

REPORT OF COMPLIANCE EVALUATION INSPECTION
(CONSTRUCTION STORM WATER)

AT

Ioway Creek Restoration and Flood Mitigation-Construction

2000 feet each side of South Duff Avenue

Ames, Iowa 50010

Iowa NPDES General Permit: 38791-38424

BY

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7

ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION (ECAD)

WATER BRANCH / DRINKING WATER AND INSPECTIONS SECTION (WB/DWIS)

ON

FEBRUARY 9 AND 10, 2022

INTRODUCTION

At the request of the Water Branch (WB), Enforcement and Compliance Assurance Division (ECAD), a Compliance Evaluation Inspection (Construction Stormwater) was conducted on February 9 and 10, 2022, at the Ioway Creek Restoration and Flood Mitigation site located in Ames, Iowa. The inspection was conducted under the authority of Section 308 of the Clean Water Act, as amended. It was conducted in accordance with the U.S. Environmental Protection Agency (EPA) Region 7 Standard Operating Procedures for Compliance Inspections (ENST SOP No. 2332). This narrative report presents the findings of the inspection. All other documentation not included as an attachment to this report has been submitted directly to the Region 7 Records Center.

PARTICIPANTS

City of Ames, Iowa

- Jake Moore, Public Works Stormwater Specialist
- Tracy Peterson, Municipal Engineer
- Scott Shepherd, Senior Engineering Technician

Site Contractors

- Brad Schwiebert, General Superintendent Keller Excavating
- Dave Jensen, Iowa Earth Works
- Kyler Brekke, Foreman, Iowa Earth Works

U.S. Environmental Protection Agency (EPA), Region 7

- Naji J. Ahmad, Environmental Engineer, ECAD/WB/DWIS

PROCEDURES

I, Naji Ahmad, arrived at the Ioway Creek Restoration and Flood Mitigation project site at 10:35 A.M. on February 9, 2022. I met with Mr. Scott Shepherd. I introduced myself, presented my credentials, and I explained the purpose of the stormwater compliance evaluation inspection. Mr. Shepherd informed me that he is going to call Messrs. Jake Moore and Brad Schwiebert and inform them of my visit.

Approximately at 11:15AM, I met with Messrs. Moore and Schwiebert. I introduced myself, presented my credentials, and I explained the purpose of the stormwater compliance evaluation inspection. The inspection will evaluate the site's level of compliance with the requirements of the Iowa National Pollutant Discharge Elimination System (NPDES) General permit No. 2 (GP #2) number 38791-38424 (Attachment 2), which will expire on March 12, 2022. I also explained the procedures of the inspection. These included completing the Region 7 Construction Storm Water Worksheet (Attachment 1), completing the Receipt for Documents and Samples Form and the US EPA Confidentiality Notice, evaluating the Stormwater Pollution Prevention Plan (SWPPP) and self-monitoring and stormwater management practices, and conducting a facility walk-through with photographs (Attachment 7).

I started the inspection by discussing with Messrs. Moore and Schwiebert the requirements of the Iowa NPDES GP #2 and erosion controls. Mr. Moore provided me with a copy of the most recent site inspection report and several pages from the site plan.

Messrs. Moore and Schwiebert informed me that they both have important meetings to attend and requested if we can start the walkthrough in an hour or so. I agreed. Meanwhile, at the site, I started my brief review of the documents Mr. Moore provided.

Soon after, Mr. Moore escorted me on a visual inspection of the site. I visually inspected an active temporary stream crossing (SC #3) (DSCN 1068-DSCN1070) and an inactive temporary stream crossing (SC #1) (DSCN1073) west of Duff Avenue bridge (Bridge) and one active temporary stream crossing east of the bridge (SC #2) (DSCN1082). I also visually inspected wattles inadequately installed along the banks of the Ioway Creek.

At the end of the day, I discussed my preliminary observations of the site, and I informed Messrs. Moore and Schwiebert that I will return the next day to hold the formal exit meeting, complete the required inspection forms, and issue a Notice of Preliminary Findings (NOPF).

On February 10, 2022, I returned to the site, and I held a formal exit meeting with Ms. Tracy Peterson, Messrs. Moore, Shepherd, and Schwiebert, and Messrs. Dave Jensen and Kyler Brekke. I discussed my preliminary observations of the site. Mr. Moore sent me several emails that included site inspection records (Attachment 4), contractor(s)' SWPPP certification record (Attachment 5), Notice of Intent (NOI) and copy of the NPDES GP #2 (Attachment 2), and site plans and SWPPP (Attachment 3). I did not complete the Receipt for Documents and Samples Form. Although the City of Ames chose not to claim any confidential business information, they did not sign the Confidentiality Notice at the time on the inspection, but they sent it via email on February 23, 2022 (Attachment 10).

Finally, I issued a NOPF that included five findings (Attachment 6). I informed Mr. Moore that I would communicate to him findings that I may discover during my review of the SWPPP and site inspection records upon my return to the office.

On February 23, 2022, I received an email from Ms. Petersen (Attachment 11) that included the City's response to the February 10, 2022, NOPF.

SITE DESCRIPTION

The project consisted of clearing and grading 40 acres for creek restoration. The project is managed by the City of Ames but funded by the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA), to improve flood mitigation controls. The site is divided into four quadrants east and west of the South Duff Avenue bridge as shown in Figure 1 (Attachment 7). More description of the site can be found on the City of Ames website at the following link: <https://www.cityofames.org/government/departments-divisions-i-z/public-works/stormwater-program/draft-ioway-creek-flood-mitigation-project>. (Attachment 12).

FINDINGS AND OBSERVATIONS

1. The IDNR granted the City of Ames the authorization of a storm water discharge associated with construction activity under the National Pollutant Discharge Elimination System General Permit No. 2 number IA-38791-38424 on March 12, 2021, through March 12, 2022.
2. Overall, the site was active, and the site's sediment, erosion, and runoff controls were inadequately installed and poorly maintained, and appeared to be neglected for an extended period of time.
3. According to site inspection records, site activities as first phase started during the week of March 15, 2021. Such activities included stabilizing of construction entrance, cutting, piling, and removal of trees and brush. Reports also indicated "No controls can be installed until after trees are cut, moved out of the way and piled."
4. The SWPPP did not call for sediment controls while trees are being removed because no grading was being done. Site inspection reports, however, indicated that the site was torn up from equipment. Tree stacking was completed on May 3, 2021. Operators started seeding and hydro-mulching on May 3, 2021. On May 24, 2021, mulching was completed, and wattles were installed at crossing locations and approximately 200 feet on each side of the Bridge and the site is inactive.
5. Weekly site inspections and after rain event site inspections were conducted accordingly.
6. The City of Ames awarded the second phase of the project (removal of stacked trees and grading) to Keller Excavating on November 15, 2021.

7. The removal of stacked trees started on November 22, 2021. Site grading activities started on December 6, 2021. But no additional controlled were installed.
8. The Iowa Department of Natural Resources (IDNR) visited the site on December 22, 2021, which resulted in issuing a notice of violation (NOV) on December 29, 2021 (Attachment 9).
9. My observations and preliminary findings of the site were very similar, if not identical, to the those addressed by the IDNR in the NOV.
10. During my visual inspection of the site on February 9, 2022, I inspected an active temporary stream crossing SC #3 approximately 250 feet west of the Bridge. I also observed an in-stream-road approximately 20 feet wide and approximately 450 feet long starting approximately 300 feet west of the Bridge and ending approximately 50 feet east of the Bridge. The in-stream-road ran in the Stream under the Bridge along the south bank of the Stream (DSCN1044-1050, and DSCN1066, 1068-1070, and 1081).
11. During the inspection I observed two other temporary stream crossings. One was inactive (SC #1) and was located approximately 450 feet west (upstream) of SC #3. The other was active (SC #2) and was located approximately 730 feet east of the Bridge (DSCN1082-1084).
12. I pointed out to Mr. Moore that the temporary stream crossings CS #2 and CS #3 and the in-stream-road appeared to be constructed from dirt. I also pointed out because of the ongoing vehicular activities on the temporary stream crossings SC #3 and the in-stream-road, significant amount of sediment entered and were entering the waters of Ioway Creek (Stream) (DSCN1044, 1050, and DSCN1068-1070) as shown in DSCN1070 below.

DSCN1070, SC #3 temporary stream crossing covered with sediment



13. Upon my return to the office and further review of the site plans (Attachment 3), I noticed that Item 9.16 of the site plans requires the temporary stream crossing/access be constructed according to Iowa Department of Transportation (IDOT) 2547, except as specified within this specification.
14. IDOT Section 2547.01 describes temporary structures as any features not a part of the completed project that are constructed or installed to provide access to the project site including stream crossings, causeways, pads and temporary bridges or barges.
15. IDOT 2547.02 requires furnishing the fill materials but not obtain it from the stream unless specifically allowed elsewhere in the contract documents. Mr. Moore pointed out to me that the current stream crossings and the in-stream road are temporary structures and are constructed from a 12 to 18-inch layer of rocks to allow pathway for trucks to haul dirt from the site to a nearby farm. He added, hauling of dirt should be completed in three days. I informed him, based on my observation, trucks were continuously driving over temporary stream crossing SC #3 and the temporary in-stream-road, causing dirt/sediment to accumulate and completely cover the structures as shown in DSCN1069 below.

DSCN1069, Dirt truck crossing Ioway Creek over SC #3 stream crossing



Therefore, I issued Notice of Preliminary Findings Number 2 (NOPF #2) for the improper design and maintenance of the temporary stream crossing SC #3 and allowing the sediment to enter the Stream. NOPF #2 should also include the temporary in-stream-road and temporary stream crossing SC #2.

16. In addition to my NOPF #2, IDOT Section 2547.03.D. requires the operator to maintain the temporary structures to prevent unnecessary erosion and other non-point sources of pollution.
17. During my discussion with Mr. Moore, it was unclear when the temporary stream crossings SC #2 and SC #3 and the temporary in-stream-road were constructed. Mr. Moore indicated that there were two original temporary stream crossings east and west of the Bridge including SC #1. Because of the IDNR's findings on December 22, 2021, the operators removed the two crossings including SC #1 on December 27, 2021, and constructed SC #2 on the east side of the Bridge between the NE and SE quadrants which is when the grading activities were ongoing.
18. According to site inspection reports, construction of the temporary in-stream-road started on December 29, 2021.
19. IDOT Section 2547.03.A. allows the type of structure used, if any, to be at the contractor's discretion provided it complies with Article 1105.14. Unless indicated otherwise in the contract documents, the contracting authority will obtain approval for temporary stream crossings, constructed according to Standard Road Plan EW-401 or as shown in the contract documents, in the Section 404 permit. Should the contractor elect to access the waterway using different methods than provided for in the contract documents, the contractor shall be responsible to obtain a Section 404 permit for temporary stream crossings from the U.S. Army Corps of Engineers. Ms. Peterson indicated the City received all the required permits.
20. As mentioned above in item 15, according to inspection reports and Mr. Moore, SC #1 was removed. However, I pointed out to site personnel that the inactive temporary stream crossings SC #1 appeared to be abandoned for an extended period of time but not completely removed as shown in DSCN1073 below. In addition, IDOT Section 2547.03.E. requires the permittee to completely remove temporary structures and return affected areas to preconstruction conditions within 30 calendar days of no longer being needed. According to site inspection records (Attachment 4), the inactive temporary crossings SC #1 was constructed prior to May 24, 2021, and was removed on December 27, 2021, after the IDNR site visit on December 22, 2021. Therefore, the permittee did not comply with the requirements of IDOT Section 2547.03.E. as required by the SWPPP.
21. IDOT Section 2547.03.C. indicates that temporary structures should maintain normal downstream flows, do not restrict expected high flows, do not disrupt movement of aquatic life native to the stream or water body, and minimize the potential for flooding. Expected high flows are flows which the contractor expects to experience during the period of time the crossing is in place.
22. I observed one 12-inch pipe that ran beneath SC #3 (DSCN1071). Mr. Moore indicated that there are two 12-inch pipes beneath SC #3 but only one was visible. However, sediment was accumulating at the inlet of the 12-inch pipe. as shown in DSCN1071 below.
23. SC #2 east of the Bridge (DSCN1082) had two visible 12-inch pipes installed beneath it

(DSCN1083 and 1084) along the south bank of the Stream.

DSCN1073, SC #1, appeared submerged under the waters of the Stream



DSCN1071, Inlet of 12-inch pipe beneath Stream Crossing SC #3



24. I pointed to Mr. Moore that trucks were driving fast, and dirt was falling off them into the Stream. I also pointed out to him that there was a significant amount of sediment in the Stream and the water was significantly muddy and murky. Moreover, I mentioned that maintaining of the temporary crossing CS #3 and the temporary in-stream-road did not exist to prevent sediment from entering the Stream. Therefore, I issued a NOPF #1 for the significant accumulation of sediment in the Stream. The sediment extended approximately 380 feet starting at SC #3 250 feet west of the Bridge to approximately 50 feet east of the Bridge at the end of the temporary in-stream-road ramp exiting the Stream as shown in DSCN1066 below.

DSCN1066, Sediment extended approximately 380 feet downstream from SC #3



25. I issued NOPF #3 for the inadequate use and poor maintenance of sediment and erosion controls on site. The only method of sediment control on site was the use of wattles. Wattles were installed incorrectly either at the bottom of the Stream bank, on the bank itself, or at the top edge of the bank (see photos in Attachment 7 and DSCN1074 below). Overall, all wattles in place were ineffective. One exception is a small section of wattles at the far end of the east section of the project (SE and NE quadrant) installed at the top edge of the bank that appeared somewhat effective. Even though this small section appeared somewhat effective (DSCN1086 and 1087), there were issues. Some sections were not anchored all the way to the ground, and some sections had dirt on top of them from dirt falling off the trucks while hauling dirt off site and grading ground.
26. The SWPPP identified the installation of silt fence as the primary sediment control method. Site inspection reports during the second phase of the project indicated that silt fence was

scheduled to be installed by Green Tech on December 22 and 23, 2021 along the SE quadrant as soon as the grading is completed. Wattles, however, were installed in place of silt fence. Wattles were installed in the SE and NE quadrants in the end of December 2021, and in the NW and SW quadrants on January 3, 2022. There was no explanation in the SWPPP of why wattles were used in lieu of silt fence as required by the SWPPP. Wattles were also used during the first phase of the project as mentioned in item 4 above.

DSCN1072, Ineffective use of sediment controls throughout the site



27. Mr. Moore indicated that the contractor installed 8,632 feet of wattles during the second phase as a result of IDNR NOV.
28. During my discussion with site personnel about the improper use and lack of sediment controls. They kept referencing two reasons.
 - a. First, no work was done on the banks of the Stream and the banks were naturally eroded prior to the start of the project. However, based on my observation and the photos I took during my site walkthrough, there were clear evidence that the banks of the Stream were disturbed by removing trees and brush and construction activities as shown in DSCN1072 above. In addition, notes from the April 5, 2021, site inspection report clearly indicated that “Trees are having to be removed from the Creek. Some fell when they were cut.”
 - b. Second, site personnel kept on mentioning that the reason why the wattles were installed the way they are is because IDNR instructed them to install them at the bottom of the banks, but the contractors had difficulty installing them suitably because of the amount of brush and trees.

29. I informed site personnel that preventing and controlling sediment from entering the waters of the United States and installing erosion and sediment controls correctly should be the responsibility of whom the SWPPP identified. Based on the sound judgment of the site operators/inspectors, I added that structural controls and non-structural controls can be modified, added, or removed but such activities shall be documented. I also informed site personnel that the SWPPP is an active and an ongoing document.
30. During my preliminary finding discussion of the site, site personnel indicated that they only have three days to complete excavation and grading of the site. I informed them that meeting a deadline does not allow exemption of installing controls or allow polluting the Stream. In addition, when I was reviewing site inspection reports, I noticed that the February 7, 2022, report noted “need to continue with the grading as quickly as possible so that riprap can be placed to protect stream banks. Also need to install retaining wall to protect bank from erosion. Will need to seed/mulch after site is at grade and areas become inactive.”
31. During my discussion with site personnel regarding the requirement of the NPDES GP #2, I issued NOPF #4 because the SWPPP failed to clearly identify for each measure in the plan, the contractor(s) and/or subcontractor(s) that will implement the measure as required by Part IV.D.7.A of the NPDES GP #2.
32. I also issued NOPF #5 because not all contractors and subcontractors signed a copy of the certification statement in Part IV.D.7.B. of the NPDES GP #2 in accordance with Part VI.G.
33. Site inspection reports by Mr. Moore are well documented (Attachment 4). The SWPPP appeared adequate. However, the implementation of the SWPPP is not.

CONCLUSION

Site activities are fast paced which caused the site operators to focus on construction activities and neglecting to implement sediment and erosion controls which resulted in significant amount of sediment deposited into the Ioway Creek which is a designated Waters of the United States.

Site inspection reports by Mr. Moore are well documented (Attachment 4). The SWPPP appeared adequate. However, the implementation of the SWPPP is not adequate.

Site controls were definitely ineffective, and site operators appeared careless of preventing sediment from entering the Stream.

My site observations confirm to the observations made by Ms. Malia Schepers with IDNR on December 22, 2021, which resulted in an NOV. It also appears that site operators ignored the observations in the NOV issued on December 29, 2021, by the IDNR.

Naji J. Ahmad
Environmental Engineer WB/DWIS

Nicole Moran
Acting Chief, WB

ATTACHMENTS

1. Region 7 Industrial Storm Water Worksheet (Construction)
2. NPDES permit/ NOI
3. Site Plans/ SWPPP
4. Site inspections
5. Contractors and Subcontractors Certifications
6. NOPF
7. Site Photos and aerial photo
8. Photo Log
9. IDNR site inspection and NOV
10. CBI, and Receipt for records
11. City of Ames response to the NOPF
12. Project description on City website