

July 26, 2024

Vern Adams  
City of Aurora  
15151 E. Alameda Parkway  
Aurora, CO 80012

**Re: Prairie Point – Filing 4  
Utility Conformance Letter**

Dear Mr. Adams:

Please accept this letter on behalf of Clayton Properties Group II, Inc the applicant for the Prairie Point Filing 4 – Utility Conformance Letter. The intent of this letter is to demonstrate that the proposed Filing 4 development will conform to the approved Master Utility Study (222157 MU1) previous completed by CORE Consultants. With the conformance of the Filing 4 site, a full Master Utility Study shall not be required.

**Water Demands:**

The previously approved MUS, allocated 59 single family detached lots for PA-3 planning area and 130 single family detached lots for the PA-6 planning area. The designed PA-3 and PA-6 planning areas have a proposed 44 and 130 lots respectively. The water demands of the proposed planning areas are less than the demands allocated by the approved Master Utility Study. The table below details the approved and proposed demands for the two planning areas.

| Approved Demands - Kings Point North MUS - 222157 |             |       |                      |                  |               |               |               |                |                          |                    |
|---|-------------|-------|----------------------|------------------|---------------|---------------|---------------|----------------|--------------------------|--------------------|
| Planning Area                                     | Land Use    | Acres | Number of Units (SF) | Average Day/Unit | Avg Day (GPD) | Avg Day (GPM) | Max Day (GPM) | Max Hour (GPM) | Required Fire Flow (GPM) | Max Day + FF (GPM) |
| PA-3 - Approved MUS                               | SF Detached | 15.0  | 59                   | 279.77           | 16506.43      | 11.5          | 32.1          | 51.6           | 1500.0                   | 1532.1             |
| PA-6 - Approved MUS                               | SF Detached | 24.1  | 130                  | 279.77           | 36370.1       | 25.3          | 70.7          | 113.7          | 1500.0                   | 1570.7             |
| Proposed Contribution Changes                     |             |       |                      |                  |               |               |               |                |                          |                    |
| PA-3 - Proposed                                   | SF Detached | 15.0  | 44                   | 278.77           | 12265.88      | 8.5           | 23.9          | 38.3           | 1500.0                   | 1523.9             |
| PA-6 - Proposed                                   | SF Detached | 24.1  | 130                  | 279.77           | 36370.1       | 25.3          | 70.7          | 113.7          | 1500.0                   | 1570.7             |

**Sanitary Sewer Demands:**

The sanitary sewer demands for Planning Area PA-6 are divided into Basins G and H in the approved Master Utility Study. Basin G also includes all lots from the Planning Area PA-5. Basin G collects flows and ultimately connects to a collection point within E. Aurora Parkway. Basin H only includes lots from Planning Area PA-6 and these lots directly flow to a collection point within E. Aurora Parkway.

The approved MUS allocates 81 lots within Basin H and 208 lots within Basin G (159 lots for PA-5 and 49 lots for PA-6). Due to a change in the PA-6 lot layout after the approval of the MUS, the routing of the PA-6 flows varies from the approved MUS. For basin H, the revised lot count is 15, and for basin G 273 lots. Of the 273 lots for the revised basin G, 115 lots are a part of PA-6 and 159 lots from PA-5.

The routing of these flows has been analyzed to determine if the pipe sizes approved with the Master Utility Study need to be changed. Based on the table below, the revised flow and particularly the flows

basin G flows contributing at Node 8 in the Master Utility Study Sanitary Sewer Basin Map. Based on the revised lot counts and flows accumulating at Node 8, there is no need to update pipe sizing between Nodes 8 and 10 based on the allowable capacity of the proposed 12" sanitary sewer. See Appendix A for 12" Sanitary Pipe analysis.

| Approved Contributions - Kings Point North MUS - 222157 MU1 |       |               |                   |               |                 |                    |                 |                            |           |
|---|-------|---------------|-------------------|---------------|-----------------|--------------------|-----------------|----------------------------|-----------|
| Node  | Basin | Planning Area | Contributing Lots | Avg Day (GPD) | Peak Hour (GPM) | Infiltration (GPM) | Peak Flow (GPM) | Cumulative Peak Flow (GPM) | Pipe size |
| 11  | J     | PA-3          | 31                | 5839.2        | 16.2            | 0.4                | 16.6            |                            |           |
| 11  | G     | PA-3          | 28                | 5274.1        | 14.7            | 0.4                | 15.0            |                            |           |
| 11  | G     | PA-5          | 131               | 24675.2       | 68.5            | 1.7                | 70.3            | 930.5                      | 12"       |
| 8*  | G     | PA-6          | 49                | 9229.6        | 25.6            | 0.6                | 26.3            | **956.8                    | 12"       |
| 10A   | H     | PA-6          | 40                | 7534.4        | 20.9            | 0.5                | 21.5            | 666.7                      | 10"       |
| 18  | H     | PA-6          | 41                | 7722.8        | 21.5            | 0.5                | 22.0            | 644.7                      | 10"       |
| Total   |       |               | 320               | 60275.2       | 167.4           | 4.2                | 171.6           |                            |           |
| Proposed Contribution Changes                               |       |               |                   |               |                 |                    |                 |                            |           |
| Node  | Basin | Planning Area | Contributing Lots | Avg Day (GPD) | Peak Hour (GPM) | Infiltration (GMP) | Peak Flow (GPM) | Cumulative Peak Flow (GPM) | Pipe Size |
| 11  | J     | PA-3          | 36                | 6781.0        | 18.8            | 0.5                | 19.3            |                            |           |
| 11  | G     | PA-3          | 8                 | 1506.9        | 4.2             | 0.1                | 4.3             |                            |           |
| 11  | G     | PA-5          | 131               | 24675.2       | 68.5            | 1.7                | 70.3            | 922.5                      | 12"       |
| 8*  | G     | PA-6          | 115               | 21661.4       | 60.2            | 1.5                | 61.7            | **983.6                    | 12"       |
| 10A   | H     | PA-6          | 15                | 2825.4        | 7.8             | 0.2                | 8.0             | 630.8                      | 10"       |
| 18  | H     | PA-6          | 0                 | 0.0           | 0.0             | 0.0                | 0.0             | 622.7                      | 10"       |
| Total   |       |               | 305               | 57449.8       | 159.6           | 4.0                | 163.6           |                            |           |

\*\* Max capacity 1103 GPM per Approved MUS

The impact of the PA-6 planning area adjustment will result in an increased flow from node 8 to node 10. The net flow discharging from node 10 and into the overall system will have a net decrease in total flow due to the reduced number of lots proposed with the Filing No. 4 improvements.

### Conclusion:

The proposed utilities associated with the Prairie Point Filing No. 4 improvements conform to the standards and specifications as determined in the approved Master Utility Study. No modifications to the approved study are required at this time.

On behalf of Clayton Properties Group II, Inc and the project team, thank you for your time and consideration reviewing this variance request. Please let me know if you have any questions.

Sincerely,

Joseph Ferris, P.E.  
Project Manager

Appendix A

# Channel Report

## NODE 8 TO NODE 10

### Circular

Diameter (ft) = 1.00

Invert Elev (ft) = 100.00

Slope (%) = 0.40

N-Value = 0.011

### Calculations

Compute by: Known Q

Known Q (cfs) = 2.20

### Highlighted

Depth (ft) = 0.70

Q (cfs) = 2.200

Area (sqft) = 0.59

Velocity (ft/s) = 3.74

Wetted Perim (ft) = 1.98

Crit Depth, Yc (ft) = 0.64

Top Width (ft) = 0.92

EGL (ft) = 0.92

