

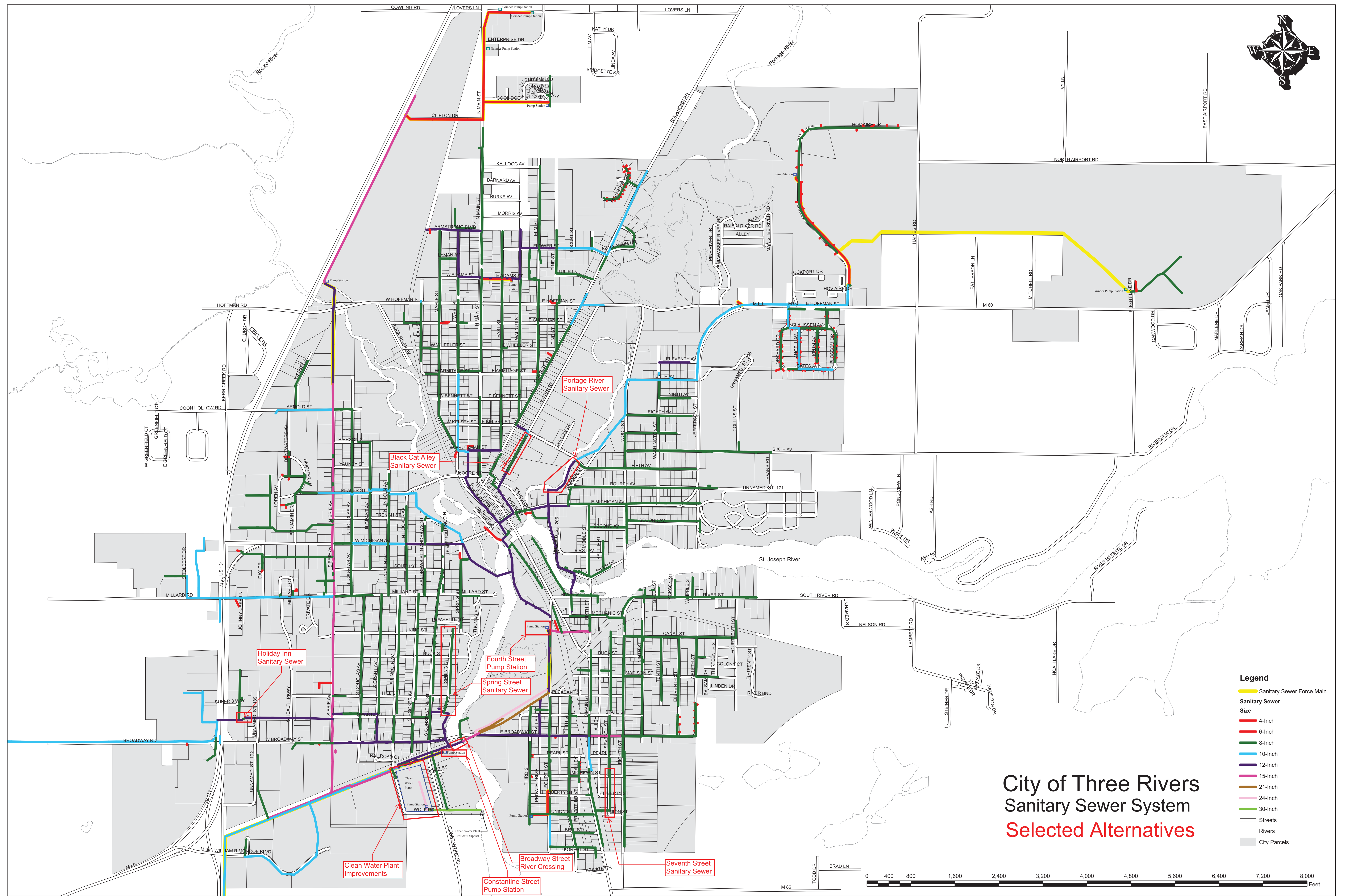
## **APPENDIX G**

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### Appendix G-1 Selected Alternative and User Cost Table

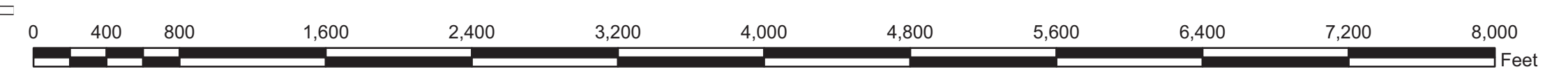
Project Name	Alternative Number	Selected Alternative Name	Selected Alternative NPW	Selected Alternative Construction Costs	Village of Constantine Contribution	Monthly Selected Alternative User Costs <sup>1</sup> (2,433 customers)
<b>Sanitary Sewer Collection System Projects</b>						
Seventh Street Sanitary Sewer Replacement	Alternative SS-A-5	Seventh Street 8-inch PVC Sewer Replacement	\$77,084	\$137,200	\$0	\$0.35
Crossing Sanitary Sewer Replacement	Alternative SS-B-6	Broadway Street River Crossing - Directional Drill HDPE	\$90,361	\$194,320	\$0	\$0.50
Spring Street Sanitary Sewer Relining	Alternative SS-C-4	Spring Street 8-inch CIPP Sewer Relining	\$82,212	\$179,800	\$0	\$0.46
Black Cat Alley Sanitary Sewer Upsize	Alternative SS-D-4	Black Cat Alley - Increase Size with PVC	\$61,324	\$125,300	\$0	\$0.32
Holiday Inn Sanitary Sewer Upsize	Alternative SS-E-4	Holiday Inn - Increase from 8" to 12" PVC	\$46,402	\$85,400	\$0	\$0.22
Rocky River Relining	Alternative SS-F-4	Portage River - CIPP Sewer Relining	\$79,922	\$163,100	\$0	\$0.42
<i>Sanitary Sewer Collection System Selected Alternatives Subtotal:</i>			<b>\$437,306</b>	<b>\$885,120</b>	<b>\$0</b>	<b>\$2.28</b>
<b>Sewage Pumping Stations Projects</b>						
Constantine Street Pump Station	Alternative PS-A-4	Constantine St. Pump Station - Improvements	\$190,857	\$193,705	\$0	\$0.50
Fourth Street Pump Station	Alternative PS-B-2	Fourth St. Pump Station - Pump Replacements	\$117,385	\$121,300	\$0	\$0.31
<i>Sewage Pumping Stations Selected Alternatives Subtotal:</i>			<b>\$308,243</b>	<b>\$315,005</b>	<b>\$0</b>	<b>\$0.81</b>
<b>Clean Water Plant Projects</b>						
Preliminary Treatment Improvements	Alternative CWP-A-2	CWP Improvements - Preliminary Treatment	\$516,156	\$415,100	\$124,530	\$0.75
Primary Treatment Improvements	Alternative CWP-B-2	CWP Improvements - Primary Treatment	\$65,602	\$58,000	\$17,400	\$0.10
Secondary Treatment Systems Automation	Alternative CWP-C-2	CWP Improvements - Sec. Treatment Systems Auto.	\$537,438	\$305,100	\$91,530	\$0.55
Disinfection System Automation	Alternative CWP-D-2	CWP Improvements - Disinfect. System Auto. (Gas)	\$540,263	\$440,400	\$132,120	\$0.79
Secondary Treatment Improvements	Alternative CWP-E-2	CWP Improvements - Secondary Treatment Improvements	\$332,618	\$315,400	\$94,620	\$0.57
Solids Handling Improvements	Alternative CWP-F-2	CWP Improvements - Solids Handling Improvements	\$1,073,991	\$1,243,400	\$373,020	\$2.24
<i>Clean Water Plant Selected Alternatives Subtotal:</i>			<b>\$3,066,068</b>	<b>\$2,777,400</b>	<b>\$833,220</b>	<b>\$5.00</b>
<b>Project Plan Totals:</b>			<b>\$3,811,617</b>	<b>\$3,977,525</b>	<b>\$833,220</b>	<b>\$8.09</b>

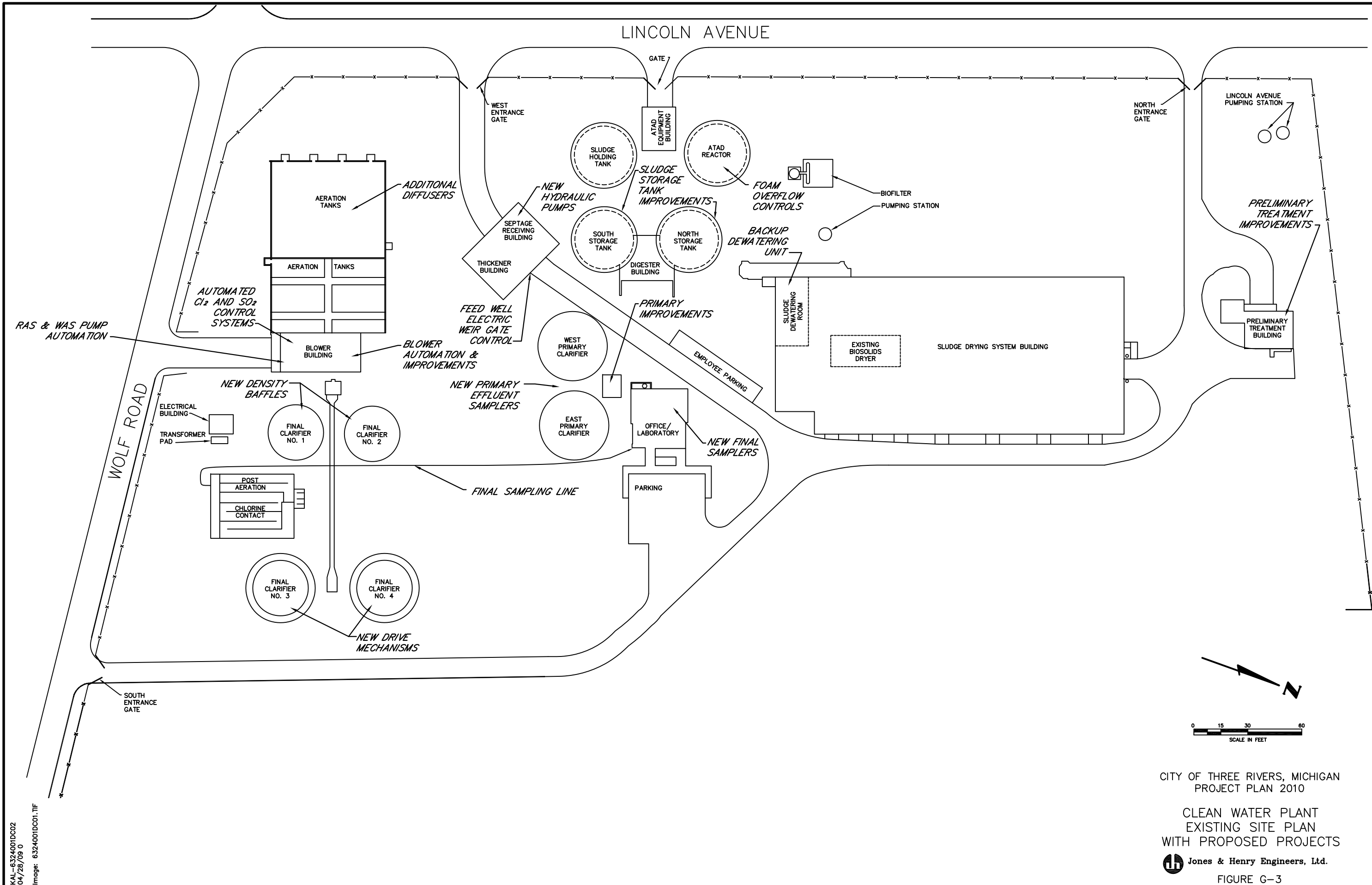
<sup>1</sup>Calculated user costs assume that 30% of the CWP project costs will be assessed to the Village of Constantine, which is proportional to the percentage of the total flow that the Village contributes to the CWP.



- Legend**
- Sanitary Sewer Force Main
  - Sanitary Sewer Size
    - 4-Inch
    - 6-Inch
    - 8-Inch
    - 10-Inch
    - 12-Inch
    - 15-Inch
    - 21-Inch
    - 24-Inch
    - 30-Inch
  - Streets
  - Rivers
  - City Parcels

# City of Three Rivers Sanitary Sewer System Selected Alternatives





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CITY OF THREE RIVERS, MICHIGAN  
 PROJECT PLAN 2010

CLEAN WATER PLANT  
 EXISTING SITE PLAN  
 WITH PROPOSED PROJECTS

Jones & Henry Engineers, Ltd.

FIGURE G-3