11             | 40.00                     | 39.50          | 40.73          | 40.32          | 43.50                | 43.50          | Fsb3E   |
| 30                                                                                                                | 29         | 30.0            | 0.00             | 0.00              | 0.00                      | 0.00              | 0.00               | 0.0                | 0.0               | 0.0                        | 1.50                       | 1.57                     | 4.30              | 8                | 1.00             | 40.30                     | 40.00          | 41.14          | 40.86          | 43.50                | 42.30          | Fsb4E   |
| 31                                                                                                                | 26         | 170.0           | 0.00             | 0.00              | 0.00                      | 0.00              | 0.00               | 0.0                | 0.7               | 0.0                        | 9.00                       | 12.77                    | 5.09              | 18               | 1.06             | 35.40                     | 33.60          | 37.52          | 36.62          | 42.00                | 38.40          | Fsb1W   |
| 32                                                                                                                | 31         | 127.0           | 0.00             | 0.00              | 0.00                      | 0.00              | 0.00               | 0.0                | 0.0               | 0.0                        | 5.40                       | 6.62                     | 6.88              | 12               | 2.05             | 38.00                     | 35.40          | 39.43          | 37.70          | 38.40                | 41.00          | Fsb2W   |
| Project File: JCFSB.stm                                                                                           |            |                 |                  |                   |                           |                   |                    | I-D-F File: =      |                   |                            |                            |                          |                   |                  |                  | Total number of lines: 32 |                |                |                | Run Date: 05-24-2000 |                |         |
| NOTES: Intensity = 0.00 / (Tc + 0.00) ^ 0.00; Return period = 100 Yrs. ; Initial tailwater elevation = 18.22 (ft) |            |                 |                  |                   |                           |                   |                    |                    |                   |                            |                            |                          |                   |                  |                  |                           |                |                |                |                      |                |         |

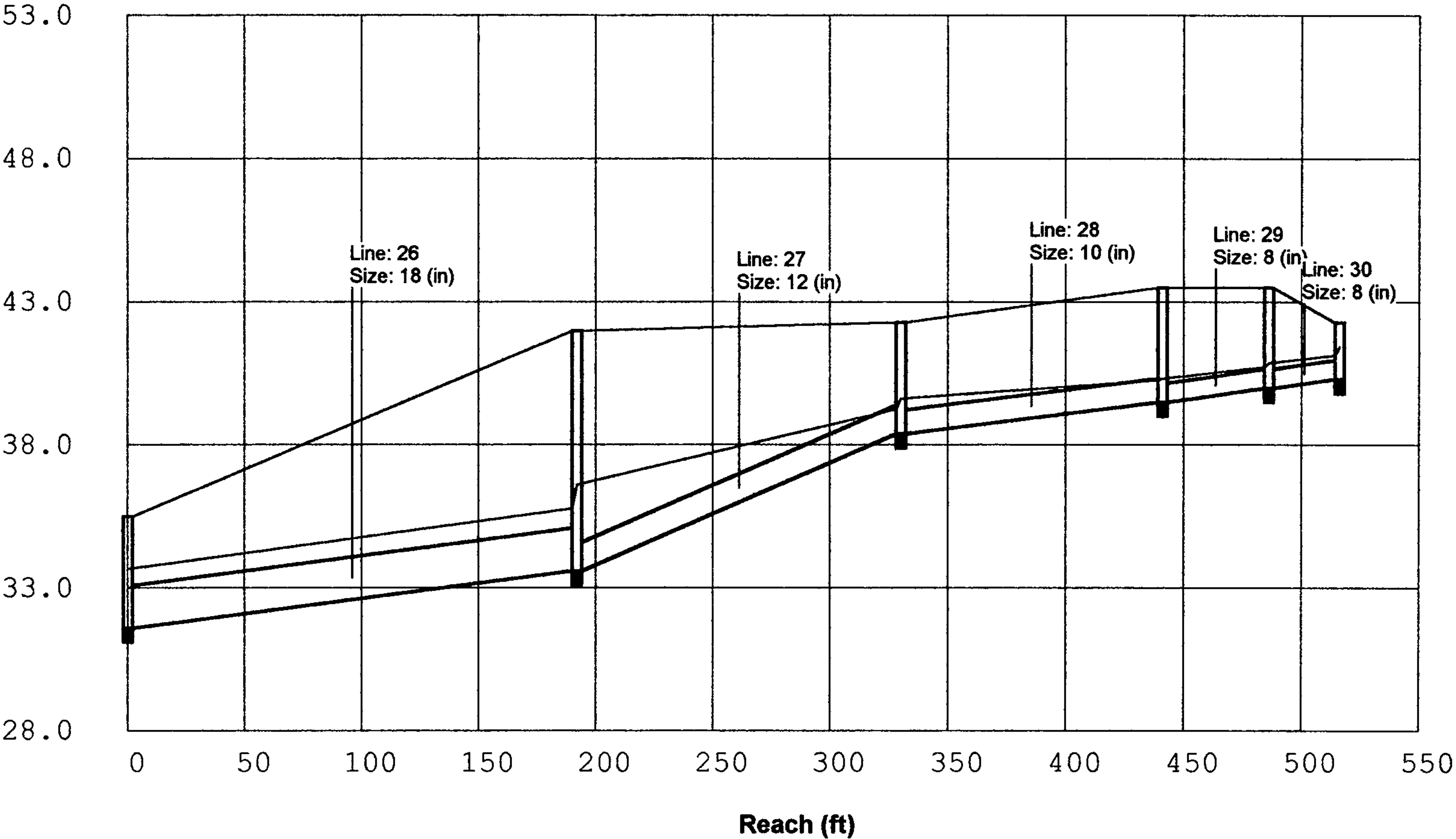
Storm Sewer Profile

Elev. (ft)



# Storm Sewer Profile

Elev. (ft)



2/8/99

Didn't review  
this plan. Engineer  
advised that they  
would be submitting  
a revised plan  
later this week

Scott

## DRAINAGE INFORMATION SHEET

PROJECT TITLE: Jefferson Commons II - First Security Bank ZONE ATLAS / DRNG. FILE #: F-17 / DO74  
LEGAL DESCRIPTION: A portion of Parcel 6 - Digital Properties, Albuquerque, NM  
CITY ADDRESS: N/A

|                                                    |                                |
|----------------------------------------------------|--------------------------------|
| ENGINEERING FIRM: <u>C.L. Weiss Engineering</u>    | CONTACT: <u>Chris Weiss</u>    |
| ADDRESS: <u>P.O. Box 97, Sandia Park NM, 87047</u> | PHONE: <u>281-1800</u>         |
| OWNER: <u>Chant and Associates</u>                 | CONTACT: <u>Greg Chant</u>     |
| ADDRESS: <u>5501 Midway Park Pl. NE</u>            | PHONE: <u>344-1633</u>         |
| ARCHITECT: <u>Berent Groth</u>                     | CONTACT: <u>Berent Groth</u>   |
| ADDRESS: <u>1100 Alvarado Dr. NE</u>               | PHONE: <u>266-6700</u>         |
| SURVEYOR: <u>Forstbauer Surveying Co.</u>          | CONTACT: <u>Ron Forstbauer</u> |
| ADDRESS: <u>1100 Alvarado Dr. NE - 87110</u>       | PHONE: <u>268-2112</u>         |
| CONTRACTOR FIRM: <u>N/A</u>                        | CONTACT: _____                 |
| ADDRESS: _____                                     | PHONE: _____                   |

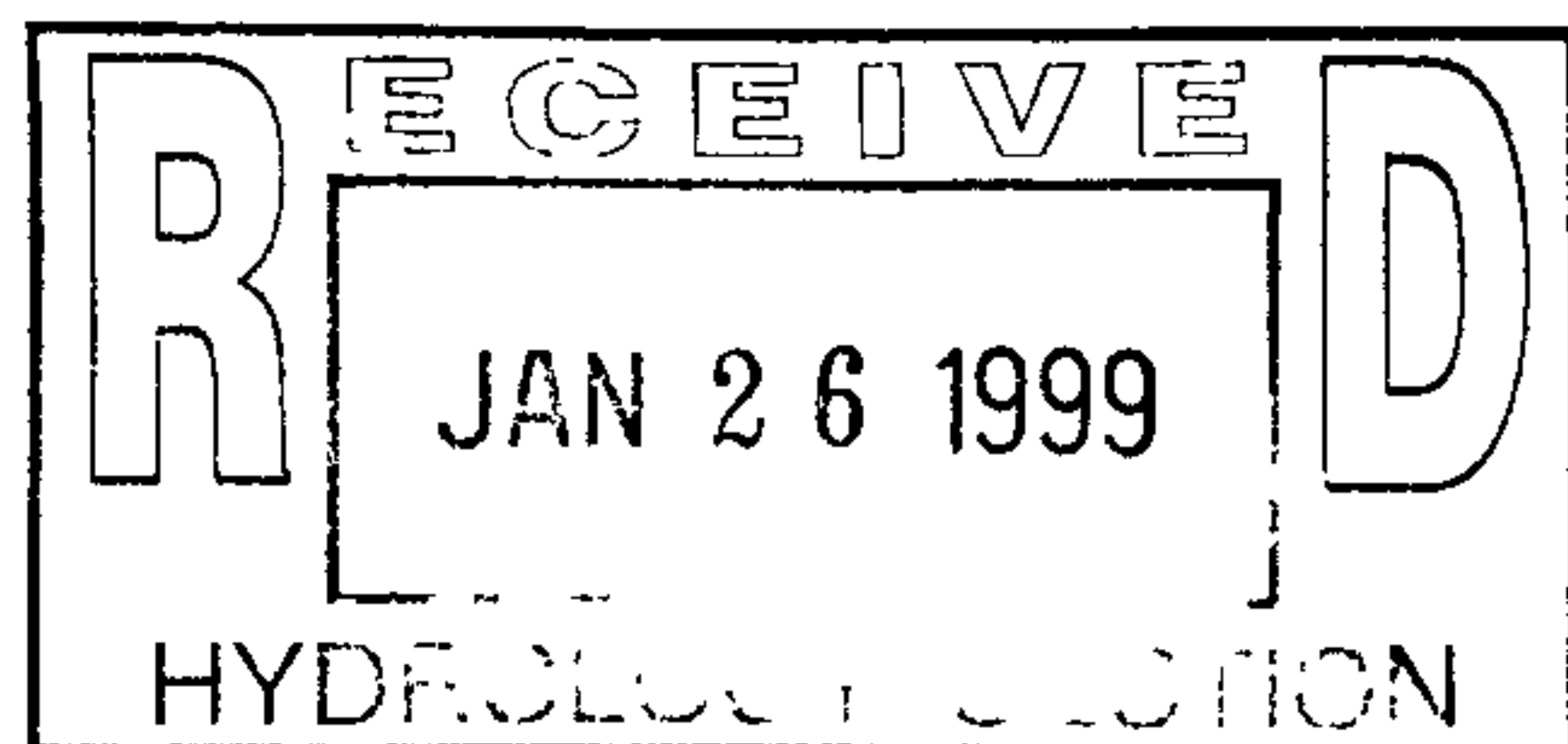
### PRE-DESIGN MEETING:

☐ YES  
☐ NO  
☐ COPY OF CONFERENCE RECAP  
SHEET PROVIDED

DRB NO. 97366  
EPC NO. 9720  
PROJ. NO. \_\_\_\_\_

### TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT  
☒ DRAINAGE PLAN  
☐ CONCEPTUAL GRADING & DRAINAGE PLAN  
☒ GRADING PLAN  
☐ EROSION CONTROL PLAN  
☐ ENGINEER'S CERTIFICATION



### CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT  
☐ PRELIMINARY PLAT  
☐ SITE DEVELOPMENT PLAN  
☐ FINAL PLAT  
☒ BUILDING PERMIT  
☒ FOUNDATION PERMIT  
☐ CERT. OF OCCUPANCY  
☐ ROUGH GRADING PERMIT  
☐ GRADING / PAVING PERMIT  
☐ OTHER \_\_\_\_\_

DATE SUBMITTED: January 26, 1999

BY: C.L. Weiss Engineering, Inc.