

Spokane Traffic Calming Master Plan

District:	2
Neighborhood:	East Central
Project Extent:	9 th Avenue from Altamont Street to Perry Street 9 th Avenue and Pittsburg Street Intersection
	Estimate: \$288,000

Problem Statement: Residents of the East Central neighborhood raised concerns over vehicle speeds, congestion, and safety, on 9th Avenue between Altamont Street and Perry Street (0.58 Miles). Additionally, residents raised specific concerns about pedestrian crossing safety at the 9th Avenue and Pittsburg Street intersection. In the project area, 9th Avenue is classified as a minor arterial with a speed limit of 30 mph. On-street parking is provided only on the north side of the street.

Traffic Analysis

The table below shows estimated 2022 daily traffic volumes and 85th percentile speeds on 9th Avenue (east of Pittsburg Street). As shown in the table, there are about 4,500 vehicles per day on 9th Avenue with an 85th percentile speed of 33 mph (3 mph higher than the posted speed limit). Community members have raised concerns about the posted speed limit of 30 mph along 9th Avenue, suggesting that it be lowered to 25 mph. In order to lower the posted speed, it would need to be evaluated and confirmed by city council.

2022 Daily Traffic and 85th Percentile Speeds on 9th Avenue (East of Pittsburg Street)

Direction	# Lanes	2022 Estimated Daily Traffic (Vehicles per day) ^a	85 th Percentile Speed (mph)	Posted Speed (mph)
EB	1	2,387		
WB	1	1,988		
Both Dir.	2	4,375	33	30

^a Traffic data collected on April 12, 2018. Traffic volumes were grown at a 1.0% annual growth rate, to estimate 2022 traffic conditions. A seasonal adjustment factor of 0.98 was applied to the traffic count, based on historical traffic data from the city to estimate average daily traffic.

The table below shows the severity and types of crashes occurring on 9th Avenue between Altamont Street and Perry Street over the last five-years (excluding intersection crashes at the east and west ends). As shown in the table, there were a total of 14 crashes, including six injury crashes. Stationary object collisions were the most common crash type (representing 60% of all crashes). Of the 14 total crashes, six crashes occurred on the block between Helena Street and Pittsburg Street (including five collisions with parked vehicles).

Spokane Traffic Calming Master Plan

Crashes on 9th Avenue from Altamont Street to Perry Street (2017 to 2021)

Crash Type	Crash Severity					Total
	Fatal	Major Injury	Minor Injury	Property Damage Only	Unknown	
Turning	-	-	1	2	-	3
Sideswipe	-	-	1	-	-	1
Stationary Object or Car	-	-	4	3	2	9
Unknown	-	-	-	1	-	1
Total	-	-	6	6	2	14

The need for enhanced pedestrian crossing treatments (across 9th Avenue) was analyzed based on the National Cooperative Highway Research Program (NCHRP) Report 562.¹ This report uses four main criteria to identify appropriate crossing treatment: peak hour pedestrian volumes, conflicting vehicle volumes, conflicting vehicle speed, and crossing distance/number of travel lanes to be crossed. This analysis shows that no additional crossing treatment would be required unless there are 20 or more pedestrians during the peak hour, at which point a crosswalk would be recommended.

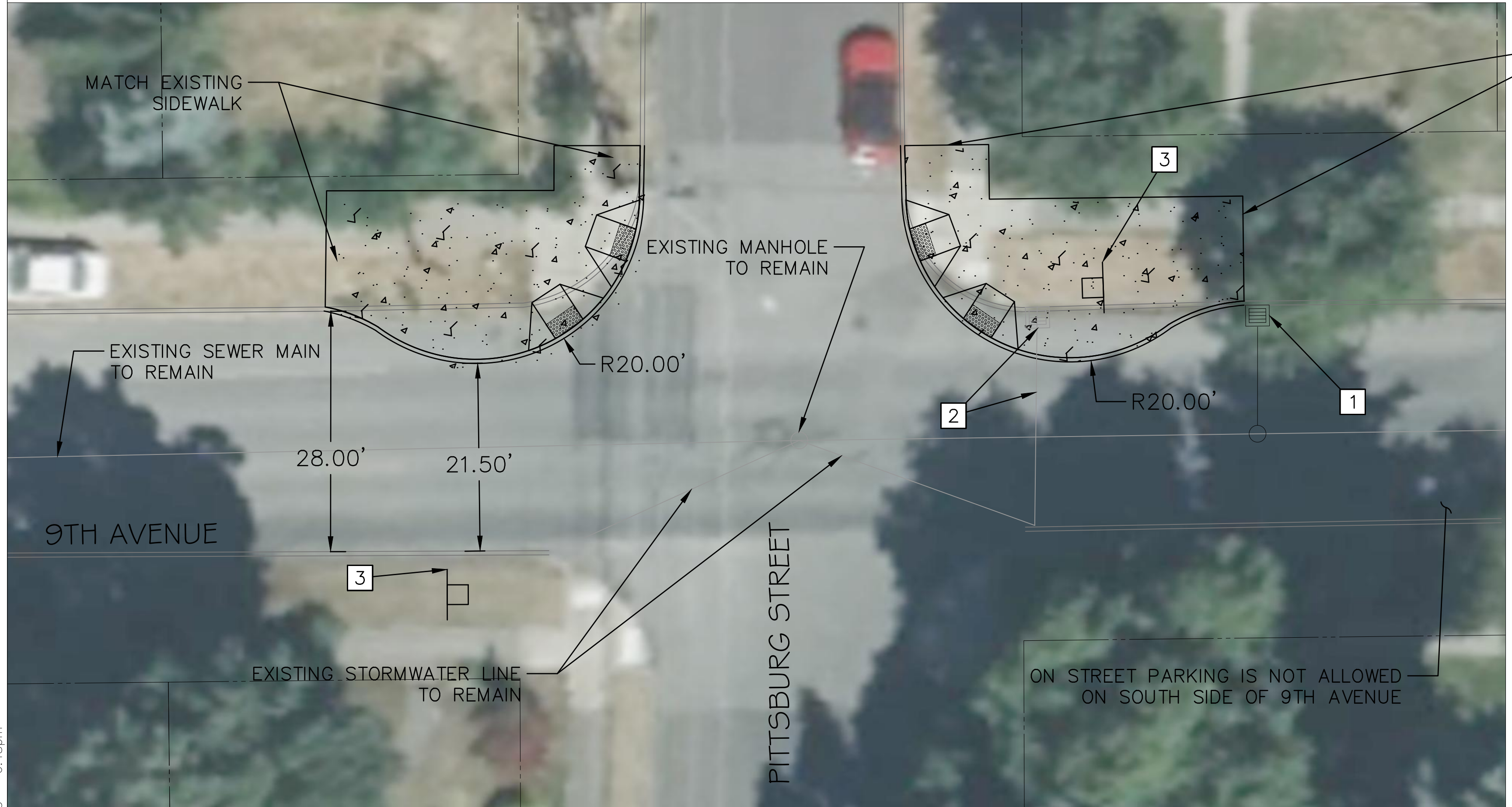
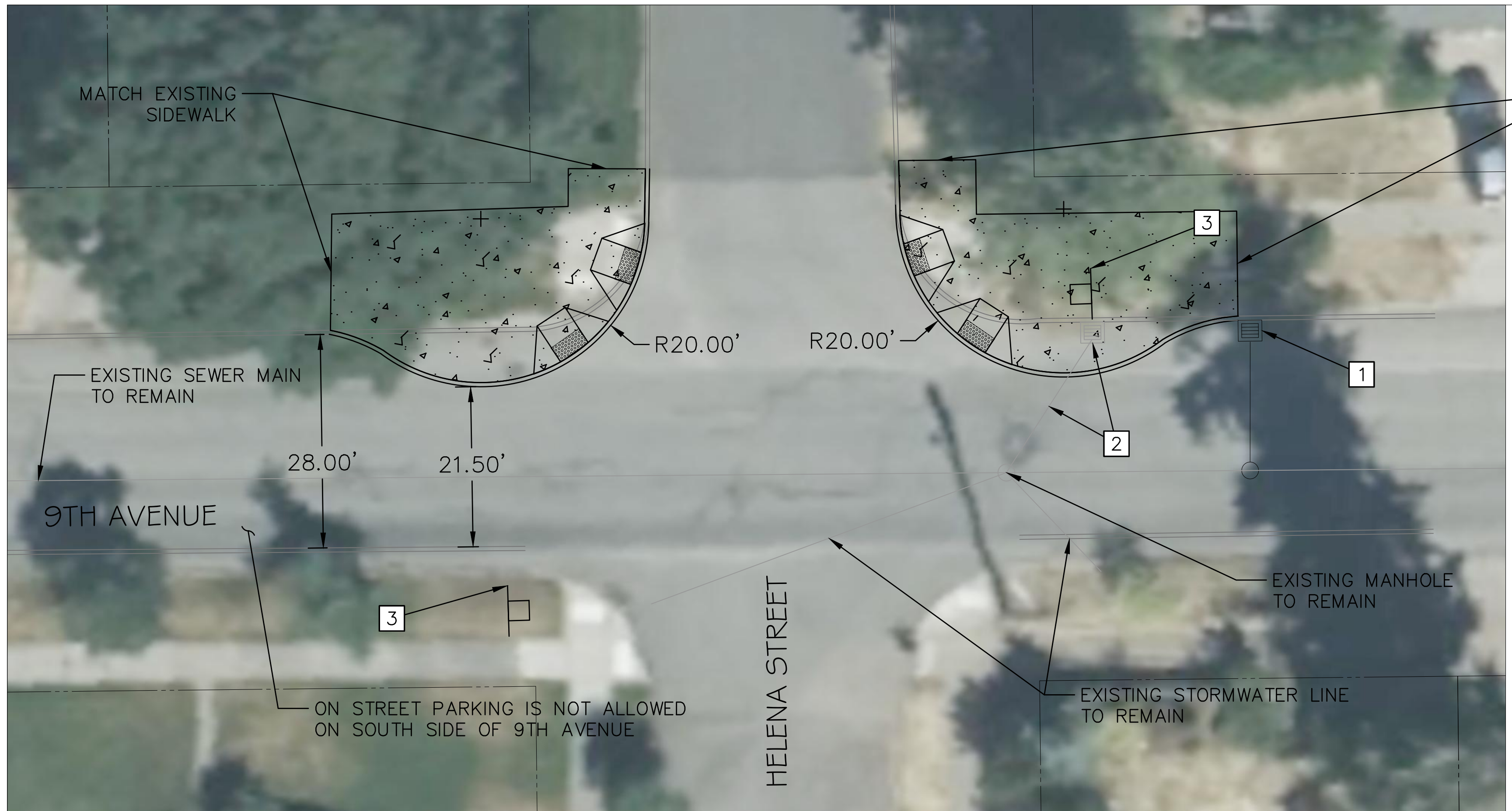
Curb extensions are recommended on the north side of 9th Avenue at both the Pittsburg Street and Helena Street intersections, to narrow the roadway width. Curb extensions are expected to decrease the 85th percentile speeds by 3 mph² and may also reduce parked vehicle crashes by directing traffic towards the center of the roadway. The addition of curb extensions will also reduce the crossing distance for pedestrians crossing 9th Avenue to access Liberty Park. Lastly, it is recommended that additional pedestrian counts be collected at the 9th Avenue and Pittsburg Street intersection to determine the proper crossing treatment.

Recommended Solution:

Curb extensions are recommended on the north side of 9th Avenue at both the Pittsburg Street and Helena Street intersections. Curb extensions will narrow the roadway width and are expected to reduce travel speeds on 9th Avenue. Additionally, updated pedestrian counts are recommended to determine the proper crossing treatment at the 9th Avenue and Pittsburg Street intersection.

¹ NCHRP Report 562: *Improving Pedestrian Safety and Unsignalized Crossings*. National Cooperative Highway Research Program, 2006. <https://nacto.org/wp-content/uploads/2010/08/NCHRP-562-Improving-Pedestrian-Safety-at-Unsignalized-Crossings.pdf>

² *Engineering Speed Management Countermeasures: A Desktop Reference of Potential Effectiveness in Reducing Speed*. Federal Highway Administration. July 2014.



LEGEND

	PROPERTY LINE
	EXISTING CONCRETE SIDEWALK
	EXISTING CURB
	INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B
	INSTALL NEW CURB PER COS STD PLAN F-106B
	INSTALL CURB RAMP PER COS STD PLAN F-105

- CONSTRUCTION NOTES**
- 1 INSTALL NEW INLET AND MANHOLE. PIPE TO EXISTING SEWER MAIN
 - 2 ABANDON EXISTING INLET AND PIPE
 - 3 INSTALL WAYFINDING SIGNAGE TO BEN BURR TRAIL. SEE PHOTO BELOW.



**PRELIMINARY
NOT FOR CONSTRUCTION**

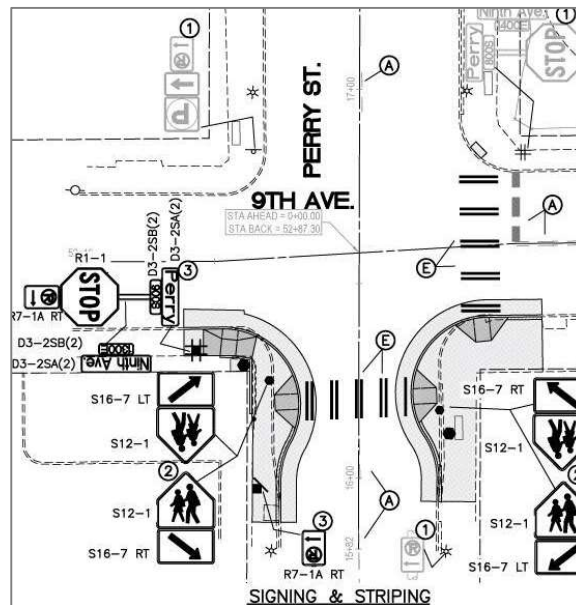
Plotted On: May 14, 2023 - 6:48pm

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Spokane Traffic Calming Master Plan

District: 2
Neighborhood: East Central
Project Extent: 9th Avenue and Perry Street by Grant Elementary
Estimate: \$10,000

Problem Statement: Residents of the East Central neighborhood raised concerns over school zone signing, vehicle speeds, and speed enforcement on both 9th Avenue and Perry Street near Grant Elementary. In front of Grant Elementary, 9th Avenue is classified as a local street with a speed limit of 25 mph, while Perry Street is classified as a minor arterial with a speed limit of 20 mph. The City of Spokane has plans to upgrade the 9th Avenue and Perry Street intersection as a part of a Cycle 9 Traffic Calming project (proposed design shown in the figure below). This upgrade will add curb extensions and rectangular rapid flashing beacons on the south leg of the intersection. The intersection is currently stop controlled on the east and west legs.



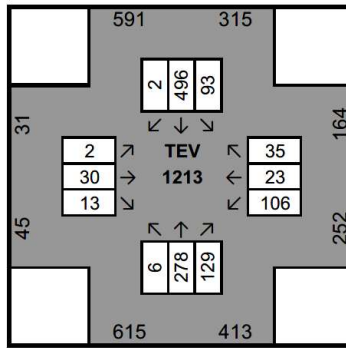
Proposed Intersection Upgrade at 9th Avenue and Perry Street

Traffic Analysis:

The figure below shows the existing PM peak hour traffic volumes at the 9th Avenue and Perry Street intersection, based on a traffic count from November 1, 2022. These volumes were adjusted with a seasonal adjustment factor of 1.05, based on historical traffic data from the city to estimate the 30th highest hour. Pedestrian activity peaked during the school release (2:45 to 3:45 PM); during this timeframe, there were a total of 157 pedestrian crossings, as noted below:

- South Leg: 56 crossings
- North Leg: 12 crossings
- West Leg: 35 crossings
- East Leg: 54 crossings

Spokane Traffic Calming Master Plan



PM Peak Hour Traffic at 9th Avenue and Perry Street

The table below shows the severity and types of crashes on 9th Avenue and Perry Street in the vicinity of the school. There were a total of eight crashes, primarily consisting of fixed object and angle collisions.

Crashes on Perry Street and 9th Avenue in Study Area (2017 to 2021)

Segment	Crash Type	Crash Severity					Total
		Fatal	Major Injury	Minor Injury	Property Damage Only	Unknown	
Perry St (8 th to 11 th Ave)	Rear End	-	-	-	1	-	1
	Angle	-	-	-	2	-	2
	Fixed Object	-	-	-	2	1	3
9 th Ave (Perry to Arthur St)	Angle	-	-	1	-	-	1
	Fixed Object	-	-	1	-	-	1
Total		0	0	2	5	1	8

A review of existing signing indicates that the 20 mph speed limit sign on southbound Perry Street is being blocked by trees. It was also noted that the existing 20 mph school speed zone signing is incomplete for east-west traffic on 9th Avenue. There are no 20 mph school zone signs east of the school (for westbound traffic on 9th Avenue). In addition, both eastbound and westbound traffic are lacking signs which indicate where the school speed zone ends. Therefore, it is recommended that school speed zone signing be updated on 9th Avenue, in front of Grant Elementary, to clarify the extents of the school speed zone. Per the Revised Code of Washington (Section 46.61.440) school zones can be installed up to 300' away from active schools or playgrounds.¹ In order to update these school zone signs; a motion will need to go through city council to update the school zone extents.

Recommended Solution:

It is recommended that school speed zone signing be updated for east-west traffic on 9th Avenue in front of Grant elementary, to clarify the extents of the speed zone. In addition, the southbound 20 mph speed limit sign on Perry Street near 8th Avenue is blocked by trees and should be relocated to increase visibility. These signing changes will complement the proposed intersection upgrades at the 9th Avenue and Perry Street intersection, to address concerns about speeding and pedestrian safety in the area.

¹ Revised Code of Washington Section 46.61.440. <https://app.leg.wa.gov/rcw/default.aspx?cite=46.61.440>



PROPOSED SCHOOL ZONE SPEED SIGN

LEGEND

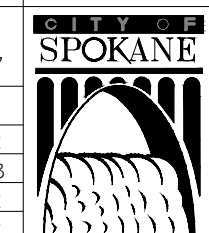
	PROPERTY LINE
	INSTALL SIGN (SEE PROPOSED)

CONSTRUCTION NOTES

- 1** INSTALL PROPOSED SCHOOL ZONE SPEED SIGN
- 2** RELOCATE EXISTING SCHOOL ZONE SPEED SIGN HERE

Plotted On: May 14, 2023 - 6:49pm

NAVD88 = (OLD CBM ELEV.) - (1.3.13) AS OF JANUARY, 2000 USE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)									
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NAVD88 ELEV.: None Given					SCALE: HORIZONTAL PLAN/PROFILE: 1" = 20' VERTICAL PROFILE ONLY: N/A				
COUNCIL ACCEPT DATE:					DATE:				
AS BUILT					GRADE ORDINANCE LIST				
REVISIONS					NAVD88 DATUM				



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: GRANT ELEMENTARY		CITY PROJECT NUMBER: CITY PLAN NUMBER:	
PROJECT LIMITS: EAST CENTRAL NEIGHBORHOOD		DATE: TRAFFIC DESIGN: CALL BEFORE YOU DIG 1-800-424-5555	

Spokane Traffic Calming Master Plan

District: 2
Neighborhood: East Central
Project Extent: Rebecca Street from 4th Avenue to 5th Avenue
Estimate: \$8,000

Problem Statement: Residents of the East Central neighborhood raised concerns over speeding and cut through traffic volumes on Rebecca Street near 4th Avenue and 5th Avenue (adjacent to Frances Scott Elementary). Rebecca Street is classified as a local street with a speed limit of 25 mph.

Traffic Analysis:

Traffic counts are still pending on Rebecca Street and therefore cannot be reported at this time. This traffic analysis will be updated once traffic count data is available. However, with the neighborhood concern, it can be assumed that vehicles are using Rebecca Street to access I-90 Eastbound and bypass traffic signals on Freya Street.

The table below shows the severity and types of crashes on Rebecca Street from 4th Avenue to 5th Avenue over the last five years. Only two crashes occurred within the project limits.

Crashes on Rebecca Street from 4th Avenue to 5th Avenue (2017 to 2021)

Crash Type	Crash Severity					Total
	Fatal	Major Injury	Minor Injury	Property Damage Only	Unknown	
Angle	-	-	-	1	-	1
Fixed Object	-	-	-	1	-	1
Total	-	-	-	2	-	2


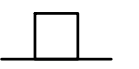

Closure of Rebecca Street (between 3rd Avenue and 4th Avenue) could be considered as a means to reduce cut through traffic in front of the school. Ideally, this road closure would funnel traffic to arterial streets, including Freya Street (northbound major arterial), 3rd Avenue or Hartson Avenue (east-west minor arterials). It is recommended that temporary concrete barriers be used to close off this section of Rebecca Street. A permanent closure is not recommended as the North Spokane Corridor Improvement project is expected to reconfigure access to I-90 in the project area in the future (I-90 interchange to be reconfigured by 2029).

Recommended Solution:

The installation of temporary concrete barriers to close Rebecca Street between 3rd Avenue and 4th Avenue should be considered to reduce cut through traffic on Rebecca Street. Closure of this northernmost block of Rebecca Street is expected to have minimal impacts to traffic in the study area.



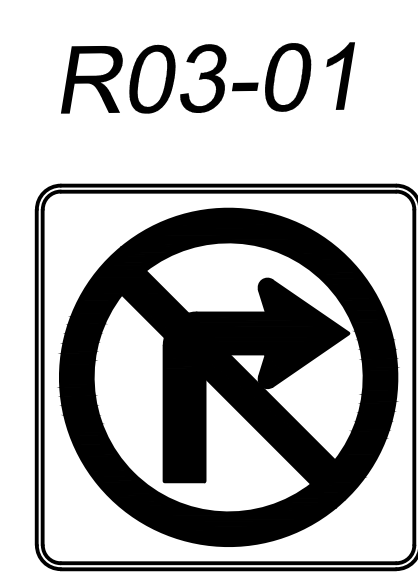
LEGEND

	PROPERTY LINE
	INSTALL SIGN (SEE PROPOSED)
	INSTALL CONCRETE BARRIER

- CONSTRUCTION NOTES**
- 1** INSTALL PROPOSED SIGN CONFIGURATION 1 ON CONCRETE BARRIER
 - 2** INSTALL PROPOSED SIGN CONFIGURATION 2
 - 3** INSTALL PROPOSED SIGN CONFIGURATION 3
 - 4** INSTALL PROPOSED SIGN CONFIGURATION 4 ON CONCRETE BARRIER



PROPOSED SIGN CONFIGURATION 1



PROPOSED SIGN CONFIGURATION 2



PROPOSED SIGN CONFIGURATION 3

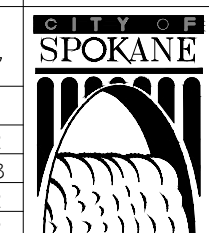


PROPOSED SIGN CONFIGURATION 4

**PRELIMINARY
NOT FOR CONSTRUCTION**



Plotted On: May 14, 2023 - 6:50pm

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