ELK RIDGE CITY

BRIC STUDY

APRIL 2026

PREPARED FOR:

ELK RIDGE

PREPARED BY:

Jones & DeMille Engineering

STATE OF UTAH
04/28/2026
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Project #: 2503-013

RICHFIELD | MANTI | MONTICELLO | PRICE | ROOSEVELT | SPRINGVILLE | ST. GEORGE | TOOELE | VERNAL | EVANSTON | CORTEZ | PRESTON

TABLES

1.3. HISTORICAL FLOODING

Historic flooding within Elk Ridge has consisted of minor roadway overtopping and ponding issues in some areas. However, the Loafer Canyon floodplain through the City has been developed with little stormwater infrastructure, which has caused past flooding issues. The most significant flooding occurred shortly after a 2018 wildfire in the mountains above the City. Following the flooding, several problem areas were identified by residents and are shown in Appendix C – Exhibit 1.

2. EXISTING STORM DRAINAGE

2.1. STORM DRAINAGE SYSTEM OVERVIEW

The existing storm drainage system in the City is made up of natural waterways, canals, irrigation ditches, storm water sumps, retention basins, and storm drainage piping. The newest developments have installed conventional stormwater systems with inlets and piping; however, most neighborhoods only have storm water sumps and the oldest neighborhoods have little or no storm infrastructure. A large natural gully (Loafer Canyon) traverses the east side of the City. Roadways and homes have been constructed in and across this gully. These homes have flooded in the past due to their location in the drainage channel. Several engineered detention basins are spread throughout the newly developed portions and lower elevations of the City.

For the purposes of this study, the existing infrastructure has been organized into three categories: nuisance flow control infrastructure, minor flow control infrastructure, and major flow control infrastructure. The definition and description of how the existing infrastructure fits into these categories is provided in subsequent sections of this report. All existing infrastructure is shown in the exhibit in Appendix A – Exhibit 1.

2.1.1. EXISTING STORM DRAINAGE CAPACITIES

2.1.1.1. NUSIANCE FLOW CONTROL INFRASTRUCTURE

Nuisance flow control infrastructure consists of improvements that prevent minor stormwater ponding but are not designed to store or convey larger storm events such as the 10-year storm. This would include the stormwater sumps found throughout the City. These sumps typically handle nuisance flows, which include irrigation runoff, groundwater seepage, and other low-volume discharges that occur outside of major storm events.

Sumps are typically placed at low points or depressions within the drainage system where water naturally collects. They typically consist of a curb inlet box in the gutter that flow into a storm drain manhole surrounded with gravel drain rock. The storm drain manhole is generally perforated on the sides with an open bottom to allow for infiltration. During significant rainfall events, the sump's

A Stormwater Utility Fee Survey conducted for the Greater Salt Lake Municipal Services District found that the average impervious area for a single-family residence is roughly 3,800 square feet[1]. Comparing this area to the area captured by a single sump shows the need for more than 1 sump per residence on all storms greater than the 5-year storm. As was previously mentioned, the allowable soil infiltration rate at the sump location will greatly affect the amount of runoff each sump can manage. The above numbers are conservative as they do not account for any infiltration.

In addition, these estimates only includes residential impervious areas and do not account for roadways, other municipally based impervious areas, or any pervious areas such as lawns. This further shows that while sumps are effective for improving water quality and reducing nuisance flows, they play a minimal role in the overall flood control system and can be largely ignored for the purpose of handling larger storm events.

2.1.1.2. MINOR FLOW CONTROL INFRASTRUCTURE

Minor flow control infrastructure consists of improvements that convey storm events to the major flow control infrastructure. This infrastructure includes features such as catch basins, culverts, swales, roadside ditches, curb and gutter, and storm water piping through the city. These are typically designed to collect and convey water away from streets, driveways, and developments – and direct the flow to major stormwater control infrastructure. These minor flow control infrastructure features are designed to manage frequent, low-volume runoff events like the 25-year storm or less. These features are designed to manage on-site flow (i.e. runoff generated within the city) and smaller drainage areas.

Capacities for these features were estimated based on the average slope through the piped sections of the city, and known pipe sizes and materials. Capacities for generic gravity storm water pipes were calculated for each pipe size and type found in the City and were used in the storm modeling. Table 2-3 presents the flow capacity of different sized pipes made of different materials at a slope of 1.50%. Actual flow capacities will vary slightly but will be close to those listed.

Table 2-3. Estimated Pipe Capacities

Diameter (in)	Material	Capacity (cfs)
24	ADS	31
18	ADS	14
15	ADS	9
12	ADS	5
36	RCP	82
30	RCP	50
24	RCP	28
18	RCP	13

[1] https://www.utah.gov/pmn/files/510741.pdf

Center's Riverine Analysis System (HEC-RAS) for the in-town areas. The HEC-HMS model results were input into the rain-on-grid model above the City using boundary conditions. This combination modeling approach allowed the mountainous watersheds to quickly be analyzed only for peak flows, while a more detailed modeling of water flow through the City could be conducted.

3.1.2. HYDRAULICS

The hydraulics of stormwater conveyance structures (e.g., culverts, open channels, detention basins) were modeled using HEC-RAS software. Data required to analyze the hydraulics of each conveyance structure, such as invert elevations, sizing measurements, and cross-sections, were taken first from the limited collected survey data, followed by topography (DEM), and then based on aerial imagery. Pipe entrance and exit loss coefficients as well as pipe and open channel roughness coefficients (Manning's n values) were estimated based on field notes, pictures, and aerial imagery.

3.2. DESIGN STORM

3.2.1. FREQUENCY AND DURATION

Design storm events are classified by their recurrence interval—how often a storm of a certain size is statistically expected to occur. These intervals are expressed in years, such as 2-year, 10-year, or 100-year storms. A 100-year storm, for example, has a 1% chance of occurring in any given year—not that it will only happen once every 100 years. Multiple 100-year storms can occur within a short time span, or none over a century.

The choice of design storm depends on the acceptable level of risk, cost-benefit considerations, and the type of infrastructure. For instance, culverts under small local roads are often designed for a 25-year storm, since flooding would cause limited damage. In contrast, culverts under major roads or highways are typically designed for a 100-year storm due to the higher potential for costly damage and broader community impact.

Storm durations for stormwater infrastructure are commonly a 24-hour duration storm. While storms in Utah are more commonly monsoonal with short durations, the 24-hour storm is used to provide conservative flow rates. As detailed in the Elk Ridge Development and Construction Standards, storms for this study were a 25-year recurrence for minor draining and a 100-year recurrence for major drainage. A 24-hour storm duration was used for modeling of all storms. It should be noted that while drainage originating within the City is generally described as minor drainage, it sometimes requires using a 100-year storm for design. As is common in many cities, all detention or retention basins with the City are designed for the 100-year storm even though they may be minor drainage.

3.2.2. RAINFALL

Precipitation depths were taken for the centroids of each watershed from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Point Precipitation Frequency Data Server.

in a decrease in vegetative cover and an increase in imperviousness, a decrease in infiltration and vegetative interception will occur resulting in an increase in runoff.

Landcover data was obtained through the U.S. Geological Survey (USGS) in the form of the 2023 National Land Cover Database (NLCD). The land cover in the City is mainly low density residential with some developed open space and cultivated crops. The area above the City is a mix of Shrub/Scrub, evergreen forest, and deciduous forest in the NLCD dataset.

While the NLCD was used to obtain land cover types, the NLCD values do not align with the land cover values found in TR-55. The NLCD values were therefore converted to TR-55 based on field visits and aerial imagery, the groundcover was estimated to range from fair to good condition.

3.3.4. INFLITRATION AND RUNOFF CALCULATIONS

When using the SCS methodology, infiltration is estimated using Curve Numbers (CN). Curve numbers are based on a combination of land cover type, soil hydrologic condition, and the soil type. A drainage basin's CN number defines the relationship between the precipitation, infiltration, and runoff. Larger CN values result in more runoff relative to lower CN values. Tables 2-2a, 2-2b, 2-2c, and 2-2d in TR-55 were used to find CN values for the City. Weighted average CN values for the sub-watersheds were calculated while a CN raster was created and used for the rain-on-grid modeling in HEC-RAS. These values are presented along with other pertinent drainage basin characteristics in the modeling result Appendix G.

3.3.5. TIME OF CONCENTRATION

The time of concentration represents the time for rainfall to travel from the most hydraulically remote location within a drainage basin to the drainage basin discharge point. For this study the NRCS National Engineering Handbook (NEH) Watershed Lag methodology was used. The Watershed Lag method uses a basins size, average slope, longest flow path length, and curve number to determine a time of concentration. The time of concentration calculations were only used for the HEC-HMS model, the HEC-RAS rain-on-grid model calculates flow times during modeling. Refer to Part 630 Chapter 15 of the NEH for further explanation as well as the equations used for this calculation.

3.3.6. DRAINAGE BASIN SUMMARY

Three basins or watersheds were delineated and analyzed as part of this study. The basins and their characteristics are shown below in Table 3-1. It should be noted that the listed curve numbers are a weighted average for each basin calculated from a CN raster. The HEC-RAS model used for this report used the curve number raster and calculated its own time of concentration.

models. Note that the modeling software names have been shortened to HMS and RAS for the table to better fit the page.

Table 4-2. 100-Year Hydrologic and Hydraulic Model Results Comparison

Watershed	Pre-Development Conditions			Existing Conditions			Buildout Conditions		
	HMS	RAS	Percent Difference	HMS	RAS	Percent Difference	HMS	RAS	Percent Difference
Loafer Canyon*	224	185	17%	288	252	13%	302	278	8%
West Elk Ridge	140	114	19%	191	164	14%	195	173	11%

*The HEC-RAS model used the Upper Loafer Canyon HEC-HMS results as a direct input to reduce computation time. Therefore, there is only a HEC-RAS result for the overall Loafer Canyon drainage. It should be noted that the Upper and Lower Loafer HEC-HMS results were simply added together. This is a simplification of what would generally occur.

It should be noted that because Upper Loafer Canyon is a large mountainous drainage with little development, it was not modeled in the hydraulic HEC-RAS model. This was done to balance model run times with the accuracy of the results. The HEC-RAS model results shown are therefore for the bottom of the Loafer Canyon drainage. The HEC-HMS results for Upper and Lower Loafer Canyon were added together for an approximate peak flow. This is a simplification and likely shows a larger than expected peak flow rate.

Because HEC-HMS looks at an overall watershed and not what happens within the watershed the results can vary from the HEC-RAS results. For instance, the HEC-HMS model will not model the effects of the drainage basins in the City while the RAS results will. The comparison in Table 4-22 shows that the HEC-RAS results are less than 20% off of the HEC-HMS results. This shows that the HEC-RAS results are within the expected range when compared to the HEC-HMS results.

When comparing the existing condition results to the buildout results it should be noted that current Elk Ridge stormwater regulations require future construction to attenuate the increased runoff. Both the hydrologic and hydraulic models do not account for this. If the existing stormwater regulations are enforced the buildout runoff should not show any increase over the existing conditions.

4.2.1. NATURAL DRAINAGE IDENTIFICATION

Elk Ridge City is flanked by significant drainages on the east and west: Loafer Canyon and the smaller canyon where the Gladstan Golf Course is situated. Both of these can impact specific areas, but relatively small portions of the City. Two smaller drainages connect within Parkside Loop and were previously redeveloped within subdivisions into retention basins with overflows. The first of the smaller drainages follows near the path of Hillside Drive. The other smaller drainage encompasses the area north of Salem Hills Drive, Cove Drive and Lighthouse Circle. The smaller drainages primarily impact the subdivisions that developed in their path. Solutions for the impacts of these natural drainages are discussed in this report.

Lane pond improvements, and Rocky Mountain Way storm drain improvements. Each of these projects are shown on the proposed improvements exhibits in Appendix C – Exhibit 2, 3, and 4.

5.1.1.1. LIGHTHOUSE SUBDIVISION POND EXPANSION

The Lighthouse Subdivision pond is undersized for the 100-year storm by 1.25 acre-feet. The recommendation is to add a hydraulically identical pond approximately 100 feet to the east, on the other side of the existing pavilion, that will add 1.25 acre-feet of capacity.

5.1.1.2. SHULER PARK BASIN OVERFLOW IMPROVEMENTS

The Shuler Park pond overflow is undersized and does not terminate at the next storm drain basin. The proposed improvements would replace and realign the overflow for the existing retention pond. The existing overflow 12" RCP outlet should be replaced with an 18" pipe that is approximately 334 feet which would extend to the overflow structure between the homes and into the basin west of Park Side loop. The pipe should align between the two houses and terminate above the storm drain ponds within Parkside Loop in a rock swale into the pond as a result, the shallow swale between the homes would no longer be needed.

An alternative to increasing the size of the overflow is to increase the size of the pond to 13.5 acre-feet of retention. Any expansion of the pond should include additional investigation, surveying, and the dam safety review process.

5.1.1.3. THE OLYMPIC LANE RETENTION POND

The Olympic Lane retention pond does not have enough capacity to handle flooding. The capacity of the pond should be expanded to a capacity of 5.5 acre-feet total. At the current footprint, the pond would need to be about 3 feet deep. Additionally, an overflow pipe connection from the existing sumps to the pond should be installed, which is approximately 122 feet.

5.1.1.4. TWILIGHT AND BEAR HOLLOW LANE IMPROVEMENTS

The intersections of Twilight Way and Bear Hollow Lane with 11200 South struggle to collect all the stormwater from the subdivisions. The existing inlet boxes at those intersections should be replaced with double inlet boxes connected to the same infrastructure. The exact location of the pond is not critical, the capacity and a means to flow to it are what is required.

5.1.1.5. CHRISLEY LANE IMPROVEMENTS

The existing retention pond between Christley Lane and 11200 S overflows directly onto 11200 South. Three options were identified to resolve the issue.

The first option is to catch the excess water before it reaches the Christley Lane pond at the Armstrong Drive pond. This would require installing a double inlet box on the east side of Christley Lane just north excess water is too much for the new sump it will bubble up and continue down the road and reduce City stormwater from flooding the reverse slope driveways.

5.1.2.2. PARK DRIVE AND ELK RIDGE DRIVE IMPROVEMENTS

The west end of Park Drive including the intersections with Columbus Lane and Elk Ridge Drive. An inlet box on the north side of Park Drive that connects into the existing sump and basin. Additionally, an inlet box could be installed on Park Drive just east of Columbus Lane. The inlet box could be connected to a new sump or connected to the other new inlet box mentioned, which would be about 261 feet of pipe.

5.2. PROGRAM IMPROVEMENT RECOMMENDATIONS

5.2.1. STORMWATER UTILITY

The current Elk Ridge stormwater utility charges a flat fee of $6.50 per month. A survey conducted by Western Kentucky University (WKU) shows that Utah cities have an average stormwater fee of $6.39. However, the costs reported in the study are outdated; a 2024 Spanish Fork City study[2] shows stormwater fees for several cities that are higher than the WKU study. Spanish Fork City looked at 10 cities within Utah County and reported an average fee of $9.66.

Based on the average Utah County monthly fee of $9.66 reported by Spanish Fork, Elk Ridge may be able to increase the stormwater fee in order to better fund necessary project improvements. A detailed stormwater utility fee analysis would be required to determine the appropriate fee and is beyond the scope of this study.

5.2.2. STORMWATER IMPACT FEES

Another potential source of stormwater funding could come from impact fees for new construction. This would allow for public storm infrastructure upgrades to accommodate new growth. The stormwater impact fee for several other communities in Utah County averages $2,737 with a high of $6,690 and a low of $770. This would be a one-time fee required for new construction and would go towards future storm drain infrastructure improvements. To determine a reasonable impact fee for the City, a detailed impact fee analysis would need to be completed prior to implementing this program and is beyond the scope of this study.

5.2.3. STORMWATER DEVELOPMENT STANDARDS

The Elk Ridge Development and Construction Standards contain well defined construction standards for storm drain construction. However, there is little information on how to size the storm drain infrastructure. It is recommended that the City update the standards to include acceptable hydrology

[2] https://www.spanishfork.gov/departments/public_works/stormwater/index.php

Priority	Recommended Improvement	Estimated Cost
N/A	Loafer Canyon Road Improvements (seeking NRCS funding)	$2,180,000

Copies of the detailed estimate breakdowns are included in Appendix D for reference.

The recommended improvements in Table 5-1 were prioritized by JDE based on the project cost and the potential downstream impacts. The projects along 11200 South were prioritized higher because in addition to impacting downstream homes, flooding along the street would affect traffic on this highly used county road. The other projects were prioritized based on the cost versus the number of homes immediately downstream. It should be noted that the prioritization provided by JDE does not need to be followed by the city. If the city sees fit, they may complete the recommended improvements in whatever order they desire.

The two most costly improvements, the Olympic Lane basin and the Rocky Mountain Way improvements, are in mostly undeveloped areas of the city. These projects were prioritized last since they could be a requirement of future development in these areas and paid for by developers.

The Loafer Canyon project was excluded from the estimates and prioritization list since there is a funding application in progress for this project. If funded, the city would not be required to pay for these improvements.

6. POTENTIAL FUNDING SOURCES

Due to the lack of a full stormwater system in Elk Ridge, and the potential for flood damage downstream of the town, larger projects could be required to reduce flood risk. These projects will have costs which are difficult for the City to fund on its own. Several funding opportunities were identified to assist the City. The federal funding opportunities require a benefit-cost analysis of the impacts to the area to determine the fundability of the projects. Many of the federal funding opportunities are also meant for large scale drainage projects and not municipal issues. The funding opportunities are summarized below.

6.1. FEMA BRIC FUNDING

In the past, FEMA has provided funding for flood protection projects through several programs including the BRIC program, which was used to fund this study. The BRIC program funds up to 75 percent of a project's total cost. BRIC construction funding is highly competitive and is typically for larger projects with a high benefit to cost ratio. The projects identified in this study would likely not score well to be awarded funding.

6.2. NRCS PL-566 FUNDING

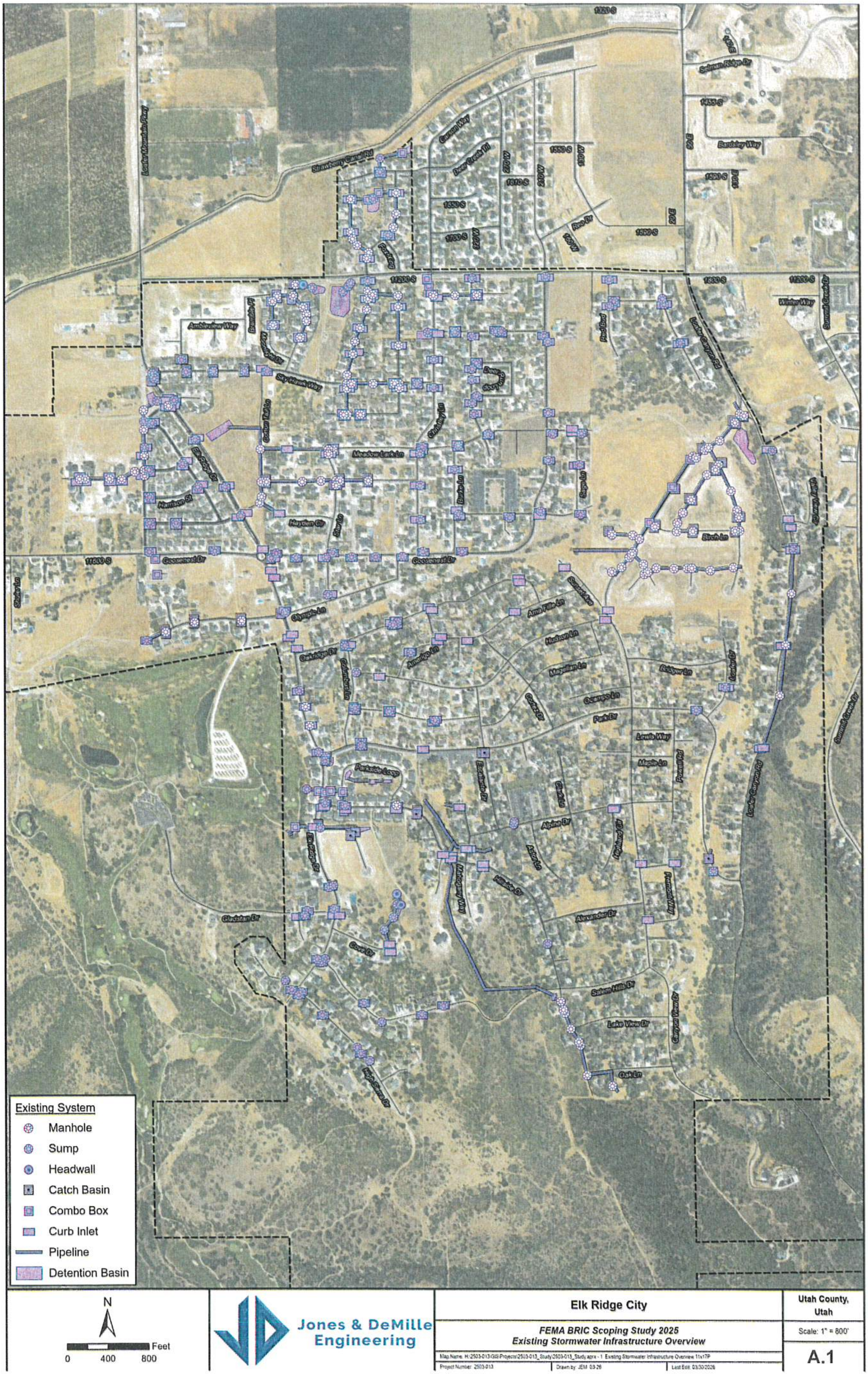
The National Resources Conservation Service (NRCS) provides flood protection funding through the Watershed Protection and Flood Prevention Act (PL-566). NRCS PL-566 projects are required to benefit rural communities and have varying cost-share requirements. For flood control projects, the NRCS PLand hydraulic modeling, combined with field observations identified several deficiencies in the existing stormwater system.

The results show that development within the City has increased runoff compared to pre-development conditions, particularly in the Lower Loafer Canyon and West Elk Ridge watersheds. However, future buildout is not expected to significantly increase peak flows beyond existing conditions if current stormwater regulations are maintained. This reinforces the importance of enforcing development standards that limit runoff.

Much of the City currently lacks adequate major stormwater infrastructure, relying instead on sumps that are only effective for nuisance flows. Several areas remain vulnerable to flooding due to undersized or missing conveyance and storage systems, particularly within natural drainage paths and low-lying areas.

Conceptual improvement projects were identified to address these issues, including detention basin expansions, inlet upgrades, and improved conveyance systems. In addition to these physical improvements, updates to stormwater standards, implementation of a maintenance program, and evaluation of funding mechanisms will be important for long-term system performance.

This study provides a basis for prioritizing future stormwater improvements and planning for continued growth within Elk Ridge City.



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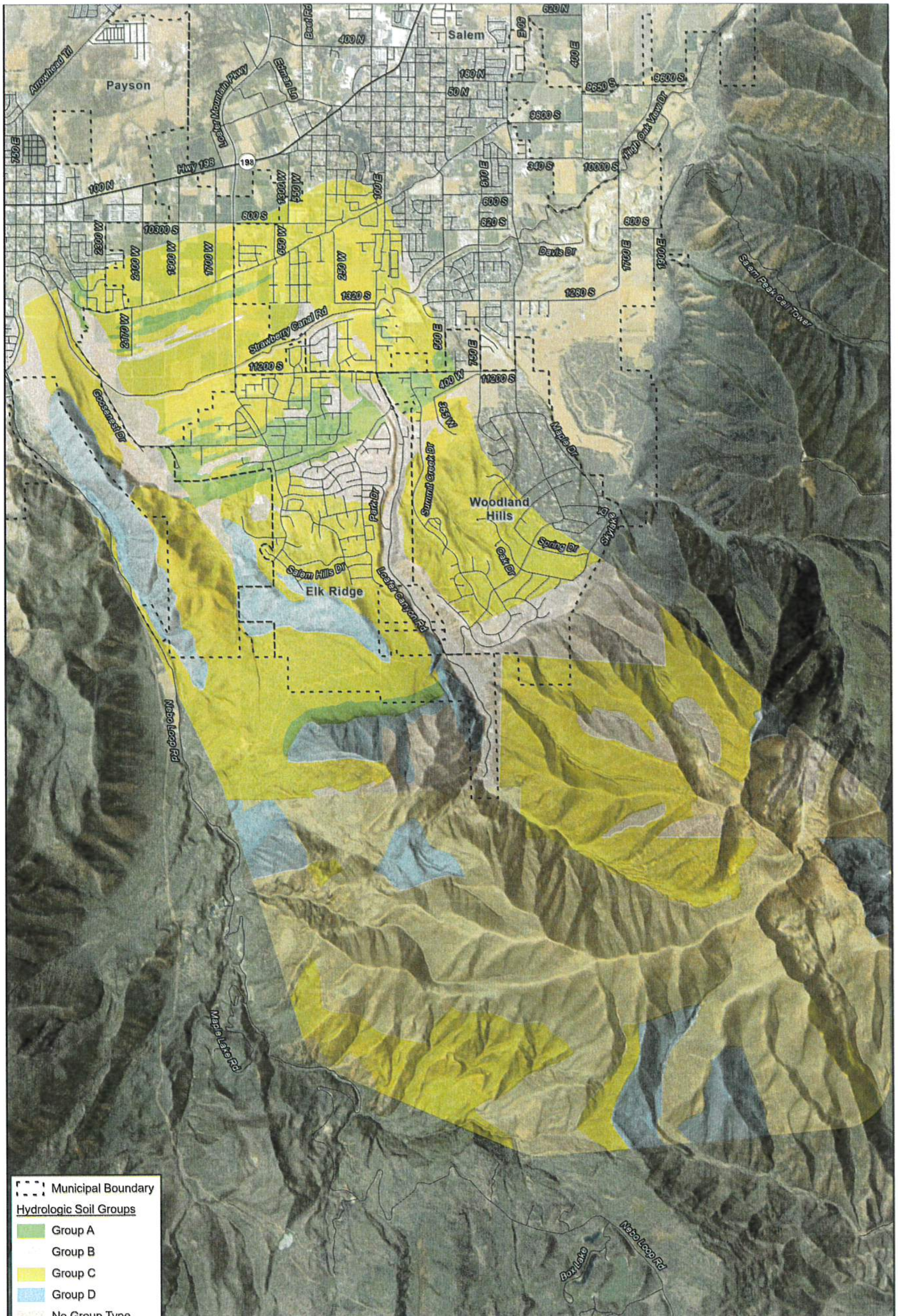
Elk Ridge City	Utah County, Utah
FEMA BRIC Scoping Study 2025 *Existing Stormwater Infrastructure Overview*	Scale: 1" = 800'
Map Name: H:\2503-013\GIS\Projects\2503-013_Study\2503-013_Study.aprx - 1 Existing Stormwater Infrastructure Overview 11x17P	A.1
Project Number: 2503-013 / Drawn by: JEM 03-26 / Last Edit: 03/30/2026	



N

Feet
0 1,600 3,200

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Elk Ridge City

Utah County, Utah

FEMA BRIC Scoping Study 2025
Hydrologic Soil Groups Overview

Scale: 1" = 3,200'

A.3

Map Name: H:\2503-013\GIS\Projects\2503-013_Study\2503-013_Study.aprx - 3. Hydrologic Soil Groups Overview 11x17P

Project Number: 2503-013 | Drawn by: JEM 01-26 | Last Edit: 01/09/2026

APPENDIX B. HYDROLOGIC MODEL RUNOFF DEPTHS

N

0 400 800 Feet

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Elk Ridge City	Utah County, Utah
FEMA BRIC Scoping Study 2025 *Existing Conditions: 100-Year Modeled Depth Overview*	Scale: 1" = 800'
Map Name: H:\2503-013\GIS\Projects\2503-013_Study\2503-013_Study.aprx - 4b. Existing 100-year Depth Overview 11x17P	B.2
Project Number: 2503-013 · Drawn by: JEM 01-26 · Last Edit: 01/14/2026	

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Elk Ridge City

FEMA BRIC Scoping Study 2025
Build Out: 100-Year Modeled Depth Overview

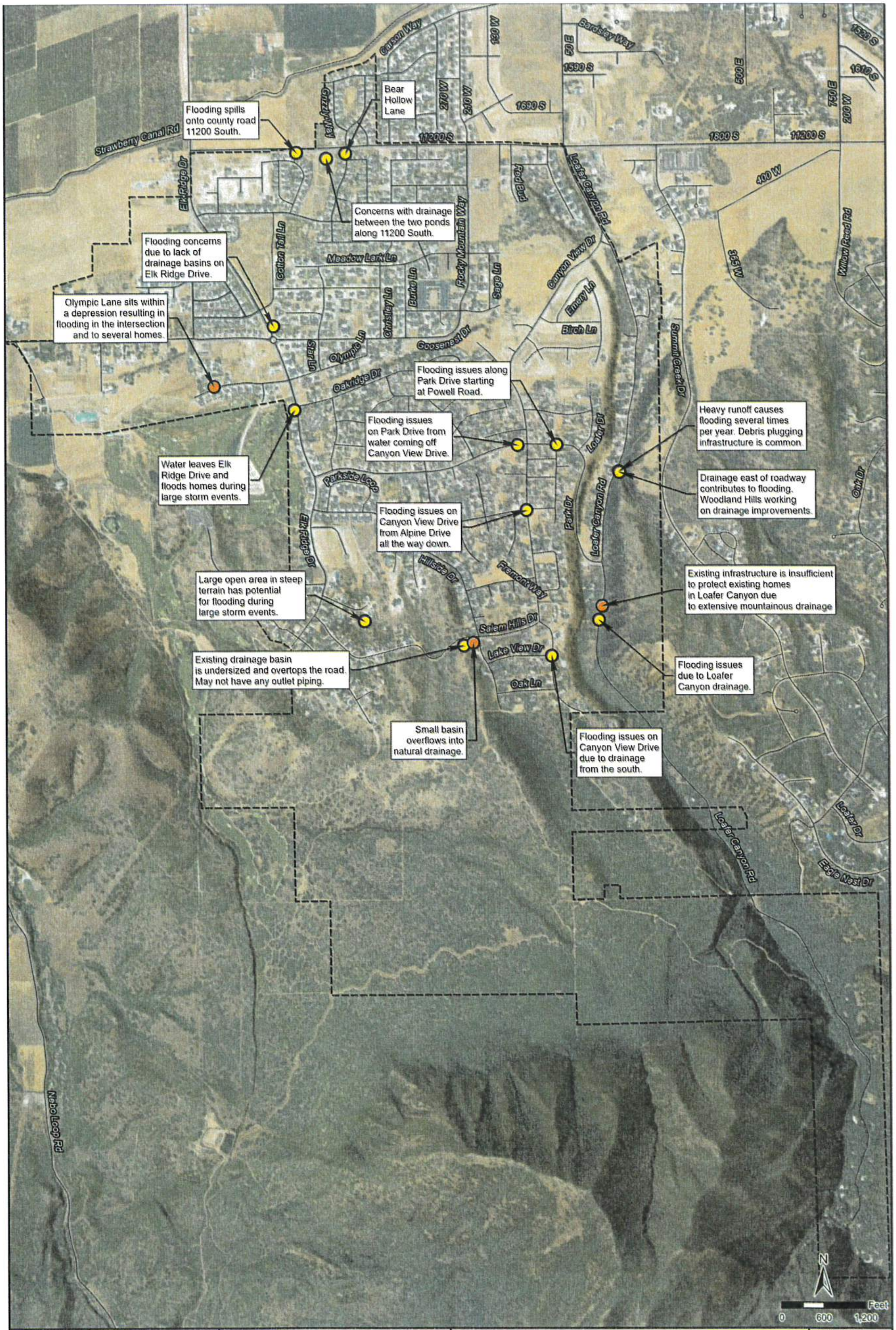
Map Name: H:\2503-013\GIS\Projects\2503-013_Study\2503-013_Study.aprx - 5b. Build Out 100-year Depth Overview 11x17P

Project Number: 2503-013 | Drawn by: JEM 01-26 | Last Edit: 01/14/2026

Utah County, Utah

Scale: 1" = 800'

B.4



- Modeled Areas of Concern
- Stakeholder Areas of Concern
- Local Roads
- City Boundary

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Elk Ridge City

FEMA BRIC Scoping Study 2025
Areas of Concern Overview

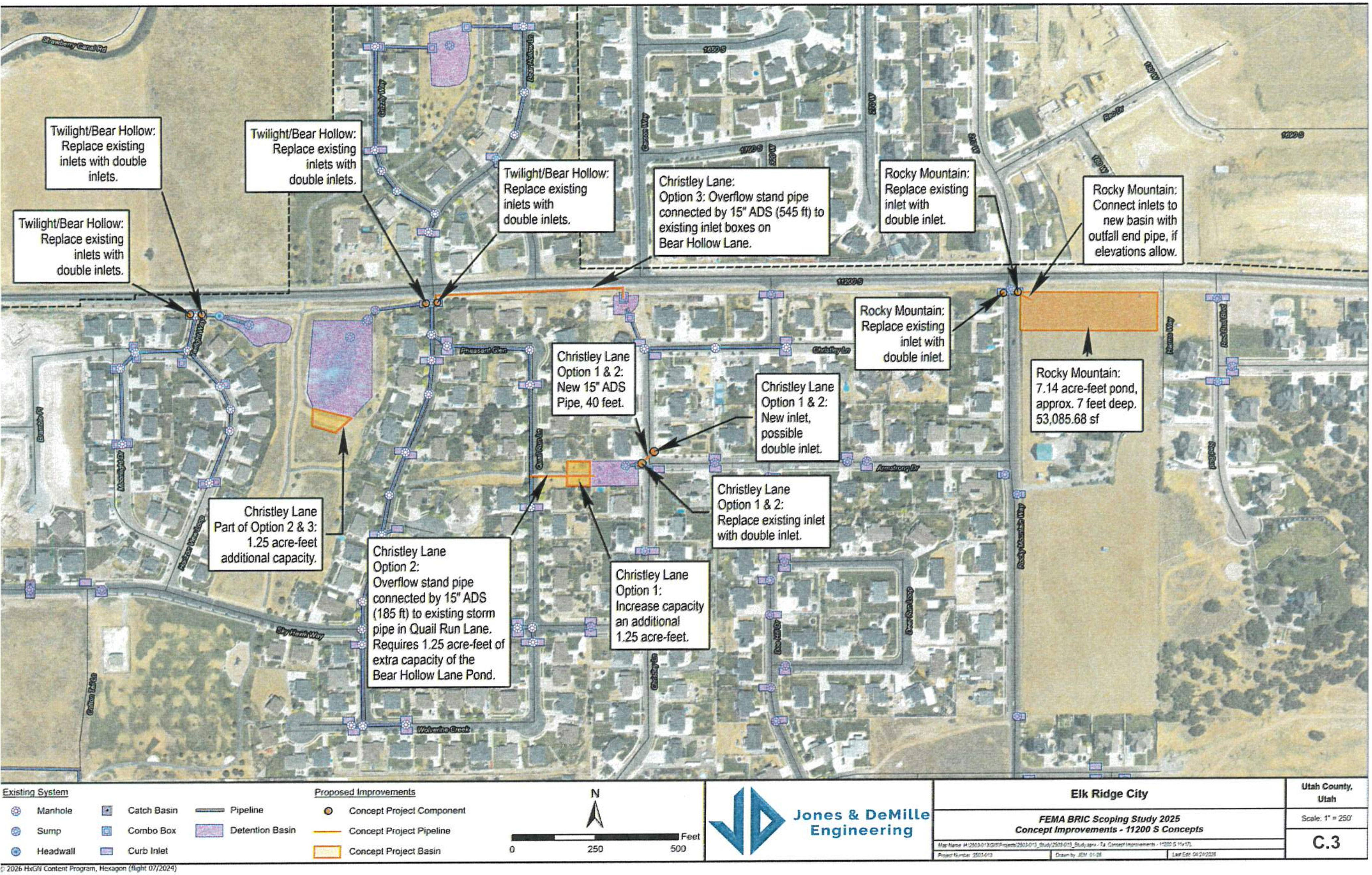
Map Name: H:\2503-013\GIS\Projects\2503-013_Study\2503-013_Study.aprx - 6. Areas of Concern Overview 11x17P

Project Number: 2503-013 | Drawn by: JEM 12-25 | Last Edit: 01/08/2026

Utah County, Utah

Scale: 1" = 1,200'

C.1



Twilight/Bear Hollow: Replace existing inlets with double inlets.
Twilight/Bear Hollow: Replace existing inlets with double inlets.
Twilight/Bear Hollow: Replace existing inlets with double inlets.
Twilight/Bear Hollow: Replace existing inlets with double inlets.
Christley Lane: Option 3: Overflow stand pipe connected by 15" ADS (545 ft) to existing inlet boxes on Bear Hollow Lane.
Rocky Mountain: Replace existing inlet with double inlet.
Rocky Mountain: Connect inlets to new basin with outfall end pipe, if elevations allow.
Rocky Mountain: Replace existing inlet with double inlet.
Rocky Mountain: 7.14 acre-feet pond, approx. 7 feet deep. 53,085.68 sf
Christley Lane Option 1 & 2: New 15" ADS Pipe, 40 feet.
Christley Lane Option 1 & 2: New inlet, possible double inlet.
Christley Lane Option 1 & 2: Replace existing inlet with double inlet.
Christley Lane Part of Option 2 & 3: 1.25 acre-feet additional capacity.
Christley Lane Option 2: Overflow stand pipe connected by 15" ADS (185 ft) to existing storm pipe in Quail Run Lane. Requires 1.25 acre-feet of extra capacity of the Bear Hollow Lane Pond.
Christley Lane Option 1: Increase capacity an additional 1.25 acre-feet.
Existing System
Manhole
Sump
Headwall
Catch Basin
Combo Box
Curb Inlet
Pipeline
Detention Basin
Proposed Improvements
Concept Project Component
Concept Project Pipeline
Concept Project Basin
N
0
250
500
Feet
Jones & DeMille Engineering
Elk Ridge City
FEMA BRIC Scoping Study 2025
Concept Improvements - 11200 S Concepts
Utah County, Utah
Scale: 1" = 250'
C.3
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APPENDIX D. PROPOSED IMPROVEMENTS COST ESTIMATES

APPENDIX E. PROPOSED STORM DRAIN DESIGN STANDARDS

- Components of the storm drainage system shall be sized based on the design frequency in the table below:

Facility Type	Design Storm	Description
Minor Conveyance	10-year, 24-hour	Facilities which convey on-site flows only, such as culverts, drainage swales, pipelines, channels, & curb inlets. Minor conveyance facilities drain to major conveyance and storage facilities.
Major Conveyance	100-year, 24-hour	Facilities which convey off-site and on-site flows (mixed water) including culverts, pipelines, and channels.
Storage Facilities	100-year, 24-hour	All storage facilities are to be designed for the 100-year storm even if they only store on-site flows. Storage facilities are not required to store or retain off-site drainage as long as the storage facility discharge does not exceed pre-development levels.

- Existing commercial, industrial or residential properties may be evaluated on an individual basis if improvements required by these guidelines would adversely impacting neighboring properties.

2. Methodology

- Hydrology calculations which require the peak flowrate and volume shall follow the SCS method as outlined in the NRCS National Engineering Handbook using the Type II distribution.
- The rational method can be used if only the peak flowrate is needed (only conveyance features are required such as culverts and channels).
- Precipitation data shall be obtained from NOAA Atlas 14.
- The time of concentration should be calculated using the NRCS Velocity method as outlined in the Natural Resources Conservation Service Technical Release 55, June 1986 (TR-55).
    - A minimum time of concentration of 5 minutes shall be used.

3. Low Impact Development Guidelines

Typical storm drain design consists of collect and convey systems to route runoff through and away from developed areas. Low Impact Development (LID) practices utilize storm drain infrastructure to collect, clean, and infiltrate runoff. There are many benefits to LID practices including reducing downstream discharge, groundwater recharge, reduced pollutants, and infrastructure cost savings.

All new developments implement LID design practices to the greatest extent possible, where feasible. "A Guide to Low Impact Development within Utah" which was published by the Utah Department of Environmental Quality should be used as a resource to design LID techniques within new development areas. This manual as well as other LID design resources can be downloaded from the following website.

https://deq.utah.gov/water-quality/low-impact-development

All site and subdivision designs shall control the peak flow rates of storm water discharge associated with design storms specified in this chapter and reduce the generation of post-construction storm water runoff volumes and water quality to pre-construction levels. These practices should seek to utilize pervious areas for storm water treatment and to infiltrate storm water runoff from driveways, of the outlet structure. The routed 100-year water surface is typically set at the emergency spillway crest elevation.

- All storage facilities shall be designed to completely drain within 3 days of the end of a storm event (retention facilities must be designed to infiltrate in this time, field testing with a single ring infiltrometer is required to confirm adequate infiltration).
- Detention basin principal outlet pipes shall be at least 18-inches in diameter to minimize the chance of clogging and to facilitate cleaning. Orifice plates are to be used on the upstream end of the principal outlet pipe to reduce the maximum release flowrate and must be inside a storm drain box to facilitate cleaning.
- Emergency spillways shall be designed to safely pass the 100-year storm, without endangering life or property downstream, assuming the principal spillway outlet is not functioning.
- A minimum of 1 foot of freeboard above the emergency spillway design water surface elevation is required (routed 100-year storm assuming principal spillway outlet is clogged).
- The invert or lowest point of a storage basin must be minimum 12-inches above historic groundwater levels.
- All storage facility slopes shall have a maximum slope of 3:1 and must be stabilized with rock or planted vegetation to prevent erosion.
- No part of the bottom of a detention basin shall have a slope of less than 3% sloped toward the outlet. Within 10-feet of the outlet, the slope of the basin bottom must not be flatter than 5% unless a concrete apron is constructed around the outlet. In this case, the minimum slope for the concrete apron shall be 0.50%.
- Storage basins should be designed with a maximum water depth of 3 feet. Deeper basin may be permitted as approved by the city but will require at minimum a two-rail perimeter fence.
- Underground systems are not allowed in drinking water source protection zones.
- Underground systems shall provide adequate access for cleaning and maintenance.
- If the detention basin is classified as a dam, the facility shall also comply with prevailing dam safety standards as outlined by the Utah State Dam Safety and the Utah Division of Water Rights. See applicable design standards to determine if the pond should be classified as a dam.
- Field testing with a single ring infiltrometer is required to confirm adequate infiltration in all basins or sumps where infiltration will be used. A supporting report shall be stamped by a licensed geotechnical engineer and submitted as part of the drainage report.
- If sumps are used to manage storm water runoff, calculations shall be provided showing how the sumps in combination with other drainage features will manage the required runoff volume.

6. Other Related Permits

Other permits may be required for the proposed development. These permits should be considered as part of the proposed drainage system and be referenced in the documentation. Applicable permits may include:

- Stream Alternation Permit
- Floodplain Development Permit (if in FEMA designated floodplain)
- Small Dam Application (assuming pond is classified as a dam per Utah Dam Safety)

This list is not exhaustive. Additional permitting may be identified and required during the approval process.

APPENDIX F. WESTERN KENTUCKY STORMWATER UTILITY SURVEY

Campbell, C. Warren, and Davis, Emily G. (2023). "Western Kentucky University Stormwater Utility Survey 2022" (2022). https://digitalcommons.wku.edu/seas_faculty_pubs/6 ii Western Kentucky University Stormwater Utility Survey 2023.

Cover

The cover flood picture is taken in Antelope Canyon near Page, Arizona. This slot canyon is prone to flash flooding. On August 12, 1997, 11 people died during an Antelope Canyon flash flood.

Methods

The main goal of this survey is to identify as many U.S. Stormwater Utilities (SWUs) as possible. Because many stormwater professionals do not have the time to respond to questionnaires, our primary method of identification was Internet searches. We searched key terms such as "stormwater utility", "stormwater fee", and "drainage fee". We scoured online municipal codes such as Municode, AmLegal, Sterling, LexisNexis, General Code, and others. We searched through many city web websitesing to find utilities. We have also had many people contact me to update fees and identify new utilities. However, the data primarily comes from Internet sources and is prone to errors. Some community websites are not very clear on whether the fee given is monthly, bi-monthly, quarterly, or annually. In cases like that, we made the best guess we could. We hope the readers of this document will continue to help us correct mistakes. However, it is difficult to keep up with fee changes in more than 2000 utilities, so if you discover errors in our data please contact me at warren.campbell@wku.edu.

Disclaimer

The opinions expressed in this document are those of the author. They are not official opinions of Western Kentucky University, its administration, or of any other individuals associated in any way with WKU. The author is an engineer so that any opinions expressed should not in any way be construed by any individual or organization as sound legal advice. The use or misuse of any of the data and information provided herein is the sole responsibility of the user and is not the responsibility of Western Kentucky University, its employees, students, or of any organization associated with the University. vi Western Kentucky University Stormwater Utility Survey 2022

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Introduction

We have been able to identify 2109 U.S. stormwater utilities (SWUs) that have formed nationwide, and Mike Gregory found 70 in Canada. There are now 2 states with more than 200 stormwater utilities (SWUs) and nine with 100 or more SWUs. Minnesota leads with 229. Figure 1 shows U.S. stormwater utilities by location.

East Baton Rouge has created a stormwater utility adding the first for Louisiana. This makes 42 states plus DC which have enacted SWUs. One community official once said to me, "We are too small to have a stormwater utility." The smallest community with a stormwater utility that we have found is Indian Creek Village, Florida with a 2020 census population of 84 (no, this is not a misprint). The largest community is Los Angeles County with a population of over 10,000,000. The average SWU community population is 203,390, and the median is 16,112. These numbers are almost certainly too large because it is difficult to find stormwater utilities in small communities because their web pages often do not provide much information. We were able to find a few communities with populations under 5000 using online code publishers like Municode. The bottom line is that no community is too small or too large to have a stormwater utility.

At some point, this survey will become unnecessary as every community will have some appropriate stormwater funding mechanism. When will this occur? We have identified 2109 SWUs in the U.S. and 70 in Canada, and in June 2019, there were 22,389 communities participating in the National Flood Insurance Program (NFIP) (FEMA's Community Status Book: https://www.fema.gov/cis/nation.pdf). This survey will be necessary for the foreseeable future.

The Data

Part of our raw data is contained in the Table in Appendix A. As this is written, our survey contains data on 2109 stormwater utilities (SWUs) located in 42 states and the District of Columbia (Figure 1). Based on our current find rate, my best guess would be that there are at least 2500 SWUs in the U.S., and quite possibly, 3000. More are being formed all the time, and we are aware of several that will form within the next few months.

Figure 2 shows the number of stormwater utilities by state. Politics does not seem to play a role in stormwater utility formation. If SWUs were electoral votes in 2020, Trump would have won 1227 to 991. It is interesting that conservative states have more stormwater utilities than more liberal states. At least 9 states have more than 100 SWUs. Democratic-leaning Washington, Wisconsin, and Minnesota have more than 100 SWUs, while conservative-leaning Texas, Ohio, Iowa, Indiana, North Carolina, and Florida also have more than 100. Three of those states went for Biden in the 2020 election, and six went for Trump. Of the no-SWU states, 4 went for Biden and 3 for Trump.

Nationwide, the average monthly single-family residential fee was $6.06, the standard deviation was $4.72, and the median fee was $5.00. Most fees go up over time reflecting an increase in the Consumer Price Index (CPI). Some communities tie the monthly fee to the CPI. However, a few communities have reduced their fees. The quartile fees are: 25% - $3.00 and 75 % - $7.43 for an interquartile range of $4.43.

Fees ranged from zero to $45 per month. Figure 3 shows the spatial distribution of monthly fees. As has been observed in previous surveys, no state has all high fees. Even states with theher fees also have

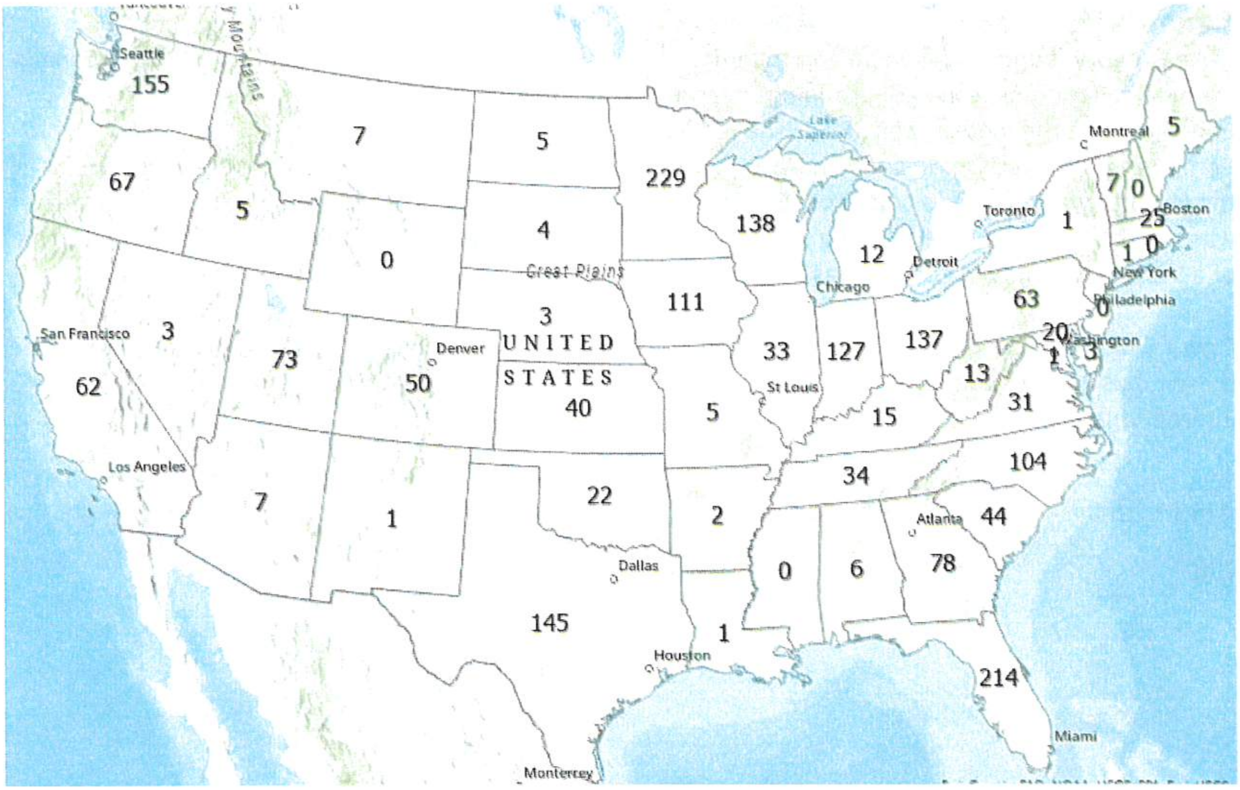

Figure 2. The number of stormwater utilities by state.

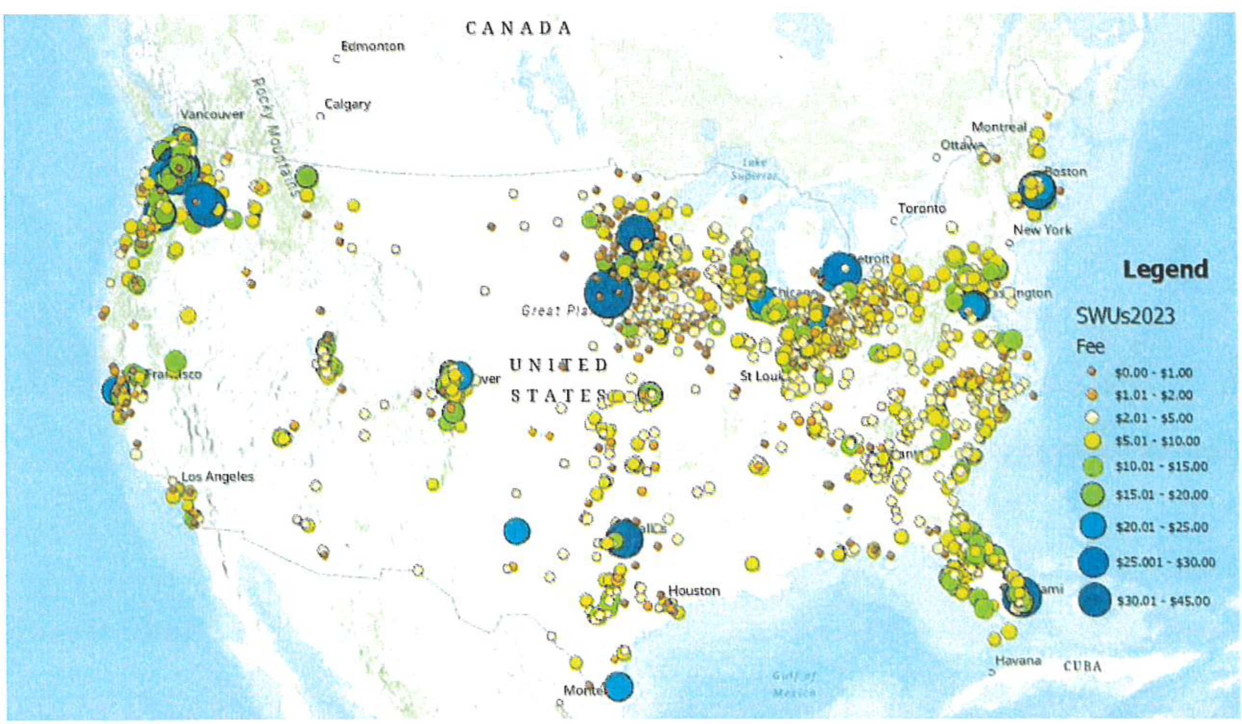

Figure 3. Spatial distribution of monthly stormwater fees.

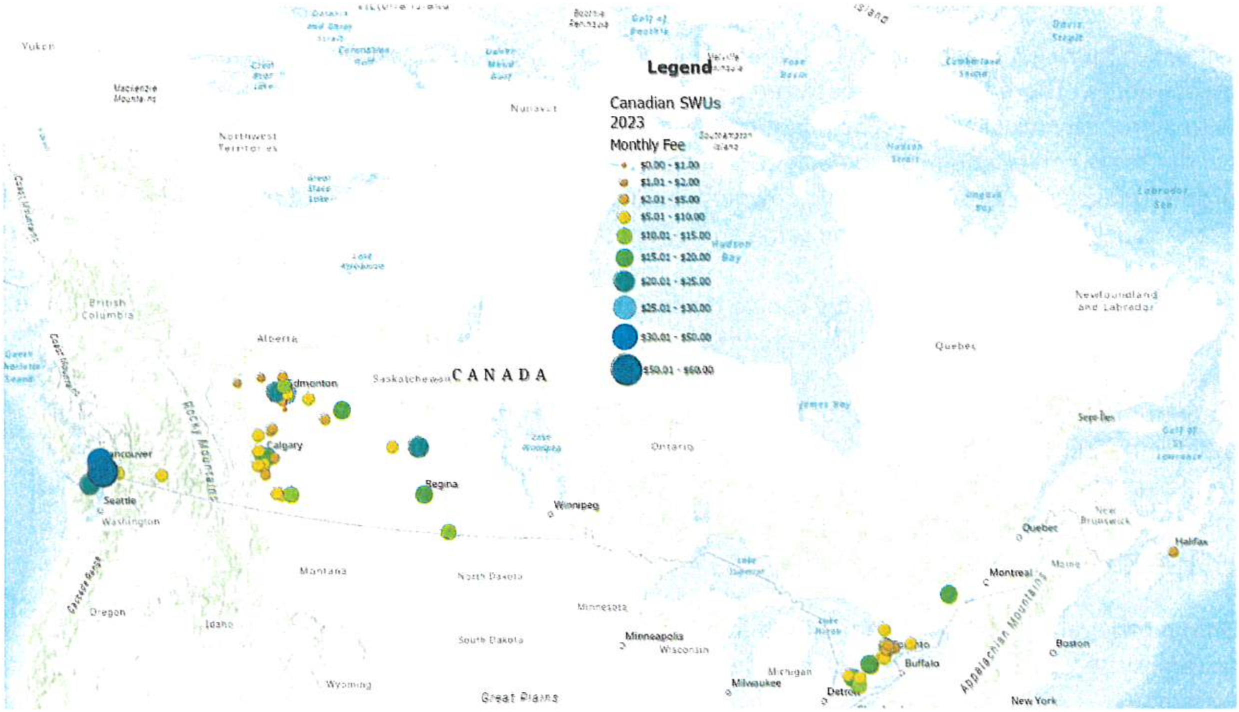

Figure 5. Canadian monthly fees (Canadian $).

Stormwater Financing

There are many ways to fund stormwater programs, but we strongly support stormwater utilities for reasons that will become clear from this discussion. The most popular method is through a community's general fund. That is, through sales tax, property tax, or income tax. The problem with this type of funding is that stormwater must compete with fixing potholes, putting more police on the street, and other community priorities. Stormwater is the forgotten infrastructure since every drainage system works perfectly when it is not raining. Community officials want to spend taxpayer money on immediate priorities, and until the next flood these priorities do not include stormwater. Voters do not give political support to expenditures they do not perceive as important. Media are all about viewership and readership. "If it bleeds, it leads" is their mantra. When it has been years since the last major flood, media lose interest in flood problems, because their viewers and readers lose interest. Stormwater falls victim to a perfect storm of disinterest.

Another way to fund stormwater is through an addition to the property tax. This is the method used by the Maricopa County, Arizona Flood Control District (outside of Phoenix). The good news is that every year they can adjust the percentage of the property tax that goes to flood control; the bad news is that every year they must beseech their elected officials to give them the financial support they need. Few elected officials are motivated to increase taxes.

Clark County, Nevada (Las Vegas) has another approach. They use an addition to their sales tax. When this was proposed, it passed by a 2 to 1 margin. Why not let visitors to Las Vegas pay for their flood control? This was very politically popular. The problem is that the income for the Flood Control District goes up and down with the local economy. Prior to the bursting of the mortgage bubble, the District received $90M each year. When the bubble burst, their annual revenue fell to $60M.

Table 1. Summary of ugly indices for different fee types.

Fee System	Ugly Index
Flat	126.04%
Dual	122.06%
8N4R Tiers	62.37%
15 Tiers	57.46%
18 Tiers	52.29%
ERU	5.68%
Arvada	0.00%

8N4R refers to 8 nonresidential tiers and 4 residential tiers. The ERU system used had one residential tier. Relative to Arvada, the residential parcels are the only ones that contributed significantly to the ugly index (UI). Significantly because we required that the fees raise the same amount of money annually. To achieve this, the base fee was adjusted. We assumed that Arvada had an ERU of 3825 square feet and a base fee of $5.00 a month. The ERU is that of the Warren County, Kentucky data used to develop the indices. In the ERU case above, to match annual revenue, the base fee was adjusted to $4.96, while to calculate the Arvada fee, we used a base fee of $5.00. This led nonresidential parcels to contribute slightly to the UI. However, less than 6% over/undercharge is less than 1/22 that of the flat fee. The larger the number of tiers, the fairer the fee system. The ERU system is a tier system with an infinite number of tiers.

These indices do not represent any real fee system. The analysis combines data available from Warren County, Kentucky with some real fee systems. Further, we did not have actual IA data for Warren County. Instead, we used typical IA percentages from the Natural Resources Conservation Service, as shown in their runoff curve number tables. Figure 6 emphasizes the point. It shows the 8N4R fee system applied to the Warren County Data. The points that do not quite fall on the tiers are from mobile home parks. The data would have plotted in one case as a residential property with almost 1,000,000 square feet of IA. Rather than plotting it that way and raising questions about the data, we estimated that a mobile home combined with a driveway, and half of a narrow street had 2000 square feet of IA. We divided the parcel impervious area by 2000 and multiplied it by the base fee. The results are points that do not fall on the tiers.

Viewing the figure begs the question, "How can these two fee systems raise the same amount of money?" The data are correct. It is hard to see in the figure, but at the low end of IA there are so many properties that are overcharged, that they compensate for the undercharges on the upper end.

The ugly index developed is only appropriate for fees based strictly on IA. However, even parcels without any IA create runoff. So the Arvada system is not the fairest possible system. It would be possible to convert the Arvada system to a complete runoff system. The ultimately fair system would account for the IA and the soil type or Hydrologic Soil Group (HSG). This is approaching the Residential Equivalent Factor (REF) system. In a REF system, the average runoff from a standard storm is calculated from an acre of average single-family lots, and from nonresidential parcels. A standard storm may be defined as one inch of rainfall, as the 2-yr, 24-hr storm, or other storms. Campbell (2022) pointed out that the choice of the standard storm is critical because a storm with a high rainfall amount favors commercial interests, while a storm with little rainfall favors residential customers. Campbell also points out that the fairest method of applying the REF system is to calculate runoff from years of historical rainfall data and use that to set fees.

Summary

Forty-two states and DC have stormwater utilities. Communities in Alaska and Hawaii are also considering stormwater utilities. There are probably at least 2500 SWUs in the U.S., with possibly as many as 3000. At least 70 have been enacted in Canada. A state's political leaning does not seem to be a serious impediment.

Many SWUs are challenged in court or repealed by opportunistic elected officials. Regardless, SWUs are the fairest method of funding flood and water quality programs if the fee systems are set up correctly. Many are not. Any community wanting to set up a SWU should contract with a company that does many of them. At least one company has helped many communities enact stormwater utilities that have never been successfully challenged in court. In this report, we made suggestions for setting up stormwater utilities to reduce legal exposure. It is our hope that communities will take them to heart.

If you are a community official wishing to enhance your flood control or water quality programs, I have the following suggestions for setting up a stormwater utility.

1. Work with a company that sets up many SWUs. They are the experts.
2. Use flat fees only to raise money to hire these experts, then go to a fairer system like the ERU system.
3. Put teeth in your ordinance. Being able to turn off water and power, rather than taking nonpayers to court, will be a more effective strategy if state law allows it.
4. Determine the level of service you want to provide, determine how much it will cost, and set your base fee accordingly.
5. Make your case, and identify the people in town who will be the first beneficiaries. Enlist their support at public meetings.
6. Make a powerful elected official your champion.

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17 Western Kentucky University Stormwater Utility Survey 2022

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
1	Anniston	AL	IA		$0.83	2014	22,112
2	Birmingham	AL	T		$0.83		212,157
3	Jefferson County	AL	F				
4	Madison	AL	IA		$0.83	2014	48,861
5	Mobile	AL	E		$0.83	2009	195,111
6	Montgomery	AL	IA		$0.83	2016	199,518
7	Bryant	AR	D		$5.00	2015	20,194
8	Hot Springs	AR	D		$4.25	2008	35,680
9	Flagstaff	AZ	T		$3.74	2003	68,667
10	Mesa	AZ	F		$7.32	2006	462,821
11	Oro Valley	AZ	E	4000	$4.50	2008	41,627
12	Peoria	AZ	F		$1.00	1995	154,065
13	Scottsdale	AZ	F		$3.10	2016	226,918
14	Surprise	AZ	E	3420	$2.75	2016	117,517
15	Tuscon	AZ	W		$1.00	2020	541,482
16	Alameda	CA	E	2000	$11.18	1992	79,177
17	Albany	CA	F		$3.47	1992	18,539
18	Arcata	CA	E	2500	$1.96	2001	17,231
19	Berkeley	CA	R		$7.28	1991	112,580
20	Burlingame	CA	A		$10.48	2009	28,806
21	Carlsbad	CA	F		$1.95	1994	106,000
22	Carmel-by-the-Sea	CA	E	4000	$8.77	2001	15,677
23	Chino	CA	T		$8.96	1989	77,983
24	Citrus Heights	CA	R			1997	83,301
25	Contra Costa County	CA	E	5,000	$2.50	2012	1,041,274
26	Coronado	CA	F		$3.80	1991	24,417
27	Cupertino	CA	E	4,073	$4.70	1992	60,170
28	Davis	CA	LU		$13.10	2012	65,622
29	Del Mar	CA	W		$12.52	2009	4,161
30	Dixon	CA	F		$3.77		18,351
31	El Paso de Robles	CA	V				24,297
32	Elk Grove	CA	IA		$11.68	2004	153,015
33	Escalon	CA	T			1993	7,132
34	Escondido	CA	V		$2.10	1994	143,911
35	Fairfield-Suisun	CA			$1.69	2008	147,992
36	Folsom	CA	V			1990	72,203
37	Fortuna	CA	A		$0.55	1993	11,926
38	Galt	CA	F		$2.43	2002	23,647
39	Grover Beach	CA	F		$4.85		13,275

No	Community	Sta	Fee Type	ERU (ft²)	Monthly Fee	Year Created	Population
80	Aurora	CO	E	2,500	$10.46	2002	345,803
81	Berthoud	CO	F		$3.50	1989	5,105
82	Boulder	CO	R		$19.83	1974	310,048
83	Brighton	CO	T		$5.50	2011	35,719
84	Buena Vista	CO				2017	2,855
85	Canon City	CO	IA		$11.09	2004	16,318
86	Castle Pines	CO				2022	11,036
87	Castle Rock	CO	E	3,255	$7.12	2002	48,231
88	Colorado Springs	CO	A		$8.00	2005	416,427
89	Denver	CO	T		$12.75	1980	649,495
90	Eagle	CO				2020	6,856
91	Englewood	CO	A		$1.39		30,255
92	Erie	CO	E	5,300	$11.98	2003	19,723
93	Evans	CO	A		$9.43	1998	18,537
94	Federal Heights	CO	IA		$3.15	2001	11,973
95	Firestone	CO	IA		$7.00	2009	11,175
96	Fort Collins	CO	R		$17.00	1980	152,061
97	Fort Lupton	CO	E		$3.80	2007	7,955
98	Fort Morgan	CO	LU		$5.00	2021	11,377
99	Fountain	CO	V				25,846
100	Frederick	CO	A		$7.25	2008	10,196
101	Gilcrest	CO	E	3,738	$3.50	2006	1,029
102	Golden	CO	IA		$4.22	1997	19,393
103	Grand Junction	CO	E	2,500	$3.00	2015	61,881
104	Greeley	CO	A		$23.34	2002	96,539
105	Idaho Springs	CO	V			2006	1,717
106	Johnstown	CO	E		$5.00	2020	17,303
107	Lafayette	CO	F		$9.38	2007	24,453
108	Lakewood	CO	D		$4.16	1998	147,214
109	Larimer County	CO	T				315,988
110	LaSalle	CO	D		$4.00	2002	2,359
111	Littleton	CO	A		$7.80	1986	44,275
112	Longmont	CO	A		$13.05	1984	89,919
113	Louisville	CO	E	3,500	$4.71	2007	19,588
114	Loveland	CO	A		$15.07	1987	71,334
115	Lyons	CO	F		$10.00	2018	2,148
116	Manitou Springs	CO	F		$17.00	2010	4,858
117	Milliken	CO	A		$5.75	2016	8,386
118	Northglenn	CO	A		$2.00	2004	37,499
119	Parker	CO	E	4,000	$8.70	1999	48,608

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
160	Citrus County	FL	T		$4.90	2020	153,843
161	Clearwater	FL	E	1,830	$14.15	1991	107,784
162	Clermont	FL	E	3,154	$8.42	1990	29,126
163	Cocoa	FL	E	2,166	$7.00	1992	17,147
164	Cocoa Beach	FL	E	2,900	$8.75	2003	11,235
165	Coconut Creek	FL	E	2,070	$3.87	2004	53,915
166	Collier County	FL	V		$5.62	1991	328,134
167	Cooper City	FL	E				34,401
168	Coral Gables	FL	E	2,346	$14.73	1993	47,783
169	Coral Springs	FL	E	5,000	$9.93		121,096
170	Crestview	FL	E			2020	27,134
171	Cutler Bay	FL	E	1,548	$4.00	2007	44,300
172	Dade City	FL	E			2014	7,275
173	Daytona Beach	FL	E	1,661	$8.67	2004	61,028
174	Deerfield Beach	FL	E			2018	86,859
175	DeLand	FL	E	3,100	$8.69	2009	27,041
176	DeBary	FL	E	2,560	$7.00	2005	19,324
177	Delray Beach	FL	E	2,502	$5.33	1990	61,209
178	Deltona	FL	E	3,484	$6.34	1996	85,219
179	Doral	FL	E	1,548	$4.00	2005	46,789
180	Dundee	FL	E	4,749	$1.20	2003	3,764
181	Dunedin	FL	E	1,708	$11.49	2007	35,354
182	Eagle Lake	FL	D		$4.00	2007	2,283
183	Eatonville	FL	E	2,011		2000	2,349
184	Edgewater	FL	E	2,027	$12.00	2004	20,761
185	El Portal	FL	E	1,548	$3.00		2,380
186	Eustis	FL	D		$6.00	1997	18,805
187	Fellsmere	FL	F		$4.00	2013	3,813
188	Fernandina Beach	FL	F		$4.00	2012	11,705
189	Florida City	FL	E	1,250	$2.50	2000	11,511
190	Fort Lauderdale	FL	T		$14.00	1992	168,528
191	Fort Meade	FL	T		$4.25	1990	5,696
192	Fort Myers	FL	E	500	$11.52	2009	63,512
193	Fort Myers Beach	FL	E			2019	5,582
194	Fort Pierce	FL	E	2,186	$4.50	2005	41,993
195	Fort Walton Beach	FL	E	3,200	$5.00	1990	19,793
196	Frostproof	FL	F		$3.00	1997	3,030
197	Fruitland Park	FL	F		$2.00	2005	4,132
198	Gainesville	FL	E	2,300	$9.45	1988	125,326
199	Golden Beach	FL	E	8,000	$35.00	1993	940

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
240	Madeira Beach	FL	E	1,249	$5.00		4,267
241	Maitland	FL	E	2,532	$9.60	2008	16,076
242	Malabar	FL	E	2,500	$3.00	1992	2,758
243	Manatee County	FL	V			1991	327,142
244	Marathon	FL	E	4,769	$10.00	2005	8,387
245	Margate	FL	E	2,382	$8.25	1993	54,270
246	Marion County	FL	E	2,275	$1.25		332,529
247	Martin County	FL	E	3,428		2009	147,495
248	Mascotte	FL	E		$7.00	2012	6,609
249	Medley	FL	E	1,487	$3.00	1991	857
250	Melbourne	FL	E	2,500	$3.00	1999	76,095
251	Melbourne Beach	FL	E	2,500	$3.00	2000	3,102
252	Miami Beach	FL	E	791	$9.06	1996	89,840
253	Miami Gardens	FL	E	1,800	$6.00	2006	109,680
254	Miami Lakes	FL	E	2,800	$8.75	2003	30,467
255	Miami Shores	FL	E	2,466	$3.75	2000	10,720
256	Miami Springs	FL	F		$3.67	1993	14,129
257	Miami-Dade County	FL	E	1,548	$5.00	2004	408,750
258	Milton	FL	V			2008	8,984
259	Minneola	FL	E	3,050	$4.00	2001	9,531
260	Miramar	FL	F		$7.00	1998	124,302
261	Mount Dora	FL	E	2,500	$5.00		12,534
262	Mulberry	FL	E	3,250	$4.00		3,867
263	Naples	FL	E	1,934	$13.93	1994	19,939
264	Neptune Beach	FL	E	3,164	$3.00	2002	7,090
265	New Port Richey	FL	E	2,629	$6.66	2001	14,961
266	New Smyrna Beach	FL	E	1,818	$7.00	1995	22,481
267	Niceville	FL	T		$4.51	2004	12,941
268	North Bay Village	FL	D		$7.72	1994	7,305
269	North Lauderdale	FL	E	2,138	$6.00	1995	41,782
270	North Miami	FL	E	1,760	$6.19	1998	60,143
271	North Miami Beach	FL	E	1,800	$4.60	1992	42,504
272	North Palm Beach	FL	E	5,550	$7.78	2021	13,162
273	North Redington Beach	FL	E	1,687			1,418
274	Oakland Park	FL	E	1,507	$6.00	1989	42,126
275	Ocala	FL	E	1,948	$6.39	1988	56,517
276	Ocoee	FL	E	2,054	$7.00		36,320
277	Oldsmar	FL	E	2,550	$3.00	1998	13,618
278	Opa-Locka	FL	E	1,548	$6.00		15,579
279	Orange County	FL	V			1996	1,169,107

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
320	Stuart	FL	E	3,707	$4.18	2000	14,633
321	Sunny Isles Beach	FL	E	1,548	$4.00	1999	15,315
322	Sunrise	FL	E	1,884	$8.36	1997	85,779
323	Surfside	FL	E	1,040	$10.70	1998	4,909
324	Sweetwater	FL	E	1,548	$4.00	2000	14,226
325	Tallahassee	FL	E	1,990	$8.35	1986	150,624
326	Tamarac	FL	E	1,830	$10.65	1993	55,588
327	Tampa	FL	E	3,310	$6.83	2003	303,447
328	Tarpon Springs	FL	E	1,945	$5.65	1992	21,003
329	Tavares	FL	E	3,000	$10.00		14,248
330	Tequesta	FL	E	2,507	$8.23		5,273
331	Titusville	FL	R		$7.64	1990	40,670
332	Treasure Island	FL	E	1,513	$12.14	1994	7,450
333	Umatilla	FL	E	3,000	$4.00	2008	2,896
334	Venice	FL	R		$6.99	1995	17,764
335	Vero Beach	FL	E	3,972	$2.38	2021	16,354
336	Volusia County	FL	E	2,775	$10.50	1992	443,343
337	West Melbourne	FL	E	2,500	$5.33	1992	9,824
338	West Miami	FL	E	1,400	$2.50	1996	5,863
339	West Palm Beach	FL	E	2,171	$8.48		82,103
340	West Park	FL	E	1,351	$3.50	2012	14,609
341	Wilton Manors	FL	E	3,460	$5.58	1992	12,697
342	Windermere	FL	E	3,000	$12.00	2010	3,030
343	Winter Garden	FL	E	4,077	$5.13	2006	14,351
344	Winter Haven	FL	F		$3.56	1998	26,487
345	Winter Park	FL	E	2,324	$13.21		24,090
346	Winter Springs	FL	E	2,123	$5.50	1992	31,666
347	Albany	GA	E	2,700	$3.00	2014	77,431
348	Americus	GA	E	3,000	$4.00	2010	17,103
349	Athens - Clarke County	GA	E	2,628	$2.10	2004	101,489
350	Atlanta	GA	-				416,474
351	Auburn	GA	T			2011	6,900
352	Augusta	GA	E	2,200	$6.40	2015	197,872
353	Austell	GA	E	3,100	$5.00		5,200
354	Avondale Estates	GA	E	2,900	$15.00	2004	2,995
355	Barrow County	GA	E	3,478	$1.50	2008	46,144
356	Braselton	GA	E	3,478	$1.50		1,206
357	Brookhaven	GA	E	3,000	$7.83	2013	52,444
358	Brunswick	GA	E	2,200	$3.95	2018	16,287
359	Byron	GA	E	3,850	$3.50	2017	5,188

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
399	Locust Grove	GA	E	2,768		2008	2,322
400	Loganville	GA	E	3,000	$4.00		5,435
401	Macon	GA	E	2,200	$4.99	2021	153,095
402	McDonough	GA	E	3,000	$3.30		8,493
403	Milledgeville	GA	E	3,400	$3.95	2019	18,933
404	Norcross	GA	IA		$4.13		8,410
405	Peachtree City	GA	E	4,600	$3.95		31,580
406	Peachtree Corners	GA	IA		$6.15	2017	43,509
407	Perry	GA	F		$2.00	2012	14,215
408	Pine Lake	GA					730
409	Powder Springs	GA	E	2,840	$3.79	2012	13,940
410	Richmond Hill	GA	E	3,300	$4.75	2015	10,919
411	Rockdale County	GA	E	3,420	$8.50	2005	70,111
412	Roswell	GA	T		$4.25	2011	79,334
413	Senoia	GA	E	4,400	$5.00	2016	3,751
414	Smyrna	GA	E	3,900	$2.45	2007	40,999
415	Snellville	GA	E	3,800	$3.10	2008	19,983
416	Statesboro	GA	E	3,200	$3.95	2015	33,438
417	Stockbridge	GA	E	2,000	$2.92	2004	9,853
418	Stone Mountain	GA	E	3,000			7,145
419	Sugar Hill	GA	IA		$4.50	2009	16,725
420	Suwanee	GA	E	3,825	$7.42	2022	20,786
421	Union City	GA	E	2,800	$4.00	2013	20,501
422	Valdosta	GA	E	3,704	$3.50	2006	43,724
423	Warner Robbins	GA	E	3,000	$4.25	2008	48,804
424	Woodstock	GA	E	2,700	$4.20	2006	10,050
425	Ackley	IA	F		$3.00		1,665
426	Adel	IA	E	3,000	$3.40		4,563
427	Alburnett	IA	F		$1.50	2012	673
428	Algona	IA	T		$3.00		5,741
429	Altoona	IA	E	4,000	$5.00	2010	10,345
430	Ames	IA	T		$5.20	1994	50,731
431	Ankeny	IA	E	4,000	$5.50		45,582
432	Asbury	IA	F		$4.00		4,357
433	Atlantic	IA	E	2000	$2.85		6,937
434	Aurelia	IA	F		$1.00		1,036
435	Avoca	IA	E		$2.50		1,506
436	Belle Plaine	IA	F		$3.56		2,537
437	Bellevue	IA	F		$5.00		2,191
438	Belmond	IA	F		$4.00	2009	2,376

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
479	Hiawatha	IA	F		$1.50	2000	6,694
480	Hills	IA	V				703
481	Hillsboro	IA	V				205
482	Independence	IA			$4.00	2021	5,966
483	Indianola	IA	E	3,400	$2.00	2011	12,998
484	Iowa City	IA	D		$5.00	2004	67,831
485	Johnston	IA	E	4,000	$7.05	2012	17,278
486	Kalona	IA	F		$3.00	2010	2,363
487	Kelley	IA	T				304
488	Keokuk	IA	E			2018	10,343
489	Lake City	IA	F		$1.00	2005	1,727
490	Lake Mills	IA	T		$3.00		2,100
491	Laurens	IA	T		$3.25		1,258
492	Le Mars	IA	D		$7.00	2008	9,826
493	Madrid	IA	A		$3.00		2,539
494	Mallard	IA	V				298
495	Mapleton	IA	V				1,224
496	Marengo	IA	F		$1.50		2,535
497	Marion	IA	E	2,791	$3.50		2,011
498	Marshalltown	IA	F		$2.16		26,009
499	Mason City	IA	F		$1.00		29,172
500	McGregor	IA	F		$8.50		871
501	Milford	IA	F		$3.00	2012	2,954
502	Nevada	IA	F		$5.25		6,658
503	North Liberty	IA	F		$2.00		15,000
504	Norwalk	IA	F		$7.50		8,821
505	Odebolt	IA	F		$1.00	2004	1,153
506	Ogden	IA	F		$3.00		2,044
507	Olin	IA	F		$1.00		698
508	Oskaloosa	IA	E	2,750	$2.00	2007	10,938
509	Perry	IA	F		$3.00	2004	7,633
510	Pleasant Hill	IA	E	3,500	$3.00		9,082
511	Polk City	IA	E	3,976	$3.00	2020	4,625
512	Postville	IA	F		$2.50	2007	2,273
513	Princeton	IA				2015	886
514	Reinbeck	IA	T		$2.00	2008	1,751
515	Ringsted	IA	V				422
516	Rock Valley	IA	V			2015	3,345
517	Rolfe	IA	D		$3.00	2012	584
518	Sac City	IA	F		$3.00		2,368

No	Community	Sta	Fee Type	ERU (ft²)	Monthly Fee	Year Created	Population
559	Normal	IL	E	3,200	$4.60	2006	45,386
560	Northbrook	IL	W		$9.00		33,170
561	Palatine	IL	F		$6.13	2012	67,908
562	Park Ridge	IL	E	2,800	$2.75	2016	37,480
563	Peoria	IL	E	2,600	$7.80	2017	114,265
564	Rantoul	IL	F		$3.43	2001	12,857
565	Richton Park	IL	D		$5.97		12,533
566	Rock Island	IL	E	2,800	$4.63	2002	39,020
567	Rolling Meadows	IL	E	3,604	$4.76	2001	23,682
568	Tinley Park	IL	W		$3.72	1983	56,703
569	Urbana	IL	E	3,100	$4.94	2012	41,250
570	Western Springs	IL	E	3,708	$17.50	2023	13,629
571	Wheeling	IL	E	3,000	$2.00	2015	37,648
572	Wilmette	IL	E	3,590	$17.92	2019	27,418
573	Winetka	IL	E	3,400	$21.83	2014	12,370
574	Albany	IN	F		$10.64		2,368
575	Anderson	IN	E	2,500	$3.50	2002	59,734
576	Andrews	IN	E	2,500		2018	1,048
577	Angola	IN	F		$2.08		7,344
578	Attica	IN	F		$3.00	2014	3,147
579	Avon	IN	E		$6.00	2017	16,960
580	Bargersville	IN	E	2,350	$9.46	2005	2,120
581	Batesville	IN	T		$2.00	2005	6,033
582	Battle Ground	IN			$8.00	2017	1,946
583	Beech Grove	IN	E	2,620		2006	14,192
584	Berne	IN	T		$24.00		4,114
585	Bloomington	IN	R		$5.95	1998	69,291
586	Brazil	IN	E	3800	$5.00	2021	8,380
587	Brooklyn	IN				2005	2,511
588	Brownsburg	IN	E	2,900	$5.00	2006	14,520
589	Butler	IN	E	2,500		2016	2,635
590	Carmel	IN	E	4,150	$5.91	2016	85,927
591	Cedar Lake	IN	E	2,903	$5.00	2006	9,279
592	Centerville	IN	E	3,536	$8.50	2004	2,624
593	Chandler	IN	F		$4.00	2004	3,500
594	Chesterton	IN	D		$6.83		11,139
595	Cicero	IN	V				4,303
596	Clark County	IN	F		$3.33	2014	
597	Clarksville	IN	E	2,527	$2.95	2004	21,400
598	Clayton	IN	E	3,000	$3.00	2015	908

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
638	Kokomo	IN	M		$3.18	2005	57,869
639	Kouts	IN	T		$8.50	1999	2,028
640	La Porte	IN				2018	21,610
641	Lafayette	IN	E	3,200	$5.00	2009	56,397
642	Lake County	IN	F		$3.30		484,564
643	Lake Station	IN	F		$8.33		12,572
644	Lebanon	IN	E	3,000	$4.75		15,259
645	Leo Cedarville	IN	V		$6.30		2,782
646	Linton	IN	F		$12.50	2017	5,133
647	Logansport	IN	T		$12.49		19,684
648	Lowell	IN	LU		$7.00	2012	9,661
649	Marion	IN	E	2,521	$5.00	2001	31,320
650	McCordsville	IN	E	2,250	$7.50	2005	1,134
651	Merrillville	IN	LU		$5.00	2009	32,147
652	Middletown	IN	D		$8.25		2,357
653	Monroe County	IN	E	5,200	$2.93	2011	137,974
654	Morgantown	IN	D		$3.00	2013	1,014
655	Muncie	IN	V		$9.00	2005	70,087
656	Munster	IN	F		$14.76		22,346
657	New Albany	IN	E	2,500	$4.17	2005	37,603
658	New Castle	IN	F		$6.00		17,780
659	New Haven	IN	E	2,534	$5.35		12,406
660	North Manchester	IN	E	2,650	$3.45	1994	5,932
661	North Vernon	IN	W		$3.75	2008	6,727
662	Oolitic	IN				2015	1,137
663	Ossian	IN	T		$8.00	2005	2,943
664	Otterbein	IN				2017	1,144
665	Pendleton	IN	E	3,842		2021	4,717
666	Peru	IN	E	3,497	$4.00		12,994
667	Pittsboro	IN	F		$3.50		1,588
668	Plainfield	IN	E	3,000	$8.34		18,396
669	Plymouth	IN	T		$2.05		9,840
670	Portage	IN	E	3,500	$12.00	2009	36,828
671	Porter County	IN			$10.00	2016	164,343
672	Princeton	IN			$3.00	2021	8,684
673	Richmond	IN	D		$6.00		39,124
674	Rockville	IN	E	25,000	$6.00	2009	2,510
675	Seymour	IN	E	2,840	$4.00		21,569
676	Shelbyville	IN	F		$6.00		17,951
677	Sheridan	IN	E	3,400	$5.00	2015	3,106

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
718	Lawrence	KS	E	2,366	$4.50	1997	80,098
719	Leavenworth	KS	T		$7.00	2018	36,210
720	Lenexa	KS	E	2,750	$9.08	2000	40,238
721	Manhattan	KS	T		$5.34	1992	44,831
722	McPherson	KS	E		$7.00		13,155
723	Mission	KS	E	2,600	$19.00	2004	9,727
724	Mission Hills	KS	-			2012	3,498
725	Olathe	KS	A		$5.77		114,662
726	Ottawa	KS	E	2,600	$4.00	2012	12,620
727	Overland Park	KS	E	2,485	$2.00	2001	149,080
728	Paola	KS	F		$3.00		5,602
729	Parsons	KS	D		$3.50	2008	11,514
730	Pittsburg	KS	E	3,106	$3.86	2003	19,243
731	Prairie Village	KS	IA		$10.00	2008	21,447
732	Roeland Park	KS	E		$6.25	2023	6,871
733	Shawnee	KS	E	2,773	$6.00	2004	64,680
734	Tonganoxie	KS	D		$1.50	2018	5,573
735	Topeka	KS	T		$5.00	1996	122,377
736	Valley Center	KS	T		$5.50	2008	4,883
737	Wamego	KS	D		$5.50		4,841
738	Westwood	KS	V		$6.00	2013	1,658
739	Wichita	KS	E	2,139	$3.00		344,284
740	Winfield	KS	D		$2.00	1991	11,900
741	Cold Spring	KY	E		$4.50		6,481
742	Danville	KY	E	3,813	$3.36	2007	15,385
743	Franklin	KY	E	3,813	$2.00	2015	10,176
744	Glasgow	KY	-		$2.00	2012	14,059
745	Henderson	KY	E	3,000	$5.00	1998	27,373
746	Hopkinsville	KY	E	3,350	$3.00	2005	30,089
747	Lexington/Fayette County	KY	E	2,500	$4.90	2009	260,512
748	Louisville/Jefferson Co.	KY	E	2,500	$10.58	1987	693,604
749	Murray	KY	E	3,000	$1.50	2004	14,950
750	Oak Grove	KY			$2.00	2021	7,332
751	Oldham County	KY	E	6,000	$3.91	2008	40,502
752	Radcliff	KY	E	2,800	$5.26	2003	21,961
753	Sanitation District 1	KY	E	2,600	$4.54	2003	290,000
754	Vine Grove	KY	E		$5.00	2020	6,310
755	Warren County	KY	D		$4.00	2007	43,226
756	East Baton Rouge Parish	LA	E	500	$8.16	2022	456,781

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
797	Prince George's County	MD	E	2,465	$3.46	2013	871,233
798	Rockville	MD	E	2,330	$11.00	2007	47,388
799	Salisbury	MD	E	3,344	$1.67	2014	31,507
800	Silver Spring	MD	IA		$12.50		76,540
801	Takoma Park	MD	E	1,228	$7.67	1996	17,299
802	Augusta	ME	E	2,700	$7.54		18,560
803	Bangor	ME	E	3,000	$1.83	2012	33,011
804	Lewiston	ME	D		$5.00	2006	35,690
805	Long Creek Watershed	ME	D		$6.89	2010	
806	Portland	ME	E	1,200	$6.75		68,408
807	Adrian	MI	-			2012	21,122
808	Ann Arbor	MI	T		$21.54	1980	114,024
809	Berkley	MI	E	2,600	$5.18	2001	15,531
810	Birmingham	MI	E	4,317	$16.75	2017	21,007
811	Chelsea	MI	A				5,467
812	Detroit	MI	A		$29.85	1979	951,270
813	Jackson	MI	-			2011	36,316
814	Lansing	MI	V			1995	119,128
815	Marquette	MI	T				19,661
816	New Baltimore	MI	D		$2.00	2005	7,405
817	Oak Park	MI	IA		$29.08	2020	29,560
818	Saint Clair Shores	MI	D		$2.84	2017	59,635
819	Albert Lea	MN	V			2005	17,967
820	Albertville	MN	V				7,044
821	Alexandria	MN	T		$4.50	2005	8,820
822	Amboy	MN				2021	535
823	Andover	MN	R			2003	30,222
824	Annandale	MN	D		$3.25		3,228
825	Anoka	MN	R		$3.90	2003	18,076
826	Apple Valley	MN	R		$6.52	1988	45,527
827	Arden Hills	MN	R		$4.49	1993	9,642
828	Ashby	MN	R			2005	444
829	Austin	MN	A		$4.00	2003	24,834
830	Barnesville	MN	F		$2.61		2,563
831	Baudette	MN	R				1,020
832	Baxter	MN	IA		$2.63	2006	7,642
833	Belle Plaine	MN	F		$3.56	1999	6,792
834	Bemidji	MN	T		$6.44		13,657
835	Benson	MN	R			2012	3,091
836	Big Lake	MN	R		$4.93		10,060

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
877	Eagan	MN	R			1990	64,765
878	East Bethel	MN				2019	11,626
879	East Grand Forks	MN	R				8,601
880	Eden Prairie	MN	LU		$15.10	1993	61,657
881	Edina	MN	R		$11.60	1985	48,620
882	Elk River	MN	IA		$3.00	2014	22,974
883	Elko-New Market	MN	R		$8.97	2000	4,194
884	Excelsior	MN	R		$38.10	1999	2,219
885	Eyota	MN	F		$2.00		1,998
886	Fairfax	MN	R		$12.50	1995	1,218
887	Fairmont	MN	R			1987	10,589
888	Falcon Heights	MN	R		$7.33	1986	5,381
889	Faribault	MN	E	3,500	$3.80	2001	23,450
890	Farmington	MN	R		$7.08	1989	21,267
891	Federal Dam	MN	R				110
892	Fergus Falls	MN	T		$7.25	1997	13,125
893	Forest Lake	MN	R		$3.33	2008	18,619
894	Frazee	MN	R			2005	1,360
895	Fridley	MN	R		$9.86	1985	27,398
896	Gaylord	MN	R				2,275
897	Glencoe	MN	R			1993	5,598
898	Glenwood	MN	R				2,611
899	Glyndon	MN	F		$9.50	2007	1,413
900	Golden Valley	MN	T		$8.00	1992	20,655
901	Grand Rapids	MN	T		$7.50	2004	10,862
902	Grove City	MN	R				619
903	Hamburg	MN	D		$27.00		513
904	Hanover	MN	R		$8.50		2,980
905	Harmony	MN	D		$1.00	2009	1,020
906	Hastings	MN	R		$6.20	2010	22,359
907	Hawley	MN	R			2009	2,219
908	Hermantown	MN	IA		$7.00	2019	9,414
909	Hopkins	MN	R		$5.00	1989	17,837
910	Hutchinson	MN	R			2001	14,093
911	Independence	MN				2012	3,803
912	Inver Grove Heights	MN	R		$8.03	2007	34,157
913	Isanti	MN	E	3,765	$7.88	2013	5,721
914	Jordan	MN	R		$6.16	1995	5,583

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
953	Minnetrista	MN	F		$8.67	2004	6,474
954	Monticello	MN	IA		$4.00	2019	13,599
955	Montrose	MN	F		$4.50	2000	2,887
956	Moorhead	MN	F		$10.21	2005	38,566
957	Mora	MN	F		$1.25	2005	3,556
958	Mound	MN	R		$1.00	2001	9,180
959	Mounds View	MN	T			1993	12,305
960	New Brighton	MN	R		$4.58	1994	21,715
961	New Hope	MN	D		$7.96	1991	20,616
962	New Prague	MN	R		$15.53	1992	7,401
963	Newport	MN	R		$4.08		3,481
964	North Branch	MN	R			2008	10,131
965	North Mankato	MN	A		$3.75		13,437
966	North Saint Paul	MN	T		$10.56	1990	11,601
967	Northfield	MN	R			1986	20,084
968	Norwood Young America	MN	R			2003	3,611
969	Oak Park Heights	MN	T			1999	4,389
970	Oakdale	MN	R		$2.17	2002	27,743
971	Olivia	MN	T		$15.67		2,449
972	Orono	MN	R		$8.11	2001	7,543
973	Ortonville	MN	D		$2.00		1,916
974	Osakis	MN	T				1,746
975	Osseo	MN	R		$11.14	2007	2,463
976	Otsego	MN	T			2009	13,761
977	Owatonna	MN	R		$4.35	1998	25,599
978	Park Rapids	MN	R			2010	3,686
979	Paynesville	MN				2018	2,519
980	Perham	MN	R			2007	3,512
981	Pierz	MN	R		$32.92		1,394
982	Plymouth	MN	R		$7.34	2001	71,561
983	Preston	MN	V			2001	1,325
984	Princeton	MN	R		$1.89	2008	4,676
985	Prior Lake	MN	R		$15.06	1993	25,282
986	Ramsey	MN	R		$5.33	2000	18,510
987	Red Wing	MN	R		$11.50	2008	16,116
988	Redwood Falls	MN	R		$8.24	2003	5,459
989	Richfield	MN	R		$6.34	1985	34,439
990	Robbinsdale	MN	R		$10.80	1985	14,123
991	Rochester	MN	R		$9.29	2003	85,806

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
1029	Vadnais Lake Water Management Organization	MN	F		$2.20	2007	
1030	Victoria	MN	R		$7.67	1997	4,025
1031	Virginia	MN	R				8,423
1032	Waconia	MN	F		$14.55	1992	6,814
1033	Waite Park	MN	F		$6.00		7,481
1034	Walker	MN	V				941
1035	Walnut Grove	MN	V				871
1036	Waseca	MN	R		$7.00	2013	8,865
1037	Watertown	MN	F		$3.00	1993	3,029
1038	Waverly	MN	D		$4.00	2003	1,089
1039	Wayzata	MN	R		$5.55	1991	4,113
1040	West Concord	MN	V				782
1041	West Saint Paul	MN	R		$3.08	2005	19,405
1042	White Bear Township	MN	E	4,000	$7.00	1992	11,293
1043	Winnebago	MN	V				1,437
1044	Winona	MN	R			2003	27,069
1045	Woodbury	MN	F		$6.43	1992	46,463
1046	Worthington	MN	R			2004	11,283
1047	Wyoming	MN	R		$0.67	1997	7,716
1048	Arnold	MO	E	1,750	$3.00	2005	21,013
1049	Columbia - Boone County	MO	T		$2.25	1993	115,276
1050	Hannibal	MO				2017	17,808
1051	Kansas City	MO	E	500	$2.50	1992	463,202
1052	Saint Louis	MO	A		$0.24	2008	318,069
1053	Billings	MT	F		$2.69		89,847
1054	Bozeman	MT	M		$2.68	2012	38,025
1055	Great Falls	MT	F		$5.71	1989	56,690
1056	Helena	MT	E	2,222	$1.48	1988	25,780
1057	Missoula	MT	D		$0.75	2016	69,122
1058	Polson	MT	F		$8.00	2009	4,041
1059	Whitefish	MT	E	2,400	$16.67	2006	5,032
1060	Apex	NC	E	2,700	$5.00	2022	55,220
1061	Archdale	NC	E	3,163	$5.00		11,415
1062	Asheville	NC	E	2,442	$5.10	2004	84,458
1063	Ayden	NC	F		$3.50		5,141
1064	Atlantic Beach	NC	F		$4.00		1,495
1065	Beaufort	NC	F		$4.00		4,452

No	Community	Sta	Fee Type	ERU (ft²)	Monthly Fee	Year Created	Population
1106	Holly Springs	NC			$3.00		24,661
1107	Hope Mills	NC	D		$4.00	2008	15,176
1108	Huntersville	NC	T		$6.54		24,960
1109	Indian Trail	NC	T		$4.43	2007	11,905
1110	Jacksonville	NC	E	2,850	$5.00	2006	66,715
1111	Kannapolis	NC	T		$7.25		36,910
1112	Kernersville	NC	E	2,980	$3.29	2006	23,123
1113	Kings Mountain	NC	E	2,000	$2.50	2014	10,791
1114	Kinston	NC	E	3,059	$4.50	2008	22,346
1115	Knightdale	NC			$6.75		11,401
1116	Kure Beach	NC	F		$8.71		2,012
1117	Lake Park	NC	T				3,422
1118	Landis	NC	D		$5.00		3,121
1119	Laurel Park	NC	F		$5.00		2,180
1120	Lexington	NC	E	2,700	$3.50	2020	18,933
1121	Lowell	NC	E	2,827	$6.75	2021	3,526
1122	Lumberton	NC	T		$4.25	1997	21,542
1123	Matthews	NC	T		$6.87		22,127
1124	Mecklenburg County	NC	T		$6.10		695,454
1125	Mint Hill	NC	T		$6.32		14,922
1126	Monroe	NC	T		$4.50	2008	32,797
1127	Mooresville	NC	E	2,700	$3.40	2014	34,887
1128	Morrisville	NC	E	2,800	$1.92	2012	19,184
1129	Mount Holly	NC	E		$2.50		13,656
1130	Nags Head	NC	F		$2.00		2,757
1131	Nashville	NC	F		$2.50		5,554
1132	New Bern	NC	E	3,100	$2.10	2012	29,524
1133	New Hanover County	NC	E	4,000	$1.00	2019	229,018
1134	Oak Island	NC	D		$1.75		6,783
1135	Oxford	NC	E	2,500	$2.00		8,338
1136	Person County	NC	T		$1.00	2013	39,127
1137	Pineville	NC	T		$6.14		3,449
1138	Plymouth	NC	F		$3.00		3,878
1139	Raleigh	NC	T		$7.00	2004	416,468
1140	Randleman	NC	F		$2.00		4,113
1141	Ranlo	NC	W		$7.45		3,434
1142	Rocky Mount	NC	E	2,519	$5.00	2003	57,477
1143	Roxboro	NC			$1.50		8,362
1144	Salisbury	NC	E	2,500	$4.00	2012	33,834
1145	Shelby	NC	E	2,600	$2.50	2014	20,325

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
1186	Broadview Heights	OH	E	4,000	$4.00	2007	19,247
1187	Brookville	OH	LU		$4.50	2019	5,874
1188	Brunswick	OH	E	3,500	$4.95	2011	34,441
1189	Buckeye Lake	OH	E	2,700	$4.00	2013	2,703
1190	Bucyrus	OH	E	2,506	$7.20	2000	12,253
1191	Butler County	OH	E	4,000	$1.08	2003	369,999
1192	Campbell	OH	T		$3.00	2007	8,235
1193	Canal Winchester	OH	E	3,001	$3.00	2010	7,191
1194	Canfield	OH	E	3,050	$3.12	1992	7,464
1195	Celina	OH	E	3,083	$2.00	2008	10,406
1196	Cincinnati	OH	T		$8.28	1984	296,223
1197	Columbus	OH	E	2,000	$4.68	1994	797,434
1198	Cortland	OH	F		$1.50	2007	7,069
1199	Coshocton	OH	D		$0.25	2010	11,231
1200	Crooksville	OH	E		$2.54		2,491
1201	Cuyahoga Falls	OH	E	3,000	$5.00	1992	49,473
1202	Dayton	OH	F		$5.03	1997	142,148
1203	Deerfield Regional Stormwater District	OH	E	3,407	$1.92	2006	
1204	Delaware	OH	E	2,773	$2.50	1998	35,541
1205	East Liverpool	OH	E	7,773	$6.50	2018	10,691
1206	Elida	OH	F		$3.00	2018	1,803
1207	Elyria	OH	E	2,700	$2.65	2016	52,656
1208	Findlay	OH	T		$3.00	1999	41,202
1209	Forest Park	OH	F		$3.00	1988	19,463
1210	Fostoria	OH	R			2006	13,411
1211	Franklin	OH	E	2,611	$3.50		11,771
1212	Gahanna	OH	E	3,064	$4.33	2004	32,636
1213	Galion	OH	E	2,650	$6.00	2001	10,416
1214	Gambier	OH	T		$4.00		2,396
1215	Germantown	OH	LU		$4.00	2003	5,547
1216	Greenville	OH	E	2,800	$2.95	2007	13,189
1217	Groveport	OH	E	2,760	$2.00	2008	5,363
1218	Hamilton	OH	E	2,536	$4.30	2002	62,795
1219	Hamilton County	OH	V				800,362
1220	Harrison	OH	R		$2.00	2007	9,871
1221	Haskins	OH	F		$8.00	2020	1,188
1222	Hilliard	OH	E	2,000	$2.35	2009	28,435
1223	Hillsboro	OH	E	2,899	$5.00	2019	6,512
1224	Hubbard	OH	T		$3.00	2007	8,284

No	Community	Sta	Fee Type	ERU (ft²)	Monthly Fee	Year Created	Population
1263	North Ridgeville	OH	E	3,820	$3.88	2018	33,436
1264	Northeast Ohio Regional Sewer District	OH	E	3,000	$5.15	2010	
1265	Northwood	OH	E	2,500	$3.16	2001	5,265
1266	Norwalk	OH	E	3,800	$1.35	2011	16,977
1267	Oak Harbor	OH	E	4,200	$13.00	2007	2,758
1268	Oakwood	OH	E		$6.00	2013	9,202
1269	Oberlin	OH	E	3,600	$4.39	2018	8,312
1270	Painesville	OH	E	2,500	$2.75	2002	19,549
1271	Pemberville	OH	M		$3.00	2007	1,420
1272	Pickerington	OH	E	2,530	$4.50	2001	18,408
1273	Piqua	OH	E	5,400	$6.70	2009	20,592
1274	Poland	OH	E	2,500	$3.50	2010	2,537
1275	Portage County	OH	E	5,800	$1.50	2009	162,277
1276	Ravenna	OH	E	2,750	$3.00	2007	11,739
1277	Reynoldsburg	OH	E	2,530	$2.00	1996	36,293
1278	Rittman	OH				2015	6,593
1279	Russels Point	OH				2016	1,390
1280	Sebring	OH	D		$4.50		4,391
1281	Sheffield	OH	E	2,500	$3.50	2004	3,986
1282	Sheffield Lake	OH	E	2,275	$4.85	1999	9,145
1283	Sheffield Village	OH	E	2,500	$3.50	2004	4,135
1284	Sidney	OH	E	2,752	$1.95	1994	21,178
1285	Silver Lake	OH	F		$8.00	2003	2,510
1286	South Charleston	OH	F		$2.00	2014	1,619
1287	Spencerville	OH	V			2008	2,218
1288	Springboro	OH	D		$3.00	2003	17,588
1289	Springfield	OH	E	1,898	$2.25	2011	60,333
1290	Stow	OH	E	3,060	$3.00		34,711
1291	Struthers	OH	E	3,500	$3.50	2007	10,640
1292	Summit County	OH	F		$4.00	2017	540,428
1293	Swanton	OH	E	3,460	$3.00	2005	3,858
1294	Tallmadge	OH	E	3,000	$2.00		17,473
1295	Toledo	OH	E	2,500	$3.80	1999	286,038
1296	Trenton	OH	E	3,000	$0.30	2003	11,931
1297	Trotwood	OH	E	4,020	$4.00		2,455
1298	Troy	OH	E	3,000	$4.65	2007	25,143
1299	Trumbell County	OH	-			2016	206,443
1300	Union	OH	LU		$4.00	1987	6,448
1301	Upper Arlington	OH	F		$3.75	1991	34,223

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
1342	Cannon Beach	OR	F		$4.49	1996	1,695
1343	Central Point	OR	E	3,000	$6.50	2005	17,308
1344	Clackamas County	OR	E	2,500	$6.95		380,207
1345	Clatskanie	OR	D		$2.50	1999	1,738
1346	Coburg	OR					1,035
1347	Corvallis	OR	E	2,750	$9.02	1977	54,674
1348	Cottage Grove	OR	E	2,650	$5.15	1998	9,734
1349	Dundee	OR	D		$1.67	1997	3,188
1350	Eagle Point	OR	E	6,024	$5.00	2009	9,554
1351	Estacada	OR	F		$6.50	1998	2,725
1352	Eugene	OR	T		$12.64	1994	156,929
1353	Fairview	OR	IA		$12.48	1994	8,920
1354	Florence	OR	IA		$6.49	2005	8,466
1355	Forest Grove	OR	E	2,640	$7.75	1990	21,083
1356	Gladstone	OR			$10.00	2017	11,491
1357	Grants Pass	OR	E	3,700	$7.78		37,579
1358	Gresham	OR	E	2,500	$12.12	1994	105,594
1359	Halsey	OR	F		$3.00	2018	962
1360	Harrisburg	OR	O		$3.67	2004	3,850
1361	Hillsboro	OR	E	2,640	$9.06		70,186
1362	Hood River	OR	M		$9.19	2006	7,167
1363	Hubbard	OR	F				3,173
1364	Independence	OR	E	3,250	$7.41	2011	8,650
1365	Jackson County	OR	E	3,000		2004	181,269
1366	Keizer	OR	E	3,000	$7.47	2007	32,203
1367	Lake Oswego	OR	E	3,030	$11.76	1992	35,278
1368	Lebanon	OR	T		$3.47	2010	12,950
1369	Marion County	OR	E	3,000	$4.55		330,700
1370	Medford	OR	E	3,730	$10.25	1994	63,154
1371	Milwaukie	OR	E	2,706	$25.22	1994	20,490
1372	Molalla	OR	E	2,640	$3.87	1999	9,218
1373	Monmouth	OR	E	3,542	$11.88	2021	10,282
1374	Newberg	OR	E	2,877	$11.23	2003	18,064
1375	Newport	OR	F		$8.25		9,968
1376	North Bend	OR	E	2,500	$4.63	2007	10,317
1377	Ontario	OR	F		$1.16		10,985
1378	Oregon City	OR	T		$12.54	1993	25,754
1379	Philomath	OR	T		$2.00	1999	3,838
1380	Portland	OR	E	2,280	$29.68	1977	593,820
1381	Redmond	OR	F		$7.87	2013	27,873

No	Community	Sta	Fee Type	ERU (ft²)	Monthly Fee	Year Created	Population
1421	Ferguson Township	PA	E		$9.92	2021	19,390
1422	Fox Chapel Borough	PA	E	8,400	$12.50	2019	5,274
1423	Greencastle Borough	PA			$14.33	2019	4,026
1424	Greenville	PA	IA		$10.00		5,459
1425	Hampden Township	PA	E	3,534	$4.42	2015	28,044
1426	Hampton Township	PA	E	3,300	$9.58	2019	18,235
1427	Hanover Borough	PA	E	2,250	$5.54	2019	15,607
1428	Harrisburg	PA	T		$6.15	2019	49,192
1429	Highspire Borough	PA	D		$7.00	2016	2,399
1430	Jonestown	PA	E	3,100	$6.67	2012	1,931
1431	Lancaster	PA	E	1,000	$7.74	2014	59,325
1432	Lebanon	PA	E	1,780	$5.00		25,902
1433	LeMoyne Borough	PA	T		$7.70		4,638
1434	Lititz Borough	PA	R		$5.20	2020	9,381
1435	Lower Allen Township	PA	E	3,115	$6.33	2019	19,338
1436	Lower Paxton Township	PA	E	3,400	$10.67	2019	49,050
1437	Lower Swatara Township	PA	E	3,750	$7.00	2019	8,268
1438	Lycoming County	PA	T	2,480	$10.00	2020	116,111
1439	Meadville	PA	E	2,660	$7.50	2012	13,616
1440	Monroeville	PA	E	2,385	$10.00	2018	28,445
1441	Moon Township	PA	E	3,800	$5.50	2020	25,580
1442	Mount Lebanon	PA	E	2,400	$8.00	2011	33,137
1443	New Castle	PA	E	2,500	$6.00		22,142
1444	New Sewickley Township	PA	E	6,800	$6.00	2020	7,197
1445	North Fayette Township	PA	E		$3.50	2018	13,934
1446	North Lebanon Township	PA	E	3,755	$3.35	2018	11,429
1447	North Middleton Township	PA	E	3,100	$8.00	2020	11,649
1448	O'Hara Township	PA	E	3,200	$8.00	2020	8,892
1449	Philadelphia	PA	F		$15.80		1,536,471
1450	Pittsburgh	PA	E	1,650	$5.96	2022	301,286
1451	Plum Borough	PA	E	2,500	$5.00	2015	27,135
1452	Radnor Township	PA	E	1,500	$4.83		31,531
1453	Silver Spring Township	PA	E	4,000	$9.00	2019	13,657
1454	South Williamsport	PA	F		$10.00	2020	6,379
1455	Susquehanna Township	PA	T		$11.60	2020	25,107
1456	Swatera Township	PA			$5.00	2018	24,900

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
1497	Myrtle Beach	SC	E	5,000	$6.25	1999	22,759
1498	North Augusta	SC	T		$5.00	2002	17,574
1499	North Charleston	SC	E	2,900	$6.00	2003	79,641
1500	North Myrtle Beach	SC	E	3,500	$8.00	2005	14,118
1501	Port Royal	SC	E	4,906	$4.17		10,790
1502	Rock Hill	SC	F		$4.25		67,423
1503	Spartanburg	SC	E	2,000	$3.50	2010	37,334
1504	Sullivan's Island	SC	E	3,000	$6.00	2007	1,911
1505	Summerville	SC	F		$4.00		44,783
1506	Sumter	SC	D		$2.50	2011	40,526
1507	Sumter County	SC	T		$1.25	2010	107,460
1508	Surfside Beach	SC			$6.83	2019	3,837
1509	Tega Cay	SC	E	3,500	$9.00		7,773
1510	Aberdeen	SD	IA		$0.86	2005	26,297
1511	Brookings	SD	V			1996	22,228
1512	Rapid City	SD	LU		$2.50	2013	67,956
1513	Sioux Falls	SD	V			1982	156,592
1514	Alcoa	TN	E	2,696	$4.00	2008	8,570
1515	Belle Meade	TN	E	12,200	$7.47	2010	2,881
1516	Bristol	TN	T		$2.00	2014	26,626
1517	Chattanooga	TN	E		$12.69	1993	171,279
1518	Cleveland	TN	E	3,830	$3.25	2015	41,285
1519	Collierville	TN	F		$2.25		44,324
1520	Dyersburg	TN	E	1,500	$1.00	2012	17,043
1521	Franklin	TN	E	3,350	$3.83	2004	66,280
1522	Gallatin	TN	E	3,650	$5.00	2018	30,278
1523	Germantown	TN	T		$9.00	2010	39,161
1524	Goodlettsville	TN	D		$3.67	2012	16,176
1525	Greenbrier	TN				2020	6,839
1526	Hamilton County	TN	D		$0.75		11,530
1527	Hendersonville	TN	E	3,930	$6.00	2018	57,050
1528	Johnson City	TN	T		$3.00	2007	63,815
1529	Kingsport	TN	E	3,794	$3.50	2011	49,232
1530	La Vergne	TN	E	3,181	$3.50	2005	33,389
1531	Lakeland	TN	E		$3.20		12,617
1532	Lebanon	TN	T		$2.50	2017	31,317
1533	Lenoir City	TN	T		$3.00	2017	9,106
1534	Maryville	TN	E	2,400	$3.97	2003	27,646
1535	Memphis	TN	E	3,147	$6.03	2006	652,050
1536	Millington	TN	E	3,000	$3.80	2006	10,257

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
1576	Corinth	TX	E	3,900	$6.00		20,662
1577	Corpus Christi	TX	E	3,280	$7.69	2021	326,332
1578	Crowley	TX	A		$3.50	2011	13,131
1579	Dallas	TX	IA		$7.38	1991	1,223,229
1580	De Soto	TX	T		$6.00	2001	50,045
1581	Deer Park	TX	E	4,250	$1.45	2012	32,706
1582	Denton	TX	T		$5.45	2002	117,187
1583	Dickinson	TX	F		$4.00	2001	18,967
1584	Duncanville	TX	E	4,300	$3.50	2011	39,364
1585	Eagle Pass	TX	D		$3.00	2003	26,807
1586	Edgecliff Village	TX	S		$6.95	2009	2,776
1587	El Paso	TX	T		$4.25	2008	665,568
1588	Euless	TX	T			1990	52,443
1589	Fairview	TX	F		$7.75		8,000
1590	Farmers Branch	TX	E	4,000	$4.50	2014	35,991
1591	Flower Mound	TX	F		$4.35	2003	65,851
1592	Forest Hill	TX	T			2013	12,355
1593	Fort Worth	TX	E	2,600	$5.75	2006	686,850
1594	Fredericksburg	TX	F		$7.00	1992	8,911
1595	Frisco	TX	F		$4.14	2009	33,714
1596	Gainesville	TX	E	1,895	$3.79	1993	16,569
1597	Galena Park	TX					10,740
1598	Galveston	TX	D		$7.00		47,743
1599	Garland	TX	F		$3.23	1991	224,750
1600	Georgetown	TX	E	2,808	$6.50		45,342
1601	Glenn Heights	TX	T		$5.08	2009	11,511
1602	Grand Prairie	TX	A		$5.43	1993	161,550
1603	Grapevine	TX	F		$4.00		48,583
1604	Haltom City	TX	D		$6.81	2004	40,811
1605	Harker Heights	TX	T		$6.00	2002	26,026
1606	Hewitt	TX	T		$4.72	2009	13,588
1607	Highland Park	TX	A		$10.97		8,564
1608	Highland Village	TX	E	4,094	$5.73	2006	15,738
1609	Houston	TX	IA		$8.00	2010	1,953,631
1610	Hudson Oaks	TX	E	6,477	$5.60	2017	1,865
1611	Hurst	TX	IA		$4.00	2009	36,273
1612	Iowa Park	TX	E	3,500	$1.50	2013	6,339
1613	Irving	TX	F		$3.00	2003	205,600
1614	Jacinto City	TX	V			2002	9,870
1615	Kaufman	TX	E	3,500	$3.00	2015	7,788

No	Community	Sta	Fee Type	ERU (ft²)	Monthly Fee	Year Created	Population
1656	Roma	TX	E	2,900	$1.00	2018	9,765
1657	Round Rock	TX	IA		$4.75	2010	105,000
1658	Rowlett	TX	D		$5.50	2002	54,869
1659	Sachse	TX	E		$1.66	2017	20,329
1660	Saginaw	TX	D		$5.00	2005	18,950
1661	San Angelo	TX	T		$4.00	2009	91,880
1662	San Antonio	TX	T		$4.83	1997	1,306,900
1663	San Marcos	TX	E	2,575	$13.99	1999	53,205
1664	Sansom Park	TX	D		$2.50	2014	4,686
1665	Schertz	TX	E		$5.20		32,160
1666	Seagoville	TX	F		$3.85	2016	16,861
1667	Sealy	TX	F		$2.00	2004	6,374
1668	Seguin	TX	E	2,500	$3.00	2022	29,992
1669	Selma	TX	E	3433	$4.12	2010	5,046
1670	Shenandoah	TX				2009	3,499
1671	Sherman	TX	E	3400	$1.00	2017	41,567
1672	Smithville	TX				2001	3,922
1673	Southlake	TX	E	1,000	$8.00	2006	26,224
1674	Stephenville	TX	T		$3.00	2002	17,050
1675	Sugar Land	TX	E	4,200	$2.96	2022	111,026
1676	Sunset Valley	TX	E	3,350	$4.00		919
1677	Taylor	TX	E	2,500	$3.00	2010	16,106
1678	Temple	TX	T		$6.00		54,514
1679	Terrell	TX	F		$1.00	2011	16,112
1680	The Colony	TX	F		$3.00		40,206
1681	Trophy Club	TX	F		$6.00		7,832
1682	Troy	TX	F		$2.00	2004	
1683	Tyler	TX	R				101,106
1684	Universal City	TX	T		$4.47	2004	16,569
1685	University Park	TX	T		$31.44		24,182
1686	Waco	TX	E	2633	$5.41	2021	138,486
1687	Watagua	TX	F		$11.00		24,150
1688	Weatherford	TX	E	3300	$4.50		25,557
1689	Webster	TX	IA		$1.24	2009	10,613
1690	White Settlement	TX	F		$4.62	2005	16,116
1691	Wichita Falls	TX	E	3,500	$5.00	2000	104,197
1692	Willow Park	TX	IA		$7.33	2021	5,365
1693	Alpine	UT	F		$5.00		9,821
1694	American Fork	UT	E		$6.00	1997	32,519
1695	Blanding	UT	E	3,000	$4.00	2009	3,633

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
1734	Pleasant Grove	UT	E	4,400	$14.41		38,474
1735	Pleasant View	UT	E	3,000	$7.80		10,460
1736	Price	UT	E	3,000		2012	8,332
1737	Providence	UT	M		$4.00		7,780
1738	Provo	UT	E	3,200	$9.20		105,166
1739	Richmond	UT	E	3,500		2019	2,803
1740	Riverdale	UT	E	2,600	$2.20	2005	7,656
1741	Riverton	UT	E	2,744	$6.00	2010	25,011
1742	Roy	UT	F		$4.50		38,773
1743	Saint George	UT	F		$4.50		87,176
1744	Salem	UT	E		$6.24		8,403
1745	Salt Lake City	UT	E	2,500	$7.60	1991	181,743
1746	Sandy	UT	E	2,816	$6.00		88,418
1747	Santa Clara	UT	E	3,500	$9.25	2004	4,630
1748	Smithfield	UT	E	4,700		2015	9,495
1749	South Jordan	UT	E	4,752	$7.15	2011	55,934
1750	South Ogden	UT	LU		$10.71		17,080
1751	South Salt Lake	UT	E	2,700		2018	25,582
1752	South Weber	UT	E	2,800		2007	7,836
1753	Spanish Fork	UT	E	3,956	$9.82		20,246
1754	Springville	UT	E	3,800	$5.66	2007	25,998
1755	Sunset City	UT	E	9,000	$2.00	2012	5,213
1756	Taylorsville	UT	E	3,800	$4.00	2007	58,620
1757	Tooele	UT	A		$3.00		35,742
1758	Vineyard	UT	E		$5.00	2015	12,543
1759	Washington	UT	E		$6.80	2004	29,174
1760	Wellsville	UT	E			2007	3,941
1761	West Bountiful	UT	E	4,460	$3.75	2015	5,800
1762	West Jordan	UT	E	10,890	$5.58	2011	68,336
1763	West Point	UT	E	2,500	$4.00	2010	6,033
1764	West Valley City	UT	E	2,830	$4.00	2001	108,869
1765	Woods Cross	UT	E	3,000	$3.00	2004	6,419
1766	Alexandria	VA	E	2,062	$24.50	2017	153,511
1767	Arlington County	VA	E	2,762	$2.17		189,453
1768	Blacksburg	VA	E	3,300	$6.00	2014	42,620
1769	Charlottesville	VA	T		$5.86	2013	43,511
1770	Chesapeake	VA	E	2,112	$11.35	1992	222,209
1771	Chesterfield County	VA	E	2,800	$2.08	2016	327,745
1772	Christiansburg	VA	E	3,030	$6.00	2016	21,533
1773	Colonial Heights	VA	E	2,656	$4.00		16,897

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
1814	Bellingham	WA	T		$22.60	2001	81,862
1815	Black Diamond	WA	E	3,000	$16.00	2008	4,273
1816	Blaine	WA	T		$5.67	1999	4,684
1817	Bonney Lake	WA	E	2,600	$14.00	1997	17,579
1818	Bothell	WA	T		$12.42	1994	34,055
1819	Bremerton	WA	E	2,500	$17.54	1994	39,051
1820	Brier	WA	E	2,000	$6.50	1999	6,165
1821	Buckley	WA	E	8,000	$23.77	1992	4,354
1822	Burien	WA	T		$11.42	2008	33,977
1823	Burlington	WA	E	2,400	$6.88	1994	8,474
1824	Camas	WA	E	3,218	$12.04	1989	19,712
1825	Castle Rock	WA	T				1,982
1826	Centralia	WA	E	3,000	$8.00	2004	16,432
1827	Chehalis	WA	E	3,000	$7.95	1992	7,299
1828	Chelan County	WA	E	4,600	$5.50	2008	73,477
1829	Clark County	WA	E	3,500	$4.33	1980	433,418
1830	Colfax	WA	A		$2.10	1992	2,805
1831	College Place	WA	E		$9.75	2018	9,258
1832	Cosmopolis	WA	D		$7.00	2021	1,638
1833	Coupeville	WA	T		$18.63	2016	1,831
1834	Covington	WA				2002	20,777
1835	Cowlitz County	WA	E	4,500		2008	106,910
1836	Des Moines	WA	T		$22.57	1990	30,258
1837	Douglas County	WA	E	2,750	$3.75	1998	38,971
1838	DuPont	WA	F		$25.00		10,151
1839	Duvall	WA	F		$20.54	1981	6,828
1840	East Wenatchee	WA	E	2,750	$3.75	1999	13,375
1841	Eatonville	WA	E	3,000	$9.90	1999	2,845
1842	Edgewood	WA	T		$13.25	1996	9,499
1843	Edmonds	WA	E	3,000	$12.35	1998	40,215
1844	Ellensburg	WA	E	3,900	$9.88	2009	18,468
1845	Enumclaw	WA	E	3,200	$5.24	2017	11,609
1846	Everett	WA	E	900	$13.06	2004	104,295
1847	Federal Way	WA	T		$6.59	1990	91,085
1848	Ferndale	WA	E	10,000	$11.00	2006	11,564
1849	Fife	WA	T		$3.78	2004	9,281
1850	Fircrest	WA	IA		$17.25	2016	7,156
1851	Friday Harbor	WA	E	2,000	$13.50	1993	1,989
1852	Gig Harbor	WA	E	2,200	$14.92	1984	7,208
1853	Gold Bar	WA	F		$12.05	2012	2,403

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
1894	North Bend	WA	E	2,920	$12.36	2001	4,746
1895	Oak Harbor	WA	E	3,300	$11.95	1997	22,075
1896	Ocean Shores	WA	F		$3.90	1980	5,569
1897	Olympia	WA	E	2,882	$17.12	1986	46,478
1898	Omak	WA	T		$4.28	1984	4,845
1899	Orting	WA	T			1997	6,746
1900	Pacific	WA	E	2,500	$23.82	1999	6,737
1901	Pasco	WA	PT		$6.85		59,781
1902	Pierce County	WA	T		$10.61	1991	807,904
1903	Port Angeles	WA	E	4,000	$16.87	2003	19,154
1904	Port Orchard	WA	E	3,000	$14.00	2008	11,144
1905	Port Townsend	WA	E	3,000	$7.25	1987	9,113
1906	Poulsbo	WA	E	3,000	$18.08	1999	9,200
1907	Pullman	WA	E	3,500	$7.00	2009	29,799
1908	Puyallup	WA	E	2,800	$12.75		37,022
1909	Redmond	WA	R		$16.56	1988	54,144
1910	Renton	WA	T		$14.85	1987	92,812
1911	Richland	WA	E	3,000	$3.85	1998	48,058
1912	Ridgefield	WA	E	3,500		2014	10,319
1913	Roslyn	WA	E	3,900	$5.68	2016	893
1914	Ruston	WA	F		$5.00	2005	1,055
1915	Sammamish	WA	E		$18.75	2012	63,773
1916	San Juan County	WA	T		$3.85	2005	15,844
1917	Seatac	WA	V		$11.05	1992	26,909
1918	Seattle	WA	IA		$38.83	1987	602,778
1919	Sedro-Woolley	WA	E	10,000	$10.80	2007	10,540
1920	Shelton	WA	T		$22.70	1995	8,442
1921	Shoreline	WA	T		$17.87	2009	53,007
1922	Skagit County	WA	T		$5.00	1994	102,979
1923	Snohomish	WA	E	2,500	$15.27	2004	9,098
1924	Snoqualmie	WA	E	2,600	$22.83	1997	1,631
1925	South Bend	WA	W		$7.08	1999	1,637
1926	Spokane	WA	D		$4.42	2005	195,629
1927	Spokane County	WA	E	3,160	$3.33	1993	417,939
1928	Spokane Valley	WA	E	3,160	$1.75		89,755
1929	Stanwood	WA	T		$14.20	2015	7,287
1930	Steilacoom	WA	E	2,500	$19.39	1994	6,049
1931	Sultan	WA	E	4,519	$10.29		4,183
1932	Sumas	WA	T		$1.50	2005	1,265
1933	Sumner	WA	E	2,400	$16.33		8,504

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
1973	Buchanan	WI	E	3,623	$8.00	2018	5,827
1974	Butler	WI	E	3,032	$7.18	1999	1,846
1975	Caledonia	WI	E	5,230	$5.44		24,737
1976	Cambridge	WI	D		$2.33	2005	1,101
1977	Chetek	WI	F		$2.25	2005	2,222
1978	Chippewa Falls	WI	F		$3.47	2005	13,738
1979	Columbus	WI	E	3,600	$5.00	2022	5,540
1980	Cudahy	WI	E	2,700	$7.83	2001	18,359
1981	Cumberland	WI	IA				2,170
1982	De Forest	WI	E	2,900	$5.00	2005	9,085
1983	De Pere	WI	E	3,861	$6.83	2003	20,560
1984	Delafield	WI	E	1,000	$2.42	2004	7,100
1985	Denmark	WI	F		$4.00	2007	2,148
1986	Durand	WI	E	3,300	$4.00	2010	1,968
1987	Eau Claire	WI	E	3,000	$7.17	1997	66,623
1988	Elm Grove	WI	E	4,660	$10.23	2004	5,947
1989	Fitchburg (city)	WI	E	3,700	$6.50	2002	25,665
1990	Fitchburg (rural)	WI	E	3,700	$3.24	2002	4,000
1991	Fort Atkinson	WI	E	3,096	$2.82	2009	12,407
1992	Fox Crossing	WI	E	4,177	$10.00	2009	10,980
1993	Fox Point	WI	T		$11.90	2009	6,734
1994	Franklin	WI	E	2,964	$3.00		35,620
1995	Garner's Creek Watershed	WI	E	3,623	$9.83	1998	
1996	Glendale	WI	E	3,200	$4.50	1996	12,935
1997	Grand Chute	WI	E	3,283	$8.32	1997	18,392
1998	Grantsburg	WI	F		$2.00	2004	1,397
1999	Green Bay	WI	E	3,000	$9.84	2004	105,809
2000	Greendale	WI	E	3,941	$6.63	2004	14,117
2001	Greenfield	WI	E	3,630	$5.67	2009	36,903
2002	Greenville	WI	E	4,510	$5.83	1999	6,844
2003	Hales Corners	WI	E	3952	$1.17	2008	7,730
2004	Harrison	WI	F		$8.00	1998	5,800
2005	Hobart	WI	E	4,000	$6.00	2007	6,254
2006	Holmen	WI	E	3,550	$4.08	2007	9,081
2007	Howard	WI	E	3,301	$5.16	2005	17,602
2008	Hudson	WI	E	2,890	$2.50	2012	12,719
2009	Janesville	WI	E	3,200	$6.22	2003	63,479
2010	Jefferson	WI	E	3,220	$3.33		7,997
2011	Kaukauna	WI	E	2,944	$6.00		12,983

No	Community	Sta	Fee Type	ERU (ft^2)	Monthly Fee	Year Created	Population
2052	Plymouth	WI	E		$2.50	2019	8,729
2053	Poynette	WI	E	3,550	$5.00	2006	2,266
2054	Prairie du Sac	WI	E		$3.62		3,231
2055	Prescott	WI	E		$3.77	2010	4,276
2056	Pulaski	WI	E	4,100			3,682
2057	Racine	WI	E	2,844	$8.52	2004	78,860
2058	Raymond	WI	A		$2.08	2007	3,516
2059	Reedsburg	WI	E	3,024	$4.30	2008	8,594
2060	Rhinelander	WI	E	3,305	$3.25	2012	7,756
2061	Rice Lake	WI	F		$4.81	2011	8,438
2062	River Falls	WI	F		$3.14	1998	14,889
2063	Rochester	WI	E	4000	$5.27		3,867
2064	Saint Francis	WI	E	2,500	$4.00	2001	9,365
2065	Salem	WI	E	3,000	$5.00	2010	9,871
2066	Salem Lakes	WI	E		$6.67		14,852
2067	Scott	WI	E	4,250	$3.75		3,712
2068	Sheboygan	WI	E	2,215	$3.00	2001	50,792
2069	Shorewood Hills	WI	E	2,941	$9.17	2007	1,732
2070	Silver Lake	WI	E	3,870	$7.83	2008	2,497
2071	Slinger	WI	E	4,300	$3.98	2007	5,068
2072	Somers	WI	E	5,000	$3.58	2018	9,597
2073	South Milwaukee	WI	E	2,964	$6.00		21,256
2074	Stevens Point	WI	E	3,364	$4.92		26,748
2075	Stoughton	WI	E	3,105	$4.30	2012	12,817
2076	Sturtevant	WI	V			2008	6,941
2077	Suamico	WI	E	5,137	$2.08	2008	12,588
2078	Sun Prairie	WI	E	3,468	$7.50	2003	29,364
2079	Superior	WI	E	2,933	$5.90	2004	27,368
2080	Sussex	WI	E	3,897	$8.76	2005	10,518
2081	Two Rivers	WI	E	3,015	$5.75	2014	11,716
2082	Union Grove	WI	E	4,000	$7.28	2009	4,884
2083	Vernon	WI	E	6,904	$1.08	2006	7,227
2084	Verona	WI	E	2,842	$4.42	2009	10,619
2085	Washburn	WI	F		$5.25	2005	2,280
2086	Watertown	WI	E	2,900	$6.77	2005	22,824
2087	Waupun	WI	E	3,204	$8.00	2005	11,340
2088	Wauwatosa	WI	E	2,174	$6.56	1999	47,271
2089	West Allis	WI	E	1,827	$6.43	1997	61,254
2090	West Milwaukee	WI	E	1,956	$3.00	2003	4,142
2091	West Salem	WI	E	2,400	$1.50	2007	4,837

Appendix B. Canadian Stormwater Utilities

ERUs are in square meters, and fees are in Canadian dollars.

No.	Community	Province	Fee Type	ERU (m^2)	Fee	Year Created	Population
1	Beaumont	Alberta	F		$7.41	2022	20,900
2	Calgary	Alberta	O		$15.63	1994	1,306,800
3	Chestermere	Alberta	F		$15.05	2020	22,200
4	Coaldale	Alberta	F		$9.95	2022	8,800
5	Coalhurst	Alberta	F		$5.57	2020	2,900
6	Cochrane	Alberta	F		$5.95	2016	32,200
7	Devon	Alberta	F		$8.00	2018	6,500
8	Edmonton	Alberta	ID		$25.91	2003	1,010,900
9	Edson	Alberta	F		$2.00	2021	8,400
10	High River	Alberta	F		$2.93	2014	14,300
11	Innisfail	Alberta	D		$3.00	2021	8,000
12	Leduc	Alberta	F		$5.00	2021	34,100
13	Mayerthorpe	Alberta	LU		$1.98	2017	1,300
14	Morinville	Alberta	D		$10.00	2018	10,400
15	Nanton	Alberta	F		$2.13	2021	2,200
16	Okotoks	Alberta	F		$8.33	2020	30,400
17	Penhold	Alberta	F		$4.25	2018	3,500
18	Spruce Grove	Alberta	M		$14.55	2020	37,600
19	St. Albert	Alberta	D		$16.18	2003	68,200
20	Stony Plain	Alberta	D		$23.25	2020	18,000
21	Strathcona County	Alberta	F		$8.05	2007	99,200
22	Strathmore	Alberta	F		$3.95	2020	14,300
23	Sturgeon County	Alberta	F		$15.00	2019	20,100
24	Sundre	Alberta	F		$5.25	2022	2,700
25	Taber	Alberta	D		$11.42	2021	8,900
26	Turner Valley	Alberta	F		$5.03	2020	2,600
27	Vegreville	Alberta	F		$6.00	2020	5,700
28	Wainwright	Alberta	D		$5.00	2019	6,600
29	Westlock	Alberta	F		$3.00	2021	4,900
30	Wetaskiwin	Alberta	F		$0.70	2023	12,600
31	Lloydminster	AB/SK	T		$16.13	2017	31,600
32	Abbotsford	British Columbia	AV		$8.64	2001	153,500
33	Chilliwack	British Columbia	AV		$9.05		93,200
34	Delta	British Columbia	AV		$9.57		108,500
35	Langley Township	British Columbia	AV		$9.11	2003	132,600
36	Mission	British Columbia	AV		$13.88		41,500

APPENDIX G. HMS MODEL RESULTS AND CALCULATIONS

Subbasin: Upper Loafer Canyon

Area (MI2) : 6.53

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	60.8

Transform: Scs	
Lag	65
Unitgraph Type	Standard

Results: Upper Loafer Canyon	
Peak Discharge (CFS)	53.68
Time of Peak Discharge	01Jan2000, 14:50
Volume (IN)	0.12
Precipitation Volume (AC - FT)	783.6
Loss Volume (AC - FT)	740.23
Excess Volume (AC - FT)	43.37
Direct Runoff Volume (AC - FT)	43.37
Baseflow Volume (AC - FT)	0

ubbasin: West Elk Ridge

rea (MI2) : 4.71

Loss Rate: Scs

Percent Impervious Area	0
Curve Number	65.8

Transform: Scs

Lag	72
Unitgraph Type	Standard

Results: West Elk Ridge

Peak Discharge (CFS)	47.26
Time of Peak Discharge	01Jan2000, 14:45
Volume (IN)	0.15
Precipitation Volume (AC - FT)	502.4
Loss Volume (AC - FT)	464.77
Excess Volume (AC - FT)	37.63
Direct Runoff Volume (AC - FT)	37.63
Baseflow Volume (AC - FT)	0

;ubbasin: Lower Loafer Canyon

,rea (MI2) : 1.74

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	58.8

Transform: Scs	
Lag	57
Unitgraph Type	Standard

Results: Lower Loafer Canyon	
Peak Discharge (CFS)	7.56
Time of Peak Discharge	01Jan2000, 18:30
Volume (IN)	0.06
Precipitation Volume (AC - FT)	194.88
Loss Volume (AC - FT)	189
Excess Volume (AC - FT)	5.88
Direct Runoff Volume (AC - FT)	5.88
Baseflow Volume (AC - FT)	0

;ubbasin: Upper Loafer Canyon

.rea (MI2) : 6.53

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	60.8
Transform: Scs	
Lag	65
Unitgraph Type	Standard
Results: Upper Loafer Canyon	
Peak Discharge (CFS)	188.81
Time of Peak Discharge	01Jan2000, 14:25
Volume (IN)	0.43
Precipitation Volume (AC - FT)	1110.97
Loss Volume (AC - FT)	960.28
Excess Volume (AC - FT)	150.69
Direct Runoff Volume (AC - FT)	150.69
Baseflow Volume (AC - FT)	0

Subbasin: West Elk Ridge

Area (MI2) : 4.71

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	65.8

Transform: Scs	
Lag	72
Unitgraph Type	Standard

Results: West Elk Ridge	
Peak Discharge (CFS)	139.65
Time of Peak Discharge	01Jan2000, 14:25
Volume (IN)	0.45
Precipitation Volume (AC - FT)	708.38
Loss Volume (AC - FT)	594.26
Excess Volume (AC - FT)	114.12
Direct Runoff Volume (AC - FT)	114.12
Baseflow Volume (AC - FT)	0

ubbasin: Lower Loafer Canyon

rea (MI2) : 1.74

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	58.8

Transform: Scs	
Lag	57
Unitgraph Type	Standard

Results: Lower Loafer Canyon	
Peak Discharge (CFS)	34.53
Time of Peak Discharge	01Jan2000, 14:30
Volume (IN)	0.29
Precipitation Volume (AC - FT)	275.62
Loss Volume (AC - FT)	248.99
Excess Volume (AC - FT)	26.63
Direct Runoff Volume (AC - FT)	26.63
Baseflow Volume (AC - FT)	0

;ubbasin: Upper Loafer Canyon

.rea (MI2) : 6.53

Loss Rate: Scs

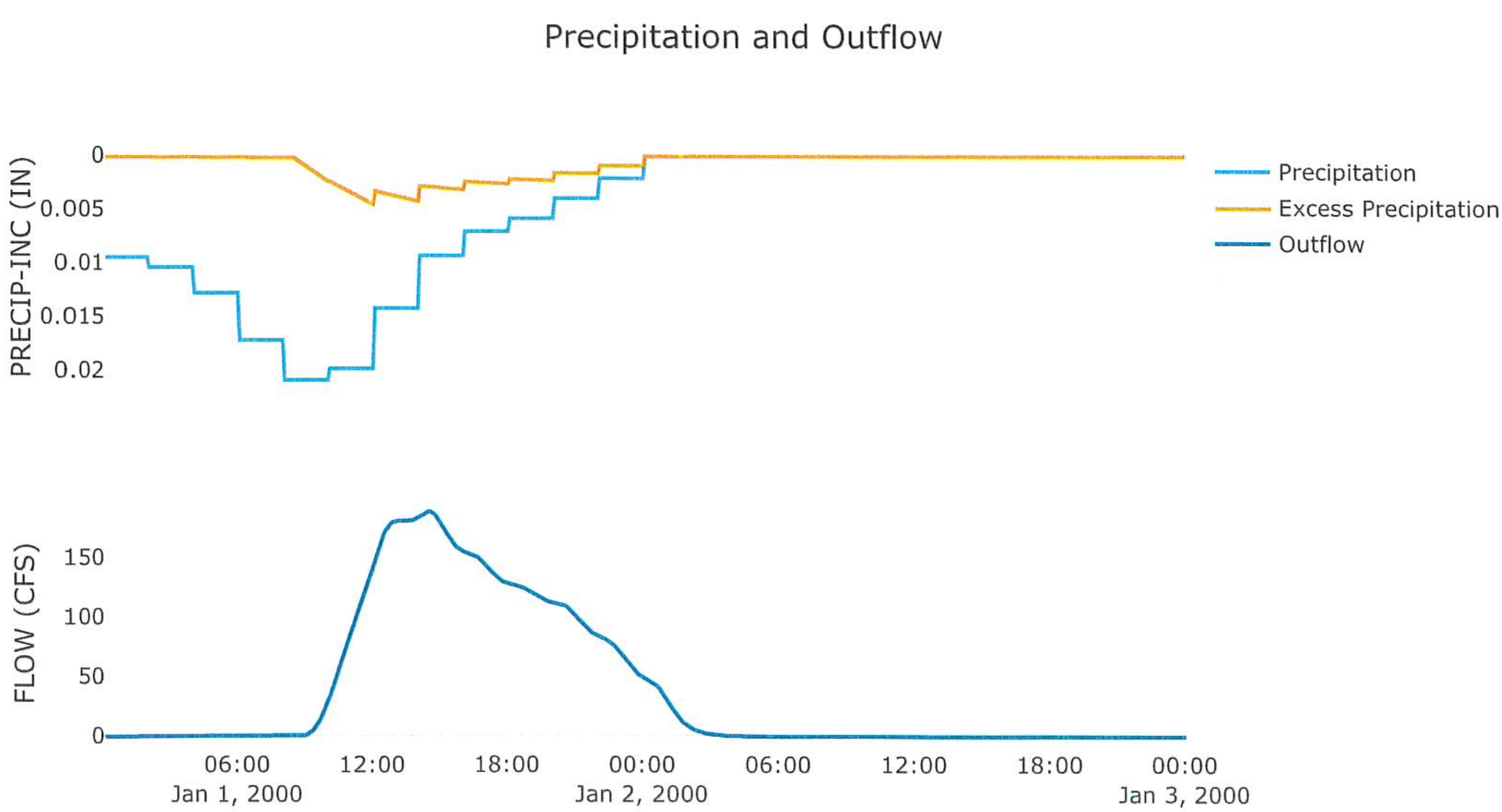
Percent Impervious Area	0
Curve Number	60.8

Transform: Scs

Lag	65
Unitgraph Type	Standard

Results: Upper Loafer Canyon

Peak Discharge (CFS)	188.81
Time of Peak Discharge	01Jan2000, 14:25
Volume (IN)	0.43
Precipitation Volume (AC - FT)	1110.97
Loss Volume (AC - FT)	960.28
Excess Volume (AC - FT)	150.69
Direct Runoff Volume (AC - FT)	150.69
Baseflow Volume (AC - FT)	0



;ubbasin: Lower Loafer Canyon

ırea (MI2) : 1.74

Loss Rate: Scs

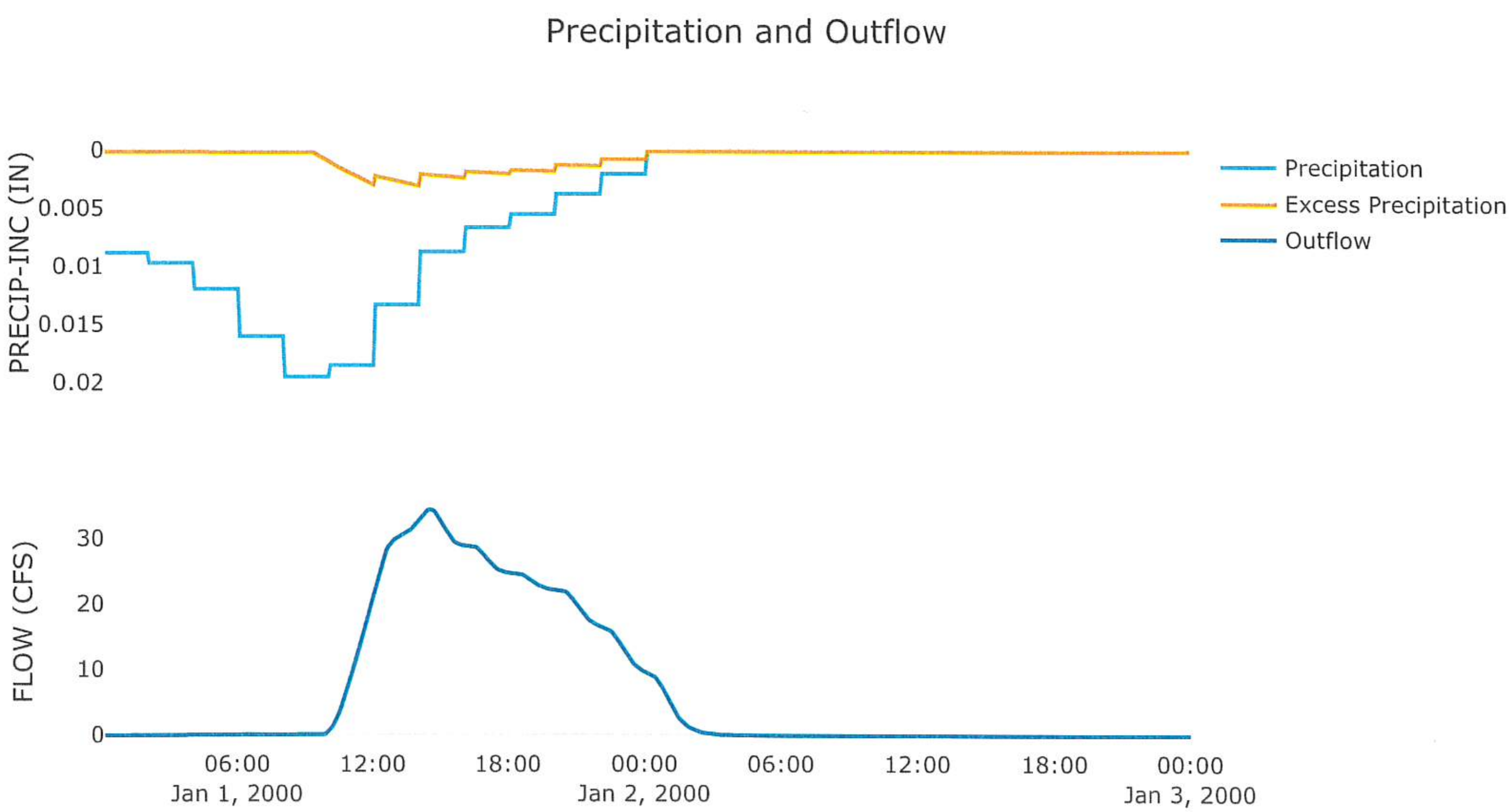
Percent Impervious Area	0
Curve Number	58.8

Transform: Scs

Lag	57
Unitgraph Type	Standard

Results: Lower Loafer Canyon

Peak Discharge (CFS)	34.53
Time of Peak Discharge	01Jan2000, 14:30
Volume (IN)	0.29
Precipitation Volume (AC - FT)	275.62
Loss Volume (AC - FT)	248.99
Excess Volume (AC - FT)	26.63
Direct Runoff Volume (AC - FT)	26.63
Baseflow Volume (AC - FT)	0



Project: Elk_Ridge_Mountain_Watershe
Simulation Run: Existing 10-yr
Simulation Start: 31 December 1999, 24:00
Simulation End: 2 January 2000, 24:00

HMS Version: 4.13
Executed: 10 April 2026, 19:10

Global Parameter Summary - Subbasin

Element Name	Area (MI2)
	Area (MI2)
Upper Loafer Canyon	6.53
West Elk Ridge	4.71
Lower Loafer Canyon	1.74

Element Name	Loss Rate: Scs	
	Percent Impervious Area	**Curve Number**
Upper Loafer Canyon	0	61.5
West Elk Ridge	0	70
Lower Loafer Canyon	0	71.2

Element Name	Transform: Scs	
	Lag	**Unitgraph Type**
Upper Loafer Canyon	65	Standard
West Elk Ridge	72	Standard
Lower Loafer Canyon	57	Standard

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Upper Loafer Canyon	6.53	59.95	01Jan2000, 14:45	0.14
West Elk Ridge	4.71	75.78	01Jan2000, 14:35	0.24
Lower Loafer Canyon	1.74	36.25	01Jan2000, 14:20	0.31

Subbasin: West Elk Ridge

Area (MI2): 4.71

Loss Rate: Scs

Percent Impervious Area	0
Curve Number	70

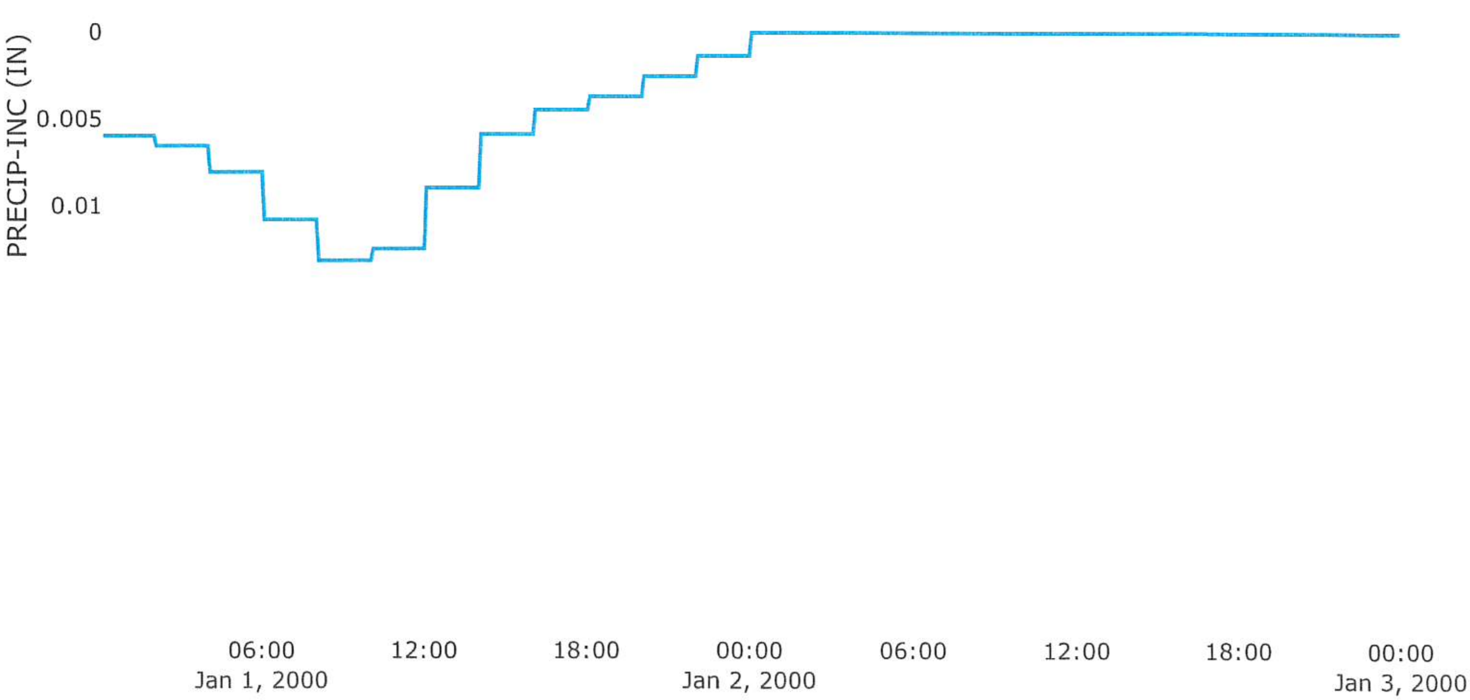
Transform: Scs

Lag	72
Unitgraph Type	Standard

Results: West Elk Ridge

Peak Discharge (CFS)	75.78
Time of Peak Discharge	01Jan2000, 14:35
Volume (IN)	0.24
Precipitation Volume (AC - FT)	502.4
Loss Volume (AC - FT)	441.96
Excess Volume (AC - FT)	60.44
Direct Runoff Volume (AC - FT)	60.44
Baseflow Volume (AC - FT)	0

Precipitation and Outflow



ubbasin: Upper Loafer Canyon

rea (MI2) : 6.53

Loss Rate: Scs

Percent Impervious Area	0
Curve Number	61.5

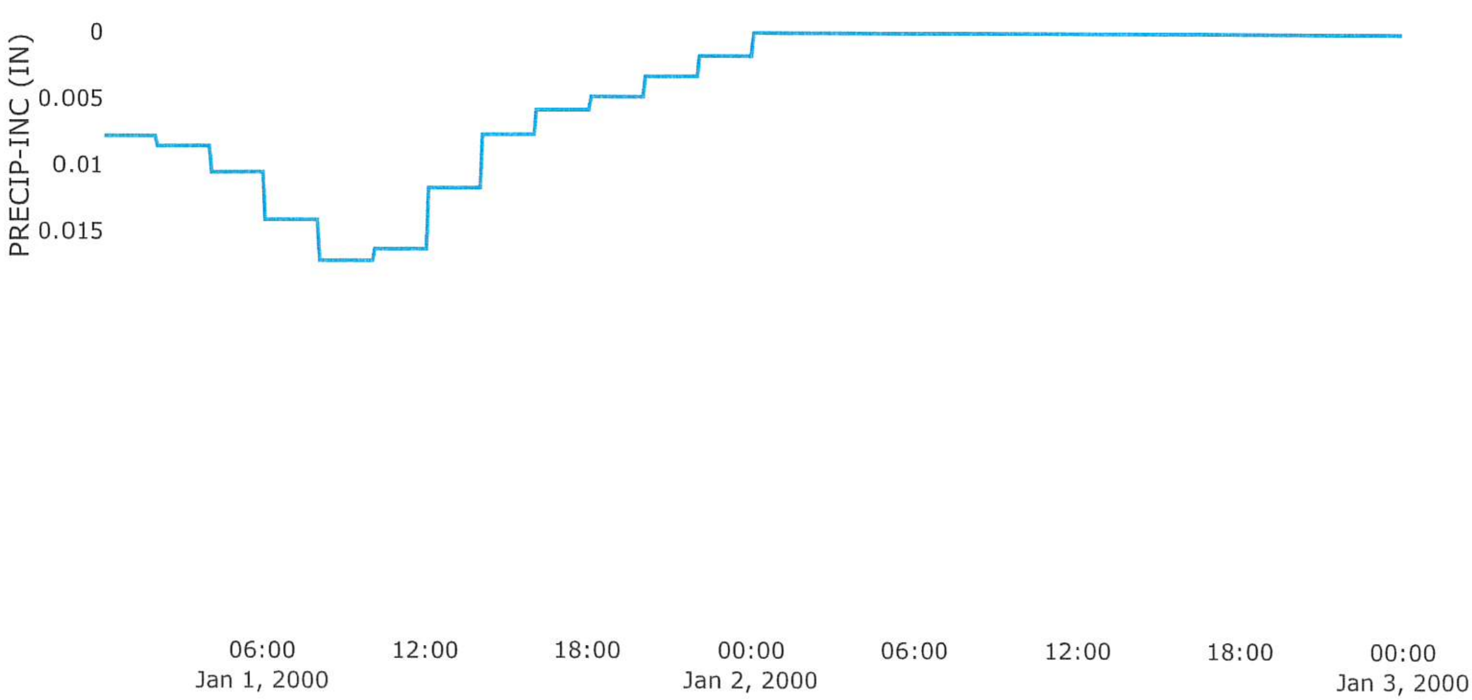
Transform: Scs

Lag	65
Unitgraph Type	Standard

Results: Upper Loafer Canyon

Peak Discharge (CFS)	109.35
Time of Peak Discharge	01Jan2000, 14:35
Volume (IN)	0.25
Precipitation Volume (AC - FT)	912.46
Loss Volume (AC - FT)	827.02
Excess Volume (AC - FT)	85.44
Direct Runoff Volume (AC - FT)	85.44
Baseflow Volume (AC - FT)	0

Precipitation and Outflow



Subbasin: Lower Loafer Canyon

Area (MI2) : 1.74

Loss Rate: Scs

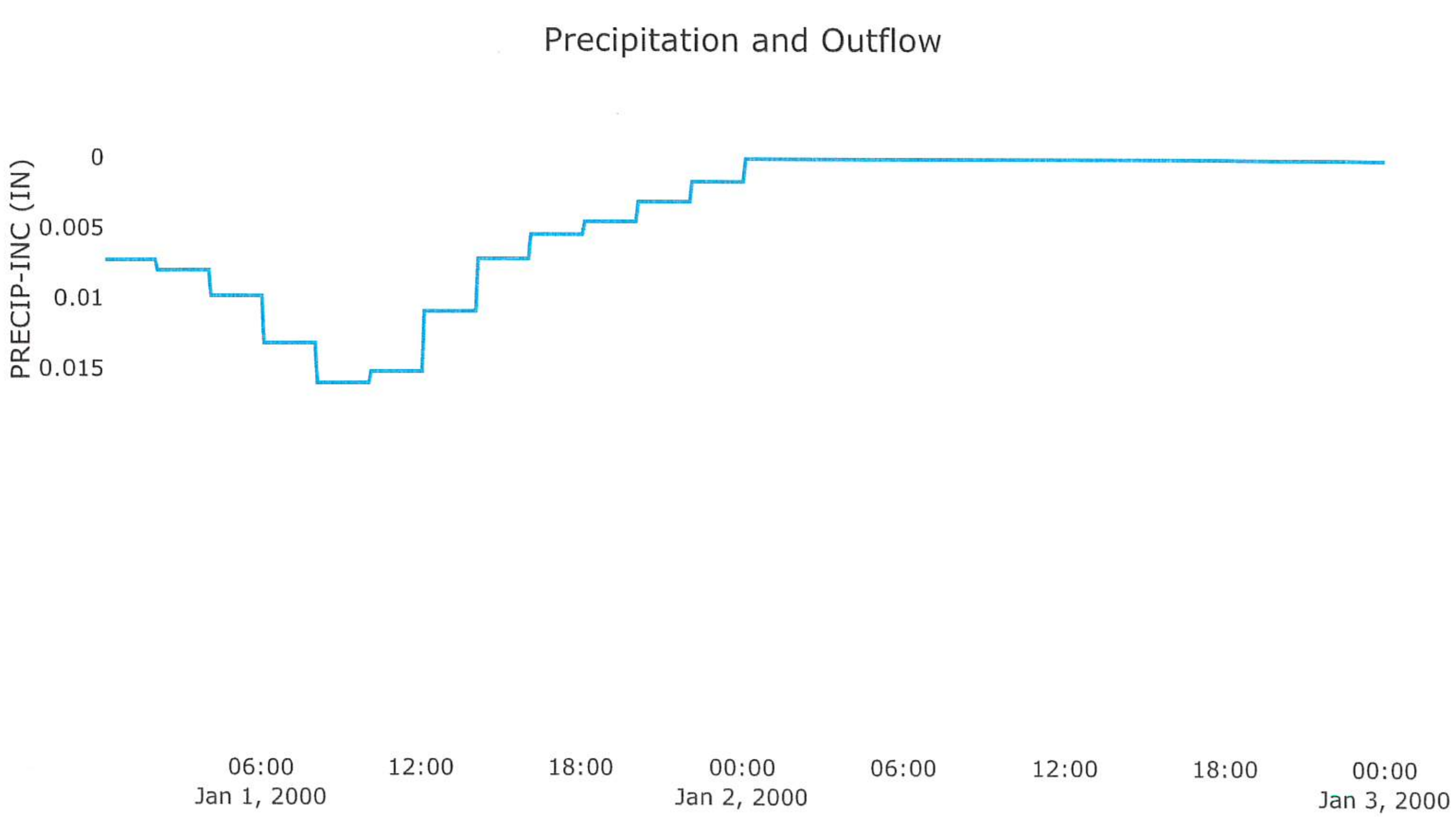
Percent Impervious Area	0
Curve Number	71.2

Transform: Scs

Lag	57
Unitgraph Type	Standard

Results: Lower Loafer Canyon

Peak Discharge (CFS)	55.17
Time of Peak Discharge	01Jan2000, 12:35
Volume (IN)	0.47
Precipitation Volume (AC - FT)	226.43
Loss Volume (AC - FT)	182.94
Excess Volume (AC - FT)	43.49
Direct Runoff Volume (AC - FT)	43.49
Baseflow Volume (AC - FT)	0



Project: Elk_Ridge_Mountain_Watershe
Simulation Run: Existing 100-yr
Simulation Start: 31 December 1999, 24:00
Simulation End: 2 January 2000, 24:00

HMS Version: 4.13
Executed: 02 December 2025, 16:22

Global Parameter Summary - Subbasin

Area (MI2)	
Element Name	Area (MI2)
Upper Loafer Canyon	6.53
West Elk Ridge	4.71
Lower Loafer Canyon	1.74

Loss Rate: Scs		
Element Name	Percent Impervious Area	Curve Number
Upper Loafer Canyon	0	61.5
West Elk Ridge	0	70
Lower Loafer Canyon	0	71.2

Transform: Scs		
Element Name	Lag	Unitgraph Type
Upper Loafer Canyon	65	Standard
West Elk Ridge	72	Standard
Lower Loafer Canyon	57	Standard

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Upper Loafer Canyon	6.53	198.82	01Jan2000, 14:25	0.46
West Elk Ridge	4.71	191.32	01Jan2000, 12:50	0.62
Lower Loafer Canyon	1.74	89.03	01Jan2000, 12:30	0.75

;ubbasin: West Elk Ridge

ırea (MI2) : 4.71

Loss Rate: Scs

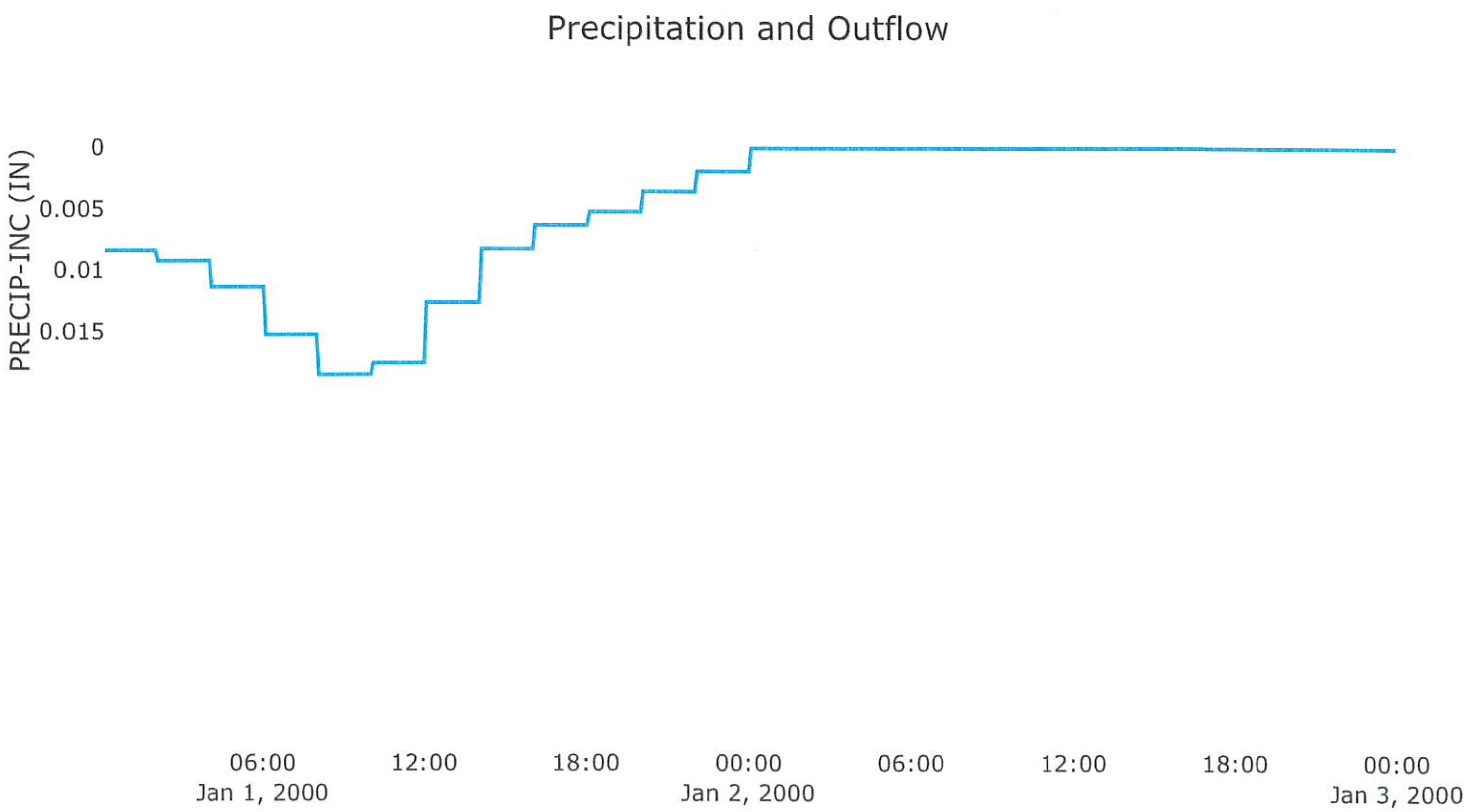
Percent Impervious Area	0
Curve Number	70

Transform: Scs

Lag	72
Unitgraph Type	Standard

Results: West Elk Ridge

Peak Discharge (CFS)	191.32
Time of Peak Discharge	01Jan2000, 12:50
Volume (IN)	0.62
Precipitation Volume (AC - FT)	708.38
Loss Volume (AC - FT)	553.5
Excess Volume (AC - FT)	154.89
Direct Runoff Volume (AC - FT)	154.89
Baseflow Volume (AC - FT)	0



Subbasin: Upper Loafer Canyon

Area (MI2) : 6.53

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	62.4

Transform: Scs	
Lag	65
Unitgraph Type	Standard

Results: Upper Loafer Canyon	
Peak Discharge (CFS)	68.24
Time of Peak Discharge	01Jan2000, 14:40
Volume (IN)	0.15
Precipitation Volume (AC - FT)	783.6
Loss Volume (AC - FT)	729.82
Excess Volume (AC - FT)	53.78
Direct Runoff Volume (AC - FT)	53.78
Baseflow Volume (AC - FT)	0

ubbasin: West Elk Ridge

rea (MI2) : 4.71

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	70.3

Transform: Scs	
Lag	72
Unitgraph Type	Standard

Results: West Elk Ridge	
Peak Discharge (CFS)	77.96
Time of Peak Discharge	01Jan2000, 14:35
Volume (IN)	0.25
Precipitation Volume (AC - FT)	502.4
Loss Volume (AC - FT)	440.1
Excess Volume (AC - FT)	62.3
Direct Runoff Volume (AC - FT)	62.3
Baseflow Volume (AC - FT)	0

Subbasin: Lower Loafer Canyon

Area (MI2) : 1.74

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	71.4
Transform: Scs	
Lag	57
Unitgraph Type	Standard
Results: Lower Loafer Canyon	
Peak Discharge (CFS)	36.83
Time of Peak Discharge	01Jan2000, 14:20
Volume (IN)	0.32
Precipitation Volume (AC - FT)	194.88
Loss Volume (AC - FT)	165.36
Excess Volume (AC - FT)	29.51
Direct Runoff Volume (AC - FT)	29.51
Baseflow Volume (AC - FT)	0

Subbasin: Upper Loafer Canyon

Area (MI2) : 6.53

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	62.4

Transform: Scs	
Lag	65
Unitgraph Type	Standard

Results: Upper Loafer Canyon	
Peak Discharge (CFS)	119.59
Time of Peak Discharge	01Jan2000, 14:30
Volume (IN)	0.27
Precipitation Volume (AC - FT)	912.46
Loss Volume (AC - FT)	818.76
Excess Volume (AC - FT)	93.7
Direct Runoff Volume (AC - FT)	93.7
Baseflow Volume (AC - FT)	0

ubbasin: West Elk Ridge

rea (MI2) : 4.71

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	70.3

Transform: Scs	
Lag	72
Unitgraph Type	Standard

Results: West Elk Ridge	
Peak Discharge (CFS)	129.6
Time of Peak Discharge	01Jan2000, 13:00
Volume (IN)	0.42
Precipitation Volume (AC - FT)	605.39
Loss Volume (AC - FT)	499.12
Excess Volume (AC - FT)	106.27
Direct Runoff Volume (AC - FT)	106.27
Baseflow Volume (AC - FT)	0

Subbasin: Lower Loafer Canyon

Area (MI2) : 1.74

	Loss Rate: Scs
Percent Impervious Area	0
Curve Number	71.4

	Transform: Scs
Lag	57
Unitgraph Type	Standard

	Results: Lower Loafer Canyon
Peak Discharge (CFS)	56.06
Time of Peak Discharge	01Jan2000, 12:35
Volume (IN)	0.48
Precipitation Volume (AC - FT)	226.43
Loss Volume (AC - FT)	182.27
Excess Volume (AC - FT)	44.16
Direct Runoff Volume (AC - FT)	44.16
Baseflow Volume (AC - FT)	0

ubbasin: Upper Loafer Canyon

rea (MI2) : 6.53

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	62.4

Transform: Scs	
Lag	65
Unitgraph Type	Standard

Results: Upper Loafer Canyon	
Peak Discharge (CFS)	211.82
Time of Peak Discharge	01Jan2000, 14:25
Volume (IN)	0.49
Precipitation Volume (AC - FT)	1110.97
Loss Volume (AC - FT)	939.69
Excess Volume (AC - FT)	171.28
Direct Runoff Volume (AC - FT)	171.28
Baseflow Volume (AC - FT)	0

Subbasin: West Elk Ridge

Area (MI2) : 4.71

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	70.3

Transform: Scs	
Lag	72
Unitgraph Type	Standard

Results: West Elk Ridge	
Peak Discharge (CFS)	195.36
Time of Peak Discharge	01Jan2000, 12:50
Volume (IN)	0.63
Precipitation Volume (AC - FT)	708.38
Loss Volume (AC - FT)	550.33
Excess Volume (AC - FT)	158.05
Direct Runoff Volume (AC - FT)	158.05
Baseflow Volume (AC - FT)	0

;ubbasin: Lower Loafer Canyon

ırea (MI2) : 1.74

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	71.4

Transform: Scs	
Lag	57
Unitgraph Type	Standard

Results: Lower Loafer Canyon	
Peak Discharge (CFS)	90.12
Time of Peak Discharge	01Jan2000, 12:30
Volume (IN)	0.76
Precipitation Volume (AC - FT)	275.62
Loss Volume (AC - FT)	204.92
Excess Volume (AC - FT)	70.7
Direct Runoff Volume (AC - FT)	70.7
Baseflow Volume (AC - FT)	0