



December 13, 2019

City of Indianola
Attn: Rick Graves, Superintendent
110 N. 1st Street, PO 299
Indianola, IA 50125

RE: Indianola Water Resource Recovery Facility
City of Indianola
DNR Project No. S2015-0386A
CWSRF No. CS1920927 01

Subject: Plans and Specifications Approval

Dear Mr. Graves:

The plans and specifications for the above referenced project are approved and Construction Permit Number 2020-0189-S is enclosed. Our review was primarily to determine compliance with minimum sanitary engineering requirements and did not cover items such as quality of material, structural soundness, electrical and mechanical design features. Approval of the plans and specifications does not in any way release the loan recipient from the responsibility that the project will result in operable facilities when construction is completed. A copy of the approved plans and specifications for the project should be kept in the municipal clerk's office for the purpose of official inspection.

The City has opted to utilize State Revolving Loan Funds (SRF) for financing the proposed project. Therefore, an environmental review (ER) is necessary to assess the environmental impacts of the project in accordance with procedures in 40 CFR Part 6, and is required for all loan recipients. A decision will be made by the department to determine if the project qualifies for a categorical exclusion (CX) or if a finding of no significant impact (FNSI) is required. The construction permit is approved based only on the technical review of the design plans and specifications. Any project changes resulting from the environmental review may require an amendment to the construction permit to retain eligibility for SRF funding. Construction of the project prior to the environmental review completion could jeopardize your SRF funding. Please contact Michael Sullivan, Environmental Review Staff, at 515-725-8304 or Michael.Sullivan@dnr.iowa.gov for questions about the ER status.

Any revisions made to these plans and specifications must be approved by this Department. Any deviations from approved plans or specifications affecting capacity, flow, operation of units, or point of discharge shall be approved in writing before such changes are made. We should receive **three** sets of all addenda at the time of issuance for approval prior to the project bid opening date. If any revision is made to these plans and specifications prior to the construction date on SRF funded projects, we should receive **three** sets of change orders for approval.

After the City of Indianola has opened and analyzed bids, please submit the attached Wastewater Engineering Construction Permit Permitting Process Manual Exhibit 13 entitled "SRF Bid Document Checklist" to:

Clean Water SRF Program
Iowa Department of Natural Resources

Indianola Water Resource Recovery Facility - Construction Permit Number 2020-0189S

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502 East 9th Street
Des Moines, IA 50319-0034

SRF loan payment requests for construction related costs cannot be processed until the checklist items are received.

Please feel free to contact me at 515-725-8422 or email Terry.Kirschenman@dnr.iowa.gov if you have any questions.

Sincerely,



Terry L. Kirschenman, P.E.
Project Manager
Wastewater Engineering Section

Enclosure: SRF Bid Document Checklist

c: James Rasmussen, HRGreen, 5525 Merle Hay Road, Suite 200, Johnston, Iowa 50131-1448
Ryan Waller, 110 N 1st Street, P.O. Box 299, Indianola, Iowa 50125
DNR FO #5 (Des Moines, Iowa)
DNR Sewage File 6-91-33-0-01
CWSRF No. CS1920927 01
Alyson Fleming, IFA

**STATE OF IOWA
DEPARTMENT OF NATURAL RESOURCES
HENRY A. WALLACE BUILDING
DES MOINES, IOWA 50319**

CONSTRUCTION PERMIT

City of Indianola
Attn: Rick Graves, Superintendent
110 N. 1st Street, PO 299
Indianola, IA 50125

PERMIT NO.: 2020-0189-S
FILE: City of Indianola - Sewage
RE: Indianola Water Resource Recovery
Facility
PROJECT NO: S2015-0386A

In accordance with the provisions of Section 455B.173.3 and 455B.174.4, Code of Iowa, and Rule 567--64.2(455B) or Rule 567--65.7(455B), or Rule 567--43.3(455B) of the Iowa Administrative Code, the Director of the Department of Natural Resources does hereby issue a permit for the construction of wastewater treatment improvements which include the following:

923 feet of 42 inch sanitary sewer; influent pumping station, firm pumping capacity of 18.9 mgd; two mechanical screens with clear spacings of ¼ inch, each with a capacity of 19 mgd; two 10 foot diameter vortex grit removal units; facilities for the addition of carbon to supplement the soluble degradable carbon provided by the plant influent; two activated sludge tanks for a total volume of 2.96 mg; facilities for the addition of ferric chloride at the oxidation ditch and equalization tank effluent weirs; three final settling tanks, each with diameters of 70 feet; return activated sludge with a maximum return sludge firm capacity of 6.0 mgd; UV disinfection unit operation including three banks in series providing a minimum dosage capacity of 35 (mW·s)/cm² under all critical flow conditions; one flow equalization tank (2mg); flow equalization return pump station, firm pumping capacity of 0.5 mgd (1.0 mgd with both pumps running); multiple units by AquaPrime or WWETCO sized to pass 10 mgd when all filters are in service; two aerobic digesters in series for a total volume of 1.4 mg; two rotary drum sludge thickeners (each with a rated capacity of 200 gpm and flexibility provided to pre-thicken sludge feed to the digesters); biosolids sludge storage tank with a capacity of 1.4 mg; emergency generator, 1000 KW; 290 feet of 30 inch outfall sewer; administrative/vehicle storage building; secondary treatment building; sitework; and associated appurtenances.

DESIGN FLOWS AND LOADINGS (Year 2040)

Design Flows (mgd)		Maximum 30 Day Design Loadings (lbs/day)	
ADW	2.3	BOD ₅	4,707
AWW	5.91	TSS	5,778
MSDWW*	8.23	TKN	852
MWW	9.1		
PHWW	14.41		

*Maximum Seven Day Wet Weather (MSDWW) flow is the daily average flow for the wettest (7) consecutive days.

ACTIVATED SLUDGE BIOLOGICAL TREATMENT (plus Supplemental Denitrification)

Influent flows will be treated by a single stage activated sludge system for combined carbonaceous oxidation and nitrification or equalized and returned to the treatment plant in a timely manner during off-peak periods. For enhanced nutrient control (providing a hydraulic retention time ranging from

6.3 to 2.4 hours at the ADW and AWW flow conditions, respectively), the zone for anoxic treatment is 0.6 mg. The zone for aerobic treatment is 2.36 mg. The instrumentation for process control includes dissolved oxygen and ORP probes. The total SRT is 20 days. The design MLSS concentration is 3,000 mg/L. To eliminate or prevent settling problems, the proposed WWTP layout has room for a fourth final settling tank.

EXCESS FLOW TREATMENT

Flows are routed to the excess flow treatment process when the capacity of the flow equalization tank is exceeded. Use of the excess flow treatment process is expected to be no more than 1 percent of the time (based on total number of days in any consecutive 365 day period). If the above usage exceeds 1 percent, the return pump station design capacity shall be reevaluated for adequacy for timely return of flows to the treatment plant.

FLOW MEASUREMENT

Location	Type	Flow Range (mgd)
Plant Influent	Two Magnetic Flow Meters	0 - 6.4 and 0 - 15.1
To Secondary Treatment	Parshall Flume	0 - 10.8
Flow Equalization Return Pump Station	Magnetic Flow Meter	0 - 1.4
From Final Settling Tanks	Magnetic Flow Meter	0 - 11.5
To Excess Flow Treatment	Two Magnetic Flow Meters	Each 0 - 5.7

WASTELOAD LIMITS (6/19/2018)

Parameters	Average (mg/l)	Maximum (mg/l)	Average (lbs/d)	Maximum (lbs/d)
CBOD ₅ *	25	40	1,232	1,971
TSS*	30	45	1,478	2,218
E. coli	126#/100 mL		March 15 th to November 15 th	

* 85% removal is required

Water Quality Based Permit Limits				
Ammonia – Nitrogen				
Months	Average (mg/l)	Maximum (mg/l)	Average (lbs/d)	Maximum (lbs/d)
January	6.3	15.3	223.0	751.5
February	7.2	14.4	257.8	702.9
March	3.8	14.8	135.6	726.7
April	2.8	15.8	99.4	776.3
May	3.2	15.3	113.5	751.2
June	2.4	14.6	85.5	714.3
July	1.8	17.7	65.6	729.5
August	1.7	16.4	62.3	690.1

September	1.9	16.6	69.0	815.4
October	2.9	15.8	101.7	776.3
November	4.3	14.8	151.8	726.2
December	4.5	16.1	161.8	789.2

CONDITIONS

Indianola’s application for a permit to construct including an excess flow treatment process is approved under the following conditions:

- a) The design for excess flow treatment shall include the flexibility to use the filters as a tertiary treatment device for filtration of the plant’s secondary effluent if required in the future. The plant’s hydraulic profile has been designed to allow gravity flow from the secondary clarifiers to the excess flow treatment units. The piping to convey flow for tertiary treatment will be added in the future as needed.
- b) The City of Indianola will submit an evaluation report to demonstrate the performance of the new technology design for the excess flow treatment system (if used) after the new WWTP has been placed into service and completion of two years of operation.
- c) The City will sample the excess flow treatment effluent for bacteria prior to mixing with secondary effluent when excess flow treatment is in use. Ultraviolet disinfection will be implemented for excess flow treatment effluent outside of disinfection season.
- d) A Capacity, Management, Operation and Maintenance (CMOM) plan will be submitted for Department evaluation no later than June 1, 2024. (City plans to implement the Annual Collection System Maintenance submitted on October 9, 2019.)

Construction of the project shall be initiated within one year of issuance of this permit or this permit is no longer valid. Within thirty days after completion of construction, the City of Indianola shall submit a certification by a licensed professional engineer that the project was completed in accordance with the approved project documents.

A complete operation and maintenance (O&M) manual for the wastewater treatment and conveyance system described in this construction permit shall be prepared prior to the initiation of operations. Within one year after the initiation of operations, one copy of the final O&M manual approved by HRGreen for Indianola’s use shall be forwarded by the City of Indianola to the IDNR Field Office #5 in Des Moines, Iowa.

The issuance of this permit in no way relieves the permittee of the responsibility for complying with any other local, state, and federal laws, ordinances, regulations or other requirements applicable to this facility.

Pursuant to Section 455B.174.4, Code of Iowa, you have the right to appeal any condition of this permit by filing with the Director of the Department of Natural Resources a notice of appeal and request for administrative hearing within 30 days of receipt of this permit.

Contact Terry L. Kirschenman at 515-725-8422 with any questions or comments.

12/13/2019

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For the Department of Natural Resources
Kayla Lyon, Director

By: 
ENVIRONMENTAL SERVICES DIVISION

Date: December 13, 2019

- c: Tom Atkinson, DNR Field Office #5 (Des Moines, Iowa)
James Rasmussen, HRGreen, 5525 Merle Hay Road, Suite 200, Johnston, Iowa 50131
Ryan Waller, 110 N 1st Street, P.O. Box 299, Indianola, Iowa 50125
DNR Sewage File 6-91-33-0-01
SRF File CS1920927 01
Alyson Fleming, IFA

Plan Distribution: [1] City; [1] Sewage File; [1] Consulting Engineer

SRF Bid Document Checklist



When bids are received and the Owner accepts a bid proposal, the Consulting Engineer prepares and submits to the SRF a packet of documents. Required documents are listed below. Please submit the completed checklist with the bid document packet. When all the information is complete, SRF issues to the Owner a letter of concurrence in award, which also explains the amount of bid that is eligible for SRF reimbursement.

Date: _____

From: _____

SRF Number: _____

The following documents are enclosed for review and approval prior to contract award:

Engineering Documents

Please note: If there have been any changes made to the DNR-approved plans and specifications, submittal of an as-bid set of plans and specifications is required. Where there have not been any changes made to the DNR-approved plans and specifications, project managers may request an as-bid set as needed.

- As-bid set of plans and specifications or statement by Consulting Engineer that no changes to the DNR-approved plans and specifications have been made
- Tabulation of bids
- Consulting Engineer's written recommendation of award
- Cost and Effectiveness Self-Certification (CWSRF Projects Only)

Contractor Documents

- Successful bid and/or proposal loan recipient chooses to accept
- Any addenda not previously submitted and bidder acknowledgment of all addenda
- Attachment 1: Certification of Non-Segregated Facilities Form
- Attachment 2: Certification Regarding Debarment and Suspension Form
- Attachment 3: Disadvantaged Business Enterprise Certification Form
- Attachment 4: DBE Program Subcontractor Performance Form
- Attachment 5: DBE Program Subcontractor Utilization Form
- Contract (if available)
- Bonds (if available)
- Notice to Proceed (if available)
- Davis-Bacon wage determination

Send packets to State Revolving Fund,
Iowa Department of Natural Resources, 502 E 9th St, Des Moines IA 50319-0034.