

S Whitney Way & Odana Rd Intersection

Highway Safety Improvement Program (HSIP)



What is the Highway Safety Improvement Program (HSIP)?

- Federal safety funding program; administered by states
- City applies to WisDOT; WisDOT chooses projects
- Projects justified by crash data
- Focus on proven safety measures
 - E.g. adding left turn lanes, signal upgrades, lighting, ped crossings

Similar HSIP project at Gammon Rd & Watts Rd



S Whitney Way & Odana Rd project

- Applied for and awarded in 2022

5. PROPOSED IMPROVEMENT

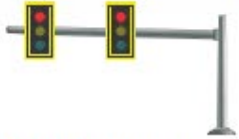
Describe the proposed project and how it will address the identified hazards. In addition, briefly discuss any alternatives considered and why these options are not the preferred alternative.

To improve the visibility of the signal heads at this intersection, it is recommended to convert the traffic signals to monotubes with signal heads over each traffic lane. The use of retroreflective backplates on these signal heads would further improve visibility. Improving signal timing to meet MUTCD standards and to implement emergency vehicle pre-emption is also recommended.

Improving pedestrian facilities to include high-visibility crosswalks, the addition of audible pedestrian push buttons, increased pedestrian storage on the north and east legs, and curb ramps that meet current ADA standards would be beneficial to pedestrians crossing this intersection. Enlarging the east leg median is also proposed which could provide additional refuge space for pedestrians. Additional street lighting is also proposed.

To improve driver expectancy through the intersection and reduce confusion for NB drivers, on the north leg, it is recommended to define two receiving lanes (instead of three) by expanding the north leg's median.

**S. WHITNEY WAY & ODANA ROAD
RECOMMENDED IMPROVEMENT
CMF values**



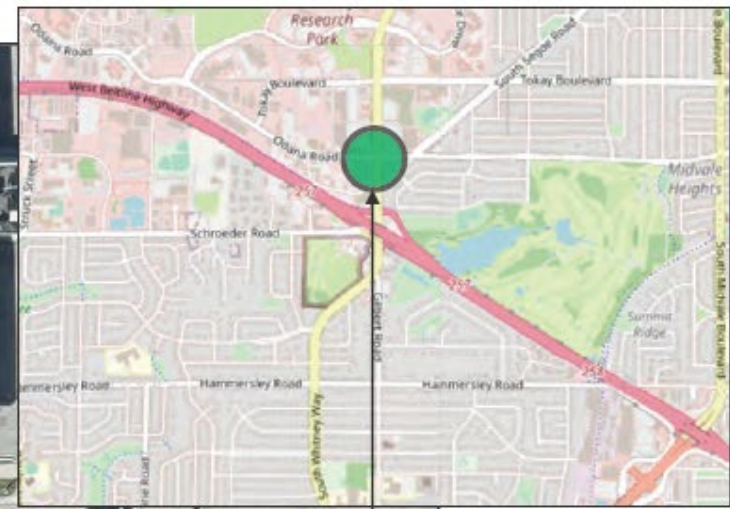
CONVERT SIGNAL TO
SIGNAL W/MONOTUBES AND
SIGNAL HEAD PER LANE
INDICATIONS
(CMF = Right Angle - 0.768
Rear End = 0.969)



ADD RETRO-
REFLECTIVE
(YELLOW)
BACKPLATES
(CMF = 0.85 all)



HIGH
VISIBILITY
CROSSWALKS
(CMF = 0.60 ped's)



ODANA ROAD

WHITNEY WAY

NOT FOR CONSTRUCTION

- S. WHITNEY WAY & ODANA RD
RECOMMENDED IMPROVEMENTS**
1. Install Signals with Monotubes and signal Heads Over Each Lane (all approaches)
 2. Retroreflective Backplates
 3. High Visibility Crosswalks
 4. Upgrade to Audible Pedestrian Push Buttons
 5. Emergency Vehicle Preemption
 6. Update Street Lighting
 7. Improve Pedestrian Storage on North and East Legs
 8. Use Wider Median on North Leg to Align Receiving Lanes
 9. Use Wider Median on East Leg to Align Receiving Lanes
- NOTE: TLEs are expected to be needed

SCALE, FEET 0 20 40



Miscellaneous Other Intersection Crashes

M ₁	06/01/2015	4 PM	EBL rear-mid int
	06/18/2015	9 AM	NBL semi hit signal
	10/17/2017	3 PM	WBT in turn lane SSS
	01/04/2018	8 PM	DRK EBL semi hit signal
	01/18/2018	8 AM	EBR-WBL SSS
	06/25/2018	2 PM	WBL SSS
	11/15/2018	9 AM C-INJ	WBL SSS
	11/21/2018	2 PM WET	EBR-WBL SSS
	01/24/2019	3 PM WET	SBR from left lane

SB ₁	02/25/2015	4 PM C-INJ	SNW	SPD
	06/18/2015	11 AM		
	08/10/2015	2 PM		
	08/25/2015	4 PM		
	01/12/2016	3 PM C-INJ		
	09/13/2016	12 PM	WET	
	04/06/2017	4 PM		
	05/23/2017	2 PM		
	05/18/2018	5 PM		ALC
	12/07/2018	3 PM		
	05/20/2019	2 PM C-INJ		

Miscellaneous West Leg Crash

M ^W	10/07/2016	10 PM	DRK	SPD	Tree - west leg
	05/01/2017	3 PM	WET		WB rear on W leg

WB Driveway Related (West Leg)

WB ^W	04/14/2015	9 AM C-INJ		
	04/01/2016	3 PM		
	04/02/2019	8 AM	WET	
	12/21/2019	5 PM	DRK	

SB₂

	01/17/2015	11 AM	WET	
	08/17/2015	5 AM C-INJ	Flashing Red	
	10/07/2016	5 AM	DRK	Flashing Red
	10/23/2016	1 AM	DRK	Flashing Red
	11/05/2016	12 AM B-INJ	DRK	Flashing Red

NB₁

	01/04/2015	11 AM C-INJ	SNW	
	08/29/2015	1 AM	WET	DRK
	12/08/2015	7 AM		

EB₂

	10/24/2015	6 AM A-INJ	DRK	Flashing Red
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EB₂

	11/15/2017	4 PM		
	10/16/2018	7 PM	DRK	EBL from right lane

EB Driveway Related (West Leg)

EB ₁₀	01/06/2015	4 PM	SNW	DRK
	02/02/2015	5 PM	SNW	DRK
	11/15/2017	9 AM	WET	
	01/27/2018	3 PM		

EB₂

	03/30/2015	6 PM	ALC	
	11/20/2015	6 PM	WET	DRK
	04/11/2016	4 PM		
	08/03/2016	5 PM		
	09/27/2016	2 PM		
	11/10/2016	3 PM		
	03/23/2017	5 PM		
	04/17/2017	9 AM B-INJ		

EB₄

	10/18/2017	4 PM		
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SB₀

	12/26/2018	3 PM B-INJ	EBR - Ped in cross	
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WB₁

	10/04/2017	3 PM C-INJ		
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Miscellaneous South Leg Crashes

M ₅	07/18/2015	9 PM	DRK	SB SSS S leg
	08/13/2015	5 PM		SB rear S leg
	07/14/2016	6 PM		SB rear behind bus
	12/08/2016	4 PM	WET	EBR-WBL SSS S leg

Miscellaneous North Leg Crashes

M ₀	04/29/2015	10 AM	WBR-EBL SSS N Leg	
	06/27/2019	7 AM	NB rear be hind bus	

NB Driveway Related (North Leg)

NB ^N	04/08/2015	11 AM	B-INJ	
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WB ₂	12/04/2015	6 PM	DRK	
	11/07/2016	10 AM	Flashing Red	

WB ₅	02/15/2015	8 PM	DRK	ALC
	12/29/2015	5 PM	ICE	DRK
	10/18/2017	1 PM		ALC
	06/09/2018	3 PM		

WB ₆	06/18/2017	1 PM	C-INJ	
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WB Driveway Related (East Leg)

WB ₁₀	04/05/2016	6 PM	WET	
	04/05/2017	2 PM	WET	

Miscellaneous East Leg Crash

M ^E	04/05/2016	5 PM	C-INJ	WET	Moped overturn
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SB ₁	08/18/2015	7 PM	WET	DRK
	03/15/2017	7 PM		DRK

NB ₂	05/16/2015	2 AM	C-INJ	DRK	Flashing Red
	08/15/2015	3 PM	C-INJ		
	09/05/2018	3 PM	B-INJ	WET	

NB ₄	01/04/2016	12 PM	C-INJ		
	09/16/2019	6 AM	C-INJ	WET	SPD

NB ₅	04/18/2015	8 AM			
	05/22/2015	9 AM	C-INJ		
	05/26/2015	8 AM			
	06/10/2015	8 AM			
	06/17/2015	1 PM	C-INJ		
	01/29/2016	10 PM			DRK
	06/05/2016	1 PM			
	06/21/2016	2 PM			
	09/22/2016	9 AM	B-INJ		
	01/12/2017	5 PM			ICE DRK Traffic int
	05/02/2017	4 PM			
	06/05/2017	6 PM			
	06/15/2017	5 PM			
	08/08/2017	3 PM	B-INJ		
	09/06/2017	12 PM	C-INJ		
	10/18/2017	3 PM			
	12/19/2017	7 AM			
	04/06/2018	5 PM			
	08/08/2018	5 PM	C-INJ		
	02/08/2019	12 PM			
	02/16/2019	1 PM			
	06/01/2019	11 AM	C-INJ		
	09/09/2019	7 PM			

NB ₆	06/19/2015	12 PM			
	11/08/2015	7 AM			
	07/19/2018	9 PM	DRK		

P ₁	03/07/2016	7 PM	FATAL	DRK	EB hit Ped mid block
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CRASH STATISTICS

103 Crashes
1.43 Crashes Per Million Entering Vehicles

- 1 Fatal Crash (K)
- 1 Suspected Serious (Type A)
- 7 Suspected Minor (Type B)
- 19 Possible (Type C)
- 75 No Apparent Injury

LEGEND

→ Moving Vehicle 🚦 Traffic Signal ↗ Angle (Right Angle) ⚡ Head-On

← Backing Vehicle 🛑 Stop/Yield Sign ↖ Angle (Left Turn) ↔ Rear-End

--- Pedestrian 🌳 Tree ↘ Angle (Right Turn) ↕ Out of Control

--- Bicyclist 🚲 Bicyclist ↙ Sideswipe-Same ↗ Overtake

🚗 Parked Vehicle 🚗 Non-Fixed Object ↘ Sideswipe-Opposite ↖ Overtake

📍 = CRASH FREQUENCY (if > 1 NON-PED/BYKIE)

LABEL, DATE OF CRASH, TIME, SEVERITY, ROAD CONDITIONS, LIGHT, ALCOHOL, DRUGS, SPEED-RELATED, NOTES ABOUT CRASH

Note: Deer Crashes Not Included
*Economic Loss = \$68.4k (KA) \$2.17 (B), \$123k (C), \$10.3k (POC)

CRASH SEVERITY DEFINITIONS

- FATAL = Fatal Crash
- A(in) = Suspected Serious Injury Crash
- B(in) = Suspected Minor Injury Crash
- C(in) = Possible Injury Crash
- No Apparent Injury Crash

HIGH LIGHTED CRASHES

- > \$1,000,000 in economic loss*
- > \$50,000 in economic loss*
- Pedestrian or bicyclist struck by vehicle

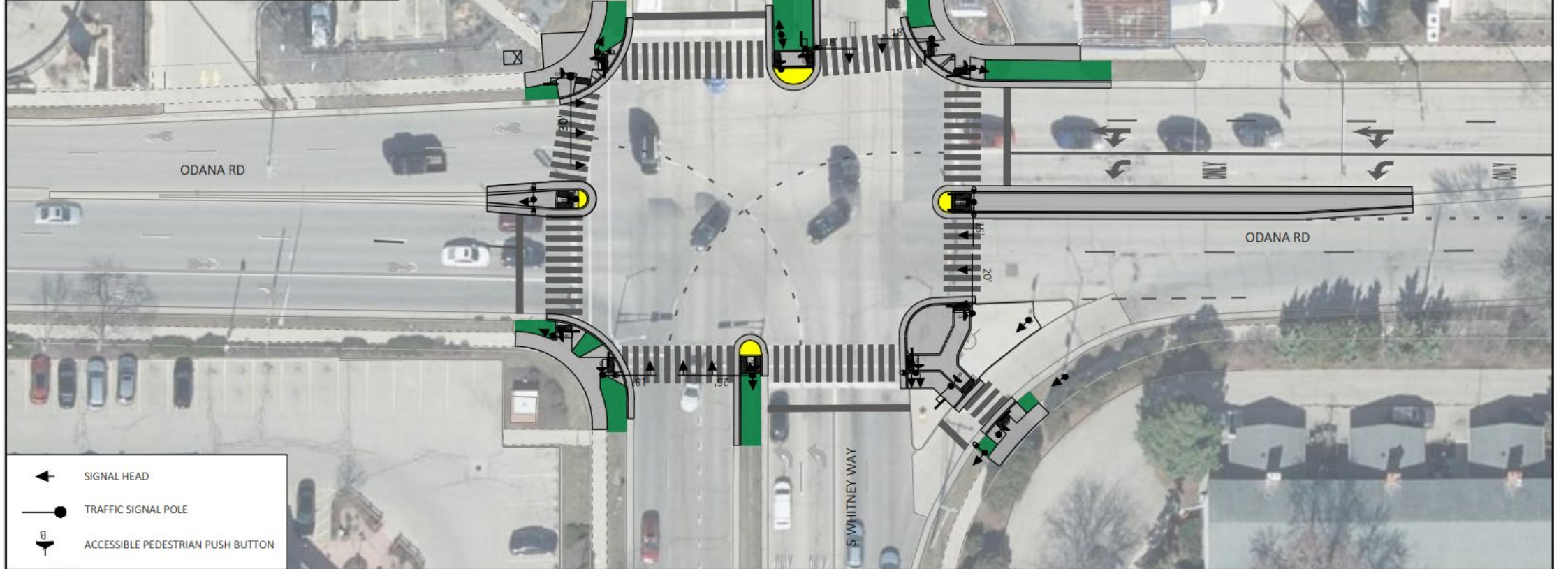
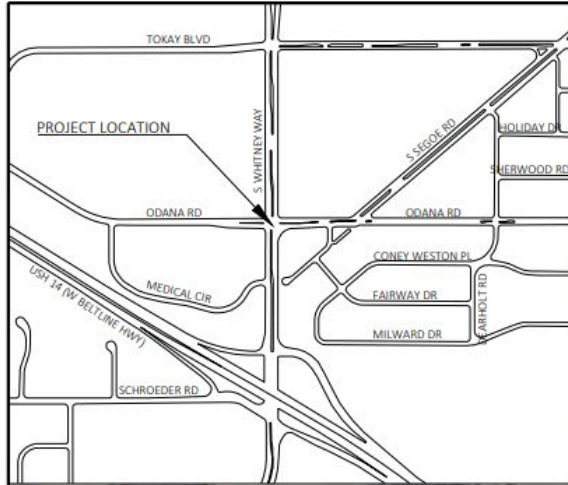
CRASH HISTORY (2015-2019)
INTERSECTION OF WHITNEY WAY & ODANA ROAD
CITY OF MADISON, WISCONSIN

Mr. Tao,

I am pleased to inform you that the Whitney Way/Odana Road safety application you submitted was approved and the project is in the 2022-2025 Highway Safety Improvement Program (HSIP). The approved funding amounts are:

Project	Work Type	Total Funds	Fed/State Share (%)	Local Share (%)
5992-07-06	Design & Oversight	\$120,407	\$108,366 (90%)	\$12,041 (10%) + Balance
5992-07-07	Construction & Oversight	\$1,038,710	\$934,839 (90%)	\$103,871 (10%) + Balance

This is not a federal-aid grant program. As the project sponsor, you are responsible for 10% of total project costs up to the approved funding limit and any costs over the Federal/State limit will be 100% the project



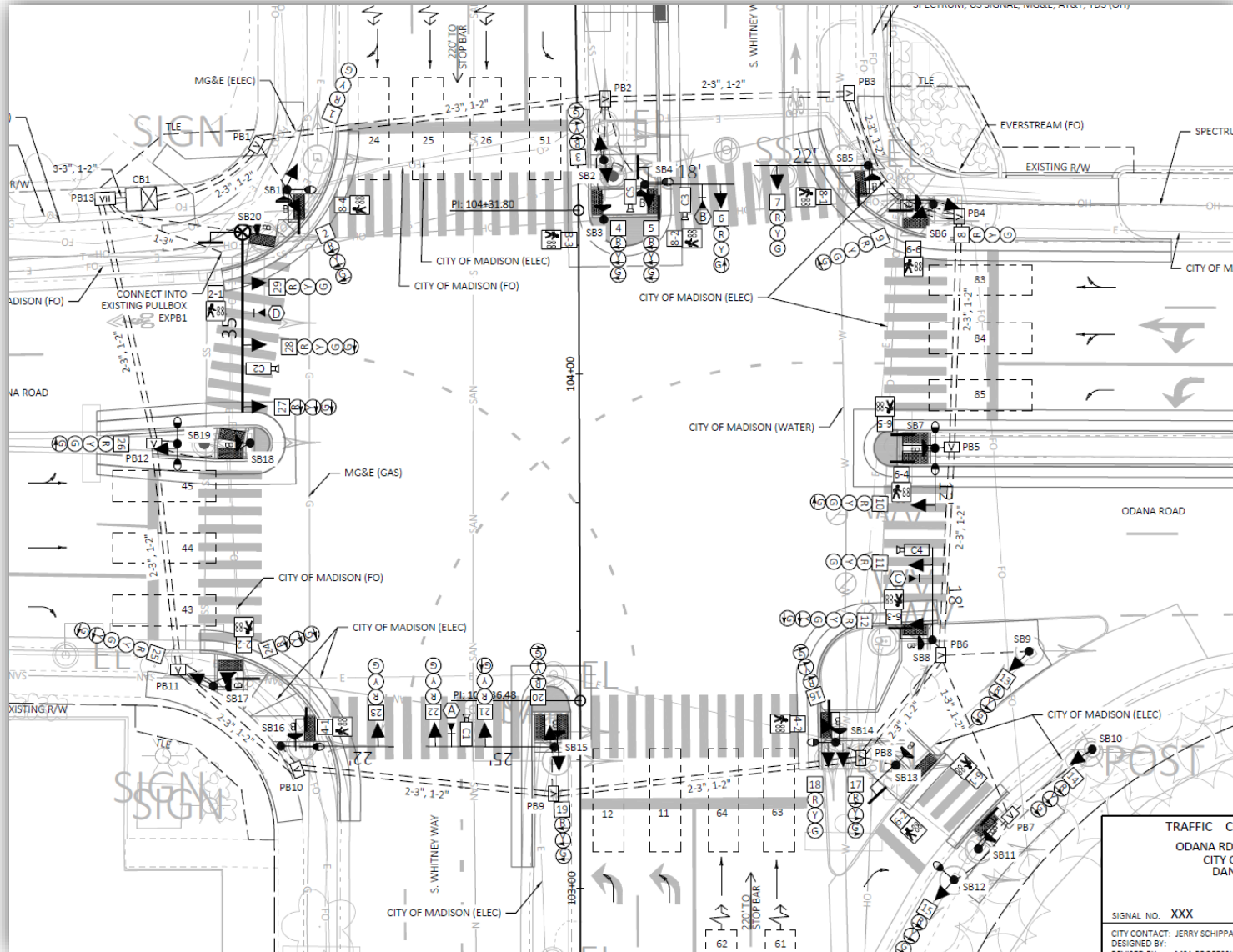
- ← SIGNAL HEAD
- TRAFFIC SIGNAL POLE
- ♣ ACCESSIBLE PEDESTRIAN PUSH BUTTON



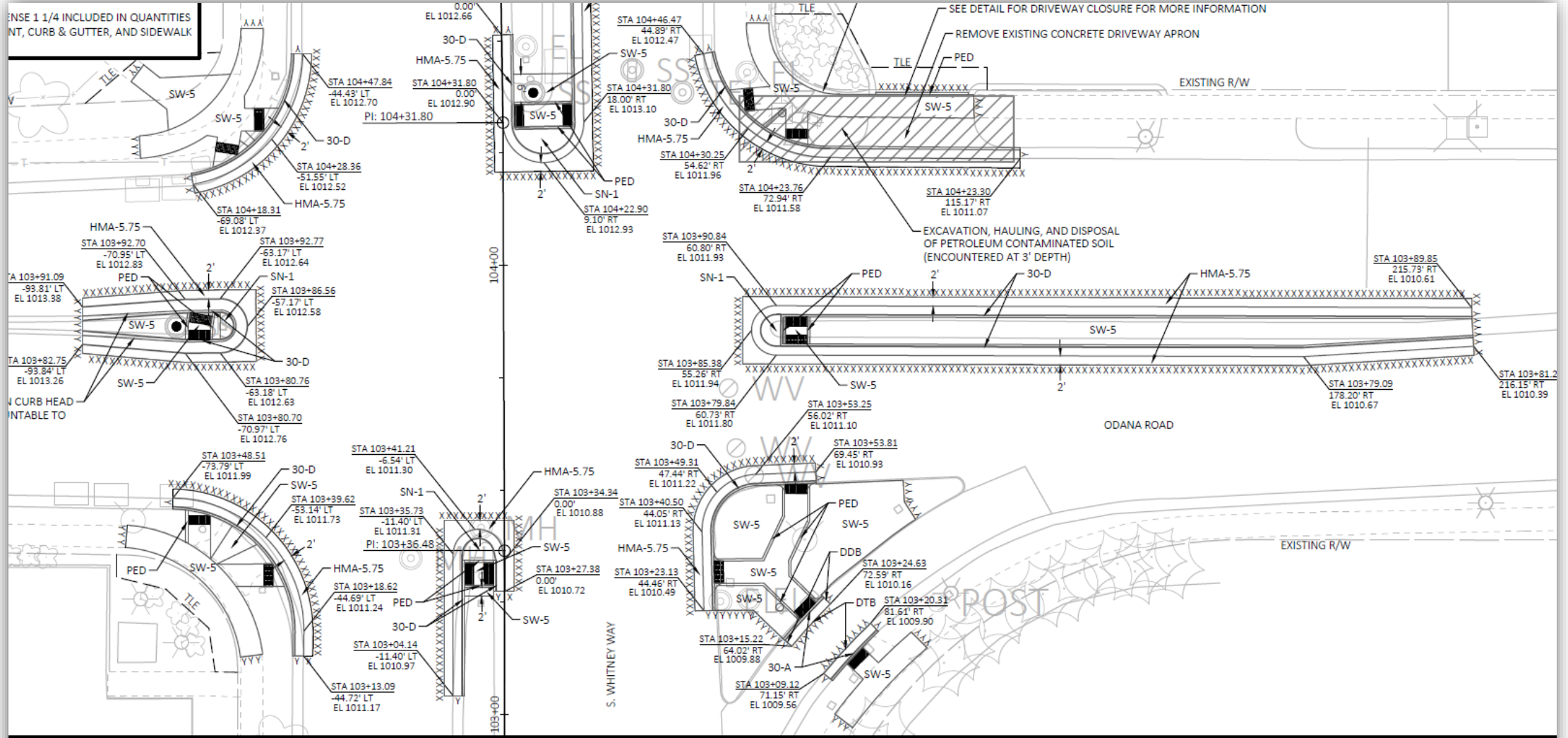
SOUTH WHITNEY WAY & ODANA ROAD INTERSECTION IMPROVEMENTS



Signal Plan

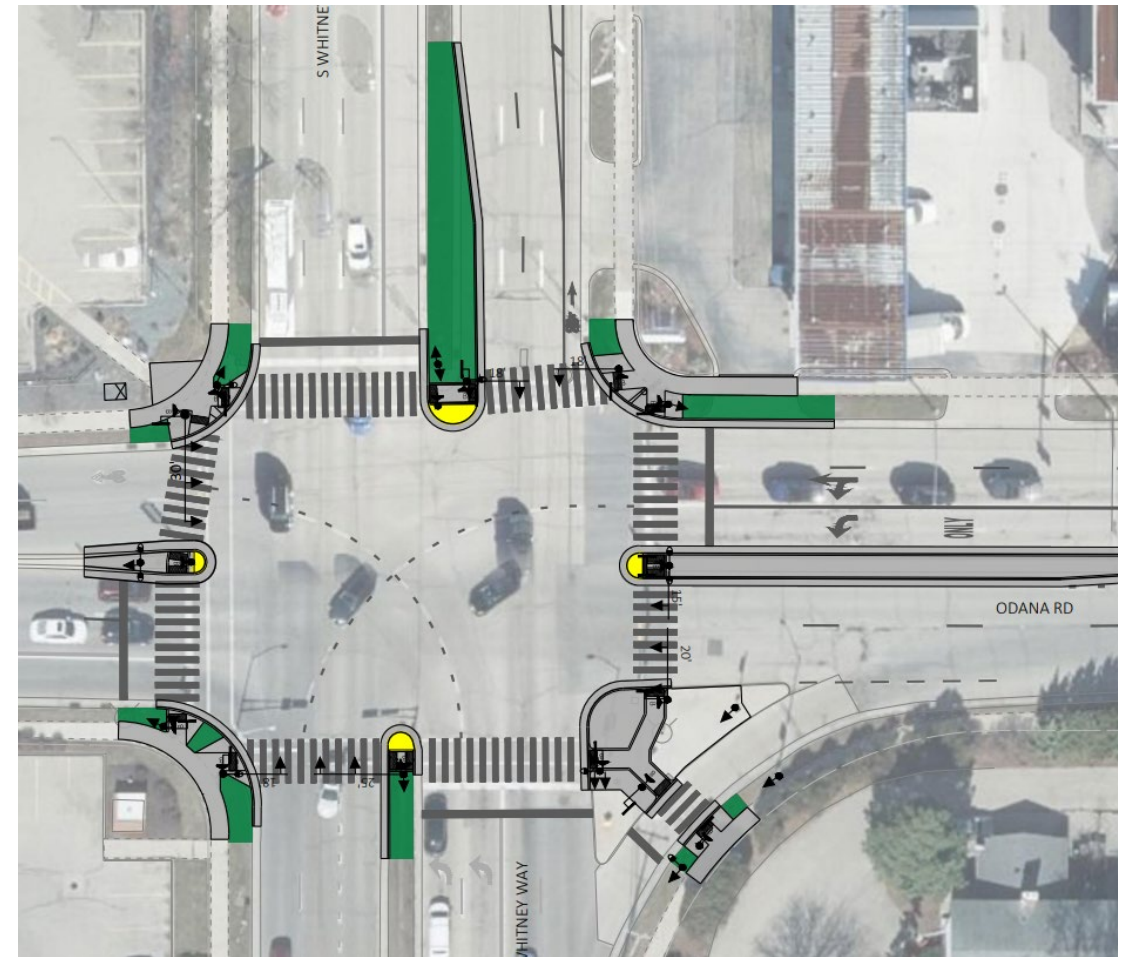


Limits of Excavation



List of Improvements

- Full signal replacement
 - Accessible Pedestrian Signals (APS)
 - Signal heads over each lane
 - High visibility, yellow backplates
 - Cabinet & Controller
 - Video Detection
 - Emergency Vehicle Preemption
- Widened medians
- Removal of redundant Northbound lane
- New northbound bike lane between Odana Road and Tokay Boulevard
- High visibility crosswalks
- Replacement of pedestrian ramps
- Closure of redundant gas station driveway on Odana Road



Project Schedule

- Transportation Commission, Board of Public Works, and Common Council approval in 2022
- Design in 2025-2026
- Bid for contractor in fall 2026
- Construction in 2027
 - Peak-hour restrictions on work and lane closures