



**MARSHALL**  
CULTIVATING THE BEST IN US

# FEASIBILITY REPORT

**PROJECT ST-012-2024**

**SOUTH WHITNEY STREET  
RECONSTRUCTION PROJECT  
FROM EAST COLLEGE DRIVE TO JEAN AVENUE**

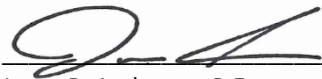
**NOVEMBER 14, 2023**



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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.  
Registration No. 53322

# FEASIBILITY REPORT

## SOUTH WHITNEY STREET RECONSTRUCTION PROJECT FROM EAST COLLEGE DRIVE TO JEAN AVENUE CITY OF MARSHALL, MINNESOTA

### 1.0 SCOPE

This Feasibility Report as authorized by the City Council, covers the following proposed improvements: Reconstruction of the sidewalk, roadways and utility replacement on South Whitney Street from East College Drive to Jean Avenue. All public utilities will be replaced, including watermain, sanitary sewer, and storm sewer on South Whitney Street. Other items of work included in this project are pavement removal, aggregate base, concrete surfacing, sidewalks, curb and gutter, streetscaping, and other minor work.

### 2.0 BACKGROUND / EXISTING CONDITIONS

#### Street

City records show this area was platted between 1938 and 1939 with 80-foot right-of-way. The earliest city records show the streets with 1.5 inch of paving in 1957. 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 due to pavement degradation.

The existing street width in this project is 60-foot back of curb to back of curb. This area of Marshall has a unique layout for the streets that include a 20-foot (back of curb to back of curb) lane, a 20-foot grass median with trees and a 20-foot (back of curb to back of curb) lane. Currently the existing 20-foot surfaces include a 12-foot travel lane and an eight-foot parallel parking lane. The grass median does stop about 150-foot north of the northern curb line of Jean Avenue.

The sidewalk within the limits of the project is five feet wide and at the back of the curb. The sidewalk has exhibited signs of issues with cracking and buckling observed. This sidewalk does not meet the current requirements of ADA accessibility due to several areas of cracking and faulting. Several of the existing pedestrian ramps are not ADA compliant.

#### Utilities

The existing watermain in South Whitney Street is four-inch ductile iron pipe (DIP) between East College Drive and 150 feet north of the north curb line on Jean Avenue the final 150 feet is six-inch DIP. The homes on the east side of the street between E College Drive and Charles Avenue are served by a two-inch copper line in the alley. When the intersection of South Whitney Street and Marshall Street was reconstructed, a new six-inch PVC crossing was installed so we will be able to connect to each end with minimal interruption to service. All the DIP in this project area is in poor condition, undersized, and does not provide sufficient fire hydrant pressures for today's standards.

The existing sanitary sewer in South Whitney Street flows from south to north in an 18-inch vitrified clay pipe (VCP) between East College Drive and Marshall Street. When the intersection of South Whitney Street and Marshall Street was reconstructed, a new sanitary sewer was stubbed out in each direction so this project will be able to connect to the pipes. The existing sanitary sewer south of Marshall Street to Jean Avenue is a 12-inch VCP pipe. Our records show that the sewers were constructed in 1939 as a WPA project, this puts their age at approximately 84 years old. During review of the project the sewer system was televised and evaluated. The age and condition of the sewer within the limits of the project make the sewer a good candidate for replacement with this project.

There is a limited existing drainage system within the project area. At the intersection of South Whitney Street and Charles Avenue there is a single intake in the northeast quadrant that has a 12-inch Reinforced Concrete Pipe (RPC) system heading south. This pipe increases to a 24-inch RCP after it connects to the two intakes at the alley and then connects into Marshall Street. When the intersection of South Whitney Street and Marshall Street was reconstructed, new storm sewer pipes were installed both north and south of the intersection. Based on an analysis of the existing drainage area and the downstream storm sewer main, the storm sewer system is undersized under current standards. There are insufficient catch basins to provide adequate surface drainage and downstream storm sewer main within the project area and further are not large enough to provide sufficient capacity for the drainage areas. This insufficiency in the existing system leaves the risk of street flooding during heavy 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 four-inch of bituminous surfacing and 12-inch of Class 5 aggregate base. A geotextile fabric will be placed on the subgrade prior to the placement of the aggregate base. A four-inch 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 starting 70 feet south of College Drive down to 150 feet north of Jean Avenue will be two 20-foot (as measured back of curb to back of curb) lanes separated with an 18-foot island. Each of the proposed lanes has a 12-foot travel lane and an 8-foot parking lane. The 18-foot island will continue to have trees in it. The southern 150 feet of the project will generally maintain the curb lines, and this roadway sections will be 58 feet back of curb to back of curb. The City may consider adjusting the east curb line to make room for a widened sidewalk that leads from the bike trail north of Holy Redeemer school down to the bus drop area for Holy Redeemer school. Further, the City may consider adjusting the west curb line near the Jean Avenue intersection to reduce the width of the sidewalk crossing of South Whitney Street in this location. The project layout that is included with this report reflects these possible changes.

The project is proposing to install a 6-foot sidewalk adjacent to the back of curb on the outside of each 20' lanes. The median will not have any parallel sidewalk installed. The pedestrian ramps will be reconstructed to bring them into compliance with ADA standards.

#### Utilities

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

The proposed 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. All water services will be replaced with new PVC and curb stops at the right-of-way.

The sanitary sewer system improvements will include replacing all manholes, sewer main, and sewer services along South Whitney Street. Generally, the VCP main will be replaced with an 18-inch PVC main between East College Drive and Marshall Avenue and a 12-inch main between Marshall Street and Jean Avenue. All sewer services will be replaced to the right-of-way (ROW) with a minimum 4" pipe size.

The storm sewer system improvements will include replacing all manholes, intakes, and piping along the limits of the project. The existing storm sewer pipe along South Whitney Street will be replaced with new reinforced concrete pipes. Additional catch basins would be installed on South Whitney Street at the intersection of Charles Avenue and the next alley south. The work in this area will also include replacing all catch basin leads and existing manholes.

#### 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 rounded up to the nearest thousand dollars. 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>\$941,000.00</i>
<i>Watermain Replacement</i>	<i>\$286,000.00</i>
<i>Sanitary Sewer Replacement</i>	<i>\$392,000.00</i>
<i>Storm Sewer Replacement</i>	<u><i>\$263,000.00</i></u>
<i>Subtotal Estimated Construction Cost</i>	<i>\$1,882,000.00</i>
<i>Contingencies (10%)</i>	<u><i>\$189,000.00</i></u>
<i>Total Estimated Construction Cost</i>	<i>\$2,071,000.00</i>
<i>Estimated Engineering, &amp; Administration (16%)</i>	<u><i>\$332,000.00</i></u>
<i>Total Estimated Project Cost</i>	<u><i>\$2,403,000.00</i></u>

#### 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.

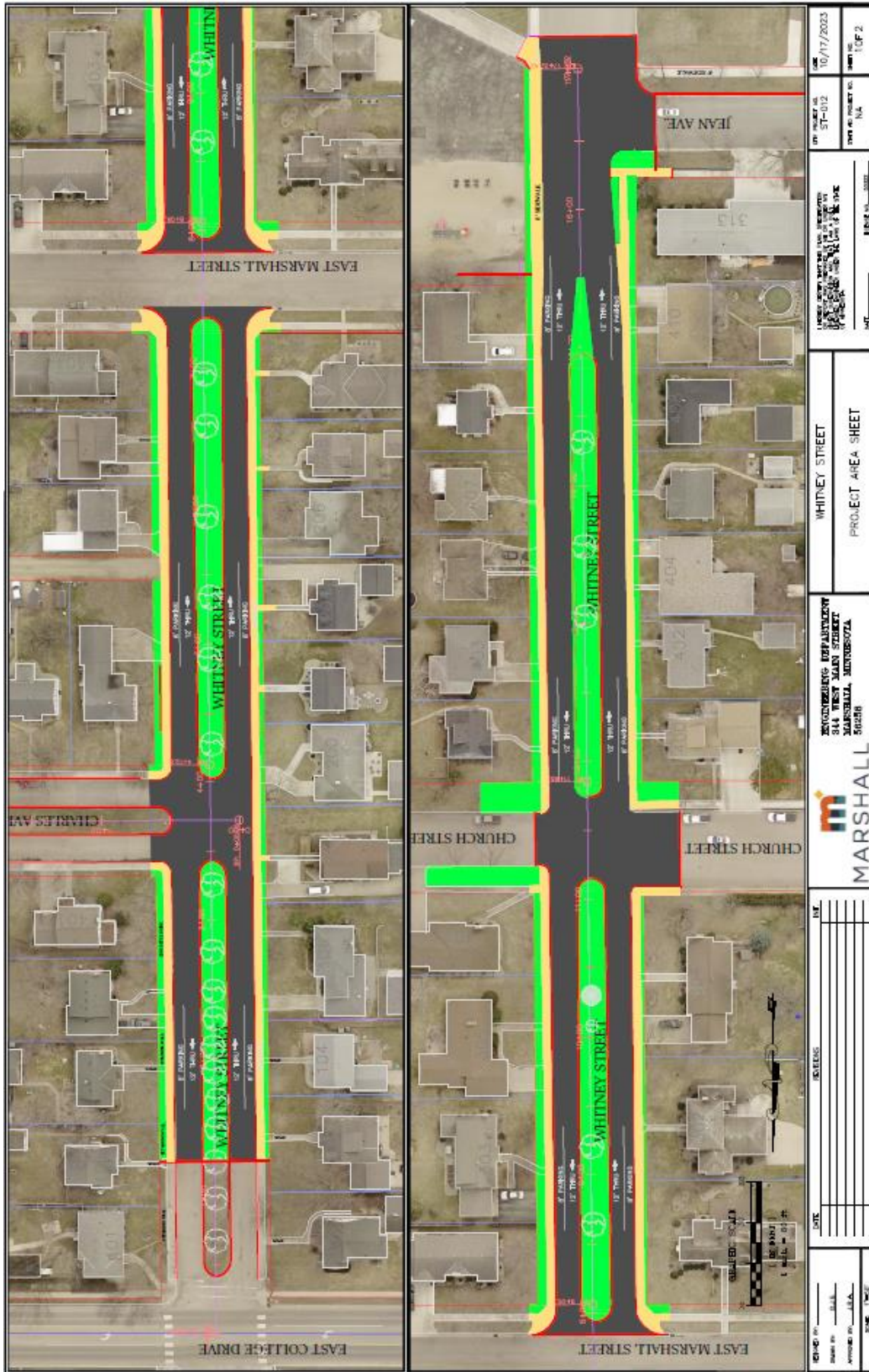
## 7.0 PROPOSED PROJECT SCHEDULE

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

October 24, 2023 .....	Ordering Preparation of Report on Improvements
November 14, 2023 .....	Receiving Report & Calling Hearing on Improvements
November 28, 2023 .....	Public Hearing on Improvement/Order Plans & Specs
January 23, 2024.....	Approve Plans & Specs/Authorize Call for Bids
January 26-February 20, 2024 .....	Advertise for Bids
February 20, 2024.....	Bid Opening Date
February 27, 2024.....	Award Contract
March 2024.....	Notice to Proceed
April 2024 .....	Begin Construction
October 2024.....	End Construction
November 2024 .....	Public Hearing on Assessment/Adopt Assessment

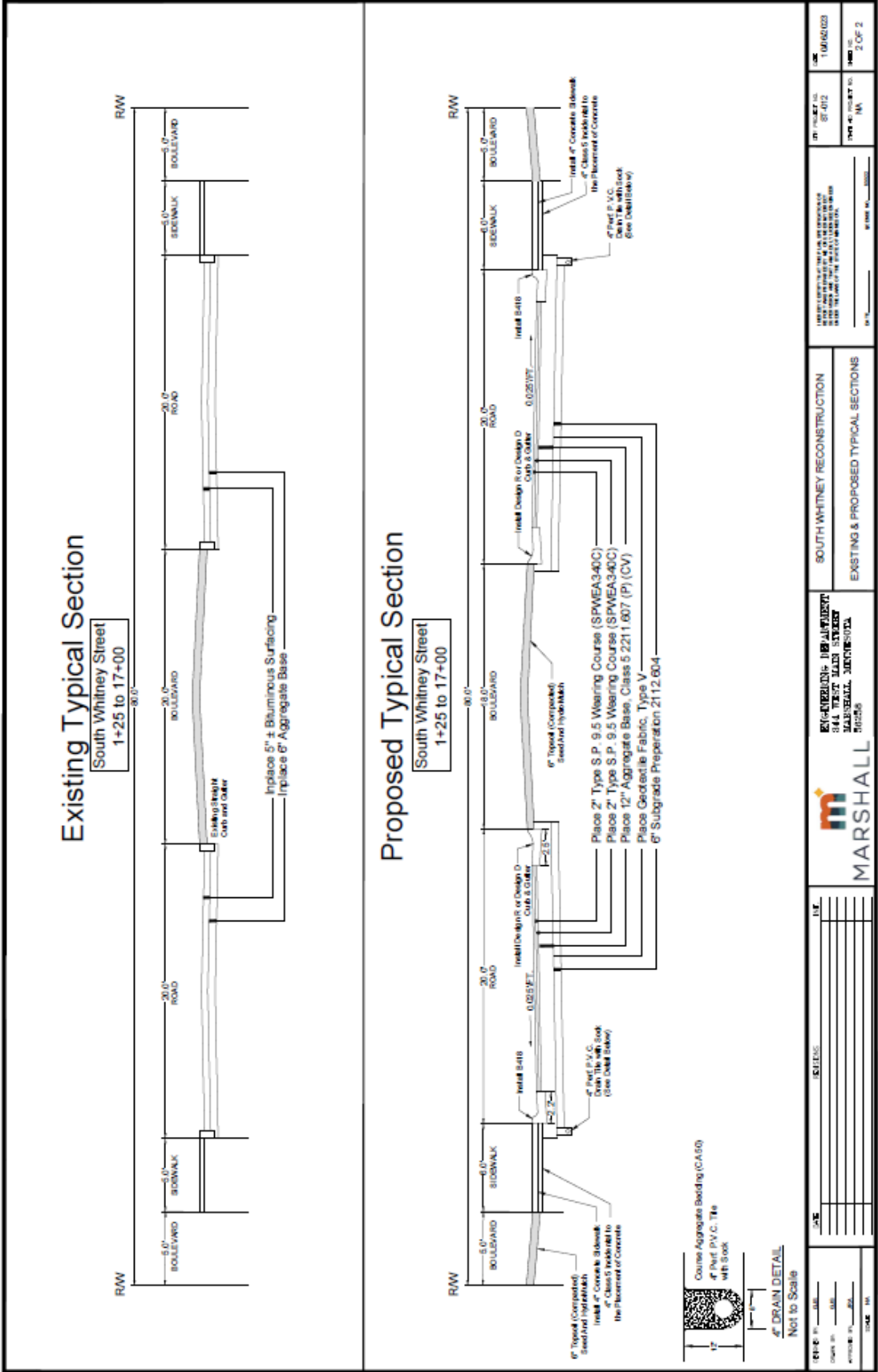
# APPENDIX

# PROJECT LAYOUT



DRAWN BY: _____ CHECKED BY: _____ DATE: _____	SYSTEMS DATE: _____ SCALE: _____ SHEET NO. OF #	MARSHALL ENGINEERING DEPARTMENT 344 WEST MAIN STREET MARSHALL, MISSISSIPPI 39068	WHITNEY STREET PROJECT AREA SHEET	DATE: 10/17/2023 SHEET NO. OF # 2
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**Existing Typical Section**

South Whitney Street  
1+25 to 17+00

**Proposed Typical Section**

South Whitney Street  
1+25 to 17+00

DATE: 1/16/2023  
PROJECT NO.: 23-012  
SHEET NO.: 2 OF 2

PROJECT LOCATION: SOUTH WHITNEY RECONSTRUCTION  
EXISTING & PROPOSED TYPICAL SECTIONS

DESIGNED BY: JEFFREY W. WILSON  
CHECKED BY: JEFFREY W. WILSON  
DATE: 1/16/23



NO.	DATE	DESCRIPTION

SCALE: AS SHOWN  
DRAWN BY: JWW  
CHECKED BY: JWW  
DATE: 1/16/23