



Legislation Text

File #: Res. 2017-106, **Version:** 1

City Council Meeting Date: November 21, 2017

To: Mayor and City Council
City Administrator

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

Consider Resolution Ordering the Improvement for the 2018 Division & Seventh Street Reconstruction and Washington Street Overlay.

Action Requested:

Staff recommends approval of the Resolution - Ordering the Improvement for the 2018 Division and Seventh Street Reconstruction and Washington Street Overlay (STRT2018-A37). **A supermajority vote (6 of 7) is required for approval of the resolution in accordance with Minnesota State Statute Chapter 429.**

Summary Report:

The City Council is being asked to consider a resolution ordering the 2018 Division and Seventh Street Reconstruction and Washington Street Overlay (STRT2018-A37). Per Minnesota State Statute, this resolution requires a supermajority (6 of 7) for approval. Staff is recommending Council order the improvement.

From this point, final plans for the improvement will be prepared. The project includes the following streets: (Attachment 2)

- 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 actions requested above are required by Minnesota Statutes Chapter 429, which specifies the actions that must be taken to assess property owners for the cost of local improvements. The City Council has moved this project forward to this point with the actions shown in the attached project process (Attachment 3).

Options Moving Forward

Go with Current Plan

Currently, there is an estimated 109 parking spots on the Division Street and Seventh Street project corridor. The City Council approved preferred concept (Attachment 4) showing an estimated 79 parking spaces, a net loss of 30 stalls from the current state. This option maintains angle parking on the west side of Division Street, and parallel on the east side of Division Street between Sixth Street and Seventh Street, which is consistent with the remaining areas of Division Street. This option also has parallel parking on both the east and west sides of Division Street between Seventh Street and Eighth Street, which is consistent with the current parking layout. Additionally on Seventh Street, angle parking is maintained on both sides of Seventh Street from Division Street to Washington Street. Parking on the west side of Seventh Street from Division Street to Water Street is parallel on both north and south sides, a change from the current layout, which is angle parking on both north and south sides.

Alternative Option #1(Attachment 5)

This option has the same parking layout as the Council approved preferred concept on the north section of Division Street, and the east section of Seventh Street. On the south section of Division Street, two additional parallel stalls were added on the south end of the west side of Division Street adjacent to Eighth Street. This change reduced the green space that was in the Council-approved preferred concept, and converted these areas to parking. Additionally, this option changed the west section of Seventh Street from parallel parking on the north side to angle parking. This option adds an additional 9 parking spots compared to the Council-approved preferred option, bringing the total parking spots to 88, a net loss of 22 from the current layout.

Staff also had discussion with the Design Engineer and the State-Aid Engineer regarding the design requirements of a raised intersection. Since Division Street is part of Northfield's Municipal State-Aid (MSA) System, the design of the raised intersection must meet the State-Aid standards for design. This would not allow for the ramping of the raised intersection, but rather an elongated smooth curve transitioning into the elevated intersection. Therefore, based on Council discussion at the improvement hearing, the raised intersection would not be included in Alternative Option #1. Additional cost saving related to removal of the raised intersection is approximately \$20,000.

Alternative Option #2(Attachment 6)

This option also has the same parking layout as Alternative Option #1, except for the west section of Seventh Street. The west section now changes to a combination of both parallel and angle parking on the north side of Seventh Street, and angle parking along the entire south side of Seventh Street between Division Street and Water Street. This option reduces the Streetscape areas that were in the Council-approved preferred concept, and converted these areas to parking. This option adds an additional 11 parking spots compared to the Council-approved preferred option, bringing the total parking spots to 90, and net loss of 19 from the current layout.

Alternative Option #2 would not include a raised intersection as part of the design.

Intersection Analysis

Staff received numerous inquiries regarding intersection analysis at different intersections in and near the project corridor. As part of the approved Request for Proposal (RFP), the consultant hired to perform the Engineering Design of the project is required to initiate an all-way stop analysis of both the Sixth Street and Seventh Street intersections on Division Street. In addition, Staff received inquiries regarding the Water Street and Seventh Street intersection, and ways to make the crossing of Water Street more pedestrian friendly. Currently, there is a marked crosswalk and crosswalk signs located on the north crossing of Water Street and Seventh Street intersection. Although that intersection, not currently proposed to be reconstructed, will be

analyzed in the design phase to look at ways to improve the pedestrian crossing with the possibility of additional signage and striping, and the possibility of relocating the marked crosswalk to the south side of the Water Street and Seventh Street intersection.

Staff also received comments during the public engagement process to analyze intersections on the Washington Street corridor, namely the Fourth Street and Fifth Street intersections. These intersections will also be analyzed for the possibility of relocating the current stop sign located at the intersection of Washington Street and Fourth Street to the intersection of Washington Street and Fifth Street. Since the re-purposing of the Middle School, Staff believes traffic patterns have since changed; therefore, the Fourth Street stop sign may no longer be warranted.

Background

On August 22, 2017, the City Council passed Resolution 2017-066 that ordered the preparation of the Feasibility Report for the 2018 Division and Seventh Street Reconstruction and Washington Street Overlay. City Council approved the Feasibility Report by Resolution 2017-096 at the October 17, 2017 City Council Meeting, and set the Improvement Hearing for the November 14, 2017 City Council meeting.

Project Highlights

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 included conducting a series of neighborhood and community meetings with adjacent owners and the public to gather information on design concepts for the project area.

Through the public engagement, three concepts were developed for both Division/Seventh St. and Washington St. to improve the street to fit the context of the area and align with the goals of the project. After additional public input, a final concept was created for Division/Seventh St. and Washington St. and approved by Council per Motion 2017-108 at the September 19, 2017 Council Meeting (Attachments 4 and 7).

The final design concepts are trying to find the fair balance of Complete Street features that fit the context of downtown; balancing limited right-of-way, providing adequate parking in the most heavily used areas, improving safety and walkability, visibility at intersections and driveways, and making the downtown easier to use for all ages.

The feasibility report was developed based on the Council-approved design concepts and additional details are provided below.

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 Average 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 located south on Division Street.

The concept for the intersection of Division Street and Seventh Street includes a raised intersection. The proposed pavement will be concrete pavement with the proposed crosswalks being decorative like the crosswalk to the north on Division St.

The proposed roadway section will be designed to 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.

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 and 6-inch watermain 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 VCP. The sanitary sewer main along Seventh Street from Water Street South to Division Street is an 8-inch 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-inch 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-inch and 54-inch 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-feet 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 except for Sixth Street, along with mountable bumpouts at Fifth and Seventh St. 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. These bumpouts at Fifth Street and Seventh Street will be analyzed at the time of design to ensure truck movements can easily navigate the newly constructed areas. Additionally, surmountable curb may be utilized in these areas to accommodate these truck movements.

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 the 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.

In summary, staff feels the improvement is necessary and feasible and the improvement should be ordered.

Alternative Options:

1. City Council could approve the project using the preferred concept adopted at the September 19, 2017 City Council Meeting.
2. City Council could approve Alternative Option #1
3. City Council could approve Alternative Option #2

Financial Impacts:

The estimated total project costs indicate there is enough funding available to complete this project. The financial costs are shown in Attachment 8.

Tentative Timelines:

The project process (Attachment 3) accounts for all the required actions by City Council to ensure that Minnesota Statute Chapter 429 procedures are followed so that assessments for local improvements may be levied to abutting benefitting properties.