



City of Oskaloosa
City Council Study Session
Council Chambers
City Hall, 220 S. Market Street
Oskaloosa, IA 52577
Agenda

Wednesday, July 28, 2021, 8:30 A.M.

1. Wastewater Facility Planning

8:30 a.m. - 11:30 a.m. Council Chambers

1:00 p.m. - 3:30 p.m. Site Visits at Treatment Plants (optional)

Documents:

[2021 07 23 WORKSHOP AGENDA \(DRAFT\).PDF](#)

2. Adjourn

If you require special accommodations, please contact the city manager's office at least 24 hours prior to the meeting at 641.673.9431.

Project Workshop Agenda (Draft)

**RE: Wastewater Facility Plan Update for Long Term Improvements
City of Oskaloosa, Iowa**

Date: July 23, 2021 – 8:30 AM

Location: City Hall, Oskaloosa, Iowa

FOX PN: 2070-21A.300

- 8:30 1. Introductions
- 8:35 2. Background
 - a. Notice of Violation from IDNR 9/29/14 – Required Plan of Action and Facility Plan
 - b. Plan of Action Submitted to IDNR 2015
 - c. Facility Plan Submitted to IDNR 2017
 - i. Granted 8-Yr Extension on Disinfection with Nutrient Removal in 10 Yrs
 - ii. Report Recommended Combined WWTF at SW site
 - d. Projects since 2017
 - e. Goal of Facility Plan Update
- 8:45 3. Basis of Evaluation
 - a. Population and Growth (see Attachment 1)
 - i. 2017 Report Predictions: 12,800 Persons in 2040 (0.4% per yr)
 - ii. 2021 Report Predictions: 12,800 Persons in 2047 (0.4% per yr)
 - b. Industry & Industrial Growth
 - c. Historical Flows and Loads (See Table 1)

Table 1. 10 Years Historical Flows

	Northeast WWTF ⁽¹⁾	Southwest WWTF ⁽²⁾
Average Dry Weather Flow (ADW)		
Average Wet Weather Flow (AWW)		
Maximum Wet Weather Flow (MWW)		

- d. NPDES Permit Design Flow/Effluent Limits (See Attachment 2)
- e. Facility Plan Design Flows and Loads (See Table 3)

Table 3. Design Flows (Draft for Discussion)

	Northeast WWTF ⁽¹⁾	Southwest WWTF ⁽²⁾
Average Dry Weather Flow (ADW)		
Average Wet Weather Flow (AWW)		
Maximum Wet Weather Flow (MWW)		

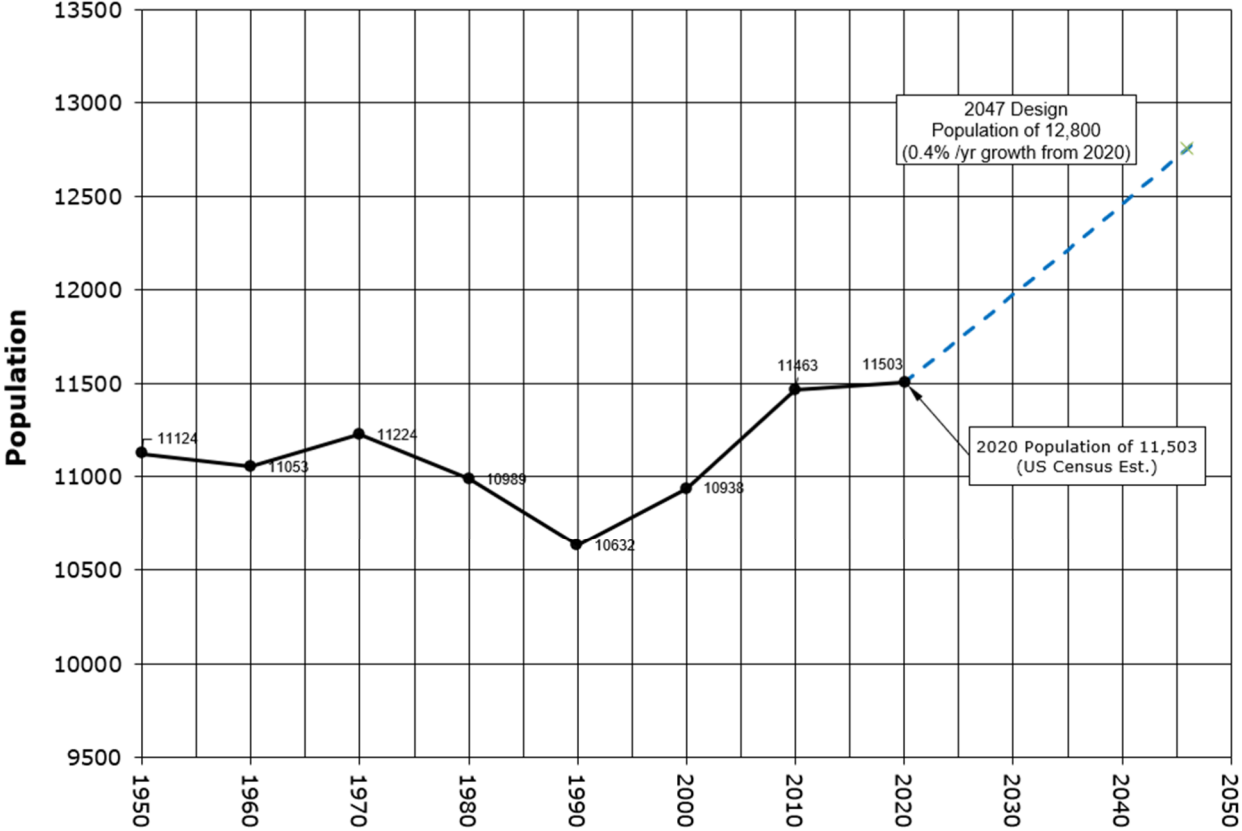
- f. Sampling Plan
 - i. Nutrients Sampling
 - ii. UV Sampling

- 9:30 4. Existing Treatment Facilities
 - a. NE WWTF
 - i. Plant Performance/History of Violations
 - ii. Operational issues
 - iii. Plant upgrades Since 2017
 - iv. Flood Issues?
 - b. SW WWTF
 - i. Plant Performance/History of Violations
 - ii. Operational issues
 - iii. Plant upgrades Since 2017
 - iv. Flood Issues?
- 10:00 5. Alternatives Development & Evaluation
 - a. NE Plant
 - i. Technologies
 - ii. Opportunities for Expansion/Land Acquisition?
 - b. SW Plant
 - i. Technologies
 - ii. Opportunities for Expansion/Land Acquisition?
 - c. New Force Main Routing/Easements
 - d. Alternative Discharge Locations?
 - e. Stormwater Equalization
- 11:00 6. Project Schedule
 - a. Review Proposed Schedule (See Attachment 3)
- 11:15 7. Other topics
 - a. Other WWTF Site Visits
- 11:30 8. Adjourn (Site Visits at 1 PM)

Project Workshop Attachments

ATTACHMENT 1 – FIGURE 1 – POPULATION CHART

Figure 1. Population Projections for Oskaloosa, Iowa



ATTACHMENT 2 – NPDES Permit Design Flows/Effluent Limits (Update)

	Northeast WWTF ⁽¹⁾	Southwest WWTF ⁽²⁾
Average Dry Weather Flow (ADW)	0.783 MGD	0.745 MGD
Average Wet Weather Flow (AWW)	1.661 MGD	2.250 MGD
Maximum Wet Weather Flow (4.024)	4.024 MGD	3.000 MGD
Design 5-Day BOD load	1,472 ppd	1,637 ppd
CBOD5		
7-Day Avg	40 mg/l (554 ppd)	40 mg/l (751 ppd)
30-Day Avg	25 mg/l (346 ppd)	25 mg/l (469 ppd)
TSS		
7-Day Avg	45 mg/l (623 ppd)	45 mg/l (844 ppd)
30-Day Avg	30 mg/l (416 ppd)	30 mg/l (563 ppd)
Ammonia-N		
Jan (Avg/Max)	5.2 / 15.2 mg/l	5.2 / 15.0 mg/l
Feb (Avg/Max)	5.8 / 14.2 mg/l	5.8 / 14.2 mg/l
Mar (Avg/Max)	4.5 / 14.7 mg/l	4.5 / 12.0 mg/l
April (Avg/Max)	2.1 / 15.7 mg/l	2.1 / 8.8 mg/l
May (Avg/Max)	1.8 / 11.1 mg/l	1.8 / 8.8 mg/l
June (Avg/Max)	1.3 / 6.6 mg/l	1.3 / 6.4 mg/l
July (Avg/Max)	1.1 / 4.5 mg/l	1.1 / 4.2 mg/l
August (Avg/Max)	1.0 / 5.0 mg/l	1.0 / 4.8 mg/l
September (Avg/Max)	1.5 / 6.1 mg/l	1.5 / 5.8 mg/l
October (Avg/Max)	2.8 / 11.1 mg/l	2.8 / 10.0 mg/l
November (Avg/Max)	3.4 / 14.7 mg/l	3.4 / 9.1 mg/l
December (Avg/Max)	4.0 / 16.0 mg/l	4.0 / 10.0 mg/l
Dissolved Oxygen		
Minimum	5.0 mg/l	5.0 mg/l
pH		
Daily Maximum	9.0	9.0
Minimum	6.5	6.5
E Coli (begins XX/XX/XX)		
3/15 – 11/15	630 org/100 ml geo mean	630 org/100 ml geo mean
Total Residual Chlorine		
7-Day Avg		0.5 mg/l
Minimum		0.5 mg/l
Total Copper (begins 11/01/20)		
30-Day Average	0.01687 mg/l	n/a
Daily Maximum	0.02690 mg/l	n/a

(1) Based on Construction Permit 97-61-S Issued XX/XX/XX

(1) Based on Construction Permit 94-42-S Issued XX/XX/XX

ATTACHMENT 3 – PROJECT SCHEDULE

Milestone – Task 301 – Facility Plan Update	Schedule
Project Workshop	July 2021
Draft Flows/Loads Memo	July 2021
Project Initiation Conference with IDNR	August 2021
Value Engineering	November 2021
Preliminary Report to City	December 2021
Draft Final Report to City	March 2022
Final Report to City	June 2022
Final Report to IDNR (<i>Submittal to IDNR Est. 12 Mos</i>)	July 2022
Environmental Clearance Approval Received	April 2023
IDNR Approves Facility Plan (<i>IDNR Approval Est. 9 Mos.</i>)	April 2023

Milestone – Task 302 – Value Engineering	Schedule
Value Engineering	November 2021

Milestone – Task 303 – Antidegradation Analysis	Schedule
Begin Antideg. Analysis	January 2022
Draft Antideg. Analysis to City	March 2022
30-Day Public Comment Period	April – May 2022
Final Antideg. Analysis to IDNR	May 2022
IDNR Approves Antideg. Analysis (<i>IDNR Approval Est. 30 days.</i>)	July 2022