# STEVENS CREEK BASIN

## 21.1 STEVENS CREEK TRUNK SEWER SYSTEM

The Stevens Creek Basin is shown in Figure 21.1. The basin currently has only a small amount of land that has City sewer service. The basin is currently being developed near the Highway 2 Corridor and east of 84th Street near Adams St. Shown in Table 21.1 below are the model input values for service areas that were used to develop the scenarios described in the Chapter.

**Table 21.1 Service Areas and Flows - Stevens Creek Basin [1, 2]**
**Wastewater Facilities Master Plan Update - 2007**
**City of Lincoln, Nebraska**

| Stevens Creek Basin Plus E-8 | Existing | | Existing and Tier I | | Existing and Tiers I & II | | Existing and Tiers I, II & III | |
|---|---|---|---|---|---|---|---|---|
| | Area (ac) | Flow (cfs) | Area (ac) | Flow (cfs) | Area (ac) | Flow (cfs) | Area (ac) | Flow (cfs) |
| Model Input Values | 366 | 3.04 | 9,409 | 54.3 | 26,642 | 139.8 | 36,450 | 186.3 |

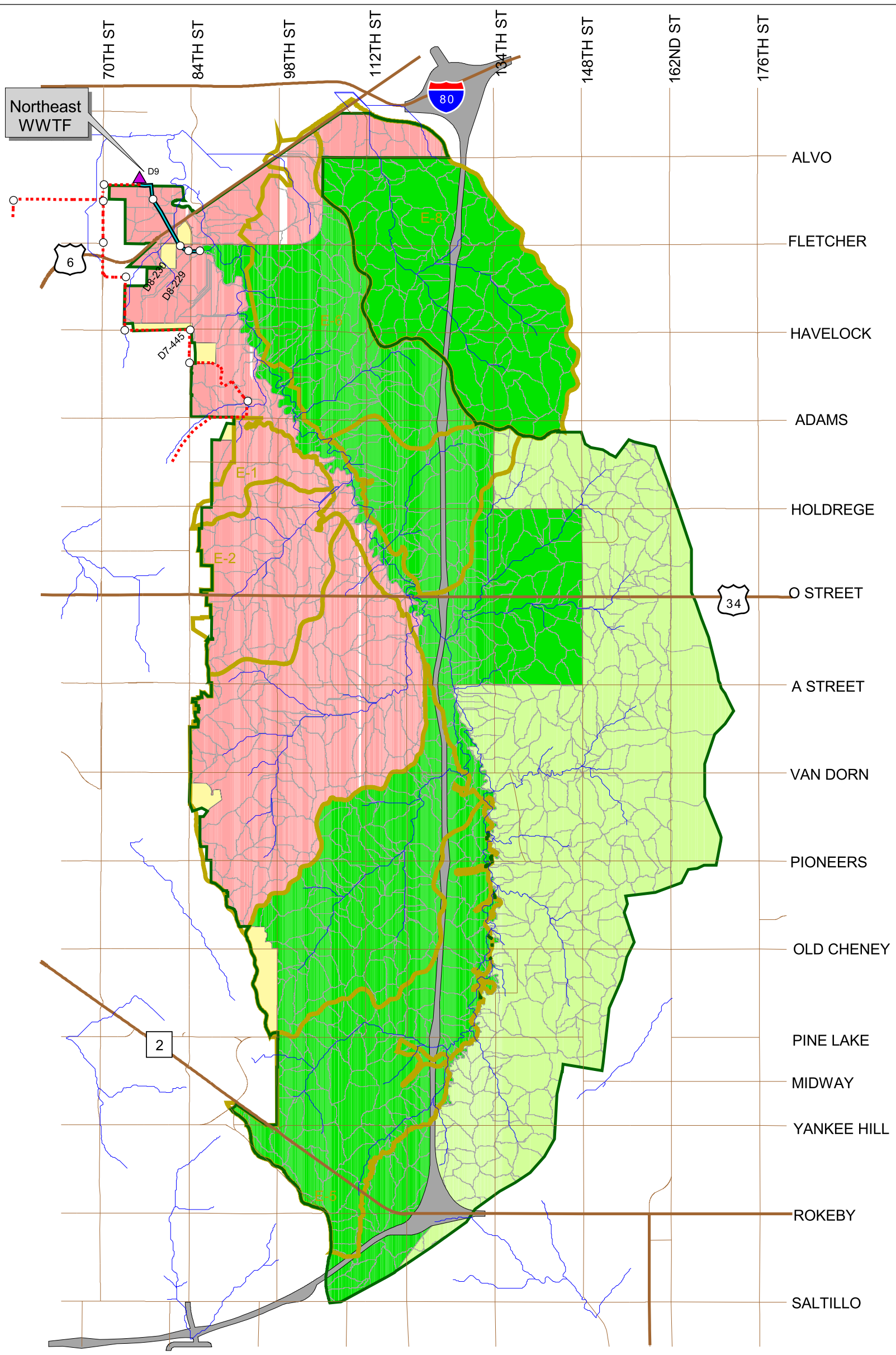
1. Based on Information Provided by LWWS.
2. Areas as of July 2006.

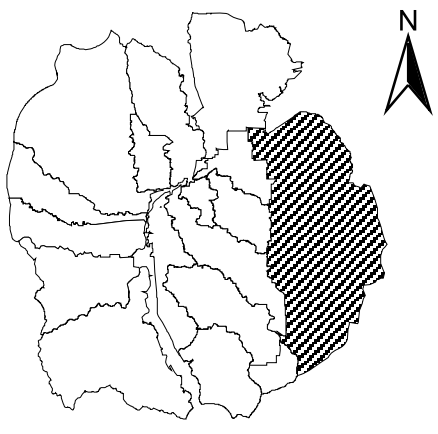
## 21.2 MODELING RESULTS

The modeling results for the scenarios discussed in this Chapter are located in Appendix D.

### 21.2.1 Existing Conditions

Currently the flows from the existing areas are conveyed through the Havelock and Deadmans Run trunk sewer systems. There is approximately 6,000 lf of 84 and 72-inch diameter of trunk sewer that has been constructed and currently receives no flow. This sewer extends uphill from the NE WWTF to the south and east to near Stevens Creek and Fletcher Avenue. As shown in Figure 21.2, there is water that is backed up into this reach of the sewer providing on-line storage. The boundary conditions for the existing model run was to keep the pipe half full and free falling at the NE WWTF. This condition in the model simulates that the wastewater pumps are matching the incoming wastewater. The model indicates that the higher the water level is maintained in the NE WWTF influent pump station, the amount of on-line storage provided by the Stevens Creek Trunk Sewer increases.




Key Map

0 1 2 Miles

LEGEND

- Northeast WWTF
- Havelock - Existing Sewers
- West Trunk Sewer - Existing
- Streams
- Highways-sc.shp
- Streets
- Basin Boundary
- Utility Planning Zones
- Beltway
- Existing Service Area
- Tier I Area
- Tier II Area
- Tier III Area

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Figure 21.1 Basin Map
Stevens Creek Basin
Wastewater Facilities Master Plan Update - 2007
City of Lincoln, Nebraska

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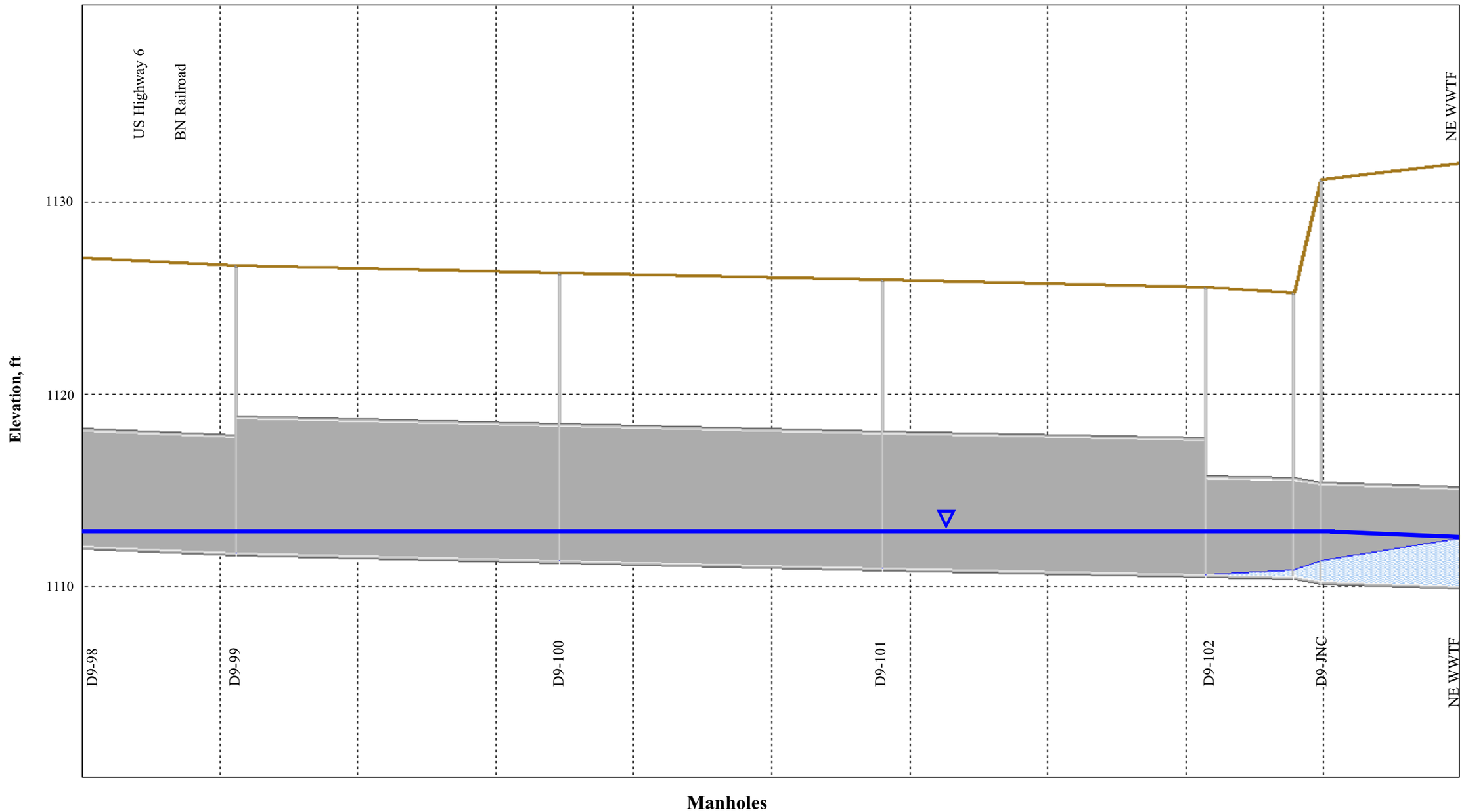


Modeled water surface

Ground surface

Sanitary sewer pipe

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**Figure 21.2** Hydraulic Profile – Stevens Creek Existing Flows
Stevens Creek Trunk Sewer
Wastewater Facilities Master Plan Update - 2007
City of Lincoln, Nebraska

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### 21.2.2 Tier I Conditions

The Tier I model results show the Stevens Creek Basin tributary areas are anticipated to contribute about 54.3 cfs of sanitary flows to the Stevens Creek trunk sewer system. New sanitary sewers were preliminary designed to convey the Tier I flows. These sewers were then compared with the sewers previously described in the Stevens Creek Basin Trunk Sewer Preliminary Design Report.

### 21.2.3 Tier II Conditions

The Stevens Creek Basin and Planning Area E-8 are anticipated to respectively contribute about 117.2 cfs and 22.4 cfs of sanitary flows to the Northeast WWTF under Tier II conditions. This corresponds to a projected total developed service area of approximately 25,480 acres. New sewers were designed and added to the Tier I model to convey Tier II sanitary flow to the Northeast WWTF.

### 21.2.4 Tier III Conditions

The Tier III system was modeled using a total area of 36,450 acres, which resulted in a peak flow of 195 cfs. New sewers were designed and added to the Tier II system to convey Tier III sanitary flow to the Northeast WWTF.

## 21.3 IMPROVEMENTS

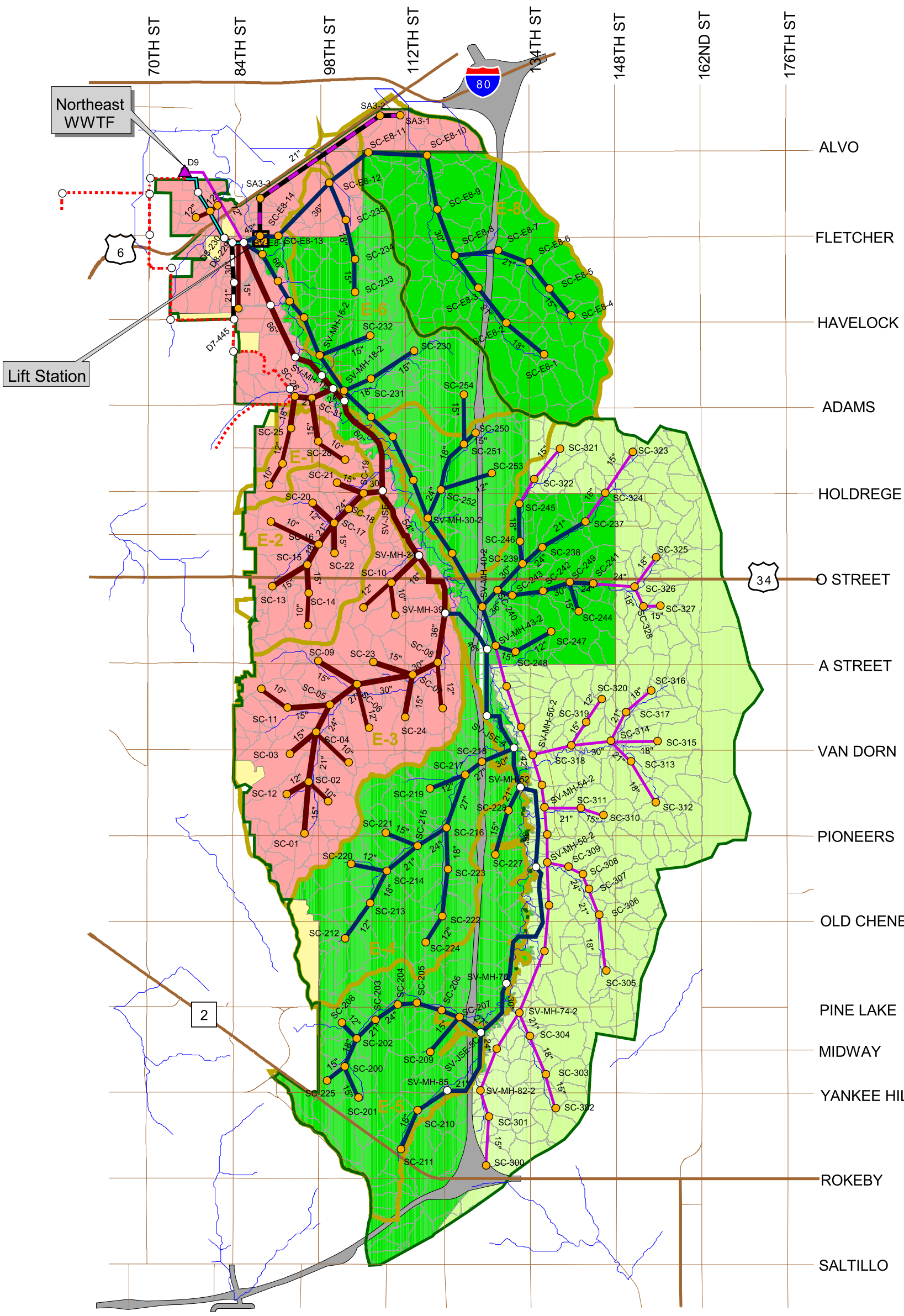
The improvements for the Stevens Creek systems are shown graphically in Figure 21.3 and summarized in Tables 21.2 and 21.3.

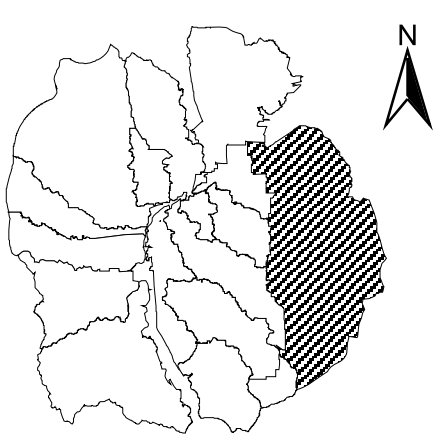
### 21.3.1 Tier I Improvements

The new sewer system layout for the Stevens Creek Basin is presented in Figure 21.3. This map shows the main sanitary sewer sub-basins, natural drainage system, and existing Deadmans sewer system. The anticipated Tier I growth areas are also shown on the map. The sub-basin boundaries and stream network were derived from the City contour data. The proposed sewer design information is presented in Table 21.2.

Approximately 91,000 feet of proposed Tier I piping was identified. The results of the modeling are outlined in Table 21.3.

In addition to the Tier I piping identified, the recently designed 84th St Sewer from Fletcher Avenue to Havelock Avenue has been shown. This sewer will collect the flows from The Regeant Heights Sewer that currently flows into the Deadmans Run Sewer and direct it to the Stevens Creek Trunk Sewer near 84th Street and Fletcher Avenue.




Key Map

0 1 2 Miles

LEGEND

- Northeast WWTF
- Havelock - Existing Sewers
- West Trunk Sewer - Existing
- 84th St Sewer
- Cornhusker Highway Trunk Sewer
- Tier I Pipes
- Tier II Pipes
- Tier III Pipes
- Streams
- Highways-sc.shp
- Streets
- Basin Boundary
- Utility Planning Zones
- Lift Station
- Beltway-stevens.shp
- Existing Service Area
- Tier I Area
- Tier II Area
- Tier III Area

Notes:
Pipes less than 15-in are shown for planning purposes. Additional 10-in, 12-in, or 15-in pipes may be required depending on the actual land use and development.

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Figure 21.3 Proposed Sewer Improvements
Stevens Creek Basin
Wastewater Facilities Master Plan Update - 2007
City of Lincoln, Nebraska

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This sewer has several benefits. First it provides sanitary sewer service to the area north of Havelock Avenue, West of 84th Street, and south of Fletcher Avenue. Secondly it removes flow from the Deadmans Trunk Sewer which in turn provides additional capacity for development in the Northeast Salt Creek Basin. Additionally, it directs flow into the Stevens Creek Basin Trunk Sewer which currently is not being utilized. This flow will aid in flushing solids out of the Trunk Sewer that may accumulate due to the back water effects of the system.

Also included in the modeling is the Cornhusker Highway sewer which follows Cornhusker Highway from 112th St to east Stevens Creek at manhole SC-E8-14. The Cornhusker Highway sewer is a gravity sewer from 112th St to manhole SC-E8-14, where it connects to a lift station for pumping to the West Trunk Sewer. Wastewater from the Cornhusker Highway sewer then flows through siphons under Stevens Creek since the invert of the sewer just east of Stevens Creek is lower than the West Trunk Sewer as a result of the topography of the Tier I area north of Fletcher Ave. and east of Stevens Creek.

Also shown at Manhole SC-E8-14 is a lift station and a potential storage facility site. The lift station is needed at this location to serve the Tier I area located just south of Cornhusker Highway between Interstate 80 and Stevens Creek. This area is very flat and to provide sewer service a lift station is required to raise the wastewater high enough to flow by gravity into the existing Stevens Creek Basin Trunk Sewer at Junction Structure E-6 (manhole E8-1). Due to the need for a lift station, this site is a good candidate for a future Tier II or Tier III storage facility to manage peak flows in the Stevens Creek Basin Trunk Sewer and the NE WWTF.

### 21.3.2 Tier II Improvements

The proposed Tier II pipe improvements are shown in Figure 21.3. These trunk sewers generally follow the natural drainage of the land to minimize the use of lift stations. The new sewer design information is presented in Table 21.2.

The proposed sewer alignment identified in Figure 21.3 were added to the collection system Tier I SWMM model and evaluated to verify the anticipated Tier II flows. The results of the model run are summarized in Table 21.3. As shown in Table 21.3, the proposed sewers have adequate capacity to convey the Tier II flows. Approximately 181,000 feet of proposed Tier II sewer lines were identified.

### 21.3.3 Tier III Improvements

The proposed sewer alignments shown in Figure 21.3 were added to the Tier II SWMM model and evaluated to verify the anticipated Tier III flows. Model results indicate the proposed sewers have adequate capacity to convey the Tier III flows. Approximately 95,000 feet of proposed Tier III sewer lines were identified.

Pipes with d/D greater than 1.0 in Table 21.3 have sufficient capacity to convey the design flows. The larger d/D values for these pipes are primarily due to smaller pipes joining larger pipes. It is recommended that pipe crowns be matched for final design.

**Table 21.2 Design Characteristics of Proposed Sewers - Stevens Creek Basin Wastewater Facilities Master Plan Update - 2007 City of Lincoln, Nebraska**

| Pipe ID | US Manhole | DS Manhole | Diameter (ft) | Length (ft) | Slope (%) | Design Capacity (cfs) | Tier |
|---|---|---|---|---|---|---|---|
| SCP-10 | SC-01 | SC-02 | 1.25 | 3,215 | 0.25 | 3.23 | I |
| SCP-20 | SC-02 | SC-04 | 1.75 | 3,100 | 0.25 | 7.92 | |
| SCP-30 | SC-04 | SC-05 | 2.00 | 1,881 | 0.25 | 11.31 | |
| SCP-40 | SC-05 | SC-06 | 2.25 | 2,093 | 0.25 | 15.49 | |
| SCP-50 | SC-06 | SC-07 | 2.50 | 3,470 | 0.25 | 20.51 | |
| SCP-51 | SC-07 | SC-08 | 2.50 | 1,714 | 0.25 | 20.51 | |
| SCP-52 | SC-08 | SV-MH-39 | 3.00 | 3,071 | 0.25 | 33.35 | |
| SCP-53 | SC-09 | SC-06 | 1.25 | 2,798 | 0.25 | 3.23 | |
| SCP-54 | SC-03 | SC-04 | 1.25 | 2,120 | 0.25 | 3.23 | |
| SCP-55 | SC-10 | SV-MH-34 | 1.50 | 2,380 | 0.19 | 4.59 | |
| SCP-56 | SC-11 | SC-05 | 1.25 | 2,629 | 0.25 | 3.23 | |
| SCP-57 | SC-12 | SC-02 | 1.00 | 1,561 | 0.25 | 1.78 | |
| SCP-58 | SC-13 | SC-15 | 1.25 | 2,535 | 0.25 | 3.23 | |
| SCP-59 | SC-15 | SC-16 | 1.50 | 1,451 | 0.25 | 5.25 | |
| SCP-60 | SC-16 | SC-17 | 1.75 | 1,628 | 0.25 | 7.92 | |
| SCP-61 | SC-17 | SC-18 | 2.00 | 1,247 | 0.25 | 11.31 | |
| SCP-62 | SC-18 | SC-19 | 2.00 | 1,325 | 0.25 | 11.31 | |
| SCP-63 | SC-19 | SV-JSE-2 | 2.50 | 1,185 | 0.13 | 14.70 | |
| SCP-64 | SC-21 | SC-19 | 1.25 | 1,776 | 0.25 | 3.23 | |
| SCP-65 | SC-20 | SC-17 | 1.00 | 1,800 | 0.25 | 1.78 | |
| SCP-66 | SC-14 | SC-15 | 1.25 | 1,767 | 0.25 | 3.23 | |
| SCP-67 | SC-22 | SC-17 | 1.25 | 1,876 | 0.25 | 3.13 | |
| SCP-68 | SC-23 | SC-07 | 1.25 | 2,545 | 0.25 | 3.23 | |
| SCP-69 | SC-24 | SC-07 | 1.25 | 2,642 | 0.25 | 3.23 | |
| SCP-70 | SC-25 | SC-26 | 1.25 | 1,896 | 0.25 | 3.23 | |
| SCP-71 | SC-26 | SC-31 | 1.75 | 1,063 | 0.25 | 7.62 | |
| SCP-72 | SC-31 | SV-MH-18 | 2.00 | 1,438 | 0.10 | 7.17 | |
| SCP-73 | SC-28 | SC-31 | 1.25 | 2,695 | 0.25 | 3.23 | |
| SVEP-13 | SV-MH-43-2 | SV-MH-40-2 | 4.00 | 2,530 | 0.27 | 74.04 | II |
| SVEP-14 | SV-MH-40-2 | SV-MH-35-2 | 4.50 | 3,786 | 0.28 | 104.59 | |
| SVEP-15 | SV-MH-35-2 | SV-MH-30-2 | 4.50 | 2,655 | 0.31 | 109.30 | |
| SVEP-16 | SV-MH-30-2 | SV-JSE-2-2 | 5.00 | 2,503 | 0.25 | 130.36 | |
| SVEP-17 | SV-JSE-2-2 | SV-MH-24-2 | 5.00 | 2,986 | 0.13 | 93.88 | |
| SVEP-18 | SV-MH-24-2 | SV-MH-22-2 | 5.00 | 1,837 | 0.12 | 91.96 | |
| SVEP-19 | SV-MH-22-2 | SV-MH-18-2 | 5.00 | 2,361 | 0.14 | 98.25 | |
| SVEP-20 | SV-MH-18-2 | SV-MH-16-2 | 5.50 | 2,649 | 0.1 | 103.99 | |
| SVEP-21 | SV-MH-16-2 | SV-MH-13-2 | 5.50 | 2,576 | 0.1 | 103.77 | |
| SVEP-22 | SV-MH-13-2 | SV-MH-11-2 | 5.50 | 1,401 | 0.11 | 109.15 | |
| SVEP-23 | SV-MH-11-2 | SV-MH-10-2 | 5.50 | 1,436 | 0.08 | 92.10 | |
| SVEP-24 | SV-MH-10-2 | SV-MH-8-2 | 5.50 | 1,893 | 0.08 | 97.01 | |

**Table 21.2 Design Characteristics of Proposed Sewers - Stevens Creek Basin**
**Wastewater Facilities Master Plan Update - 2007**
**City of Lincoln, Nebraska**

| Pipe ID | US Manhole | DS Manhole | Diameter (ft) | Length (ft) | Slope (%) | Design Capacity (cfs) | Tier |
|---|---|---|---|---|---|---|---|
| SVEP-25 | SV-MH-8-2 | SV-E8-1 | 5.50 | 1,374 | 0.06 | 85.47 | |
| SCP-200 | SC-237 | SC-238 | 1.75 | 3,140 | 0.25 | 7.92 | |
| SCP-201 | SC-238 | SC-239 | 2.00 | 1,664 | 0.25 | 11.31 | |
| SCP-202 | SC-245 | SC-246 | 1.50 | 2,252 | 0.25 | 5.25 | |
| SCP-203 | SC-246 | SC-239 | 1.50 | 1,397 | 0.25 | 5.25 | |
| SCP-204 | SC-247 | SC-248 | 1.00 | 2,540 | 0.25 | 1.78 | |
| SCP-205 | SC-248 | SV-MH-43-2 | 1.25 | 1,255 | 0.25 | 3.23 | |
| SCP-206 | SC-242 | SC-243 | 2.50 | 1,905 | 0.25 | 20.51 | |
| SCP-207 | SC-243 | SC-240 | 2.50 | 967 | 0.25 | 20.51 | |
| SCP-208 | SC-240 | SV-MH-40-2 | 3.00 | 1,404 | 0.25 | 33.35 | |
| SCP-209 | SC-239 | SC-240 | 2.50 | 2,255 | 0.25 | 20.51 | |
| SCP-210 | SC-241 | SC-249 | 2.00 | 1,444 | 0.25 | 11.31 | |
| SCP-211 | SC-249 | SC-242 | 2.50 | 1,763 | 0.25 | 20.51 | |
| SCP-212 | SC-244 | SC-249 | 1.25 | 1,925 | 0.25 | 3.23 | |
| SCP-213 | SC-201 | SC-200 | 1.25 | 2,112 | 0.25 | 3.23 | |
| SCP-214 | SC-200 | SC-202 | 1.50 | 1,898 | 0.25 | 5.25 | |
| SCP-215 | SC-202 | SC-203 | 1.75 | 1,620 | 0.25 | 7.92 | |
| SCP-216 | SC-203 | SC-204 | 2.00 | 1,690 | 0.25 | 11.31 | |
| SCP-217 | SC-204 | SC-205 | 2.00 | 1,186 | 0.25 | 11.31 | |
| SCP-218 | SC-205 | SC-206 | 2.00 | 1,589 | 0.25 | 11.31 | |
| SCP-219 | SC-206 | SC-207 | 2.00 | 1,202 | 0.25 | 11.31 | |
| SCP-220 | SC-207 | SV-JSE-5C | 2.25 | 1,646 | 0.21 | 14.31 | |
| SCP-221 | SC-209 | SC-207 | 1.25 | 2,805 | 0.25 | 3.23 | |
| SCP-222 | SC-208 | SC-202 | 1.00 | 1,343 | 0.25 | 1.78 | |
| SCP-223 | SC-211 | SC-210 | 1.50 | 2,619 | 0.25 | 5.25 | |
| SCP-224 | SC-210 | SV-MH-85 | 1.50 | 2,185 | 0.25 | 5.25 | |
| SCP-225 | SC-225 | SC-200 | 1.25 | 1,405 | 0.25 | 3.23 | |
| SCP-226 | SC-227 | SC-228 | 1.25 | 2,846 | 0.25 | 3.23 | |
| SCP-227 | SC-228 | SV-MH-52 | 1.75 | 1,627 | 0.22 | 7.42 | |
| SCP-228 | SC-224 | SC-222 | 1.00 | 1,905 | 0.25 | 1.78 | |
| SCP-229 | SC-222 | SC-223 | 1.00 | 2,927 | 0.25 | 1.78 | |
| SCP-230 | SC-223 | SC-216 | 1.50 | 2,552 | 0.25 | 5.25 | |
| SCP-231 | SC-216 | SC-217 | 2.25 | 3,474 | 0.25 | 15.49 | |
| SCP-232 | SC-219 | SC-217 | 1.00 | 2,339 | 0.25 | 1.78 | |
| SCP-233 | SC-212 | SC-213 | 1.00 | 2,674 | 0.25 | 1.78 | |
| SCP-234 | SC-213 | SC-214 | 1.50 | 2,231 | 0.25 | 5.25 | |
| SCP-235 | SC-214 | SC-215 | 1.75 | 2,472 | 0.25 | 7.92 | |
| SCP-236 | SC-215 | SC-216 | 2.00 | 2,116 | 0.25 | 11.31 | |
| SCP-237 | SC-221 | SC-215 | 1.25 | 2,144 | 0.25 | 3.23 | |
| SCP-238 | SC-220 | SC-214 | 1.00 | 2,269 | 0.25 | 1.78 | |
| SCP-239 | SC-217 | SC-218 | 2.25 | 1,316 | 0.25 | 15.49 | |
| SCP-240 | SC-218 | SV-JSE-4 | 2.50 | 2,155 | 0.24 | 20.13 | |
| SCP-243 | SC-230 | SC-231 | 1.25 | 3,189 | 0.25 | 3.23 | |
| SCP-244 | SC-231 | SV-MH-18-2 | 1.50 | 1,809 | 0.19 | 4.64 | |
| SCP-245 | SC-232 | SV-MH-16-2 | 1.25 | 3,365 | 0.25 | 3.23 | |
| SCP-246 | SC-233 | SC-234 | 1.25 | 2,020 | 0.25 | 3.23 | |

**Table 21.2 Design Characteristics of Proposed Sewers - Stevens Creek Basin**
**Wastewater Facilities Master Plan Update - 2007**
**City of Lincoln, Nebraska**

| Pipe ID | US Manhole | DS Manhole | Diameter (ft) | Length (ft) | Slope (%) | Design Capacity (cfs) | Tier |
|---|---|---|---|---|---|---|---|
| SCP-247 | SC-234 | SC-235 | 1.50 | 2,468 | 0.25 | 5.25 | |
| SCP-248 | SC-235 | SC-E8-12 | 1.50 | 2,522 | 0.23 | 5.04 | |
| SCP-264 | SC-250 | SC-251 | 1.25 | 973 | 0.25 | 3.23 | |
| SCP-260 | SC-251 | SC-252 | 1.50 | 3,271 | 0.25 | 5.25 | |
| SCP-263 | SC-252 | SV-MH-30-2 | 2.00 | 1,884 | 0.19 | 9.76 | |
| SCP-261 | SC-253 | SC-252 | 1.00 | 3,303 | 0.25 | 1.78 | |
| SCP-262 | SC-254 | SC-251 | 1.25 | 3,070 | 0.25 | 3.23 | |
| E8P-1 | SC-E8-4 | SC-E8-5 | 1.25 | 2,167 | 0.25 | 3.23 | |
| E8P-2 | SC-E8-5 | SC-E8-6 | 1.25 | 2,054 | 0.25 | 3.23 | |
| E8P-3 | SC-E8-6 | SC-E8-7 | 1.75 | 2,054 | 0.25 | 7.92 | |
| E8P-4 | SC-E8-7 | SC-E8-8 | 1.75 | 2,706 | 0.25 | 7.92 | |
| E8P-5 | SC-E8-8 | SC-E8-9 | 2.50 | 3,037 | 0.25 | 20.51 | |
| E8P-6 | SC-E8-9 | SC-E8-10 | 2.50 | 3,392 | 0.25 | 20.51 | |
| E8P-7 | SC-E8-10 | SC-E8-11 | 2.50 | 3,600 | 0.25 | 20.51 | |
| E8P-8 | SC-E8-1 | SC-E8-2 | 1.50 | 3,040 | 0.25 | 5.25 | |
| E8P-9 | SC-E8-2 | SC-E8-3 | 1.75 | 2,771 | 0.25 | 7.92 | |
| E8P-10 | SC-E8-3 | SC-E8-8 | 1.75 | 2,437 | 0.25 | 7.92 | |
| E8P-15 | SC-E8-11 | SC-E8-12 | 2.50 | 3,018 | 0.25 | 20.51 | |
| E8P-16 | SC-E8-12 | SC-E8-13 | 3.00 | 4,617 | 0.25 | 33.35 | |
| E8P-17 | SC-E8-13 | SC-E8-14 | 3.00 | 1,132 | 0.25 | 33.35 | |
| E8P-18 | SC-E8-14 | SV-E8-1 | 3.50 | 1,139 | 0.13 | 36.47 | |
| SVEP-1 | SV-MH-82-2 | SV-MH-78-2 | 1.25 | 2,758 | 0.4 | 4.09 | III |
| SVEP-2 | SV-MH-78-2 | SV-MH-74-2 | 1.25 | 2,641 | 0.47 | 4.43 | |
| SVEP-3 | SV-MH-74-2 | SV-MH-64-2 | 1.75 | 4,111 | 0.83 | 14.41 | |
| SVEP-4 | SV-MH-64-2 | SV-MH-62-2 | 2.25 | 2,930 | 0.28 | 16.28 | |
| SVEP-5 | SV-MH-62-2 | SV-MH-58-2 | 2.25 | 2,617 | 0.34 | 18.03 | |
| SVEP-6 | SV-MH-58-2 | SV-MH-56-2 | 3.00 | 1,705 | 0.26 | 34.26 | |
| SVEP-7 | SV-MH-56-2 | SV-MH-54-2 | 3.00 | 1,661 | 0.21 | 30.62 | |
| SVEP-8 | SV-MH-54-2 | SV-MH-53-2 | 3.00 | 1,331 | 0.21 | 30.86 | |
| SVEP-9 | SV-MH-53-2 | SV-MH-50-2 | 3.00 | 1,926 | 0.2 | 29.51 | |
| SVEP-10 | SV-MH-50-2 | SV-MH-49-2 | 4.00 | 1,895 | 0.17 | 58.39 | |
| SVEP-11 | SV-MH-49-2 | SV-MH-44-2 | 4.00 | 2,681 | 0.35 | 84.83 | |
| SVEP-12 | SV-MH-44-2 | SV-MH-43-2 | 4.00 | 2,607 | 0.18 | 61.18 | |
| SCP-300 | SC-320 | SC-319 | 1.00 | 1,697 | 0.25 | 1.78 | |
| SCP-301 | SC-319 | SC-318 | 1.25 | 1,742 | 0.23 | 3.12 | |
| SCP-302 | SC-316 | SC-317 | 1.50 | 2,046 | 0.25 | 5.25 | |
| SPC-303 | SC-317 | SC-314 | 1.75 | 1,989 | 0.25 | 7.92 | |
| SPC-304 | SC-312 | SC-313 | 1.50 | 2,936 | 0.25 | 5.25 | |
| SPC-305 | SC-313 | SC-314 | 1.75 | 1,803 | 0.25 | 7.92 | |
| SPC-306 | SC-314 | SC-318 | 2.50 | 2,447 | 0.25 | 20.51 | |
| SPC-307 | SC-318 | SV-MH-50-2 | 2.50 | 2,435 | 0.23 | 19.82 | |
| SPC-308 | SC-315 | SC-314 | 1.50 | 2,866 | 0.25 | 5.25 | |
| SPC-309 | SC-310 | SC-311 | 1.25 | 1,441 | 0.25 | 3.23 | |
| SPC-310 | SC-311 | SV-MH-54-2 | 1.75 | 2,263 | 0.18 | 6.79 | |
| SPC-311 | SC-305 | SC-306 | 1.50 | 3,444 | 0.25 | 5.25 | |
| SPC-312 | SC-306 | SC-307 | 1.75 | 1,711 | 0.25 | 7.92 | |

**Table 21.2 Design Characteristics of Proposed Sewers - Stevens Creek Basin**
**Wastewater Facilities Master Plan Update - 2007**
**City of Lincoln, Nebraska**

| Pipe ID | US Manhole | DS Manhole | Diameter (ft) | Length (ft) | Slope (%) | Design Capacity (cfs) | Tier |
|---|---|---|---|---|---|---|---|
| SPC-313 | SC-307 | SC-308 | 2.00 | 1,011 | 0.25 | 11.31 | |
| SPC-314 | SC-308 | SC-309 | 2.00 | 966 | 0.25 | 11.31 | |
| SPC-315 | SC-309 | SV-MH-58-2 | 2.00 | 1,360 | 0.25 | 11.31 | |
| SPC-316 | SC-300 | SC-301 | 1.25 | 3,027 | 0.25 | 3.23 | |
| SPC-317 | SC-301 | SV-MH-82-2 | 1.25 | 1,685 | 0.25 | 3.23 | |
| SPC-318 | SC-302 | SC-303 | 1.25 | 2,172 | 0.25 | 3.23 | |
| SPC-319 | SC-303 | SC-304 | 1.50 | 2,558 | 0.25 | 5.25 | |
| SPC-320 | SC-304 | SV-MH-74-2 | 1.75 | 1,649 | 0.25 | 7.92 | |
| SPC-321 | SC-321 | SC-322 | 1.25 | 2,448 | 0.25 | 3.23 | |
| SPC-322 | SC-322 | SC-245 | 1.25 | 1,786 | 0.25 | 3.23 | |
| SPC-323 | SC-323 | SC-324 | 1.25 | 3,044 | 0.25 | 3.23 | |
| SPC-324 | SC-324 | SC-237 | 1.50 | 2,179 | 0.25 | 5.25 | |
| SPC-325 | SC-325 | SC-326 | 1.50 | 2,263 | 0.25 | 5.25 | |
| SPC-326 | SC-326 | SC-241 | 2.00 | 2,566 | 0.25 | 11.31 | |
| SPC-327 | SC-327 | SC-328 | 1.25 | 1,033 | 0.25 | 3.23 | |
| SPC-328 | SC-328 | SC-326 | 1.50 | 1,342 | 0.25 | 5.25 | |
| L1689 | SV-E8-1 | D9-WWTF | 6.00 | 6,181 | 0.07 | 110.32 | |

**Table 21.3 Modeling Results of Proposed Sewers - Stevens Creek Basin**
**Wastewater Facilities Master Plan Update - 2007**
**City of Lincoln, Nebraska**

| Pipe ID | US Manhole | DS Manhole | Capacity cfs | Tier I Conditions | | Tier I & II Conditions | | Tier I, II, & III Conditions | | Tier |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q, cfs | d/D | Q, cfs | d/D | Q, cfs | d/D | |
| SCP-10 | SC-01 | SC-02 | 3.23 | 2.44 | 0.84 | 2.44 | 0.84 | 2.44 | 0.84 | I |
| SCP-20 | SC-02 | SC-04 | 7.92 | 5.43 | 0.70 | 5.43 | 0.70 | 5.43 | 0.70 | |
| SCP-30 | SC-04 | SC-05 | 11.31 | 7.78 | 0.70 | 7.78 | 0.70 | 7.78 | 0.70 | |
| SCP-40 | SC-05 | SC-06 | 15.49 | 11.10 | 0.70 | 11.10 | 0.70 | 11.10 | 0.70 | |
| SCP-50 | SC-06 | SC-07 | 20.51 | 14.83 | 0.78 | 14.83 | 0.78 | 14.83 | 0.78 | |
| SCP-51 | SC-07 | SC-08 | 20.51 | 18.90 | 0.78 | 18.90 | 0.78 | 18.90 | 0.78 | |
| SCP-52 | SC-08 | SV-MH-39 | 33.35 | 20.97 | 0.96 | 20.97 | 0.96 | 20.97 | 0.96 | |
| SCP-53 | SC-09 | SC-06 | 3.23 | 2.48 | 0.86 | 2.48 | 0.86 | 2.48 | 0.86 | |
| SCP-54 | SC-03 | SC-04 | 3.23 | 1.80 | 0.74 | 1.80 | 0.74 | 1.80 | 0.74 | |
| SCP-55 | SC-10 | SV-MH-34 | 4.59 | 3.70 | 0.68 | 3.70 | 0.68 | 3.70 | 0.68 | |
| SCP-56 | SC-11 | SC-05 | 3.23 | 2.62 | 0.73 | 2.62 | 0.73 | 2.62 | 0.73 | |
| SCP-57 | SC-12 | SC-02 | 1.78 | 1.57 | 0.81 | 1.57 | 0.81 | 1.57 | 0.81 | |
| SCP-58 | SC-13 | SC-15 | 3.23 | 1.79 | 0.83 | 1.79 | 0.83 | 1.79 | 0.83 | |
| SCP-59 | SC-15 | SC-16 | 5.25 | 4.36 | 0.75 | 4.36 | 0.75 | 4.36 | 0.75 | |
| SCP-60 | SC-16 | SC-17 | 7.92 | 5.87 | 0.77 | 5.87 | 0.77 | 5.87 | 0.77 | |
| SCP-61 | SC-17 | SC-18 | 11.31 | 9.01 | 0.73 | 9.01 | 0.73 | 9.01 | 0.73 | |
| SCP-62 | SC-18 | SC-19 | 11.31 | 9.54 | 0.98 | 9.54 | 0.98 | 9.54 | 0.98 | |
| SCP-63 | SC-19 | SV-JSE-2 | 14.70 | 12.29 | 0.95 | 12.29 | 0.95 | 12.29 | 0.95 | |
| SCP-64 | SC-21 | SC-19 | 3.23 | 1.77 | 0.76 | 1.77 | 0.76 | 1.77 | 0.76 | |

**Table 21.3 Modeling Results of Proposed Sewers - Stevens Creek Basin**
**Wastewater Facilities Master Plan Update - 2007**
**City of Lincoln, Nebraska**

| Pipe ID | US Manhole | DS Manhole | Capacity cfs | Tier I Conditions | | Tier I & II Conditions | | Tier I, II, & III Conditions | | Tier |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q, cfs | d/D | Q, cfs | d/D | Q, cfs | d/D | |
| SCP-65 | SC-20 | SC-17 | 1.78 | 1.31 | 0.71 | 1.31 | 0.71 | 1.31 | 0.71 | |
| SCP-66 | SC-14 | SC-15 | 3.23 | 1.65 | 0.83 | 1.65 | 0.83 | 1.65 | 0.83 | |
| SCP-67 | SC-22 | SC-17 | 3.13 | 1.83 | 0.68 | 1.83 | 0.68 | 1.83 | 0.68 | |
| SCP-68 | SC-23 | SC-07 | 3.23 | 1.51 | 0.83 | 1.51 | 0.83 | 1.51 | 0.83 | |
| SCP-69 | SC-24 | SC-07 | 3.23 | 2.57 | 0.75 | 2.57 | 0.75 | 2.57 | 0.75 | |
| SCP-70 | SC-25 | SC-26 | 3.23 | 1.78 | 0.56 | 1.78 | 0.56 | 1.78 | 0.56 | |
| SCP-71 | SC-26 | SC-31 | 7.62 | 5.24 | 0.92 | 5.24 | 0.92 | 5.24 | 0.92 | |
| SCP-72 | SC-31 | SV-MH-18 | 7.17 | 7.20 | 0.83 | 7.20 | 0.83 | 7.20 | 0.83 | |
| SCP-73 | SC-28 | SC-31 | 3.23 | 1.24 | 0.81 | 1.24 | 0.81 | 1.24 | 0.81 | |
| SVEP-13 | SV-MH-43-2 | SV-MH-40-2 | 74.04 | NA | NA | 51.08 | 0.74 | 51.08 | 0.74 | II |
| SVEP-14 | SV-MH-40-2 | SV-MH-35-2 | 104.59 | | | 78.34 | 0.65 | 78.34 | 0.65 | |
| SVEP-15 | SV-MH-35-2 | SV-MH-30-2 | 109.30 | | | 78.33 | 0.68 | 78.33 | 0.68 | |
| SVEP-16 | SV-MH-30-2 | SV-JSE-2-2 | 130.36 | | | 88.65 | 0.78 | 88.65 | 0.78 | |
| SVEP-17 | SV-JSE-2-2 | SV-MH-24-2 | 93.88 | | | 88.64 | 0.79 | 88.64 | 0.79 | |
| SVEP-18 | SV-MH-24-2 | SV-MH-22-2 | 91.96 | | | 88.63 | 0.79 | 88.63 | 0.79 | |
| SVEP-19 | SV-MH-22-2 | SV-MH-18-2 | 98.25 | | | 89.88 | 0.84 | 89.88 | 0.84 | |
| SVEP-20 | SV-MH-18-2 | SV-MH-16-2 | 103.99 | | | 94.36 | 0.80 | 94.36 | 0.80 | |
| SVEP-21 | SV-MH-16-2 | SV-MH-13-2 | 103.77 | | | 98.00 | 0.83 | 98.00 | 0.83 | |
| SVEP-22 | SV-MH-13-2 | SV-MH-11-2 | 109.15 | | | 97.95 | 0.89 | 97.95 | 0.89 | |
| SVEP-23 | SV-MH-11-2 | SV-MH-10-2 | 92.10 | | | 97.92 | 0.89 | 97.92 | 0.89 | |
| SVEP-24 | SV-MH-10-2 | SV-MH-8-2 | 97.01 | | | 97.90 | 0.92 | 97.90 | 0.92 | |
| SVEP-25 | SV-MH-8-2 | SV-E8-1 | 85.47 | | | 99.94 | 0.92 | 99.94 | 0.92 | |
| SCP-200 | SC-237 | SC-238 | 7.92 | | | 5.64 | 0.68 | 5.64 | 0.68 | |
| SCP-201 | SC-238 | SC-239 | 11.31 | | | 7.44 | 0.70 | 7.44 | 0.70 | |
| SCP-202 | SC-245 | SC-246 | 5.25 | | | 4.90 | 0.78 | 4.90 | 0.78 | |
| SCP-203 | SC-246 | SC-239 | 5.25 | | | 4.90 | 0.93 | 4.90 | 0.93 | |
| SCP-204 | SC-247 | SC-248 | 1.78 | | | 1.34 | 1.16 | 1.34 | 1.16 | |
| SCP-205 | SC-248 | SV-MH-43-2 | 3.23 | | | 3.17 | 0.92 | 3.17 | 0.92 | |
| SCP-206 | SC-242 | SC-243 | 20.51 | | | 13.76 | 0.63 | 13.76 | 0.63 | |
| SCP-207 | SC-243 | SC-240 | 20.51 | | | 13.76 | 0.88 | 13.76 | 0.88 | |
| SCP-208 | SC-240 | SV-MH-40-2 | 33.35 | | | 27.27 | 0.98 | 27.27 | 0.98 | |
| SCP-209 | SC-239 | SC-240 | 20.51 | | | 12.34 | 0.88 | 12.34 | 0.88 | |
| SCP-210 | SC-241 | SC-249 | 11.31 | | | 10.47 | 0.77 | 10.47 | 0.77 | |
| SCP-211 | SC-249 | SC-242 | 20.51 | | | 12.68 | 0.60 | 12.68 | 0.60 | |
| SCP-212 | SC-244 | SC-249 | 3.23 | | | 2.21 | 1.14 | 2.21 | 1.14 | |
| SCP-213 | SC-201 | SC-200 | 3.23 | | | 2.54 | 0.82 | 2.54 | 0.82 | |
| SCP-214 | SC-200 | SC-202 | 5.25 | | | 4.27 | 0.73 | 4.27 | 0.73 | |
| SCP-215 | SC-202 | SC-203 | 7.92 | | | 5.67 | 0.71 | 5.67 | 0.71 | |
| SCP-216 | SC-203 | SC-204 | 11.31 | | | 7.98 | 0.63 | 7.98 | 0.63 | |
| SCP-217 | SC-204 | SC-205 | 11.31 | | | 7.97 | 0.85 | 7.97 | 0.85 | |
| SCP-218 | SC-205 | SC-206 | 11.31 | | | 9.32 | 0.74 | 9.32 | 0.74 | |
| SCP-219 | SC-206 | SC-207 | 11.31 | | | 9.80 | 0.89 | 9.80 | 0.89 | |
| SCP-220 | SC-207 | SV-JSE-5C | 14.31 | | | 12.54 | 0.79 | 12.54 | 0.79 | |
| SCP-221 | SC-209 | SC-207 | 3.23 | | | 2.23 | 0.63 | 2.23 | 0.63 | |
| SCP-222 | SC-208 | SC-202 | 1.78 | | | 1.41 | 0.70 | 1.41 | 0.70 | |

**Table 21.3 Modeling Results of Proposed Sewers - Stevens Creek Basin**
**Wastewater Facilities Master Plan Update - 2007**
**City of Lincoln, Nebraska**

| Pipe ID | US Manhole | DS Manhole | Capacity cfs | Tier I Conditions | | Tier I & II Conditions | | Tier I, II, & III Conditions | | Tier |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q, cfs | d/D | Q, cfs | d/D | Q, cfs | d/D | |
| SCP-225 | SC-225 | SC-200 | 3.23 | | | 1.73 | 0.57 | 1.73 | 0.57 | |
| SCP-226 | SC-227 | SC-228 | 3.23 | | | 2.36 | 0.80 | 2.36 | 0.80 | |
| SCP-227 | SC-228 | SV-MH-52 | 7.42 | | | 4.12 | 1.32 | 4.12 | 1.32 | |
| SCP-228 | SC-224 | SC-222 | 1.78 | | | 1.61 | 0.75 | 1.61 | 0.75 | |
| SCP-229 | SC-222 | SC-223 | 1.78 | | | 1.61 | 0.87 | 1.61 | 0.87 | |
| SCP-230 | SC-223 | SC-216 | 5.25 | | | 3.35 | 0.99 | 3.35 | 0.99 | |
| SCP-231 | SC-216 | SC-217 | 15.49 | | | 12.12 | 0.75 | 12.12 | 0.75 | |
| SCP-232 | SC-219 | SC-217 | 1.78 | | | 1.22 | 0.69 | 1.22 | 0.69 | |
| SCP-233 | SC-212 | SC-213 | 1.78 | | | 1.28 | 0.90 | 1.28 | 0.90 | |
| SCP-234 | SC-213 | SC-214 | 5.25 | | | 3.53 | 0.73 | 3.53 | 0.73 | |
| SCP-235 | SC-214 | SC-215 | 7.92 | | | 5.60 | 0.82 | 5.60 | 0.82 | |
| SCP-236 | SC-215 | SC-216 | 11.31 | | | 8.78 | 0.72 | 8.78 | 0.72 | |
| SCP-237 | SC-221 | SC-215 | 3.23 | | | 2.08 | 0.91 | 2.08 | 0.91 | |
| SCP-238 | SC-220 | SC-214 | 1.78 | | | 1.56 | 0.80 | 1.56 | 0.80 | |
| SCP-239 | SC-217 | SC-218 | 15.49 | | | 14.13 | 0.77 | 14.13 | 0.77 | |
| SCP-240 | SC-218 | SV-JSE-4 | 20.13 | | | 16.08 | 0.97 | 16.08 | 0.97 | |
| SCP-243 | SC-230 | SC-231 | 3.23 | | | 1.96 | 1.10 | 1.96 | 1.10 | |
| SCP-244 | SC-231 | SV-MH-18-2 | 4.64 | | | 4.57 | 0.92 | 4.57 | 0.92 | |
| SCP-245 | SC-232 | SV-MH-16-2 | 3.23 | | | 2.37 | 0.88 | 2.37 | 0.88 | |
| SCP-246 | SC-233 | SC-234 | 3.23 | | | 1.95 | 0.77 | 1.95 | 0.77 | |
| SCP-247 | SC-234 | SC-235 | 5.25 | | | 3.91 | 0.66 | 3.91 | 0.66 | |
| SCP-248 | SC-235 | SC-E8-12 | 5.04 | | | 3.91 | 0.96 | 3.91 | 0.96 | |
| SCP-264 | SC-250 | SC-251 | 3.23 | | | 2.87 | 0.92 | 2.87 | 0.92 | |
| SCP-260 | SC-251 | SC-252 | 5.25 | | | 4.80 | 1.00 | 4.80 | 1.00 | |
| SCP-263 | SC-252 | SV-MH-30-2 | 9.76 | | | 8.67 | 0.93 | 8.67 | 0.93 | |
| SCP-261 | SC-253 | SC-252 | 1.78 | | | 1.72 | 1.50 | 1.72 | 1.50 | |
| SCP-262 | SC-254 | SC-251 | 3.23 | | | 1.94 | 0.92 | 1.94 | 0.92 | |
| E8P-1 | SC-E8-4 | SC-E8-5 | 3.23 | | | 2.47 | 0.81 | 2.47 | 0.81 | |
| E8P-2 | SC-E8-5 | SC-E8-6 | 3.23 | | | 3.20 | 0.84 | 3.20 | 0.84 | |
| E8P-3 | SC-E8-6 | SC-E8-7 | 7.92 | | | 5.32 | 0.88 | 5.32 | 0.88 | |
| E8P-4 | SC-E8-7 | SC-E8-8 | 7.92 | | | 8.24 | 0.95 | 8.24 | 0.95 | |
| E8P-5 | SC-E8-8 | SC-E8-9 | 20.51 | | | 16.14 | 0.73 | 16.14 | 0.73 | |
| E8P-6 | SC-E8-9 | SC-E8-10 | 20.51 | | | 18.21 | 0.79 | 18.21 | 0.79 | |
| E8P-7 | SC-E8-10 | SC-E8-11 | 20.51 | | | 19.88 | 0.88 | 19.88 | 0.88 | |
| E8P-8 | SC-E8-1 | SC-E8-2 | 5.25 | | | 3.51 | 0.69 | 3.51 | 0.69 | |
| E8P-9 | SC-E8-2 | SC-E8-3 | 7.92 | | | 5.33 | 0.70 | 5.33 | 0.70 | |
| E8P-10 | SC-E8-3 | SC-E8-8 | 7.92 | | | 6.61 | 0.95 | 6.61 | 0.95 | |
| E8P-15 | SC-E8-11 | SC-E8-12 | 20.51 | | | 21.30 | 0.88 | 21.30 | 0.88 | |
| E8P-16 | SC-E8-12 | SC-E8-13 | 33.35 | | | 25.20 | 0.71 | 25.20 | 0.71 | |
| E8P-17 | SC-E8-13 | SC-E8-14 | 33.35 | | | 25.17 | 1.01 | 25.17 | 1.01 | |
| E8P-18 | SC-E8-14 | SV-E8-1 | 36.47 | | | 31.09 | 1.00 | 31.09 | 1.00 | |
| SVEP-1 | SV-MH-82-2 | SV-MH-78-2 | 4.09 | NA | NA | NA | NA | 4.06 | 0.84 | III |
| SVEP-2 | SV-MH-78-2 | SV-MH-74-2 | 4.43 | | | | | 4.06 | 0.87 | |
| SVEP-3 | SV-MH-74-2 | SV-MH-64-2 | 14.41 | | | | | 10.16 | 0.87 | |
| SVEP-4 | SV-MH-64-2 | SV-MH-62-2 | 16.28 | | | | | 12.48 | 0.68 | |

**Table 21.3 Modeling Results of Proposed Sewers - Stevens Creek Basin**
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**City of Lincoln, Nebraska**

| Pipe ID | US Manhole | DS Manhole | Capacity cfs | Tier I Conditions | | Tier I & II Conditions | | Tier I, II, & III Conditions | | Tier |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q, cfs | d/D | Q, cfs | d/D | Q, cfs | d/D | |
| SVEP-5 | SV-MH-62-2 | SV-MH-58-2 | 18.03 | | | | | 12.48 | 0.79 | |
| SVEP-6 | SV-MH-58-2 | SV-MH-56-2 | 34.26 | | | | | 22.66 | 0.65 | |
| SVEP-7 | SV-MH-56-2 | SV-MH-54-2 | 30.62 | | | | | 22.66 | 0.74 | |
| SVEP-8 | SV-MH-54-2 | SV-MH-53-2 | 30.86 | | | | | 27.26 | 0.78 | |
| SVEP-9 | SV-MH-53-2 | SV-MH-50-2 | 29.51 | | | | | 27.26 | 0.92 | |
| SVEP-10 | SV-MH-50-2 | SV-MH-49-2 | 58.39 | | | | | 45.90 | 0.69 | |
| SVEP-11 | SV-MH-49-2 | SV-MH-44-2 | 84.83 | | | | | 47.92 | 0.68 | |
| SVEP-12 | SV-MH-44-2 | SV-MH-43-2 | 61.18 | | | | | 47.91 | 0.68 | |
| SCP-300 | SC-320 | SC-319 | 1.78 | | | | | 0.81 | 1.02 | |
| SCP-301 | SC-319 | SC-318 | 3.12 | | | | | 2.81 | 1.33 | |
| SCP-302 | SC-316 | SC-317 | 5.25 | | | | | 4.45 | 0.71 | |
| SPC-303 | SC-317 | SC-314 | 7.92 | | | | | 5.44 | 0.89 | |
| SPC-304 | SC-312 | SC-313 | 5.25 | | | | | 3.91 | 0.72 | |
| SPC-305 | SC-313 | SC-314 | 7.92 | | | | | 5.52 | 0.89 | |
| SPC-306 | SC-314 | SC-318 | 20.51 | | | | | 14.48 | 0.78 | |
| SPC-307 | SC-318 | SV-MH-50-2 | 19.82 | | | | | 18.65 | 0.94 | |
| SPC-308 | SC-315 | SC-314 | 5.25 | | | | | 3.53 | 1.03 | |
| SPC-309 | SC-310 | SC-311 | 3.23 | | | | | 2.38 | 0.86 | |
| SPC-310 | SC-311 | SV-MH-54-2 | 6.79 | | | | | 4.62 | 0.98 | |
| SPC-311 | SC-305 | SC-306 | 5.25 | | | | | 4.14 | 0.82 | |
| SPC-312 | SC-306 | SC-307 | 7.92 | | | | | 6.63 | 0.72 | |
| SPC-313 | SC-307 | SC-308 | 11.31 | | | | | 8.18 | 0.67 | |
| SPC-314 | SC-308 | SC-309 | 11.31 | | | | | 8.85 | 0.75 | |
| SPC-315 | SC-309 | SV-MH-58-2 | 11.31 | | | | | 10.19 | 0.89 | |
| SPC-316 | SC-300 | SC-301 | 3.23 | | | | | 1.63 | 0.80 | |
| SPC-317 | SC-301 | SV-MH-82-2 | 3.23 | | | | | 3.16 | 0.84 | |
| SPC-318 | SC-302 | SC-303 | 3.23 | | | | | 2.16 | 0.71 | |
| SPC-319 | SC-303 | SC-304 | 5.25 | | | | | 3.43 | 0.79 | |
| SPC-320 | SC-304 | SV-MH-74-2 | 7.92 | | | | | 6.11 | 0.67 | |
| SPC-321 | SC-321 | SC-322 | 3.23 | | | | | 1.77 | 0.69 | |
| SPC-322 | SC-322 | SC-245 | 3.23 | | | | | 2.64 | 0.92 | |
| SPC-323 | SC-323 | SC-324 | 3.23 | | | | | 2.25 | 0.82 | |
| SPC-324 | SC-324 | SC-237 | 5.25 | | | | | 4.26 | 0.73 | |
| SPC-325 | SC-325 | SC-326 | 5.25 | | | | | 4.27 | 0.91 | |
| SPC-326 | SC-326 | SC-241 | 11.31 | | | | | 9.11 | 0.77 | |
| SPC-327 | SC-327 | SC-328 | 3.23 | | | | | 2.82 | 0.76 | |
| SPC-328 | SC-328 | SC-326 | 5.25 | | | | | 3.80 | 0.91 | |
| L1689 | SV-E8-1 | D9-WWTF | 110.32 | | | | | 104.8 | 0.81 | |

## 21.4 SUMMARY OF RECOMMENDED IMPROVEMENTS

Recommendations for maintenance and improvements of the Stevens Creek Basin Sewer System include:

- Tier I Flows:
    - Construct new sewer lines to service the Tier I area.
- Tier II Flows:
    - Construct new sewer lines to service the Tier II area.
- Tier III Flows
    - Construct new sewer lines to service the Tier III area.

The proposed improvements have been located outside of the designated saline wetland areas within this basin. The wetlands are environmentally protected, which would be difficult to obtain approval for construction within this area.

The proposed alignments of the sanitary sewers are preliminary and developed for planning purposes. It is recommended that a detailed study be performed prior to designing the improvements to make certain conformance with existing and proposed development and to determine project phasing. In most cases, the alignments shown closely follow natural drainage ways. Until full development of the system, some pipes will be oversized with regard to interim flows. These sewers should be periodically inspected to determine if deposition is occurring.

A summary of the improvement projects identified with planning costs is outlined in Table 21.4.

**Table 21.4 Recommended Improvements – Stevens Creek Basin**
**Wastewater Facilities Master Plan Update - 2007**
**City of Lincoln, Nebraska**

| Tier | ID | Description | Location [1] | Parameters | Unit Price | Planning Cost [2] |
|---|---|---|---|---|---|---|
| I | SC-1A | 30-inch | Proposed connector from AD7-445 to D8-229 along 84th St | 2,496 lf | $300.00 | $749,000 |
| I | SC-1B | 24-inch | Proposed connector from AD7-445 to D8-229 along 84th St | 2,210 lf | $210.00 | $464,000 |
| I | SC-2 | Phase I to II New Trunk Sewer (CIP 10.a) | Fletcher to Havelock | | | $6,870,000 [3] |
| I | SC-3 | Phase II - West Trunk Sewer | | | | $7,338,000 |
| I | SC-4 | Phase III - West Trunk Sewer | | | | $12,035,000 |
| I | SC-5 | Phase IV - West Trunk Sewer | | | | $2,551,000 |
| I | SC-6 | Phase V - West Trunk Sewer | | | | $12,222,000 |
| I | SC-7 | Phase II to III (CIP 10.b) | Havelock to Holdrege | | | $11,240,000 |
| I | SC-8 | Phase III to IV (CIP 10.c) | Holdrege to 98th St & O St | | | $2,623,000 |
| I | SC-9 | Sub-basin Sewers (CIP 10.d) | South of Holdrege, E & W of 98th St | | | $3,885,000 |
| I | SC-10 | Cornhusker Hwy Trunk (CIP 10.e) | 84th St & Cornhusker Hwy to 112th St | | | $6,280,000 |
| I | SC-11 | 36-inch | SC-08 to SV-MH-39 | 3,071 lf | $360.00 | $1,106,000 |
| I | SC-12 | 30-inch | SC-19 to SV-JSE-2, SC-06 to SC-08 | 6,369 lf | $300.00 | $1,911,000 |
| I | SC-13 | 27-inch | SC-05 to SC-06 | 2,093 lf | $270.00 | $566,000 |
| I | SC-14 | 24-inch | SC-17 to SC-19, SC-04 to SC-05, SC-31 to SV-MH-18 | 5,891 lf | $240.00 | $1,414,000 |
| I | SC-15 | 21-inch | SC-02 to SC-04, SC-16 to SC-17, SC-26 to SC-31, SC-202 to SC-203, | 5,791 lf | $210.00 | $1,217,000 |
| I | SC-16 | 18-inch | SC-15 to SC-16, SC-10 to SV-MH-34 | 3,831 lf | $180.00 | $690,000 |

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| Tier | ID | Description | Location [1] | Parameters | Unit Price | Planning Cost [2] |
|---|---|---|---|---|---|---|
| I | SC-17 | 15-inch | SC-01 to SC-02, SC-09 to SC-06, SC-03 to SC-04, SC-11 to SC-05, SC-13 to SC-15, SC-21 to SC-19, SC-14 to SC-15, SC-22 to SC-17, SC-23 to SC-07, SC-24 to SC-07, SC-25 to SC-26, SC-28 to SC-31, See Figure 21.4. | 32,474 lf | $150.00 | $4,872,000 |
| I | SC-18 | 12-inch | SC-12 to SC-02, SC-20 to SC-17, See Figure 21.4. | 15,084 lf | $120.00 | $1,811,000 |
| I | SC-19 | 10-inch | See Figure 21.2. | 16,852 lf | $100.00 | $1,686,000 |
| II | SC-20 | Phase VI - West Trunk Sewer | | | | $4,117,000 |
| II | SC-21 | Phase VII - West Trunk Sewer | | | | $4,235,000 |
| II | SC-22 | Phase VIII - West Trunk Sewer | | | | $8,448,000 |
| II | SC-23 | Phase IX - West Trunk Sewer | | | | $3,415,000 |
| II | SC-24 | 66-inch | SV-MH-18-2 to SV-E8-1 | 11,329 lf | $660.00 | $7,478,000 |
| II | SC-25 | 60-inch | SV-MH-30-2 to SV-MH-18-2 | 9,687 lf | $600.00 | $5,813,000 |
| II | SC-26 | 54-inch | SV-MH-40-2 to SV-MH-30-2 | 6,441 lf | $540.00 | $3,479,000 |
| II | SC-27 | 48-inch | SV-MH-43-2 to SV-MH-40-2 | 2,530 lf | $480.00 | $1,215,000 |
| II | SC-28 | 42-inch | SC-E8-14 to SC-E8-1 | 1,139 lf | $420.00 | $479,000 |
| II | SC-29 | 36-inch | SC-E8-12 to SC-E8-14, SC-240 to SC-MH-40-2 | 7,153 lf | $360.00 | $2,576,000 |
| II | SC-30 | 30-inch | SC-E8-8 to SC-E8-12, SC-249 to SC-240, SC-239 to SC-240, SC-218 to SV-JSE-4 | 22,092 lf | $300.00 | $6,628,000 |
| II | SC-31 | 27-inch | SC-216 to SC-218, SC-207 to SV-JSE-5C | 6,436 lf | $270.00 | $1,738,000 |
| II | SC-32 | 24-inch | SC-203 to SC-207, SC-252 to SV-MH-30-2, SC-241 to SC-249, SC-238 to SC-239, SC-215 to SC-216 | 12,775 lf | $240.00 | $3,066,000 |

**Table 21.4 Recommended Improvements – Stevens Creek Basin**
**Wastewater Facilities Master Plan Update - 2007**
**City of Lincoln, Nebraska**

| Tier | ID | Description | Location [1] | Parameters | Unit Price | Planning Cost [2] |
|---|---|---|---|---|---|---|
| II | SC-33 | 21-inch | SC-214 to SC-215, SC-228 to SV-MH-52, SC-202 to SC-203, SC-237 to SC-238, SC-E8-6 to SC-E8-8, SC-E8-2 to SC-E8-8 | 18,827 lf | $210.00 | $3,954,000 |
| II | SC-34 | 18-inch | SC-234 to SC-E8-12, SC-E8-1 to SC-E8-2, SC-231 to SV-MH-18-2, SC-251 to SC-252, SC-245 to SC-239, SC-213 to SC-214, SC-223 to SC-216, SC-200 to SC-202, SC-211 to SV-MH-85 | 28,245 lf | $180.00 | $5,085,000 |
| II | SC-35 | 15-inch | SC-233 to SC-234, SC-232 to SV-MH-16-2, SC-230 to SC-231, SC-254 to SC-251, SC-250 to SC-251, SC-E8-4 to SC-E8-6, SC-244 to SC-249, SC-227 to SC-228, SC-221 to SC-215, SC-201 to SC-200, SC-209 to SC-207, SC-248 to SV-MH-43-2, SC-225 to SC-200 | 31,330 lf | $150.00 | $4,700,000 |
| II | SC-36 | 12-inch | SC-253 to SC-252, SC-247 to SC-248, SC-219 to SC-217, SC-220 to SC-214, SC-212 to SC-213, SC-224 to SC-223, SC-208 to SC-202 | 19,298 lf | $120.00 | $2,316,000 |
| III | SC-37 | 72-inch | SV-E8-1 to D9-WWTF | 6,181 lf | $720.00 | $4,451,000 |
| III | SC-38 | 48-inch | SV-MH-50-2 to SV-MH-43-2 | 7,183 lf | $480.00 | $3,448,000 |
| III | SC-39 | 36-inch | SV-MH-58-2 to SV-MH-50-2 | 6,623 lf | $360.00 | $2,385,000 |
| III | SC-40 | 30-inch | SC-318 to SV-MH-50-2 | 4,882 lf | $300.00 | $1,465,000 |
| III | SC-41 | 27-inch | SV-MH-64-2 to SV-MH-58-2 | 5,547 lf | $270.00 | $1,498,000 |
| III | SC-42 | 24-inch | SV-307 to SV-MH-58-2, SC-326 to SC-241 | 5,903 lf | $240.00 | $1,417,000 |

**Table 21.4 Recommended Improvements – Stevens Creek Basin**
**Wastewater Facilities Master Plan Update - 2007**
**City of Lincoln, Nebraska**

| Tier | ID | Description | Location [1] | Parameters | Unit Price | Planning Cost [2] |
|---|---|---|---|---|---|---|
| III | SC-43 | 21-inch | SC-317 to SC-314, SC-313 to SC-314, SC-311 to SV-MH-54-2, SC-306 to SC-307, SC-304 to SV-MH-74-2, SV-MH-74-2 to SV-MH-64-2 | 13,526 lf | $210.00 | $2,841,000 |
| III | SC-44 | 18-inch | SC-324 to SC-237, SC-325 to SC-326, SC-328 to SC-326, SC-316 to SC-317, SC-315 to SC-314, SC-312 to SC-313, SC-305 to SC-306, SC-303 to SC-304 | 19,634 lf | $180.00 | $3,535,000 |
| III | SC-45 | 15-inch | SC-321 to SC-245, SC-323 to SC-324, SC-327 to SC-328, SC-319 to SC-318, SC-310 to SC-311, SC-302 to SC-303, SC-300 to SV-MH-74-2 | 23,777 lf | $150.00 | $3,567,000 |
| III | SC-46 | 12-inch | SC-320 to SC-319 | 1,697 lf | $120.00 | $204,000 |

Notes:
1. Upstream and downstream nodes for each pipe section.
2. ENR CCI for Kansas City = 8512 (July 2006).
3. Costs from current City CIP, March 27, 2006.
4. This cost may not be needed or may be reduced depending on the type of storage used and other site specific hydraulics issues.
5. Costs from Stevens Creek Basin TM 2004 adjusted to July 2006 dollars.
6. Costs from Stevens Creek Basin Study Area No. 3 Technical Memorandum, March 2006.