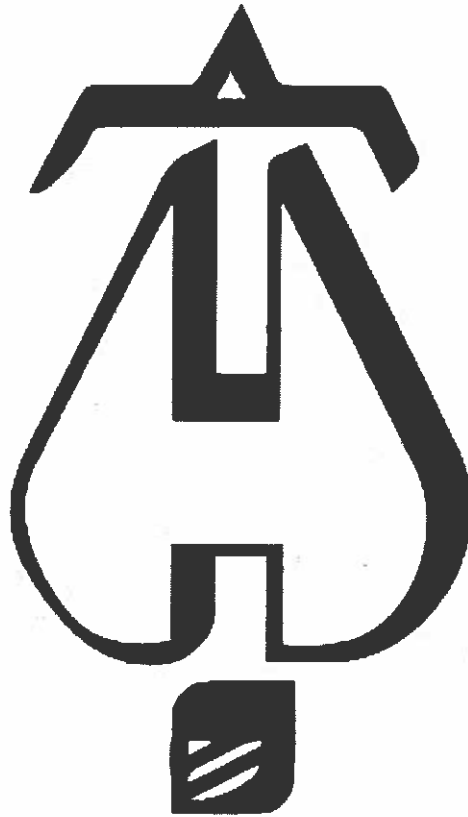




## Hydraulic Calculations by HydraCALC

Hydratec Incorporated  
64 Haverhill Road  
Route 111  
Windham, NH 03087  
603-434-0502

Job Name : LINCOLN EQUITIES SOUTHEAST  
Drawing : HIGH PILED STORAGE  
Location : NY312 & PUGSLEY RD, BREWSTER, NY 10509  
Remote Area : SYSTEM 8  
Contract : 5031092  
Data File : Lincoln Equities - BLDG A SYS 8 K22 6.15.22.WXF



Hydraulic Design Information Sheet

Name - LINCOLN EQUITIES SOUTHEAST Date - 6.15.22  
Location - NY312 & PUGSLEY RD, BREWSTER, NY 10509  
Building - HIGH PILED STORAGE System No. - SYSTEM 8  
Contractor - SA COMUNALE Contract No. - 5031092  
Calculated By - JUSTIN BEOUGHER Drawing No. - PG.9  
Construction: ( ) Combustible (X) Non-Combustible Ceiling Height - 44'-6  
Occupancy - ESFR

S (X) NFPA 13 ( ) Lt. Haz. Ord.Haz.Gp. ( ) 1 ( ) 2 ( ) 3 ( ) Ex.Haz.  
Y ( ) Figure Curve

S Other

T Specific Ruling Made By Date

| M | Number of ESFR Sprinklers   | - 12         | System Type   | Sprinkler/Nozzle |
|---|-----------------------------|--------------|---------------|------------------|
|   | End Head Pressure (PSI)     | - 40         | (X) Wet       | Make RELIABLE    |
| D | ESFR K-Factor               | - 22.4       | ( ) Dry       | Model P22        |
| E | Elevation at Highest Outlet | - 43'-10 1/2 | ( ) Deluge    | Size 1"          |
| S | Hose Allowance - Inside     | - 100        | ( ) Preaction | K-Factor 22.4    |
| I | Rack Sprinkler Allowance    | - NA         | ( ) Other     | Temp.Rat.165     |
| G | Hose Allowance - Outside    | - 150        |               |                  |

N Note

Calculation Flow Required - 1966.33 Press Required - 138.986  
Summary C-Factor Used: 120 Overhead 150 Underground

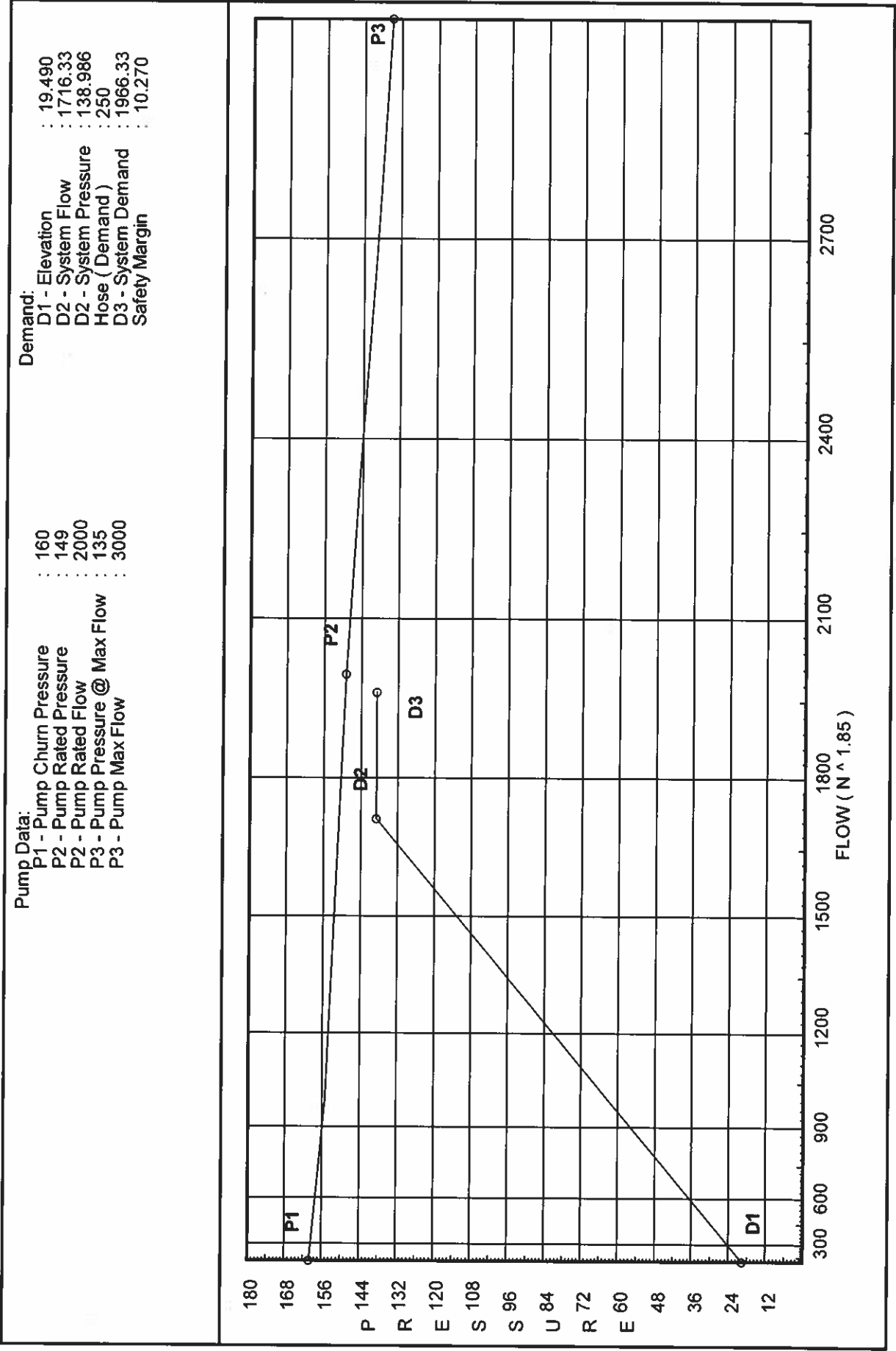
| W | Water Flow Test: | Pump Data:       | Tank or Reservoir: |
|---|------------------|------------------|--------------------|
| A | Date of Test -   |                  | Cap. -             |
| T | Time of Test -   | Rated Cap.- 2000 | Elev.-             |
| E | Static Press -   | @ Press - 149    |                    |
| R | Residual Press - | Elev. - 2        | Well               |
| S | Flow -           |                  | Proof Flow         |
| U | Elevation -      |                  |                    |

P Location - PUMP  
P WATER STORAGE TANK  
L Source of Information -  
Y

| C | Commodity GROUP A CARTONED UNEXP. | Class 1-4                    | Location                     |
|---|-----------------------------------|------------------------------|------------------------------|
| O | Storage Ht. 40 FT                 | Area                         | Aisle W.                     |
| M | Storage Method:                   | Solid Piled %                | Palletized % Rack            |
| M | ( ) Single Row                    | ( ) Conven. Pallet           | ( ) Auto. Storage ( ) Encap. |
| S | ( ) Double Row                    | ( ) Slave Pallet             | ( ) Solid Shelf ( ) Non      |
| T | ( ) Mult. Row                     |                              | ( ) Open Shelf               |
| O |                                   |                              |                              |
| C |                                   |                              |                              |
| R | Flue Spacing                      | Clearance:Storage to Ceiling |                              |
| K | Longitudinal                      | Transverse                   |                              |
| A |                                   |                              |                              |
| G |                                   |                              |                              |
| E | Horizontal Barriers Provided:     |                              |                              |

Water Supply Curve C

Hydratec Incorporated  
LINCOLN EQUITIES SOUTHEAST



# Fittings Used Summary

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LINCOLN EQUITIES SOUTHEAST

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| Fitting Legend |                            | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 2   | 2 1/2 | 3  | 3 1/2 | 4   | 5   | 6  | 8  | 10  | 12  | 14 | 16 | 18 | 20  | 24  |
|----------------|----------------------------|-----|-----|---|-------|-------|-----|-------|----|-------|-----|-----|----|----|-----|-----|----|----|----|-----|-----|
| Abbrev.        | Name                       |     |     |   |       |       |     |       |    |       |     |     |    |    |     |     |    |    |    |     |     |
| B              | NFPA 13 Butterfly Valve    | 0   | 0   | 0 | 0     | 0     | 6   | 7     | 10 | 0     | 12  | 9   | 10 | 12 | 19  | 21  | 0  | 0  | 0  | 0   | 0   |
| F              | NFPA 13 45° Elbow          | 1   | 1   | 1 | 1     | 2     | 2   | 3     | 3  | 3     | 4   | 5   | 7  | 9  | 11  | 13  | 17 | 19 | 21 | 24  | 28  |
| G              | NFPA 13 Gate Valve         | 0   | 0   | 0 | 0     | 0     | 1   | 1     | 1  | 1     | 2   | 2   | 3  | 4  | 5   | 6   | 7  | 8  | 10 | 11  | 13  |
| L              | NFPA 13 Long Turn Elbow    | 0.5 | 1   | 2 | 2     | 2     | 3   | 4     | 5  | 5     | 6   | 8   | 9  | 13 | 16  | 18  | 24 | 27 | 30 | 34  | 40  |
| S              | NFPA 13 Swing Check        | 0   | 0   | 5 | 7     | 9     | 11  | 14    | 16 | 19    | 22  | 27  | 32 | 45 | 55  | 65  |    |    |    |     |     |
| T              | NFPA 13 90° Flow thru Tee  | 3   | 4   | 5 | 6     | 8     | 10  | 12    | 15 | 17    | 20  | 25  | 30 | 35 | 50  | 60  | 71 | 81 | 91 | 101 | 121 |
| V              | 90° Ell Firelock #001      | 0   | 0   | 0 | 0     | 0     | 3.5 | 4.3   | 5  | 0     | 6.8 | 8.5 | 10 | 13 | 4.5 | 5.1 | 0  | 0  | 0  | 0   | 0   |
| X              | 90° Tee-Branch Firelock002 | 0   | 0   | 0 | 0     | 0     | 8.5 | 10.8  | 13 | 0     | 16  | 21  | 25 | 33 | 9.3 | 11  | 0  | 0  | 0  | 0   | 0   |

## Units Summary

Diameter Units  
Length Units  
Flow Units  
Pressure Units

Inches  
Feet  
US Gallons per Minute  
Pounds per Square Inch

Note: Fitting Legend provides equivalent pipe lengths for fittings types of various diameters. Equivalent lengths shown are standard for actual diameters of Sched 40 pipe and CFactors of 120 except as noted with \*. The fittings marked with a \* show equivalent lengths values supplied by manufacturers based on specific pipe diameters and CFactors and they require no adjustment. All values for fittings not marked with a \* will be adjusted in the calculation for CFactors of other than 120 and diameters other than Sched 40 per NFPA.

# Flow Summary - NFPA

Hydratec Incorporated  
LINCOLN EQUITIES SOUTHEAST

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## SUPPLY ANALYSIS

| <i>Node at Source</i> | <i>Static Pressure</i>        | <i>Residual Pressure</i> | <i>Flow</i> | <i>Available Pressure</i> | <i>Total Demand</i> | <i>Required Pressure</i> |
|-----------------------|-------------------------------|--------------------------|-------------|---------------------------|---------------------|--------------------------|
| PO                    | See Information on Pump Curve |                          |             | 149.256                   | 1966.33             | 138.986                  |

## NODE ANALYSIS

| <i>Node Tag</i> | <i>Elevation</i> | <i>Node Type</i> | <i>Pressure at Node</i> | <i>Discharge at Node</i> | <i>Notes</i> |
|-----------------|------------------|------------------|-------------------------|--------------------------|--------------|
| R13             | 47.0             |                  | 62.45                   |                          |              |
| 1               | 47.0             | 22.4             | 41.26                   | 143.88                   |              |
| 2               | 47.0             | 22.4             | 40.0                    | 141.67                   |              |
| 3               | 47.0             | 22.4             | 40.0                    | 141.67                   |              |
| 4               | 47.0             | 22.4             | 41.37                   | 144.07                   |              |
| R14             | 47.0             |                  | 62.59                   |                          |              |
| 5               | 47.0             | 22.4             | 41.33                   | 144.0                    |              |
| 6               | 47.0             | 22.4             | 40.06                   | 141.78                   |              |
| 7               | 47.0             | 22.4             | 40.06                   | 141.78                   |              |
| 8               | 47.0             | 22.4             | 41.43                   | 144.17                   |              |
| R15             | 47.0             |                  | 63.12                   |                          |              |
| 9               | 47.0             | 22.4             | 41.57                   | 144.43                   |              |
| 10              | 47.0             | 22.4             | 40.28                   | 142.17                   |              |
| 11              | 47.0             | 22.4             | 40.28                   | 142.17                   |              |
| 12              | 47.0             | 22.4             | 41.63                   | 144.53                   |              |
| R16             | 47.0             |                  | 77.73                   |                          |              |
| R17             | 47.0             |                  | 78.85                   |                          |              |
| R18             | 47.0             |                  | 79.85                   |                          |              |
| R19             | 47.0             |                  | 80.69                   |                          |              |
| R20             | 47.0             |                  | 81.42                   |                          |              |
| R21             | 47.0             |                  | 82.08                   |                          |              |
| R22             | 47.0             |                  | 82.68                   |                          |              |
| R23             | 47.0             |                  | 83.24                   |                          |              |
| R24             | 47.0             |                  | 83.76                   |                          |              |
| R25             | 47.0             |                  | 84.25                   |                          |              |
| R26             | 47.0             |                  | 84.71                   |                          |              |
| R27             | 47.0             |                  | 85.17                   |                          |              |
| H1              | 47.0             |                  | 85.23                   |                          |              |
| H2              | 47.0             |                  | 85.25                   |                          |              |
| H3              | 47.0             |                  | 85.26                   |                          |              |
| H4              | 47.0             |                  | 85.28                   |                          |              |
| R28             | 47.0             |                  | 85.58                   |                          |              |
| H5              | 47.0             |                  | 85.64                   |                          |              |
| H6              | 47.0             |                  | 85.65                   |                          |              |
| H7              | 47.0             |                  | 85.67                   |                          |              |
| H8              | 47.0             |                  | 85.68                   |                          |              |
| R29             | 47.0             |                  | 85.96                   |                          |              |
| H9              | 47.0             |                  | 86.03                   |                          |              |
| H10             | 47.0             |                  | 86.04                   |                          |              |

# Flow Summary - NFPA

Hydratec Incorporated  
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## NODE ANALYSIS (cont.)

| Node Tag | Elevation | Node Type | Pressure<br>at Node | Discharge<br>at Node | Notes |
|----------|-----------|-----------|---------------------|----------------------|-------|
| H11      | 47.0      |           | 86.06               |                      |       |
| H12      | 47.0      |           | 86.07               |                      |       |
| R30      | 47.0      |           | 86.32               |                      |       |
| R31      | 47.0      |           | 86.66               |                      |       |
| R32      | 47.0      |           | 86.96               |                      |       |
| R33      | 47.0      |           | 87.24               |                      |       |
| R34      | 47.0      |           | 87.48               |                      |       |
| R35      | 47.0      |           | 87.68               |                      |       |
| R36      | 47.0      |           | 87.85               |                      |       |
| R37      | 47.0      |           | 88.0                |                      |       |
| R38      | 47.0      |           | 88.12               |                      |       |
| R39      | 47.0      |           | 68.82               |                      |       |
| R40      | 47.0      |           | 68.86               |                      |       |
| R41      | 47.0      |           | 69.0                |                      |       |
| R42      | 47.0      |           | 81.25               |                      |       |
| R43      | 47.0      |           | 81.64               |                      |       |
| R44      | 47.0      |           | 82.03               |                      |       |
| R45      | 47.0      |           | 82.4                |                      |       |
| R46      | 47.0      |           | 82.76               |                      |       |
| R47      | 47.0      |           | 83.12               |                      |       |
| R48      | 47.0      |           | 83.49               |                      |       |
| R49      | 47.0      |           | 83.86               |                      |       |
| R50      | 47.0      |           | 84.23               |                      |       |
| R51      | 47.0      |           | 84.61               |                      |       |
| R52      | 47.0      |           | 84.99               |                      |       |
| R53      | 47.0      |           | 85.36               |                      |       |
| R54      | 47.0      |           | 85.75               |                      |       |
| R55      | 47.0      |           | 86.15               |                      |       |
| R56      | 47.0      |           | 86.55               |                      |       |
| R57      | 47.0      |           | 86.95               |                      |       |
| R58      | 47.0      |           | 87.36               |                      |       |
| R59      | 47.0      |           | 87.78               |                      |       |
| R60      | 47.0      |           | 88.21               |                      |       |
| R61      | 47.0      |           | 88.65               |                      |       |
| R62      | 47.0      |           | 89.11               |                      |       |
| R63      | 47.0      |           | 89.6                |                      |       |
| R64      | 47.0      |           | 90.12               |                      |       |
| 13       | 47.0      |           | 74.7                |                      |       |
| 14       | 47.0      |           | 74.89               |                      |       |
| 15       | 47.0      |           | 75.57               |                      |       |
| 16       | 47.0      |           | 77.02               |                      |       |
| 17       | 47.0      |           | 78.29               |                      |       |
| 18       | 47.0      |           | 79.41               |                      |       |
| 19       | 47.0      |           | 80.35               |                      |       |
| 20       | 47.0      |           | 81.15               |                      |       |
| 21       | 47.0      |           | 81.87               |                      |       |
| 22       | 47.0      |           | 82.52               |                      |       |
| 23       | 47.0      |           | 83.12               |                      |       |
| 24       | 47.0      |           | 83.67               |                      |       |

# Flow Summary - NFPA

Hydratec Incorporated  
LINCOLN EQUITIES SOUTHEAST

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## NODE ANALYSIS (cont.)

| Node Tag | Elevation | Node Type | Pressure<br>at Node | Discharge<br>at Node | Notes |
|----------|-----------|-----------|---------------------|----------------------|-------|
| 25       | 47.0      |           | 84.18               |                      |       |
| 26       | 47.0      |           | 84.66               |                      |       |
| 27       | 47.0      |           | 85.11               |                      |       |
| 28       | 47.0      |           | 85.53               |                      |       |
| 29       | 47.0      |           | 85.91               |                      |       |
| 30       | 47.0      |           | 86.26               |                      |       |
| 31       | 47.0      |           | 86.58               |                      |       |
| 32       | 47.0      |           | 86.85               |                      |       |
| 33       | 47.0      |           | 87.09               |                      |       |
| 34       | 47.0      |           | 87.27               |                      |       |
| 35       | 47.0      |           | 87.41               |                      |       |
| 36       | 47.0      |           | 87.51               |                      |       |
| 37       | 47.0      |           | 87.55               |                      |       |
| 39       | 47.0      |           | 81.61               |                      |       |
| 40       | 47.0      |           | 81.64               |                      |       |
| 41       | 47.0      |           | 81.74               |                      |       |
| 42       | 47.0      |           | 81.95               |                      |       |
| 43       | 47.0      |           | 82.2                |                      |       |
| 44       | 47.0      |           | 82.47               |                      |       |
| 45       | 47.0      |           | 82.75               |                      |       |
| 46       | 47.0      |           | 83.03               |                      |       |
| 47       | 47.0      |           | 83.33               |                      |       |
| 48       | 47.0      |           | 83.65               |                      |       |
| 49       | 47.0      |           | 83.98               |                      |       |
| 50       | 47.0      |           | 84.32               |                      |       |
| 51       | 47.0      |           | 84.68               |                      |       |
| 52       | 47.0      |           | 85.04               |                      |       |
| 53       | 47.0      |           | 85.42               |                      |       |
| 54       | 47.0      |           | 85.8                |                      |       |
| 55       | 47.0      |           | 86.2                |                      |       |
| 56       | 47.0      |           | 86.61               |                      |       |
| 57       | 47.0      |           | 87.03               |                      |       |
| 58       | 47.0      |           | 87.47               |                      |       |
| 59       | 47.0      |           | 87.93               |                      |       |
| 60       | 47.0      |           | 88.41               |                      |       |
| 61       | 47.0      |           | 88.92               |                      |       |
| 62       | 47.0      |           | 89.46               |                      |       |
| 63       | 47.0      |           | 90.04               |                      |       |
| 64       | 47.0      |           | 90.67               |                      |       |
| FMJ      | 47.0      |           | 91.8                |                      |       |
| TR3      | 47.0      |           | 96.12               |                      |       |
| BR3      | 2.0       |           | 125.44              | 100.0                |       |
| FLG      | 2.0       |           | 125.84              |                      |       |
| UG1      | -5.0      |           | 133.48              |                      |       |
| UG2      | -5.0      |           | 131.19              | 150.0                |       |
| UG3      | -5.0      |           | 137.56              |                      |       |
| UG4      | -5.0      |           | 137.02              |                      |       |
| UG5      | -5.0      |           | 137.01              |                      |       |
| UG6      | -5.0      |           | 140.68              |                      |       |

## Flow Summary - NFPA

Hydratec Incorporated  
LINCOLN EQUITIES SOUTHEAST

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### NODE ANALYSIS (cont.)

| <i>Node Tag</i> | <i>Elevation</i> | <i>Node Type</i> | <i>Pressure<br/>at Node</i> | <i>Discharge<br/>at Node</i> | <i>Notes</i> |
|-----------------|------------------|------------------|-----------------------------|------------------------------|--------------|
| PUMP            | 2.0              |                  | 137.97                      |                              |              |
| PO              | 2.0              |                  | 138.99                      |                              |              |

# Final Calculations : Hazen-Williams

Hydratec Incorporated  
LINCOLN EQUITIES SOUTHEAST

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt | Nom<br>Act | Fitting<br>or<br>Eqiv | Len | Pipe<br>Ftngs<br>Total | CFact<br>Pf/Ft | Pt<br>Pe<br>Pf | *****            | Notes | ***** |
|----------------------|----------------|-----------|----------|------------|-----------------------|-----|------------------------|----------------|----------------|------------------|-------|-------|
| R13<br>to<br>1       | 47<br>47       |           | -282.33  | 2          |                       | 0.0 | 45.083                 | 120            | 62.446         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
| 1<br>to<br>2         | 47<br>47       | 22.40     | -282.33  | 2.203      |                       | 0.0 | 45.083                 | -0.4700        | -21.188        | Vel = 23.76      |       |       |
|                      |                |           | 143.88   | 2          |                       | 0.0 | 10.000                 | 120            | 41.258         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
| 2<br>to<br>3         | 47<br>47       | 22.40     | -138.45  | 2.203      |                       | 0.0 | 10.000                 | -0.1258        | -1.258         | Vel = 11.65      |       |       |
|                      |                |           | 141.67   | 2          |                       | 0.0 | 10.000                 | 120            | 40.000         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
| 3<br>to<br>4         | 47<br>47       | 22.40     | 3.22     | 2.203      |                       | 0.0 | 10.000                 | 0.0001         | 0.001          | Vel = 0.27       |       |       |
|                      |                |           | 141.67   | 2          |                       | 0.0 | 10.000                 | 120            | 40.001         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
| 4<br>to<br>R39       | 47<br>47       | 22.40     | 144.89   | 2.203      |                       | 0.0 | 10.000                 | 0.1368         | 1.368          | Vel = 12.20      |       |       |
|                      |                |           | 144.07   | 2          |                       | 0.0 | 55.958                 | 120            | 41.369         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
|                      |                |           | 288.96   | 2.203      |                       | 0.0 | 55.958                 | 0.4906         | 27.454         | Vel = 24.32      |       |       |
|                      |                |           | 0.0      |            |                       |     |                        |                |                |                  |       |       |
| R39                  |                |           | 288.96   |            |                       |     |                        |                | 68.823         | K Factor = 34.83 |       |       |
| R14<br>to<br>5       | 47<br>47       |           | -282.88  | 2          |                       | 0.0 | 45.083                 | 120            | 62.591         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
| 5<br>to<br>6         | 47<br>47       | 22.40     | -282.88  | 2.203      |                       | 0.0 | 45.083                 | -0.4717        | -21.265        | Vel = 23.81      |       |       |
|                      |                |           | 144.00   | 2          |                       | 0.0 | 10.000                 | 120            | 41.326         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
| 6<br>to<br>7         | 47<br>47       | 22.40     | -138.88  | 2.203      |                       | 0.0 | 10.000                 | -0.1265        | -1.265         | Vel = 11.69      |       |       |
|                      |                |           | 141.78   | 2          |                       | 0.0 | 10.000                 | 120            | 40.061         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
| 7<br>to<br>8         | 47<br>47       | 22.40     | 2.9      | 2.203      |                       | 0.0 | 10.000                 | 0.0001         | 0.001          | Vel = 0.24       |       |       |
|                      |                |           | 141.78   | 2          |                       | 0.0 | 10.000                 | 120            | 40.062         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
| 8<br>to<br>R40       | 47<br>47       | 22.40     | 144.68   | 2.203      |                       | 0.0 | 10.000                 | 0.1365         | 1.365          | Vel = 12.18      |       |       |
|                      |                |           | 144.17   | 2          |                       | 0.0 | 55.958                 | 120            | 41.427         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
|                      |                |           | 288.85   | 2.203      |                       | 0.0 | 55.958                 | 0.4902         | 27.433         | Vel = 24.31      |       |       |
|                      |                |           | 0.0      |            |                       |     |                        |                |                |                  |       |       |
| R40                  |                |           | 288.85   |            |                       |     |                        |                | 68.860         | K Factor = 34.81 |       |       |
| R15<br>to<br>9       | 47<br>47       |           | -284.87  | 2          |                       | 0.0 | 45.083                 | 120            | 63.115         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
| 9<br>to<br>10        | 47<br>47       | 22.40     | -284.87  | 2.203      |                       | 0.0 | 45.083                 | -0.4778        | -21.541        | Vel = 23.98      |       |       |
|                      |                |           | 144.43   | 2          |                       | 0.0 | 10.000                 | 120            | 41.574         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
| 10<br>to<br>11       | 47<br>47       | 22.40     | -140.44  | 2.203      |                       | 0.0 | 10.000                 | -0.1291        | -1.291         | Vel = 11.82      |       |       |
|                      |                |           | 142.17   | 2          |                       | 0.0 | 10.000                 | 120            | 40.283         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
| 11<br>to<br>12       | 47<br>47       | 22.40     | 1.73     | 2.203      |                       | 0.0 | 10.000                 | 0              | 0.0            | Vel = 0.15       |       |       |
|                      |                |           | 142.17   | 2          |                       | 0.0 | 10.000                 | 120            | 40.283         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
| 12<br>to<br>R41      | 47<br>47       | 22.40     | 143.9    | 2.203      |                       | 0.0 | 10.000                 | 0.1351         | 1.351          | Vel = 12.11      |       |       |
|                      |                |           | 144.54   | 2          |                       | 0.0 | 55.958                 | 120            | 41.634         |                  |       |       |
|                      |                |           |          |            |                       | 0.0 | 0.0                    |                | 0.0            |                  |       |       |
|                      |                |           | 288.44   | 2.203      |                       | 0.0 | 55.958                 | 0.4890         | 27.361         | Vel = 24.28      |       |       |

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt      | Nom<br>Act | Fitting<br>or<br>Eqiv | Len               | Pipe<br>Ftns<br>Total     | CFact<br>Pf/Ft | Pt<br>Pe<br>Pf                   | ***** | Notes            | ***** |
|----------------------|----------------|-----------|---------------|------------|-----------------------|-------------------|---------------------------|----------------|----------------------------------|-------|------------------|-------|
| R41                  |                |           | 0.0<br>288.44 |            |                       |                   |                           |                |                                  |       |                  |       |
| R16<br>to<br>R42     | 47<br>47       |           | 60.17         | 2          |                       | 0.0<br>0.0<br>0.0 | 131.041<br>0.0<br>131.041 | 120<br>0.0269  | 68.995<br>77.726<br>0.0<br>3.527 |       | K Factor = 34.73 |       |
| R42                  |                |           | 0.0<br>60.17  |            |                       |                   |                           |                |                                  |       | Vel = 5.06       |       |
| R17<br>to<br>R43     | 47<br>47       |           | 53.02         | 2          |                       | 0.0<br>0.0<br>0.0 | 131.041<br>0.0<br>131.041 | 120<br>0.0213  | 81.253<br>78.850<br>0.0<br>2.792 |       | K Factor = 6.68  |       |
| R43                  |                |           | 0.0<br>53.02  |            |                       |                   |                           |                |                                  |       | Vel = 4.46       |       |
| R18<br>to<br>R44     | 47<br>47       |           | 46.45         | 2          |                       | 0.0<br>0.0<br>0.0 | 131.041<br>0.0<br>131.041 | 120<br>0.0167  | 81.642<br>79.847<br>0.0<br>2.185 |       | K Factor = 5.87  |       |
| R44                  |                |           | 0.0<br>46.45  |            |                       |                   |                           |                |                                  |       | Vel = 3.91       |       |
| R19<br>to<br>R45     | 47<br>47       |           | 40.70         | 2          |                       | 0.0<br>0.0<br>0.0 | 131.041<br>0.0<br>131.041 | 120<br>0.0131  | 82.032<br>80.693<br>0.0<br>1.712 |       | K Factor = 5.13  |       |
| R45                  |                |           | 0.0<br>40.70  |            |                       |                   |                           |                |                                  |       | Vel = 3.43       |       |
| R20<br>to<br>R46     | 47<br>47       |           | 35.72         | 2          |                       | 0.0<br>0.0<br>0.0 | 131.041<br>0.0<br>131.041 | 120<br>0.0103  | 82.405<br>81.417<br>0.0<br>1.344 |       | K Factor = 4.48  |       |
| R46                  |                |           | 0.0<br>35.72  |            |                       |                   |                           |                |                                  |       | Vel = 3.01       |       |
| R21<br>to<br>R47     | 47<br>47       |           | 31.20         | 2          |                       | 0.0<br>0.0<br>0.0 | 131.041<br>0.0<br>131.041 | 120<br>0.0080  | 82.761<br>82.075<br>0.0<br>1.047 |       | K Factor = 3.93  |       |
| R47                  |                |           | 0.0<br>31.20  |            |                       |                   |                           |                |                                  |       | Vel = 2.63       |       |
| R22<br>to<br>R48     | 47<br>47       |           | 27.13         | 2          |                       | 0.0<br>0.0<br>0.0 | 131.041<br>0.0<br>131.041 | 120<br>0.0062  | 83.122<br>82.679<br>0.0<br>0.808 |       | K Factor = 3.42  |       |
| R48                  |                |           | 0.0<br>27.13  |            |                       |                   |                           |                |                                  |       | Vel = 2.28       |       |
| R23<br>to<br>R49     | 47<br>47       |           | 23.48         | 2          |                       | 0.0<br>0.0<br>0.0 | 131.041<br>0.0<br>131.041 | 120<br>0.0047  | 83.487<br>83.238<br>0.0<br>0.618 |       | K Factor = 2.97  |       |
| R49                  |                |           | 0.0<br>23.48  |            |                       |                   |                           |                |                                  |       | Vel = 1.98       |       |
| R24<br>to<br>R50     | 47<br>47       |           | 20.26         | 2          |                       | 0.0<br>0.0<br>0.0 | 131.041<br>0.0<br>131.041 | 120<br>0.0036  | 83.856<br>83.759<br>0.0<br>0.471 |       | K Factor = 2.56  |       |
|                      |                |           | 0.0           |            |                       |                   |                           |                |                                  |       | Vel = 1.71       |       |

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt     | Nom<br>Act | Fitting<br>or<br>Equiv<br>Len | Pipe<br>Ftngs<br>Total    | CFact<br>Pf/Ft | Pt<br>Pe<br>Pf          | *****           | Notes | ***** |
|----------------------|----------------|-----------|--------------|------------|-------------------------------|---------------------------|----------------|-------------------------|-----------------|-------|-------|
| R50                  |                |           | 20.26        |            |                               |                           |                | 84.230                  | K Factor = 2.21 |       |       |
| R25<br>to<br>R51     | 47<br>47       |           | 17.47        | 2          | 0.0<br>0.0<br>0.0             | 131.041<br>0.0<br>131.041 | 120<br>0.0027  | 84.250<br>0.0<br>0.358  |                 |       |       |
| R51                  |                |           | 0.0<br>17.47 |            |                               |                           |                | 84.608                  | K Factor = 1.90 |       |       |
| R26<br>to<br>R52     | 47<br>47       |           | 15.16        | 2          | 0.0<br>0.0<br>0.0             | 131.041<br>0.0<br>131.041 | 120<br>0.0021  | 84.714<br>0.0<br>0.275  |                 |       |       |
| R52                  |                |           | 0.0<br>15.16 |            |                               |                           |                | 84.989                  | K Factor = 1.64 |       |       |
| R27<br>to<br>H1      | 47<br>47       |           | 21.60        | 2.5        | 0.0<br>0.0<br>0.0             | 45.083<br>0.0<br>45.083   | 120<br>0.0015  | 85.167<br>0.0<br>0.067  |                 |       |       |
| H1<br>to<br>H2       | 47<br>47       |           | 21.6         | 2.703      | 0.0<br>0.0<br>0.0             | 45.083<br>0.0<br>10.000   | 0.0015         | 0.067                   | Vel = 1.21      |       |       |
| H2<br>to<br>H3       | 47<br>47       |           | 0.0          | 2.5        | 0.0<br>0.0<br>0.0             | 10.000<br>0.0<br>10.000   | 120<br>0.0015  | 85.234<br>0.0<br>0.015  |                 |       |       |
| H3<br>to<br>H4       | 47<br>47       |           | 21.6         | 2.703      | 0.0<br>0.0<br>0.0             | 10.000<br>0.0<br>10.000   | 0.0015         | 0.015                   | Vel = 1.21      |       |       |
| H4<br>to<br>R53      | 47<br>47       |           | 0.0          | 2.5        | 0.0<br>0.0<br>0.0             | 10.000<br>0.0<br>55.958   | 120<br>0.0015  | 85.249<br>0.0<br>85.279 |                 |       |       |
| R53                  |                |           | 21.6         | 2.703      | 0.0<br>0.0<br>0.0             | 55.958<br>0.0<br>55.958   | 0.0015         | 0.084                   | Vel = 1.21      |       |       |
| R53                  |                |           | 0.0<br>21.60 |            |                               |                           |                | 85.363                  | K Factor = 2.34 |       |       |
| R28<br>to<br>H5      | 47<br>47       |           | 20.37        | 2.5        | 0.0<br>0.0<br>0.0             | 45.083<br>0.0<br>45.083   | 120<br>0.0013  | 85.578<br>0.0<br>0.060  |                 |       |       |
| H5<br>to<br>H6       | 47<br>47       |           | 20.37        | 2.703      | 0.0<br>0.0<br>0.0             | 45.083<br>0.0<br>10.000   | 0.0013         | 0.060                   | Vel = 1.14      |       |       |
| H6<br>to<br>H7       | 47<br>47       |           | 0.0          | 2.5        | 0.0<br>0.0<br>0.0             | 10.000<br>0.0<br>10.000   | 120<br>0.0014  | 85.638<br>0.0<br>0.014  |                 |       |       |
| H7<br>to<br>H8       | 47<br>47       |           | 20.37        | 2.703      | 0.0<br>0.0<br>0.0             | 10.000<br>0.0<br>10.000   | 0.0013         | 0.014                   | Vel = 1.14      |       |       |
| H8<br>to<br>R54      | 47<br>47       |           | 0.0          | 2.5        | 0.0<br>0.0<br>0.0             | 10.000<br>0.0<br>55.958   | 120<br>0.0014  | 85.652<br>0.0<br>85.679 |                 |       |       |
| R54                  |                |           | 20.37        | 2.703      | 0.0<br>0.0<br>0.0             | 55.958<br>0.0<br>55.958   | 0.0013         | 0.075                   | Vel = 1.14      |       |       |
| R54                  |                |           | 0.0<br>20.37 |            |                               |                           |                | 85.754                  | K Factor = 2.20 |       |       |
| R29<br>to<br>H9      | 47<br>47       |           | 20.92        | 2.5        | 0.0<br>0.0<br>0.0             | 45.083<br>0.0<br>45.083   | 120<br>0.0014  | 85.964<br>0.0<br>0.063  |                 |       |       |
| H9                   |                |           | 20.92        | 2.703      | 0.0                           | 45.083                    | 0.0014         | 0.063                   | Vel = 1.17      |       |       |

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt       | Nom<br>Act   | Fitting<br>or<br>Equiv | Len        | Pipe<br>Ftngs<br>Total | CFact<br>Pf/Ft | Pt<br>Pe<br>Pf | *****      | Notes | ***** |
|----------------------|----------------|-----------|----------------|--------------|------------------------|------------|------------------------|----------------|----------------|------------|-------|-------|
| H9<br>to<br>H10      | 47<br>47       |           | 0.0<br>20.92   | 2.5<br>2.703 |                        | 0.0<br>0.0 | 10.000<br>0.0          | 120<br>0.0014  | 86.027<br>0.0  |            |       |       |
| H10<br>to<br>H11     | 47<br>47       |           | 0.0<br>20.92   | 2.5<br>2.703 |                        | 0.0<br>0.0 | 10.000<br>0.0          | 120<br>0.0014  | 86.041<br>0.0  | Vel =      | 1.17  |       |
| H11<br>to<br>H12     | 47<br>47       |           | 0.0<br>20.92   | 2.5<br>2.703 |                        | 0.0<br>0.0 | 10.000<br>0.0          | 120<br>0.0014  | 86.055<br>0.0  | Vel =      | 1.17  |       |
| H12<br>to<br>R55     | 47<br>47       |           | 0.0<br>20.92   | 2.5<br>2.703 |                        | 0.0<br>0.0 | 55.958<br>0.0          | 120<br>0.0014  | 86.069<br>0.0  | Vel =      | 1.17  |       |
| R55                  |                |           | 0.0<br>20.92   |              |                        |            |                        |                |                |            |       |       |
| R30<br>to<br>R56     | 47<br>47       |           | 23.16<br>23.16 | 2.5<br>2.703 |                        | 0.0<br>0.0 | 131.041<br>0.0         | 120<br>0.0017  | 86.148<br>0.0  | K Factor = | 2.25  |       |
| R56                  |                |           | 0.0<br>23.16   |              |                        |            |                        |                |                |            |       |       |
| R31<br>to<br>R57     | 47<br>47       |           | 26.82<br>26.82 | 2.5<br>2.703 |                        | 0.0<br>0.0 | 131.041<br>0.0         | 120<br>0.0022  | 86.547<br>0.0  | K Factor = | 2.49  |       |
| R57                  |                |           | 0.0<br>26.82   |              |                        |            |                        |                |                |            |       |       |
| R32<br>to<br>R58     | 47<br>47       |           | 31.65<br>31.65 | 2.5<br>2.703 |                        | 0.0<br>0.0 | 131.041<br>0.0         | 120<br>0.0030  | 86.658<br>0.0  | Vel =      | 1.50  |       |
| R58                  |                |           | 0.0<br>31.65   |              |                        |            |                        |                |                |            |       |       |
| R33<br>to<br>R59     | 47<br>47       |           | 37.43<br>37.43 | 2.5<br>2.703 |                        | 0.0<br>0.0 | 131.041<br>0.0         | 120<br>0.0041  | 86.950<br>0.0  | K Factor = | 2.88  |       |
| R59                  |                |           | 0.0<br>37.43   |              |                        |            |                        |                |                |            |       |       |
| R34<br>to<br>R60     | 47<br>47       |           | 44.00<br>44.0  | 2.5<br>2.703 |                        | 0.0<br>0.0 | 131.041<br>0.0         | 120<br>0.0056  | 86.963<br>0.0  | Vel =      | 1.77  |       |
| R60                  |                |           | 0.0<br>44.00   |              |                        |            |                        |                |                |            |       |       |
| R35<br>to<br>R61     | 47<br>47       |           | 51.25<br>51.25 | 2.5<br>2.703 |                        | 0.0<br>0.0 | 131.041<br>0.0         | 120<br>0.0074  | 87.360<br>0.0  | K Factor = | 3.39  |       |
| R61                  |                |           | 0.0<br>51.25   |              |                        |            |                        |                |                |            |       |       |
| R36<br>to<br>R62     | 47<br>47       |           | 59.05<br>59.05 | 2.5<br>2.703 |                        | 0.0<br>0.0 | 131.041<br>0.0         | 120<br>0.0096  | 87.236<br>0.0  | Vel =      | 2.09  |       |
| R62                  |                |           | 0.0<br>59.05   |              |                        |            |                        |                |                |            |       |       |
|                      |                |           |                |              |                        |            |                        |                |                |            |       |       |

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt      | Nom<br>Act | Fitting<br>or<br>Eqiv | Len              | Pipe<br>Ftngs<br>Total | CFact<br>Pf/Ft | Pt<br>Pe<br>Pf | ***** | Notes            | ***** |
|----------------------|----------------|-----------|---------------|------------|-----------------------|------------------|------------------------|----------------|----------------|-------|------------------|-------|
| R62                  |                |           | 0.0<br>59.05  |            |                       |                  |                        |                | 89.112         |       | K Factor = 6.26  |       |
| R37<br>to<br>R63     | 47<br>47       |           | 67.28         | 2.5        |                       | 0.0              | 131.041                | 120            | 87.997         |       |                  |       |
|                      |                |           |               |            |                       | 0.0              | 0.0                    |                | 0.0            |       |                  |       |
|                      |                |           | 67.28         | 2.703      |                       | 0.0              | 131.041                | 0.0122         | 1.602          |       | Vel = 3.76       |       |
| R63                  |                |           | 0.0<br>67.28  |            |                       |                  |                        |                | 89.599         |       | K Factor = 7.11  |       |
| R38<br>to<br>R64     | 47<br>47       |           | 75.80         | 2.5        |                       | 0.0              | 131.041                | 120            | 88.122         |       |                  |       |
|                      |                |           |               |            |                       | 0.0              | 0.0                    |                | 0.0            |       |                  |       |
|                      |                |           | 75.8          | 2.703      |                       | 0.0              | 131.041                | 0.0152         | 1.997          |       | Vel = 4.24       |       |
| R64                  |                |           | 0.0<br>75.80  |            |                       |                  |                        |                | 90.119         |       | K Factor = 7.98  |       |
| R13<br>to<br>13      | 47<br>47       |           | 282.33        | 2          | X<br>T                | 11.593<br>13.639 | 0.833<br>25.232        | 120            | 62.446         |       |                  |       |
|                      |                |           | 282.33        | 2.203      |                       | 0.0              | 26.065                 | 0.4700         | 12.250         |       | Vel = 23.76      |       |
| 13                   |                |           | 0.0<br>282.33 |            |                       |                  |                        |                | 74.696         |       | K Factor = 32.67 |       |
| R14<br>to<br>14      | 47<br>47       |           | 282.88        | 2          | X<br>T                | 11.593<br>13.639 | 0.833<br>25.232        | 120            | 62.591         |       |                  |       |
|                      |                |           | 282.88        | 2.203      |                       | 0.0              | 26.065                 | 0.4717         | 12.294         |       | Vel = 23.81      |       |
| 14                   |                |           | 0.0<br>282.88 |            |                       |                  |                        |                | 74.885         |       | K Factor = 32.69 |       |
| R15<br>to<br>15      | 47<br>47       |           | 284.87        | 2          | X<br>T                | 11.593<br>13.639 | 0.833<br>25.232        | 120            | 63.115         |       |                  |       |
|                      |                |           | 284.87        | 2.203      |                       | 0.0              | 26.065                 | 0.4778         | 12.454         |       | Vel = 23.98      |       |
| 15                   |                |           | 0.0<br>284.87 |            |                       |                  |                        |                | 75.569         |       | K Factor = 32.77 |       |
| R16<br>to<br>16      | 47<br>47       |           | -60.17        | 2          | X<br>T                | 11.593<br>13.639 | 0.833<br>25.232        | 120            | 77.726         |       |                  |       |
|                      |                |           | -60.17        | 2.203      |                       | 0.0              | 26.065                 | -0.0269        | 0.0            |       | Vel = 5.06       |       |
| 16                   |                |           | 0.0<br>-60.17 |            |                       |                  |                        |                | 77.024         |       | K Factor = -6.86 |       |
| R17<br>to<br>17      | 47<br>47       |           | -53.02        | 2          | X<br>T                | 11.593<br>13.639 | 0.833<br>25.232        | 120            | 78.850         |       |                  |       |
|                      |                |           | -53.02        | 2.203      |                       | 0.0              | 26.065                 | -0.0213        | 0.0            |       | Vel = 4.46       |       |
| 17                   |                |           | 0.0<br>-53.02 |            |                       |                  |                        |                | 78.295         |       | K Factor = -5.99 |       |
| R18<br>to<br>18      | 47<br>47       |           | -46.45        | 2          | X<br>T                | 11.593<br>13.639 | 0.833<br>25.232        | 120            | 79.847         |       |                  |       |
|                      |                |           | -46.45        | 2.203      |                       | 0.0              | 26.065                 | -0.0167        | 0.0            |       | Vel = 3.91       |       |
| 18                   |                |           | 0.0<br>-46.45 |            |                       |                  |                        |                | 79.412         |       | K Factor = -5.21 |       |
| R19<br>to<br>19      | 47<br>47       |           | -40.70        | 2          | X<br>T                | 11.593<br>13.639 | 0.833<br>25.232        | 120            | 80.693         |       |                  |       |
|                      |                |           | -40.7         | 2.203      |                       | 0.0              | 26.065                 | -0.0130        | 0.0            |       | Vel = 3.43       |       |
|                      |                |           | 0.0           |            |                       |                  |                        |                |                |       |                  |       |

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt      | Nom<br>Act | Fitting<br>or<br>Equiv | Len                     | Pipe<br>Ftngs<br>Total    | CFact<br>Pf/Ft | Pt<br>Pe<br>Pf          | ***** | Notes            | ***** |
|----------------------|----------------|-----------|---------------|------------|------------------------|-------------------------|---------------------------|----------------|-------------------------|-------|------------------|-------|
| 19                   |                |           | -40.70        |            |                        |                         |                           |                | 80.353                  |       | K Factor = -4.54 |       |
| R20<br>to<br>20      | 47<br>47       |           | -35.72        | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 81.417<br>0.0<br>-0.267 |       |                  |       |
|                      |                |           | -35.72        | 2.203      |                        |                         |                           | -0.0102        |                         |       | Vel = 3.01       |       |
| 20                   |                |           | 0.0<br>-35.72 |            |                        |                         |                           |                | 81.150                  |       | K Factor = -3.97 |       |
| R21<br>to<br>21      | 47<br>47       |           | -31.20        | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 82.075<br>0.0<br>-0.208 |       |                  |       |
|                      |                |           | -31.2         | 2.203      |                        |                         |                           | -0.0080        |                         |       | Vel = 2.63       |       |
| 21                   |                |           | 0.0<br>-31.20 |            |                        |                         |                           |                | 81.867                  |       | K Factor = -3.45 |       |
| R22<br>to<br>22      | 47<br>47       |           | -27.13        | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 82.679<br>0.0<br>-0.160 |       |                  |       |
|                      |                |           | -27.13        | 2.203      |                        |                         |                           | -0.0061        |                         |       | Vel = 2.28       |       |
| 22                   |                |           | 0.0<br>-27.13 |            |                        |                         |                           |                | 82.519                  |       | K Factor = -2.99 |       |
| R23<br>to<br>23      | 47<br>47       |           | -23.48        | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 83.238<br>0.0<br>-0.123 |       |                  |       |
|                      |                |           | -23.48        | 2.203      |                        |                         |                           | -0.0047        |                         |       | Vel = 1.98       |       |
| 23                   |                |           | 0.0<br>-23.48 |            |                        |                         |                           |                | 83.115                  |       | K Factor = -2.58 |       |
| R24<br>to<br>24      | 47<br>47       |           | -20.26        | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 83.759<br>0.0<br>-0.093 |       |                  |       |
|                      |                |           | -20.26        | 2.203      |                        |                         |                           | -0.0036        |                         |       | Vel = 1.71       |       |
| 24                   |                |           | 0.0<br>-20.26 |            |                        |                         |                           |                | 83.666                  |       | K Factor = -2.21 |       |
| R25<br>to<br>25      | 47<br>47       |           | -17.47        | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 84.250<br>0.0<br>-0.072 |       |                  |       |
|                      |                |           | -17.47        | 2.203      |                        |                         |                           | -0.0028        |                         |       | Vel = 1.47       |       |
| 25                   |                |           | 0.0<br>-17.47 |            |                        |                         |                           |                | 84.178                  |       | K Factor = -1.90 |       |
| R26<br>to<br>26      | 47<br>47       |           | -15.16        | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 84.714<br>0.0<br>-0.055 |       |                  |       |
|                      |                |           | -15.16        | 2.203      |                        |                         |                           | -0.0021        |                         |       | Vel = 1.28       |       |
| 26                   |                |           | 0.0<br>-15.16 |            |                        |                         |                           |                | 84.659                  |       | K Factor = -1.65 |       |
| R27<br>to<br>27      | 47<br>47       |           | -21.60        | 2.5        | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120            | 85.167<br>0.0<br>-0.054 |       |                  |       |
|                      |                |           | -21.6         | 2.703      |                        |                         |                           | -0.0015        |                         |       | Vel = 1.21       |       |
| 27                   |                |           | 0.0<br>-21.60 |            |                        |                         |                           |                | 85.113                  |       | K Factor = -2.34 |       |
| R28<br>to<br>28      | 47<br>47       |           | -20.37        | 2.5        | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120            | 85.578<br>0.0<br>-0.048 |       |                  |       |
|                      |                |           | -20.37        | 2.703      |                        |                         |                           | -0.0013        |                         |       | Vel = 1.14       |       |
| 28                   |                |           | 0.0<br>-20.37 |            |                        |                         |                           |                | 85.530                  |       | K Factor = -2.20 |       |

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt         | Nom<br>Act   | Fitting<br>or<br>Equiv | Len                     | Pipe<br>Ftngs<br>Total    | CFact<br>Pf/Ft | Pt<br>Pe<br>Pf          | ***** | Notes            | ***** |
|----------------------|----------------|-----------|------------------|--------------|------------------------|-------------------------|---------------------------|----------------|-------------------------|-------|------------------|-------|
| R29<br>to<br>29      | 47<br>47       |           | -20.92<br>-20.92 | 2.5<br>2.703 | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120<br>-0.0014 | 85.964<br>0.0<br>-0.052 |       | Vel = 1.17       |       |
| 29                   |                |           | 0.0<br>-20.92    |              |                        |                         |                           |                | 85.912                  |       | K Factor = -2.26 |       |
| R30<br>to<br>30      | 47<br>47       |           | -23.16<br>-23.16 | 2.5<br>2.703 | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120<br>-0.0017 | 86.324<br>0.0<br>-0.062 |       | Vel = 1.29       |       |
| 30                   |                |           | 0.0<br>-23.16    |              |                        |                         |                           |                | 86.262                  |       | K Factor = -2.49 |       |
| R31<br>to<br>31      | 47<br>47       |           | -26.82<br>-26.82 | 2.5<br>2.703 | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120<br>-0.0022 | 86.658<br>0.0<br>-0.081 |       | Vel = 1.50       |       |
| 31                   |                |           | 0.0<br>-26.82    |              |                        |                         |                           |                | 86.577                  |       | K Factor = -2.88 |       |
| R32<br>to<br>32      | 47<br>47       |           | -31.65<br>-31.65 | 2.5<br>2.703 | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120<br>-0.0030 | 86.963<br>0.0<br>-0.110 |       | Vel = 1.77       |       |
| 32                   |                |           | 0.0<br>-31.65    |              |                        |                         |                           |                | 86.853                  |       | K Factor = -3.40 |       |
| R33<br>to<br>33      | 47<br>47       |           | -37.43<br>-37.43 | 2.5<br>2.703 | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120<br>-0.0041 | 87.236<br>0.0<br>-0.149 |       | Vel = 2.09       |       |
| 33                   |                |           | 0.0<br>-37.43    |              |                        |                         |                           |                | 87.087                  |       | K Factor = -4.01 |       |
| R34<br>to<br>34      | 47<br>47       |           | -44.00<br>-44.0  | 2.5<br>2.703 | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120<br>-0.0056 | 87.476<br>0.0<br>-0.202 |       | Vel = 2.46       |       |
| 34                   |                |           | 0.0<br>-44.00    |              |                        |                         |                           |                | 87.274                  |       | K Factor = -4.71 |       |
| R35<br>to<br>35      | 47<br>47       |           | -51.25<br>-51.25 | 2.5<br>2.703 | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120<br>-0.0074 | 87.682<br>0.0<br>-0.268 |       | Vel = 2.87       |       |
| 35                   |                |           | 0.0<br>-51.25    |              |                        |                         |                           |                | 87.414                  |       | K Factor = -5.48 |       |
| R36<br>to<br>36      | 47<br>47       |           | -59.05<br>-59.05 | 2.5<br>2.703 | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120<br>-0.0096 | 87.854<br>0.0<br>-0.348 |       | Vel = 3.30       |       |
| 36                   |                |           | 0.0<br>-59.05    |              |                        |                         |                           |                | 87.506                  |       | K Factor = -6.31 |       |
| R37<br>to<br>37      | 47<br>47       |           | -67.28<br>-67.28 | 2.5<br>2.703 | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120<br>-0.0122 | 87.997<br>0.0<br>-0.443 |       | Vel = 3.76       |       |
| 37                   |                |           | 0.0<br>-67.28    |              |                        |                         |                           |                | 87.554                  |       | K Factor = -7.19 |       |
| R38<br>to<br>38      | 47<br>47       |           | -75.80<br>-75.8  | 2.5<br>2.703 | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120<br>-0.0152 | 88.122<br>0.0<br>-0.553 |       | Vel = 4.24       |       |

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt      | Nom<br>Act | Fitting<br>or<br>Equiv | Len                     | Pipe<br>Ftngs<br>Total    | CFact<br>Pf/Ft | Pt<br>Pe<br>Pf          | ***** | Notes            | ***** |
|----------------------|----------------|-----------|---------------|------------|------------------------|-------------------------|---------------------------|----------------|-------------------------|-------|------------------|-------|
| 38                   |                |           | 0.0<br>-75.80 |            |                        |                         |                           |                |                         |       |                  |       |
| R39<br>to<br>39      | 47<br>47       |           | 288.96        | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 87.569<br>68.823<br>0.0 |       | K Factor = -8.10 |       |
|                      |                |           | 288.96        | 2.203      |                        |                         |                           | 0.4906         | 12.787                  |       | Vel = 24.32      |       |
| 39                   |                |           | 0.0<br>288.96 |            |                        |                         |                           |                |                         |       |                  |       |
| R40<br>to<br>40      | 47<br>47       |           | 288.85        | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 81.610<br>68.860<br>0.0 |       | K Factor = 31.99 |       |
|                      |                |           | 288.85        | 2.203      |                        |                         |                           | 0.4902         | 12.778                  |       | Vel = 24.31      |       |
| 40                   |                |           | 0.0<br>288.85 |            |                        |                         |                           |                |                         |       |                  |       |
| R41<br>to<br>41      | 47<br>47       |           | 288.44        | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 81.638<br>68.995<br>0.0 |       | K Factor = 31.97 |       |
|                      |                |           | 288.44        | 2.203      |                        |                         |                           | 0.4890         | 12.745                  |       | Vel = 24.28      |       |
| 41                   |                |           | 0.0<br>288.44 |            |                        |                         |                           |                |                         |       |                  |       |
| R42<br>to<br>42      | 47<br>47       |           | 60.17         | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 81.740<br>81.253<br>0.0 |       | K Factor = 31.90 |       |
|                      |                |           | 60.17         | 2.203      |                        |                         |                           | 0.0269         | 0.701                   |       | Vel = 5.06       |       |
| 42                   |                |           | 0.0<br>60.17  |            |                        |                         |                           |                |                         |       |                  |       |
| R43<br>to<br>43      | 47<br>47       |           | 53.02         | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 81.954<br>81.642<br>0.0 |       | K Factor = 6.65  |       |
|                      |                |           | 53.02         | 2.203      |                        |                         |                           | 0.0213         | 0.555                   |       | Vel = 4.46       |       |
| 43                   |                |           | 0.0<br>53.02  |            |                        |                         |                           |                |                         |       |                  |       |
| R44<br>to<br>44      | 47<br>47       |           | 46.45         | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 82.197<br>82.032<br>0.0 |       | K Factor = 5.85  |       |
|                      |                |           | 46.45         | 2.203      |                        |                         |                           | 0.0167         | 0.434                   |       | Vel = 3.91       |       |
| 44                   |                |           | 0.0<br>46.45  |            |                        |                         |                           |                |                         |       |                  |       |
| R45<br>to<br>45      | 47<br>47       |           | 40.70         | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 82.466<br>82.405<br>0.0 |       | K Factor = 5.12  |       |
|                      |                |           | 40.7          | 2.203      |                        |                         |                           | 0.0130         | 0.340                   |       | Vel = 3.43       |       |
| 45                   |                |           | 0.0<br>40.70  |            |                        |                         |                           |                |                         |       |                  |       |
| R46<br>to<br>46      | 47<br>47       |           | 35.72         | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 82.745<br>82.761<br>0.0 |       | K Factor = 4.47  |       |
|                      |                |           | 35.72         | 2.203      |                        |                         |                           | 0.0103         | 0.268                   |       | Vel = 3.01       |       |
| 46                   |                |           | 0.0<br>35.72  |            |                        |                         |                           |                |                         |       |                  |       |
| R47<br>to<br>47      | 47<br>47       |           | 31.20         | 2          | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120            | 83.029<br>83.122<br>0.0 |       | K Factor = 3.92  |       |
|                      |                |           | 31.2          | 2.203      |                        |                         |                           | 0.0080         | 0.208                   |       | Vel = 2.63       |       |
|                      |                |           | 0.0           |            |                        |                         |                           |                |                         |       |                  |       |

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt       | Nom<br>Act   | Fitting<br>or<br>Equiv | Len                     | Pipe<br>Ftngs<br>Total    | CFact<br>Pf/Ft | Pt<br>Pe<br>Pf         | ***** | Notes           | *****      |
|----------------------|----------------|-----------|----------------|--------------|------------------------|-------------------------|---------------------------|----------------|------------------------|-------|-----------------|------------|
| 47                   |                |           | 31.20          |              |                        |                         |                           |                | 83.330                 |       | K Factor = 3.42 |            |
| R48<br>to<br>48      | 47<br>47       |           | 27.13<br>27.13 | 2<br>2.203   | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120<br>0.0062  | 83.487<br>0.0<br>0.161 |       |                 | Vel = 2.28 |
| 48                   |                |           | 0.0<br>27.13   |              |                        |                         |                           |                | 83.648                 |       | K Factor = 2.97 |            |
| R49<br>to<br>49      | 47<br>47       |           | 23.48<br>23.48 | 2<br>2.203   | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120<br>0.0048  | 83.856<br>0.0<br>0.124 |       |                 | Vel = 1.98 |
| 49                   |                |           | 0.0<br>23.48   |              |                        |                         |                           |                | 83.980                 |       | K Factor = 2.56 |            |
| R50<br>to<br>50      | 47<br>47       |           | 20.26<br>20.26 | 2<br>2.203   | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120<br>0.0036  | 84.230<br>0.0<br>0.094 |       |                 | Vel = 1.71 |
| 50                   |                |           | 0.0<br>20.26   |              |                        |                         |                           |                | 84.324                 |       | K Factor = 2.21 |            |
| R51<br>to<br>51      | 47<br>47       |           | 17.47<br>17.47 | 2<br>2.203   | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120<br>0.0027  | 84.608<br>0.0<br>0.071 |       |                 | Vel = 1.47 |
| 51                   |                |           | 0.0<br>17.47   |              |                        |                         |                           |                | 84.679                 |       | K Factor = 1.90 |            |
| R52<br>to<br>52      | 47<br>47       |           | 15.16<br>15.16 | 2<br>2.203   | X<br>T                 | 11.593<br>13.639<br>0.0 | 0.833<br>25.232<br>26.065 | 120<br>0.0021  | 84.989<br>0.0<br>0.055 |       |                 | Vel = 1.28 |
| 52                   |                |           | 0.0<br>15.16   |              |                        |                         |                           |                | 85.044                 |       | K Factor = 1.64 |            |
| R53<br>to<br>53      | 47<br>47       |           | 21.60<br>21.6  | 2.5<br>2.703 | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120<br>0.0015  | 85.363<br>0.0<br>0.054 |       |                 | Vel = 1.21 |
| 53                   |                |           | 0.0<br>21.60   |              |                        |                         |                           |                | 85.417                 |       | K Factor = 2.34 |            |
| R54<br>to<br>54      | 47<br>47       |           | 20.37<br>20.37 | 2.5<br>2.703 | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120<br>0.0013  | 85.754<br>0.0<br>0.048 |       |                 | Vel = 1.14 |
| 54                   |                |           | 0.0<br>20.37   |              |                        |                         |                           |                | 85.802                 |       | K Factor = 2.20 |            |
| R55<br>to<br>55      | 47<br>47       |           | 20.92<br>20.92 | 2.5<br>2.703 | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120<br>0.0014  | 86.148<br>0.0<br>0.051 |       |                 | Vel = 1.17 |
| 55                   |                |           | 0.0<br>20.92   |              |                        |                         |                           |                | 86.199                 |       | K Factor = 2.25 |            |
| R56<br>to<br>56      | 47<br>47       |           | 23.16<br>23.16 | 2.5<br>2.703 | X<br>T                 | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270 | 120<br>0.0017  | 86.547<br>0.0<br>0.061 |       |                 | Vel = 1.29 |
| 56                   |                |           | 0.0<br>23.16   |              |                        |                         |                           |                | 86.608                 |       | K Factor = 2.49 |            |

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt                   | Nom<br>Act   | Fitting<br>or<br>Eqiv | Len                     | Pipe<br>Ftngs<br>Total     | CFact<br>Pf/Ft | Pt<br>Pe<br>Pf         | ***** | Notes           | ***** |
|----------------------|----------------|-----------|----------------------------|--------------|-----------------------|-------------------------|----------------------------|----------------|------------------------|-------|-----------------|-------|
| R57<br>to<br>57      | 47<br>47       |           | 26.82<br>26.82<br>0.0      | 2.5<br>2.703 | X<br>T                | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270  | 120<br>0.0022  | 86.950<br>0.0<br>0.081 |       | Vel = 1.50      |       |
| 57                   |                |           | 26.82                      |              |                       |                         |                            |                | 87.031                 |       | K Factor = 2.87 |       |
| R58<br>to<br>58      | 47<br>47       |           | 31.65<br>31.65<br>0.0      | 2.5<br>2.703 | X<br>T                | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270  | 120<br>0.0030  | 87.360<br>0.0<br>0.110 |       | Vel = 1.77      |       |
| 58                   |                |           | 31.65                      |              |                       |                         |                            |                | 87.470                 |       | K Factor = 3.38 |       |
| R59<br>to<br>59      | 47<br>47       |           | 37.43<br>37.43<br>0.0      | 2.5<br>2.703 | X<br>T                | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270  | 120<br>0.0041  | 87.778<br>0.0<br>0.150 |       | Vel = 2.09      |       |
| 59                   |                |           | 37.43                      |              |                       |                         |                            |                | 87.928                 |       | K Factor = 3.99 |       |
| R60<br>to<br>60      | 47<br>47       |           | 44.00<br>44.0<br>0.0       | 2.5<br>2.703 | X<br>T                | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270  | 120<br>0.0056  | 88.206<br>0.0<br>0.202 |       | Vel = 2.46      |       |
| 60                   |                |           | 44.00                      |              |                       |                         |                            |                | 88.408                 |       | K Factor = 4.68 |       |
| R61<br>to<br>61      | 47<br>47       |           | 51.25<br>51.25<br>0.0      | 2.5<br>2.703 | X<br>T                | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270  | 120<br>0.0074  | 88.650<br>0.0<br>0.268 |       | Vel = 2.87      |       |
| 61                   |                |           | 51.25                      |              |                       |                         |                            |                | 88.918                 |       | K Factor = 5.43 |       |
| R62<br>to<br>62      | 47<br>47       |           | 59.05<br>59.05<br>0.0      | 2.5<br>2.703 | X<br>T                | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270  | 120<br>0.0096  | 89.112<br>0.0<br>0.348 |       | Vel = 3.30      |       |
| 62                   |                |           | 59.05                      |              |                       |                         |                            |                | 89.460                 |       | K Factor = 6.24 |       |
| R63<br>to<br>63      | 47<br>47       |           | 67.28<br>67.28<br>0.0      | 2.5<br>2.703 | X<br>T                | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270  | 120<br>0.0122  | 89.599<br>0.0<br>0.443 |       | Vel = 3.76      |       |
| 63                   |                |           | 67.28                      |              |                       |                         |                            |                | 90.042                 |       | K Factor = 7.09 |       |
| R64<br>to<br>64      | 47<br>47       |           | 75.80<br>75.8<br>0.0       | 2.5<br>2.703 | X<br>T                | 16.786<br>18.651<br>0.0 | 0.833<br>35.437<br>36.270  | 120<br>0.0152  | 90.119<br>0.0<br>0.553 |       | Vel = 4.24      |       |
| 64                   |                |           | 75.80                      |              |                       |                         |                            |                | 90.672                 |       | K Factor = 7.96 |       |
| 13<br>to<br>14       | 47<br>47       |           | 282.33                     | 4            |                       | 0.0                     | 10.000                     | 120            | 74.696                 |       |                 |       |
| 14                   |                |           |                            |              |                       | 0.0                     | 0.0                        |                | 0.0                    |       |                 |       |
| 14<br>to<br>15       | 47<br>47       |           | 282.33<br>282.89<br>565.22 | 4.26<br>4    |                       | 0.0<br>0.0<br>0.0       | 10.000<br>10.000<br>10.000 | 0.0189<br>120  | 0.189<br>74.885<br>0.0 |       | Vel = 6.36      |       |
| 15                   |                |           |                            |              |                       | 0.0                     | 0.0                        | 0.0684         | 0.684                  |       | Vel = 12.72     |       |

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt         | Nom<br>Act | Fitting<br>or<br>Equiv<br>Len | Pipe<br>Ftngs<br>Total | CFact<br>Pf/Ft | Pt<br>Pe<br>Pf | *****       | Notes | ***** |
|----------------------|----------------|-----------|------------------|------------|-------------------------------|------------------------|----------------|----------------|-------------|-------|-------|
| 15<br>to<br>16       | 47<br>47       |           | 284.86<br>850.08 | 4<br>4.26  | 0.0<br>0.0                    | 10.000<br>0.0          | 120<br>0.1455  | 75.569<br>0.0  |             |       |       |
| 16<br>to<br>17       | 47<br>47       |           | -60.16<br>789.92 | 4<br>4.26  | 0.0<br>0.0                    | 10.000<br>0.0          | 120<br>0.1271  | 77.024<br>0.0  | Vel = 19.14 |       |       |
| 17<br>to<br>18       | 47<br>47       |           | -53.03<br>736.89 | 4<br>4.26  | 0.0<br>0.0                    | 10.000<br>0.0          | 120<br>0.1117  | 78.295<br>0.0  | Vel = 17.78 |       |       |
| 18<br>to<br>19       | 47<br>47       |           | -46.45<br>690.44 | 4<br>4.26  | 0.0<br>0.0                    | 9.500<br>0.0           | 120<br>0.0991  | 79.412<br>0.0  | Vel = 16.59 |       |       |
| 19<br>to<br>20       | 47<br>47       |           | -40.70<br>649.74 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0886  | 80.353<br>0.0  | Vel = 15.54 |       |       |
| 20<br>to<br>21       | 47<br>47       |           | -35.72<br>614.02 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0797  | 81.150<br>0.0  | Vel = 14.63 |       |       |
| 21<br>to<br>22       | 47<br>47       |           | -31.20<br>582.82 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0724  | 81.867<br>0.0  | Vel = 13.82 |       |       |
| 22<br>to<br>23       | 47<br>47       |           | -27.13<br>555.69 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0662  | 82.519<br>0.0  | Vel = 13.12 |       |       |
| 23<br>to<br>24       | 47<br>47       |           | -23.48<br>532.21 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0612  | 83.115<br>0.0  | Vel = 12.51 |       |       |
| 24<br>to<br>25       | 47<br>47       |           | -20.25<br>511.96 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0569  | 83.666<br>0.0  | Vel = 11.98 |       |       |
| 25<br>to<br>26       | 47<br>47       |           | -17.48<br>494.48 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0534  | 84.178<br>0.0  | Vel = 11.52 |       |       |
| 26<br>to<br>27       | 47<br>47       |           | -15.15<br>479.33 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0504  | 84.659<br>0.0  | Vel = 11.13 |       |       |
| 27<br>to<br>28       | 47<br>47       |           | -21.61<br>457.72 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0463  | 85.113<br>0.0  | Vel = 10.79 |       |       |
| 28<br>to<br>29       | 47<br>47       |           | -20.36<br>437.36 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0424  | 85.530<br>0.0  | Vel = 10.30 |       |       |
| 29<br>to<br>30       | 47<br>47       |           | -20.93<br>416.43 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0389  | 85.912<br>0.0  | Vel = 9.84  |       |       |
| 30<br>to<br>31       | 47<br>47       |           | -23.16<br>393.27 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0350  | 86.262<br>0.0  | Vel = 9.37  |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel = 8.85  |       |       |

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt         | Nom<br>Act | Fitting<br>or<br>Equiv<br>Len | Pipe<br>Ftngs<br>Total | CFact<br>Pf/Ft | Pt<br>Pe<br>Pf | *****      | Notes | ***** |
|----------------------|----------------|-----------|------------------|------------|-------------------------------|------------------------|----------------|----------------|------------|-------|-------|
| 31<br>to<br>32       | 47<br>47       |           | -26.82<br>366.45 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0307  | 86.577<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 8.25  |       |
| 32<br>to<br>33       | 47<br>47       |           | -31.65<br>334.8  | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0260  | 86.853<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 7.54  |       |
| 33<br>to<br>34       | 47<br>47       |           | -37.43<br>297.37 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0208  | 87.087<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 6.69  |       |
| 34<br>to<br>35       | 47<br>47       |           | -44.00<br>253.37 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0156  | 87.274<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 5.70  |       |
| 35<br>to<br>36       | 47<br>47       |           | -51.24<br>202.13 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0102  | 87.414<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 4.55  |       |
| 36<br>to<br>37       | 47<br>47       |           | -59.05<br>143.08 | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0053  | 87.506<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 3.22  |       |
| 37<br>to<br>38       | 47<br>47       |           | -67.28<br>75.8   | 4<br>4.26  | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0017  | 87.554<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 1.71  |       |
| 38                   |                |           | 0.0<br>75.80     |            |                               |                        |                |                |            |       |       |
|                      |                |           |                  |            |                               |                        |                | 87.569         | K Factor = | 8.10  |       |
| 39<br>to<br>40       | 47<br>47       |           | 288.96<br>288.96 | 6<br>6.357 | 0.0<br>0.0                    | 10.000<br>0.0          | 120<br>0.0028  | 81.610<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 2.92  |       |
| 40<br>to<br>41       | 47<br>47       |           | 288.85<br>577.81 | 6<br>6.357 | 0.0<br>0.0                    | 10.000<br>0.0          | 120<br>0.0102  | 81.638<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 5.84  |       |
| 41<br>to<br>42       | 47<br>47       |           | 288.44<br>866.25 | 6<br>6.357 | 0.0<br>0.0                    | 10.000<br>0.0          | 120<br>0.0214  | 81.740<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 8.76  |       |
| 42<br>to<br>43       | 47<br>47       |           | 60.17<br>926.42  | 6<br>6.357 | 0.0<br>0.0                    | 10.000<br>0.0          | 120<br>0.0243  | 81.954<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 9.36  |       |
| 43<br>to<br>44       | 47<br>47       |           | 53.02<br>979.44  | 6<br>6.357 | 0.0<br>0.0                    | 10.000<br>0.0          | 120<br>0.0269  | 82.197<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 9.90  |       |
| 44<br>to<br>45       | 47<br>47       |           | 46.45<br>1025.89 | 6<br>6.357 | 0.0<br>0.0                    | 9.500<br>0.0           | 120<br>0.0294  | 82.466<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 10.37 |       |
| 45<br>to<br>46       | 47<br>47       |           | 40.70<br>1066.59 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0316  | 82.745<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 10.78 |       |
| 46<br>to<br>47       | 47<br>47       |           | 35.72<br>1102.31 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0           | 120<br>0.0334  | 83.029<br>0.0  |            |       |       |
|                      |                |           |                  |            |                               |                        |                |                | Vel =      | 11.14 |       |

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt         | Nom<br>Act | Fitting<br>or<br>Equiv<br>Len | Pipe<br>Ftns<br>Total | CFact<br>Pf/Ft | Pt<br>Pe<br>Pf | *****       | Notes | ***** |
|----------------------|----------------|-----------|------------------|------------|-------------------------------|-----------------------|----------------|----------------|-------------|-------|-------|
| 47<br>to<br>48       | 47<br>47       |           | 31.21<br>1133.52 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0353  | 83.330<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 11.46 |       |       |
| 48<br>to<br>49       | 47<br>47       |           | 27.12<br>1160.64 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0369  | 83.648<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 11.73 |       |       |
| 49<br>to<br>50       | 47<br>47       |           | 23.48<br>1184.12 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0382  | 83.980<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 11.97 |       |       |
| 50<br>to<br>51       | 47<br>47       |           | 20.26<br>1204.38 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0394  | 84.324<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 12.17 |       |       |
| 51<br>to<br>52       | 47<br>47       |           | 17.47<br>1221.85 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0406  | 84.679<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 12.35 |       |       |
| 52<br>to<br>53       | 47<br>47       |           | 15.16<br>1237.01 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0414  | 85.044<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 12.50 |       |       |
| 53<br>to<br>54       | 47<br>47       |           | 21.60<br>1258.61 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0428  | 85.417<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 12.72 |       |       |
| 54<br>to<br>55       | 47<br>47       |           | 20.37<br>1278.98 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0441  | 85.802<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 12.93 |       |       |
| 55<br>to<br>56       | 47<br>47       |           | 20.92<br>1299.9  | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0454  | 86.199<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 13.14 |       |       |
| 56<br>to<br>57       | 47<br>47       |           | 23.16<br>1323.06 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0470  | 86.608<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 13.37 |       |       |
| 57<br>to<br>58       | 47<br>47       |           | 26.83<br>1349.89 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0488  | 87.031<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 13.65 |       |       |
| 58<br>to<br>59       | 47<br>47       |           | 31.65<br>1381.54 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0509  | 87.470<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 13.97 |       |       |
| 59<br>to<br>60       | 47<br>47       |           | 37.42<br>1418.96 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0533  | 87.928<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 14.34 |       |       |
| 60<br>to<br>61       | 47<br>47       |           | 44.00<br>1462.96 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0567  | 88.408<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 14.79 |       |       |
| 61<br>to<br>62       | 47<br>47       |           | 51.25<br>1514.21 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0602  | 88.918<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 15.31 |       |       |
| 62<br>to<br>63       | 47<br>47       |           | 59.04<br>1573.25 | 6<br>6.357 | 0.0<br>0.0                    | 9.000<br>0.0          | 120<br>0.0647  | 89.460<br>0.0  |             |       |       |
|                      |                |           |                  |            |                               |                       |                |                | Vel = 15.90 |       |       |

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt            | Nom<br>Act  | Fitting<br>or<br>Eqiv | Len                                  | Pipe<br>Ftngs<br>Total        | CFact<br>Pf/Ft | Pt<br>Pe<br>Pf             | *****             | Notes | ***** |
|----------------------|----------------|-----------|---------------------|-------------|-----------------------|--------------------------------------|-------------------------------|----------------|----------------------------|-------------------|-------|-------|
| 63<br>to<br>64       | 47<br>47       |           | 67.28<br>1640.53    | 6<br>6.357  |                       | 0.0<br>0.0                           | 9.000<br>0.0                  | 120            | 90.042<br>0.0              |                   |       |       |
| 64<br>to<br>FMJ      | 47<br>47       |           | 75.80<br>1716.33    | 6<br>6.357  | V                     | 12.573<br>0.0                        | 2.333<br>12.573               | 120            | 90.672<br>0.0              | Vel = 16.58       |       |       |
| FMJ                  |                |           | 0.0<br>1716.33      |             |                       | 0.0                                  | 14.906                        | 0.0759         | 1.132                      | Vel = 17.35       |       |       |
| FMJ<br>to<br>TR3     | 47<br>47       |           | 1716.33<br>1716.33  | 6<br>6.357  | V                     | 12.573<br>0.0                        | 44.208<br>12.573              | 120            | 91.804<br>0.0              | K Factor = 179.13 |       |       |
| TR3<br>to<br>BR3     | 47<br>2        |           | 1716.33<br>1716.33  | 6<br>6.357  | S<br>B<br>T           | 40.235<br>12.573<br>37.72            | 38.875<br>90.528<br>129.403   | 120            | 96.120<br>19.490<br>9.834  | Vel = 17.35       |       |       |
| BR3<br>to<br>FLG     | 2<br>2         | H100      | 100.00<br>1816.33   | 8<br>7.98   | L                     | 19.632<br>0.0                        | 2.000<br>19.632               | 150            | 125.444<br>0.0             | Vel = 17.35       |       |       |
| FLG<br>to<br>UG2     | 2<br>-5        |           | 0.0<br>1816.33      | 8<br>7.98   | L<br>T                | 19.632<br>52.855<br>0.0              | 53.167<br>72.487<br>125.654   | 150            | 125.844<br>3.032<br>2.318  | Vel = 11.65       |       |       |
| UG2                  |                |           | 0.0<br>1816.33      |             |                       |                                      |                               | 0.0184         |                            | Vel = 11.65       |       |       |
| UG2<br>to<br>UG1     | -5<br>-5       |           | -733.33<br>-733.33  | 8<br>7.98   | 3F<br>G               | 40.774<br>6.041<br>0.0               | 614.875<br>46.814<br>661.689  | 150            | 133.475<br>0.0<br>-2.281   | K Factor = 158.58 |       |       |
| UG2<br>to<br>UG3     | -5<br>-5       | H150      | 1966.34<br>1233.01  | 8<br>7.98   | 3F<br>L<br>T<br>2G    | 40.774<br>19.632<br>52.855<br>12.081 | 580.958<br>125.343<br>706.301 | 150            | 131.194<br>0.0<br>6.367    | Vel = 4.70        |       |       |
| UG3<br>to<br>UG4     | -5<br>-5       |           | -1966.34<br>-733.33 | 12<br>11.65 | F<br>G                | 17.441<br>8.05<br>0.0                | 958.917<br>25.490<br>984.407  | 150            | 137.561<br>0.0<br>-0.538   | Vel = 7.91        |       |       |
| UG4<br>to<br>UG5     | -5<br>-5       |           | 0.0<br>-733.33      | 12<br>11.65 | G                     | 8.05<br>0.0<br>0.0                   | 16.167<br>8.049<br>24.216     | 150            | 137.023<br>0.0<br>-0.013   | Vel = 2.21        |       |       |
| UG5<br>to<br>UG1     | -5<br>-5       |           | 0.0<br>-733.33      | 8<br>7.98   | 5F<br>2G              | 67.957<br>12.081<br>0.0              | 945.542<br>80.039<br>1025.581 | 150            | 137.010<br>0.0<br>-3.535   | Vel = 2.21        |       |       |
| UG1                  |                |           | 0.0<br>-733.33      |             |                       |                                      |                               | -0.0034        |                            | Vel = 4.70        |       |       |
| UG1<br>to<br>UG6     | -5<br>-5       |           | 1966.33<br>1966.33  | 12<br>11.65 | 6F<br>2G              | 104.647<br>16.1<br>0.0               | 801.750<br>120.747<br>922.497 | 150            | 137.561<br>0.0<br>3.123    | K Factor = -63.47 |       |       |
| UG6<br>to<br>PUMP    | -5<br>2        |           | 0.0<br>1966.33      | 12<br>11.65 | 2L                    | 48.299<br>0.0<br>0.0                 | 45.500<br>48.298<br>93.798    | 150            | 140.684<br>-3.032<br>0.318 | Vel = 5.92        |       |       |

# Final Calculations : Hazen-Williams

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| Node1<br>to<br>Node2 | Elev1<br>Elev2 | K<br>Fact | Qa<br>Qt       | Nom<br>Act  | Fitting<br>or<br>Equiv<br>Len | Pipe<br>Ftngs<br>Total   | CFact<br>Pf/Ft               | Pt<br>Pe<br>Pf      | ***** | Notes             | ***** |
|----------------------|----------------|-----------|----------------|-------------|-------------------------------|--------------------------|------------------------------|---------------------|-------|-------------------|-------|
| PUMP<br>to<br>PO     | 2<br>2         |           | 0.0<br>1966.33 | 10<br>10.42 | 2V<br>S<br>B                  | 10.89<br>66.551<br>22.99 | 15.000<br>100.431<br>115.431 | 120<br>0.0<br>1.016 |       | Vel = 7.40        |       |
| PO                   |                |           | 0.0<br>1966.33 |             |                               |                          |                              | 138.986             |       | K Factor = 166.79 |       |