

URBAN REGIONAL & URBAN ROADS PROJECT SCOPING WORKSHEET

DATE: 1/8/2024

PRIORITY# 1

Regional: Y/N

Urban Roads: Y/N

City: Minot

Street: Broadway from 19th Ave SW to South City

Limits including adjacent frontage roads but not including US2/83 Interchange; 20th Ave SW from 4th St to 480' east of Broadway; 31st Ave SW 320' west of Broadway to 220' east of Broadway; 37th Ave SW from 750' west of Broadway to 300' east of Broadway

County: Ward Length: 15,815 centerline feet total of all roads

Proposed Improvement: Scoping and cost is based upon the Broadway Corridor Study alternative S.4 with a 4-lane concrete section reconstruction from 19th Ave SW to south city limits. Project includes reconstruction of adjacent minor arterials to connect to new improvements and to correct geometry. Improvements include removals, new concrete pavement, signals, asphalt frontage roads, storm sewers, sidewalks, shared use paths, LED lighting, signage, and other incidentals.

Cost Estimates Breakdown (in \$1,000)							
PE	CE	R/W	Utility	Constr.	Bridges	Non-Participating	Total
3,173	3,173	1263	Incl in constr.	26,441		2,000	

Present Road: Surface Width? Varies by corridor

Surface Type? Asphalt

On Street Parking Allowed? _____ Present: (No) One Side Both Sides Angle Parallel
Proposed: (No) One Side Both Sides Angle Parallel

Proposed Improvements	
ADT Present: <u>28,085 Broadway</u> Yr: <u>2022</u>	Travel Way Width : <u>Varies</u>
ADT Design: _____ Design year _____	No. of Lanes: <u>2 to 6</u>
Design Speed: _____	Roadway Width: <u>40 to 90 feet</u>
Maximum Curve: _____	Min. R/W Width: <u>66 feet</u>
Maximum Grade: _____	

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Right of Way

Will Additional ROW or easement be acquired? Yes ROW acquisition by: City **DOT**
Has any ROW easements been acquired since 7-1-72: Yes ROW Condemnation by: City **DOT**
Est. No. of occupied family dwelling to be displaced? 0
Est. No. business to be displaced? 0

Impacts

Will there be any additional Impacts (Cultural and Environmental Resources): Floodplain impacts
Will there be any impacts to 4(f) or 6(f) properties: Unknown, but unlikely
Airports: N/A Public Hearings: At a minimum a public open house
Environmental Classification (Cat-Ex, EA, EIS): Cat-Ex, possible EA
Transportation Enhancements: Sidewalks, Shared-Use Paths, Trees/Landscaping, ITS
Intermodal: This is a city bus route and needs to be accommodated
Pedestrian Needs: Almost all of corridor lacks pedestrian facilities

Railroads Crossings

RR Name	No. Xings	No. Tracks and Type of Crossing	Daily Train Movements	Train Speed	Present Protection	Proposed Protection

Purpose and Need Statement:

Broadway and the connecting arterials (20th Ave, 31st Ave, 37th Ave) are currently asphalt road sections which have failing pavements. The sections can no longer handle the ESALs from truck loading as these sections have developed over the decades.

There are several geometry issues that cause traffic and safety issues such as negative lane offsets and misaligned intersections. Also, there are inadequate turn lane lengths, access spacing issues, and issues associated with the corridors being above the critical crash rate. The corridors need infrastructure replacement such as upsized storm sewers and the replacement of the failing structural plate pipe that carries Puppy Dog Coulee. Some water and sewer work may be needed as areas are reconstructed. The corridor needs replacement of the existing street lighting system with new LED fixtures. The corridors lack pedestrian facilities except on 31st and 37th Avenues. There are no pedestrian facilities on Broadway from 19th Ave SW to the south city limit line.

Existing Conditions:

1. When was the current street section built? Has there been any additional maintenance to the street section?
The original Broadway section was built in 1961. The other roadways were built starting in the 1970s through 1980s. The last maintenance on Broadway occurred

in 2021 with a chip seal and fog seal from city limits to 31st Ave SW. The NDDOT performed an overlay on the remaining Broadway section in 2016.

2. How many driving lanes and turning lanes does the street section currently have and what is the widths of the driving and turning lanes?

Broadway: 4 driving lanes with left and right turn lanes at various locations.

20th Ave: 4 driving lanes with left turn lanes at Broadway and 4th St

31st Ave: 2 driving lanes with left turn lanes at Broadway

37th Ave: 2 driving lanes with left turn lanes at Broadway and transitions to 4 driving lanes west of the Broadway intersection

All driving lanes appear to be 12' in width and turn lanes are a minimum of 12' with some at 13'.

3. What is the condition of the pavement section?

A. If the pavement section is asphalt, is there any alligator cracking, longitudinal cracking, transverse cracking, raveling, bituminous patching or rutting?

B. If the pavement section is concrete, are there any broken slabs, faulting, bituminous patching, joint spalling, transverse cracking, or longitudinal cracking.

All pavement sections are asphalt except a small portion of at the intersection of Broadway/20th Ave and Broadway/37th Ave east.

The pavement is generally in fair to very poor condition ranging in PCI from 30 to 77. The City recently chip sealed Broadway and paver leveled some severe rutting. After one month, the section started to rut again. There are severe base problems under the asphalt pavement.

The concrete pavements are generally in fair condition with some spalling and both transverse and longitudinal cracking. The City has performed some panel replacements in the last two years.

4. Any existing geometric concerns?

There are geometric concerns at 4th St/20th Ave, 28th Ave/Broadway, 31st Ave/Broadway (negative lane offsets), 37th Ave/Broadway (negative lane offsets), 40th Ave intersection visibility issues.

5. Are there any access points to adjoining properties that present a special concern?
Yes, several that are too close to intersections or are within the functional area of the intersections.

6. Are there any existing sidewalks or shared use path in place?
31st Ave and 37th Ave have shared used paths in place. All other corridors do not have any pedestrian or bicycle facilities.

7. What is the condition of the existing storm sewer? Will any additional storm

sewer work need to be done along with this project?

The condition of the storm sewers vary along the project. The SPP that carries Puppy Dog Coulee is in need of replacement. All pipes need to be modeled to ensure sizing is adequate.

8. What is the condition of the city's water and sewer line? Will any work have to be done to the city's water and sewer lines along with this project?
Some watermain upsizing may be needed. Most water and sanitary sewer mains are PVC and should be in good to fair condition. Some relocations of hydrants or other items will be required.
9. Describe the existing lighting system currently in place? What type of standards and luminaires are currently being used?
The lighting system is old and is in need of replacement. All lighting is HPS and needs to be upgraded to LED.
10. What intersections currently have traffic signals? Are there any locations that have a high accident rate? Are additional turning lanes needed?
20th Ave/4th St, 20th Ave/Broadway, 31st Ave/Broadway, 37th Ave/Broadway
The entire Broadway corridor is above the critical crash rate. The intersections of 20th Ave and 31st Ave have more crashes than the others. 20th Ave used to be on the high crash list but hasn't been in recent years.

Remarks:

The City recognizes this is a high cost/high impact project and the NDDOT will likely need to program the improvements over several years. The City desires to work with the NDDOT to develop phasing for this important project to address the project needs.

City Engineer: 

Date: 1/24/2024

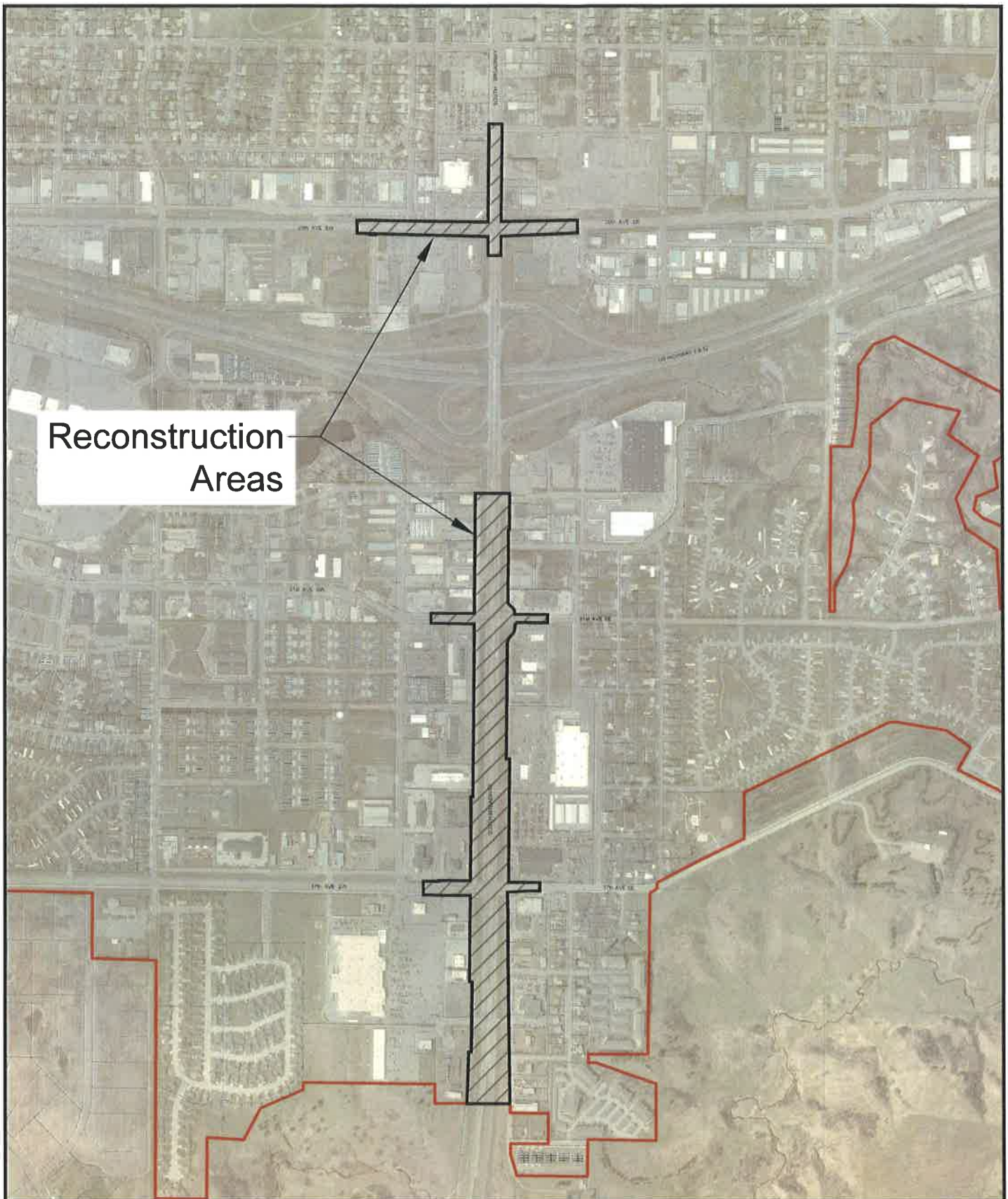
District Engineer: 

Date: 1/11/2024

Note: Please attach a map showing location and extent of the project, detailed cost estimate, and any additional supporting documents.

South Broadway and Adjoining Minor Arterials Reconstruction Estimate

Segment	Cost/Ft, EA	Length	Total	Federal/State	Local
South Broadway 19th Ave to 20th Ave	\$ 2,340	1100	\$ 2,573,689	\$ 2,316,320	\$ 257,369
South Broadway 28th Ave to 41st Ave	\$ 2,340	4800	\$ 11,230,642	\$ 10,107,578	\$ 1,123,064
One-way Frontage Road	\$ 526	5425	\$ 2,855,917	\$ 2,284,734	\$ 571,183
Two-way Frontage Road	\$ 526	1420	\$ 747,540	\$ 598,032	\$ 149,508
20th Avenue 4th St to 480 E. Broadway	\$ 2,340	1480	\$ 3,462,781	\$ 2,770,225	\$ 692,556
31st Avenue - 320 W. Broadway and 220 E. Broadway	\$ 2,106	540	\$ 1,137,103	\$ 909,682	\$ 227,421
37th Avenue - 750 W. Broadway and 300 E. Broadway	\$ 2,106	1050	\$ 2,211,033	\$ 1,768,826	\$ 442,207
Signals - 20th Ave, 31st Ave, 37th Ave, 4th St	\$ 555,683	4	\$ 2,222,731	\$ 1,778,185	\$ 444,546
			\$ 26,441,436	\$ 22,533,582	\$ 3,907,854
20% Contingency			\$ 5,288,287	\$ 4,759,458	\$ 528,829
20% Engineering			\$ 6,345,945	\$ 5,711,350	\$ 634,594
Right of Way (SF)	\$ 21.06	60000	\$ 1,263,447	\$ 1,137,103	\$ 126,345
			\$ 12,897,679	\$ 11,607,911	\$ 1,289,768
Water/Sewer Estimate Placeholder					\$ 2,000,000
Project Total Cost (2028)			\$ 41,339,115	\$ 34,141,493	\$ 7,197,622
All costs are 2024 costs inflated to construction year 2028 at 4% per year					



Reconstruction
Areas



South Broadway Reconstruction

