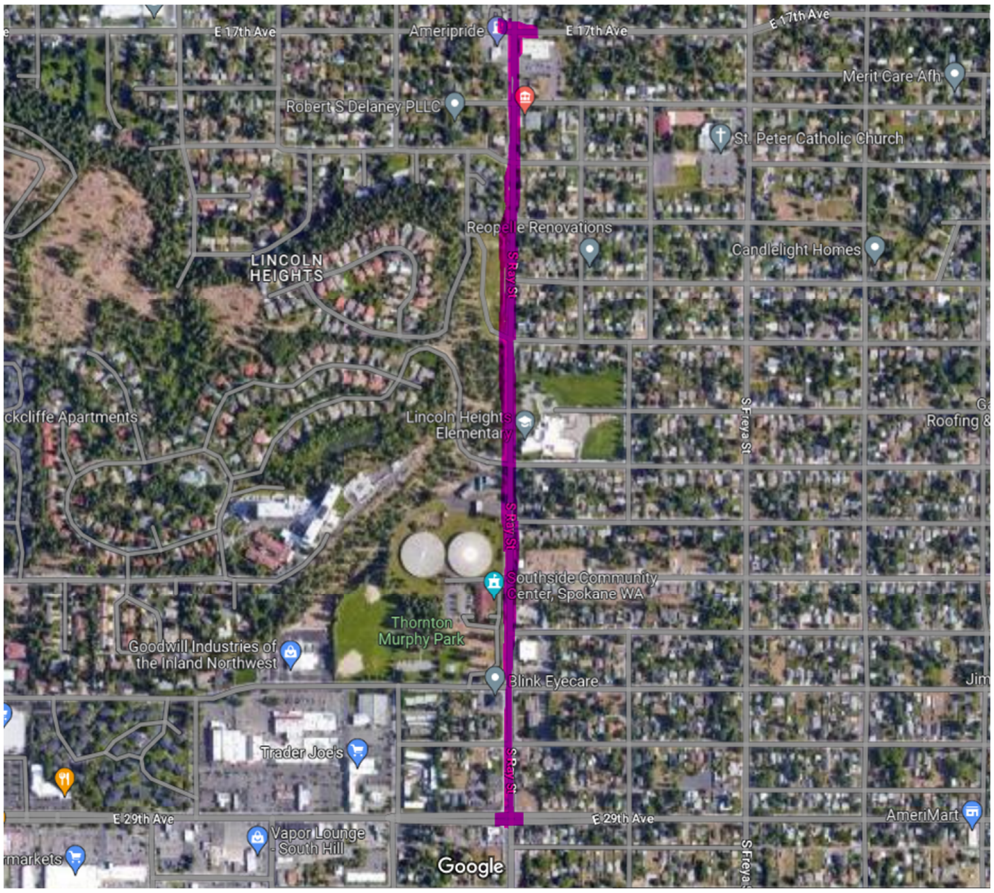
District:	2
Neighborhood:	Lincoln Heights
Project Extent:	Ray Street Corridor from 17th Avenue to 29th Avenue Estimate: $853,000

Problem Statement: Residents of the Lincoln Heights neighborhood raised concerns over north-south pedestrian access and bicycle network connectivity along Ray Street from 17th Avenue to 29th Avenue.



Ray Street Corridor from 17th Avenue to 29th Avenue

Traffic Analysis

Ray Street in the study area is classified as an urban principal arterial. Ray Street has a posted speed limit of 30 miles per hour, provides two lanes in each direction, no on-street parking, and sidewalks (some in poor condition). Ray Street is not included in the Spokane Bike and Pedestrian Master Plan. There are traffic signals at 17th Avenue and 29th Avenue and a fire access signal at 18th Street.

The table below shows daily traffic counts and speed data on Ray Street at 27th Avenue. The estimated 2022 daily traffic count was 22,770 vehicles on Ray Street. The 85th percentile speed along this corridor

was 40 miles per hour (10 miles per hour over the 30 mile per hour speed limit). The data indicates that there is a significant speeding concern on Ray Street.

2022 Daily Traffic and 85th Percentile Speeds on Ray Street at 27th Avenue

Direction	# Lanes	2022 Estimated Daily Traffic (Vehicles per day) [a]	85th Percentile Speed (mph)	Posted Speed (mph)
South of 27th Avenue				
NB	2	10,544	39	
SB	2	12,226	41	
Both Dir.	4	22,770	40	30

[a] Traffic data collected in May 2018. Traffic volumes were grown at a 1.0% annual growth rate, to estimate 2022 traffic conditions.

The table below shows the severity and types of crashes occurring on the Ray Street 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 44 crashes, including two minor injury crashes where a vehicle hit a bicyclist at 17th Avenue and 27th Avenue. Angle and rearend crashes were the most common crash type on the corridor. Ray Street/27th Avenue had the highest number of crashes, approximately 70% were angle crashes. This intersection provides a raised center median that prohibits eastbound and westbound left turn lanes from 27th Avenue. Additional traffic calming is recommended to prohibit the northbound and southbound left turn lanes to reduce the number of angle crashes.

Crashes on Ray Street from 17th to 29th Avenue (2017 to 2021)

Crash Type	Crash Severity					Total
	Fatal	Major Injury	Minor Injury	Possible Injury	Property Damage Only	
17th Ave	-	-	1	1	4	6
18th Ave	-	-	-	-	3	3
19th Ave	-	-	-	-	2	2
20th Ave	-	-	-	-	1	1
Congress Ave	-	-	-	-	1	1
21st Ave	-		1	2	2	5
23rd Ave	-	-	1		2	3
24th Ave	-	-	1	3	1	5
26th Ave	-	-	-		1	1
27th Ave	-	-	3	3	6	12
28th Ave	-	-	2	1	2	5
Total	-		9	10	25	44

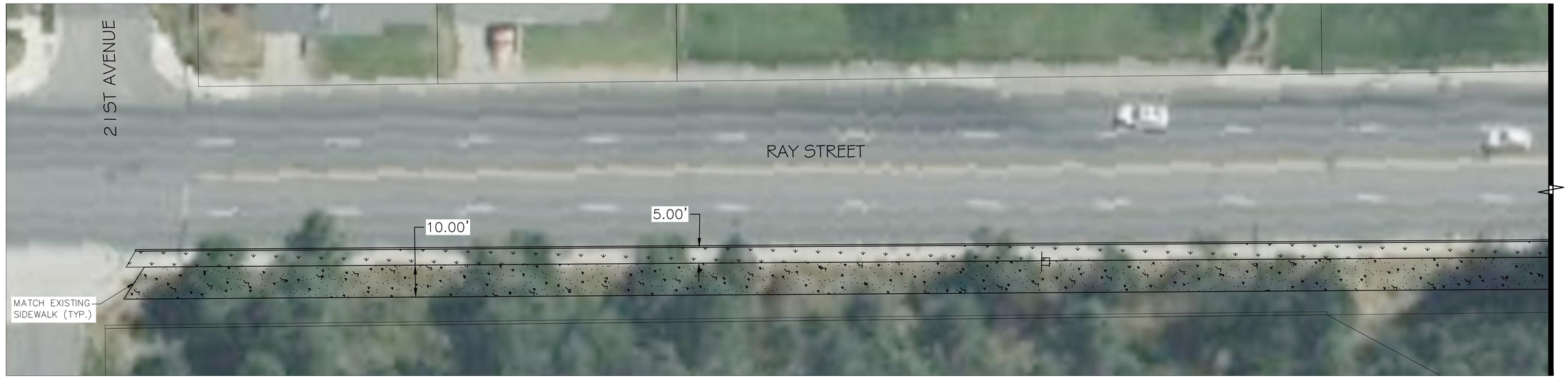
The need for enhanced pedestrian crossing treatments was analyzed for Ray Street based on NCHRP Report 562. Based on the findings, red treatments (e.g., HAWK signal beacon, midblock pedestrian signal) is the preferred treatment if there are 20 or more pedestrian crossings during the peak hour. It was assumed the pedestrian crossing is not met due to the lack of pedestrian destination on the west side of the street and no transit service provided on Ray Street.

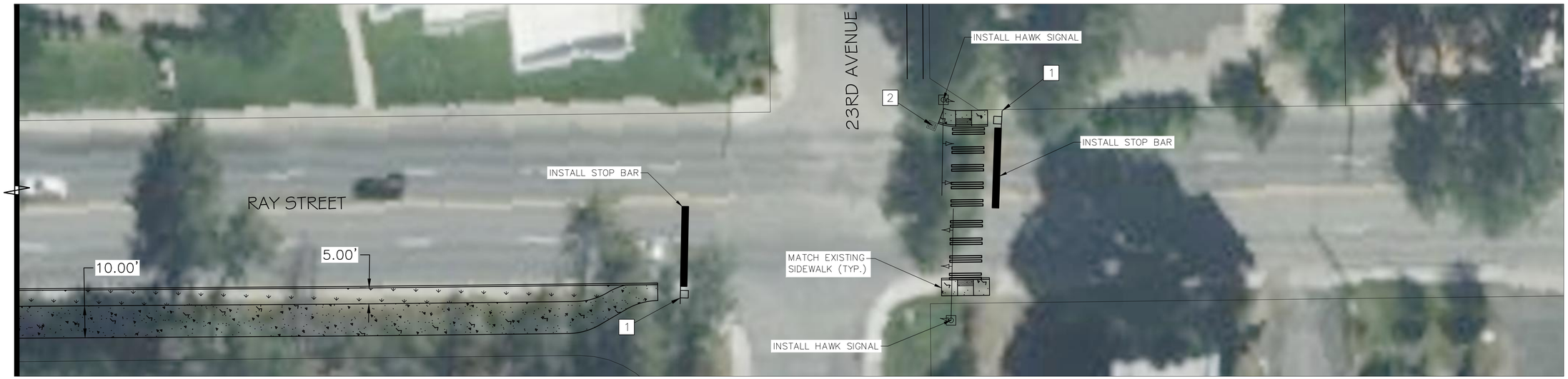
Ray Street is a four-lane roadway with no center median area or on-street parking. The constrained cross-section and developed fronting properties limit the opportunities to add bike facilities to Ray Street. The Spokane Bike and Pedestrian Master Plan identifies Myrtle Street as a parallel bike friendly facility. The Plan identifies a planned shared use path connecting the west end of 23rd Avenue (west of Ray Street) to the 25th Avenue opposite Fiske Street, west of the reservoir and through Thornton Murphy Park.

Recommended Solution

The roadway could benefit from traffic calming elements to manage driver speeds and improve overall safety. The following improvements are recommended.

- Install a pedestrian hybrid beacon crossing at 23rd Avenue to provide a connection between the neighborhood to the east and the planned shared use path to Thornton Murphy Park.
- Widen sidewalk on the west side of Ray Street between 21st and 23rd Avenue to provide a separated 10-foot-wide path





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 PROPOSED HAWK STOP BAR SIGN.
2. EXISTING INLET TO REMAIN IN PLACE.

R10-6

STOP
HERE ON
RED

PROPOSED HAWK STOP BAR SIGNAGE

RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY

DATE	BY	PROJ	DESCRIPTION	E.F.N. , U.S.N.	FROM	TO
REVISIONS						

DATE	BY	PROJ.	E.F.N. , U.S.N.	FROM	TO
AS BUILT					

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

NAVD88 = (OLD CBM ELEV.) - (13.13) | AS OF JANUARY, 2000 USE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

BENCH MARK LOCATION: NONE GIVEN

NAVD88 ELEV.: NONE GIVEN

CBM NO.: NONE GIVEN

NAVD88 DATUM

BAR IS ONE INCH ON ORIGINAL DRAWING.
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HORIZONTAL PLAN&PROFILE: 1" = 10'
VERTICAL PROFILE ONLY: N/A

SCALE

CURRENT C.O.S. DESIGN STANDARDS ADOPTED FEB. 2007

	BY	DATES
DRAWN:	KL	03/2023
REVISED:	KL	05/2023
CHECKED:	SP	03/2023
APPROVED:	AM	03/2023

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

SEGMENT LIMITS: RAY STREET
21ST AVENUE TO 23RD AVENUE

PROJECT LIMITS: LINCOLN HEIGHTS NEIGHBORHOOD

TYPE OF IMPROVEMENT: TRAFFIC
CITY PROJECT NUMBER:
CITY PLAN NUMBER:
EFN: TRAFFIC DESIGN

HAMON

PRELIMINARY
NOT FOR CONTRUCTION

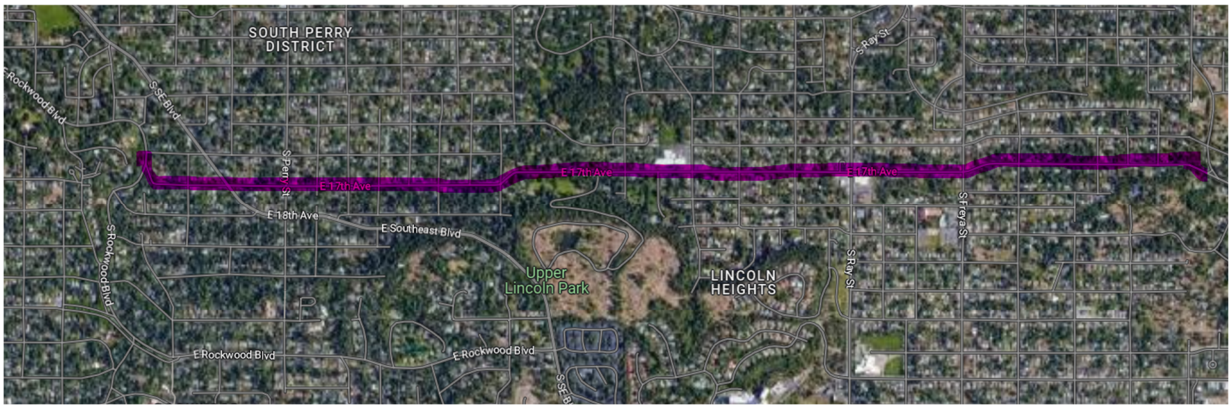
1
1 OF 8

CALL BEFORE YOU DIG 1-800-424-5555

Plotted On May 15, 2023 - 3:40pm

District:	2
Neighborhood:	Lincoln Heights
Project Extent:	17th Avenue Corridor from S Havana Street to Rockwood Boulevard Estimate: $1,062,000

Problem Statement: Residents of the Lincoln Heights neighborhood raised concerns over high speeds and visibility concerns throughout the 17th Avenue corridor from Havana Street to Rockwood Boulevard.



17th Avenue Corridor from Havana Street to Rockwood Boulevard

Traffic Analysis

17th Avenue is classified as an urban major collector from Ray Street to Southeast Boulevard and as an urban local access road along the rest of the corridor. 17th Avenue has different characteristics throughout the corridor.

- From Rockwood Boulevard to Perry Street, 17th Avenue has a posted speed limit of 25 miles per hour, provides one lane in each direction, on-street parking on both sides of the street, and has an acceptable sidewalk network.
- From Perry Street to Martin Street, 17th Avenue has a posted speed limit of 30 miles per hour, provides one lane in each direction, no on-street parking on the south side of 17th Street, and has an acceptable sidewalk network.
- From Martin Street to the north entrance of Upper Lincoln Park (just west of Cook Street), 17th Avenue has a posted speed limit of 20 miles per hour, provides one lane in direction, no on-street parking on the northside of 17th Street, and has an acceptable sidewalk network.
- From the north entrance of Upper Lincoln Park to Ray Street, 17th Avenue has a posted speed limit of 30 miles per hour, a 20 miles per hour school speed zone at Franklin Elementary, provides one lane in each direction, no on-street parking west of Mt Vernon Street, and has an acceptable sidewalk network.
- From Ray Street to Havana Street, 17th Avenue has a posted speed limit of 25 miles per hour, provides one lane in each direction, on-street parking on both sides of the street, and has an

acceptable sidewalk network (until just west of Havana Street). 17th Avenue is designated as a "moderate traffic (shared)" path in the Spokane Bike and Pedestrian Master Plan. The Ray Street/17th Avenue intersection is controlled by a traffic signal.

The table below shows daily traffic counts and 85th percentile speed data along 17th Avenue at several locations. The highest estimated 2022 daily traffic count was 3,927 vehicles near Regal Street. The highest 85th percentile speed was 34 miles per hour near St. Helena Street (4 miles per hour higher than the 30 miles per hour posted speed). The data indicates that there is a moderate speeding concern along 17th Avenue.

2022 Daily Traffic and 85th Percentile Speeds on 17th Avenue

Direction	# Lanes	2022 Estimated Daily Traffic (Vehicles per day) [a]	85th Percentile Speed (mph)	Posted Speed (mph)
17th Avenue - 1300 Block, west of Perry Street				
NB	1	778		
SB	1	1,001		
Both Dir.	2	1,779	28	25
17th Avenue - 1500 Block, west of St Helena Street				
NB	1	1,435		
SB	1	1,563		
Both Dir.	2	2,998	34	30
17th Avenue - 2900 Block, west of Regal Street				
EB	1	1,967		
WB	1	1,960		
Both Dir.	2	3,927	33	30
17th Avenue - 3300 Block, east of Ray Street				
EB	1	724		
WB	1	1,002		
Both Dir.	2	1,726	28	25
17th Avenue – 3800 Block, east of Rebecca Street				
EB	1	695		
WB	1	528		
Both Dir.	2	1,223	31	25

[a] Traffic data collected in May 2019. Traffic volumes were grown at a 1.0% annual growth rate, to estimate 2022 traffic conditions.

The table below shows the severity and types of crashes occurring on the 17th Avenue study corridor over the last five years. The data includes all crashes on the corridor and are reported for the nearest intersection. Many intersections on 17th Avenue did not have reported crashes and are not listed in the table. There was a total of 30 crashes, including one serious injury crash where a vehicle hit a pedestrian at Mt. Vernon Street during dusk with no street lighting. Angle and fixed object crashes were the most common crash type.

Crashes on 17th Avenue (2017 to 2021)

Crash Type	Crash Severity					Total
	Fatal	Major Injury	Minor Injury	Possible Injury	Property Damage Only	
Southeast Blvd	-	-		1	2	3
Perry Street	-	-	1		2	3
Pittsburg Street	-	-			1	1
Magnolia Street	-			1	1	2
Martin Street	-	-			2	2
Mt. Vernon Street	-	1			1	2
Ray Street	-	-	1		6	7
Freya Street	-	1	1	3	4	9
Cuba Street	-	-			1	1
Total	-	2	3	5	20	30

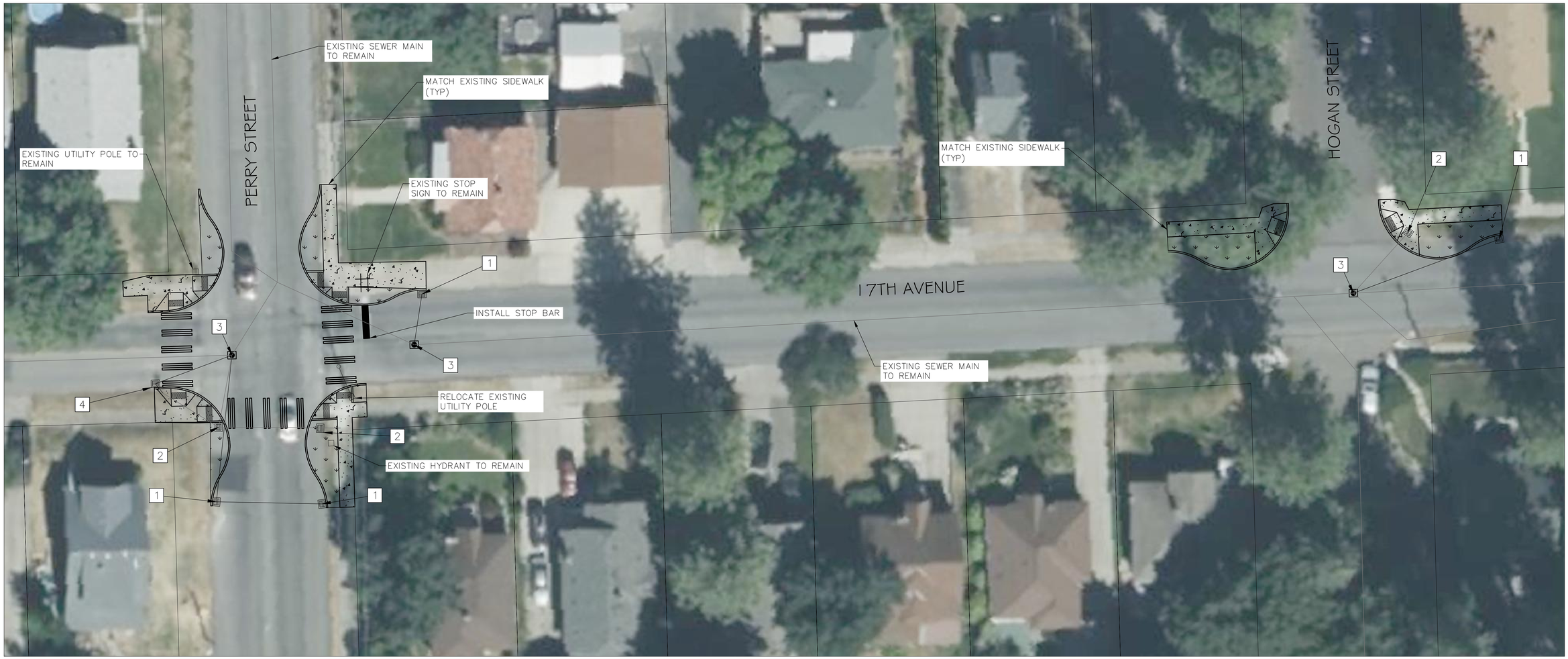
There are existing curb extensions and marked crosswalks at Mt Vernon Street to support the adjacent elementary school. There is a marked crosswalk on 17th Avenue west of Cook Street to provide access to the adjacent park.

The need for additional enhanced pedestrian crossing treatments was analyzed for 17th Avenue based on NCHRP Report 562. Based on the findings, a marked crossing is the preferred treatment if there are 20 or more pedestrian crossings during the peak hour. It was assumed the pedestrian crossing demand is only met at key intersections such as Perry Street with higher traffic volumes to cross and adjacent bus stops.

Recommended Solution

The roadway could benefit from traffic calming elements to manage driver speeds and improve overall safety. The following improvements are recommended.

- Install curb extensions and marked crosswalk at the Perry Street/17th Avenue intersection to narrow the roadway to reduce vehicle speeds and improve pedestrian access to the bus stops.
- Install up to four curb extensions along the 17th Avenue corridor both east and west of the Perry Street intersection to narrow the roadway to reduce vehicle speeds entering the neighborhood.
- Install curb extensions on 17th Avenue both east and west of Regal Street to narrow the roadway to reduce vehicle speeds entering the neighborhood.
- Install curb extensions at 17th Avenue and Pittsburg Street to reduce vehicle speeds through the neighborhood.
- Install a traffic circle at 17th Avenue and Regal Street to slow vehicle speeds
    - 17th Avenue and Regal Street
- Install street lighting at the 17th Avenue/Mt Vernon Street intersection to improve pedestrian and bicyclist visibility in dark lighting conditions.



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 MANHOLE OR NEW INLET 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. PLUG AND ABANDON EXISTING PIPE. INSTALL NEW 8" DIAM. PIPE TO EXISTING MANHOLE WHERE SHOWN.

RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY

DATE	BY	PROJ	DESCRIPTION	FROM	TO
REVISIONS					

DATE	BY	PROJ.	E.F.N. , U.S.N.	FROM	TO
AS BUILT					

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

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BENCH MARK LOCATION: NONE GIVEN

NAVD88 ELEV: NONE GIVEN

CBM NO.: NONE GIVEN

NAVD88 DATUM

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HORIZONTAL PLAN&PROFILE 1" = 20'

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SCALE

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	BY	DATES
DRAWN:	KL	03/2023
REVISED:	KL	05/2023
CHECKED:	SP	03/2023
APPROVED:	AM	03/2023

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

PRELIMINARY
NOT FOR CONTRUCTION

2
2 OF 8

PROJECT NAME: SPOKANE TRAFFIC CALMING MASTER PLAN

SEGMENT LIMITS: 17TH AVENUE
PERRY STREET TO FISKE STREET

PROJECT LIMITS: LINCOLN HEIGHTS NEIGHBORHOOD

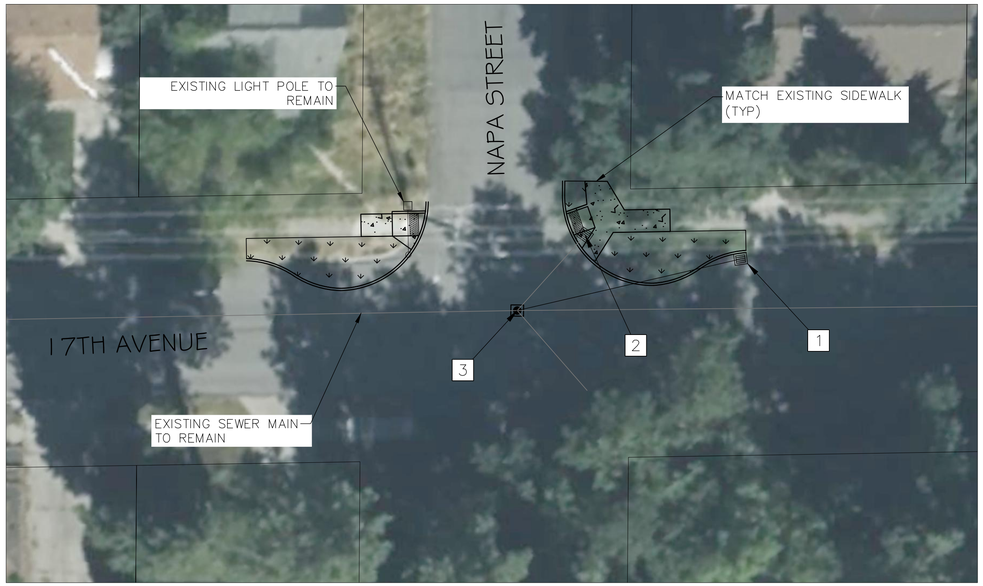
TYPE OF IMPROVEMENT: TRAFFIC

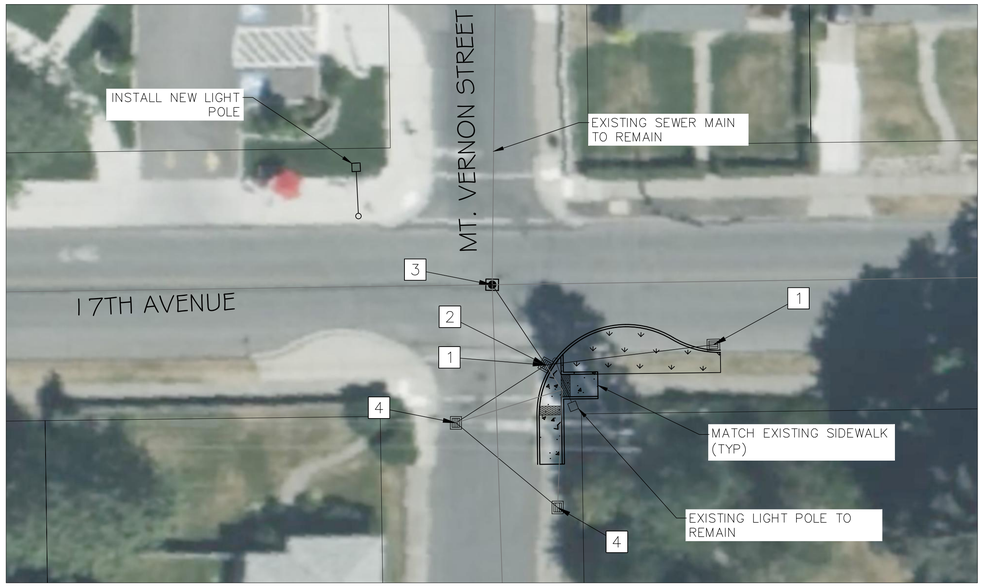
CITY PROJECT NUMBER | CITY PLAN NUMBER

EFN: TRAFFIC DESIGN

CALL BEFORE YOU DIG 1-800-424-5555

Plotted On May 15, 2023 - 3:40pm





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 MANHOLE OR NEW INLET 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. PLUG AND ABANDON EXISTING PIPE. INSTALL NEW 8" DIAM. PIPE TO EXISTING MANHOLE OR INLET WHERE SHOWN.

PRELIMINARY

NOT FOR CONTRUCTION

3

3 OF 8

RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY

DATE	BY	PROJ	DESCRIPTION	FROM	TO
REVISIONS					

DATE	BY	PROJ.	E.F.N. ; U.S.N.	FROM	TO
AS BUILT					

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

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NAVD88 ELEV. NONE GIVEN

CBM NO. NONE GIVEN

NAVD88 DATUM

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HORIZONTAL PLAN&PROFILE 1" = 10'

VERTICAL PROFILE ONLY N/A

SCALE

CURRENT C.O.S. DESIGN STANDARDS ADOPTED FEB. 2007

	BY	DATES
DRAWN:	KL	03/2023
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CHECKED:	SP	03/2023
APPROVED:	AM	03/2023

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

SEGMENT LIMITS: 17TH AVENUE
PERRY STREET TO FISKE STREET

PROJECT LIMITS: LINCOLN HEIGHTS NEIGHBORHOOD

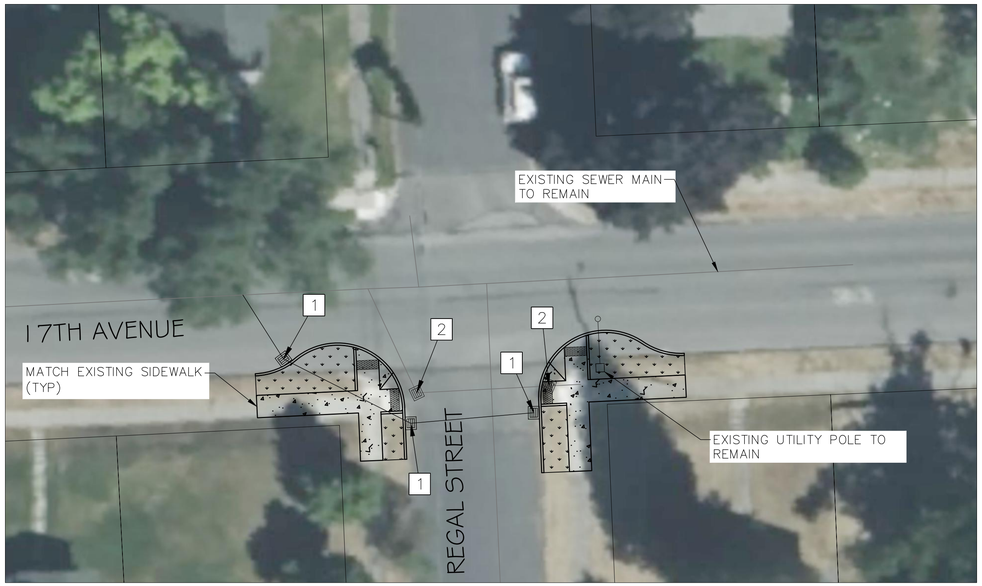
TYPE OF IMPROVEMENT: TRAFFIC

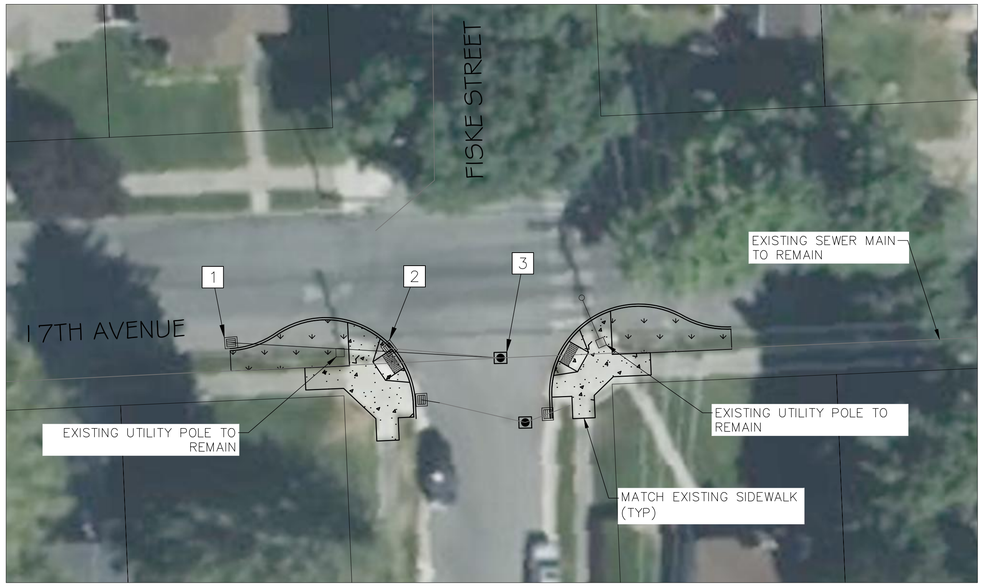
CITY PROJECT NUMBER | CITY PLAN NUMBER

EFN: TRAFFIC DESIGN

CALL BEFORE YOU DIG 1-800-424-5555

Plotted On May 15, 2023 – 3:40pm





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 MANHOLE OR NEW INLET WHERE SHOWN.
2. REMOVE EXISTING INLET. PLUG AND ABANDON EXISTING PIPE.
3. EXISTING MANHOLE TO REMAIN IN PLACE.

PRELIMINARY
NOT FOR CONTRUCTION

4
4 OF 8

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
REVISIONS				AS BUILT					

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

NAVD88 = (OLD CBM ELEV.) - (13.13) | AS OF JANUARY, 2000 USE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

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NAVD88 ELEV. NONE GIVEN

CBM NO. NONE GIVEN

NAVD88 DATUM

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HORIZONTAL PLAN&PROFILE: 1" = 10'

VERTICAL PROFILE ONLY: N/A

SCALE

CURRENT C.O.S. DESIGN STANDARDS ADOPTED FEB. 2007

	BY	DATES
DRAWN:	KL	03/2023
REVISED:	KL	05/2023
CHECKED:	SP	03/2023
APPROVED:	AM	03/2023

CITY OF SPOKANE

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

SEGMENT LIMITS: 17TH AVENUE
PERRY STREET TO FISKE STREET

PROJECT LIMITS: LINCOLN HEIGHTS NEIGHBORHOOD

TYPE OF IMPROVEMENT: TRAFFIC

CITY PROJECT NUMBER | CITY PLAN NUMBER

EFN: TRAFFIC DESIGN

CALL BEFORE YOU DIG 1-800-424-5555

Plotted On May 15, 2023 - 3:41pm

District:	2
Neighborhood:	Lincoln Heights
Project Extent:	Lincoln Heights Reservoir Tank at Ray Street and 25th Avenue Intersection Estimate: $46,000

Problem Statement: Residents of the Lincoln Heights neighborhood raised concerns over the lack of pedestrian crossing facilities at the Lincoln Heights Reservoir Tank at Ray Street and 25th Avenue.

Lincoln Heights Reservoir Tank at Ray Street and 25th Avenue

Traffic Analysis

Ray Street in the study area is classified as an urban principal arterial. Ray Street has a posted speed limit of 30 miles per hour, provides two lanes in each direction, no on-street parking, and has an acceptable sidewalk network. 25th Avenue in the study area is classified as an urban local access road. 25th Avenue does not have a posted speed limit, provides one lane in each direction, on-street parking in both directions, and has an acceptable sidewalk network.

The Spokane Bike and Pedestrian Master Plan identifies a planned shared use path connecting the west end of 23rd Avenue (west of Ray Street) to the 25th Avenue opposite Fiske Street, west of the reservoir and through Thornton Murphy Park.

The table below shows daily traffic counts and speed data on Ray Street at 27th Avenue. The estimated 2022 daily traffic count was 22,770 vehicles on Ray Street. The 85th percentile speed along this corridor was 40 miles per hour (10 miles per hour over the 30 mile per hour speed limit). The data indicates that there is a significant speeding concern on Ray Street.

2022 Daily Traffic and 85th Percentile Speeds on Ray Street at 27th Avenue

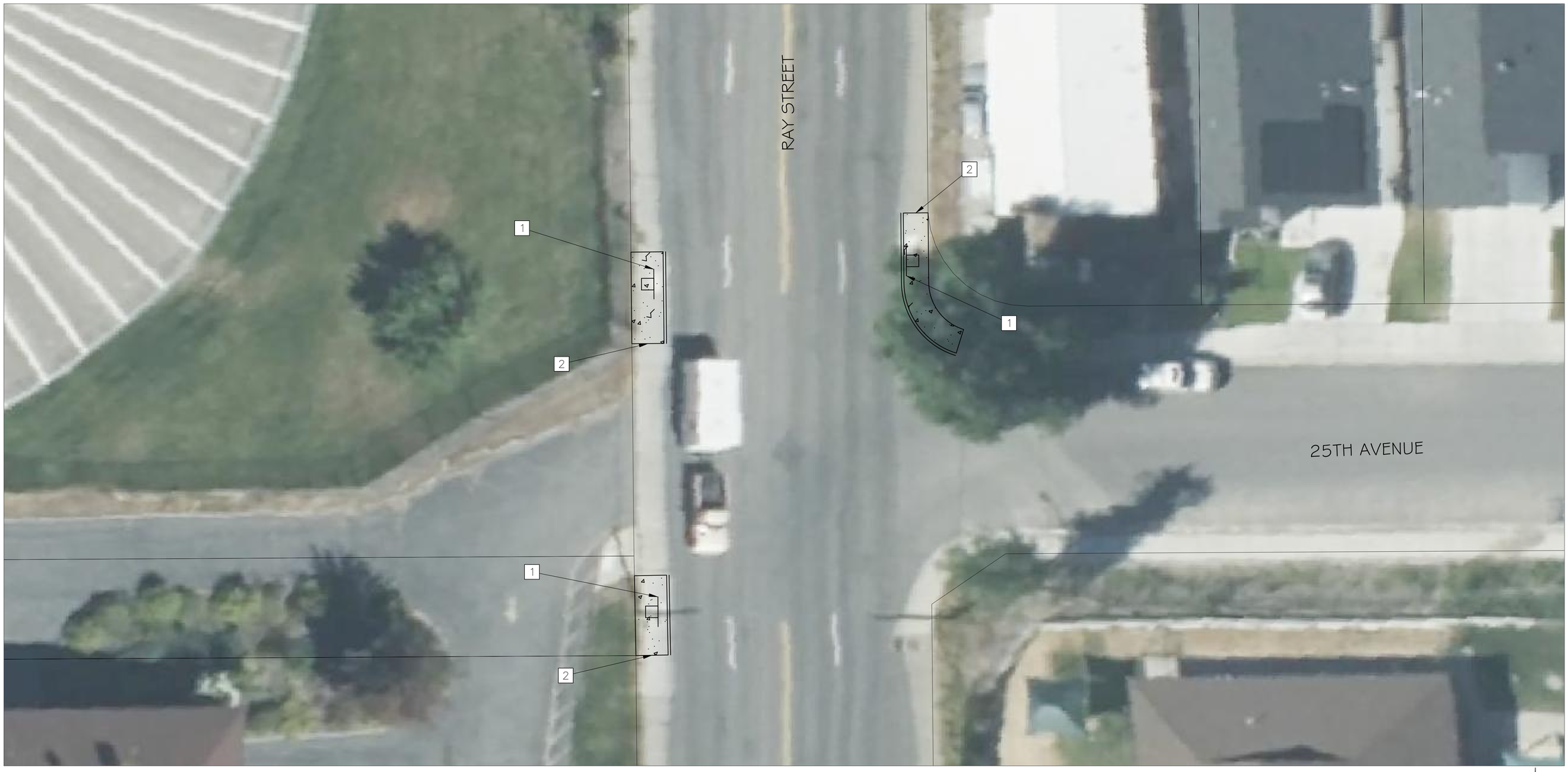
Direction	# Lanes	2022 Estimated Daily Traffic (Vehicles per day) [a]	85th Percentile Speed (mph)	Posted Speed (mph)
South of 27th Avenue				
NB	2	10,544	39	
SB	2	12,226	41	
Both Dir.	4	22,770	40	30

[a] Traffic data collected in May 2018. Traffic volumes were grown at a 1.0% annual growth rate, to estimate 2022 traffic conditions.

The need for enhanced pedestrian crossing treatments across each roadway in the study area was analyzed based on NCHRP Report 562, using collected traffic data. Based on the findings, active or enhanced pedestrian crossing treatments would be appropriate given the high existing traffic volumes and speeds on the study corridor. Based on an evaluation of the surrounding land uses and the planned shared use path west of the reservoir, 23rd Avenue is the preferred location for a protected pedestrian crossing on Ray Street. This improvement is recommended in the Ray Street corridor traffic analysis.

Recommended Solution

With the installation of a pedestrian hybrid beacon crossing at 23rd Avenue, the closure of the pedestrian ramps to Ray Street at 25th Avenue is recommended to direct pedestrians to the preferred location at 23rd Avenue.



LEGEND

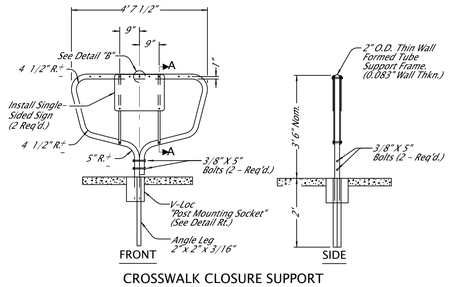
INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B

PROPERTY LINE

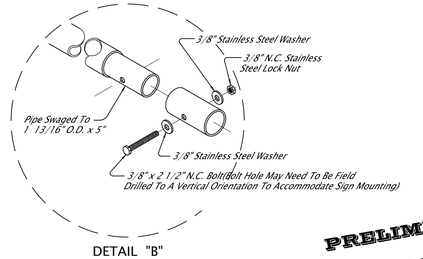
CONSTRUCTION NOTES

1 INSTALL CROSSWALK CLOSURE SUPPORT.

2 REPLACE EXISTING CURB RAMP WITH SIDEWALK AND CURB.



CROSSWALK CLOSURE SUPPORT



DETAIL "B"

PRELIMINARY

NOT FOR CONTRUCTION

5

5 OF 8

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
REVISIONS				AS BUILT					

COUNCIL ACCEPT DATE

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

NAVD88 = (OLD CBM ELEV.) - (13.13) | AS OF JANUARY, 2000 USE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

BENCH MARK LOCATION: NONE GIVEN

NAVD88 ELE: NONE GIVEN

CBM NO.: NONE GIVEN

NAVD88 DATUM

BAR IS ONE INCH ON ORIGINAL DRAWING.

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

HORIZONTAL PLAN&PROFILE: 1" = 10'

VERTICAL PROFILE ONLY: N/A

SCALE

CURRENT C.O.S. DESIGN STANDARDS ADOPTED FEB. 2007

	BY	DATES
DRAWN:	KL	03/2023
REVISED:	KL	05/2023
CHECKED:	SP	03/2023
APPROVED:	AM	03/2023

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

SEGMENT LIMITS: RAY STREET AND 25TH AVENUE

LINCOLN HEIGHTS RESERVOIR TANK

PROJECT LIMITS: LINCOLN HEIGHTS NEIGHBORHOOD

TYPE OF IMPROVEMENT: TRAFFIC

CITY PROJECT NUMBER | CITY PLAN NUMBER

EFN: TRAFFIC DESIGN

Plotted On May 15, 2023 - 3:41pm

CALL BEFORE YOU DIG 1-800-424-5555

LEGEND

INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B

PROPERTY LINE

NORTH

PRELIMINARY
NOT FOR CONTRUCTION

6
6 OF 8

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
			REVISIONS				AS BUILT		

LINCOLN HEIGHTS RESERVOIR TANK

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

NAVD88 = (OLD CBM ELEV.) + (13.13) — AS OF JANUARY, 2000 USE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

BENCH MARK LOCATION: NONE GIVEN

NAVD88 ELEV.: NONE GIVEN

CBM NO.: NONE GIVEN

NAVD88 DATUM

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HORIZONTAL PLAN&PROFILE: 1" = 20'
VERTICAL PROFILE ONLY: N/A

SCALE

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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

SEGMENT LIMITS: ROCKWOOD RETIREMENT TO LINCOLN HEIGHTS SHOPPING

PROJECT LIMITS: LINCOLN HEIGHTS NEIGHBORHOOD

TYPE OF IMPROVEMENT: TRAFFIC

CITY PROJECT NUMBER

CITY PLAN NUMBER

EFN: TRAFFIC DESIGN

CALL BEFORE YOU DIG 1-800-424-5555

Plotted On May 15, 2023 - 3:41pm

District 2, Lincoln Heights: Rockwood Retirment to Lincoln Heights Shopping Center
Estimate: $219,000

LEGEND

INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B

PROPERTY LINE

NORTH

PRELIMINARY
NOT FOR CONTRUCTION

7
7 OF 8

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
REVISIONS				AS BUILT					

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NAVD88 ELEV. NONE GIVEN

CBM NO. NONE GIVEN

NAVD88 DATUM

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VERTICAL PROFILE ONLY N/A

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808 WEST SPOKANE FALLS BLVD.
SPOKANE, WASHINGTON 99201-3343
(509) 625-6700

PROJECT NAME: SPOKANE TRAFFIC CALMING MASTER PLAN

SEGMENT LIMITS: ROCKWOOD RETIREMENT TO LINCOLN HEIGHTS SHOPPING

PROJECT LIMITS: LINCOLN HEIGHTS NEIGHBORHOOD

TYPE OF IMPROVEMENT: TRAFFIC

CITY PROJECT NUMBER

CITY PLAN NUMBER

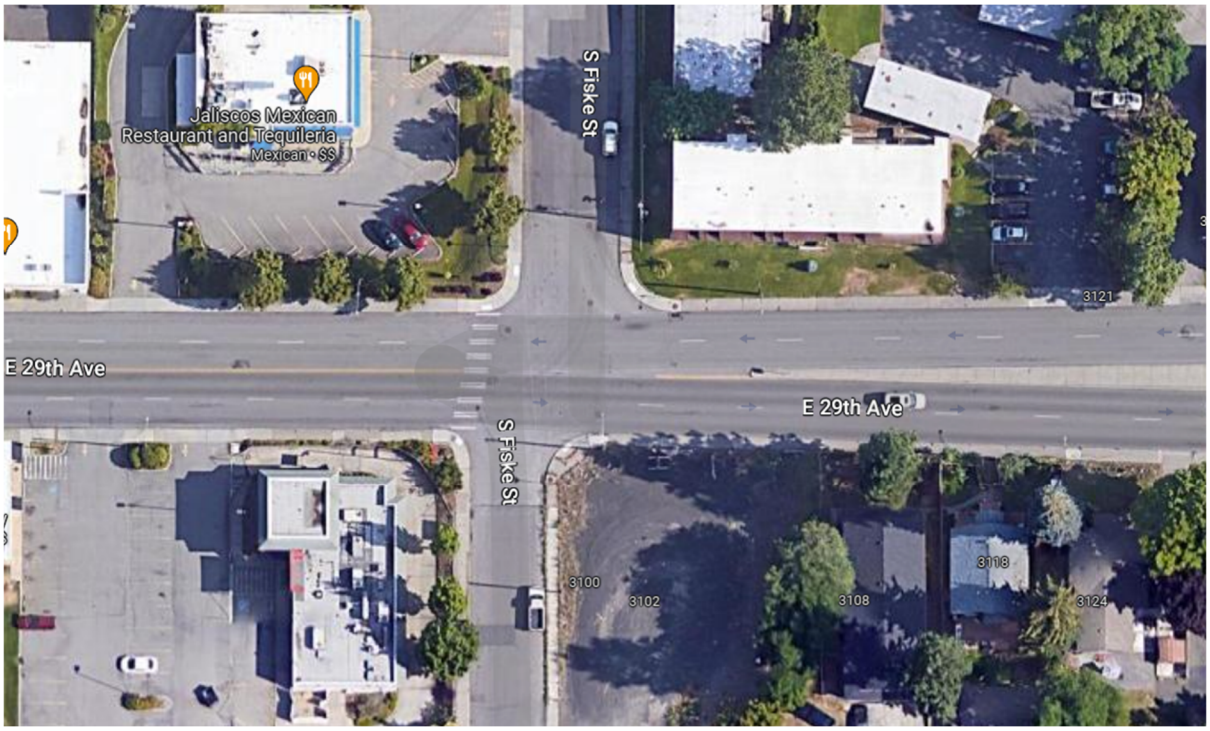
EFN: TRAFFIC DESIGN

CALL BEFORE YOU DIG 1-800-424-5555

Plotted On May 15, 2023 - 3:41pm

District:	2
Neighborhood:	Lincoln Heights
Project Extent:	29th Avenue/Fiske Street Intersection

Problem Statement: Residents of the Lincoln Heights neighborhood raised concerns over pedestrian crossing safety and level of difficulty crossing 29th Avenue at Fiske Street.



29th Avenue and Fiske Street Intersection

Traffic Analysis

29th Avenue in the study area is classified as an urban principal arterial. 29th Avenue has a posted speed limit of 30 miles per hour, two lanes in each direction, no on-street parking, and an acceptable sidewalk network. 29th Avenue is designated as a "high bike traffic (shared lane)" roadway in the Spokane Bike and Pedestrian Master Plan. Fiske Street in the study area is classified urban local access. Fiske Street does not have a posted speed limit, provides one lane in each direction, on-street parking on both sides of the street, and has an acceptable sidewalk network. There is a marked pedestrian crossing on west leg of the 29th Avenue/Fiske Street intersection. The closest signalized crossing on 29th Avenue is located 550 feet south at the Ray Street signalized intersection.

The table below shows daily traffic counts and speed data on 29th Avenue at Regal Street. The estimated 2022 daily traffic count was 19,031 vehicles on 29th Avenue. The 85th percentile speed along this corridor

was 35 miles per hour in the westbound direction (5 miles per hour over the 30 mile per hour speed limit). The data indicates that there is a significant speeding concern on 29th Avenue.

2022 Daily Traffic and 85th Percentile Speeds on 29th Avenue

Direction	# Lanes	2022 Estimated Daily Traffic (Vehicles per day) [a]	85th Percentile Speed (mph)	Posted Speed (mph)
At Regal Street				
EB	2	9,660	28	
WB	2	9,371	35	
Both Dir.	4	19,031	32	30

[a] Traffic data collected in October 2018. Traffic volumes were grown at a 1.0% annual growth rate, to estimate 2022 traffic conditions.

The need for enhanced pedestrian crossing treatments was analyzed for 29th Avenue 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 demand is met due to the surrounding commercial uses and urban neighborhoods, and Thornton Murphy Park to the north.

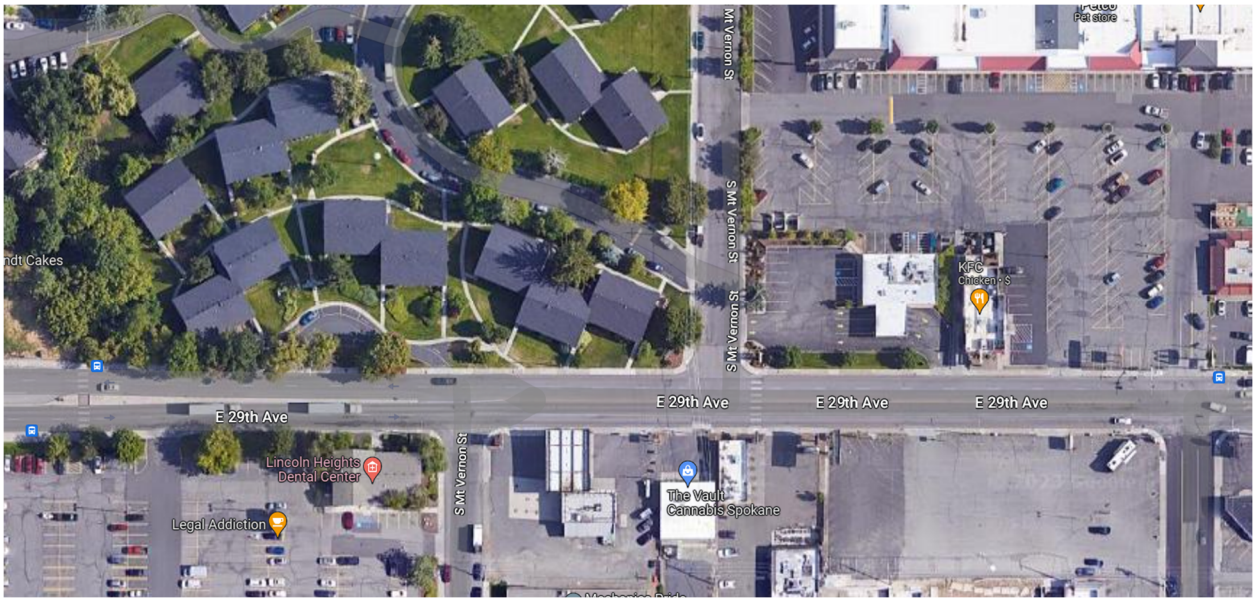
Three crashes were recorded over the last five years (from 2017 to 2021), including one minor injury crash related to a pedestrian being hit by a vehicle going straight at the intersection.

Recommended Solution

The installation of a pedestrian hybrid beacon is recommended at the existing crosswalk on 29th Avenue at Fiske Street to improve safety. Coordination with the adjacent signals will require evaluation if this improvement moves forward to design.

District:	2
Neighborhood:	Lincoln Heights
Project Extent:	29th Avenue and Mount Vernon Street Intersection Estimate: $464,000

Problem Statement: Residents of the Lincoln Heights neighborhood raised concerns over pedestrian crossing safety and level of difficulty to cross the intersection of 29th Avenue and Mount Vernon Street.



29th Avenue and Mount Vernon Street Intersection

Traffic Analysis

29th Avenue in the study area is classified as an urban principal arterial. 29th Avenue has a posted speed limit of 30 miles per hour, two lanes in each direction, no on-street parking, and an acceptable sidewalk network except for the frequent driveway conflicts. 29th Avenue is designated as a "high bike traffic (shared lane)" roadway in the Spokane Bike and Pedestrian Master Plan. Mt. Vernon Street in the study area is classified as an urban local access road. Mt Vernon Street does not have a posted speed limit, provides one lane in each direction, on-street parking on both sides of the street, and has an acceptable sidewalk network except where it discontinues on the east side of Mt Vernon Street. Mt Vernon Street is not included in the Spokane Bike and Pedestrian Master Plan.

The table below shows daily traffic counts and speed data on 29th Avenue at Regal Street. The estimated 2022 daily traffic count was 19,031 vehicles on 29th Avenue. The 85th percentile speed along this corridor was 35 miles per hour in the westbound direction (5 miles per hour over the 30 mile per hour speed limit). The data indicates that there is a significant speeding concern on 29th Avenue.

2022 Daily Traffic and 85th Percentile Speeds on 29th Avenue

Direction	# Lanes	2022 Estimated Daily Traffic (Vehicles per day) [a]	85th Percentile Speed (mph)	Posted Speed (mph)
At Regal Street				
EB	2	9,660	28	
WB	2	9,371	35	
Both Dir.	4	19,031	32	30

[a] Traffic data collected in October 2018. Traffic volumes were grown at a 1.0% annual growth rate, to estimate 2022 traffic conditions.

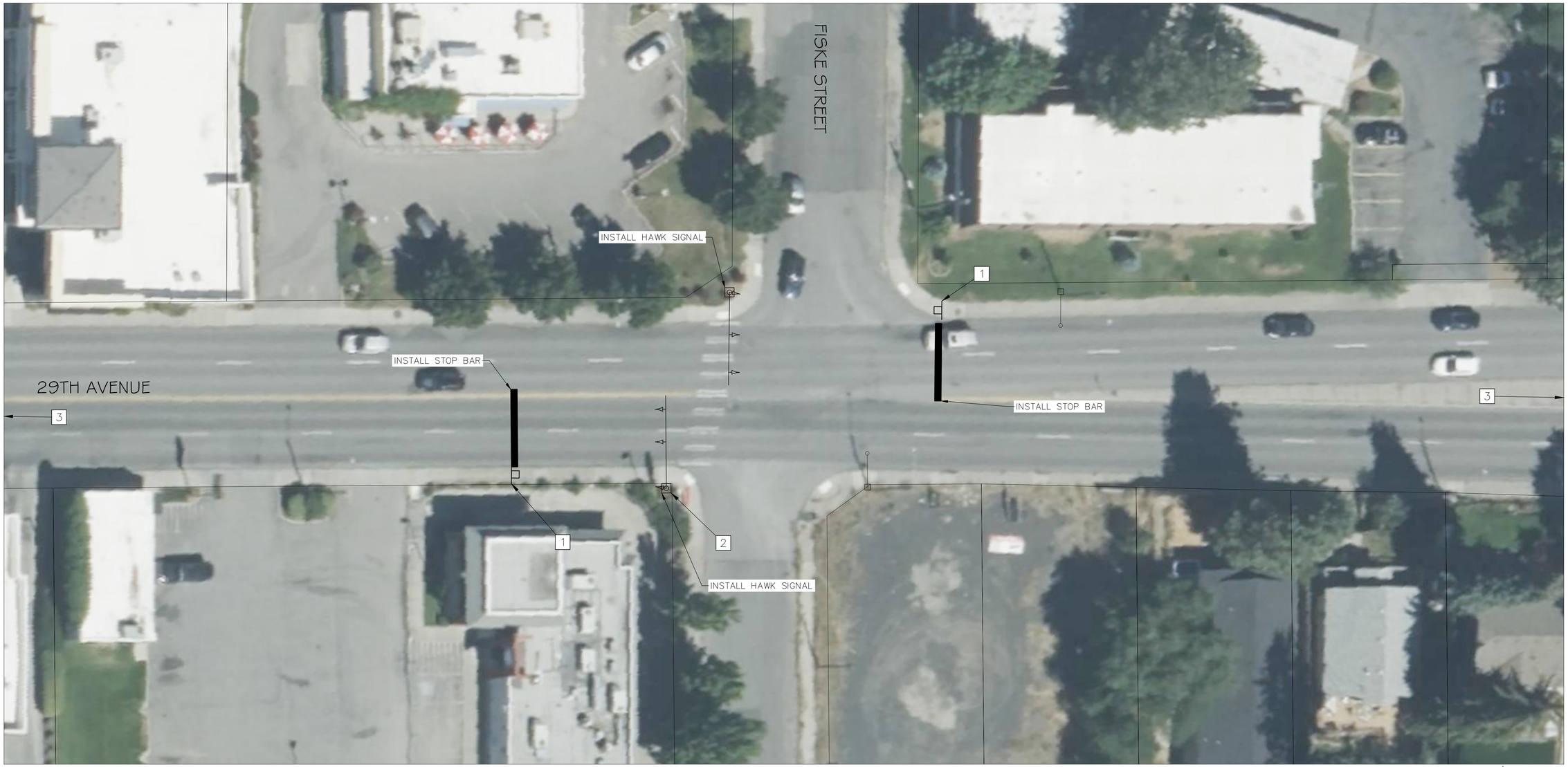
Five crashes were recorded over the last five years (from 2017 to 2021), the primary crash type was angle and turning across the intersection.

The need for enhanced pedestrian crossing treatments was analyzed for 29th Avenue 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 demand is met on 29th Avenue due to the surrounding commercial uses and urban neighborhoods.

The installation of a pedestrian hybrid beacon is planned across 29th Avenue at the existing marked crossing near Rosauers approximately 330-feet west of Mt. Vernon Street (south leg). The project will be funded by a prior City traffic calming funding cycle. The installation of a protected pedestrian crossing on 29th Avenue at Fiske Street is recommended in the previous traffic analysis. The funded crossing near Rosauers and the proposed crossing at Fiske Street are approximately 1,700 feet apart. The proposed pedestrian crossing at Mt. Vernon is not recommended due to the close spacing to the other funded and proposed crossings.

Recommended Solution

With the installation of a pedestrian hybrid beacon crossing at Fiske Street, it is recommended to remove the existing marked pedestrian crossing at Mt Vernon to direct pedestrians to the preferred and protected crossing location.



LEGEND

PROPERTY LINE

PROPOSED SIGN

CONSTRUCTION NOTES

1. INSTALL PROPOSED HAWK STOP BAR SIGN
2. POTENTIAL RIGHT-OF-WAY AND EXISTING BUSINESS SIGN CONFLICT
3. EVALUATE COORDINATION WITH ADJACENT TRAFFIC SIGNALS

R10-6

STOP
HERE ON
RED

PROPOSED HAWK STOP BAR SIGNAGE

PRELIMINARY
NOT FOR CONTRUCTION

ARTERIAL

8
8 OF 8

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
REVISIONS				AS BUILT					

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

PROJECT NAME: SPOKANE TRAFFIC CALMING MASTER PLAN

SEGMENT LIMITS: 29TH AVENUE AND FISKE STREET

PROJECT LIMITS: LINCOLN HEIGHTS NEIGHBORHOOD

TYPE OF IMPROVEMENT: TRAFFIC

CITY PROJECT NUMBER

CITY PLAN NUMBER

EFN: TRAFFIC DESIGN

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