LONG TERM OPERATION & MAINTENANCE PROGRAM ANNUAL SUMMARY REPORT
INFILTRATION & INFLOW CONTROL PROGRAM

Do not leave any blank spaces on this form, except where indicated. Use "X" for checking applicable information. Submit any supporting documentation when/where required. Submit a Sanitary Sewer System Description and Inventory Form upon completion of condition assessment and for any substantial sewer system improvement.

Reporting Period: January 1st to December 31st, 2021

Latest version of the sanitary sewer atlas is dated: November 2019 **Format: □ Paper ■ GIS □ CAD**

Satellite Entity Information: (to be completed by Public Works Director, or similar)

Satellite Entity: City of Highland Ridge
Address: _____ **City:** _____ **Zip:** _____

Representative: _____ **Title:** Director of Public Works
Telephone: _____ **Fax:** _____ **Email:** _____

Certification:
I hereby certify that the information provided in the Annual Report is true and correct.

Signature: _____ **Date:** _____

I. Event Reporting

A. Basement Backups (BBs): (reportable events only)

	BBs for Current Year	BBs for Previous Year
Number of Occurrences	12	27

1. Were BBs addressed by installing overhead sewers (OHS), backflow prevention devices (BPD), local storage facilities (LSF), or other measures? (indicate number addressed)
   □ No
   ■ Yes # of OHS: 8 #of BPD: 2 # of LSF: 0
   □ Other Explain: _____

2. Describe reason(s) if cause(s) could not be identified and/or addressed:

   Several homes in the vicinity of the Brainerd Road Lift Station backed up during the April 13 storm. Phase I engineering for upgrades to the lift station and/or local storage are currently underway.

3. Describe how many of the BBs reported above are recurring (i.e. more than one occurrence during the reporting year) and action taken for investigation and their elimination:

   Number of recurring events: 1
   Action taken: Overhead sewer connection was installed with assistance of city subsidy.

B. Sanitary Sewer Overflows (SSOs):

1. SSO Reporting:

	Dry Weather for Current Year	Dry Weather for Previous Year	Wet Weather for Current Year	Wet Weather for Previous Year
Main Line	0	1	4	9
Lift Station	0	0	2	3

2. Describe how many of the SSOs were identified and/or eliminated or if the cause could not be identified and/or eliminated:

   All SSOs occurred due to wet-weather flows in excess of system capacity. Capacity and storage options in these locations are currently under review.

3. Describe how many of the SSOs reported above are recurring (i.e. more than one occurrence during the reporting year) and action taken for investigation and their elimination:

   Number of recurring events: __3__
   Action taken:__Feasibility analysis for wet-weather pumping to local storage_____

II. Sanitary Sewer System Inspection & Maintenance:

A. Inspection of Sanitary Sewer System

	Main Line (Ft)	Force main (Ft)	% of Total	Manholes (Nos)	% of Total
CCTV	65,000		13.0		
Smoke Testing	30,000		6.0	120	6.0
Dye Testing	10,000		2.0	36	1.8
Visual[1]				250	12.5
Acoustic Emissions Testing		1,450	6.5		
Pole Camera Inspection				2	0.1
Other:					

(1) Visual inspection of manholes includes surface inspections and full descent inspections of manholes. Such inspections shall be performed in accordance with NASSCO standards.

B. Lift Station Inspection

	Inspected and Serviced (Nos)	% of Total in System
Lift Stations	8	100.0

C. Maintenance of Sanitary Sewer System

	Sewer (ft)			Appurtenances (Nos)	
	Main Line	Force Main	% of Total	Manholes	% of Total
Cleaning	8,200	0	1.6	35	1.7
Root Cutting	6,400	0	1.3	25	1.3
Chemical Root Control	21,000	0	4.2	82	4.1
FOG treatment	40,000	2,300	8.4	153	7.6
Other:					
Other:					

D. High Priority Deficiencies: (submit a status of High Priority Deficiencies Form and CIP for deficiencies identified but not corrected during the reporting year)

Type	Identified (length or number)	Corrected (length or number)
Main Line	5	2
Manholes	1	1
Lift Stations	0	0

E. Estimated Annual Expenditure

Budget for Reporting Year: $650,000
Expenditures for Reporting Year: $587,000

III. Sanitary Sewer System Rehabilitation

A. Public Sector Rehabilitation:

1. Main Line Sewer:

	Length or Number	% of System
Replacement	260	0.1
CIPP Lining	11,000	2.2
Point Repairs	1	
Grouting	0	
Cross-Connections	3	
Other:		

2. Manholes:

Complete Rehabilitation	Partial Rehabilitation	Replacement	Grouting
3	23	2	37

3. Lift Stations:

Number	Type of Rehabilitation
1	Replaced comminutor; rehabbed dry well

B. Private Sector Rehabilitation:

1. I/I Sources Identified: (submit a list of property addresses for those not corrected and a schedule for correcting them)

	Number of Properties Identified	Removed/Corrected
Downspout	2	2
Area Drains/Driveway Drains	1	0
Open Cleanout	7	7
Storm Sump to Sanitary	11	2
Storm Sump w/divert valve	9	4
Combination Sump	5	0
Unsealed Sanitary Sump	2	0
Window Well Drains	16	13
Foundation Drains	3	0
Lateral	57	3

IV. Sanitary Sewer System Flow Monitoring

Was flow monitoring of the sanitary sewer conducted during the reporting year?

- □ No (skip remaining questions in Section IV)
- ■ Yes (provide information requested below)

A. Flow Monitoring Equipment:

Number of Flow Meters: 3
Start Date of Flow Monitoring: 3/4/2021 End Date of Flow Monitoring: 9/7/2021

Were rain gauges used? □ No ■ Yes
If used, provide rain gauge location(s): public works garage

B. Flow Monitoring Service Area & Results:

1. Service Area Information & Results:

Service Area Number	Service Area Size (acres)	Service Area PE[1]	Average Dry Weather Flow (gpcpd)	Peak Wet Weather Flow (gpcpd)	Peak Wet : Average Dry Weather Raito
1	135	731	82	910	11.1
2	220	1,377	113	1,035	9.2
3	76	525	76	289	3.8

[1]PE = 100 gal/person/day

2. For service areas with Peak Wet : Average Dry Weather ratios above 4:1, describe how areas will be prioritized for I/I investigation and removal/rehabilitation:

Manhole inspections and smoke testing in Service Areas 1 and 2 with follow-up dye testing has been budgeted for the coming year.