



MARSHALL
CULTIVATING THE BEST IN US

FEASIBILITY REPORT

Project ST-003

S. 1st St. / Greeley St. / Williams St. Reconstruction Project

November 5, 2021



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

By: Jason R. Anderson, P.E. Digitally signed by Jason R. Anderson, P.E.
Date: 2021.11.19 12:57:25 -06'00'
Jason R. Anderson, P.E.
Registration No. 53322

FEASIBILITY REPORT

PROJECT ST-003 S. 1ST ST. / GREELEY ST. / WILLIAMS ST. RECONSTRUCTION PROJECT

CITY OF MARSHALL, MINNESOTA

1.0 SCOPE

This Feasibility Report as authorized by the City Council, covers the following proposed improvements: reconstruction and utility replacement on South 1st Street from George Street to Greeley Street, Greeley Street from West College Drive to East Saratoga Street, and Williams Street from George Street to West Maple Street. All utilities will be replaced, including watermain, sanitary sewer, and storm sewer on South 1st Street, Greeley Street and Williams Street. Other items of work included in this project are pavement removal, aggregate base, bituminous surfacing, concrete surfacing, sidewalks, curb and gutter and other minor work.

2.0 BACKGROUND / EXISTING CONDITIONS

Street

City records indicate that these streets were originally constructed generally in the 1950's. The original pavement section does not meet the City's current standards for thickness and load rating. The existing pavement surface is beginning to show its age with considerable cracking. There are numerous patches on Williams Street due to pavement degradation.

The existing street width varies between 30 and 40-FT as measured from back of curb to back of curb. The segment of South 1st Street between George Street and Greeley Street measures approximately 40-FT, the segment of Greeley Street between West College Drive and East Saratoga Street measures approximately 38-FT, and the segment of Williams Street between George Street and Maple Street measures approximately 30-FT. Currently, the existing segment of South 1st Street and Greeley Street is wide enough to accommodate two travel lanes with parallel parking on both sides of the street. The existing segment of Williams Street is wide enough to accommodate two travel lanes and one parking lane. Currently, Williams Street operates with two-way traffic and parallel parking on both sides. Due to the limited traffic, vehicles are generally able to navigate the area.

There is currently 4-FT wide sidewalk on the west side of South 1st Street between George Street and Greeley Street. There is 4-FT wide sidewalk on the east side on South 1st Street only between Greeley Street and the walk “dead-ends” at DeSchepper Street with no clear connection. There is 4-FT wide sidewalk on the south side of Greeley Street between West College Drive and East Saratoga Street. There is a 6-FT sidewalk on the north side of Greeley only between West College Drive and South 1st Street with a pedestrian ramp to cross without a receiving ramp on the other side of the street. Williams Street currently has no sidewalk on either side of the street.

The sidewalk along South 1st Street has exhibited signs of issues with cracking, buckling, and heaving observed. Some of the issues seen on South 1st Street are the result of trees planted adjacent to the sidewalk that have matured leading to trunks and roots heaving the existing sidewalk. The sidewalk on the south side along Greeley Street has exhibited similar issues of age including cracking and buckling. The sidewalk on the north side of Greeley Street was recently constructed and would be left in place if feasible. Several of the existing pedestrian ramps are not ADA compliant.

Utilities

The existing watermain along South 1st Street is 4” ductile iron pipe (DIP) between Greeley Street and approximately 150 feet south of Maple Street and 6” DIP on the remaining segment south to George Street. Homes on the east side of South 1st Street between DeSchepper Street and approximately 150 feet south of Maple Street are served off a 4” DIP watermain that runs through the alleyway. The remaining homes should be served from the watermain under South First Street. The existing watermain under Greeley Street is a 4” DIP that runs between West College Drive and Lawrence Street. A 6” polyvinyl chloride (PVC) watermain was stubbed and capped through the Z64 (Saratoga Street Reconstruction) project in 2018 for future watermain looping. The existing watermain along Williams Street is 4” DIP. All of the 4” DIP in this project area is in poor condition, undersized, and do not provide for sufficient fire hydrant pressures for today’s standards.

The existing sanitary sewer main along South 1st Street between DeSchepper Street and approximately 150 feet south of Maple Street is 10” vitrified clay pipe (VCP). The homes on the west side of South 1st Street in this segment are served by this sanitary sewer main. Homes on the east side of the street in this segment are served by a 10” sanitary main in the alleyway between South 1st Street and Lawrence Street. The existing sanitary sewer main along Greeley Street extends from West College Drive to the southeast approximately 200 feet. The first 3 properties on the south side of the street are served by this main. The remaining 3 homes on the south side continuing along Greeley Street are served into the manhole and main that extends across the Schwan’s property towards Saratoga Street. There is no sanitary sewer main on Greeley Street between South 1st Street and Lawrence Street. Between Lawrence Street and Saratoga Street, the existing sanitary sewer main is a 12” VCP. There is new (as of 2018) 12” PVC sanitary sewer main at the limits of the Z64 (Saratoga Street Reconstruction) project. The existing sanitary sewer main on Williams Street extends south from Maple Street approximately 275 feet and serves the 5 homes contained within Williams Street. The corner lots on Williams Street are served by the adjacent streets. The age and condition of the sewer in these segments make this sewer a good candidate for replacement with this project. There is an existing sanitary sewer force main that extends from the lift station at the intersection South 1st Street and DeSchepper Street. This force main was recently constructed and in very good condition. Replacement of the force main is not part of the scope of this project.

There are limited segments of separate existing storm sewer. Catch basins at the intersection of South 1st Street and DeSchepper Street drain into a manhole just north of the intersection. A 15” reinforced concrete storm sewer continues downstream for approximately 60 feet to another manhole. From that point, the storm sewer continues downstream to the west through side yards in a 21” reinforced

concrete pipe. The other segment of existing storm sewer exists on Williams Street. There are two catch basins approximately 155 feet north of George Street that drain into a structure and continue downstream in an 18" reinforced concrete pipe. From that pipe, the storm sewer drains to George Street and continues to the east. The pipe system is undersized for the existing fully developed watershed, and various sections of the corridor exhibit street flooding during heavier rain events.

3.0 PROPOSED IMPROVEMENTS

Street

A bituminous pavement section will be proposed and discussed in this feasibility report. Staff is proposing a street section comprised of 4" of bituminous surfacing and 12" of Class 5 aggregate base. A geotextile fabric will be placed on the subgrade prior to the placement of the aggregate base. A 6" perforated drain tile shall be installed at the back of the curb below the aggregate base to provide subsurface drainage for the street section.

The proposed roadway will be 37-FT travel way (as measured from curb face to curb face) on South 1st Street and Greeley Street. The project proposes two 11-FT travel lanes and two 7.5-FT parallel parking lanes. The proposed segment of South 1st Street between George Street and Greeley Street will be 2-FT narrower than the existing street. The proposed segment of Greeley Street will approximately match the width of the existing street. The proposed roadway on Williams Street (as measured from curb face to curb face) will be 28.5-FT. The project proposes two 10-FT travel lanes, and two 4.25-FT shoulders to accommodate on-street parallel parking. It is the opinion of staff that the proposed road widths will be adequate to serve the corridors. The proposed segment of Williams Street between George Street and Maple Street will approximately match the width of the existing street.

The project is proposing to replace the existing sidewalk on the west side of South 1st Street between George Street and Maple Street with a 5-FT sidewalk with a 1-FT grass buffer. A 5-FT sidewalk with a 1-FT grass buffer is proposed on both sides of South 1st Street between Maple Street and Greeley Street. This replaces existing sidewalk on the west side of South 1st Street and the east side between DeSchepper Street and Greeley Street. There is currently no existing sidewalk adjacent to South 1st Street between Maple Street and DeSchepper Street. A new crossing across South 1st Street would be provided at Maple Street and provide the ability for a potential sidewalk connection to the east on Maple Street in a future project. Sidewalk was not proposed on the east side of South 1st Street between George Street and Maple Street due to the lack of ability to provide connectivity, utility, and mature tree conflicts. A 5-FT sidewalk with a 1-FT grass buffer is proposed to replace the existing sidewalk on the south side of Greeley Street between West College Drive and Saratoga Street. A 6-FT sidewalk is proposed on the north side of Greeley Street between South 1st Street and Saratoga Street. There is currently no existing sidewalk adjacent to Greeley Street in this segment and the proposed sidewalk would aim to connect directly to the existing 6-FT sidewalk west of South 1st Street. The

existing 6-FT sidewalk on the north side of Greeley Street between West College Drive and South 1st Street will remain in place where feasible.

Utilities

The proposed utility improvements include replacing existing VCP sanitary sewer, existing DIP watermain, and existing storm sewer.

The watermain improvements will consist of replacing all DIP watermain with Polyvinyl Chloride (PVC) watermain pipe. Watermain improvements are planned in close coordination with MMU staff input. The existing 4" and 6" DIP in the project will be replaced with 6" PVC pipe. A new 6" PVC watermain will be extended on Greeley Street from Lawrence Street to the existing capped 6" PVC watermain at Saratoga Street, connecting the new main on Greeley Street and the existing main on Saratoga Street to better meet MMU water system goals. In the segment of South 1st Street between DeSchepper Street and approx. 150 feet south of Maple Street, where the homes are served with water from the watermain in the alley, new water services will be extended from the proposed watermain along South 1st Street to the property line to allow for a potential MMU project in the future to disconnect these homes from the watermain in the alleyway and abandon that watermain.

The sanitary sewer system improvements will include replacing all manholes, sewer main, and sewer services along South 1st Street and Williams Street. Generally, the VCP main will be replaced with 8" PVC main. A new 8" PVC main will be constructed along Greeley Street between West College Drive and Saratoga Street. This new main would serve all the properties on Greeley Street between West College Drive and South 1st Street and effectively abandon the existing sanitary main through the Schwan's property. All sewer services will be replaced to the right-of-way (ROW) with a minimum 4" pipe size.

The existing storm sewer pipe along Williams Street will be replaced with new reinforced concrete pipe. The catch basin on the west side of Williams Street is proposed to be doubled to accommodate the amount of storm water runoff that enters this catch basin. At the intersection of South 1st Street and DeSchepper Street, the project is proposing to construct additional catch basins and increase select locations to double catch basins. The intent of the additional catch basins and doubling of catch basins is to reduce the amount of street flooding that occurs in this area. The work in this area will also include replacing all catch basin leads, existing manholes, existing storm sewer main extending to the north.

4.0 STATEMENT OF PROBABLE COST

The estimated costs to complete the proposed improvements are shown below. The estimated construction costs include a 10% allowance for contingencies and a 16% allowance for administrative

and engineering costs. The unit prices for each item of work used in determining the estimated cost of construction is based on previous projects similar in nature and is subject to change.

<i>Street and Curb and Gutter</i>	<i>\$937,000.00</i>
<i>Watermain Replacement</i>	<i>\$275,000.00</i>
<i>Sanitary Sewer Replacement</i>	<i>\$267,000.00</i>
<i>Storm Sewer Replacement</i>	<i><u>\$80,000.00</u></i>
<i>Subtotal Estimated Construction Cost</i>	<i>\$1,559,000.00</i>
<i>Contingencies (10%)</i>	<i><u>\$156,000.00</u></i>
<i>Total Estimated Construction Cost</i>	<i>\$1,715,000.00</i>
<i>Estimated Engineering, & Administration (16%)</i>	<i><u>\$275,000.00</u></i>
<i>Total Estimated Project Cost</i>	<i><u>\$1,990,000.00</u></i>

5.0 PROPOSED ASSESSMENTS

The adjacent properties will not be assessed for the watermain improvements. All costs for watermain and related work will be paid by MMU.

The adjacent properties will not be assessed for sanitary sewer main improvements. All costs for sanitary sewer main will be paid by the City of Marshall Wastewater Department. Sanitary sewer service lines and connection points to the main will be assessed to the adjacent property owners according to current sanitary sewer assessment procedures.

Costs for the street replacements will be partially assessed to the adjacent property owners in accordance with the most recent Special Assessment Policy and partially funded by the Wastewater Department, MMU, and Surface Water Management Utility fund.

A preliminary assessment roll showing the estimated assessments for each benefiting parcel, City Participation, and utility participation will be prepared at a later date for consideration by the City Council in accordance with the most recent Special Assessment Policy.

6.0 FEASIBILITY/CONDITIONS/QUALIFICATIONS

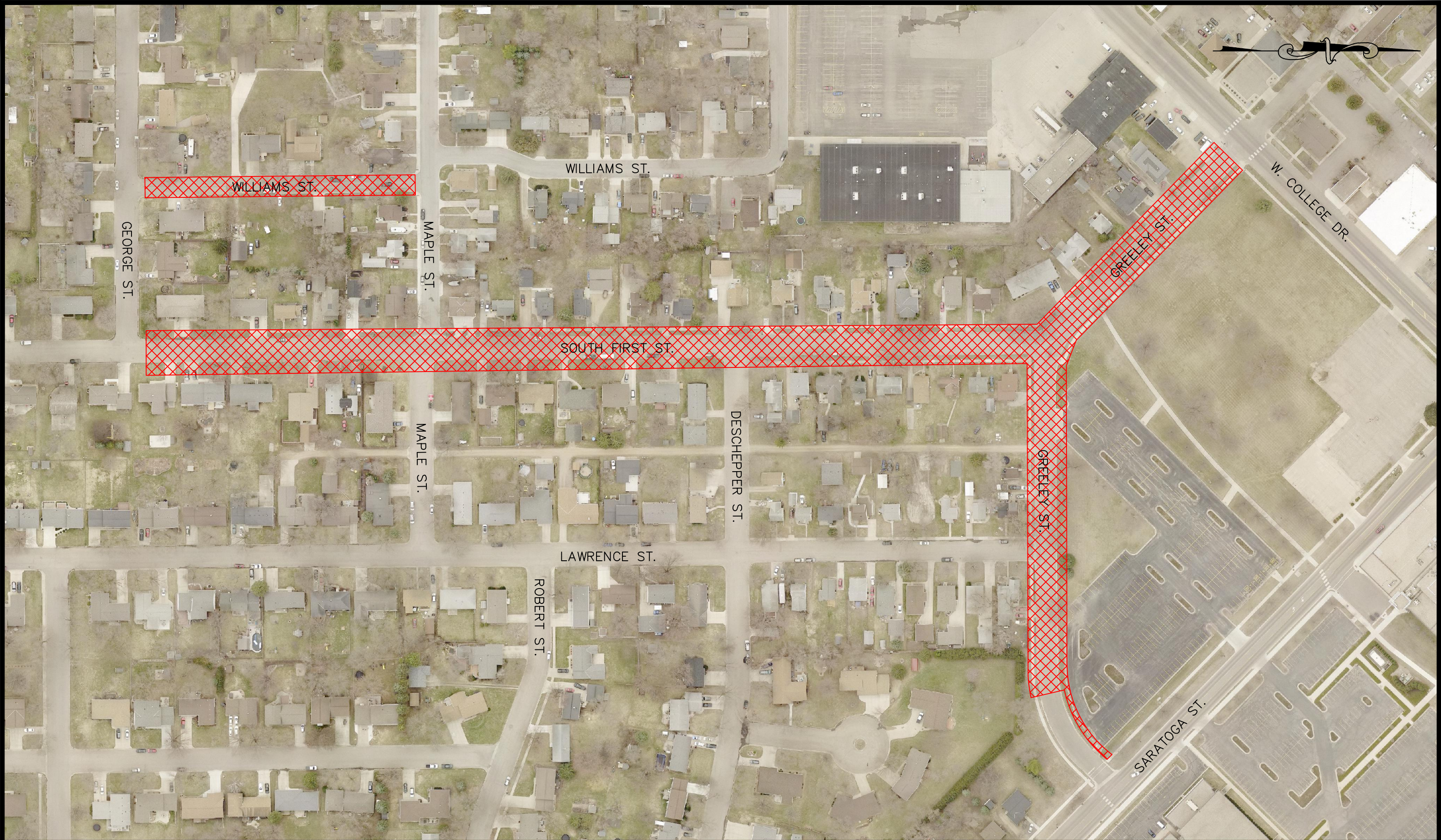
The proposed improvements as described in this report are necessary, cost-effective, and feasible from an engineering standpoint. The feasibility of this project is contingent upon the findings of the City Council pertaining to project financing and public input.

7.0 PROPOSED PROJECT SCHEDULE

The following is the anticipated schedule for the project, assuming the City Council elects to proceed with the proposed improvements.

December 14, 2021	Public Hearing on Improvement/Order Plans & Specs
January 11, 2022	Approve Plans & Specs/Authorize Call for Bids
January 14 - February 2, 2022	Advertise for Bids
February 2, 2022	Bid Opening Date
February 8, 2022	Award Contract
April 18, 2022	Notice to Proceed
May 2022	Begin Construction
September 13, 2022	Public Hearing on Assessment/Adopt Assessment
September 2022	End Construction

APPENDIX



DESIGNED BY: J.L.D.
DRAWN BY: J.L.D.
APPROVED BY: _____
SCALE: 1"=##'

DATE	REVISIONS	INIT.



MARSHALL

ENGINEERING DEPARTMENT
344 WEST MAIN STREET
MARSHALL, MINNESOTA
56258


S. 1st/Greeley/Williams Reconstruction
Project Area

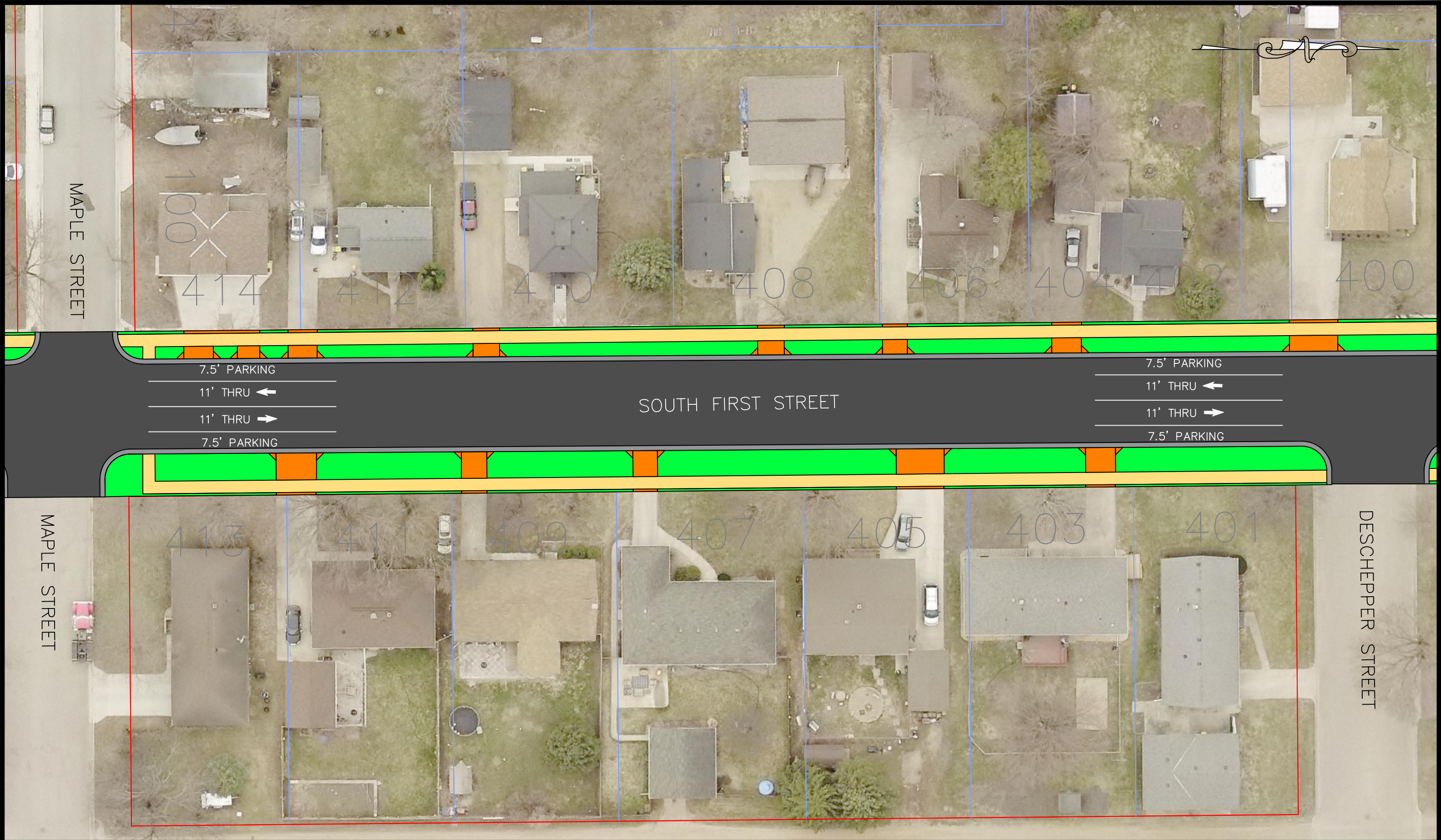
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 00/00/21 LICENSE NO. 53322

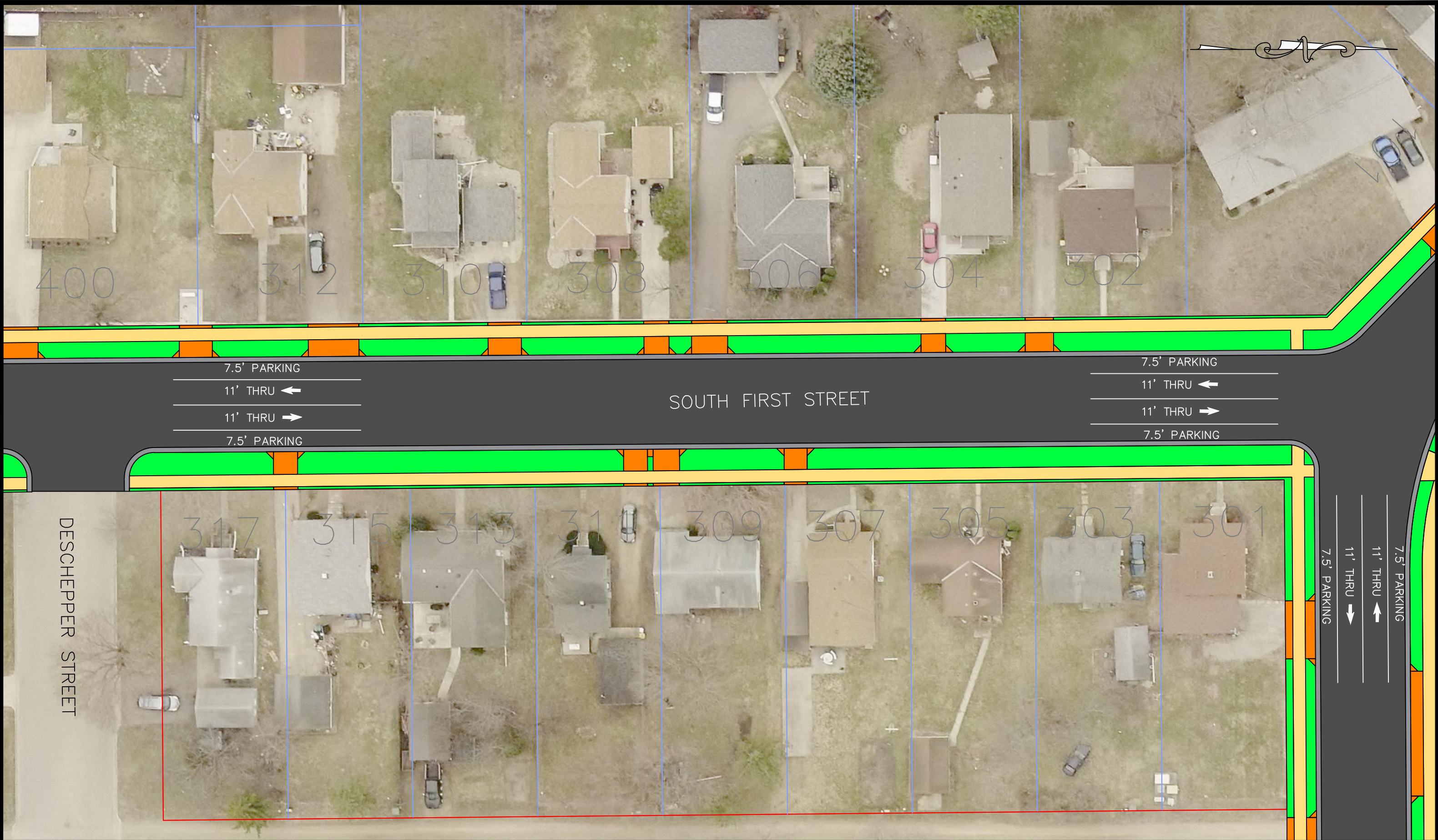
CITY PROJECT NO. ST-003	DATE 11/4/2021
STATE AID PROJECT NO.	SHEET NO. 10F 1




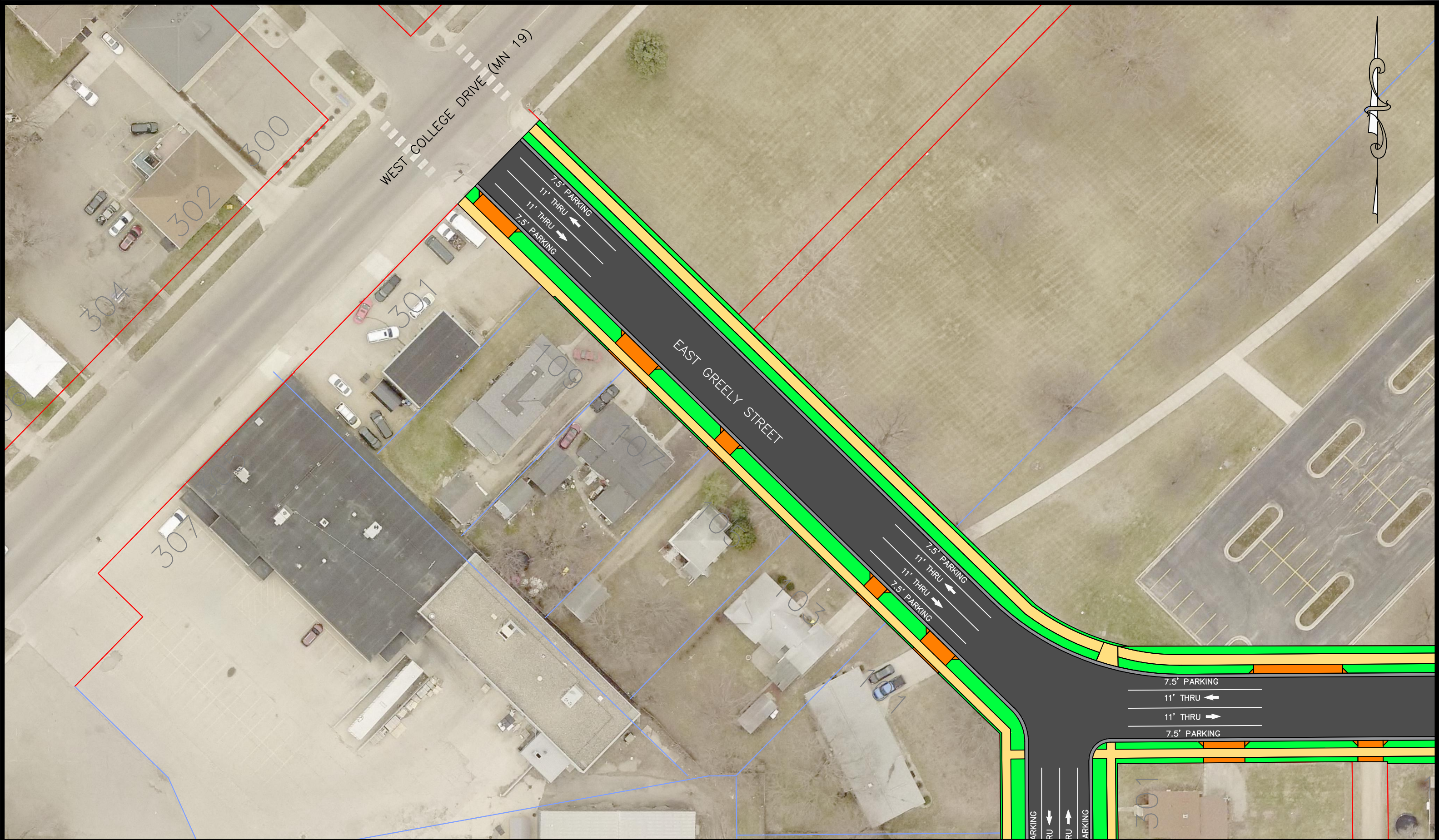
DESIGNED BY: _____	DATE _____	REVISIONS _____	INIT. _____	 MARSHALL	ENGINEERING DEPARTMENT 344 WEST MAIN STREET MARSHALL, MINNESOTA 56258	S. 1st/Greeley/Williams Reconstruction	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. _____ DATE <u>00/00/21</u> LICENSE NO. <u>53322</u>	CITY PROJECT NO. ST-003	DATE 10/29/2021
DRAWN BY: _____						S. 1st Street (George to Maple)		STATE AID PROJECT NO.	SHEET NO. 10F 6
APPROVED BY: _____									
SCALE: 1"=##'									




DESIGNED BY: _____	DATE _____	REVISIONS _____	INIT. _____	 MARSHALL ENGINEERING DEPARTMENT 344 WEST MAIN STREET MARSHALL, MINNESOTA 56258	S. 1st/Greeley/Williams Reconstruction	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. _____ DATE <u>00/00/21</u> LICENSE NO. <u>53322</u>	CITY PROJECT NO. ST-003	DATE 10/29/2021
DRAWN BY: _____					S. 1st Street (Maple to DeSchepper)		STATE AID PROJECT NO.	SHEET NO. 2 OF 6
APPROVED BY: _____								
SCALE: 1"=##'								



DESIGNED BY: _____	DATE _____	REVISIONS _____	INIT. _____	 MARSHALL	ENGINEERING DEPARTMENT 344 WEST MAIN STREET MARSHALL, MINNESOTA 56258	S. 1st/Greeley/Williams Reconstruction		I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. DATE <u>00/00/21</u> LICENSE NO. <u>53322</u>	CITY PROJECT NO. ST-003	DATE 10/29/2021
DRAWN BY: _____						S. 1st Street (DeSchepper to Greeley)			STATE AID PROJECT NO.	SHEET NO. 3 OF 6
APPROVED BY: _____										
SCALE: 1"=##'										



DESIGNED BY: _____	DATE _____	REVISIONS _____	INIT. _____	 ENGINEERING DEPARTMENT 344 WEST MAIN STREET MARSHALL, MINNESOTA 56258	S. 1st/Greeley/Williams Reconstruction Greeley Street (College to S. 1st)	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. DATE <u>00/00/21</u> LICENSE NO. <u>53322</u>	CITY PROJECT NO. ST-003	DATE 10/29/2021
DRAWN BY: _____							STATE AID PROJECT NO.	SHEET NO. 4 OF 6
APPROVED BY: _____								
SCALE: 1"=##'								



DESIGNED BY: _____
DRAWN BY: _____
APPROVED BY: _____
SCALE: 1"=##'

DATE	REVISIONS	INIT.



MARSHALL

ENGINEERING DEPARTMENT
344 WEST MAIN STREET
MARSHALL, MINNESOTA
56258

S. 1st/Greeley/Williams Reconstruction

Greeley Street (S. 1st to Saratoga)

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 00/00/21 LICENSE NO. 53322


CITY PROJECT NO. ST-003	DATE 10/29/2021
STATE AID PROJECT NO.	SHEET NO. 5 OF 6



GEORGE STREET

MAPLE STREET

WILLIAMS STREET

DESIGNED BY: _____	DATE _____	REVISIONS _____	INIT. _____	 MARSHALL	ENGINEERING DEPARTMENT 344 WEST MAIN STREET MARSHALL, MINNESOTA 56258	S. 1st/Greeley/Williams Reconstruction	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. _____ DATE <u>00/00/21</u> LICENSE NO. <u>53322</u>	CITY PROJECT NO. ST-003	DATE 10/29/2021
DRAWN BY: _____						Williams Street (George to Maple)		STATE AID PROJECT NO.	SHEET NO. 6 OF 6
APPROVED BY: _____									
SCALE: 1"=##'									