

April 25, 2017

Honorable Mayor and Councilmembers
City of Ham Lake
15544 Central Avenue NE
Ham Lake, Minnesota 55304

Re: 165th Avenue, Fraizer Street, 167th Avenue Upgrade Feasibility

Dear Mayor and Council Members.

The City Council directed the preparation of this at the May 16th, 2016 City Council meeting. The purpose of this report is to determine the project necessity, feasibility, and cost effectiveness. The following report reflects the April 3, 2017 City Council decision that a maximum of \$16,000 would be assessed to benefitting parcels.

Existing Conditions:

The streets of 167th Avenue west of Lexington Avenue to the cul-de-sac, Fraizer Street from 167th Avenue to 165th Avenue, and 165th Avenue to the cul-de-sac (shown in Figure 1) were first constructed when paved streets were not required. The 2-lot subdivision, Hanson Shady Acres, received final plat approval circa 1976. This subdivision consists of two properties west of Lexington Avenue and south of 167th Avenue: 4502 167th Avenue and 4546 167th Avenue. The remaining properties went unplatted and were split via metes and bounds. All but three of the lots are zoned single family residential (R-1). The three exceptions are rural single family residential (R-A), shown in Figure 2.

Grading, tree clearing, ditch crossings, culverts, and Class 5 surfacing aggregate were previously provided by the developer of Hanson Shady Acres and the remaining properties. The total lengths of the unimproved portions of the streets are as follows:

167 th Avenue	2,100 feet
Fraizer Street	1,000 feet
165 th Avenue	<u>450 feet</u>
Total	3,550 feet

165th Avenue, Fraizer Street, and 167th Avenue were originally constructed with 4 inches of Class 5 aggregate base with an average width of 24 feet. The City placed another 4 inches of Class 5 aggregate in 1996. In 2006, the City placed bituminous millings in an attempt to control the dust and stabilize the road surface but significant deterioration has occurred. The 2006 millings were reclaimed and converted into gravel June 2016.

The existing drainage is to low areas, private ditches, and wetlands. Runoff flows by way of shallow roadside ditches to wetlands on the north side of 167th Avenue, to wetlands on the east and west side of Fraizer Street, and to wetlands south of 165th Avenue. The northern wetland includes a ditch located outside of the right-of-way. The ditch eventually drains to County Ditch 44. There is an undersized collapsed culvert under Fraizer Street. In addition, the side slopes adjacent to Fraizer Street exceed the maximum 4:1 side slopes. Runoff from the four properties north of 165th Avenue drains to the south wetland through a collapsed culvert.

Previous Concerns:

In the summer of 1995, not less than 35% of the residents signed a petition to improve the street by bituminous surfacing. Residents expressed concerns at the December 4, 1995 Council Meeting, below is a summary:

- Marshall Franzman, 4330 167th Avenue, stated there are many sinkholes and any new pavement would break up in 4 to 5 years.
- Sophie Dill, 4352 167th Avenue, had been a resident for 17 years and stated that when the road was originally constructed, tree stumps and large amounts of debris were buried under the roadbed.
- Lorinda Yale, 4340 167th Avenue, also stated the area used to be an old dumping ground and debris had been buried under the roadbed during original construction of the road.
- Mayor Nelson stated that some of the residents who had supported the petition were no longer in favor of the project and the City will not be proceeding with the project.

The residents that initially signed the petition were in favor of blacktop to control dust and felt that the assessment will eventually need to be paid. If the residents' claims of large amounts of buried debris are true, there will be additional excavation, removal, and granular borrow costs.

Right-of-Way and Easements:

There are 66 feet of public road and utility easement granted by deeds (circa 1976) and plat of Hanson Shady Acres on 167th Avenue from Lexington Avenue to cul-de-sac west of Fraizer Street; Fraizer Street between 167th Avenue and 165th Avenue; 165th Avenue from Fraizer Street to Durant Street. Independent Estates (May 1985) and Hanson Shady Acres (September 1992) dedicated 10 feet of drainage and utility easements along all lot lines. Independent Estates also dedicated 33-feet of road and utility easements along the northerly edge of the plat. Additional easements may need to be acquired for the Fraizer Street culvert replacement and any drainage issues found once an extensive survey is completed.

Soils:

Soils were evaluated using the Anoka County Soils Map and from soil samples collected from hand soil borings. The hand borings were used only to determine muck location and depth, not to locate buried debris. The soils adjacent to the streets consist of Isanti Fine Sandy Loam, Lino Loamy Fine Sand, Markey Muck, Rifle Mucky Peat, and Zimmerman Fine Sand (Figure 3).

Zimmerman Fine Sand is suitable for road subbase. This fine sand is generally well drained and covers higher ground. Isanti Fine Sandy Loam and Lino Loamy Fine Sand have high water tables and can be poorly drained but should be suitable for use as a road bed in a low-volume residential situation.

Markey Muck and Rifle Mucky Peat are not suitable for use as a road bed due to its high water content and typically require excavation and fill. Hand soil borings were taken around the muck areas and show muck raging from of 3.5 feet to 6.5 feet below the surface.

Wetlands:

Wetlands exist along 167th Avenue, Fraizer Street, and 165th Avenue as shown in Figure 4. The wetland to the north of 167th Avenue is a wet meadow. The wetlands adjacent to Fraizer Street and 165th Avenue are seasonally flooded basins. There will be filling of wetland during the replacement of the Fraizer Street culvert to achieve 4:1 side slopes. There may also be minor wetland impacts south of 165th Avenue during the replacement of the culvert. Any wetland replacement will be through BWSR wetland banking.

Proposed Improvements:

The proposed improvement is a rural section which would be 24 feet wide with 2-foot shoulders on each side and the current shallow roadside ditches. See the attached typical street section in Figure 6 for further detail. There will be localized concrete curb and gutter, starting at high points, to address drainage issues and to work with existing topography, shown in the proposed improvements map (Figure 5).

To cut costs, it is proposed that the existing Class 5 aggregate be salvaged. Existing gravel driveways will be replaced with bituminous up to the right-of-way line and existing bituminous and concrete driveways will be replaced to the extent they are removed, which are estimated to be approximately 5 to 15-feet from the edge of the road. The two cul-de-sacs will be upgraded to a typical paved residential cul-de-sac having a 42-foot radius. This will place the cul-de-sac on 165th Avenue farther to the north and close to high ground. A retaining wall is proposed to deal with the abrupt change in topography.

Soil correction will be required where muck was found on 167th Avenue and Fraizer Street. This will be done through muck excavation and filling with suitable granular borrow. During the muck excavation of Fraizer Street, the existing collapsed cross-culvert will be removed and replaced with a 30-inch concrete pipe, grading and filling the side slopes to no steeper than 4:1.

It will also be necessary to remove and replace the 15-inch driveway culvert adjacent to 165th Avenue and the 18-inch cross-culvert under 165th Avenue with concrete pipe. These culverts are damaged and are not providing proper drainage.

Cost Estimate:

The estimated project cost is \$418,227.04, which is based on anticipated construction costs plus 22% engineering, legal, fiscal and administrative costs. The project lies within subwatershed 9

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which has Drainage Funds in the amount of \$20,573.75. These funds will be used to replace the three cross-culverts. The estimated cost to replace the culverts is \$20,485.00. The City will cover any additional storm sewer replacement costs exceeding the Drainage Funds.

The final design and survey have not been completed and therefore unknown work is not included in the estimate. A breakdown of costs can be found in Table 1. It should be noted that a significant portion of the project cost is due to the excavation and filling of the muck, and if additional soil correction is needed, the total cost of the project would increase.

Anticipated Revenues:

The City policy is to assess benefitted parcels. At the April 3rd, 2017 City Council meeting, it was decided that a maximum of \$16,000 would be assessed to benefitting parcels. There are 24 potentially assessable lots, which includes one deferred lot. A proposed assessment map is shown in Figure 7. The parcel that has frontage on Lexington Avenue (16710 Lexington Ave.) is not being assessed as it does not front on 167th Avenue, but does qualify for a deferred assessment (Figure 8). It is proposed that the City pay for storm sewer improvements with Future Drainage Funds and to cover all costs beyond the assessments.

Estimated Construction Cost	\$418,227.04
23 Active Assessments (\$16,000.00/Each)	\$368,000.00 (88.0%)
1 Deferred Assessment	\$ 16,000.00 (3.8%)
Drainage Funds	\$ 20,485.00 (4.9%)
City Cost	\$ 13,742.04 (3.3%)

Sincerely,

RFC Engineering, Inc.



Tom Collins, P.E.
Ham Lake City Engineer

attachments

cc: 1402.136 File
cc: 1702 Correspondence