Feasibility Report

PROJECT 16-1

State Aid Street Reconstruction

Evergreen Blvd from 85th Ave to Cul-de-sac
(SAP 114-117-004)
93rd Ave from Evergreen Blvd to Coon Rapids Blvd
(SAP 114-118-004)
90th Ave from Evergreen Blvd to Springbrook Dr
(SAP 114-131-001)

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Mark C. Hansen, PE, Asst. City Engineer
License No. 43920 Date: 11/10/15

COON RAPIDS Minnesota

Prepared By:
CITY OF COON RAPIDS
ENGINEERING
DIVISION

PROJECT HISTORY

In 1994, the City began a street reconstruction program to replace its aging street infrastructure. Since that time, more than 105 miles of the City's 220-mile street system have been reconstructed. In 1997, the City implemented a policy for assessing a portion of the cost of street reconstruction to properties benefitting from the improvements.

Based on discussions with the City Council at the April 14, 2015 work session, as well as the regular session held on June 16, 2015, the 2016 program was developed and approved. Subsequently, at the recommendation of City staff, Council ordered preparation of a feasibility report on August 18, 2015.

This feasibility report is for the reconstruction of Municipal State Aid (MSA) roadways located in the City of Coon Rapids. The project area includes the reconstruction of approximately 1.74 miles of MSA streets.

PROJECT AREA CHARACTERISTICS / EXISTING CONDITIONS

The overall project area is illustrated on the **Project Location Map**. Streets proposed for reconstruction included in the scope of this report are as follows:

Reconstruction Segments

1. Evergreen Boulevard from 85th Avenue to Cul-de-sac
2. 90th Avenue from Evergreen Boulevard to Springbrook Drive
3. 93rd Avenue from Evergreen Boulevard to Coon Rapids Boulevard

Land uses within the project area include the following:

- City Property (1 parcel)
- Commercial (2 parcels)
- Industrial (47 parcels)

MSA streets proposed for rehabilitation as described were originally constructed between 1970 and 1971, and therefore are between 44 and 45 years old. Due to their age, these streets have experienced excessive fatigue cracking, and are at the point where routine maintenance (crack sealing and seal coating) is no longer cost-effective. There are also numerous areas where the existing concrete curb and gutter is cracked, broken, or settled, resulting in a reduced capacity to effectively convey drainage.

The existing water distribution system in the project area consists of a combination of 6, 8, 10, and 12-inch ductile and cast iron pipes that were constructed between 1970 and 1971. An overall review of the watermain break history indicates that sixteen (16) breaks have occurred since the installation of the cast iron pipes. Most of these breaks, however, took place in the segments that were lined in 2013, but several have occurred outside of those areas. Due to the overall high watermain break history, and the need to provide reliable water service to area businesses, the watermain pipe is proposed to be replaced within the street right-of-way of Evergreen Boulevard from 85th Avenue to 93rd Avenue, as well as along 90th Avenue from Evergreen Boulevard to Springbrook Drive. The

remaining segments within the project area have been previously lined. A temporary potable water conveyance system will be installed before watermain replacement work begins, which will allow water users continued access to City water during the watermain replacement process. Replacement of the watermain pipes will also require the replacement of numerous valves and hydrants along the project corridor.

The sanitary sewer system in the project area consists of 8, 10, and 12-inch ductile iron and PVC pipe, and is considered to be in good condition. Closed circuit televising of the sanitary sewer system within the proposed project area has been completed, and revealed that the sewer pipe is sound with no significant sagging of the lines, standing water, or joint separation issues. There are no sanitary sewer point repairs proposed on this project. The manholes are precast concrete structures, and have been found to be generally in good condition with no sign of groundwater seeping into the system.

City staff are aware of several drainage capacity issues along Evergreen Boulevard, and intend to install additional storm sewer catch basin structures and pipe as necessary to minimize localized flooding.

PROPOSED IMPROVEMENTS

Streets within the project area are proposed to be rehabilitated by reconstruction methods. Results of a geotechnical analysis performed by Braun Intertec and dated September 29, 2015 recommended full-depth reclamation as the method of rehabilitation for all street segments within the project area. Staff had originally anticipated rehabilitating Evergreen Boulevard from 93rd Avenue to the north Cul-de-sac, and 93rd Avenue from Evergreen Boulevard to Coon Rapids Boulevard via mill and overlay methods. Pavement coring results within the Braun report differed from results provided by WSB and Associates in June of 2015, and showed a greater amount of stripping in the bottom layers of pavement structure. The Braun results showed that a shorter life span and additional maintenance should be expected from a mill and overlay method of rehabilitation. Therefore, staff has recommended full-depth reclamation throughout the project corridor.

The roadway reconstruction process begins by reclaiming the existing bituminous pavement and gravel base, re-compacting the reclaimed material, disposing of excess reclaimed material, and resurfacing the streets with new bituminous pavement. There may be areas where subgrade corrections are needed, due to the presence of soft or unsuitable soils. In addition, removal and replacement of existing concrete curb and gutter that is in poor condition (cracked, broken, settled) or that does not drain properly, is proposed. In the event that existing curb returns are being removed, new pedestrian curb ramps will be installed with existing sidewalk (as needed) to comply with the Americans with Disabilities Act (ADA) requirements.

Sanitary sewer manholes, storm sewer manholes and catch basins will be repaired, replaced or adjusted as needed before the street is repaved. Extension of storm sewer pipe will be considered during project design and construction, and as existing conditions allow.

The watermain pipe, fire hydrants, and valves will be replaced along Evergreen Boulevard from 85th

Avenue to 93rd Avenue, as well as along 90th Avenue from Evergreen Boulevard to Springbrook Drive. Watermain along Evergreen Boulevard (from 93rd Avenue to north cul-de-sac) and 93rd Avenue was lined and/or replaced as part of a previous City project that took place in 2013. These lined watermain facilities are in good condition, and will not require replacement for many years.

Boulevard trees will be trimmed this winter to clear the streets of low hanging branches. All street name signs and other street signs will be replaced with new signs and posts. All new street name signs will have larger lettering consistent with the current City logo.

MAINTENANCE IMPACT

The streets proposed for reconstruction have deteriorated extensively, and will require increased maintenance if they are not repaved soon. Seal coating is no longer effective for the streets, due to the excessive cracking that has occurred. It becomes cost-prohibitive to maintain street surfaces that are as badly cracked as exists on these streets. Once an MSA street is reconstructed, the first crack sealing and seal coating application should be performed within five years or less to preserve the new bituminous pavement. Subsequent crack sealing and seal coating applications will then occur every seven years. With periodic maintenance, the street surfacing should not require replacement for at least 34 years. New watermain valve boxes, new storm water inlet castings and structures, and new adjusting rings on sanitary sewer manholes will be installed as needed with the project, preserving the existing utility infrastructure and reducing the need for future maintenance.

ESTIMATED COST/FINANCING

The total estimated cost for the project is $6,787,392.20. The estimated cost to replace the watermain is $1,910,172.00. Tree trimming costs are approximately $10,000.00, and will be paid for from Street Reconstruction funds. Storm sewer repair costs are estimated to be $253,488.96, and sanitary sewer repair costs are estimated to be $65,000.00. The estimated prices as listed in the preceding paragraphs include Engineering time for design, testing, and construction inspection.

The City would finance the project by bonding until Municipal State Aid funding is received, and also assess a portion of the cost to the adjacent benefiting properties. Project costs that are not MSA eligible would be financed from a combination of Street Reconstruction (797), Storm Water Utility (640), Water System Maintenance (601), and Sanitary Sewer Maintenance (620) funds.
Project funding for the project is summarized below:

Municipal State Aid (MSA) Fund	$3,631,899.40
Street Reconstruction Fund	$10,000.00
Storm Water Utility Fund	$253,488.96
Water System Maintenance Fund	$1,910,172.00
Sanitary Sewer Maintenance Fund	$65,000.00
Proposed Amount to be Assessed	$916,831.84
Total Estimated Project Cost =	$6,787,392.20

PROJECT TIMETABLE

November 17, 2015	– Council accepts feasibility report, orders a public hearing, and sets an assessment hearing date
December 2, 2015	– Staff conducts 1st neighborhood meeting for property owners
January 20, 2016	– Staff conducts 2nd neighborhood meeting for property owners
February 16, 2016	– Council holds the public hearing and assessment hearing and orders the project; Council approves plans and specs and orders ad for bids
April 19, 2016	– Council adopts the assessments and awards contract for construction
May-October 2016	– Project Construction

Note: Assessments are proposed to be adopted by Council on April 19th rather than on February 16th when the assessment hearing is held. This will allow a for a construction contract to be awarded, signifying the Council's intent to proceed with project construction, and to incur costs for the project prior to assessments being levied. Upon adoption of the assessments, property owners would have 30 days to pay off the assessment without incurring interest charges.

PROPOSED ASSESSMENTS

In 1997, assessment rates were established as part of the City's policy for financing street reconstruction. Under the policy, rates are to be updated annually, using the Construction Cost Index (CCI). Assessment rates for 2016 have been increased by 1.8% from the 2015 rates, reflecting an increase in the CCI.

The reconstruction rates to be used for 2016 are as follows:

Single-family lot	$1,835.45 per lot (CCI factor results in increase of $32.45 from the 2015 rate)
Residential (higher density including duplex units)	$22.94 per front-foot or average width
Office and Commercial	$45.88 per front-foot or average width (double residential rate per policy)
Industrial	$59.64 per front-foot or average width (30% higher than commercial rate per policy)

Assessments would be spread over a 10-year period with an estimated interest rate of 3.06%, and the first installment would be due in 2017. Properties, such as condos, with smaller amount assessments would be assessed over three years with an estimated interest rate of 1.77%. Property owners would have the option of paying their entire assessment within 30 days following Council adoption of the assessments, and would incur no interest charges. Payments made after the 30-day period would also require payment of any interest charges accrued up to the time payment is made. If the assessment were paid as part of the property tax statement, the annual cost for a single-family home would be approximately $200 per year for the 10-year period.

A copy of the proposed assessment roll is available in the Assistant City Engineer's office, as well as in the City Clerk's office.

PROJECT FEASIBILITY

The proposed project is necessary for the City to keep the streets in the project area in a safe and drivable condition. The project is cost effective and is technically feasible to construct. An independent appraiser was retained in the fall of 2014 to review the "benefit" to the properties for work similar to what is proposed with this project. The appraiser's report indicated that the "...assessments planned by the City do appear to be fair and reasonable, similar to, and possibly less, than what other area cities are doing, and are not higher than the benefit resulting from the renewed streets, in the form of the property value increase." Therefore, the project is also economically feasible.

CONCLUSIONS AND RECOMMENDATION

As part of its 2016 MSA Street Reconstruction Program, the City is proposing to rehabilitate approximately 7.5 miles of Municipal State Aid streets using reconstruction methods. A majority of the project cost would be paid by the City's Municipal State Aid fund. The City would bond for the initial project costs, and pay back the bond principal and interest with future allotments from the City's State Aid share of the Minnesota State gas tax revenue.

In addition, a portion of the project cost would be recovered through assessments to benefiting property owners, in accordance with the Street Reconstruction Policy approved by Council in 2006 and updated in 2015. Property owners will be notified of the project and of the proposed assessment rates by letter in November 2015. The first informational meeting for this project will be held on December 2, 2015, where staff will hear concerns, listen to suggestions, and answer questions that property owners have regarding the project. A second informational meeting will be held on January 20, 2016. Council will be requested to schedule both the public hearing and assessment hearing for February 16, 2016.

It is recommended that Council accept this feasibility report, order a public hearing on the project, and order a hearing on the proposed assessments by adopting the resolutions included with this report.