

August 6, 2019

FINDING OF NO SIGNIFICANT IMPACT

TO ALL INTERESTED GOVERNMENTAL AGENCIES AND PUBLIC GROUPS

As required by state and federal rules for determining whether an Environmental Impact Statement is necessary, an environmental review has been performed on the proposed action below:

Project	City of Great Falls, Central Montana Agricultural and Technology Park (CMATP) Storm Water Improvements
Location	Cascade, Montana
Project Number	C305183
Total Cost	\$1,656,200

The City of Great Falls, through its 2016 CMATP Preliminary Storm Drain Design Report (PER), identified the need to make improvements to storm water infrastructure at the CMATP Industrial Site. The CMATP is a growing commercial and industrial area within the City of Great Falls. Existing storm water collection and transfer systems at the site are not adequately conveying or treating storm water as it leaves the site.

The City has determined that larger storm water collectors, energy dissipation device and discharge swale infrastructure improvements need to be made to ensure the area complies with the City of Great Falls MS4 Discharge Permit and best practices.

The proposed project consists of approximately 2,000 feet of steel reinforced poly pipe, inlet structures, a concrete energy dissipation structure and new shallow swale to ensure proper treatment and handling of the design storm event for the area.

The estimated project cost (including administration, engineering, and construction) is \$1,656,200. The city will fund this project costs through a loan in the amount of \$1,500,000 from the Water Pollution Control State Revolving Fund (WPCSRF) Program. The balance will be funded out of the City's storm water budget. The loan will be paid off with Tax Increment Financing from properties within the CMATP site. This project will have no financial impact on homeowners within the City.

Federal and State grant/loan programs will fund the project. Environmentally sensitive characteristics such as wetlands, floodplains, threatened or endangered species, and historical sites are not expected to be adversely impacted because of the proposed project. Public participation during the planning process demonstrated support for the selected alternative. No significant long-term environmental impacts were identified. An environmental assessment (EA), which describes the project and analyzes the impacts in more detail, is available for public scrutiny on the DEQ web site <http://deq.mt.gov/Public/ea> and at the following locations:

Department of Environmental Quality
1520 East Sixth Avenue
P.O. Box 200901
Helena, MT 59620-0901
tcampbell@mt.gov

City of Great Falls
2 Park Drive South
Great Falls, MT 59403

Comments on the EA may be submitted to the Department of Environmental Quality at the above address. After evaluating comments received, the department will revise the environmental assessment or determine if an environmental impact statement is necessary. If no substantive comments are received during the comment period, or if substantive comments are received and evaluated and the environmental impacts are still determined to be non-significant, the agency will make a final decision. No administrative action will be taken on the project for at least 30 calendar days after release of the Finding of No Significant Impact.

Sincerely,



Kevin B. Smith, PE
Engineering Bureau
Water Quality Division
Montana Department of Environmental Quality

GREAT FALLS, MONTANA
2019 – 2020 CITY OF GREAT FALLS, STORM WATER IMPROVEMENTS TIFF PROJECT

ENVIRONMENTAL ASSESSMENT

I. COVER SHEET

A. PROJECT IDENTIFICATION

Applicant: City of Great Falls
Address: 2 Park Drive South
Great Falls, MT 59403
Project Number: SRF Project # C305183

B. CONTACT PERSON

Name: Russell Brewer
Address: PO Box 5021
Great Falls, MT 59403
Telephone: (406) 771-0700

C. ABSTRACT

The City of Great Falls (City) has a storm water improvement project planned for construction in late 2019 and 2020 in the Central Montana Agricultural & Technology Park (CMATP) area north of Black Eagle. The CMATP is a developing industrial use area on the north end of Great Falls, Montana, east of US Highway 87.

The city is seeking State Revolving Fund (SRF) loan assistance to finance construction of this project. The work includes installation of new collector storm sewer piping, inlets and conveyance structures on the CMATP property; open drainage channels; a new energy dissipation structure; and construction of a new treatment swale and outfall in compliance with the City's Storm Water General Permit (Small MS-4 Permit) conditions.

Storm water improvements will prevent silt and sediment from entering drainages that eventually reach the Missouri River. The proposed project conforms with the 2010 Northeast Great Falls Storm Drainage Master Plan and the 2016 CMATP Preliminary Storm Drain Design Report (Report). Runoff patterns from roughly 1,000 acres were modeled to evaluate required storm water conveyance and treatment needs.

The estimated cost of the CMATP storm water improvement project is \$1,656,200. The City is proposing to borrow most of the needed capital (\$1,500,000) from the DEQ SRF program, with the balance funded by existing City of Great Falls Storm Drain Enterprise Fund account. Repayment of the loan will be through CMATP Tax Increment Funds collected by the City of Great Falls.

All construction will require a DEQ permit for Storm Water Discharge Associated with Construction Activity, including a Storm Water Pollution Prevention Plan, to ensure that best management practices are implemented to protect State waters from pollutants.

Environmentally sensitive characteristics such as wetlands, floodplains, threatened or endangered species and historical sites are not expected to be adversely impacted as a

result of the proposed project. Additional environmental impacts related to land use, water quality, air quality, public health, energy, noise, growth, and sludge disposal were also assessed. No significant long-term environmental impacts were identified.

Under the Montana Water Pollution Control State Revolving Fund Act, DEQ may loan money to municipalities for construction of public storm water systems. The DEQ, Technical and Financial Assistance Bureau, has prepared this Environmental Assessment to satisfy the requirements of the Montana Environmental Policy Act (MEPA) and the National Environmental Policy Act (NEPA).

D. COMMENT PERIOD

Thirty (30) calendar days

II. PURPOSE OF AND NEED FOR ACTION

The drainage basin at the CMATP site is primarily agricultural land sloping to the southeast. Industrial and commercial development exists in the central portion of the drainage basin. Existing storm water management infrastructure includes culverts, natural drainage ditches and storm water detention ponds on the Malteurope, ADF International, Cargill and Great Bear Lot 10 properties. Storm water is conveyed to the stock pond east of the drainage basin through an eroded drainage channel. The stock pond discharges to a vegetated channel that drains to the Missouri River at a location approximately 2 miles southeast of the stock pond.

Primary drivers for the project are past flooding in low lying areas and the need to better control storm runoff in this industrial park area. While there are some existing storm drains in the CMATP, they are undersized for the needs of the growing area. There is significant evidence of erosion along the current drainage channel looking east from the culvert crossing at Black Eagle Road (Figure 1). The storm water is eventually collected in a stock pond east of the park and discharges to an open channel through cultivated land which bends south toward the Missouri River. As the CMATP continues to develop, the amount of storm water runoff will increase, posing a risk to property and to the natural drainage features. This project will be designed to reduce that risk.

TD&H Engineering (Engineer) completed a Final Storm Drain Report (Report) in February 2019 for the CMATP drainage basin. This report evaluated alternatives and considered impacts associated with the proposed project. The report determined that runoff from the CMATP area is resulting in sediments being carried toward the Missouri River. Further development of the CMATP will worsen these conditions unless a storm water improvements project is employed to correct and control storm water runoff at the site. The City is currently operating under a General Permit (MS4) issued by the Montana DEQ on November 30, 2016 to improve storm water management within the City thereby improving water quality.

Implementation of Best Management Practices (BMPs) consistent with the provisions of the Storm Water Management Program (SWMP) and the requirements in this General MS4 Permit comply with the requirement of reducing pollutants to the maximum extent practicable (MEP). Discharges of storm water containing pollutants associated with Small MS4s covered under this General Permit will be controlled through the development, implementation, and enforcement of a SWMP designed to reduce the discharge of pollutants from the permitted Small MS4 to the MEP, to satisfy the appropriate water

quality requirements of the Montana Water Quality Act (MWQA).

III. ALTERNATIVES CONSIDERED

A. NO ACTION

The no action alternative was considered within the report against implementation of a storm water management project at the CMATP, with consideration of various pipe material, energy dissipation and treatment options. The CMATP area is a growing commercial and industrial park area of Great Falls and development of properties continues to increase the volume of storm water that runs off the property. During storm events there is already some ponding and erosion that occurs due to development. Existing storm water drains are undersized for the sheet flow and ponding that now occurs. Ponding and erosion increase as more of the property in the CMATP is developed and paved or covered. No action would result in an increased sediment load leaving the property and potentially silting in the downgradient stock pond or reaching the Missouri River outfall. The "no action" alternative was not considered further since it would result in noncompliance with the MS4 Permit and city goals.

Figure 1 Erosion occurring east of Black Eagle Road within sight of the Malt Plant due to storm water runoff from the CMATP.



B. PIPING ALTERNATIVES

P1 Reinforced Concrete Pipe (RCP) Alternative

For the CMATP storm water improvements project reinforced concrete pipe (RCP) storm drains as collector/carrier piping were evaluated as a viable alternative and will be further considered.

P2 Steel Reinforced Polyethylene Pipe (SRPE) Alternative

Steel Reinforced Polyethylene Pipe (SRPE) comes in large sizes suitable as an alternative for consideration as collector/carry piping. SRPE is less susceptible to the corrosive effects of the area soils than other pipe materials. The option of using SRPE is viable and will be further considered.

C. ENERGY DISSIPATION OPTIONS

E1 Aprons and Armoring

Lined aprons and channels can be designed to transition flow into a low-velocity, subcritical flow pattern. Options include precast armoring blocks, riprap, gabion basket structures and various concrete channel structures with block baffles. These structures are suitable for the scale of this project and were selected.

E2 Vegetation and Geotextiles

Vegetation can be an effective channel lining material once established. It can provide a relatively high roughness to reduce flow rates when the underlying soils are coarse. Geotextile products can also provide effective root stabilization. The CMATP area has fine grained clay-based soils that are not supportive of holding a vegetative cover. For this reason vegetation and geotextiles are not suitable options for the CMATP and were not further considered.

E3 Drop Structures and Stilling Basins

Drop structures and stilling basins are effective methods of energy dissipation and velocity control. These structures promote lower flow velocities with decreased slope and consist of a pool where flow can transition to a subcritical regime. These structures can be constructed of cast-in-place and precast concrete, gabions or a mix of these approaches. While these structures are effective, they are not suitable to the very flat topography of the CMATP site. For this reason, they were not further considered.

E4 Pipe Manifold Dispersion

Pipe manifold dispersion structures are generally used to eliminate point source discharges. Because of the fine-grained soils in the area, these types of structures were determined to be at risk of filling with sediment. For this reason, they were not further considered.

D. TREATMENT OPTIONS

Multiple treatment alternatives presented in the Montana Post-Construction Storm Water BMP Design Guidance Manual were screened and determined to be inappropriate based on the drainage basin size, maintenance requirements and the soil conditions. Alternatives clearly considered non-viable are bioretention, permeable pavement, infiltration basin, wet detention basin and proprietary treatment devices. Those non-viable alternatives discussed in the report are listed here:

- Bioretention
- Permeable pavement

- Dispersion
- Infiltration basin
- Wet detention basin
- Proprietary treatment devices
- Biofiltration swale

Only two treatment alternatives, settling swales and detention basins were considered and are discussed below:

T1 Settling Swale

A settling swale consists of a small triangular channel that conveys the storm water design flow at a low velocity, preferably less than 1 foot per second and not more than 2 feet per second. The low design velocity and subcritical flow regime allows the suspended solids to settle. A triangular open channel provides a concentrated low point for small flows and is a viable alternative for the CMATP storm water improvements project.

T2 Extended Detention Basin

Extended detention basins are often used to hold design storm events and allow for slow release of well settled flow from a quiescent pool. An extended detention basin meeting the standards contained in the Montana Post-Construction Storm Water BMP Design Guidance Manual sized to hold the design storm would need to be approximately 385 by 120 feet in area. The only location for a pond of this size requires securing additional easement area and possibly re-routing a natural gas main that runs adjacent to this location. For these reasons this alternative was not further considered.

IV. COST COMPARISON - PRESENT WORTH ANALYSIS

Comparison of the cost effectiveness of engineering alternatives is generally based on a present worth analysis, which considers the capital cost, salvage value and long-term operation and maintenance costs of each alternative. The present worth analysis is a means of comparing alternatives in present day dollars and can be used to determine the most cost-effective alternative. An alternative with low initial capital cost may not be the most cost-efficient project if high monthly operation and maintenance costs occur over the life of the alternative.

The screening of alternatives determined that aprons and armoring will be used for energy dissipation and a settling swale will be used to provide storm water treatment. Therefore only the two piping alternatives will be further evaluated. O&M costs and salvage values were determined to be inconsequential and therefore not presented in the financial analysis. As a result, the present worth cost is equal to the capital cost.

The cost of the aprons, armoring and settling swale are included in the two alternative cost totals.

Cost Comparison of Piping Alternatives	
	Present Worth Cost
Reinforced Concrete Pipe	\$1,924,000
Steel Reinforced Poly Pipe	\$1,656,000

The use of steel reinforced poly pipe was determined to be the most affordable and most durable alternative for the project.

V. BASIS OF SELECTION OF PREFERRED ALTERNATIVE

Selection of the preferred alternative was based on cost and CMATP area soil conditions, since right-of-way, easement and constructability considerations were determined to result in the same cost using either RCP or SRPE pipe.

The City has determined from the Report to install a storm water collection upgrade using Steel Reinforced Polyethylene piping sized to carry a 5-year, 2-hour duration design storm event. The layout of this new collection and treatment system is shown in Figure 3 at the end of this document. The preferred methods of energy dissipation and treatment selected are a Type VI Impact Basin (concrete structure with energy baffle and bar screen), riprap apron and settling swale.

The Report states that a future parallel storm drain collector can be added as the development at the CMATP expands and increased runoff needs to be collected and treated.

The City plans to borrow \$1,500,000 from the State Revolving Fund. The balance will be funded out of the Tax Increment Financing (TIF) funds collected by City of Great Falls from property owners within the CMATP. The city proposes to fund the project using a low interest loan from the Water Pollution Control State Revolving Fund (WPCSRF) program. The city will borrow from the WPCSRF loan program with a 20-year term at an interest rate of 2.5%. Construction is expected to begin October 2019 and may be completed in the summer of 2020.

The proposed project will not result in a rate increase for City residents as it will be funded via the TIF funds collected from the CMATP properties only. Therefore, the CMATP storm water improvement project is not expected to impose a substantial economic hardship on household income.

VI. AFFECTED ENVIRONMENT

A. PLANNING AREA AND MAPS

The City of Great Falls is located in Cascade County, Montana and is generally near the intersection of US Highway 87 and Interstate 15 adjacent to the Missouri River (See Figure 2).

The CMATP is a commercial/industrial area located north of Black Eagle and east of US Highway 87 on the northern edge of the City (see Figure 2).

B. NATURAL FEATURES

The City of Great Falls is located along the Missouri River corridor east of the Rocky Mountain Front on what is termed the Northern Great Plains area. The city lies at the southern reach of the Laurentide ice sheet, a vast glacial sheet of ice which covered much of North America during the last glacial period. Approximately 1.5 million years ago, the Missouri River was blocked by the Laurentide ice sheet, forming Glacial Lake Great Falls. When the ice sheet retreated, Glacial Lake Great Falls emptied catastrophically in an

outburst flood, resulting in the scouring of the current course for the Missouri River flowing east of the city. The city is situated on a fall line of unconformity in the Great Falls Tectonic Zone as well as atop the Kootenai Formation, which is mostly sandstone laid down by rivers, glaciers and lakes of the past.

Average annual precipitation in Great Falls is 14.75 inches. The wettest months are typically May and June and the driest months are usually January and February. Great Falls has a cold semi-arid climate with average winter nighttime temperatures of 20.8°F and fairly high summertime temperatures exceeding 90°F. The city sits at an elevation of between 3,200 to 3,400 feet above sea level.

Depth to groundwater in the CMATP area is generally greater than 100 feet based from recorded well logs. This approximate groundwater depths make it unlikely that dewatering will be required during construction. If necessary, permits will be secured within these locations to ensure proper handling and disposal of groundwater if encountered.

A geotechnical investigation was performed by TD&H Engineering in 2018. Soils within the CMATP storm drainage alignment are surficial clay of moderate to high plasticity overlaying weathered shale bedrock throughout the alignment. The underlying shale has a high sulfate content and acidic conditions according to the geotechnical report. This acid soil condition was an additional determining factor in selecting poly piping over concrete pipe due to the susceptibility of concrete to degrade in these soil types.

VII. ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

A. DIRECT AND INDIRECT ENVIRONMENTAL IMPACTS

1. Land Use/Prime Farmland – All work will occur on land previously disturbed, mostly adjacent to streets within the CMATP site and ditches that were previously disturbed to install the existing storm drain system. There are a couple portions of the project alignment that will include securing easements across private property. The proposed improvements will not impact prime farmland or land use in general.
2. Floodplains and Wetlands – Improvements to the storm water system will be outside the 100-year floodplain. Clearing of riparian vegetation will be minimized as much as possible. The National Wetlands Inventory shows no wetlands near the project site.
3. Cultural Resources and Historical Sites – No impacts to cultural resources are anticipated. The proposed improvements should not impact historic or cultural resources since all proposed improvements will be completed within the existing disturbed areas. The State Historic Preservation Office (SHPO) reviewed the proposed project. A summary of their comments are provided in Section X of this report.
4. Fish and Wildlife – Animal life will not be significantly affected by the proposed project. The project will not affect any critical wildlife habitats, nor will any known endangered species be affected. The Montana Department of Fish, Wildlife, and Parks and U.S. Fish and Wildlife Services were notified of this project and asked to reply with any concerns. The U.S. Fish and Wildlife Service reviewed the proposed project and determined that the

project would have no effect on threatened and endangered species. See Section X: Agencies Consulted of this report for a summary of their comments.

5. Water Quality – The proposed storm water conveyance structures will be designed to prevent flooding in low-lying areas. The storm water outlet structure will enter a settling swale prior to discharge, which will reduce sediment in the downgradient drainage ditch and ultimately the Missouri River. The City storm water program is covered under a DEQ administered MS4 Permit, which requires use of best management practices to reduce pollutant loads to State Waters. All improvements being proposed must be in compliance with the MS4 Permit.
6. Air Quality – Short-term negative impacts on air quality are expected to occur during construction from heavy equipment in the form of dust and exhaust fumes. Proper construction practices will minimize this problem. Project specifications will require dust control.
7. Public Health – Public health will not be negatively affected by the proposed project. The new storm drain outfall pipe will provide additional capacity and resolve storm water backing up onto streets and low-lying areas.
8. Energy – A direct increase in energy consumption will not occur due to any of the recommended storm water improvements. The consumption of energy resources directly associated with construction of the recommended improvements is unavoidable, but will be a short-term commitment.
9. Noise – Short-term impacts from excessive noise levels may occur during the construction activities. The construction period will be limited to normal daytime hours to avoid early morning or late evening construction disturbances. No long-term impacts from noise should occur.
10. Environmental Justice – Environmental Justice Executive Order 12898: The proposed project will not result in disproportionately high or adverse human health or environmental effects on minority or low income populations. The storm water service rate will be the same for all property owners in the CMATP service area. No disproportionate effects among any portion of the community would be expected.
11. Growth – Growth may occur within the CMATP project area because there are several undeveloped lots adjacent to the proposed storm water alignment. The proposed improvements to the storm water improvements will be a positive feature for the area and City.
12. Cumulative Effects – No significant secondary and/or cumulative impacts are anticipated with the proposed improvements. Secondary impacts linked to housing, commercial development, solid waste, transportation, utilities, air quality, water utilization, and possible loss of agricultural and rural lands will not occur.

13. Wild and Scenic River Act – The proposed project will not impact any rivers designated as wild and scenic by Congress or the Secretary of the Interior.

B. UNAVOIDABLE ADVERSE IMPACTS

Short-term construction related impacts (i.e., noise, dust, traffic disruption, etc.) will occur, but should be minimized through proper construction management. Energy consumption during construction cannot be avoided.

VIII. PUBLIC PARTICIPATION

Public participation for this project included the City Commission opening its' July 2, 2018 meeting where the City staff presented the project and allowed for public input. This resulted in a single individual advocating for use of Tax Increment Financing to be used to help fund this work. There has been no negative public feedback associated with the project to date.

IX. AGENCY ACTION, APPLICABLE REGULATIONS AND PERMITTING AUTHORITIES

All proposed improvements will be designed to meet City of Great Falls and state standards and will be constructed using standard construction methods. Best management practices will be implemented to minimize or eliminate pollutants during construction. No additional permits will be required from the State Revolving Fund (SRF) section of DEQ for this project after the approval of the submitted plans and specifications. However, coverage under the storm water general discharge permit and groundwater dewatering discharge permit, are required from the DEQ Water Protection Bureau prior to the beginning of construction. The following permits may be required and will be obtained if necessary: Floodplain Development Permit from the Flathead county floodplain administrator for work in the floodplain, 124 Permit from the Department of Fish, Wildlife and Parks, Nationwide General Permit from the U.S. Corps of Engineers, and 318 Authorization from the Department of Environment Quality for any work that occurs in the Missouri River (jurisdictional wetlands and navigable waters).

X. REFERENCE DOCUMENTS

The following documents have been utilized in the environmental review of this project and are considered to be part of the project file:

1. Final Storm Drain Report, completed for the city by TD&H Engineering in 2017.
2. General Permit (Small MS4 Permit), issued 2016 by Montana Department of Environmental Quality.
3. City of Great Falls, Storm Drain Design Manual, June 1990.

XI. AGENCIES CONSULTED

The following agencies have been contacted in regard to the proposed construction of this project:

1. The U.S. Fish and Wildlife Service reviewed the proposed project and determined that the project could have effects on migratory birds (including eagles) and recommend to the maximum extent practicable, project construction should be scheduled so as not to disrupt nesting raptors or other migratory birds during the

breeding season. A recommendation of a 0.5 mile buffer zone between occupied nests and construction activities during the breeding season was suggested.

2. The Montana Historical Society's State Historic Preservation Office (SHPO) reviewed the proposed project. They concluded that there is a low likelihood that cultural properties will be impacted by the proposed project, and that a cultural resource inventory is unwarranted at this time. However, they recommended that if structures over 50-years of age should be subject to disturbance, or should cultural materials be inadvertently discovered during the project, SHPO must be contacted and the site investigated.
3. The U.S. Department of the Army Corps of Engineers (USCOE) reviewed the proposed project. They responded that it appears that there will be at least temporary impacts to waters of the United States. They further stated that if placement of dredged or fill material in any jurisdictional areas would be performed, a USCOE authorization must first be secured.
4. The Montana Department of Environmental Quality (DEQ) will be asked for authorization for Short Term Water Quality Standard for Turbidity Related to Construction Activity (318 authorization) which establishes criteria to minimize construction related discharges of sediment and requires implementation of several best management practices to minimize impacts at the three Missouri River outfall locations.
5. The Montana Department of Fish, Wildlife and Parks (FWP) will review the DEQ 318 authorization and to issue a 124 Permit, relative to the Montana Stream Protection Act, for the outfall to the Missouri River. The outfall work must conform to any conditions associated with a 318 authorization and 124 Permit issued by FWP.
6. The Department of Natural Resources and Conservation indicated that the city may need to secure a floodplain permit from the local Cascade County floodplain coordinator prior to work proposed within the mapped floodplain along the Middle Basin sites.

XII. RECOMMENDATION FOR FURTHER ENVIRONMENTAL ANALYSIS

EIS More Detailed EA No Further Analysis

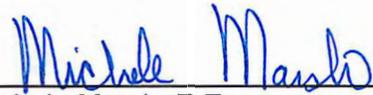
Rationale for Recommendation: Through this EA, DEQ has verified that none of the adverse impacts of the proposed City of Great Falls storm water improvement project are significant. Therefore, an environmental impact statement is not required. The environmental review was conducted in accordance with the Administrative Rules of Montana (ARM) 17.4.607, 17.4.608, 17.4.609, and 17.4.610. The EA is the appropriate level of analysis because none of the adverse effects of the impacts are significant.

EA Prepared by:


Terry Campbell, P.E.


Date

EA Reviewed by:


Michele Marsh, P.E.

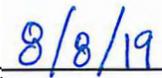
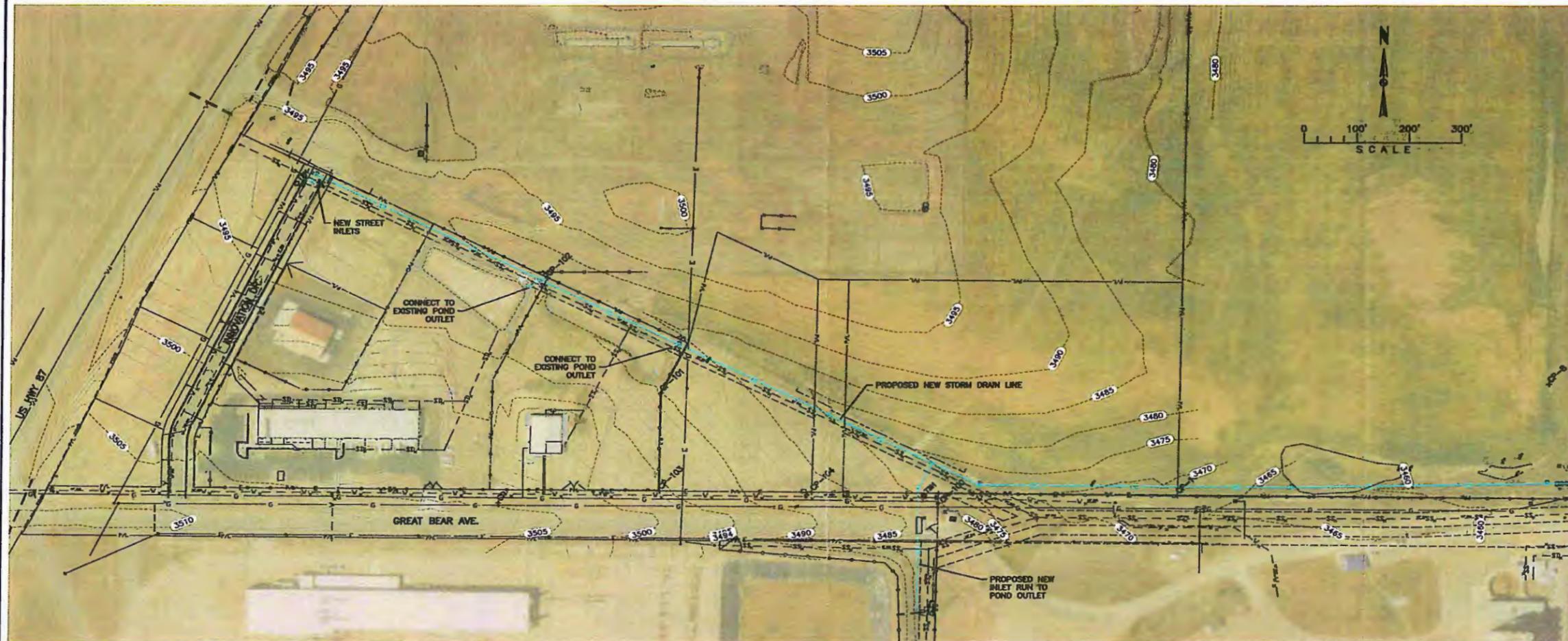

Date



Figure 2 – Project Location



NOT FOR CONSTRUCTION

REV	DATE	REVISION



DRAWN BY: CJS
 DESIGNED BY: CEJ
 QUALITY CHECK:
 DATE: 07.09.11
 JOB NO. 13-203
 FIELDBOOK

CMATP TIF PHASE III STORM DRAIN
 O.F. 1658.1
 GREAT FALLS, MONTANA
 PROJECT OVERVIEW AND VICINITY MAP

13-203 SRF EXHIBITS.DWG
SHEET A

Figure 3 – Proposed Storm Water Improvements (1 of 2 sheets)

PRELIMINARY FOR REVIEW

