

| EARTHWORK SUMMARY |              |
|-------------------|--------------|
| CUT               | 24,183 CY    |
| FILL              | 20,290 CY    |
| NET               | 3,893 CY CUT |

**RECORD DRAWING**

The information provided on this drawing conforms to construction records; it is not intended for construction, implementation or recording purposes; and it is solely based on information obtained by Schlager and Associates.

"100.00 100.10", "1.00% 1.15% slope", or "8-inch HDPE PVC pipe" are all typical examples of revisions that indicate that design data has been replaced with "as-built" information. All other data is as designed and has not been field verified.

Date: 8/8/2023  
 Certified by: BAL  
 Title: Design Engineer  
 Firm: Schlager and Associates, P.A.

**NOTE:**

THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATIONS.

- 950 — DENOTES PROPOSED MAJOR CONTOUR
- 950 — DENOTES PROPOSED MINOR CONTOUR
- 950 — DENOTES EXISTING MAJOR CONTOUR
- 950 — DENOTES EXISTING MINOR CONTOUR
- 950 — DENOTES AS-BUILT MAJOR CONTOUR
- 950 — DENOTES AS-BUILT MINOR CONTOUR

**MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:**

BM JA-148, IS A STAMPED KC METRO DISK SET IN CONCRETE LOCATED 2 MILES WEST OF THE INTERSECTION OF HIGHWAY 50 AND 3RD ST. IT IS 44 FT NORTH OF THE CENTER OF 3RD ST. AND 102.5 FT WEST OF THE CENTER OF THE EXIT FROM THE ADJACENT PARKING LOT.

ELEV. 935.18

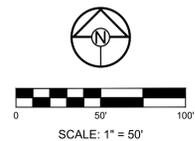
**PROJECT BENCHMARK:**

CHISELED "SQUARE" ON STORM CURB INLET AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148  
 EASTING: 2803318.5413  
 ELEV. 1004.09

**SURVEY NOTES**

The bases of bearing and coordinates are base on the Missouri Coordinate System of 1983, West Zone (2003 Adjustment) with a Grid Factor of 0.9999020.



PREPARED BY:



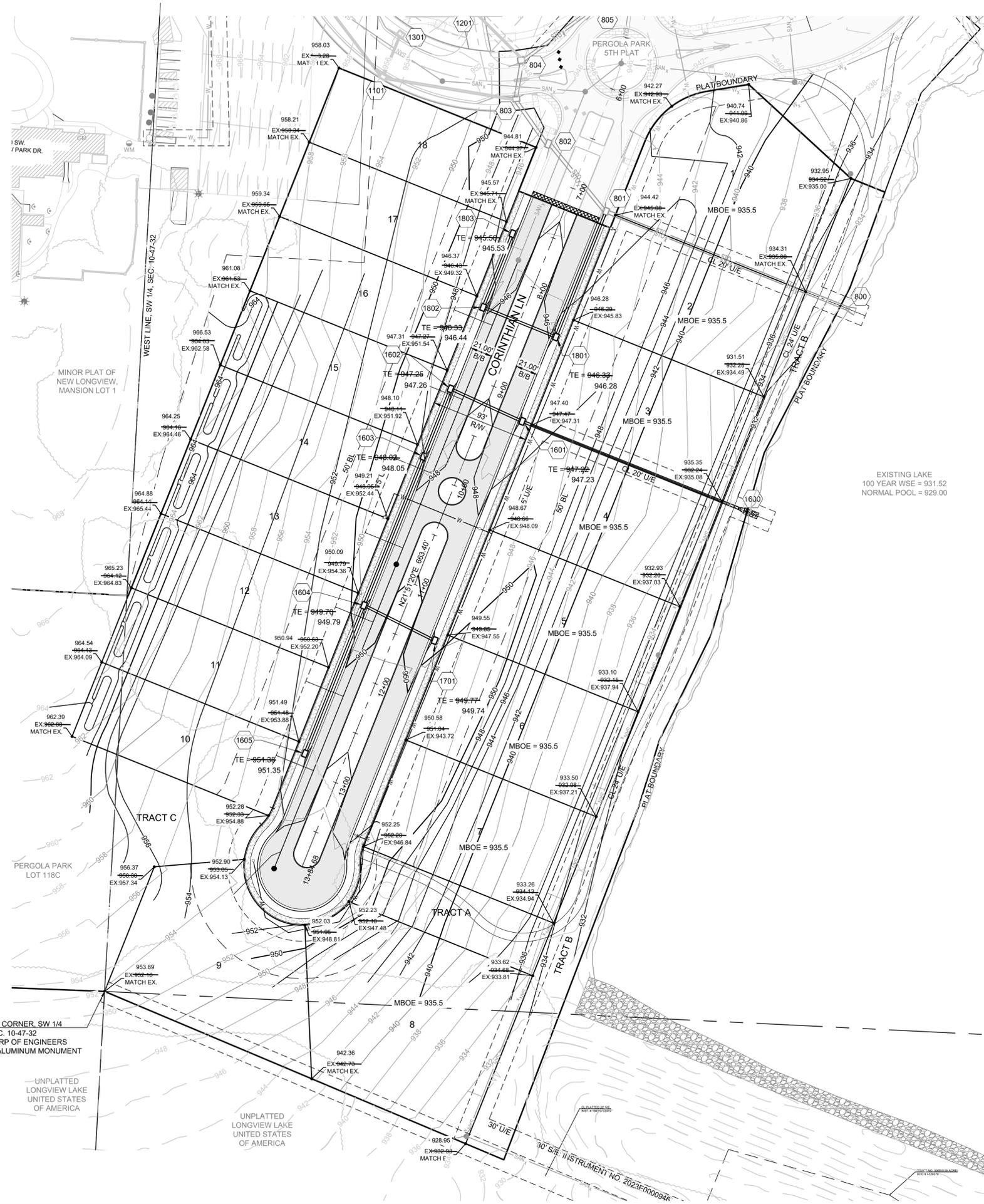
SCHLAGEL & ASSOCIATES, P.A.

**LUMBERMAN'S ROW STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSION AND SEDIMENT CONTROL - LEE'S SUMMIT, MISSOURI**

| REVISION DATE | DESCRIPTION       |
|---------------|-------------------|
| 8-12-22       | CITY COMMENTS     |
| 8-8-23        | AS-BUILTS         |
| 8-31-23       | AS-BUILT COMMENTS |
| 8-22          | DATE PREPARED     |
| 22-534        | PROJ. NUMBER      |

**MASTER DRAINAGE PLAN - GRADING PLAN**

SHEET  
**3**



LOT TYPE TABLE

| LOT # | BASEMENT TYPE | FRONT MBOE | REAR MBOE | AS-BUILT FRONT MBOE | AS-BUILT REAR MBOE |
|-------|---------------|------------|-----------|---------------------|--------------------|
| 1     | WALKOUT       | 945.60     | 935.50    | 944.90              | 935.50             |
| 2     | WALKOUT       | 946.40     | 935.50    | 946.80              | 935.50             |
| 3     | WALKOUT       | 948.00     | 935.50    | 947.90              | 935.50             |
| 4     | WALKOUT       | 948.60     | 935.50    | 949.20              | 935.50             |
| 5     | WALKOUT       | 950.40     | 935.50    | 950.05              | 935.50             |
| 6     | WALKOUT       | 951.60     | 935.50    | 951.10              | 935.50             |
| 7     | WALKOUT       | 947.40     | 935.50    | 952.75              | 935.50             |
| 8     | WALKOUT       | 952.00     | 935.50    | 952.75              | 935.50             |
| 9     | STANDARD      | 953.60     | 952.60    | 953.40              | 954.40             |
| 10    | STANDARD      | 952.90     | 952.90    | 952.80              | 952.80             |
| 11    | STANDARD      | 952.00     | 952.00    | 952.00              | 952.00             |
| 12    | STANDARD      | 951.20     | 951.20    | 951.50              | 951.50             |
| 13    | STANDARD      | 950.30     | 950.30    | 950.60              | 950.60             |
| 14    | STANDARD      | 949.50     | 949.50    | 949.70              | 949.70             |
| 15    | STANDARD      | 948.70     | 948.70    | 948.60              | 948.60             |
| 16    | STANDARD      | 947.80     | 947.80    | 947.80              | 947.80             |
| 17    | STANDARD      | 947.00     | 947.00    | 946.90              | 946.90             |
| 18    | STANDARD      | 946.30     | 946.30    | 946.10              | 946.10             |

ALL LOTS TO REQUIRE AS-GRADED PLOT PLANS

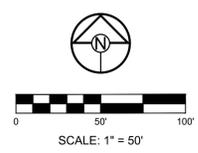
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**MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:**  
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ELEV. 935.18

**PROJECT BENCHMARK:**  
CHISELED "SQUARE" ON STORM CURB INLET AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.  
NORTHING: 998893.4148  
EASTING: 2803318.5413  
ELEV. 1004.09

**SURVEY NOTES**  
The bases of bearing and coordinates are base on the Missouri Coordinate System of 1983, West Zone (2003 Adjustment) with a Grid Factor of 0.9999020.



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Date: 8/8/2023  
Certified by: BAL  
Title: Design Engineer  
Firm: Schlagel and Associates, P.A.

**LUMBERMAN'S ROW  
STREET, STORMWATER, MASTER DRAINAGE  
PLAN & EROSION AND SEDIMENT CONTROL  
- LEE'S SUMMIT, MISSOURI**

| REVISION DATE | DESCRIPTION       |
|---------------|-------------------|
| 8-12-22       | CITY COMMENTS     |
| 8-23          | AS-BUILTS         |
| 8-31-23       | AS-BUILT COMMENTS |

DRAWN BY: BAL  
CHECKED BY: MAB  
DATE PREPARED: 8-22  
PROJ. NUMBER: 22-034

**MASTER DRAINAGE PLAN - LOT INFO**

I:\PROJECTS\2022\22-034\3.0 Design\3.0 DWG Plans\3.0 SS\22-034-SS-GRAD.dwg, 4 MASTER DRAINAGE PLAN - LOT INFO, 9/7/2023 3:16:54 PM, 11



**LUMBERMAN'S ROW  
 STREET, STORMWATER, MASTER DRAINAGE  
 PLAN & EROSION AND SEDIMENT CONTROL**  
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- PROPOSED DRAINAGE
- EXISTING DRAINAGE
- FUTURE DRAINAGE

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| REVISION DATE | DESCRIPTION       |
|---------------|-------------------|
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| 8-8-23        | AS-BUILTS         |
| 8-31-23       | AS-BUILT COMMENTS |
| 8-22          | DATE PREPARED     |
| 22-034        | PROJ. NUMBER      |

MASTER DRAINAGE PLAN - DRAINAGE MAP

**LUMBERMAN'S ROW STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSION AND SEDIMENT CONTROL - LEE'S SUMMIT, MISSOURI**

| REVISION DATE | DESCRIPTION       |
|---------------|-------------------|
| 8-12-22       | CITY COMMENTS     |
| 8-14-23       | AS-BUILTS         |
| 8-31-23       | AS-BUILT COMMENTS |
| 9-6-23        | DATE PREPARED     |
| 9-6-22        | PROJ. NUMBER      |
| 22-034        |                   |

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**100-YEAR RUNOFF CALCULATIONS**

| Runoff Calculations |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        | Pipe Properties |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
|---------------------|--------------|-----------|---------------------|------------|-----|-----------|-----------------|---------------|-----------|-----------|------------------|------------------|-----------------|--------|-----------------|------------|-----------|-----------|-----------|--------|---------|---------------|-------|---------|-----------|-----------|--|--|--|--|--|
| Inlet #             | Area (acres) | "C" Value | Cumul. Area (acres) | Cumul. CxA | Tc  | Intensity | Runoff To Inlet | Cumul. Runoff | Pipe Cap. | Pipe Vel. | Up Piped Inlet 1 | Up Piped Inlet 2 | Up Area (acres) | Up CxA | Up Inlet        | Down Inlet | Pipe Type | "n" Value | Pipe Size | Length | Slope % | Drop In Inlet | FL Up | FL Down | Inlet Top | HGL Elev. |  |  |  |  |  |
| EXISTING LINE 400   |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 401                 | 2.40         | 0.66      | 46.76               | 30.86      | 5.7 | 7.13      | 11.29           | 220.00        | 220.20    | 9.27      | 501              |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 402                 | 0.04         | 0.66      | 40.98               | 27.05      | 5.4 | 7.24      | 0.19            | 195.88        | 286.92    | 12.08     |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 403                 | 0.07         | 0.66      | 40.94               | 27.02      | 5.3 | 7.27      | 0.34            | 196.43        | 300.36    | 12.64     | 601              |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 404                 | 0.06         | 0.66      | 39.97               | 26.38      | 5.1 | 7.32      | 0.29            | 193.18        | 270.74    | 11.40     |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 405                 | 38.50        | 0.66      | 38.50               | 25.41      | 5.0 | 7.35      | 186.84          | 186.84        | 251.06    | 15.79     |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| EXISTING LINE 600   |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 601                 | 0.36         | 0.66      | 0.90                | 0.59       | 5.1 | 7.35      | 1.74            | 4.35          | 19.45     | 11.00     |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 602                 | 0.54         | 0.66      | 0.54                | 0.36       | 5.0 | 7.35      | 2.62            | 2.62          | 13.70     | 11.00     |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| EXISTING LINE 700   |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 701                 | 1.14         | 0.66      | 1.41                | 0.93       | 5.1 | 7.32      | 5.51            | 6.82          | 9.26      | 7.54      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 702                 | 0.27         | 0.66      | 0.27                | 0.18       | 5.0 | 7.35      | 1.31            | 1.31          | 7.10      | 5.79      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| EXISTING LINE 800   |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 801                 | 0.29         | 0.51      | 8.77                | 5.30       | 6.6 | 6.89      | 1.02            | 36.54         | 66.70     | 9.44      | 1801             |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 802                 | 1.38         | 0.51      | 6.91                | 4.35       | 6.5 | 6.93      | 4.88            | 30.17         | 68.55     | 9.70      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 803                 | 0.12         | 0.66      | 5.53                | 3.65       | 6.3 | 6.96      | 0.55            | 25.41         | 51.09     | 7.23      | 1101             |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 804                 | 0.22         | 0.66      | 3.09                | 2.04       | 6.2 | 6.99      | 1.01            | 14.25         | 31.42     | 6.40      | 1201             |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 805                 | 0.12         | 0.66      | 1.74                | 1.15       | 6.0 | 7.05      | 0.56            | 8.10          | 31.42     | 6.40      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 806                 | 0.40         | 0.66      | 1.62                | 1.07       | 5.8 | 7.10      | 1.88            | 7.59          | 31.42     | 6.40      | 1001             |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 807                 | 0.40         | 0.66      | 0.91                | 0.60       | 5.2 | 7.20      | 1.90            | 4.32          | 31.42     | 6.40      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 808                 | 0.19         | 0.66      | 0.51                | 0.34       | 5.2 | 7.30      | 0.91            | 2.46          | 31.42     | 6.40      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 809                 | 0.32         | 0.66      | 0.32                | 0.21       | 5.0 | 7.35      | 1.55            | 1.55          | 31.42     | 6.40      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 810                 | 0.21         | 0.66      | 0.21                | 0.14       | 5.0 | 7.35      | 1.02            | 1.02          | 31.42     | 6.40      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 811                 | 2.32         | 0.66      | 2.63                | 1.74       | 5.1 | 7.31      | 11.19           | 12.69         | 31.42     | 6.40      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 812                 | 0.13         | 0.66      | 0.13                | 0.09       | 5.0 | 7.35      | 0.63            | 0.63          | 4.95      | 4.03      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| EXISTING LINE 1000  |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1001                | 0.31         | 0.66      | 0.31                | 0.20       | 5.0 | 7.35      | 1.50            | 1.50          | 4.95      | 4.03      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| FUTURE LINE 1100    |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1101                | 0.55         | 0.66      | 2.32                | 1.53       | 6.0 | 7.05      | 2.56            | 10.79         | 30.32     | 17.16     | 1301             |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1102                | 0.34         | 0.66      | 1.60                | 1.06       | 5.8 | 7.11      | 1.60            | 7.51          | 13.28     | 10.82     |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1103                | 0.56         | 0.66      | 1.29                | 0.83       | 5.6 | 7.13      | 2.65            | 5.96          | 13.28     | 10.82     | 1401             |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1104                | 0.30         | 0.66      | 0.55                | 0.36       | 5.3 | 7.26      | 1.44            | 2.63          | 11.51     | 9.46      | 1501             |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1105                | 0.09         | 0.66      | 0.16                | 0.11       | 5.1 | 7.32      | 0.43            | 0.77          | 9.26      | 7.54      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1106                | 0.07         | 0.66      | 0.07                | 0.05       | 5.0 | 7.35      | 0.34            | 0.34          | 7.00      | 5.70      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| FUTURE LINE 1200    |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1201                | 0.35         | 0.66      | 1.13                | 0.75       | 5.6 | 7.19      | 1.66            | 5.35          | 18.52     | 15.09     |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1202                | 0.38         | 0.66      | 0.78                | 0.51       | 5.4 | 7.23      | 1.81            | 3.72          | 13.09     | 10.67     |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1203                | 0.25         | 0.66      | 0.40                | 0.26       | 5.2 | 7.30      | 1.20            | 1.93          | 11.06     | 9.02      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1204                | 0.15         | 0.66      | 0.15                | 0.10       | 5.0 | 7.35      | 0.73            | 0.73          | 11.06     | 9.02      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| FUTURE LINE 1300    |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1301                | 0.17         | 0.66      | 0.17                | 0.11       | 5.0 | 7.35      | 0.83            | 0.83          | 15.65     | 12.75     |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| FUTURE LINE 1400    |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1401                | 0.15         | 0.66      | 0.15                | 0.10       | 5.0 | 7.35      | 0.73            | 0.73          | 14.00     | 11.41     |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| FUTURE LINE 1500    |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1501                | 0.09         | 0.66      | 0.09                | 0.06       | 5.0 | 7.35      | 0.44            | 0.44          | 4.95      | 4.03      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| LINE 1600           |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1601                | 0.47         | 0.51      | 4.29                | 2.19       | 6.1 | 7.04      | 1.69            | 15.40         | 31.99     | 10.18     |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1602                | 0.84         | 0.51      | 3.82                | 1.95       | 5.9 | 7.08      | 3.03            | 13.80         | 25.70     | 8.18      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1603                | 1.22         | 0.51      | 2.98                | 1.52       | 5.8 | 7.13      | 4.43            | 10.83         | 24.51     | 7.80      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1604                | 0.96         | 0.51      | 1.76                | 0.90       | 5.4 | 7.24      | 3.54            | 6.49          | 11.94     | 6.75      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1605                | 0.80         | 0.51      | 0.80                | 0.41       | 5.0 | 7.35      | 3.00            | 3.00          | 11.38     | 6.44      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| LINE 1700           |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1701                | 0.59         | 0.51      | 0.59                | 0.30       | 5.0 | 7.35      | 2.21            | 2.21          | 7.00      | 5.70      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| LINE 1800           |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1801                | 0.20         | 0.51      | 1.57                | 0.80       | 5.4 | 7.23      | 0.74            | 5.79          | 11.38     | 6.44      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1802                | 0.86         | 0.51      | 1.37                | 0.70       | 5.2 | 7.29      | 3.20            | 5.09          | 11.38     | 6.44      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |
| 1803                | 0.51         | 0.51      | 0.51                | 0.26       | 5.0 | 7.35      | 1.91            | 1.91          | 7.00      | 5.70      |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |  |

**10-YEAR RUNOFF CALCULATIONS**

| Runoff Calculations |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        | Pipe Properties |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |
|---------------------|--------------|-----------|---------------------|------------|-----|-----------|-----------------|---------------|-----------|-----------|------------------|------------------|-----------------|--------|-----------------|------------|-----------|-----------|-----------|--------|---------|---------------|-------|---------|-----------|-----------|--|--|--|--|
| Inlet #             | Area (acres) | "C" Value | Cumul. Area (acres) | Cumul. CxA | Tc  | Intensity | Runoff To Inlet | Cumul. Runoff | Pipe Cap. | Pipe Vel. | Up Piped Inlet 1 | Up Piped Inlet 2 | Up Area (acres) | Up CxA | Up Inlet        | Down Inlet | Pipe Type | "n" Value | Pipe Size | Length | Slope % | Drop In Inlet | FL Up | FL Down | Inlet Top | HGL Elev. |  |  |  |  |
| EXISTING LINE 400   |              |           |                     |            |     |           |                 |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |
| 401                 | 2.40         | 0.66      | 46.76               | 30.86      | 5.7 | 7.13      | 11.29           | 220.00        | 220.20    | 9.27      | 501              |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |
| 402                 | 0.04         | 0.66      | 40.98               | 27.05      | 5.4 | 7.24      | 0.19            | 195.88        | 286.92    | 12.08     |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |
| 403                 | 0.07         | 0.66      | 40.94               | 27.02      | 5.3 | 7.27      | 0.34            |               |           |           |                  |                  |                 |        |                 |            |           |           |           |        |         |               |       |         |           |           |  |  |  |  |

**LUMBERMAN'S ROW  
 STREET, STORMWATER, MASTER DRAINAGE  
 PLAN & EROSION AND SEDIMENT CONTROL  
 - LEE'S SUMMIT, MISSOURI**

**GUTTER SPREAD AND INLET CAPACITY CALCULATIONS - LUMBERMAN'S ROW**

DESIGN STORM 10 CURB TYPE "A" = LAZY BACK  
 "K" FACTOR 1.00 CURB TYPE "B" = HIGH BACK

| RUNOFF CALCULATIONS       |               |      |          |           |        |                |                |                |                |                            | INLET DESIGN |              |                    |           |              |                  |                    |                            |              |                    | GUTTER DESIGN |                |  |  |
|---------------------------|---------------|------|----------|-----------|--------|----------------|----------------|----------------|----------------|----------------------------|--------------|--------------|--------------------|-----------|--------------|------------------|--------------------|----------------------------|--------------|--------------------|---------------|----------------|--|--|
| INLET #                   | COMPOSITE "C" | AREA | INLET Tc | INTENSITY | RUNOFF | UPSTREAM INLET | UPSTREAM INLET | UPSTREAM INLET | UPSTREAM INLET | BYPASS FROM UPSTREAM INLET | TOTAL RUNOFF | STREET GRADE | STREET CROSS SLOPE | CURB TYPE | INLET LENGTH | EFFECTIVE LENGTH | INLET INTERCEPTION | BYPASS TO DOWNSTREAM INLET | STREET GRADE | STREET CROSS SLOPE | DEPTH AT CURB | SPREAD OF FLOW |  |  |
| <b>EXISTING LINE 400</b>  |               |      |          |           |        |                |                |                |                |                            |              |              |                    |           |              |                  |                    |                            |              |                    |               |                |  |  |
| 401                       | 0.66          | 2.40 | 5        | 7.35      | 11.64  | 801            | 802            | 803            |                | 0.79                       | 12.43        | SUMP         | 2.08               | A         | 8            | 6.4              | 17.92              | 0.00                       | SUMP         | 2.08               | < 0.21        | < 10.50        |  |  |
| 402                       | 0.66          | 0.04 | 5        | 7.35      | 0.19   | 403            |                |                |                | 0.02                       | 0.21         | 3.24         | 2.08               | A         | 6            | 4.8              | 0.20               | 0.00                       | 3.24         | 2.08               | 0.06          | 3.48           |  |  |
| 403                       | 0.66          | 0.07 | 5        | 7.35      | 0.34   | 404            |                |                |                | 0.01                       | 0.35         | 3.24         | 2.08               | A         | 6            | 4.8              | 0.33               | 0.02                       | 3.24         | 2.08               | 0.08          | 4.12           |  |  |
| 404                       | 0.66          | 0.06 | 5        | 7.35      | 0.29   |                |                |                |                | 0.00                       | 0.29         | 3.24         | 2.08               | A         | 6            | 4.8              | 0.28               | 0.01                       | 3.24         | 2.08               | 0.07          | 3.88           |  |  |
| <b>EXISTING LINE 500</b>  |               |      |          |           |        |                |                |                |                |                            |              |              |                    |           |              |                  |                    |                            |              |                    |               |                |  |  |
| 501                       | 0.66          | 1.06 | 5        | 7.35      | 5.14   | 402            | 502            |                |                | 1.09                       | 6.24         | SUMP         | 2.08               | A         | 6            | 4.8              | 13.44              | 0.00                       | SUMP         | 2.08               | < 0.21        | < 10.50        |  |  |
| 502                       | 0.66          | 0.57 | 5        | 7.35      | 2.77   | 804            | 503            | 806            | 901            | 0.84                       | 3.61         | 1.95         | 2.08               | A         | 6            | 4.8              | 2.52               | 1.09                       | 1.95         | 2.08               | 0.20          | 10.05          |  |  |
| 503                       | 0.66          | 0.26 | 5        | 7.35      | 1.26   | 504            |                |                |                | 0.33                       | 1.59         | 1.49         | 2.08               | A         | 4            | 3.2              | 1.33               | 0.26                       | 1.49         | 2.08               | 0.15          | 7.89           |  |  |
| 504                       | 0.66          | 0.29 | 5        | 7.35      | 1.41   | 505            |                |                |                | 0.40                       | 1.81         | 1.49         | 2.08               | A         | 4            | 3.2              | 1.48               | 0.33                       | 1.49         | 2.08               | 0.16          | 8.25           |  |  |
| 505                       | 0.66          | 0.33 | 5        | 7.35      | 1.60   | 506            |                |                |                | 0.41                       | 2.01         | 1.49         | 2.08               | A         | 4            | 3.2              | 1.61               | 0.40                       | 1.49         | 2.08               | 0.17          | 8.57           |  |  |
| 506                       | 0.66          | 0.29 | 5        | 7.35      | 1.41   | 507            |                |                |                | 0.63                       | 2.03         | 1.49         | 2.08               | A         | 4            | 3.2              | 1.63               | 0.41                       | 1.49         | 2.08               | 0.17          | 8.60           |  |  |
| 507                       | 0.66          | 0.58 | 5        | 7.35      | 2.81   |                |                |                |                | 0.00                       | 2.81         | 1.13         | 2.08               | A         | 4            | 3.2              | 2.19               | 0.63                       | 1.13         | 2.08               | 0.20          | 10.14          |  |  |
| <b>EXISTING LINE 800</b>  |               |      |          |           |        |                |                |                |                |                            |              |              |                    |           |              |                  |                    |                            |              |                    |               |                |  |  |
| 801                       | 0.51          | 0.29 | 5        | 7.35      | 1.09   | 1601           | 1801           |                |                | 0.25                       | 1.34         | 1.12         | 2.08               | A         | 6            | 4.8              | 1.25               | 0.08                       | 1.12         | 2.08               | 0.15          | 7.80           |  |  |
| 802                       | 0.51          | 0.51 | 5        | 7.35      | 1.91   | 1701           |                |                |                | 0.12                       | 2.04         | 1.12         | 2.08               | A         | 6            | 4.8              | 1.82               | 0.21                       | 1.12         | 2.08               | 0.18          | 9.05           |  |  |
| 803                       | 0.66          | 0.12 | 5        | 7.35      | 0.58   | 1101           |                |                |                | 1.61                       | 2.19         | 3.00         | 2.08               | A         | 6            | 4.8              | 1.70               | 0.49                       | 3.00         | 2.08               | 0.15          | 7.81           |  |  |
| 804                       | 0.66          | 0.22 | 5        | 7.35      | 1.07   | 1301           | 1201           |                |                | 0.67                       | 1.74         | 3.00         | 2.08               | A         | 6            | 4.8              | 1.43               | 0.31                       | 3.00         | 2.08               | 0.14          | 7.20           |  |  |
| 805                       | 0.66          | 0.12 | 5        | 7.35      | 0.58   |                |                |                |                | 0.00                       | 0.58         | 3.00         | 2.08               | A         | 6            | 4.8              | 0.55               | 0.03                       | 3.00         | 2.08               | 0.09          | 4.94           |  |  |
| 806                       | 0.66          | 0.40 | 5        | 7.35      | 1.94   | 807            |                |                |                | 0.23                       | 2.17         | 1.28         | 2.08               | A         | 6            | 4.8              | 1.90               | 0.27                       | 1.28         | 2.08               | 0.18          | 9.04           |  |  |
| 807                       | 0.66          | 0.40 | 5        | 7.35      | 1.94   | 808            |                |                |                | 0.07                       | 2.01         | 1.28         | 2.08               | A         | 6            | 4.8              | 1.78               | 0.23                       | 1.28         | 2.08               | 0.17          | 8.80           |  |  |
| 808                       | 0.66          | 0.19 | 5        | 7.35      | 0.92   | 809            |                |                |                | 0.24                       | 1.16         | 1.28         | 2.08               | A         | 6            | 4.8              | 1.09               | 0.07                       | 1.28         | 2.08               | 0.14          | 7.25           |  |  |
| 809                       | 0.66          | 0.32 | 5        | 7.35      | 1.55   |                |                |                |                | 0.00                       | 1.55         | 2.75         | 2.08               | A         | 6            | 4.8              | 1.32               | 0.24                       | 2.75         | 2.08               | 0.14          | 7.03           |  |  |
| 810                       | 0.66          | 0.21 | 5        | 7.35      | 1.02   | 1106           |                |                |                | 0.00                       | 1.02         | 2.75         | 2.08               | A         | 6            | 4.8              | 0.92               | 0.10                       | 2.75         | 2.08               | 0.12          | 6.08           |  |  |
| 811                       | 0.66          | 2.32 | 5        | 7.35      | 11.25  | 810            |                |                |                | 0.10                       | 11.35        | SUMP         | 2.08               | A         | 6            | 4.8              | 16.80              | 0.00                       | SUMP         | 2.08               | < 0.21        | < 10.50        |  |  |
| 812                       | 0.66          | 0.13 | 5        | 7.35      | 0.63   |                |                |                |                | 0.00                       | 0.63         | SUMP         | 2.08               | A         | 6            | 4.8              | 16.80              | 0.00                       | SUMP         | 2.08               | < 0.21        | < 10.50        |  |  |
| <b>EXISTING LINE 1000</b> |               |      |          |           |        |                |                |                |                |                            |              |              |                    |           |              |                  |                    |                            |              |                    |               |                |  |  |
| 1001                      | 0.66          | 0.31 | 5        | 7.35      | 1.50   |                |                |                |                | 0.00                       | 1.50         | 1.28         | 2.08               | A         | 6            | 4.8              | 1.38               | 0.12                       | 1.28         | 2.08               | 0.15          | 7.94           |  |  |
| <b>FUTURE LINE 1100</b>   |               |      |          |           |        |                |                |                |                |                            |              |              |                    |           |              |                  |                    |                            |              |                    |               |                |  |  |
| 1101                      | 0.66          | 0.55 | 5        | 7.35      | 2.67   | 1102           |                |                |                | 0.77                       | 3.44         | 6.02         | 2.08               | A         | 6            | 4.8              | 1.83               | 1.61                       | 6.02         | 2.08               | 0.16          | 8.09           |  |  |
| 1102                      | 0.66          | 0.34 | 5        | 7.35      | 1.65   | 1103           |                |                |                | 0.59                       | 2.24         | 6.02         | 2.08               | A         | 6            | 4.8              | 1.47               | 0.77                       | 6.02         | 2.08               | 0.13          | 6.97           |  |  |
| 1103                      | 0.66          | 0.56 | 5        | 7.35      | 2.72   | 1104           |                |                |                | 0.15                       | 2.87         | 1.80         | 2.08               | A         | 6            | 4.8              | 2.28               | 0.59                       | 1.80         | 2.08               | 0.19          | 9.40           |  |  |
| 1104                      | 0.66          | 0.30 | 5        | 7.35      | 1.46   | 1105           |                |                |                | 0.01                       | 1.46         | 1.80         | 2.08               | A         | 6            | 4.8              | 1.31               | 0.15                       | 1.80         | 2.08               | 0.14          | 7.41           |  |  |
| 1105                      | 0.66          | 0.09 | 5        | 7.35      | 0.44   |                |                |                |                | 0.00                       | 0.44         | 1.50         | 2.08               | A         | 6            | 4.8              | 0.43               | 0.01                       | 1.50         | 2.08               | 0.09          | 5.04           |  |  |
| 1106                      | 0.66          | 0.07 | 5        | 7.35      | 0.34   |                |                |                |                | 0.00                       | 0.34         | 1.50         | 2.08               | A         | 6            | 4.8              | 0.34               | 0.00                       | 1.50         | 2.08               | 0.09          | 4.64           |  |  |
| <b>FUTURE LINE 1200</b>   |               |      |          |           |        |                |                |                |                |                            |              |              |                    |           |              |                  |                    |                            |              |                    |               |                |  |  |
| 1201                      | 0.66          | 0.35 | 5        | 7.35      | 1.70   | 1202           |                |                |                | 0.49                       | 2.19         | 2.45         | 2.08               | A         | 4            | 3.2              | 1.64               | 0.55                       | 2.45         | 2.08               | 0.16          | 8.08           |  |  |
| 1202                      | 0.66          | 0.38 | 5        | 7.35      | 1.84   | 1203           |                |                |                | 0.20                       | 2.05         | 2.45         | 2.08               | A         | 4            | 3.2              | 1.56               | 0.49                       | 2.45         | 2.08               | 0.15          | 7.90           |  |  |
| 1203                      | 0.66          | 0.25 | 5        | 7.35      | 1.21   | 1204           |                |                |                | 0.07                       | 1.28         | 2.45         | 2.08               | A         | 4            | 3.2              | 1.08               | 0.20                       | 2.45         | 2.08               | 0.13          | 6.71           |  |  |
| 1204                      | 0.66          | 0.15 | 5        | 7.35      | 0.73   |                |                |                |                | 0.00                       | 0.73         | 2.45         | 2.08               | A         | 4            | 3.2              | 0.66               | 0.07                       | 2.45         | 2.08               | 0.10          | 5.52           |  |  |
| <b>FUTURE LINE 1300</b>   |               |      |          |           |        |                |                |                |                |                            |              |              |                    |           |              |                  |                    |                            |              |                    |               |                |  |  |
| 1301                      | 0.66          | 0.17 | 5        | 7.35      | 0.82   | 1401           |                |                |                | 0.03                       | 0.86         | 6.02         | 2.08               | A         | 6            | 4.8              | 0.73               | 0.12                       | 6.02         | 2.08               | 0.09          | 5.01           |  |  |
| <b>FUTURE LINE 1400</b>   |               |      |          |           |        |                |                |                |                |                            |              |              |                    |           |              |                  |                    |                            |              |                    |               |                |  |  |
| 1401                      | 0.66          | 0.15 | 5        | 7.35      | 0.73   | 1501           |                |                |                | 0.01                       | 0.74         | 1.80         | 2.08               | A         | 6            | 4.8              | 0.70               | 0.03                       | 1.80         | 2.08               | 0.11          | 5.84           |  |  |
| <b>FUTURE LINE 1500</b>   |               |      |          |           |        |                |                |                |                |                            |              |              |                    |           |              |                  |                    |                            |              |                    |               |                |  |  |
| 1501                      | 0.66          | 0.09 | 5        | 7.35      | 0.44   |                |                |                |                | 0.00                       | 0.44         | 1.80         | 2.08               | A         | 6            | 4.8              | 0.43               | 0.01                       | 1.80         | 2.08               | 0.09          | 4.89           |  |  |
| <b>LINE 1600</b>          |               |      |          |           |        |                |                |                |                |                            |              |              |                    |           |              |                  |                    |                            |              |                    |               |                |  |  |
| 1601                      | 0.51          | 0.47 | 5        | 7.35      | 1.76   | 1701           |                |                |                | 0.25                       | 2.01         | 1.12         | 2.08               | A         | 6            | 6                | 1.81               | 0.21                       | 1.12         | 2.08               | 0.18          | 9.01           |  |  |
| 1602                      | 0.51          | 0.84 | 5        | 7.35      | 3.15   | 1603           |                |                |                | 1.47                       | 4.62         | 1.12         | 2.08               | A         | 6            | 6                | 3.53               | 1.09                       | 1.12         | 2.08               | 0.24          | 12.13          |  |  |
| 1603                      | 0.51          | 1.22 | 5        | 7.35      | 4.57   | 1604           |                |                |                | 0.85                       | 5.43         | 1.12         | 2.08               | A         | 6            | 6                | 3.95               | 1.47                       | 1.12         | 2.08               | 0.26          | 12.85          |  |  |
| 1604                      | 0.51          | 0.96 | 5        | 7.35      | 3.60   | 1605           |                |                |                | 0.47                       | 4.07         | 1.12         | 2.08               | A         | 6            | 6                | 3.21               | 0.85                       | 1.12         | 2.08               | 0.23          | 11.58          |  |  |
| 1605                      | 0.51          | 0.80 | 5        | 7.35      | 3.00   |                |                |                |                | 0.00                       | 3.00         | 1.12         | 2.08               | A         | 6            | 6                | 2.53               | 0.47                       | 1.12         | 2.08               | 0.21          | 10.39          |  |  |
| <b>LINE 1700</b>          |               |      |          |           |        |                |                |                |                |                            |              |              |                    |           |              |                  |                    |                            |              |                    |               |                |  |  |
| 1701                      | 0.51          | 0.59 | 5        | 7.35      | 2.21   |                |                |                |                | 0.00                       | 2.21         | 1.12         | 2.08               | A         | 6            | 6                | 1.96               | 0.25                       | 1.12         | 2.08               | 0.18          | 9.32           |  |  |
| <b>LINE 1800</b>          |               |      |          |           |        |                |                |                |                |                            |              |              |                    |           |              |                  |                    |                            |              |                    |               |                |  |  |
| 1801                      | 0.51          | 0.20 | 5        | 7.35      | 0.75   | 1601           |                |                |                | 0.21                       | 0.96         | 1.12         | 2.08               | A         | 6            | 6                | 0.92               | 0.04                       | 1.12         | 2.08               | 0.13          | 6.94           |  |  |
| 1802                      | 0.51          | 0.86 | 5        | 7.35      | 3.22   | 1602           |                |                |                | 1.09                       | 4.31         | 1.12         | 2.08               | A         | 6            | 6                | 3.36               | 0.96                       | 1.12         | 2.08               | 0.24          | 11.83          |  |  |
| 1803                      | 0.51          | 0.51 | 5        | 7.35      | 1.91   | 1802           |                |                |                | 0.96                       | 2.87         | 1.12         | 2.08               | A         | 6            | 6                | 2.44               | 0.43                       | 1.12         | 2.08               | 0.20          | 10.22          |  |  |

NOTES:  
 1. CAPACITY OF INLETS ON GRADE DETERMINED USING ROUTINE OUTLINED ON PGS 56-95 TO 56-97, SECTION 5600 APWA  
 2. CAPACITY OF SUMP INLETS CALCULATED USING FIGURE 5604-21, SECTION 5600 APWA  
 3. MANNINGS "n" VALUE FOR COMBINED ASPHALT PAVEMENT AND CONCRETE CURB - 0.014

EXISTING 5TH PLAT  
 FUTURE 6TH PLAT

RECORD DRAWING

The information provided on this drawing conforms to construction records; it is not intended for construction, implementation or recording purposes; and it is solely based on information obtained by Schlagel and Associates.

"100:00 100.10", "1:00% 1.15% slope", or "8-inch HDPE PVC pipe" are all typical examples of revisions that indicate that design data has been replaced with "as-built" information. All other data is as designed and has not been field verified.

Date: 8/8/2023  
 Certified by: BAL  
 Title: Design Engineer  
 Firm: Schlagel and Associates, P.A.

| REVISION DATE | DESCRIPTION       |
|---------------|-------------------|
| 8-12-22       | CITY COMMENTS     |
| 8-12-23       | AS-BUILT          |
| 8-31-23       | AS-BUILT COMMENTS |
| 9-6-23        | DATE PREPARED     |
| 9-6-22        | PROJ. NUMBER      |
| 22-034        |                   |

DRAWN BY: BAL  
 CHECKED BY: MAB  
 DATE PREPARED: 9-6-22  
 PROJ. NUMBER: 22-034

MASTER DRAINAGE PLAN - DRAINAGE CALCS CONT SHEET

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