



Legislation Text

File #: Res. 2017-096, **Version:** 1

City Council Meeting Date: October 17, 2017

To: Mayor and City Council
City Administrator

From: Sean Simonson, Engineering Manager
David E. Bennett, PE - Public Works Director/City Engineer

Subject:

Consider Accepting Feasibility Report and Call for Improvement Hearing - 2018 Division Street and Seventh Street Reconstruction, Washington Street Mill and Overlay, and Miscellaneous Parking Lot Rehabilitations Project.

Action Requested:

The Northfield City Council approves the Resolution accepting the feasibility report and calling for the improvement hearing for the 2018 Division Street and Seventh Street Reconstruction, Washington Street Mill and Overlay, and Miscellaneous Parking Lot Rehabilitations Project.
(STRT2018-A37).

Summary Report:

The feasibility report has been completed and finds that the 2018 Division Street and Seventh Street Reconstruction, Washington Street Mill and Overlay, and Miscellaneous Parking Lot Rehabilitations Project is necessary, feasible and cost effective. See attachments for the project process (Attachment 4) and location map. (Attachment 5). A link to the Feasibility Report is below:

<http://ci.northfield.mn.us/DocumentCenter/View/5866>

(See attachment for clickable link)

The next step in moving this project forward is for the City Council to receive the feasibility report and call for a public hearing on the improvements.

On August 22, 2017 the City Council passed Council Resolution 2017-066 which ordered the preparation of a feasibility report for the project. The proposed scope of the Improvement Project includes the following streets and parking lots:

- Division Street from Eighth Street to Sixth Street
- Seventh Street from Water Street to Washington Street
- Washington Street from Woodley Street to Second Street
- City Hall Parking Lot
- Washington Street and Fifth Street Parking Lot
- Washington Street Parking Lot 1(Third Street Lot)

- Washington Street Parking Lot 2(Grand Event Center Lot)

The City of Northfield completed a Complete Streets review of the project corridor. Staff retained Toole Design Group, a national leader in multi-modal and complete streets design, to help facilitate the process. The process includes conducting a series of Neighborhood and Community meetings with stakeholders in order to gather information for final design concepts for the project area. City Council passed Motion 2017-108 at the September 19, 2017 City Council meeting approving concepts (Attachment 2) for the 2018 Division Street and Seventh Street Reconstruction and the Washington Street Mill and Overlay Project. This feasibility report was developed based on the City Council approved design concepts.

Existing Conditions/Proposed Improvements - Division Street and Seventh Street Reconstruction

The properties adjacent to the project area consist primarily of fully developed commercial areas, with a few single-family residential lots. Sidewalks exist in portions of the project, but areas of missing sidewalk do exist.

Division Street is classified as a Minor Arterial, and Seventh Street to the east as an Urban Collector and Seventh Street to the west as a Local Roadway as noted in the 2008 City of Northfield Comprehensive Transportation Plan. Division Street is dedicated as a Municipal State Aid (MSA) roadway that carries an Annual Daily Traffic (AADT) load of 6,200 vehicles per day.

Existing Streets

A Geotechnical Review was completed on the project corridor to aid in the development of the feasibility report. All the streets in the project area consist of 2” - 5” of existing bituminous pavement with concrete curb and gutter. Additionally, an existing 8” concrete pavement section was found under the existing bituminous pavement on Division Street. The widths vary from 40-feet on the Division Street Section to 62-feet for the Seventh Street Section. Division Street has a combination of angle and parallel parking along the corridor. Seventh Street is angle parking on both sides. All streets are aged and exhibit wear and distress to different degrees. The pavement is generally in fair to poor condition with significant transverse and longitudinal cracking, alligator cracking, potholes, and rutting. Some street segments have significant settlements, which allow water to pond, infiltrate and weaken the subgrade. This has led to frost heaving, and additional transverse cracking during freeze-thaw cycles.

Sidewalks are located on the entire project corridor except for a missing section on the west half of Seventh Street.

Proposed Street Improvements

Division Street

The concept for Division Street includes a 22-foot wide bituminous pavement that is flanked with concrete curb and gutter. The corridor will have angled and parallel on-street parking bays with some bays designed to drain into the adjoining stormwater BMPs either through an opening in the curb or through the storm sewer system. The parking bays will have concrete pavement, which will contrast with the bituminous pavement, thus creating a traffic-calming effect. The sidewalk and boulevard area is proposed to have 6-foot wide concrete sidewalk, with boulevard trees placed between the sidewalk and parking bays. The boulevard areas from Sixth Street to Seventh Street are proposed to have decorative concrete or porous pavers placed at key locations for water quality. The pavers will be similar to the existing downtown streetscape. Grass boulevard areas are proposed closer to Eighth Street to help blend the commercial areas with the residential areas of located south on Division Street.

The concept for the intersection of Division Street and 7th Street includes a raised intersection. The proposed pavement will be concrete pavement with the proposed crosswalks being a high visibility ladder style crosswalk that has white bars on a black background.

The proposed roadway section will be designed to the City of Northfield's standards for a Municipal State Aid and local roadway, which will be a 10-ton design. The pavement will vary from a bituminous pavement within the travel lanes to concrete pavement within the parking bays and for the raised intersection. The bituminous sections are proposed to be 6-inches of bituminous pavement over 12-inches of aggregate base. The concrete section within the parking bays and raised intersection are proposed to be 7.5-inches concrete over 8-inches of aggregate base. All street improvements include updating any of the pedestrian ramps to meet current Americans with Disabilities Act (ADA) requirements.

Seventh Street

The concept for Seventh Street will also include a 22-foot wide bituminous pavement that is flanked with concrete curb and gutter. The corridor will have angled and parallel on-street parking bays, with some bays designed to drain into the adjoining stormwater BMPs either through an opening in the curb or through the storm sewer system. The parking bays will also have concrete pavement. The sidewalk and boulevard area will be finished with 6-foot wide concrete sidewalk, with trees placed between the sidewalk and parking bays. The boulevard areas are also proposed to have decorative concrete, or porous pavers placed in key locations for water quality, with the exception of Seventh Street adjacent to Washington Street, which is proposed to have grass boulevard areas.

A retaining wall or reinforced slope is also planned at the northeast corner of Seventh Street and Water Street South due to the steep grade from the roadway to the existing parking lot below. A sidewalk will be also be installed along that area to address the gap in sidewalk currently in that area. The proposed roadway section will be designed in the same manner as Division Street listed above.

The preferred concepts adopted by City Council show parallel parking in the western section of Seventh Street from Division Street to Water Street. We have since received additional input requesting angle parking on the north side of Seventh Street, and parallel parking on the south side. This would be similar to one of the concepts that was proposed in Concept 2, but flipping the angled parking on the north (Attachment 6). The primary concern is the elimination of parking spots on that block. This alternative option would increase the parking stalls from the proposed 22 stalls to approximately 27 stalls. However, staff's observation of that block indicate that it is not as heavily parked as the eastern corridor of Seventh Street.

Existing Streetscapes

Division Street & Seventh Street

Essentially, no Streetscape related items exist in the Right-of-Way in the existing project corridor.

Proposed Streetscapes

Division Street and Seventh Street

The proposed project will address several goals identified in Northfield's Streetscape Framework Plan. The project will create a streetscape that improves the image of the Downtown area and reinforces community identity; and integrate the functional needs to move vehicles with safety and aesthetic needs for creating a comfortable pedestrian environment. The resulting design will also improve pedestrian crossings with signage, pavement markings and crosswalk treatments. Streetscape elements will be utilized which complement Northfield's unique setting and history, and as context appropriate for the surrounding

neighborhoods.

The project's streetscape features will include:

- Surface treatments and hardscape elements, such as integrally colored concrete, standard concrete with enhanced scoring and/or sawed joints/patterns, and permeable pavers to allow water infiltration in areas where a hard walkable surface is needed. All hardscape elements will be ADA compliant, cost effective and appropriate for Northfield's context.
- Plant materials, including over-story shade trees for grass boulevard areas, smaller ornamental trees for areas with limited growing space, and perennials for planting beds and rain garden water quality improvement infiltration areas. All plant material specified will be tough, durable, salt/drought tolerant, and appropriate for harsh streetscape conditions.
- Ornamental/pedestrian scale street light units.
- Street amenities and furnishing, such as bike loops, waste/recycle receptacles, and places for public art incorporation.

Existing Watermain

The existing watermain along Division Street is a 12-inch cast iron pipe (CIP) that ties into the existing watermain located at Sixth Street and also at Eighth Street. There are a couple of 4-inch & 6-inch watermains that connect the businesses to the 12-inch watermain along Division Street. No watermain exists along Seventh Street between Water Street South and Washington Street.

Proposed Watermain

A new 12-inch DIP water main is proposed to be installed from Eighth Street to Sixth Street along Division Street. A new 8" water main is proposed to be installed from Water Street to Washington Street along Seventh Street.

Existing Sanitary Sewer

The existing sanitary sewer main along Division Street from Eighth Street to Seventh Street is a 12-inch vitrified clay pipe (VCP), which then changes to a 15-inch vitrified clay pipe (VCP). The sanitary sewer main along Seventh Street from Water Street South to Division Street is an 8" VCP and a 12-inch VCP from Division Street to Washington Street. The sanitary sewer along Division Street drains to the north as the sanitary sewer along Seventh Street drains to the west. All of the sanitary sewage is within the sanitary sewer drainage subdistrict identified as East Town District, which drains to the north through the East Town Interceptor.

Proposed Sanitary Sewer

The existing sanitary sewer mains will be upgraded to 15-inch and 12-inch polyvinyl chloride pipes (PVC) on Division Street. Existing sanitary sewer mains on Seventh Street will be upgraded to 8" PVC pipe.

Existing Storm Sewer

Very little storm sewer pipes or "Surface Water Best Management Practices" (BMPs) for handling run-off exist within this area. A storm sewer system does exist along Seventh Street and drains areas from the east through a 54-inch diameter reinforced concrete pipe (RCP) from Water Street South to Division Street and a

48-inch RCP from Division Street to Washington Street.

Proposed Storm Sewer

City Staff has inspected the existing 48” and 54” RCP along Seventh Street and has found the system to be in good condition. It is proposed to utilize this existing storm system in place, and design additional storm sewer leads to accommodate the new street design. The new storm water system will be designed to meet the City’s storm water requirements along with MSA requirements for drainage along Division Street.

Existing Conditions/Proposed Improvements - Washington Street Mill and Overlay, City Parking Lots

Washington Street

Washington Street from Woodley Street to Second Street is located east of downtown Northfield. Most of Washington Street is outside of the Northfield Historic District with the exception of the boulevard located at 210 Division Street and 316 Washington Street. The 2008 City of Northfield Comprehensive Transportation Plan Update classifies Washington Street as a Minor Arterial Roadway. Washington Street is dedicated as a Municipal State Aid (MSA) roadway; which carries an Annual Average Daily Traffic (AADT) of 3,250 from Woodley Street to Fifth Street and 2,750 from Fifth Street to Second Street. The adjacent land use along the west side is mostly commercial and mostly residential along the eastside.

Existing Streets

Washington Street

The width of the roadway pavement for Washington Street is 40-foot wide and is flanked on both sides with concrete curb and gutter, grass boulevards, and 5-foot concrete sidewalks. The roadway was last reconstructed in 1991.

Parking Lots

The City Hall Parking Lot and the Washington Street and Fifth Street Parking Lot are stressed; however, they are not at the end of their useful life. The Washington Street Parking Lots No. 1 & 2 pavement surfaces are showing signs of significant pavement distress characteristics, such as small block and large block cracking along with alligator cracking.

Proposed Street/Streetscape Improvements

Washington Street

The proposed street rehabilitation and streetscape improvements include incorporating the approved concept sketches that were submitted by Toole Design Group (Attachment 2). The concept for Washington Street is to provide “bumpouts” at all intersections. The recommended pavement improvement consists of a mill and overlay rehabilitation of the existing pavement. The bumpouts will be constructed by removing and replacing the existing curb and gutter to the new location, extending sidewalks that meet ADA requirements, and infilling the bumpout area with top soil and grass.

The proposed depth of the mill and overlay and new bituminous pavement will be 2-inches.

Parking Lots

The recommended pavement improvement consists of a mill and overlay for City Hall Parking Lot and Washington Street and Fifth Street Parking Lot. Both parking lots will have minor curb and gutter and concrete sidewalk repair. The recommended pavement improvement for the Washington Street Parking Lot No. 1 is to reconstruct the entire base section. A geotechnical review was performed, and an insufficient amount of granular subgrade materials were found, and it will be suggested to remove the existing pavement, sub cut the undesirable subgrade materials, and place a new granular base and then pave the

parking lot with 3-1/2" of new bituminous pavement to produce a new structurally sound pavement. The recommended pavement improvement for the Washington Street Parking Lot No. 2 is to perform a full depth reclamation. This process will grind-up the existing pavement into the aggregate base, then compact the new aggregate base, and finally pave the parking lot with bituminous pavement to produce a new structurally sound pavement.

The parking lots proposed to be rehabilitated with a mill and overlay will receive a 2-inch overlay. The parking lot proposed to be reclaimed will receive 3-1/2-inches of bituminous pavement over an average existing aggregate base of 8-inches.

Any ADA parking will be improved to meet the current ADA standards for parking lots.

Existing Utilities

Washington Street

The existing watermain on Washington Street consists of 12-inch DIP installed in 1991. Based on current maintenance records there have been no breaks since the roadway was reconstructed in 1991.

The existing sanitary sewer along Washington Street consists of an 8-inch, 12-inch, and 15-inch PVC installed in 1991.

The existing storm sewer along Washington Street drains into catch basins located along the roadway. The storm sewer system from Woodley Street to Sixth Street consists of a 15-inch, 33-inch, and 42-inch RCP and drains west to the Cannon River along Seventh Street. The storm sewer system from Sixth Street to Second Street drains via the cross-streets of Fifth Street, Fourth Street, and Third Street. The storm sewer system along Washington Street was installed in 1991.

Parking Lots

A storm sewer system does exist at the City Hall Parking Lot and at the Fifth Street Parking Lot. The City Hall parking lot's storm sewer system consists of a storm sewer inlet that drains into an underground cistern or underground infiltration basin. City staff has performed more than usual maintenance for this system due to the constant settling around the underground basin. The Fifth Street Parking Lot drains into a series of catch basins along the westerly side of the parking lot. No issues have been reported regarding this system.

Proposed Utilities

Washington Street

The catch basins, which are typically located at the intersections, will need to be revised due to the addition of bumpouts at the intersections. The storm water system will also need to meet MSA requirements for drainage along Division Street.

The existing sanitary sewer mains will be televised prior to final design to determine if any of the pipes need spot repairs, internal pipe lining or other rehabilitation methods. Other sanitary sewer improvements will be made to the existing system including replacing manhole castings and lids within the project area. The replacement of manhole covers with watertight covers will help minimize inflow and infiltration of rainwater into the sanitary sewer system.

Watermain improvements will be made to the existing system, which will include adjusting / replacing gate valve castings where needed in the project area.

Parking Lots

The City Hall Parking Lot catch basin will be connected to the existing storm sewer system located either on Union Street, Eight Street or Ninth Street. This will eliminate the settling issue around the existing catch basin. The final design will determine the best routing to solve this issue. A quick cost analysis of the three options are all very similar.

Alternative Options:

The City Council could delay this project; however, the street pavements in the area will require repair work in order to keep this area in marginal condition for traffic.

Financial Impacts:

This project will be funded through a variety of sources including assessments, enterprise funds, Municipal State-Aid (MSA), and bonding. Additionally, if a funding source can be identified, 1% of the street costs could be dedicated to the Arts as in the adopted Public Arts Policy. See tables below for estimated project costs, and proposed funding.

ESTIMATED TOTAL PROJECT COSTS	
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Street	\$2,530,920
Storm Sewer	\$337,924
Sanitary Sewer	\$214,393
Watermain	\$226,894
<i>Subtotal</i>	<i>\$3,310,131</i>
Contingency (10%)	\$331,013
<i>Construction Total</i>	<i>\$3,641,144</i>
<i>Overhead (15%)</i>	<i>\$546,172</i>
PROJECT COSTS	\$4,187,316

TOTAL PROJECT FUNDING	
FUNDING SOURCE	ESTIMATED FUNDING
Bonding	\$993,000
Assessments	\$408,132
Storm Fund	\$236,734
Sanitary Fund	\$271,207
Water Fund	\$287,021
MSA	\$1,991,222
TOTAL FUNDING	\$4,187,316

As summarized in the report, there is opportunity for incorporation of public art as a component to the complete streets and context sensitive design to this area of the community. The Community Identity chapter of the comprehensive plan does encourage consideration of key gateways, functional public spaces and influence of arts and culture into infrastructure planning, particularly in the downtown. The comprehensive plan does also contemplate implementation of a “percent-for-arts” requirement in community funded projects. There is not funding incorporated into the total project cost. However, staff will be bringing forward an option for a designation of reserve funds for consideration of incorporating public art into this project. Staff will be exploring the issue further with the Arts & Culture Commission and including it in future financial approvals for consideration by the City Council.

Tentative Timelines:

See the attached project process (Attachment 4) which details the timeline for the 2018 Division Street and Seventh Street Reconstruction, Washington Street Mill and Overlay, and Miscellaneous Parking Lot Rehabilitations Project. This process has been developed and refined over the course of several years. It accounts for all the required actions by City Council to insure that Minnesota Statute Chapter 429 procedures are followed so that assessments for local improvements may be levied to abutting benefiting properties.