

Spokane Traffic Calming Master Plan

District:	3
Neighborhood:	Peaceful Valley
Project Extent:	Main Avenue near Cedar Street
	Estimate: \$13,000

Problem Statement: Residents of the Peaceful Valley neighborhood raised concerns over speeding and collisions with curbs along Main Avenue near Cedar Street.



Main Avenue Near Cedar Street

Traffic Analysis

Main Avenue east of Cedar Street is classified as collector, the remaining study roadways are classified as local access streets, all with posted speed limit of 25 miles per hour. Main Avenue and Cedar Street provide two lanes and on-street parking. North leg of Cedar Street provides one lane for northbound movement only and on-street parking is not allowed. Sidewalks are provided along Main Avenue and Cedar Street within the study area. No crosswalks and designated bicycle facilities are available. There are bus stops on the northwest and southwest corners of the intersection. The north side of Main Avenue west of Cedar Street is a curb tight sidewalk and fence on top of a retaining wall.

The Main Avenue/Cedar Street intersection is stop-controlled on the Cedar Street approach. The Main Avenue approaches at the intersection are offset. No on-street parking is allowed on the south side of Main Avenue east of Cedar Street, parked vehicles would limit the visibility of the intersection for

Spokane Traffic Calming Master Plan

westbound drivers approaching Cedar Street. The resulting wide eastbound lane may contribute to speed issues.

The table below shows the daily traffic volumes and 85th percentile speeds on Main Avenue near Cedar Street. The daily volume on Main Avenue was 1,981 vehicles. The 85th percentile speed was 29 miles per hour (four miles per hour greater than the posted speed limit). The data indicates there is a moderate speeding concern. Note that the data was collected in 2013, before the current configuration of the intersection constructed in 2019.

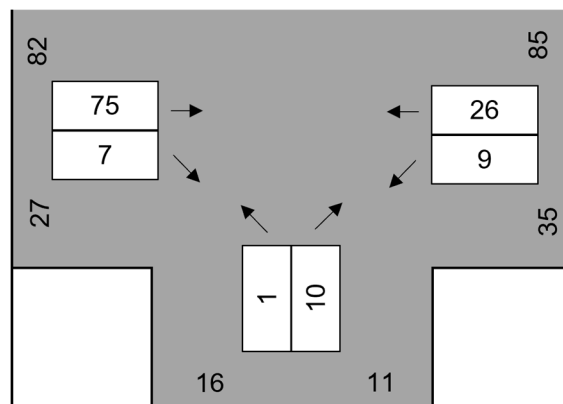
2022 Daily Traffic and 85th Percentile Speeds on Main Avenue near Cedar Street

Direction	# Lanes	2022 Estimated Daily Traffic (Vehicles per day) ^a	85 th Percentile Speed (mph)	Posted Speed (mph)
East of Cedar Street				
EB	1	985	29	25
WB	1	996		
Both Dir.	2	1,981		

^a Traffic data collected in June 2013. Traffic volumes were grown at a 1.0% annual growth rate, to estimate 2022 traffic conditions.

Two crashes were recorded over the last five years (from 2017 to 2021), both related to vehicles entering at an angle. One of the crashes caused the crash severity of property damage only (in 2019, from improper backing out of a driveway) and the other caused a minor injury (in 2017, driver under the influence of alcohol). The data does not show a significant crash pattern related to the offset intersection configuration or raised high curb along the north side of Main Avenue.

The figure below shows PM peak hour (weekend) traffic volumes at the Main Avenue/Cedar Street intersection, based on a traffic count from July 11, 2021, factored up to 2022 conditions (assuming 1% per year growth).



PM Peak Hour Traffic at Main Avenue and Cedar Street

Spokane Traffic Calming Master Plan

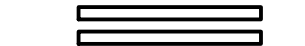
Recommended Solution:

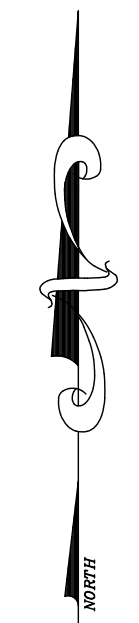
The following improvements are recommended to reduce vehicle speeds and increase the visibility of the intersection and pedestrian safety.

- Install marked pedestrian crossings on all legs of the Main Avenue/Cedar Street intersection.
- Install a stop bar on the Cedar Street approach.



LEGEND

- PROPERTY LINE
-  INSTALL CROSSWALK PER COS STD PLAN G-G.1



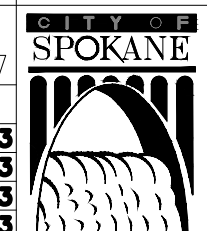
**PRELIMINARY
NOT FOR CONSTRUCTION**

1
1 OF 6

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 03/2023
NAV888 ELE: NONE GIVEN	REVISION: KL 05/2023
CBM NO.: NONE GIVEN	CHECKED: SP 03/2023
BAR IS ONE INCH ON ORIGINAL DRAWING: NONE GIVEN	APPROVED: AM 03/2023
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	
HORIZONTAL PLAN/PROFILE: 1" = 70'	SCALE
VERTICAL PROFILE ONLY: N/A	



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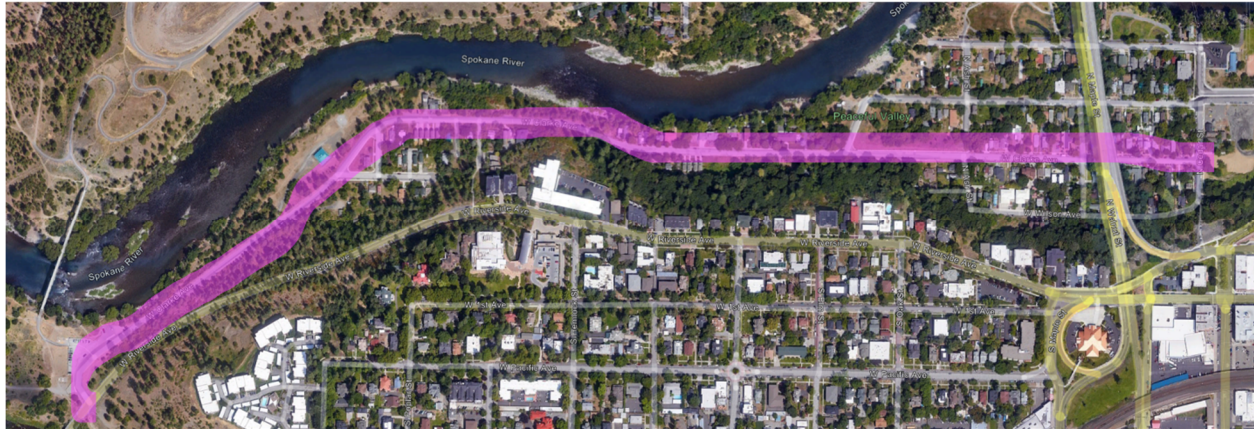
PROJECT NAME: SPOKANE TRAFFIC CALMING MASTER PLAN	TYPE OF IMPROVEMENT: TRAFFIC
SEGMENT LIMITS: MAIN AVENUE AND CEDAR STREET	CITY PROJECT NUMBER: CITY PLAN NUMBER
PROJECT LIMITS: PEACEFUL VALLEY NEIGHBORHOOD	EFN: TWFG DESIGN

Plotted On May 15, 2023 - 4:00pm

Spokane Traffic Calming Master Plan

District: 3
Neighborhood: Peaceful Valley
Project Extent: Clarke Avenue Corridor
 Estimate: \$246,000

Problem Statement: Residents of the Peaceful Valley neighborhood raised concerns over speeding along Clarke Avenue (approximately 0.88 miles) from Riverside Avenue to Cedar Street.



Clarke Avenue Study Corridor

Traffic Analysis

Clarke Avenue within the study corridor is classified as local street and provides two lanes with a posted speed limit of 25 miles per hour. Sidewalks and on-street parking are provided along the study corridor east of Bennett Avenue. No designated bicycle facilities and marked crosswalks are provided within the study area. There are seven intersections along the study corridor, all are stop controlled on the side street (not Clark Avenue) or uncontrolled.

The table below shows the 2022 daily traffic volumes and 85th percentile speeds on Clarke Avenue. The daily volume on Clarke Avenue was 337 vehicles east of Cedar Street. The 85th percentile speed was 32 miles per hour (seven miles per hour greater than the posted speed limit). The data indicates there is a moderate speeding concern.

2022 Daily Traffic and 85th Percentile Speeds on Clarke Avenue

Direction	# Lanes	2022 Estimated Daily Traffic (Vehicles per day) ^a	85 th Percentile Speed (mph)	Posted Speed (mph)
East of Spruce Street				
EB	1	180	32	25
WB	1	157	32	
Both Dir.	2	337	32	

^a Traffic data collected in November 2022.

Spokane Traffic Calming Master Plan

The table below shows the severity and types of crashes occurring on Clarke Avenue study corridor over the last five years (excluding intersection crashes at the east and west ends). There was a total of six crashes on Clarke Avenue, including one injury crash involving a pedestrian. Crashes related to moving vehicles colliding with stationary objects or vehicles were the most common crash type.

Crashes on Clarke Avenue (2017 to 2021)

Crash Type	Crash Severity					Total
	Fatal	Major Injury	Minor Injury	Possible Injury	Property Damage Only	
Turning	-	-	-	-	1	1
Fixed Object or Car	-	-	-	-	4	4
Ped/Bike	-	-	1	-	-	1
Total	0	0	1	0	5	6

The need for enhanced pedestrian crossing treatments across Clarke Avenue was analyzed based on NCHRP Report 562, using collected traffic data. Based on the findings, a crosswalk is the preferred treatment if there are 20 or more pedestrian crossings during the peak hour. Although pedestrian data is not available, it is assumed the 20 or more pedestrian crossing threshold is met due to the neighborhoods on the east, an active trail (South Gorge Trail) to the north and bus stops on the study corridor.

Recommended Solution:

It is recommended to install curb extensions along Clarke Avenue to reduce the pavement width and vehicle speeds at the following locations:

- West of Ash Street at the bus stops


It is recommended that speed feedback signs be installed on Clarke Avenue at the following locations to alert drivers of the posted speed limit. Locations represent sections of the roadway that are long and straight with limited fronting driveways.

- Halfway between the People's Park access and Bennett Avenue
- Halfway between Spruce Street and Elm Street

It is recommended to install marked crosswalks across Clarke Avenue at Spruce Street and Ash Street near the bus stops where there may be increased pedestrian activity.



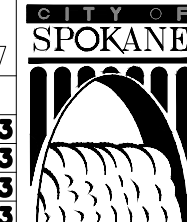
LEGEND

- PROPERTY LINE
-  PROPOSED SIGN

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)	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
BAR IS ONE INCH ON ORIGINAL DRAWING: NONE GIVEN	APPROVED: AM 03/2023
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	
HORIZONTAL PLAN/PROFILE: 1" = 70'	SCALE
VERTICAL PROFILE ONLY: N/A	



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PRELIMINARY
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2
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PROJECT NAME: SPOKANE TRAFFIC CALMING MASTER PLAN	TYPE OF IMPROVEMENT: TRAFFIC
SEGMENT LIMITS: CLARKE AVENUE RIVERSIDE AVENUE TO ASH STREET	CITY PROJECT NUMBER: CITY PLAN NUMBER
PROJECT LIMITS: PEACEFUL VALLEY NEIGHBORHOOD	DATE: 03/2023

Plotted On May 15, 2023 - 4:00pm



LEGEND

-  PROPERTY LINE
-  INSTALL CROSSWALK PER COS STD PLAN G-G1
-  INSTALL CURB RAMP PER COS STD PLAN F-105
-  INSTALL LANDSCAPING, NATIVE PLANTINGS

CONSTRUCTION NOTES

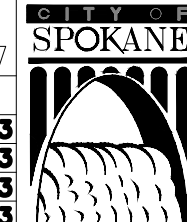
- 1** INSTALL NEW CURB DROP INLET PER COS STD PLAN F-109

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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.

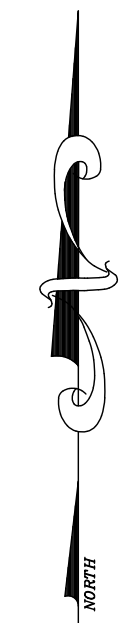
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NAVD88 ELE NONE GIVEN	BAR IS ONE INCH ON ORIGINAL DRAWING:
CBM NO. NONE GIVEN	HORIZONTAL PLAN/PROFILE 1" = 70'
NAVD88 DATUM	VERTICAL PROFILE ONLY N/A
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SCALE



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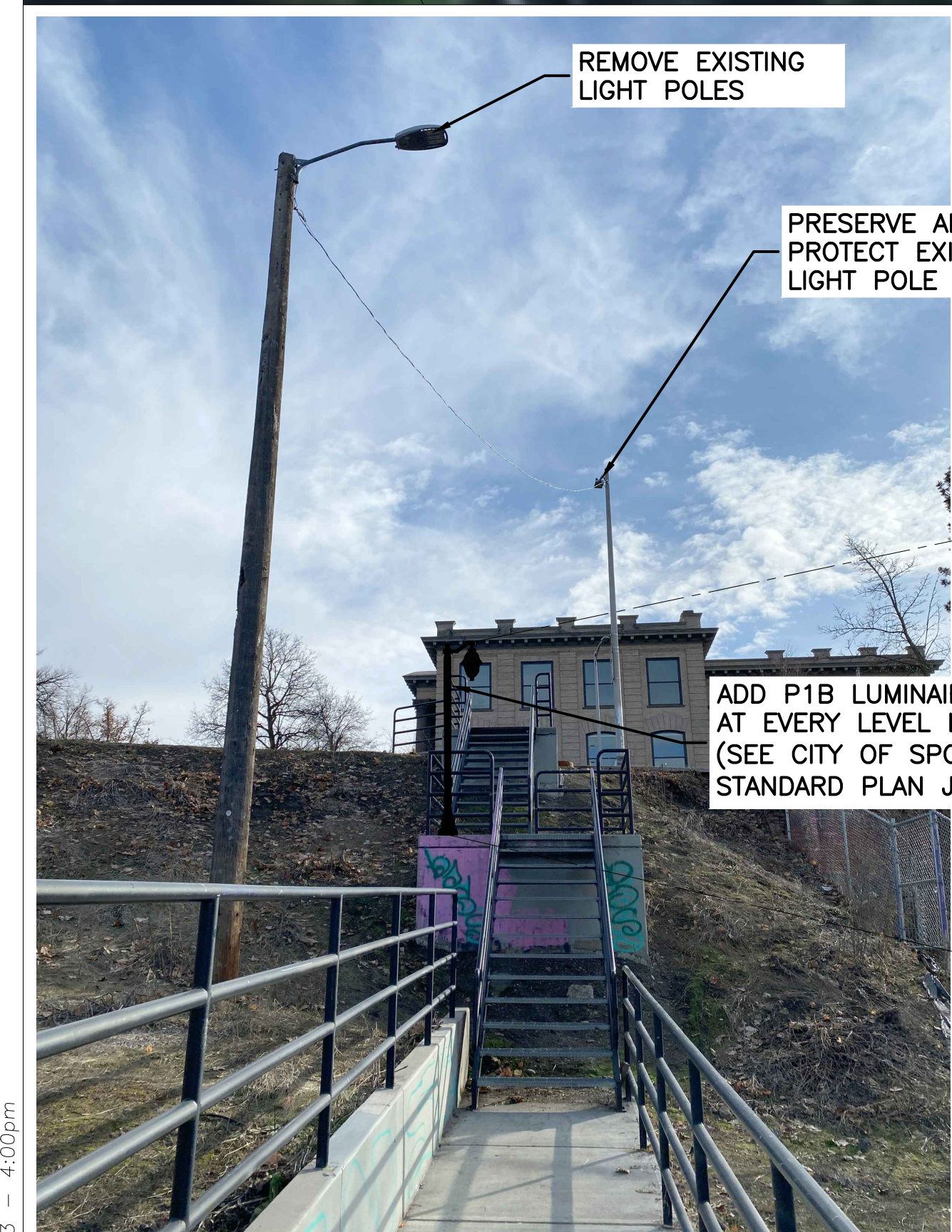
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 3 OF 6

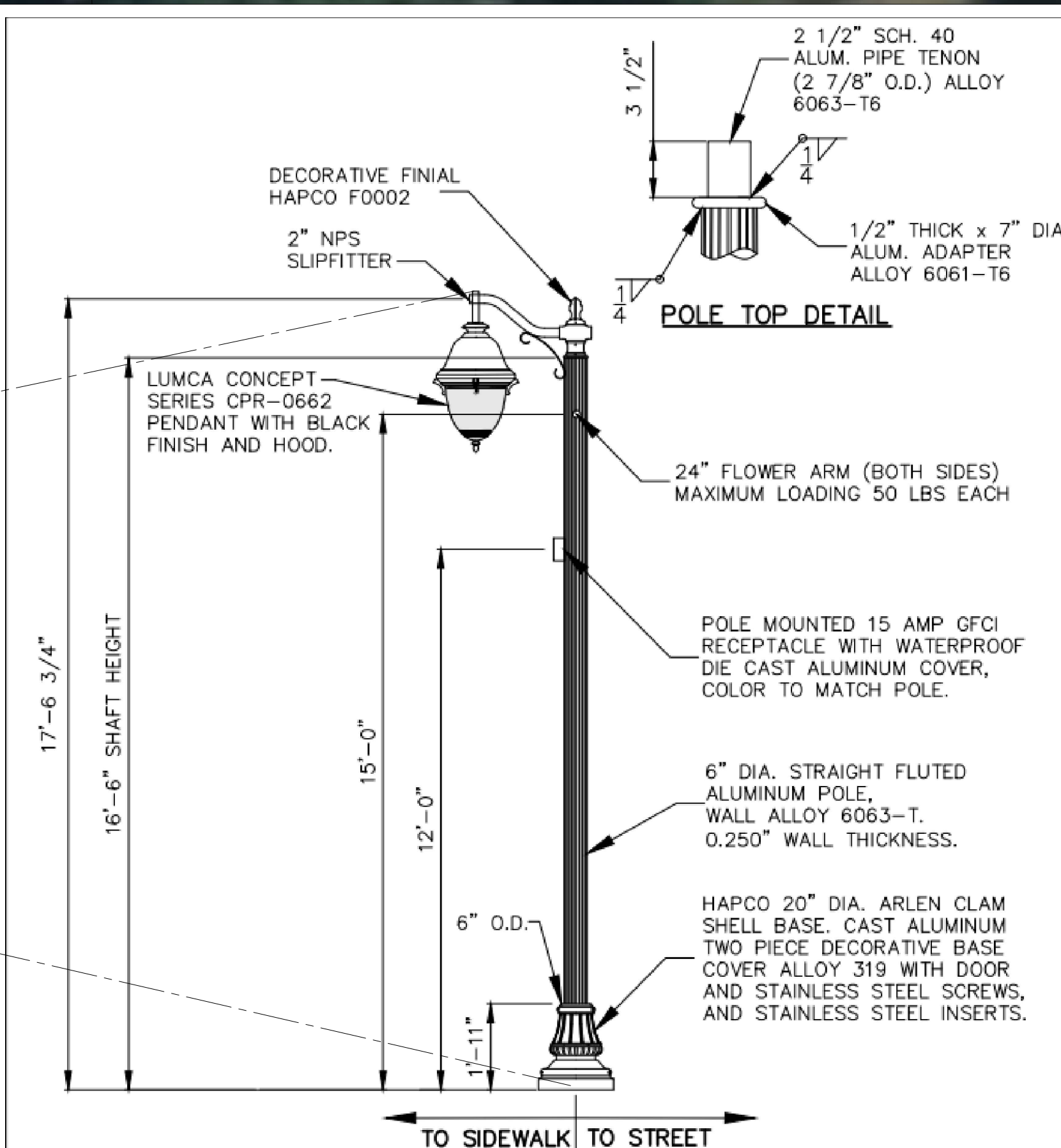


PROJECT NAME:	SPOKANE TRAFFIC CALMING MASTER PLAN	
SEGMENT LIMITS:	CLARKE AVENUE RIVERSIDE AVENUE TO ASH STREET	TYPE OF IMPROVEMENT: TRAFFIC
PROJECT LIMITS:	PEACEFUL VALLEY NEIGHBORHOOD	CITY PROJECT NUMBER / CITY PLAN NUMBER

Plotted On May 15, 2023 - 4:00pm



ADD P1B LUMINAIRE POLE AT EVERY LEVEL LANDING (SEE CITY OF SPOKANE STANDARD PLAN J-202)



LEGEND

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

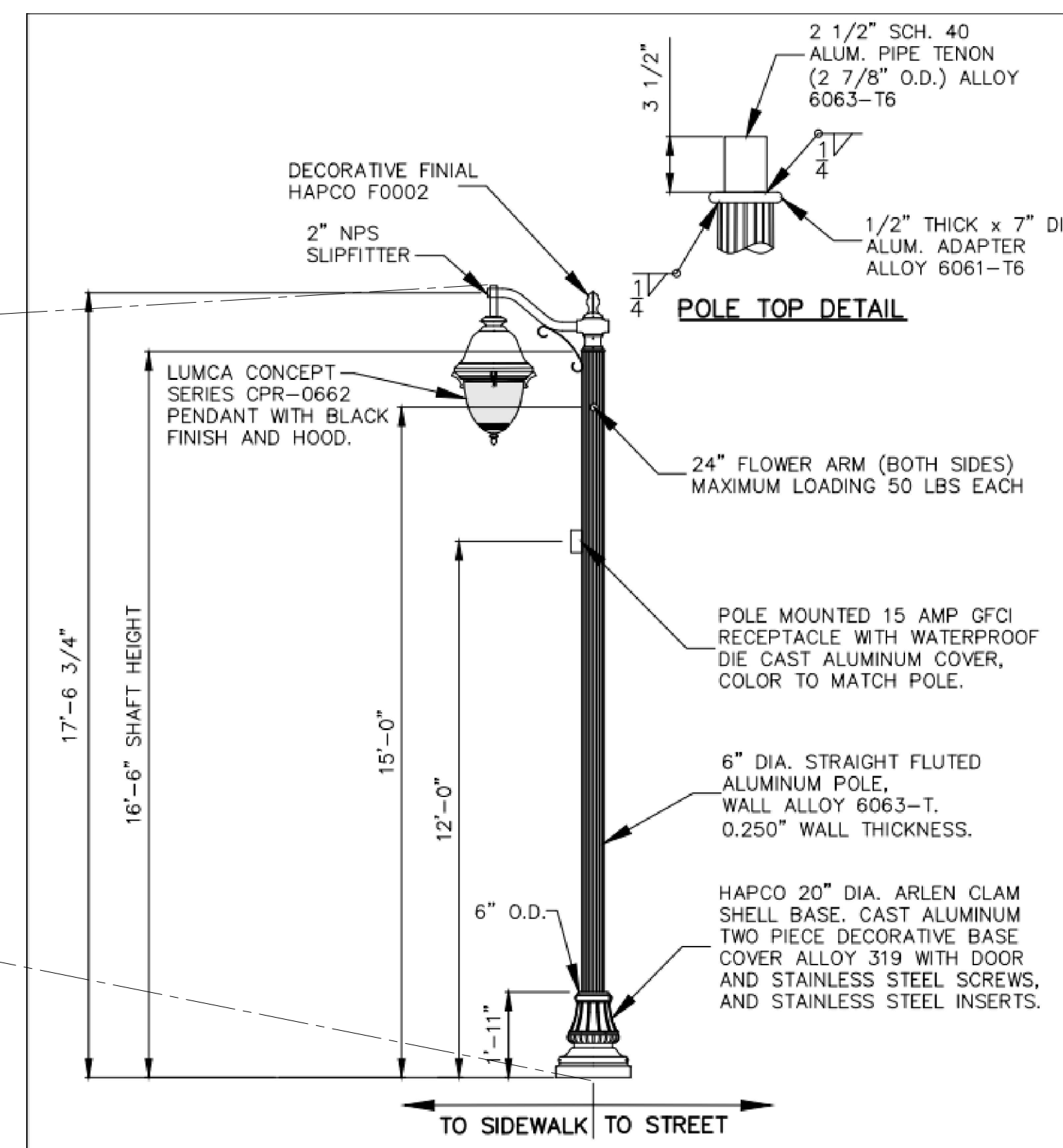
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REVISIONS										AS BUILT									
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PROJECT NAME:	SPOKANE TRAFFIC CALMING MASTER PLAN	
SEGMENT LIMITS:	CEDAR STREET STAIRS	
PROJECT LIMITS:	PEACEFUL VALLEY NEIGHBORHOOD	
TYPE OF IMPROVEMENT:	TRAFFIC	
CITY PROJECT NUMBER:	CITY PLAN NUMBER	

Plotted On: May 15, 2023 - 4:00pm



LEGEND

	PROPERTY LINE
	REGRADE EXISTING ASPHALT
	INSTALL CURB RAMP PER COS STD PLAN F-105

CONSTRUCTION NOTES

1 REPLACE ENTIRE EXISTING STRUCTURE WITH NEW MATERIAL.

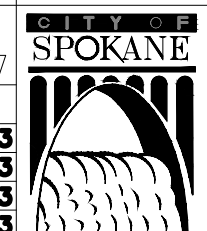
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Plotted On May 15, 2023 - 4:00pm

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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	BY KL 03/2023
CBM NO. NONE GIVEN	REVISOR KL 05/2023
	CHECKED SP 03/2023
	APPROVED AM 03/2023



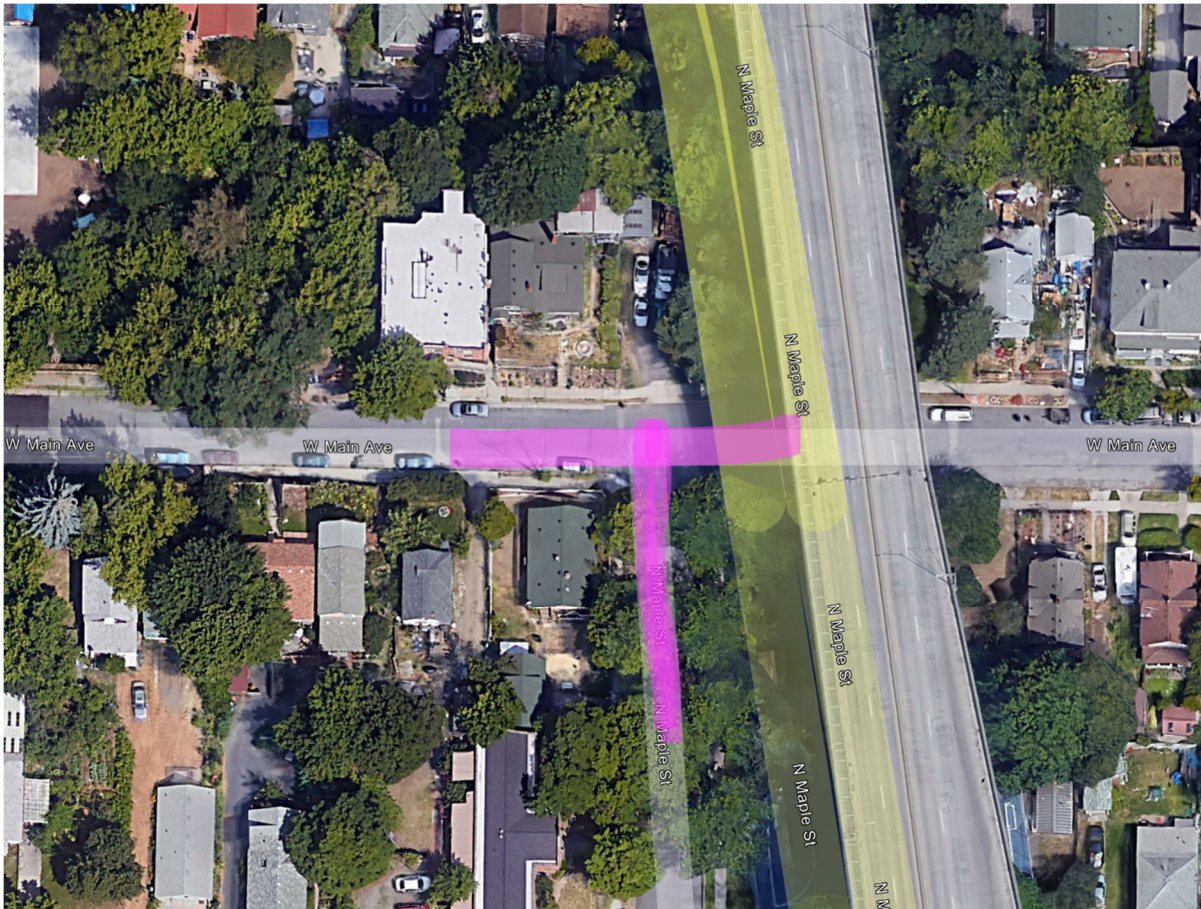
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 (509) 625-6700

PROJECT NAME: SPOKANE TRAFFIC CALMING MASTER PLAN	TYPE OF IMPROVEMENT: TRAFFIC
SEGMENT LIMITS: SPRUCE STREET STAIRS	CITY PROJECT NUMBER: [] CITY PLAN NUMBER: []
PROJECT LIMITS: PEACEFUL VALLEY NEIGHBORHOOD	DATE: 03/2023

Spokane Traffic Calming Master Plan

District: 3
Neighborhood: Peaceful Valley
Project Extent: Maple Street and Main Avenue
Estimate: 136,000

Problem Statement: Residents of the Peaceful Village raised concerns over stop sign location and intersection safety at the intersection of Maple Street and Main Avenue, as shown in figure below.



Maple Street/Main Avenue Intersection

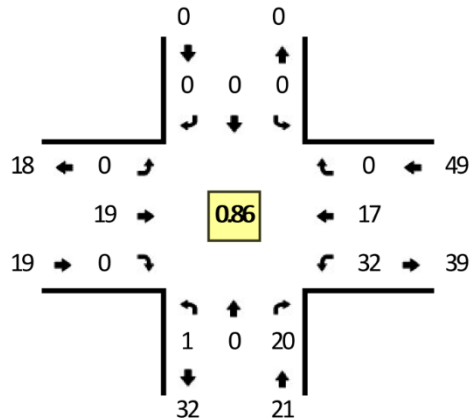
Both Maple Street and Main Avenue within the study area are classified as a local access street with a posted speed limit of 25 miles per hour. All approaches provide two lanes with on-street parking. Sidewalks are provided but no marked crosswalks or designated bike facilities are provided.

The study intersection is two-way-stop-controlled. The placement of the stop sign on the Maple Street approach is located far back from the intersection corner, to avoid being obstructed by the existing tree.

Spokane Traffic Calming Master Plan

Traffic Analysis

Three crashes were reported over the last five years (from 2017 to 2021). Two crashes were related to moving vehicles and stationary objects/vehicles with crash severity of property damage only. The third crash was related to a turning movement and had the crash severity of possible injury. The figure below shows the existing PM peak hour traffic volumes at the study intersection, based on a traffic count from November 2022. As shown in the figures, the volumes travelling through the study intersection are low.



PM Peak Hour Traffic at Maple Street and Main Avenue

The need for enhanced pedestrian crossing treatments across Main Avenue was analyzed based on NCHRP Report 562, using collected traffic data. Based on the findings, a marked crosswalk is the preferred treatment if there are 20 or more pedestrian crossings during the peak hour. Weekday evening peak hour pedestrian count data indicates there would be less than the required demand. However, it is estimated that pedestrian crossing demand would be high enough to warrant crosswalks during weekends and warm weather due to the adjacent Peaceful Valley Park and bus stops.

Recommended Solution:

Trim low hanging limbs on the tree at the southeast corner of the intersection and relocate the stop sign closer to the intersection.



LEGEND

- PROPERTY LINE
-  INSTALL CURB RAMP PER COS STD PLAN F-105
-  INSTALL LANDSCAPING, NATIVE PLANTINGS

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 INLET TO REMAIN IN PLACE.
- 4 RELOCATE EXISTING STOP SIGN.

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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				

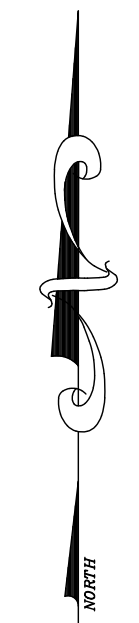
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BENCH MARK LOCATION: NONE GIVEN	BY: KL 03/2023
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VERTICAL PROFILE ONLY: N/A	



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PROJECT NAME: SPOKANE TRAFFIC CALMING MASTER PLAN	TYPE OF IMPROVEMENT: TRAFFIC
SEGMENT LIMITS: MAPLE STREET AND MAIN AVENUE	CITY PROJECT NUMBER: CITY PLAN NUMBER
PROJECT LIMITS: PEACEFUL VALLEY NEIGHBORHOOD	

Plotted On May 15, 2023 - 4:00pm