PLANNING & BUILDING DEPARTMENT
510 Railway Street, PO Box 158, Whitefish, MT 59937
(406) 863-2410 Fax (406) 863-2409

October 28, 2013

Applied Water Consulting
c/o Brad Bennett
P.O. Box 7667
Kalispell, MT 59904

RE: East 2nd Street Culvert Replacement Floodplain Permit

This is a notice that a Floodplain Development Permit has now been issued under the requirements of Whitefish City Code, Title 14, Flood Control, for the East 2nd Street culvert replacement on Cow Creek. The review of the HEC-RAS model provided by Robert Peccia & Associates was completed by Marc Pitman, PE CFM, the DNRC Water Resources Division Regional Manager. His comments were submitted in approval of the request.

The approved Floodplain Development Permit is attached. Please see the five conditions of approval. Specifically, condition #3 which was added based on a recommendation by the DNRC Regional Manager.

Let me know if you have any additional questions.

Sincerely,

Bailey Minnich
Planner II

cc. File
John Wilson, Public Works

CITY OF WHITEFISH PLANNING DEPARTMENT
STAFF REPORT
FLOODPLAIN DEVELOPMENT PERMIT #FDP 13-04
EAST SECOND STREET CULVERT REPLACEMENT
OCTOBER 28, 2013

PROJECT DESCRIPTION:

This is a permit request by Applied Water Consulting, on behalf of the City of Whitefish for a floodplain development permit to replace three (3) culverts underneath East Second Street at Cow Creek, place utilities underground and extend the existing bike/pedestrian trail. The culverts will be replaced with one (1) box culvert. A temporary bypass culvert will be used during installation to continue the flow of water in Cow Creek. The project is within the East Second Street right-of-way.

BACKGROUND:

A. Owner/Applicant:

City of Whitefish
Public Works Department
c/o John Wilson
P.O. Box 158
Whitefish, MT 59937
(406) 863-2456

Technical Representative:

Applied Water Consulting
c/o Brad Bennett
P.O. Box 7667
Kalispell, MT 59904
(406) 756-2550

B. Location:

The project is located within the 100-year floodplain delineated on FIRM panel 30029C1090G as Zone A. The project area is within the East Second Street right-of-way and can be described as East Second Street at Cow Creek within Section 32, Township 31 North, Range 21 West, P.M.M., in Flathead County, Montana.

C. Existing Land Use:

The property is in an existing City minor arterial right of way.

D. Adjacent Land Uses:

Properties in the neighborhood are generally developed as residential.

E. Permits Received:

1. **124 Permit** – #124-MISC-017-2013, MT Fish, Wildlife & Parks
2. **318 Permit** – May be required per 124 permit; applicant must contact MDEQ

REVIEW AND FINDINGS OF FACT

The proposal by Applied Water Consulting, on behalf of the City of Whitefish is to permit replacement of three (3) culverts underneath East Second Street at Cow Creek, place utilities underground and extend the existing bike/pedestrian trail. The culverts will be replaced with one (1) box culvert, approximately 72 feet long, 10 feet wide, and 4 feet tall. A temporary bypass culvert will be used during installation to continue the flow of water in Cow Creek. All work proposed is located within the East Second Street right-of-way. The full section of Cow Creek will be impacted by the proposed project as the active channel is approximately five to nine feet wide. This application has been reviewed pursuant to the City of Whitefish Flood Control Regulations, Title 14. The HEC-RAS models provided for hydrology and hydraulic modeling were reviewed by DNRC Regional Engineer Marc Pitman, PE/CFM.

Pursuant to the City of Whitefish Flood Control Regulations sections 14.4.3.B and 14.5.3.B.2, the proposed stream crossing meets the requirements of these regulations under permitted uses.

Additional factors to be considered per Section 14.4.2.J of the regulations:

1. **The danger to life and property due to increased flood heights, increased floodwater velocities, backwater or alternations in the pattern of flood flow caused by the obstruction or encroachment.**

   The proposed project is to replace the existing three culverts located along Cow Creek. Two of the culverts are currently located above the established grade of the stream, and are not conveying any water. The project will replace the three culverts with one new box culvert which will be installed at stream grade. The new culvert will be 72 feet long, 10 feet wide, and 4 feet tall. The culvert will improve water flow to prevent backups of Cow Creek. No impact to life or property is anticipated from the proposed project. Best Management Practices will be utilized during construction to prevent erosion. There may be some turbidity introduced during the culvert installation and removal.

2. **The danger that the obstruction or encroachment may be swept onto other lands or downstream to the injury of others.**

   The proposed project to replace the three existing culverts with one box culvert is not anticipated to be swept onto other land or downstream. The new culvert will be installed at the existing grade of the stream, and will be approximately 72 feet long, 10 feet wide, and 4 feet tall. Compared to the existing culverts which are located above the established grad of the stream, the new culvert is anticipated to adequately convey the existing water in the stream as well as the 100 year flood event. Additionally, the project has been reviewed by the DNRC Regional Engineer for compliance with the Whitefish Floodplain Regulations.

3. **The ability of the proposed water supply and/or sanitation system to prevent disease, contamination, and unsanitary conditions.**

   No impacts are anticipated to water supply and sanitation systems.

4. **The susceptibility of the proposed facility and its contents to flood damage and the effects of such damage on the individual owner.**

   The proposed culvert does not appear to be susceptible to flood damage. The new box culvert will be placed at the current stream channel depth to adequately covey the waters associated with Cow Creek. The current three culverts which are not conveying any water will be removed. The project has been review and approved by the DNRC Regional Engineer who commented that the proposal appears to meet the requirements of the Whitefish Floodplain Regulations.

5. **The construction or alteration of the obstructions or encroachment in such manner as to lessen the flooding danger.**

   The proposed project will remove three existing culverts which are located above the existing stream grade and are therefore not conveying water from Cow Creek. The box culvert proposed to be installed in their place will be constructed at the current stream grade location which will greatly assist the flow of water under the roadway. This will also lessen the flooding danger as water will now be able to reach the culvert and travel under the road.

6. **The importance of the services provided by the facility to the community.**

   The project is located within the right-of-way of East 2nd Street, and provides a crossing over Cow Creek. There are no other locations for a crossing as Cow Creek must pass under 2nd Street. Therefore, the replacement of the existing culverts is an important project to the community and the existing road.

7. **The requirement of the facility for a waterfront location.**

   The location of the existing culverts is within the Cow Creek stream channel. As the proposed project is to replace the existing culverts, there are no alternatives other than the waterfront location. The proposed work must be performed within the floodplain.

8. **The availability of alternative locations not subject to flooding for the proposed use.**

   The proposal is to replace three existing culverts with a new single box culvert; therefore, there are no alternative sites available.

9. **The compatibility of the proposed use with existing development and anticipated development in the foreseeable future.**

   The proposed project and culvert usage is compatible with existing and anticipated development. The use of the property is not subject to change as it is a right-of-way for 2nd Street.

10. The relationship of the proposed use to the comprehensive plan and floodplain management program for the area.

This proposal is generally in compliance with the Whitefish Growth Policy. The proposal is also in conformance with the Floodplain Regulations.

11. The safety of access to property in times of flooding for ordinary and emergency services.

The majority of the project is in a public right of way. The replacement of the existing culverts will aid emergency services access in times of flooding as the new culvert will adequately convey a flood event from Cow Creek.

12. The request for fill for a residential or commercial building is not followed by a request for a basement for the same residential or commercial building, which would put the finished floor of the building below the BFE, which would negate the purpose of the fill.

The proposed project does not include a request for fill placement for a residential or commercial building. The proposal is to replace existing culverts located under an existing road within the road right-of-way. No fill material is proposed.

13. The proposed use shall comply with the existing zoning designation.

The location of the proposed culvert replacement is within the right-of-way for E. 2nd Street. The zoning in the surrounding area is WR-1 'One-Family Residential District.' The proposed culvert replacement is not considered a use under the zoning regulations, and would not be regulated within the zoning designation. Therefore, this criterion is not applicable to the proposed project.

14. For projects involving bank stabilization, channelization, levees, floodwalls, and/or diversions, off property impacts including increased flood peaks, flood stage, flood velocity, erosion and sedimentation, should be considered and found to be nonexistent, neutral, or able to be mitigated.

The proposed project is to replace three existing culverts with one new box culvert. Two of the existing culverts are located above the stream grade and are not conveying any water. The proposed project has been reviewed by the DNRC Regional Engineer for compliance and comments submitted indicate the proposed culvert will reduce the Base Flood Elevation as modeled for existing conditions upstream of the crossing at Second Street. The DNRC also recommends the City of Whitefish submit a Letter of Map Revision (LOMR) to FEMA upon completion of the project with a HEC-RAS model that includes as built dimensions of the new culvert.

15. Such other factors are in harmony with the purposes of these regulations, the Montana Floodplain and Floodway Management Act and the National Flood Insurance Program.

This proposal is in compliance with all applicable rules and regulations. Montana Department of Natural Resources reviewed the hydraulic modeling and approved of the proposed project.

DECISION AND CONDITIONS OF APPROVAL

The proposed project complies with the requirements of the City of Whitefish Title 14 Flood Control Regulations. Based on the forgoing findings, Floodplain Development Permit #WFDP-13-04 to replace existing culverts within the 100-year floodplain of Cow Creek is hereby granted subject to the following conditions:

1. The work completed under the authorization of the floodplain development permit shall adhere to standards and methods detailed within the permit application.

2. Any other applicable permits must be obtained (including but not limited to the 124 permit from the Montana Fish, Wildlife, and Parks and the 318 permit from Montana Department of Environmental Quality).

3. Upon completion of the project, the applicant shall submit a Letter of Map Revision (LOMR) to FEMA with a HEC-RAS model that includes as-built dimensions for the new culvert.

4. Upon completion of the project, the applicant shall submit documentation to the City of Whitefish Planning Department stating that the project has been completed in substantial compliance with the floodplain development permit.

5. This floodplain development permit is valid for one year from the date of issuance. An extension must be requested by the applicant if the project cannot be completed within the one-year timeframe.

Bailey Minnich, Floodplain Administrator
City of Whitefish Planning Department

10/29/2013
Date