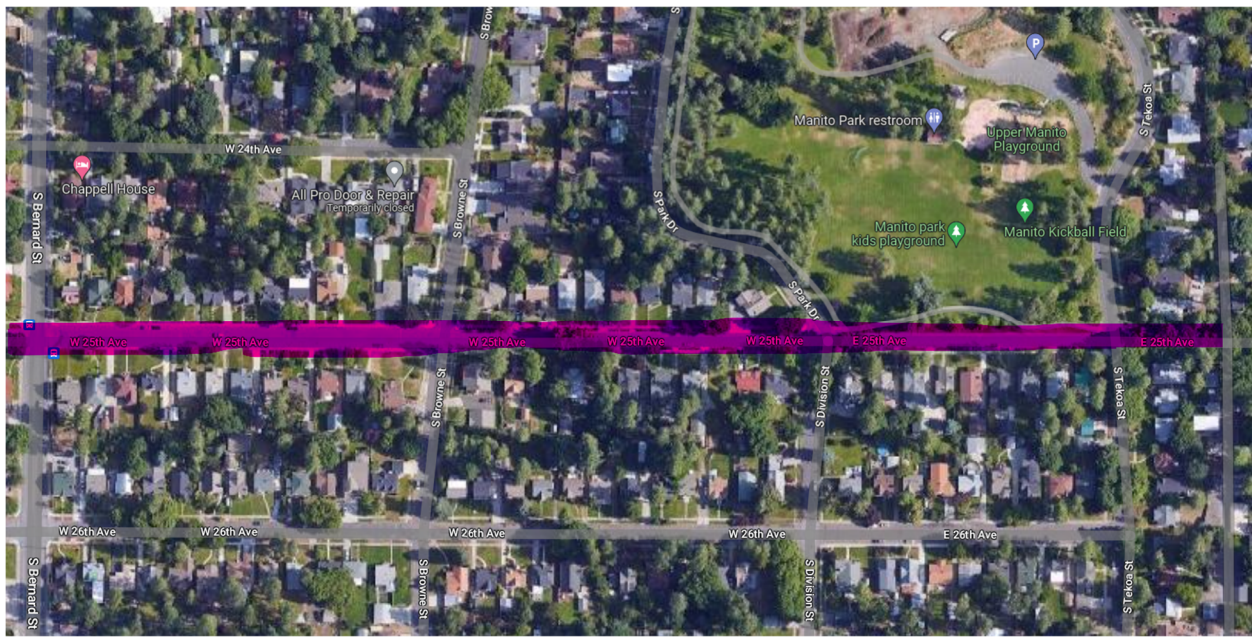


Spokane Traffic Calming Master Plan

District:	2
Neighborhood:	Manito-Cannon Hill
Project Extent:	25 th Avenue from Bernard Street to Tekoa Street (near Manito Park) Estimate: \$382,000

Problem Statement: Residents of the Manito-Cannon Hills neighborhood raised concerns over the need for sidewalk infill/repair, speeding, and cut through traffic along 25th Avenue from Bernard Street to Tekoa Street (near Manito Park).



25th Avenue from Bernard Street to Tekoa Street

Traffic Analysis

25th Avenue is classified as an urban minor collector and provides one lane in each direction and a posted speed limit of 25 miles per hour. 25th Avenue does not allow on-street parking from Tekoa Street to Division Street (at Manito Park) but does the rest of the study area. 25th Avenue is designated as a “bike friendly route” in Spokane Bike and Pedestrian Master Plan. Bernard Street is classified as an urban minor arterial. Bernard Street has a posted speed limit of 30 miles per hour, provides one lane in each direction, on-street parking on the west side of the road, a striped bike lane in both directions, and an acceptable sidewalk network. Bernard Street in the study area is designated as a “high traffic (bike lane)” route in the Spokane Bike and Pedestrian Master Plan.

The table below shows daily traffic counts and 85th Percentile speed data on 25th Avenue between Browne Street and Bernard Street – one block west of the study area. The 2022 daily traffic count was 666 vehicles. The 85th percentile speed along this corridor was 28 miles per hour (3 miles per hour

Spokane Traffic Calming Master Plan

higher than 25 mile per hour posted speed limit). The data indicates that there is a minor speeding problem along 25th Avenue near the study area.

2022 Daily Traffic and 85th Percentile Speeds on 25th Avenue between Browne St and Bernard St

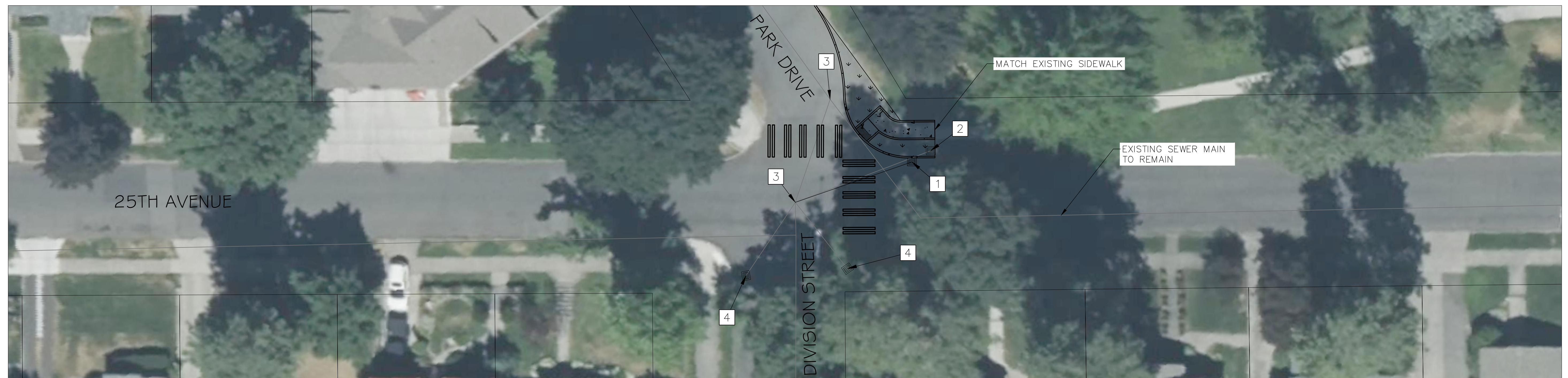
Direction	# Lanes	2022 Estimated Daily Traffic (Vehicles per day)	85 th Percentile Speed (mph)	Posted Speed (mph)
25 th Avenue				
EB	1	333	27	25
WB	1	333	28	25
Both Dir.	2	666	28	25

25th Avenue provides a direct connection between Grand Boulevard and Bernard Street along the edge of Manito Park. The curb-to-curb width is approximately 34-feet with underutilized on-street parking which may encourage higher travel speeds.


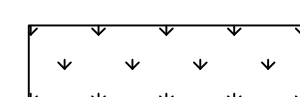
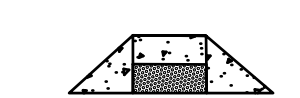
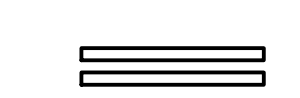

Recommended Solution

The roadway could benefit from the addition of traffic calming elements to manage driver speeds and improve the sidewalk network. The following improvements are recommended.

- Repair sidewalk and/or curb at the following locations on 25th Avenue:
 - North side of street - Browne Street to 118 W 25th Avenue
 - South side of street - Browne Street to 131 W 25th Avenue
- Install curb extensions across 25th Avenue east of Browne Street to reduce vehicle speeds entering the neighborhood.
- Install a marked crosswalk and curb extensions on the north and east legs of the 25th Avenue/Division Street/Park Drive intersection to improve crossing safety to the park and reduce vehicle speeds.



LEGEND

-  INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B
-  INSTALL LANDSCAPING, NATIVE PLANTINGS
-  INSTALL CURB RAMP PER COS STD PLAN F-105
-  INSTALL CROSSWALK PER COS STD PLAN G-61
-  PROPERTY LINE

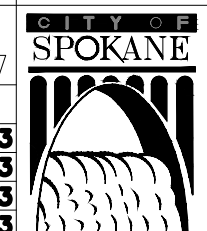
CONSTRUCTION NOTES

- 1 INSTALL NEW CATCH BASIN TYPE 1 AND 8" DIAM. PIPE AS NECESSARY. CONNECT TO EXISTING PIPE WHERE SHOWN.
- 2 REMOVE EXISTING INLET. PLUG AND ABANDON EXISTING PIPE.
- 3 EXISTING MANHOLE TO REMAIN IN PLACE.
- 4 EXISTING INLET TO REMAIN IN PLACE.

RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY

DATE	BY	PROJ.	DESCRIPTION	DATE	BY	PROJ.	E.F.N. / U.S.N.	FROM	TO	COUNCIL ACCEPT DATE	FROM	TO	ORD. NO.	DATE	FILE NO.
REVISIONS											AS BUILT				
											GRADE ORDINANCE LIST				

NAV88 = (OLD CBM ELEV.) - (13.13)	AS OF JANUARY, 2000 USE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88)
BENCH MARK LOCATION	NONE GIVEN
NAV88 ELE	NONE GIVEN
CBM NO.	NONE GIVEN
BAR IS ONE INCH ON ORIGINAL DRAWING	HORIZONTAL PLAN/PROFILE 1" = 10'
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	VERTICAL PROFILE ONLY N/A
SCALE	SCALE


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 (509) 625-6700

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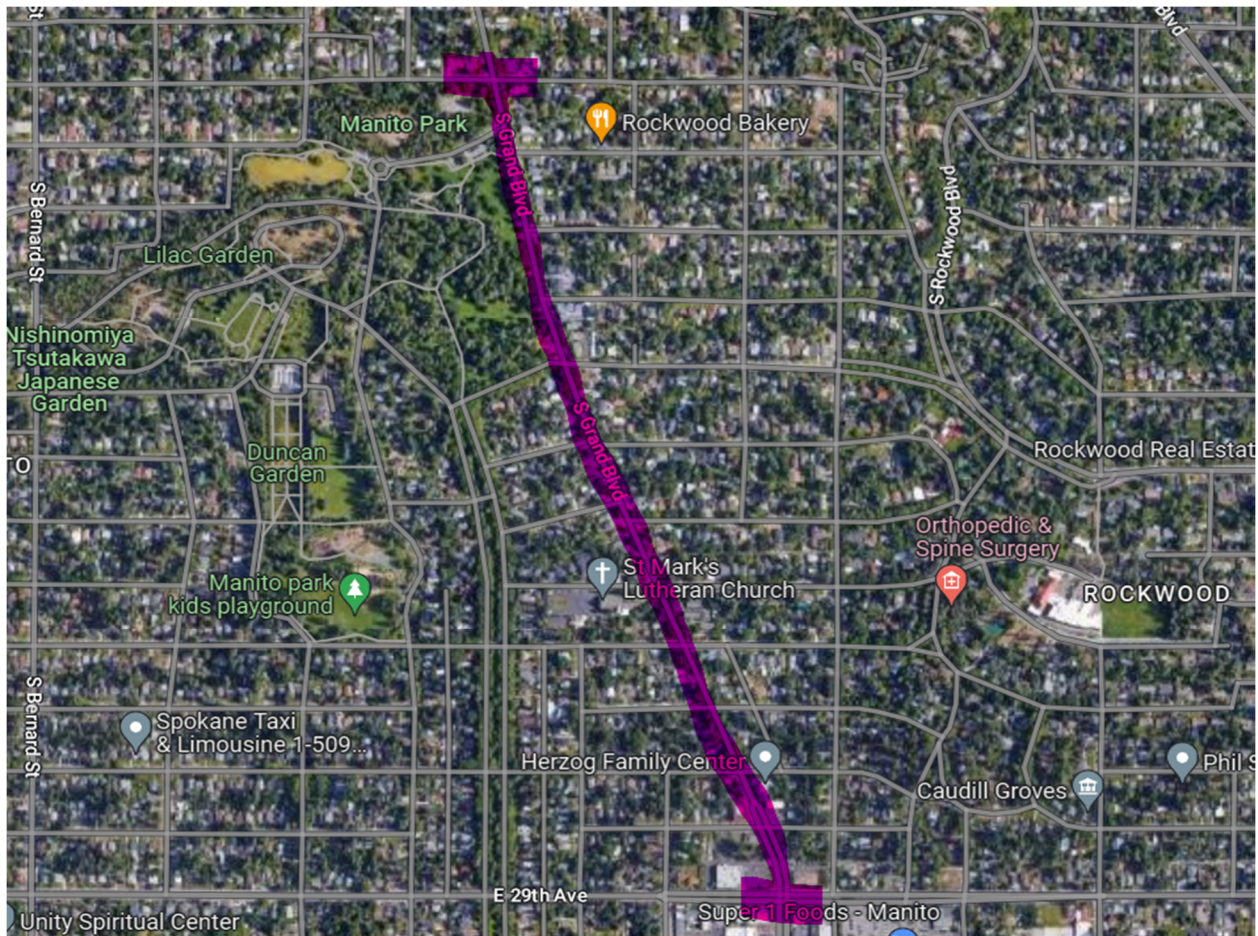
PROJECT NAME:	SPOKANE TRAFFIC CALMING MASTER PLAN	
SEGMENT LIMITS:	25TH AVENUE BROWNE STREET TO DIVISION STREET	
PROJECT LIMITS:	MANITO-CANNON HILL NEIGHBORHOOD	
TYPE OF IMPROVEMENT:	TRAFFIC	
CITY PROJECT NUMBER:		
CITY PLAN NUMBER:		

Plotted On May 15, 2023 - 3:43pm

Spokane Traffic Calming Master Plan

District:	2
Neighborhood:	Manito-Cannon Hill, Rockwood
Project Extent:	Grand Boulevard from 17 th Avenue to 29 th Avenue Estimate: \$1,539,000

Problem Statement: Residents of the Manito-Cannon Hills neighborhood raised concerns over speeding, lack of bicyclist network connectivity, lack of pedestrian crossing facilities, and the width of Grand Boulevard from 17th Avenue to 29th Avenue. Residents of the Rockwood neighborhood raised concerns over pedestrian crossing safety and difficulty crossing a high-volume roadway on Grand Boulevard at 18th, 21st and 25th Avenues.



Grand Boulevard from 17th Avenue to 29th Avenue

Traffic Analysis

Grand Boulevard in the study area is classified as an urban principal arterial. Grand Boulevard provides two lanes in each direction and has a posted speed limit of 20 miles per hour between 17th Avenue and Manito Place (along Manito Park frontage), and 30 miles per hour between Manito Place and 29th

Spokane Traffic Calming Master Plan

Avenue. Grand Boulevard provides two lanes in each direction, no on-street parking, and has an acceptable sidewalk network. There is a pedestrian signal across Grand Boulevard at 18th Avenue. Grand Boulevard in the study area is designated as a “moderate traffic (shared)” route in the Spokane Bike and Pedestrian Master Plan. Grand Boulevard provide transit service and bus stops.

The table below shows daily traffic counts and 85th Percentile speed data at several locations on Grand Boulevard from 17th Avenue to 29th Avenue. The highest 2022 daily traffic count was 15,564 vehicles near 20th Avenue. The highest 85th percentile speed along this corridor was 35 miles per hour near 26th Avenue (5 miles per hour higher than the posted speed limit of 30 miles per hour). The data indicates there is a moderate speed issue along the study corridor.

2022 Estimated Daily Traffic and 85th Percentile Speeds on Grand Boulevard at Several Locations

Direction	# Lanes	2022 Estimated Daily Traffic (Vehicles per day) ^a	85 th Percentile Speed (mph)	Posted Speed (mph)
20 th Avenue				
NB	2	N/A	N/A	
SB	2	N/A	N/A	
Both Dir.	4	15,564	29	30
24 th Avenue				
NB	2	7,309	33	
SB	2	7,418	32	
Both Dir.	4	14,727	33	30
25 th Avenue				
NB	2	4,933	N/A	
SB	2	9,170	N/A	
Both Dir.	4	14,103	N/A	30
26 th Avenue				
NB	2	N/A	N/A	
SB	2	N/A	N/A	
Both Dir.	4	15,069	35	30
27 th Avenue				
NB	1	N/A	N/A	
SB	1	N/A	N/A	
Both Dir.	2	14,699	34	30
29 th Avenue				
NB		4,922	N/A	
SB		8,924	N/A	
Both Dir.		13,846	N/A	30

^a Traffic data collected in March, June and July of 2015 and May 2018. Traffic volumes were grown at a 1.0% annual growth rate, to estimate 2022 traffic conditions.

Spokane Traffic Calming Master Plan

The table below shows the severity and types of crashes occurring on the Grand Boulevard study corridor over the last five years. The data includes all crashes on the corridor and are reported for the nearest intersection. There was a total of 33 crashes, including one minor injury crash where a vehicle hit a pedestrian at Grand Boulevard/25th Avenue. Angle and rearend crashes were the most common crash type.

Crashes on Grand Boulevard from 17th to 28th Avenue (2017 to 2021)

Crash Type	Crash Severity					Total
	Fatal	Major Injury	Minor Injury	Possible Injury	Property Damage Only	
17th Ave	-	-	-	4	7	11
18th Ave	-	-	-	-	1	1
19th Ave	-	-	-	1	-	1
20th Ave	-	-	-	-	1	1
21st Ave	-	1	-	1	3	5
22nd Ave	-	-	-	-	3	3
23rd Ave	-	-	-	1	1	2
24th Ave	-	-	-	-	3	3
25th Ave	-	-	1	-	2	3
26th Ave	-	-	-	-	1	1
27th Ave	-	-	-	-	-	0
28th Ave	-	-	-	-	2	2
Total	-	1	1	7	24	33

Given the 85th percentile speeds and the angle crash trend, a road diet was considered as means to reduce travel speeds and enhance safety on the study segment. With an estimated 15,000 vehicles per day, Grand Boulevard could be reduced to a three-lane cross section with a center two-way left-turn lane. As a point of reference, the planning level capacity of a two-lane urban arterial is 18,300 vehicles per day (assuming left-turn lanes are provided on the mainline at signalized intersections).¹

A road diet is expected to reduce crashes by 29%, per the Crash Modification Factors Clearinghouse.² A road diet on Grand Boulevard may also result in more uniform travel speeds on the corridor and is expected to reduce the average travel speed by 3 mph.³ Road diets are more successful when implemented on longer stretches of roadway; therefore, it is recommended that the lane reduction continue beyond the study area. When analyzing the cross section and daily traffic volumes on Grand Boulevard, it is recommended that the road diet extend 1.7 miles, from 9th Avenue/McClellan Street (at the north end) to 33rd Avenue (at the south end). The 9th Avenue/McClellan Street intersection is a logical terminus on the north end because Grand Boulevard ends and provides opportunity to drop and

¹ *Highway Capacity Manual 6th Edition: A Guide for Multimodal Mobility Analysis*. Page 16-30, Exhibit 16-16. Washington, DC: The National Academies Press.

² *Crash Modification Factors Clearinghouse*, <https://www.cmfclearinghouse.org/detail.cfm?facid=199>

³ *Engineering Speed Management Countermeasures: A Desktop Reference of Potential Effectiveness in Reducing Speed*. Federal Highway Administration. July 2014.

Spokane Traffic Calming Master Plan

add lanes at intersection roadways. 33rd Avenue was recommended as the south terminus because Grand Boulevard transitions to a three-lane cross section.

Grand Boulevard in the study area is designated as a “moderate traffic (shared)” route in the Spokane Bike and Pedestrian Master Plan. If the cross-section on Grand Boulevard is reduced to three lanes, there is an opportunity to add bike facilities. The existing curb-to-curb width would allow buffered bike lanes to be added to the corridor segments from 9th to 17th Avenue and 27th to 33rd Avenue. The corridor segment between 17th and 27th Avenue is constrained, allowing a buffered bike lane in the uphill (southbound) direction and shared lane treatment in the downhill (northbound) direction. Bicyclists are anticipated to travel at higher speeds in the downhill direction and more comfortably share a lane with vehicles.

The need for enhanced pedestrian crossing treatments was analyzed for Grand Boulevard based on NCHRP Report 562. Based on the findings, red treatments (e.g., HAWK signal beacon, midblock pedestrian signal) is the preferred treatment if there are 20 or more pedestrian crossings during the peak hour. It was assumed the pedestrian crossing is met given the surrounding urban neighborhood, bus stops and adjacent city park. There is a pedestrian signal across Grand Boulevard at 18th Avenue that connects to the northern area of the park. There are marked crossings with no signal or beacon at the other local streets that intersection the park frontage on Grand Boulevard (19th, 20th, 21st Avenues). An additional pedestrian signal at the southern end of the park would improve pedestrian access. If a pedestrian signal is installed at 21st Avenue/Manito Place, there is a need for sidewalks on Manito Place to provide a connection to the park path system.

Recommended Solution

It is recommended that a road diet be considered on Grand Boulevard, reducing the current four-lane cross section to a three-lane cross section with a center turn-lane. The addition of a center turn-lane is expected to reduce crashes, while the lane reduction is expected to reduce vehicle speeds. It is recommended that the City of Spokane further study the expected impacts of the road diet. The road diet can be considered along the 1.7-mile segment from 9th Avenue/McClellan Street (at the north end) to 33rd Avenue (at the south end).

Buffered bike lanes in both directions are recommended from 9th to 17th Avenue and 27th to 33rd Avenue. A buffered bike lane in the uphill direction and shared lane treatment in the downhill direction are recommended between 17th and 27th Avenue.

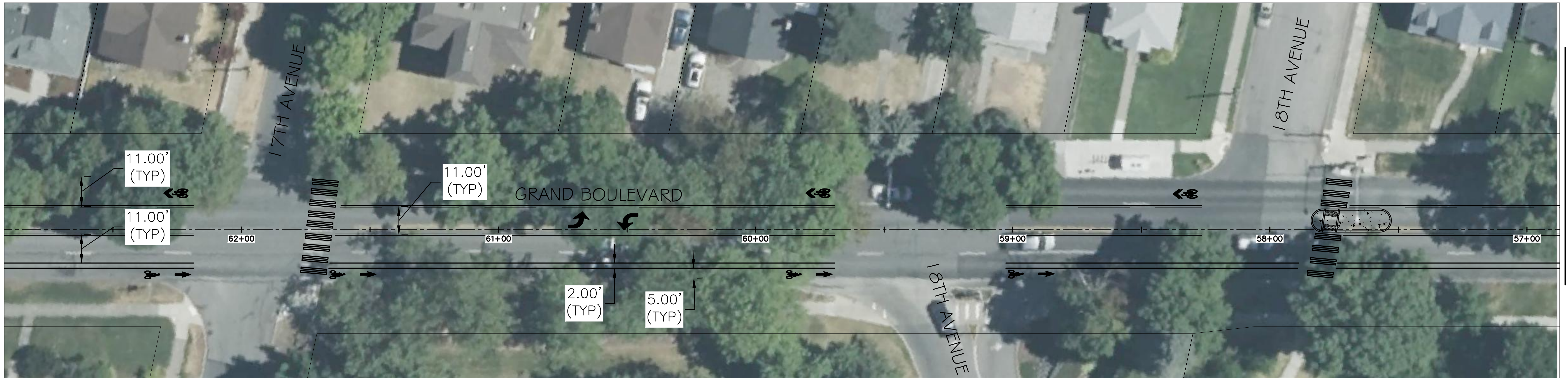
The following improvements are recommended to manage vehicle speeds and increase pedestrian safety along the study corridor.

- Install a rectangular rapid flashing beacon at the existing marked crosswalk on the north leg of the Grand Boulevard/21st Avenue/Manito Place intersection to increase the visibility of the crossing. This location connects to the southern portion of the park and bus stops.

Spokane Traffic Calming Master Plan

- Add a sidewalk on the north side of Manito Place between the marked crosswalk on the north leg of the Grand Boulevard/21st Avenue/Manito Place intersection and the park pathway near Manito Boulevard. Pending civil review, the sidewalk could replace the on-street parking to limit impacts to trees.

SEE CLIFF-CANNON NEIGHBORHOOD SHEETS




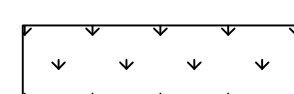
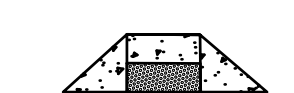
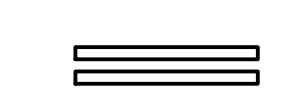

MATCH "GR" 56+90

MATCH "GR" 56+90



MATCH "GR" 50+90

LEGEND

-  INSTALL NEW CONCRETE MEDIAN
-  INSTALL LANDSCAPING, NATIVE PLANTINGS
-  INSTALL CURB RAMP PER COS STD PLAN F-105
-  INSTALL CROSSWALK PER COS STD PLAN G-61
-  PROPERTY LINE

RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY

DATE	BY	PROJ.	DESCRIPTION	DATE	BY	PROJ.	E.F.N. / U.S.N.	FROM	TO	COUNCIL ACCEPT DATE	FROM	TO	ORD. NO.	DATE	FILE NO.
REVISIONS															
AS BUILT															
GRADE ORDINANCE LIST															

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NAV88 ELE	NONE GIVEN
CBM NO.	NONE GIVEN
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	NONE GIVEN
NAV88 DATUM	NONE GIVEN
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SCALE	

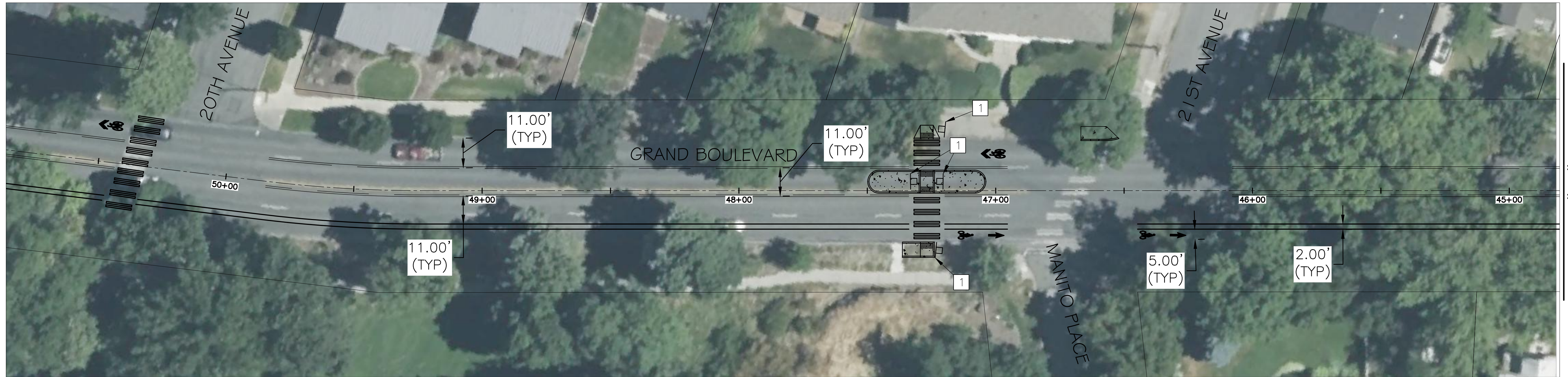


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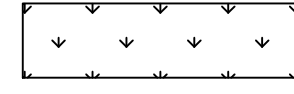
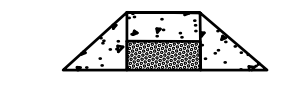


PRELIMINARY
NOT FOR CONSTRUCTION

2
 OF 9

PROJECT NAME:	SPOKANE TRAFFIC CALMING MASTER PLAN	
SEGMENT LIMITS:	GRAND BOULEVARD 17TH AVENUE TO 29TH AVENUE	
PROJECT LIMITS:	MANITO-CANNON HILL NEIGHBORHOOD	TYPE OF IMPROVEMENT: TRAFFIC
		CITY PROJECT NUMBER
		CITY PLAN NUMBER



LEGEND

-  INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B
-  INSTALL LANDSCAPING, NATIVE PLANTINGS
-  INSTALL CURB RAMP PER COS STD PLAN F-105
-  INSTALL CROSSWALK PER COS STD PLAN G-61
-  PROPERTY LINE

CONSTRUCTION NOTES

-  1 INSTALL NEW SOLAR RFB PEDESTRIAN CROSSING.

RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY

Plotted On: May 15, 2023 - 3:44pm

DATE	BY	PROJ.	DESCRIPTION	DATE	BY	PROJ.	E.F.N.	U.S.N.	FROM	TO	COUNCIL ACCEPT DATE	FROM	TO	ORD. NO.	DATE	FILE NO.
REVISIONS												AS BUILT				
REVISIONS												GRADE ORDINANCE LIST				

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CBM NO.	NONE GIVEN	IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	VERTICAL PROFILE ONLY
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APPROVED: AM 03/2023			



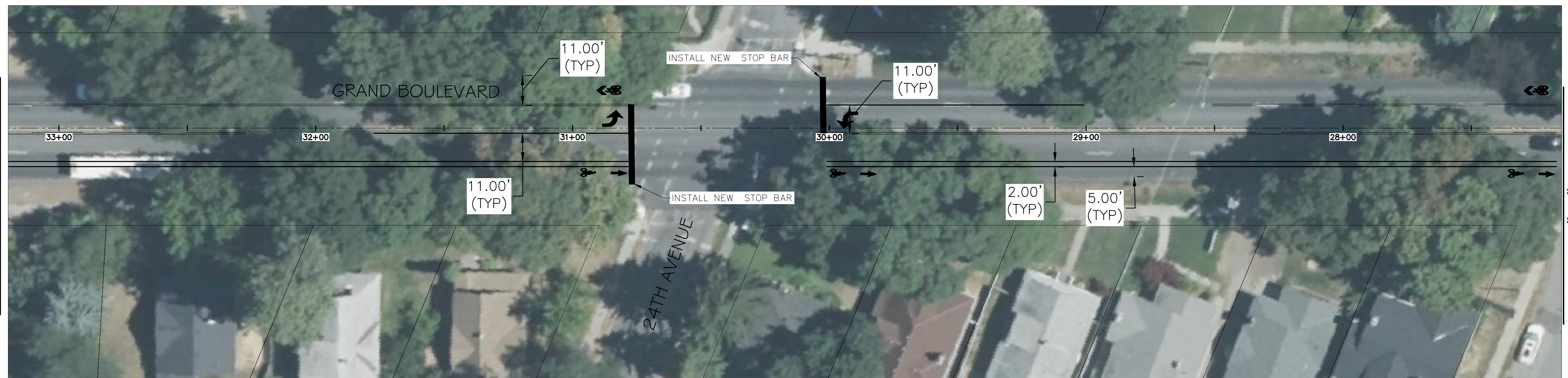
CITY OF SPOKANE, WASHINGTON
DEPARTMENT OF ENGINEERING SERVICES
808 WEST SPOKANE FALLS BLVD.
SPOKANE, WASHINGTON 99201-3343
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PRELIMINARY
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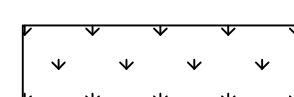
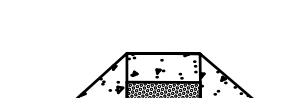


3
3 OF 9

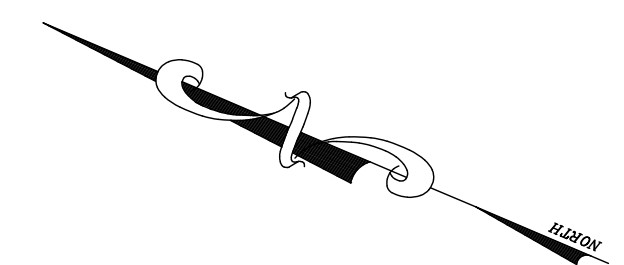
PROJECT NAME:	SPOKANE TRAFFIC CALMING MASTER PLAN	
SEGMENT LIMITS:	GRAND BOULEVARD 17TH AVENUE TO 29TH AVENUE	
PROJECT LIMITS:	MANITO-CANNON HILL NEIGHBORHOOD	
TYPE OF IMPROVEMENT:	TRAFFIC	
CITY PROJECT NUMBER	CITY PLAN NUMBER	

CALL BEFORE YOU DIG 1-800-424-5555



LEGEND

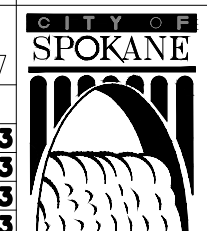
-  INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B
-  INSTALL LANDSCAPING, NATIVE PLANTINGS
-  INSTALL CURB RAMP PER COS STD PLAN F-105
-  INSTALL CROSSWALK PER COS STD PLAN G-61
-  PROPERTY LINE



RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY

DATE	BY	PROJ.	DESCRIPTION	DATE	BY	PROJ.	E.F.N. / U.S.N.	FROM	TO	COUNCIL ACCEPT DATE	FROM	TO	ORD. NO.	DATE	FILE NO.
REVISIONS															
AS BUILT															
GRADE ORDINANCE LIST															

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NAV88 ELE: NONE GIVEN	REVISED: KL 05/2023
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	
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4
 4 OF 9

PROJECT NAME: SPOKANE TRAFFIC CALMING MASTER PLAN	TYPE OF IMPROVEMENT: TRAFFIC
SEGMENT LIMITS: GRAND BOULEVARD 17TH AVENUE TO 29TH AVENUE	CITY PROJECT NUMBER: CITY PLAN NUMBER
PROJECT LIMITS: MANITO-CANNON HILL NEIGHBORHOOD	

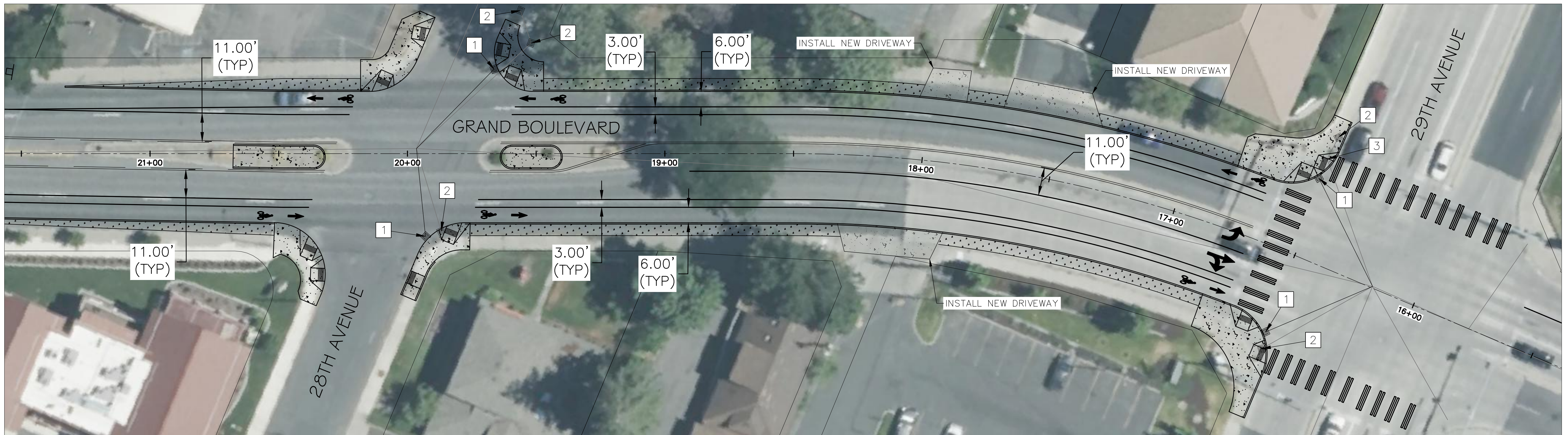
Plotted On: May 15, 2023 - 3:44pm

MATCH "GR" 27+10



MATCH "GR" 21+50

MATCH "GR" 21+50



SEE "GRAND BOULEVARD TRANSPORTATION & LAND USE STUDY" (JUNE 2020)

LEGEND

- INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B
- INSTALL LANDSCAPING, NATIVE PLANTINGS
- INSTALL CURB RAMP PER COS STD PLAN F-105
- INSTALL CROSSWALK PER COS STD PLAN G-61
- PROPERTY LINE

CONSTRUCTION NOTES

- 1 INSTALL NEW CATCH BASIN TYPE 1 AND 8" DIAM. PIPE AS NECESSARY. CONNECT TO EXISTING PIPE WHERE SHOWN.
- 2 REMOVE EXISTING INLET. PLUG AND ABANDON EXISTING PIPE.



PROPOSED BIKE LANE ENDS WARNING SIGN

**PRELIMINARY
NOT FOR CONSTRUCTION**

5
OF 9

RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY

Plotted On: May 15, 2023 - 3:44pm

DATE	BY	PROJ.	DESCRIPTION	DATE	BY	PROJ.	E.F.N. / U.S.N.	FROM	TO	COUNCIL ACCEPT DATE
REVISIONS										
AS BUILT										
GRADE ORDINANCE LIST										

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CBM NO.	NONE GIVEN	IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY
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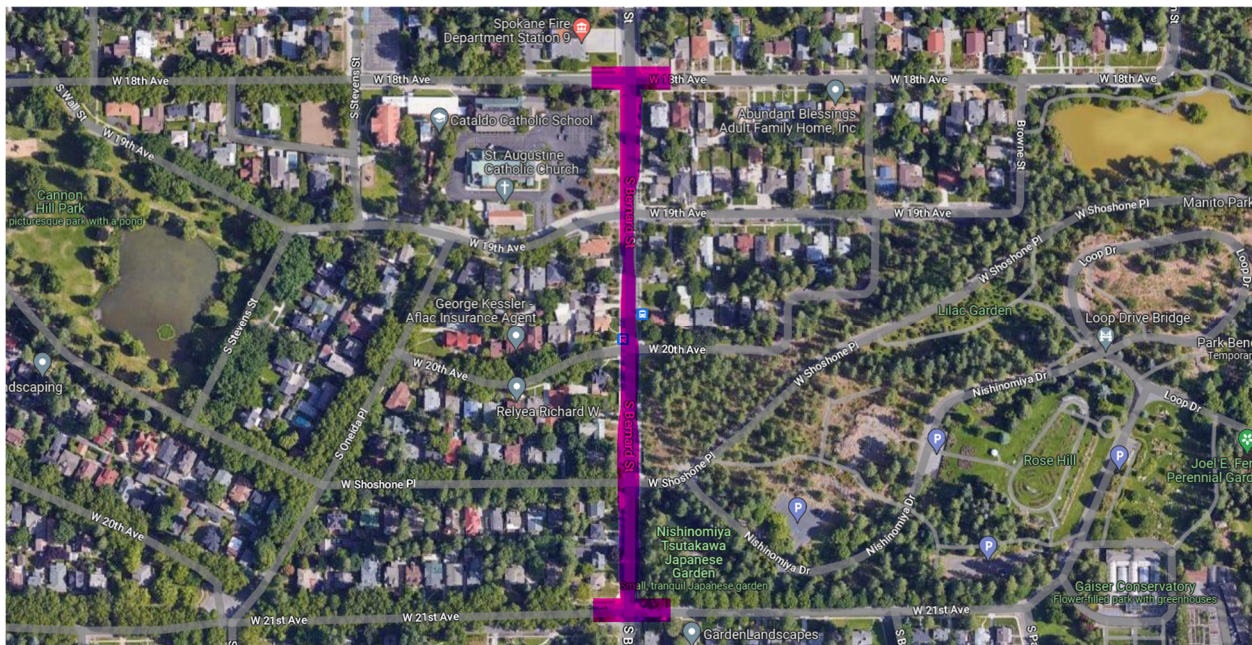
CITY OF SPOKANE, WASHINGTON
DEPARTMENT OF ENGINEERING SERVICES
808 WEST SPOKANE FALLS BLVD.
SPOKANE, WASHINGTON 99201-3343
(509) 625-6700

PROJECT NAME: SPOKANE TRAFFIC CALMING MASTER PLAN	TYPE OF IMPROVEMENT: TRAFFIC
SEGMENT LIMITS: GRAND BOULEVARD 17TH AVENUE TO 29TH AVENUE	CITY PROJECT NUMBER: CITY PLAN NUMBER
PROJECT LIMITS: MANITO-CANNON HILL NEIGHBORHOOD	CALL BEFORE YOU DIG 1-800-424-5555

Spokane Traffic Calming Master Plan

District:	2
Neighborhood:	Manito-Cannon Hill
Project Extent:	Bernard Street from 18 th Avenue to 21 st Avenue Estimate: \$547,000

Problem Statement: Residents of the Manito-Cannon Hills neighborhood raised concerns over speeding near Manito Park on Bernard Street from 18th Avenue to 21st Avenue.



Bernard Street from 18th Avenue to 21st Avenue

Traffic Analysis

Bernard Street in the study area is classified as an urban minor arterial. Bernard Street has a posted speed limit of 20 miles per hour, provides one lane in each direction, on-street parking on the west side of the road, a striped bike lane in both directions, and an acceptable sidewalk network. Bernard Street is designated as a “high traffic (bike lane)” route in the Spokane Bike and Pedestrian Master Plan. There is a marked school crossing with overhead flashers across Bernard Street at 18th Avenue. All intersections along the study corridor are controlled by a stop sign on the side street. Manito Park fronts the east side of Bernard Street between 20th and 21st Avenue.

18th Avenue in the study area is classified as an urban local access road. 18th Avenue has a posted speed limit of 20 miles per hour on the west side and 25 miles per hour on the east side. 18th Avenue provides one lane in each direction, on-street parking on both sides of the road and has an acceptable sidewalk network. 18th Avenue in the study area is designated as a “neighborhood greenway” in the Spokane Bike and Pedestrian Master Plan.

Spokane Traffic Calming Master Plan

21st Avenue in the study area is classified as an urban local access road. 21st Avenue does not have a posted speed limit, provides one lane in each direction, on-street parking, and an acceptable sidewalk network. 21st Avenue is designated as a “neighborhood greenway” in the Spokane Bike and Pedestrian Master Plan.

The table below shows estimated daily traffic counts at Bernard Street near 18th Avenue. The estimated 2022 daily traffic count was 1,134 vehicles on Bernard Street. There was no speed data available for this study area.

2022 Estimated Daily Traffic on Bernard Street near 18th Avenue

Direction	# Lanes	2022 Estimated Daily Traffic (Vehicles per day) ^a
Bernard Street		
NB	1	356
SB	1	778
Both Dir.	2	1,134

^a Traffic data collected in June 2017. Traffic volumes were grown at a 1.0% annual growth rate, to estimate 2022 traffic conditions.

Three non-injury crashes were recorded over the last five years (from 2017 to 2021) related to angle collisions or hitting an object.

The need for enhanced pedestrian crossing treatments was analyzed for Bernard Street based on NCHRP Report 562. Based on the findings, marked crosswalk treatments is the preferred treatment if there are 20 or more pedestrian crossings during the peak hour. It was assumed the pedestrian crossing is met given the surrounding urban neighborhood, bus stops and adjacent city park. There is a school crossing at 18th Avenue. The addition of a marked crossing at Shoshone Place would provide a connection to the western portion of Manito Park. The addition of a marked crossing at 21st Avenue would be consistent with the City’s neighborhood greenway designation.

Potential speeding issues on Bernard Street are a concern, especially with a 20 mile per hour posted speed limit near the park. The roadway provides bike lanes and has on-street parking on the west side of the street so there is limited opportunity to add curb extensions or narrow the roadway with a center median treatment.

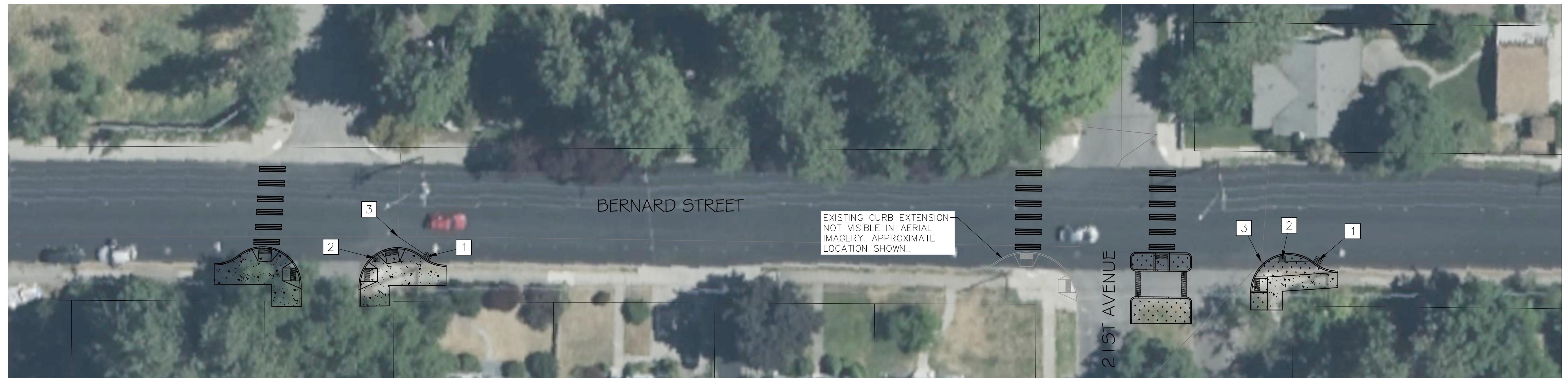
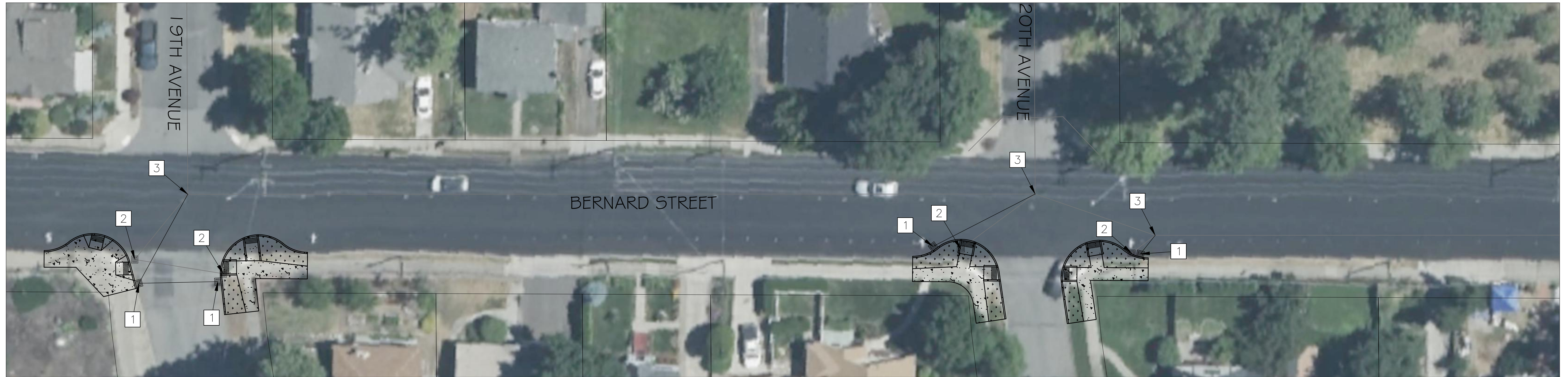
Recommended Solution

The following improvements are recommended to manage vehicle speeds and increase pedestrian safety along the study corridor.


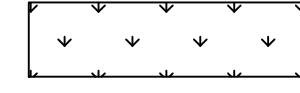
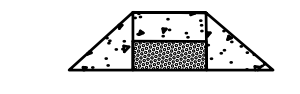


- Install curb extensions on the west side of Bernard Street adjacent to the on-street parking at the following locations:
 - 19th Avenue
 - 20th Avenue

Spokane Traffic Calming Master Plan

- Shoshone Place
 - 21st Avenue
- Install a marked pedestrian crossing on the north leg of the Bernard Street/Shoshone Place intersection to provide a connection to the western portion of Manito Park.
- Install a marked pedestrian crossing on Bernard Street at 21st Avenue to support the City's neighborhood greenway designation.



LEGEND

-  INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B
-  INSTALL LANDSCAPING, NATIVE PLANTINGS
-  INSTALL CURB RAMP PER COS STD PLAN F-105
-  INSTALL CROSSWALK PER COS STD PLAN G-61
-  PROPERTY LINE

CONSTRUCTION NOTES

- 1** INSTALL NEW CATCH BASIN TYPE I AND 8" DIAM. PIPE AS NECESSARY. CONNECT TO EXISTING PIPE WHERE SHOWN.
- 2** REMOVE EXISTING INLET. PLUG AND ABANDON EXISTING PIPE.
- 3** EXISTING MANHOLE TO REMAIN IN PLACE.



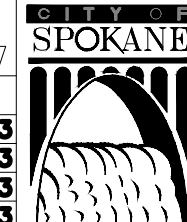
PRELIMINARY
NOT FOR CONSTRUCTION

6
6 OF 9

RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY

REVISIONS				AS BUILT				GRADE ORDINANCE LIST				
DATE	BY	PROJ.	DESCRIPTION	DATE	BY	PROJ.	E.F.N. - U.S.N.	FROM	TO	ORD. NO.	DATE	FILE NO.

NAV88 = (OLD CBM ELEV.) - (13.13) AS OF JANUARY, 2000 USE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88)		CURRENT C.O.S. DESIGN STANDARDS ADOPTED FEB. 2007	
BENCH MARK LOCATION: NONE GIVEN		BY: KL 03/2023	
NAV88 ELE: NONE GIVEN		REVISED: KL 05/2023	
CBM NO: NONE GIVEN		CHECKED: SP 03/2023	
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY		APPROVED: AM 03/2023	
HORIZONTAL PLAN/PROFILE: 1" = 20'		SCALE	
VERTICAL PROFILE ONLY: N/A			



CITY OF SPOKANE, WASHINGTON
DEPARTMENT OF ENGINEERING SERVICES
808 WEST SPOKANE FALLS BLVD.
SPOKANE, WASHINGTON 99201-3343
(509) 625-6700

PROJECT NAME: SPOKANE TRAFFIC CALMING MASTER PLAN		TYPE OF IMPROVEMENT: TRAFFIC	
SEGMENT LIMITS: BERNARD STREET 19TH AVENUE TO 21ST AVENUE		CITY PROJECT NUMBER: CITY PLAN NUMBER:	
PROJECT LIMITS: MANITO-CANNON HILL NEIGHBORHOOD		E.F.N./U.S.N. DATE	

Plotted On: May 15, 2023 - 3:44pm



LEGEND

- INSTALL LANDSCAPING, NATIVE PLANTINGS
- PROPERTY LINE

CONSTRUCTION NOTES

- 1 RELOCATE EXISTING STOP SIGN. REMOVE EXISTING STOP BAR MARKING.
- 2 REMOVE PORTION OF EXISTING MEDIAN. INSTALL NEW ASPHALT FOR BIKE LANE.



**PRELIMINARY
 NOT FOR CONSTRUCTION**

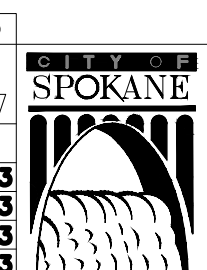
7
 7 OF 9

RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY

DATE	BY	PROJ.	DESCRIPTION	DATE	BY	PROJ.	E.F.N. / U.S.N.	FROM	TO	COUNCIL ACCEPT DATE
REVISIONS										
AS BUILT										

FROM	TO	ORD. NO.	DATE	FILE NO.
GRADE ORDINANCE LIST				

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NAVDB8 ELE	NONE GIVEN
CBM NO.	NONE GIVEN
BAR IS ONE INCH ON ORIGINAL DRAWING	HORIZONTAL PLAN/PROFILE 1" = 10'
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	VERTICAL PROFILE ONLY N/A
SCALE	SCALE



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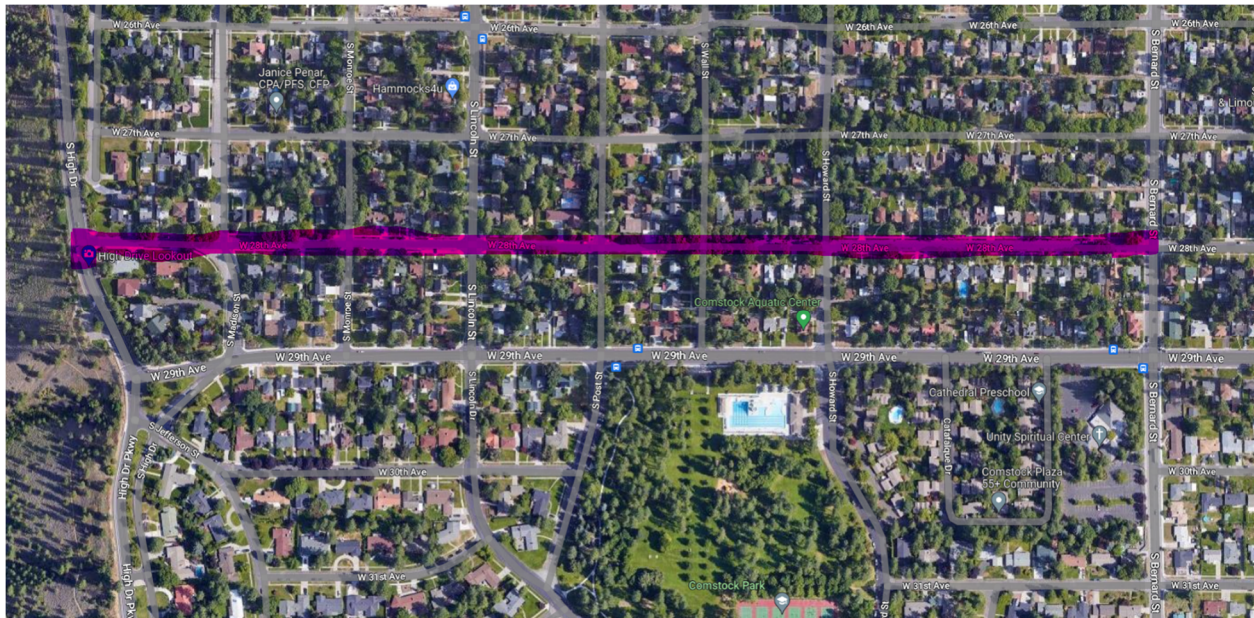
PROJECT NAME:	SPOKANE TRAFFIC CALMING MASTER PLAN	
SEGMENT LIMITS:	29TH AVENUE HIGH DRIVE TO MADISON STREET	
PROJECT LIMITS:	MANITO-CANNON HILL NEIGHBORHOOD	TYPE OF IMPROVEMENT: TRAFFIC
		CITY PROJECT NUMBER
		CITY PLAN NUMBER

Plotted On: May 15, 2023 - 3:45pm

Spokane Traffic Calming Master Plan

District:	2
Neighborhood:	Manito-Cannon Hill
Project Extent:	28 th Avenue from Bernard Street to High Drive

Problem Statement: Residents of the Manito-Cannon Hills neighborhood raised concerns over cut-through traffic and speeding along 28th Avenue from Bernard Street to High Drive.



28th Avenue from Bernard Street to High Drive

Traffic Analysis

28th Avenue in the study area is classified as an urban local street, provides one lane in each direction and on-street parking. 28th Avenue provides sidewalks west of Lincoln Street and does not have a posted speed limit or bike lanes. The curb-to-curb width is approximately 28-feet.

The table below shows daily traffic counts and 85th percentile speed data on 28th Avenue between Howard Street and Wall Street in the study area. The 2022 daily traffic count was 114 vehicles. The 85th percentile speed along this corridor was 22 miles per hour in the westbound direction on 28th Avenue. The statutory speed limit is 25 miles per hour indicating there is not a speeding concern.

Spokane Traffic Calming Master Plan

2022 Daily Traffic and 85th Percentile Speed on 28th Avenue between Howard Street and Wall Street

Direction	# Lanes	2022 Estimated Daily Traffic (Vehicles per day) ^a	85 th Percentile Speed (mph)	Posted Speed/Statutory Speed (mph)
28 th Avenue between Howard Street and Wall Street				
EB	1	74	21	
WB	1	40	22	
Both Dir.	2	114	22	25


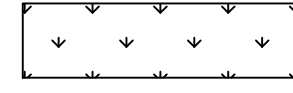
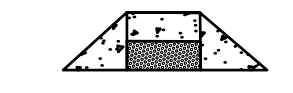

Recommended Solution

The following improvements are recommended to manage vehicle speeds and discourage cut-through traffic along the study corridor.

- Infill sidewalks on 28th Avenue between Bernard Street and Lincoln Street.



LEGEND

-  INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B
-  INSTALL LANDSCAPING, NATIVE PLANTINGS
-  INSTALL CURB RAMP PER COS STD PLAN F-105
-  PROPERTY LINE

RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY

DATE	BY	PROJ.	DESCRIPTION	DATE	BY	PROJ.	E.F.N. / U.S.N.	FROM	TO	COUNCIL ACCEPT DATE	FROM	TO	ORD. NO.	DATE	FILE NO.
REVISIONS															
AS BUILT															
GRADE ORDINANCE LIST															

NAV88 = (OLD CBM ELEV.) - (13.13) AS OF JANUARY, 2000 USE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88)	
BENCH MARK LOCATION	NONE GIVEN
NAV88 ELE	NONE GIVEN
CBM NO.	NONE GIVEN
BAR IS ONE INCH ON ORIGINAL DRAWING	HORIZONTAL PLAN/PROFILE: WMS
VERTICAL PROFILE ONLY	N/A
SCALE	
NAV88 DATUM	



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PROJECT NAME:	SPOKANE TRAFFIC CALMING MASTER PLAN	
SEGMENT LIMITS:	28TH AVENUE MADISON STREET TO HOWARD STREET	
TYPE OF IMPROVEMENT:	TRAFFIC	
CITY PROJECT NUMBER:		
CITY PLAN NUMBER:		
PROJECT LIMITS:	MANITO-CANNON HILL NEIGHBORHOOD	

Plotted On May 15, 2023 - 3:45pm



LEGEND

-  INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-1.02B
-  INSTALL LANDSCAPING, NATIVE PLANTINGS
-  PROPERTY LINE

RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY

DATE	BY	PROJ.	DESCRIPTION	DATE	BY	PROJ.	E.F.N. / U.S.N.	FROM	TO	COUNCIL ACCEPT DATE	FROM	TO	ORD. NO.	DATE	FILE NO.
REVISIONS															
AS BUILT															
GRADE ORDINANCE LIST															

NAV888 = (OLD CBM ELEV.) - (13.13) AS OF JANUARY, 2000 USE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV888)	CURRENT C.O.S. DESIGN STANDARDS ADOPTED FEB. 2007	
BENCH MARK LOCATION: NONE GIVEN	BY: KL	DATE: 03/2023
NAV888 ELE: NONE GIVEN	REVISIONS: KL	DATE: 05/2023
CBM NO.: NONE GIVEN	CHECKED: SP	DATE: 03/2023
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWN: KL	DATE: 03/2023
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	APPROVED: AM	DATE: 03/2023
HORIZONTAL PLAN/PROFILE: 1" = 10'	SCALE	
VERTICAL PROFILE ONLY: N/A		



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 DEPARTMENT OF ENGINEERING SERVICES
 808 WEST SPOKANE FALLS BLVD.
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9
 9 OF 9

PROJECT NAME: SPOKANE TRAFFIC CALMING MASTER PLAN	TYPE OF IMPROVEMENT: TRAFFIC
SEGMENT LIMITS: 28TH AVENUE MADISON STREET TO HOWARD STREET	CITY PROJECT NUMBER: CITY PLAN NUMBER
PROJECT LIMITS: MANITO-CANNON HILL NEIGHBORHOOD	DATE: 03/2023



CONCEPTUAL ENGINEER'S ESTIMATE

PROJECT: Manito-Cannon Hill - 5b
DESCRIPTION: 28th Avenue from Madison Street to Howard Street

BY: JHK
CHECKED BY: _____
DATE: _____

ASSUMPTIONS:

NUMBER	SPEC	STD ITEM NO.	BID ITEM	QUANTITY	UNIT	UNIT PRICE	COST
1			MOBILIZATION	1	LS	\$ 32,744	\$ 32,744
2			PROJECT TEMPORARY TRAFFIC CONTROL	1	LS	\$ 10,915	\$ 10,915
3			ROADWAY EXCAVATION INCLUDING HAUL	56	CY	\$ 35	\$ 1,944
4			REMOVE CEMENT CONCRETE SIDEWALK AND DRIVEWAY	30	SY	\$ 15	\$ 450
5			CURB RAMPS	29	SY	\$ 130	\$ 3,712
6			TOPSOIL TYPE A, 2 INCH THICK	143	SY	\$ 12	\$ 1,713
7			HYDROSEEDING	143	SY	\$ 20	\$ 2,856
8			CEMENT CONCRETE SIDEWALK	805	SY	\$ 180	\$ 144,900
9			CEMENT CONCRETE CURB AND GUTTER	896	LF	\$ 70	\$ 62,720
SUBTOTAL							\$ 261,955
CONTINGENCY				40%			\$ 104,790
CONSTRUCTION TOTAL (ROUNDED)							\$ 367,000
PROJECT MANAGEMENT				15%			\$ 55,050
DESIGN				25%			\$ 91,750
CONSTRUCTION MANAGEMENT				20%			\$ 73,400
SUBTOTAL							\$ 220,200
GRAND TOTAL (ROUNDED)							\$ 587,000