

## Tactical Urbanism in Community Heights

### Applicant Identity

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### Location

#### Written description

This tactical urbanism application includes two locations. The first is in the right-of-way, on 16th Street between Graham and Bolton Ave. Indianapolis Public School (IPS 88) is immediately to the south of this project. The second location is along 10th Street between Emerson and Arlington Ave.

#### Aerial image of the location



Figure 1. Aerial view of one project location. The tactical urbanism project for this location spans the roadway from 16<sup>th</sup> and Graham to 16<sup>th</sup> and Bolton and includes the intersections of 16<sup>th</sup> and Graham and 16<sup>th</sup> and Bolton.



## PROJECT LOCATION #2



Figure 2. Aerial view of the second project location. The second project location spans the roadway from 10<sup>th</sup> and Emerson Ave to 10<sup>th</sup> and Arlington Ave. The project location does not include the intersections of 10<sup>th</sup> and Emerson or 10<sup>th</sup> and Arlington. For clarity, the aerial view has been split into two sections.

### Photographs of the location at the time of submission

The following are photos of the current state of Project Location #1. Photos were taken from the north and south side of the street and at each intersection and cross street in the project location area.



Figure 3. Photo of the northwest corner of 16<sup>th</sup> and Bolton, looking east





*Figure 4. Photo of the northwest corner of 16<sup>th</sup> and Bolton, looking west*



*Figure 5. Photo of the southwest corner of 16<sup>th</sup> and Bolton, looking east*





*Figure 6. Photo of the southwest corner of 16<sup>th</sup> and Bolton, looking west*



*Figure 7. Photo of the roadway immediately north of the school. Photo was taken from the north side of the street, looking east.*





*Figure 8. Photo of the roadway immediately north of the school. Photo was taken from the north side of the street, looking west.*



*Figure 9. Photo of the roadway immediately north of the school. Photo was taken from the south side of the street, looking east.*





*Figure 10. Photo of the roadway immediately north of the school. Photo was taken from the south side of the street, looking west.*



*Figure 11. Photo of the northeast corner of 16<sup>th</sup> and Graham, looking east*





Figure 12. Photo of the northeast corner of 16<sup>th</sup> and Graham, looking west



Figure 13. Photo of the southeast corner of 16<sup>th</sup> and Graham, looking east



The following photos are of project location #2. Photos were taken from the northwest and southeast side of each cross street in the project area.

With the exception of 10<sup>th</sup> and Arlington, on the northwest side of the street photos, a photo is taken looking east and looking west. At 10<sup>th</sup> and Arlington, the photos are taken from the northwest and southwest corners and are looking west, because the project does not include the intersection of 10<sup>th</sup> and Arlington.

With the exception of 10<sup>th</sup> and Emerson, on the southeast side of the street photos, a photo is taken looking east and looking west. At 10<sup>th</sup> and Emerson, the photos are taken from the northeast and southeast corners and are looking east, because the project does not include the intersection of 10<sup>th</sup> and Emerson.

At 10<sup>th</sup> and Ellenberger Pkwy W Dr., photos were only taken from the south side of the street.



Figure 14. Photo of the northeast corner of 10<sup>th</sup> and Emerson, looking east





Figure 15. Photo of the southeast corner of 10<sup>th</sup> and Emerson, looking east



Figure 16. Photo of the northwest corner of 10<sup>th</sup> and Leland, looking east





Figure 17. Photo of the northwest corner of 10<sup>th</sup> and Leland, looking west



Figure 18. Photo of the southeast corner of 10<sup>th</sup> and Leland, looking east





Figure 19. Photo of the southeast corner of 10<sup>th</sup> and Leland, looking west



Figure 20. Photo of the northwest corner of 10<sup>th</sup> and Butler, looking east





Figure 21. Photo of the northwest corner of 10<sup>th</sup> and Butler, looking west



Figure 22. Photo of the southeast corner of 10<sup>th</sup> and Butler, looking east





Figure 23. Photo of the southeast corner of 10<sup>th</sup> and Butler, looking west



Figure 24. Photo of the northwest corner of 10<sup>th</sup> and Hawthorne, looking east





Figure 25. Photo of the northwest corner of 10<sup>th</sup> and Hawthorne, looking west



Figure 26. Photo of the southeast corner of 10<sup>th</sup> and Hawthorne, looking east





*Figure 27. Photo of the southeast corner of 10<sup>th</sup> and Hawthorne, looking west*



*Figure 28. Photo of the northwest corner of 10<sup>th</sup> and Downey, looking east*





Figure 29. Photo of the northwest corner of 10<sup>th</sup> and Downey, looking west



Figure 30. Photo of the southeast corner of 10<sup>th</sup> and Downey, looking east





Figure 31. Photo of the southeast corner of 10<sup>th</sup> and Downey, looking west



Figure 32. Photo of the northwest corner of 10<sup>th</sup> and Irvington, looking east





Figure 33. Photo of the northwest corner of 10<sup>th</sup> and Irvington, looking west



Figure 34. Photo of the southeast corner of 10<sup>th</sup> and Irvington, looking east





Figure 35. Photo of the southeast corner of 10<sup>th</sup> and Irvington, looking west



Figure 36. Photo of the southeast corner of 10<sup>th</sup> and Ellenberger Pkwy W Dr, looking east





Figure 37. Photo of the southeast corner of 10<sup>th</sup> and Ellenberger Pkwy W Dr, looking west



Figure 38. Photo of the northwest corner of 10<sup>th</sup> and Ritter, looking east





Figure 39. Photo of the northwest corner of 10<sup>th</sup> and Ritter, looking west



Figure 40. Photo of the southeast corner of 10<sup>th</sup> and Ritter, looking east





Figure 41. Photo of the southeast corner of 10<sup>th</sup> and Ritter, looking west



Figure 42. Photo of the northwest corner of 10<sup>th</sup> and Layman, looking east





*Figure 43. Photo of the northwest corner of 10<sup>th</sup> and Layman, looking west*



*Figure 44. Photo of the southeast corner of 10<sup>th</sup> and Layman, looking east*





Figure 45. Photo of the southeast corner of 10<sup>th</sup> and Layman, looking west



Figure 46. Photo of the northwest corner of 10<sup>th</sup> and Lesley, looking east





Figure 47. Photo of the northwest corner of 10<sup>th</sup> and Lesley, looking west



Figure 48. Photo of the southeast corner of 10<sup>th</sup> and Lesley, looking east





Figure 49. Photo of the southeast corner of 10<sup>th</sup> and Lesley, looking west



Figure 50. Photo of the northwest corner of 10<sup>th</sup> and Audubon, looking east





*Figure 51. Photo of the northwest corner of 10<sup>th</sup> and Audubon, looking west*



*Figure 52. Photo of the southeast corner of 10<sup>th</sup> and Audubon, looking east*





Figure 53. Photo of the southeast corner of 10<sup>th</sup> and Audubon, looking west



Figure 54. Photo of the northwest corner of 10<sup>th</sup> and Graham, looking east





Figure 55. Photo of the northwest corner of 10<sup>th</sup> and Graham, looking west



Figure 56. Photo of the southeast corner of 10<sup>th</sup> and Graham, looking east





*Figure 57. Photo of the southeast corner of 10<sup>th</sup> and Graham, looking west*



*Figure 58. Photo of the northwest corner of 10<sup>th</sup> and Bolton, looking east*





Figure 59. Photo of the northwest corner of 10<sup>th</sup> and Bolton, looking west



Figure 60. Photo of the southeast corner of 10<sup>th</sup> and Bolton, looking east





Figure 61. Photo of the southeast corner of 10<sup>th</sup> and Bolton, looking west



Figure 62. Photo of the northwest corner of 10<sup>th</sup> and Campbell, looking east





Figure 63. Photo of the northwest corner of 10<sup>th</sup> and Campbell, looking west



Figure 64. Photo of the southeast corner of 10<sup>th</sup> and Campbell, looking east





*Figure 65. Photo of the southeast corner of 10<sup>th</sup> and Campbell, looking west*



*Figure 66. Photo of the northwest corner of 10<sup>th</sup> and Arlington, looking east*





Figure 67. Photo of the southwest corner of 10<sup>th</sup> and Arlington, looking west

## Description and Design Plan

### Written description of project elements

The project is a pilot project. There are three elements to this project: Diamond Center Lane Water Walls with Street Trees, Bike Lane Green Paint, and Bike Lane Water Walls. With the exception of the bike lane green paint, all elements will be installed in June 2023 and be removed Saturday, November 4<sup>th</sup>, 2023, for snow plow season.

### Diamond Center Lane Water Walls and Street Trees

The Diamond Center Lane Water Walls will be placed in the center turn lanes to prevent passing in the center lane and to add a visual element to the street to slow cars down. The water walls will be made of plastic and filled with water to the manufacturer's recommended height. The dimensions of the water walls are 24" tall x 96" long x 16" wide. Each installation will have four water walls, arranged in a diamond pattern, per DPW Operation's request. All faces of the water wall that are visible to traffic will have 3M Diamond Grade Conspicuity Marking Series 983 tape trim installed on the top and bottom of the face. See Appendix A - Project Element Documentation for more information on the tape. Four water wall diamonds will be installed in the center median on 16<sup>th</sup> St between Graham and Bolton Ave. Twenty-six water wall diamonds will also be installed in the center median on 10<sup>th</sup> St between Emerson and Arlington Ave. See Figures 80-94 for exact locations. These water walls will be green with a geometric flower pattern, on 10<sup>th</sup> St, and yellow, with the school's bee logo on 16<sup>th</sup> St.



Bike lane green paint will be painted with Transpo's Color-Safe Bike Lane green coating. The bike lane crosswalks will have a "piano bar" pattern. The pattern will be a 5 ft by 4 ft coated square, followed by a skip (no coating) of 5ft x 4 ft. The coated square will be a 4' 4" x 4' green square coating, centered in the bike lane. The pattern will be repeated to span the intersection. The green paint would be added at Leland, Butler, Hawthorne, Downey, Irvington, Ellenberger Parkway W, Layman, Lesley, Audubon, Graham, Bolton, and Campbell on both the north and south side of 10<sup>th</sup>, as well as at major driveways east of Emerson (such as Steer Inn) and west of Arlington (such as CVS). After conversations with DPW Operations, we will not be adding bike lane green pain at Ritter or Arlington.

The Bike Lane Water Walls will be placed along the north and south bike lanes on 10th St to protect property, pedestrians, cyclists, neighbors using wheelchairs, and neighbors waiting for or getting off the bus, and to add a visual element to the street to slow cars down. The water walls will be made of plastic and filled with water to the manufacturer's recommended height. The dimensions of the water walls are 24" tall x 96" long x 16" wide. All faces of the water wall that are visible to traffic will have 3M Diamond Grade Conspicuity Marking Series 983 tape trim installed on the top and bottom of the face. See Appendix A - Project Element Documentation for more information on the tape. The Bike Lane Water Walls will be installed along the north and south bike lanes on 10<sup>th</sup> St between Ritter and Arlington Ave. See Figures 80-94 for exact locations. These water walls will be green with a geometric flower pattern added.

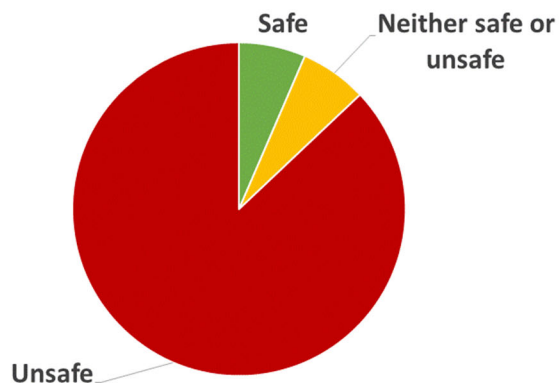
### Written description of project goals

The goals of this project are to improve residents' safety while walking, biking, rolling, and waiting for the bus and to encourage neighbors to walk, bike, and use the bus, instead of using a personal vehicle. Four surveys were created to gauge resident's perception of safety, and to collect data on how they currently use 10<sup>th</sup> St and how they get to school at IPS 88.

Current data suggests that the majority of residents traveling along 10<sup>th</sup> St between Emerson and Arlington Ave feel unsafe walking, biking, rolling, waiting for the bus, *and driving*. Figure 57, 58, 59, and 60). Information about the survey and its distribution can be found in Appendix B - Public Feedback Survey.



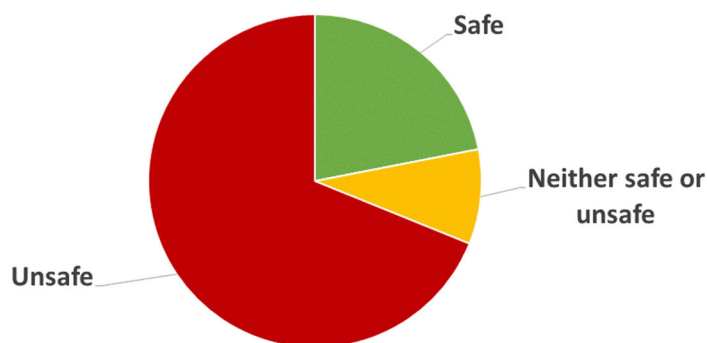
## Do you feel safe while walking or rolling/wheeling (with a mobility chair) along and across 10th St?



NOTE: Response "Not Applicable": 59

Figure 68. Out of 139 neighbors who answered the question "Do you feel safe while walking or rolling/wheeling (with a mobility chair) along and across 10<sup>th</sup> St?", 121 said they felt "Very Unsafe" or "Somewhat Unsafe", 9 answered "Neither Safe or Unsafe", and 9 answered "Very Safe" or "Somewhat Safe."

## Do you feel safe while driving a personal vehicle on 10th St?

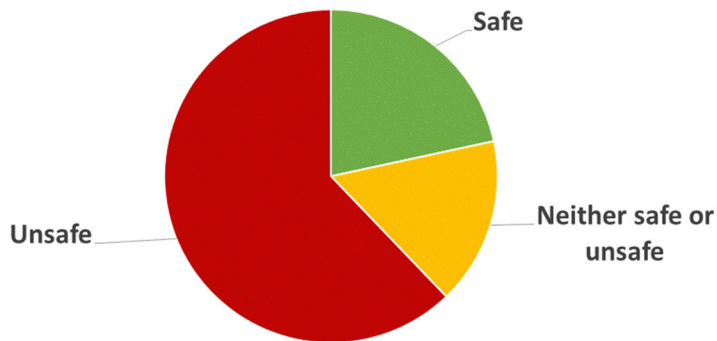


NOTE: Response "Not Applicable": 3

Figure 69. Out of 196 neighbors who answered the question "Do you feel safe while driving a personal vehicle on 10<sup>th</sup> St?," 135 said they felt "Very Unsafe" or "Somewhat Unsafe", 18 answered "Neither Safe or Unsafe", and 43 answered "Very Safe" or "Somewhat Safe."



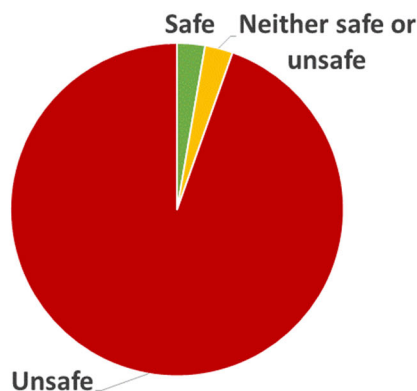
Do you feel safe while riding the bus, walking to or from a bus station, and waiting for the bus on 10th St?



NOTE: Response "Not Applicable": 160

Figure 70. Out of 37 neighbors who answered the question "Do you feel safe while riding the bus, walking to or from a bus station, and waiting for the bus on 10<sup>th</sup> St?", 23 said they felt "Very Unsafe" or "Somewhat Unsafe", 6 answered "Neither Safe or Unsafe", and 8 answered "Very Safe" or "Somewhat Safe."

Do you feel safe while biking along 10th St?



NOTE: Response "Not Applicable": 86

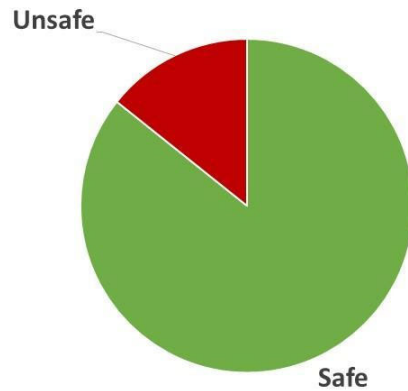
Figure 71. Out of 111 neighbors who answered the question "Do you feel safe while biking along 10<sup>th</sup> St?", 105 said they felt "Very Unsafe" or "Somewhat Unsafe", 3 answered "Neither Safe or Unsafe", and 3 answered "Very Safe" or "Somewhat Safe."

A similar survey was distributed to parents at IPS 88's 2022 Spring Bingo Night. Results show generally, pedestrians and drivers feel much safer traveling around IPS 88 than they do along 10<sup>th</sup> St. The total response to this survey was much lower (10 total responses), however this



could be because safety while traveling around IPS 88 is not a concern. It is interesting to note that out of the 10 surveys collected, 4 reported living within 1 mile of IPS 88, however, only 1 reported ever walking to school and 0 reported biking. Of all the forms of transportation, biking was perceived at the least safe. Information about the survey and its distribution can be found in Appendix B - Public Feedback Survey.

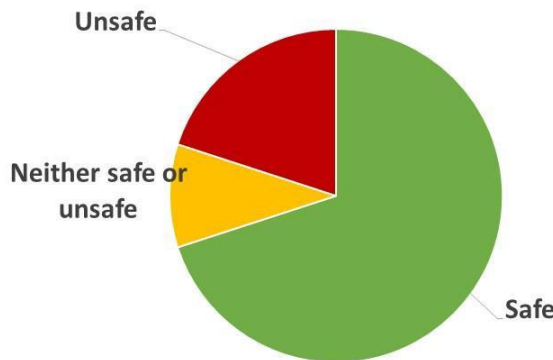
### Do you feel safe while walking or rolling/wheeling (with a mobility chair) to and from IPS 88?



NOTE: Response "Not Applicable": 3

Figure 72. The majority of parents feel safe while walking or rolling/wheeling to and from IPS 88.

### Do you feel safe while driving a personal vehicle to and from IPS 88?

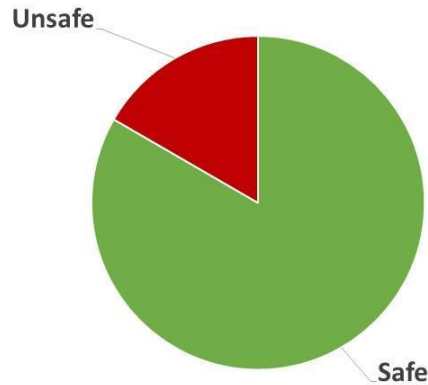


NOTE: Response "Not Applicable": 3

Figure 73. The majority of parents feel safe while driving a personal vehicle to and from IPS 88.



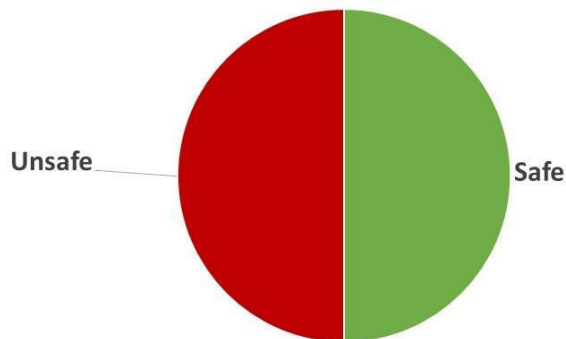
## Do you feel safe while walking to or from the bus and waiting for the bus to and from IPS 88?



NOTE: Response "Not Applicable": 4

Figure 74. The majority of parents feel safe while walking to or from the bus and waiting for the bus to and from IPS 88.

## Do you feel safe while biking to and from IPS 88?



NOTE: Response "Not Applicable": 6

Figure 75. Parents are evenly split between feeling safe and feeling unsafe, while biking to and from IPS 88.

Visual depiction of the proposed elements (including measurements)

Water walls

The water walls that will installed can be found at:

<https://www.cabletiesandmore.com/low-profile-traffic-barrier>. A CAD drawing of the traffic barriers in the diamond partten can be found in Figure 79. The water wall will be made of plastic



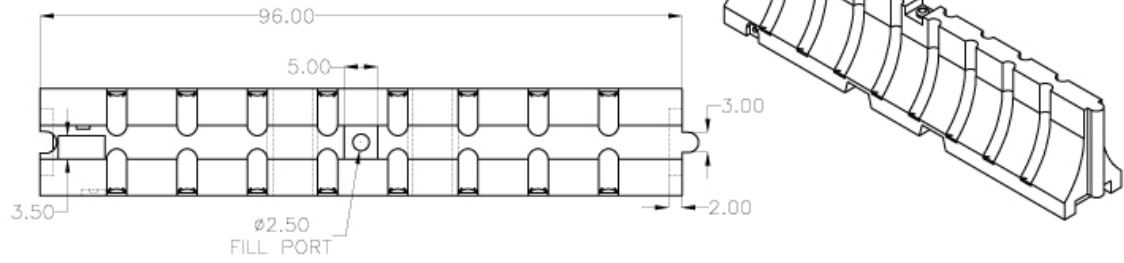
and all faces of the water wall that are visible to traffic will have 3M Diamond Grade Conspicuity Marking Series 983 tape (Figure 78) trim installed on the top and bottom of the face. The tape is 2" wide and shall be installed in one continuous strip on each side, with one continuous strip on the top and one continuous strip on the bottom of each face.



*Figure 78. 3M Diamond Grade Conspicuity Marking Series 983 tape in red and white.*



# 24" BARRIER



APROX. 1/4" WALL THICKNESS

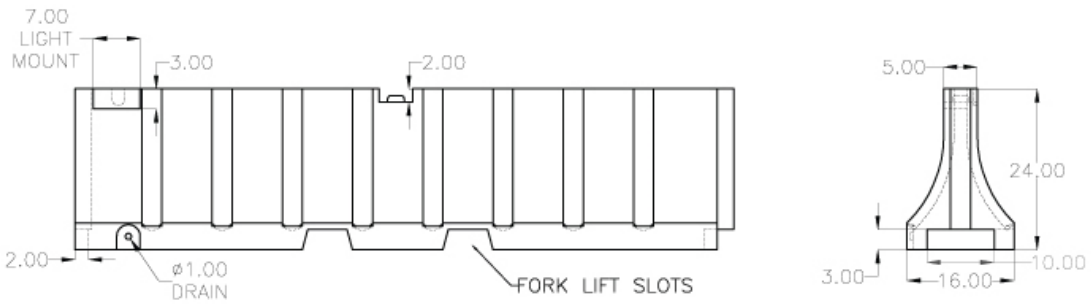
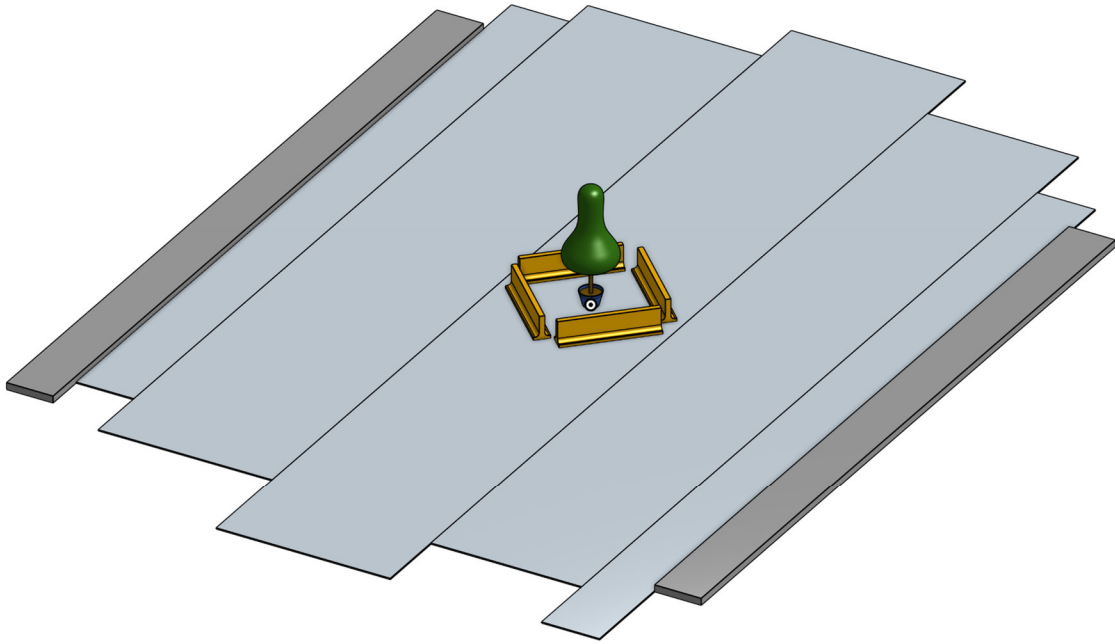


Figure 79. Schematic of the concrete water walls.





*Figure 80. Diamond pattern of water walls, with a street tree in a 15 gallon bucket, in the center. Tree shown as 9 feet tall, with a 1" diameter trunk. Water walls are to scale.*

### Detailed design plan

The detailed design plan for project location #1, 16<sup>th</sup> St between Graham and Bolton Ave is shown in Figure 80.



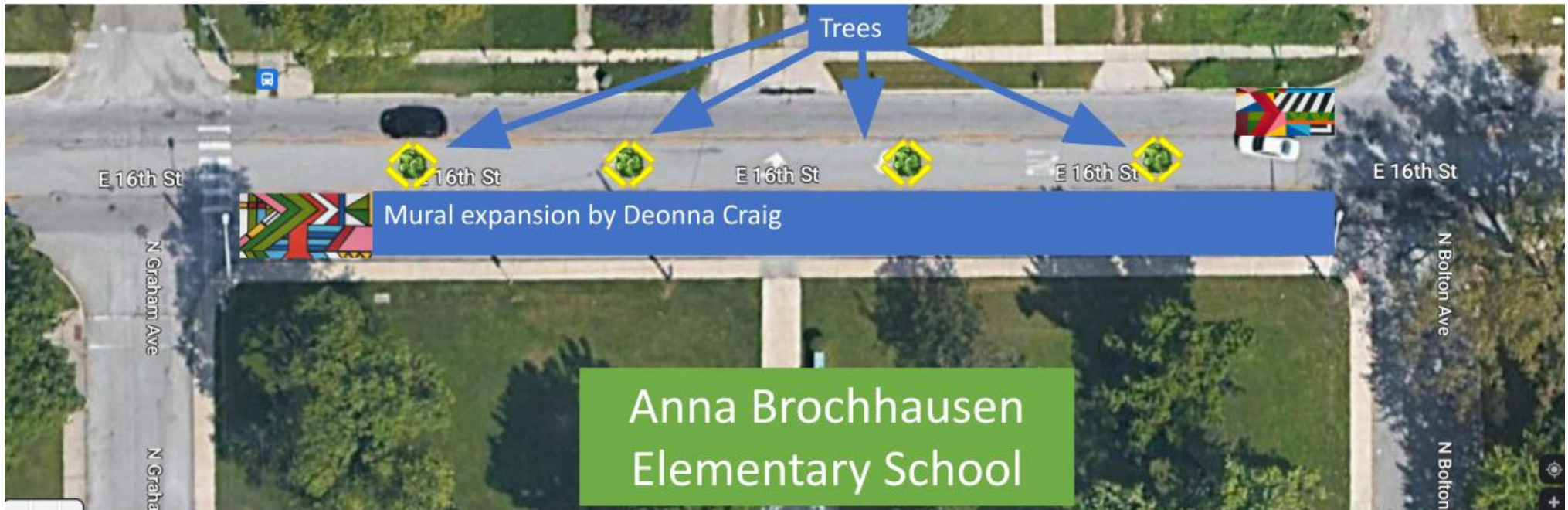


Figure 81. Detailed design plan of the diamond center lane water wall installation in the right-of-way on 16<sup>th</sup> St. between Graham and Bolton Ave. The water walls are shown in the center lane. The water walls will be 24" wide by 96" long by 16" wide and will be centered in the center lane. The four water walls make up each diamond pattern. A tree in a 15-gallon bucket will be placed in the center of the diamond pattern



A detailed design plans for project location #2, 10<sup>th</sup> St between Emerson and Arlington Ave, are shown in Figures 81-94.

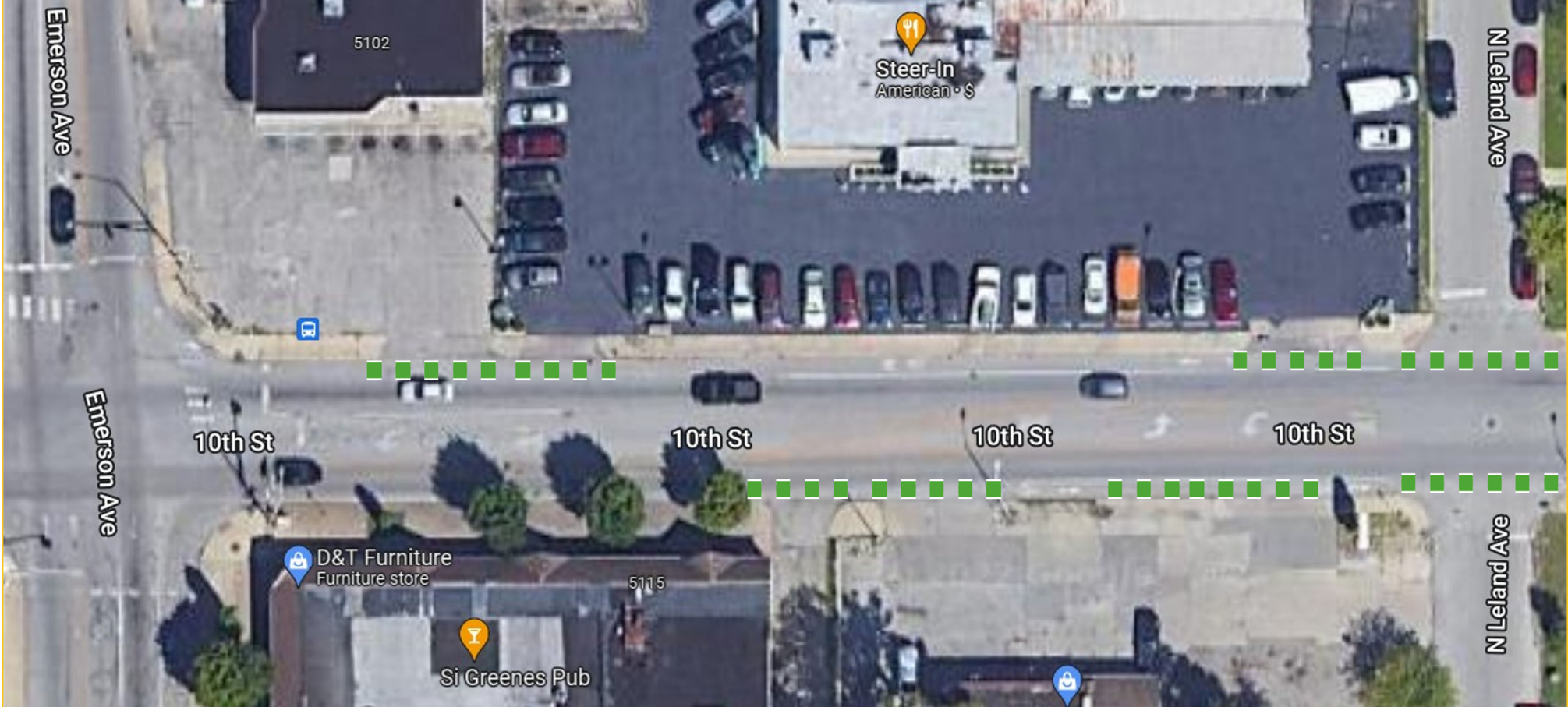


Figure 82. Detailed design plan of the bike lane green paint on 10<sup>th</sup> St. between Emerson and Leland Ave.





Figure 83. Detailed design plan of the bike lane green paint and two diamond pattern water walls with street trees on 10<sup>th</sup> St. between Leland and Butler Ave.



Figure 84. Detailed design plan of the bike lane green paint and two diamond pattern water walls with street trees on 10<sup>th</sup> St. between Butler Ave and Hawthorne Ln.





Figure 85. Detailed design plan of the bike lane green paint and two diamond pattern water walls with street trees on 10<sup>th</sup> St. between Hawthorne Ln and Downey Ave.



Figure 86. Detailed design plan of the bike lane green paint and two diamond pattern water walls with street trees on 10<sup>th</sup> St. between Downey Ave and Irvington Ave.





Figure 87. Detailed design plan of the bike lane green paint and two diamond pattern water walls with street trees on 10<sup>th</sup> St. between Irvington Ave and Ellenberger Pkwy W Dr.



Figure 88. Detailed design plan of the bike lane green paint and a diamond pattern water walls with street trees on 10<sup>th</sup> St. between Irvington Ave and Ritter Ave.



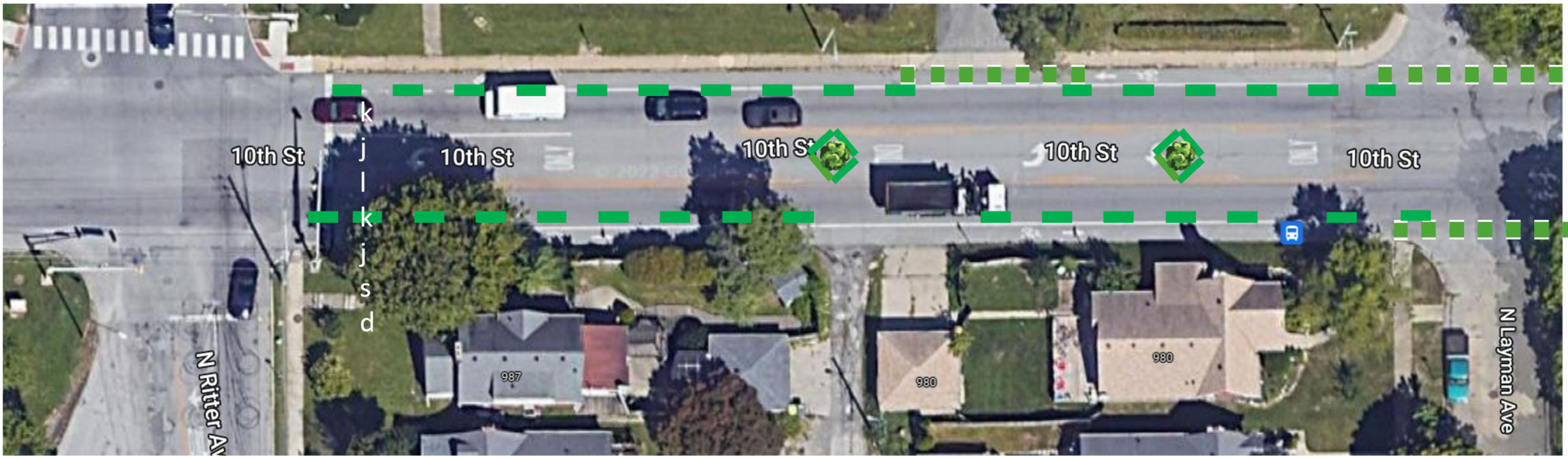


Figure 89. Detailed design plan of the bike lane green paint, two diamond pattern water walls with street tree, and the bike lane water walls on 10<sup>th</sup> St. between Ritter and Layman Ave.



Figure 90. Detailed design plan of the bike lane green paint, a diamond pattern water walls with street tree, and the bike lane water walls on 10<sup>th</sup> St. between Layman Ave and Lesley Ave.





Figure 91. Detailed design plan of the bike lane green paint, a diamond pattern water walls with street tree, and the bike lane water walls on 10<sup>th</sup> St. between Lesley Ave and Audubon Rd.



Figure 92. Detailed design plan of the bike lane green paint, a diamond pattern water walls with street tree, and the bike lane water walls on 10<sup>th</sup> St. between Audubon Rd and Graham Ave.





Figure 93. Detailed design plan of the bike lane green paint, a diamond pattern water walls with street tree, and the bike lane water walls on 10<sup>th</sup> St. between Graham and Bolton Ave.



Figure 94. Detailed design plan of the bike lane green paint, a diamond pattern water walls with street tree, and the bike lane water walls on 10<sup>th</sup> St. between Bolton and Campbell Ave.





Figure 95. Detailed design plan of the bike lane green paint, a diamond pattern water walls with street tree, and the bike lane water walls on 10<sup>th</sup> St. between Campbell Ave and Arlington Ave.



# Installation Plan

## Schedule of Installation

This tactical urbanism project will be installed in three parts. The project location, the elements to be installed, as well as the installation date and the rain date can be found in Table 1.

Table 1. List of installation dates by location

Project location	Elements to be installed	Installation Date	Rain Date
16 <sup>th</sup> St	Diamond pattern center turn lane water walls with street trees on 10 <sup>th</sup> St and 16 <sup>th</sup> St. Bike lane water walls	June 10 <sup>th</sup>	-
North side of 10 <sup>th</sup> St	Bike lane green paint	June 24 <sup>th</sup>	July 8 <sup>th</sup>
South side of 10 <sup>th</sup> St	Bike lane green paint	July 8 <sup>th</sup>	July 9 <sup>th</sup>

## Temporary Traffic Control Plan

For the duration of the installation, two signs, saying “NEW TRAFFIC PATTERN AHEAD” will be placed, one west of 10<sup>th</sup> and Emerson and a second east of 10<sup>th</sup> and Arlington.

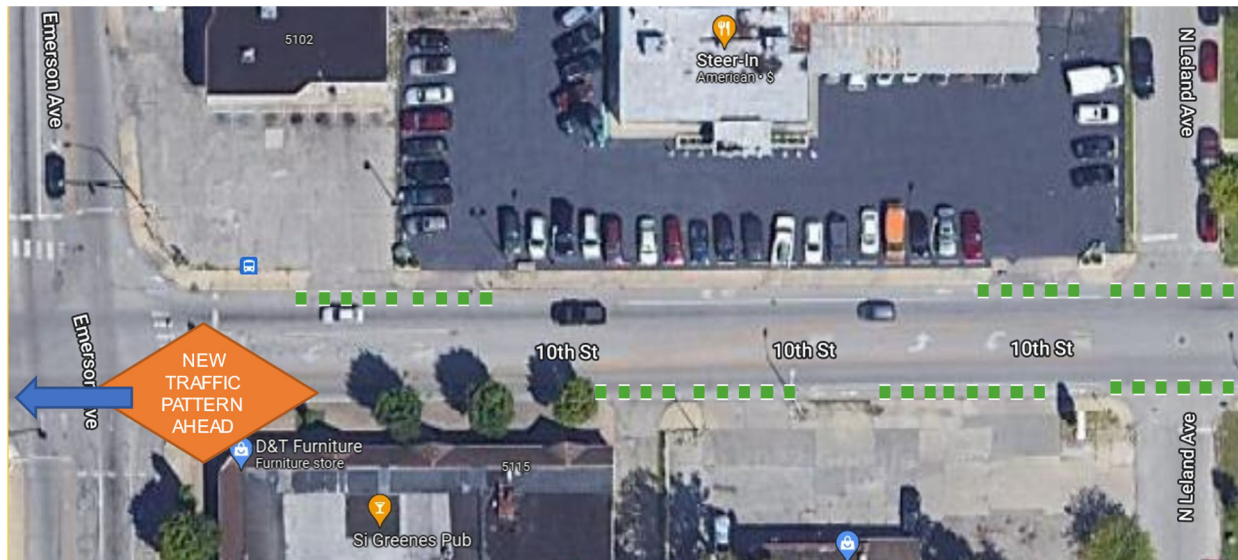


Figure 96. A sign will be installed saying “NEW TRAFFIC PATTERN AHEAD” facing the east bound lane of traffic on the south side of 10<sup>th</sup> St, west of 10<sup>th</sup> and Emerson Ave intersection.



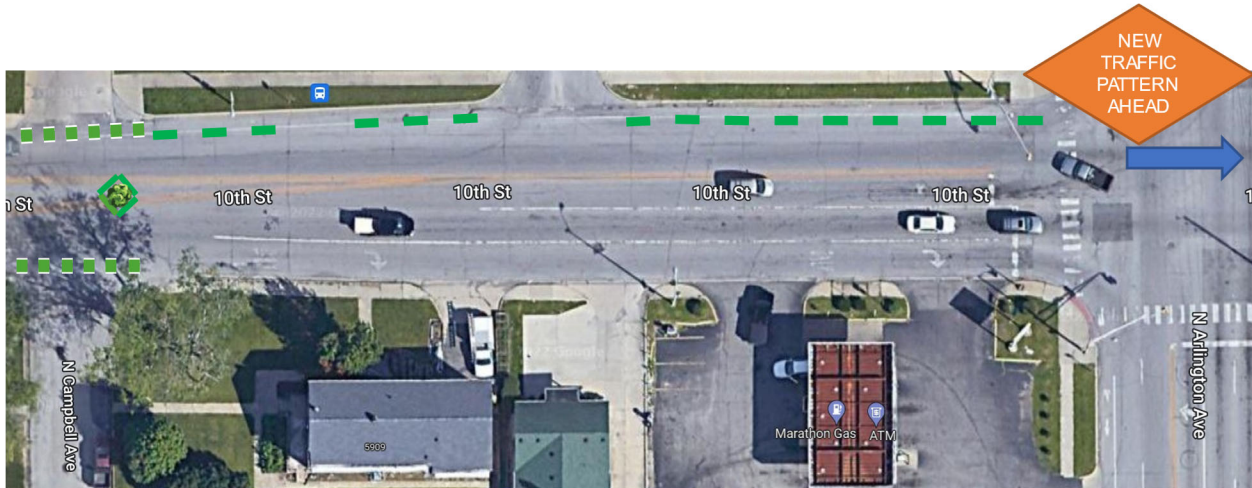


Figure 97: A sign will be installed saying “NEW TRAFFIC PATTERN AHEAD” facing the west bound lane of traffic on the north side of 10<sup>th</sup> St, east of 10<sup>th</sup> and Arlington Ave intersection.

**Installation:**

To install the diamond water walls, the four cones, four water walls and the tree will be loaded in the back of a truck. The truck will be followed by two hired cars equipped with lights. All three cars will park in the center lane. The four cones will be set up around the staging area. Then the four water walls and the tree will be unloaded within the staging area. There will be a “WORKERS AHEAD” sign and a volunteer with a “SLOW” sign on either side of the street. All volunteers will wear high-visibility vests.

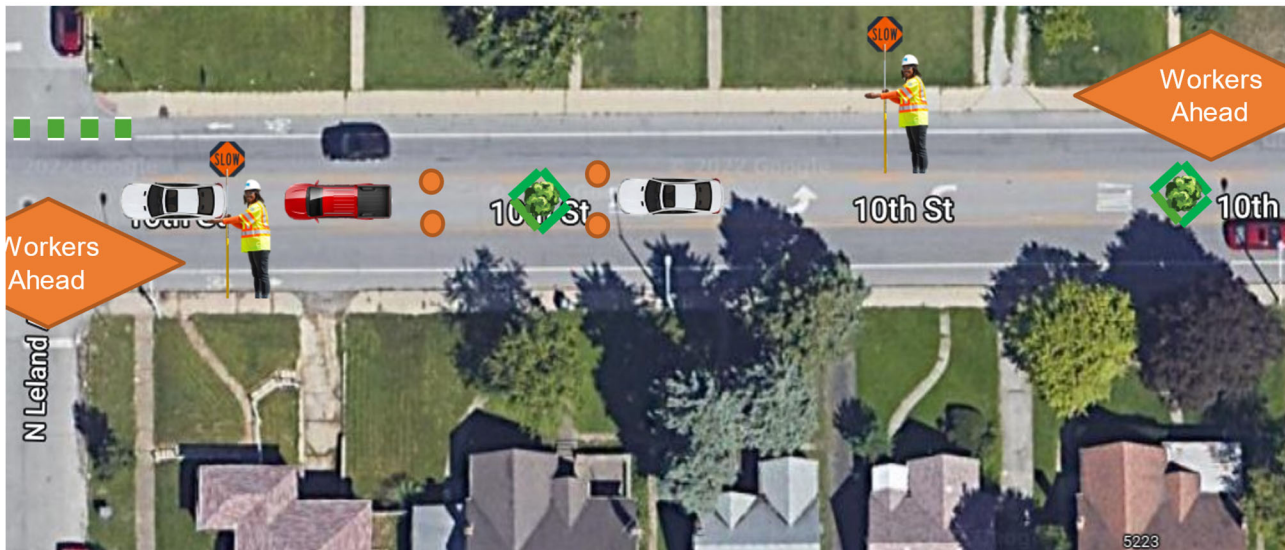


Figure 98. To install the center turn lane diamond water walls and street trees, four cones, two hired cars with lights, two “WORKERS AHEAD” signs, and two volunteers with “SLOW” signs will be used to notify driver of ongoing work.



To install the bike lane water walls, the walls will be staged on the sidewalk the morning before they are to be moved into place. They will be moved in place by teams of volunteers in high-vi vests. There will be a two workers with “SLOW” signs and two “WORKERS AHEAD” signs.



Figure 99. To install the bike lane water walls, two “WORKERS AHEAD” signs, and two volunteers with “SLOW” signs will be used to notify drivers of ongoing work.

To install the bike lane green paint, cones and one worker with “SLOW” sign and two “WORKERS AHEAD” signs will be used to notify drivers of ongoing work. The cones will be placed on the 10<sup>th</sup> St side of the green paint and the driveway/neighborhood street side of the green paint.

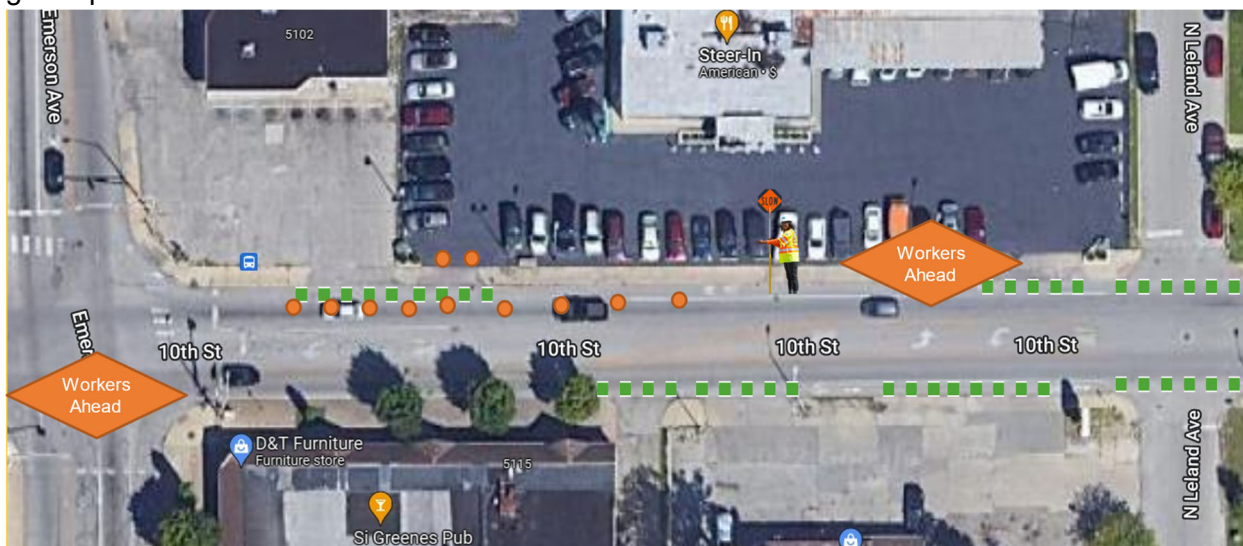


Figure 100. To install the bike lane water walls, two “WORKERS AHEAD” signs, and one volunteer with “SLOW” sign will be used to notify drivers of ongoing work.

Maintenance:  
Same as Installation.



Removal:

Same as Installation. Bike Lane Green Paint will not be removed.

## **Maintenance Plan**

Description of all foreseeable maintenance activities

Foreseeable maintenance activities include:

- Cleaning out the area in the center of the diamond pattern water walls
- Watering the trees in the center of the diamond pattern water walls
- Removal and replacement of reflective tape on the water wall
- Recoating the bike lane green paint
- Removal and replacement of damaged water walls

Frequency of Proposed Maintenance

Cleaning out the center of the water walls and watering will be completed on a daily basis.

Removal and replacement of reflective tape will happen on an as needed basis.

Recoating the bike lane green paint will happen on an as needed basis.

Removal and replacement of damaged water walls will happen on an as needed basis.

An inspection of the condition of the water walls and street trees will occur every day.

Unforeseeable maintenance Plan

If an emergency water wall repair or removal is necessary (ie a water wall is struck by a car), a cleanup of the immediate space will be completed within 24 hours, and removal of the damaged water wall will be completed within 7 days.

In the event of vandalism, a solvent and pressure washer will be used to remove graffiti within 7 days.

Financial ability to fund maintenance expenses

Community Heights Neighborhood Organization has the funds and volunteer labor to perform maintenance on all elements of this tactical urbanism project.

Removal

The water walls and trees will be removed Saturday, November 4<sup>th</sup>.



## Public Input

Neighborhood residents have participated in this project by responding to surveys, attending a meeting with DPW where small groups of neighbors were invited to work together to redesign 10th St, and participating in a brainstorming session on the 16th St mural design. Neighbors have also been given an opportunity to comment on the water wall design at the Community Heights monthly neighborhood meetings in April and May. In the small group session with DPW, all four groups of neighbors redesigned 10th St to physically separate the bike lane from traffic, with a center median with plants and/or trees. This project seeks to replicate these designs, albeit with a limited budget and volunteer labor.

Students, parents, and administrators at IPS 88 have been engaged early and often in the project. Margaret Cobb, the Family and Community Engagement Liaison for IPS 88, developed the wish list for traffic calming elements on 16th. Ms. Cobb and others at IPS 88 recommended Deonna Craig as the artist for the mural projects on 16th St and the CHNO board voted to hire her. Students in IPS 88 after school program, hosted by Edna Martin's Jaelyn Powell, were invited to share their ideas for the mural. Students were asked to draw or craft what they liked best about their school with crayons, markers, pipe cleaners, ribbon, and other craft supplies. At the after-school Bingo Night, hosted by IPS 88, parents were invited to respond to a survey about traveling around IPS 88. While parents, generally, felt much safer than the respondents to the 10th St survey, the majority of parents lived within 1 mile of the school, and drove to school. By making improvements to the roadway, we hope to encourage parents and students to walk or bike to school. At the same event, parents were invited to comment on the water wall design.

We have nine collaborative partners; the Irvington Community Council, IPS Anna Brochhausen Elementary 88, Lutheran Child and Family Services (LCFS), Team Better Block, Health by Design, AARP Indiana, the Indianapolis Foundation, Indiana Department of Health, and the Indianapolis Neighborhood Resource Center. Irvington Community Council member, Kami Nielsen, serves as one of the three main points of contact for the project. She has been instrumental in getting Irvington neighbors feedback on the project, designing the survey, and canvassing with Leslie Schulte of CHNO to advertise the survey. Margaret Cobb, the Family and Community Engagement Liaison for IPS 88, is the project's point of contact at IPS 88. Sven Schumacher of LCFS has generously provided the space to construct the water walls on their campus in Community Heights. LCFS hosts up to thirty 18-24 year olds, who have aged out of foster care and were experiencing homelessness, at their PANDO Aspen Grove apartments in Community Heights. LCFS has agreed to store the water walls during the snow season.

Team Better Block and Health by Design have provided technical assistance. AARP Indiana made the connection between Team Better Block and Community Heights Neighborhood Organization. AARP Indiana will send out a call to invite AARP members to volunteer.

The Indianapolis Foundation, the Indiana Department of Health, and the Indianapolis Neighborhood Resource Center have provided financial support for the project.



Other partners, who have voiced their support for this project by participating in brainstorming meetings and providing letters of support include; Karen Lightbourne and Paige Dooley at Community East Hospital; IMPD East District Commander Richard Riddle; Jason Larrison, the City-County Councillor for District 12; Will Pritchard, the IPS Board of Commissioners for District 1, as well as Dr. Aleesia Johnson, IPS Superintendent and Evan Hawkins, IPS Board President; Jaelyn Powell, who hosts the after school program at IPS 88 for Edna Martin; and Abbey Brands, the former Deputy Director of Policy and Planning at Indianapolis's Department of Public Works.

Neighbors, parents, and students will be invited to participate in the bike lane green paint and water wall installation and watering of the street trees.



## **Appendix A**

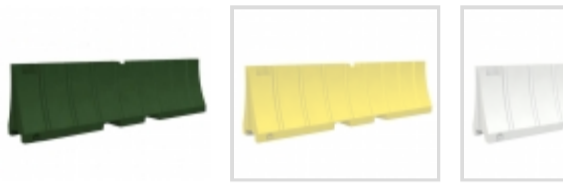
Appendix A includes documentation of the Color-Safe Bike Lane Green Coating, the water walls, and the tape for the water walls.



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## All-Purpose Low Profile Traffic Jersey Barrier

24" X 96" - 6 Colors Available - Water or Sand Fill

[Leave A Review](#)

\*Choose\* Color

▼

**SELECTED PART#: SB-2408-50-OD**

Qty:

[ADD TO CART](#)

[REQUEST A QUOTE](#)

*Typically ships within 7 business day(s)*

QTY	1 - 49 Units	50 - 99 Units	100 + Units
Price	\$189.99	\$184.29 each	\$180.49 each

[See Full Price Chart & Accessory List](#) ▼

### All-Purpose Low Profile Traffic Jersey Barrier

- Overall Dimensions: 24"H x 96"L x 16"W.
- UV and long-term fade resistant
- Impact-resistant
- Ballastable with water or sand
- Deployable by one or two people
- No heavy equipment needed, but forklift accessible
- Structurally Sound
- Lightweight



- Durable
- Drain plugs
- Screw-on fill caps and lids
- Compatible with square bolt-on or round screw-in lights
- Easily relocated
- Lower labor costs
- Allows for application flexibility
- Larger barriers accept fencing
- Withstands harsh treatment during installation and relocation
- Pre-molded attachment areas for lights and flags
- Long-lasting visual appeal
- Composed of recyclable material
- Quick installation and removal
- Uniform wall thickness with thicker corners and edges

[See More Technical Specifications](#) 

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## — Product Overview

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All-Purpose Low Profile traffic Safety Barrier – 24”H x 96”L x 16”W. Made from UV-Resistant Polyethylene. Available in Orange, White, Yellow, Tan, Olive Drab, or Blue. 1/4” wall thickness. Plastic road barriers have Built-in molded forklift slots.

The Low Profile Traffic Barrier is a versatile and durable solution for controlling pedestrian and vehicle traffic. With its low profile design, it is perfect for both indoor and outdoor use and can be easily installed in a variety of settings. This traffic barrier is constructed from high-quality materials, ensuring that it is built to withstand heavy use and harsh weather conditions. Its compact design allows it to be placed in tight spaces, while still providing an effective barrier to keep people and vehicles separate. With a variety of uses, this traffic barrier can be used in a variety of settings such as construction sites, parking garages, warehouses, and more. It can also be used to create temporary walkways, or to block off areas for maintenance or repair work. The Low Profile Traffic Barrier is also ideal for preventing access to sensitive areas and providing security for your property. It can be easily locked in place, providing an extra level of protection and peace of mind. The low profile design provides a highly visible barrier with great stability and securement. In summary, the Low Profile Traffic Barrier is an essential safety tool for any facility looking to control and direct the flow of foot and vehicle traffic. Its durable construction, versatility, and ease of installation make it an excellent value for any business or organization. So if you're looking to secure and direct the flow of traffic in your facility, the Low Profile Traffic Barrier is an excellent choice for you to consider.

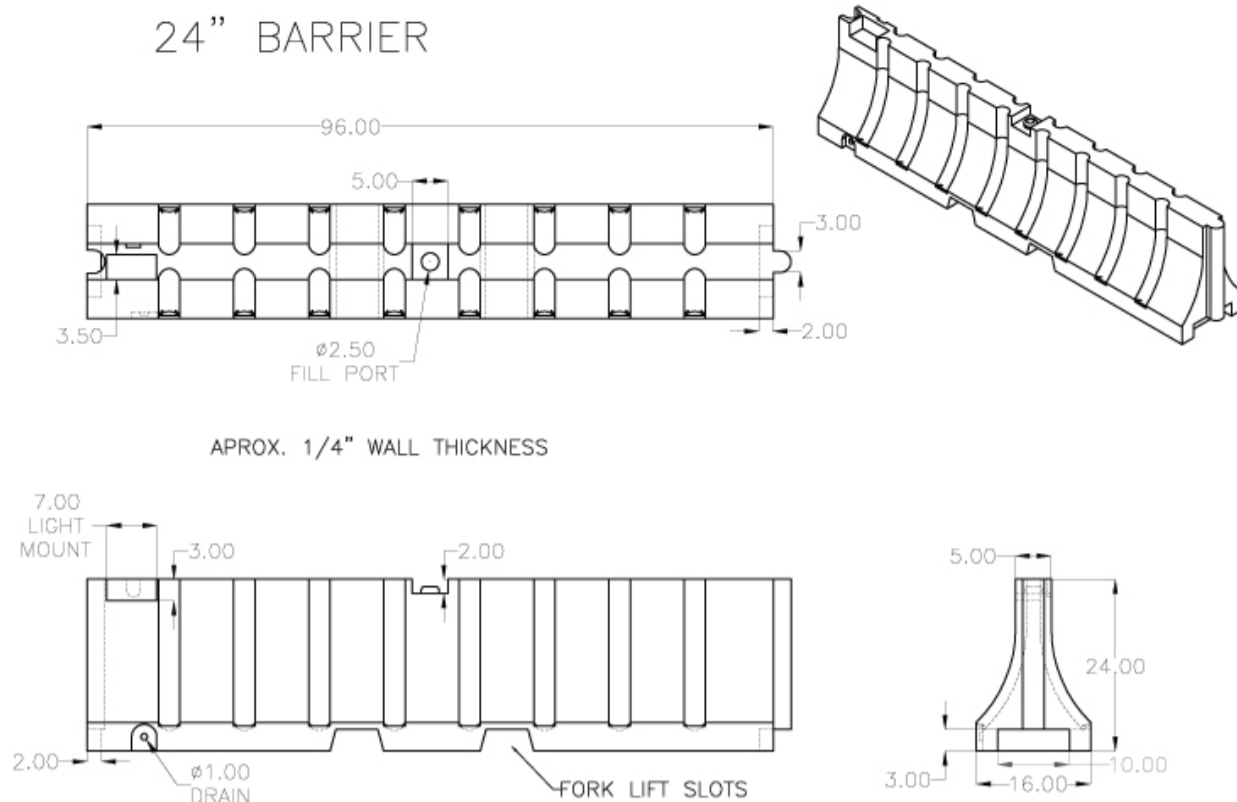
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## — Product Specifications

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Are we missing the specification you need? Please go to our [Contact Us](#) page and submit your question to us, or call 1-877-284-7760





APROX. 1/4" WALL THICKNESS

Most of our barriers now have fill lines. We recommend only filling the barriers to the the fill line – over filling can cause bulging.

10x96x10 – Fill line is 17 gallons of water – total weight including barrier 165 lbs

24x96x16 – 7" above parting line is 50 gallons of water – total weight including barrier 467 lbs

Stackable – Fill Line is 50 gallons of water – total weight including barrier 487 lbs

Wedge – Fill Line is 70 gallons of water – total weight including barrier 653 lbs

32x72x18 – 15" above parting line is 70 gallon of water – total weight including barrier 653 lbs

42x72x24 – Fill Line is 100 gallon of water – total weight is 834 lbs + weight of barrier

42x96x24 – 13" above parting line is 130 gal. of water – total weight is 1084 lbs + weight of barrier

31x120x24 – Filling 1/2 full is 80 gallons of water – total weight is 667 lbs + weight of barrier

48" Cont Barrier – Fill Line is 75 gallons of water – total weight including barrier 745 lbs

### + Shipping/Return Policy

### — Frequently Asked Questions

Have a question that is not answered here? Please go to our [Contact Us](#) page and submit your question to us.

### — Request A Quote

## Request a Quote

**Looking for a quotation ? We would be happy to help by providing a quick response, inventory status, and Volume Level pricing, when available. Please fill out the form below and a representative will be in touch with you within hours to one business day to answer any questions and quote your request.**

#### Quote Items

Search	Item Description	Quantity	



<input type="text" value="Enter a SKU or Search"/>	<b>SKU:</b>	<input type="text" value="1"/>	
<input type="button" value="+"/>			
<input type="button" value="Clear Items"/>			

Contact Information

<b>Full Name *</b>	<b>E-Mail Address *</b>
<input type="text" value="Full Name"/>	<input type="text" value="E-Mail"/>
<b>Phone *</b>	<b>Company</b>
<input type="text" value="Phone"/>	<input type="text" value="Company"/>
<b>Shipping Country *</b>	<b>Postal / Zip Code *</b>
<input type="text" value="Select a Country..."/>	<input type="text" value="Postal / Zip Code"/>
<b>Urgency *</b>	
<input type="text" value="- Select a Timeframe -"/>	
<b>Message *</b>	
<input type="text" value="2500 Characters Max"/>	
<input type="button" value="Request Quote"/>	

— Manuals

WARNING:

Products may contain materials listed under Prop 65 Enforcement Act. [Click Here to read more.](#)

— Videos

Related Items



[Extra Long Plastic](#)



[Stackable Traffic](#)



[Airport Low Profile](#)



[Modular Security](#)

**Jersey Barrier**

31" H x 120" L - 6 Colors Available - Water or Sand Filled

**6 Options**

As Low as **\$455.00**

[View Products](#)

**Jersey Barrier**

32" x 48" - 6 Colors Available - Sand or Water Fillable

**6 Options**

As Low as **\$169.99**

[View Products](#)

**Safety Barrier**

10" x 96" - Optional Reflective Sheeting - Sand or Water Fill

**6 Options**

As Low as **\$107.99**

[View Products](#)

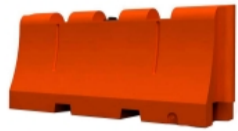
**Barrier Block**

Half or Full Block - 6 Colors Available - Sand or Water Fillable

**12 Options**

As Low as **\$222.20**

[View Products](#)



**Water fillable Roadway Traffic Safety Barrier**

32" x 72" - 6 Colors Available - Sand or Water Fill

**6 Options**

As Low as **\$274.99**

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<p><b>0.0 / 5</b></p> <p>★★★★★</p> <p><b>0 Review(s)</b></p> <p><a href="#">Leave A Review</a></p>	5 ★ (0)
	4 ★ (0)
	3 ★ (0)
	2 ★ (0)
	1 ★ (0)

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# COLOR-SAFE® MMA COLOR PAVEMENT MARKING

**Transpo Color-Safe® is a Methyl Methacrylate (MMA) resin system used for pavement area markings and anti-skid surfacing. It is a plural component, liquid applied MMA and catalyst, capable of full cure in a wide range of temperatures without requiring external heat sources.**

Color-Safe® is typically used for demarcation of crosswalks, bicycle paths, bus lanes and other specially designated areas. It can also be used as a surface to enhance skid resistance on hazardous turns and other areas prone to accidents. It can be applied to either concrete or asphalt manually or using automated spray equipment. Color-Safe® is typically provided in a 98:2 formulation, however 1:1 and 4:1 ratios can also be supplied to accommodate different types of application equipment if requested.

## APPLICATION PROCEDURE

### Surface Preparation

All surfaces that are to receive Color-Safe® must be thoroughly clean, dry, and free of all dirt, grease, and other contaminants that might interfere with proper adhesion. Clean the pavement surface using sand-blasting, shot-blasting or water-blasting. All damaged or deteriorated surfaces must be repaired before applying Color-Safe®. Asphalt surfaces are to be visibly dry. Concrete surfaces shall be visibly dry and the moisture content cannot exceed 6%, confirmed with a non-destructive concrete moisture meter. New asphalt and concrete shall have been placed for a minimum of 28 days prior to installation of Color-Safe®. The ambient temperature should be between 40°F-100°F. Relative humidity should be 75% RH maximum. At the onset of rain, installation shall cease until the substrate is sufficiently dry to the satisfaction of the engineer. For colder or warmer application temperatures contact a Transpo representative for adjusted mix ratios.

## MIXED RESIN AND AGGREGATE APPLICATION METHOD

### Primer Application (For Concrete Applications ONLY)

All areas to be coated with Color-Safe® should be masked prior to application. Mix the Color-Safe® primer and catalyst (refer to Table 1 for appropriate catalyst quantities) for approximately 30 seconds and apply it to the surface that will receive the Color-Safe®. Primer is applied using 1/4" nap rollers. Application rate should be approximately 80 square feet per gallon however, consumption on rough or porous surfaces will be more. After the primer is applied and before it cures, remove all masking.

### Mixing

Color-Safe® resin comes in three components (pigmented resin, catalyst, and aggregate). Thorough and complete

mixing of these components with a drill mounted paddle mixer is vital for uniform curing and performance. Ambient temperature determines the amount of catalyst used; refer to Table 1 for the appropriate amount of catalyst to be added to the resin. Using clean, dry plastic buckets, add catalyst to the resin and mix until dissolved (approximately 30 seconds) and then add and thoroughly mix 23 pounds of aggregate. After mixing, the Color-Safe® must be applied to the pavement immediately.

**Table 1: Catalyst per Two Gallons of Color-Safe® Resin or Primer**

Temp °F / °C	Weight %	Packets (120 g each)
40-59 / 4-15	3	3
60-89 / 16-32	2	2
90-100 / 32-38	1.5	1.5

### Resin / Aggregate Application

Before mixing and applying Color-Safe® apply masking to the area to be coated. Pour the mixed material onto the pavement surface and spread evenly with 3/16" notched squeegees at a rate of approximately 24 square feet per gallon. The surface should be back rolled with 1/4" framed nap rollers to give a uniform even finish and enhance skid resistance. After the application and before the material cures, remove masking. Application of markings must be completed before contamination of the substrate occurs. If using glass beads, they must be coated for use with MMA materials.

**Before applying any line striping or symbols, confirm compatibility of materials with manufacturer. Color-Safe® may be used for application of line striping and symbols.**

## SPRAY / BROADCAST AGGREGATE APPLICATION METHOD

### Mixing and Application

It is important to use the resin formulation that matches the mixing ratio of the equipment that will be used for the application.

Spray application using equipment that does not automatically proportion the catalyst is not recommended.



### Priming

See priming instructions on page one.

### First Coat Application

All areas to be coated with Color-Safe® should be masked prior to application. Note that the Color-Safe® resin and catalyst are identical for both first coat and second coat applications. Refer to Table 2 for the appropriate resin to catalyst mixing ratios. First coat application rate should be approximately 60 square feet per gallon, however consumption on rough or porous surfaces will be more. Immediately after first coat application, broadcast the supplied aggregate onto the surface at a rate of ½ pound per square foot, ensuring all coated areas are covered with aggregate. After the first coat is applied, and before it cures, remove all masking.

### Second Coat Application

Before applying the second coat remove all loose aggregate from the surface using brooms or dry compressed air. Reapply the masking in the area to be coated. Ensure all broadcast aggregate is covered with Color-Safe® resin; application rate should be approximately 40 square feet per gallon. The surface should be back rolled with ¼" framed nap rollers to give a uniform even finish and enhance skid resistance. After the Color-Safe® is applied and before it cures, remove all masking. Application of marking must be completed before contamination of the substrate occurs. If using glass beads, they must be coated for use with MMA materials.

**Before applying any line striping or symbols, confirm compatibility of materials with manufacturer. Color-Safe® may be used for application of line striping and symbols.**

**Table 2: Catalyst per Gallon of Color-Safe® Resin**  
(98:2 spray equipment with automatic proportioning)

Temp °F / °C	Weight %	mL
40-59 / 4-15	3.5	210
60-89 / 16-32	2.5	90
90-100 / 32-38	1.5	45

**Notify your Transpo representative of liquid catalyst preference**

**WARRANTY:** The following warranty is made in lieu of all other warranties, either expressed or implied, and applies to goods manufactured by Transpo Industries, Inc. and its subsidiaries only. This product is manufactured of select raw materials by skilled technicians. Neither seller nor manufacturer has any knowledge or control concerning the purchaser's use of the product and no warranty is made as to the result of any use. The only obligation of either seller or manufacturer shall be to replace any quantity of this product that proves to be defective. Neither seller nor manufacturer assumes any liability for injury, loss, or damage resulting from use of this product.

**Table 3: Physical Properties\* of Color-Safe®**

Property	Unit of Measure	Test
Resin		
Elongation	20% min	ASTM D638 Type IV
Hardness	55-60 Shore D	ASTM D2240
Water Absorption	0.25% max	ASTM D570
Pot Life	15 minutes @ 72°F / 22°C	AASHTO T237
Solids Content	99%	ASTM D1644

\*The value ranges stated in this Technical Data Sheet are based on system processing under laboratory conditions. Equipment configurations and / or field application conditions may produce variances in final system values.

### AGGREGATE

Coarse aggregate shall be part of the formulation to provide for skid resistance. Selection of aggregate type, gradation and hardness is the responsibility of the Owner. It is recommended that aggregate choice consist of silica, bauxite, basalt or other nonfriable aggregate. Aggregate shall have a Mohs hardness of 7 or greater, be angular and contain less than 0.2% moisture per ASTM C566.

### STORAGE

Regardless of length of time in storage, all resin is to be premixed immediately before use. Materials shall be kept in dry protected areas below 77°F / 25°C out of direct sunlight, protected from open flame. Catalyst component shall be stored separately from other materials. Manufacturer's specific label instructions and prudent safety practices for storage and handling shall be followed at all times. Materials shall be suitable for use for twelve months after the date of manufacture when stored in accordance with the manufacturer's instructions.

### CAUTION

The binder shall be 100% reactive, solvent-free, acrylic vehicle. Blends with other resins or liquid vehicles shall not be permitted. As with all chemicals, read SDS prior to use.

**Note:** The colors presented on this chart are representations. Actual color of manufactured product may vary slightly from the chart. **Remarque:** Les couleurs ne sont présentées sur ce tableau qu'à titre d'exemples. Les couleurs du produit final peuvent varier légèrement. **Observación:** Los colores que son presentados en este cuadro son a título de ejemplo. Los colores del producto final pueden variar ligeramente.





Transportation Safety Division

# 3M™ Diamond Grade™ Conspicuity Markings Series 983 for Trucks and Trailers

Product Bulletin Series 983 for Trucks and Trailers  
April 2021

Replaces Product Bulletin 983 for Trucks and Trailers Dated April 2018

## 1 Description

3M™ Diamond Grade™ DG<sup>3</sup> Conspicuity Markings Series 983 for Trucks and Trailers are highly retroreflective microprismatic markings designed to enhance the visibilities of the sides and rears of trucks and trailers. These reflective markings consist of prismatic lenses that are formed in a transparent, synthetic resin, and sealed and backed with a pressure sensitive adhesive and clear polymeric liner. Diamond Grade Conspicuity Markings are highly durable, providing up to ten years of field performance. 3M's Series 983 markings have excellent angularity, which provides enhanced visibility for drivers. Combined daytime brightness and retroreflection provides 24-hour visibility and detection.

Series 983 for Trucks and Trailers markings with DOT-C2 certification marks meet or exceed all FMVSS 108 requirements when applied according to FMVSS 108 specifications.

For details of the features and benefits of Series 983 sheeting, please refer to the 3M Transportation Safety Division website (<http://www.3M.com/roadsafety/>).

Conspicuity Markings Series 983 for Trucks and Trailers is available in the following colors.

**Table 1.** Product codes by color.

Color	Product Code
White	983-10
Red 11-inch/White 7-inch (alternating pattern)	983-32
Red 6-inch/White 6-inch (alternating pattern)	983-326
Red	983-72

## 1.1 Easy to Apply

- o Aggressive pressure sensitive adhesive
- o Easy to remove liner
- o Available in rolls, packaged pieces, or kiss-cut pieces on a roll. Please refer to the 3M Transportation Safety Division Pricing Catalog for the standard product offering.

## 1.2 Durable

- o Pre-sealed edges
- o Non-metallic construction
- o 10-year warranty

## 2 Typical Physical Properties

Table 2 presents typical physical property data for Series 983 for Trucks and Trailers. The information presented in Table 2 should be considered typical only, and not be used for specification purposes.

**Table 2.** Typical physical properties.

Property	FMVSS 108 Requirement	Series 983 for Trucks and Trailers Typical Values
Thickness (Caliper)	N/A	0.014–0.018 inch
Whiteness Daytime Luminance Limit YT ASTM E1164	> 15 White > 2.5 Red	45 White 5 Red
Gloss ASTM D523 at 85°	N/A	100
Shrinkage ASTM D4956	< 1/8 inch change on 9x9 inch panel	No substantial change
Flexibility - wrap around 0.125 inch mandrel at 32 °F (0 °C)	No cracking	No cracking
High pressure wash test - 45° angle, 1200 psi, 8 inch away	N/A	Passes
Adhesion - 90° Hanging Weight ASTM D4956	< 2 inch (51 mm) movement	0.2 inch (4 mm)
Minimum Application Temp.	N/A	50 °F (10 °C)
Instron Peel Adhesion 12 inch/minute, 90° pullback	N/A	Degreased aluminum 5.3 lb/in (.95 kg/cm) Prepainted panel 3.0 lb/in (0.55 kg/cm) Stainless steel 6.0 lb/in (1.1 kg/cm) FRP 2.5 lb/in (0.52 kg/cm) Tedlar® 3.0 lb/in (0.54 kg/cm) Aluminum Rail 3.5 lb/in (0.56 kg/cm)
Chemical Resistance SAE J1967	N/A	Not affected by toluene, #2 diesel fuel, gasoline (leaded) kerosene, TSP detergent, xylene, dilute metal brighteners
Corrosion Resistance ASTM B117 Salt Spray	N/A	No effect - 1000 Hours
Room Temperature Impact Resistance 100 in-lb, 5/8 inch tip	No damage outside impact	No damage outside impact
Cold Temperature Impact Resistance 60 in-lb at -20 °F	N/A	No damage outside impact



### 3 Coefficient of Retroreflection, $R_A$

The values in Table 3 are typical coefficients of retroreflection,  $R_A$ , expressed in candelas per lux per square meter ( $\text{cd}/\text{lux}/\text{m}^2$ ). Conformance to coefficient of retroreflection requirements shall be determined instrumentally, in accordance with ASTM E810 “Test Method of Coefficient of Retroreflection of Retroreflective Sheeting.” Per ASTM E810,  $R_A$  values obtained at  $0^\circ$  and  $90^\circ$  rotations were averaged to determine the  $R_A$  values presented in Table 3.

**Table 3.** Minimum average coefficient of retroreflection,  $R_A$ , values for new sheeting ( $\text{cd}/\text{lux}/\text{m}^2$ ).

Observation Angle <sup>a</sup>	Entrance Angle <sup>b</sup>	Minimum $R_A$ for White (983-10)	FMVSS 108 $R_A$ Requirement for White	Minimum $R_A$ for Red (983-72)	FMVSS 108 $R_A$ Requirement for Red
0.2°	-4°	700	250	132	60
	30°	400	250	77	60
	45°	99	60	22	15
0.5°	-4°	275	65	55	15
	30°	132	65	22	15
	45°	50	15	11	4

a. Observation Angle - the angle between the illumination axis and the observation axis.

b. Entrance Angle - the angle between the illumination axis and the retroreflector axis. The retroreflector axis is an axis perpendicular to the retroreflective surface.

### 4 Typical Physical Characteristics

Table 4 describes the typical physical characteristics of Series 983 for Trucks and Trailers. The information in Table 4 should be considered typical only, and not be used for specification purposes.

**Table 4.** Typical physical characteristics.

Property	Description
Adhesive color and type	Clear, pressure sensitive
Liner	Translucent polymeric
Application surfaces	Painted or unpainted flat metal without rivets
Heat resistance	Maintains 70% of original coefficient of retroreflection at ( $\alpha=0.2$ , $\beta=-4$ ) after 24 hr. exposure to 170 °F (77 °C) air
Recommended minimum application temperature (ambient and substrate)	50 °F (10 °C)
Performance range	-30–200 °F (-34–94 °C)

## 5 Maintenance

### 5.1 Cleaning

Routine cleaning is recommended for maximum performance. The following cleaning methods are recommended:

- o Clean with sponge, cloth, or soft brush using water and detergent
- o Automatic truck/car wash or standard high-pressure hand spray under following conditions:
  - Maximum pressure: 1200 PSI/80 bar
  - Maximum water/wash solution temperature: 140 °F (60 °C)
  - Minimum of 12 inches (30 cm) between cleaning jet(s) and marking
  - Cleaning wand or jets at angle of no more than 45 degrees from perpendicular to the marking surface
  - Use spray tip #1505 (15 degree spray angle, 05 capacity size)
- o When using metal brighteners, follow manufacturer's recommendations for dilution. Thoroughly rinse brightener from markings after soaking vehicle

## 5.2 Storage

Series 983 for Trucks and Trailers markings should be stored in a cool, dry area, out of direct sunlight, at a temperature of 65–75 °F (18–24 °C) and a relative humidity of 30–50%. Rolls should be stored horizontally in their shipping cartons or original packaging.

## 5.3 Shelf Life

Apply Series 983 for Trucks and Trailers within two years of date of manufacture.

# 6 Durability

Series 983 for Trucks and Trailers will provide maximum durability when:

- All 3M recommended procedures are followed and
- Markings are applied to vertical surfaces (within  $\pm 20^\circ$  of vertical orientation).

Series 983 marking durability depends on use. Failure to follow 3M-required techniques may reduce durability. Below are some conditions and processing examples that may lead to reduced durability:

- Failure to cut markings around rivets, seams, and body panels
- Improper use of high pressure cleaning
- Contact with non-recommended chemicals or solvents
- Improper application or surface preparation
- Horizontal exposure
- Open cells along the edges of a marking may collect dirt, which will not reduce marking performance
- Damage due to external conditions may reduce adhesion and reflectivity near the damaged area

# 7 Health and Safety Information

Read all health hazard, precautionary, and first aid statements found in the Safety Data Sheet (SDS), Article Information Sheet, and/or product labels of chemicals prior to handling or use. Consult local regulations and authorities for possible restrictions. Visit us at [www.3M.com/us](http://www.3M.com/us) and select SDS search to obtain current Safety Data Sheets.

# 8 Warranty Information

## 8.1 3M Basic Product Warranty

3M Diamond Grade Conspicuity Marking Series 983 for Trucks and Trailers (“**Product**”) is warranted (“**Basic Warranty**”) to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this product bulletin. If the Product is proven not to have met the Basic Warranty on its shipment date, then a buyer’s exclusive remedy, and 3M’s sole obligation, at 3M’s option, will be a replacement of the Product only.

## 8.2 Additional Warranty

3M warrants (“**3M Warranty**”) that Product sold by 3M to be used for conspicuity markings on trucks and trailers (“**Vehicles**”) in the United States and Canada will:

- o Remain visible by resisting excessive fading, cracking, peeling, lifting, and discoloration for ten (10) years (“**Warranty Period**”), as measured from the date of initial application onto the Vehicle (“**Installation Date**”) and
- o Meet the minimum values for coefficient of retroreflection, as given in Table 5, per the FMVSS 108 requirement.

**Table 5.** Minimum coefficient of retroreflection ( $R_A$ ).<sup>a</sup>

Integral Product Color	Retained Coefficient of Retroreflection [cd/lx/m <sup>2</sup> ]
White	250 (FMVSS 108 Requirement)
Red	60 (FMVSS 108 Requirement)

a. All measurements are at 0.2° observation angle and -4° entrance angle. All measurements shall be made after cleaning the according to 3M recommendations and measured in accordance with ASTM E810.



### 8.3 Terms and Conditions

- o Product must be processed and applied to a vertically-mounted ( $\pm 20^\circ$ ) 3M recommended substrate as described in this product bulletin and in accordance with all 3M application, fabrication, and cleaning procedures provided in 3M's product bulletins, information folders (including but not limited to [3M Information Folder 4.9](#)), and applicable technical memos (which will be furnished to the manufacturer upon request).
- o Any third-party imaging or altering of the Product not endorsed by 3M will void the 3M Warranty.
- o Product's failure to meet the 3M Warranty must be solely the result of design or manufacturing defects in the Product and not of (a) outside causes including improper storage, fabrication, handling, maintenance, or installation; (b) use of process colors, thinners, coatings, or other chemicals not recommended by 3M; (c) use of application procedures not recommended by 3M; (d) exposure to chemicals or solvents not recommended by 3M; (e) abrasion and other physical damage; (f) snow or any other burial of the marking; (g) collisions, vandalism, or malicious mischief; or (h) an act of God.
- o 3M reserves the right to determine the method of replacement. Replacement product will carry the unexpired warranty of the Product it replaces.
- o Claims made under this warranty will be honored only if (a) 3M is presented with a traceable record of the Product's Installation Date, (b) 3M is notified in writing of the claim within thirty days of discovery, (c) 3M is provided with the information reasonably required to validate the claim, and (d) 3M is permitted to verify the cause of the failure.

### 8.4 Exclusive Limited Remedy

If Product is proven not to have met the 3M Warranty during the Warranty Period, then the purchaser's and user's exclusive remedy, and 3M's sole obligation, at 3M's option, shall be that 3M will provide replacement of the Product.

### 8.5 Disclaimer

THE 3M WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING OR OF PERFORMANCE, CUSTOM, OR USAGE OF TRADE.

### 8.6 Limitation of Liability

Except for the limited remedy stated above, and except where prohibited by law, 3M will not be liable for any loss or damage arising from any 3M product, whether direct, indirect, special, incidental, or consequential damages (including but not limited to lost profits, business, or revenue in any way), regardless of the legal theory asserted including warranty, contract, negligence, or strict liability.

## 9 Other Product Information

Always confirm that you have the most current version of the applicable product bulletin, information folder, or other product information from 3M's Website at <http://www.3M.com/roadsafety>.

## 10 Literature References

[3M IF 4.9](#) 3M™ Diamond Grade™ and Flexible Prismatic Conspicuity Markings Application Instructions for Trucks, Trailers, and Specialty Vehicles

ASTM Test Methods are available from ASTM International, West Conshohocken, PA.

## **For Information or Assistance**

**Call: 1-800-553-1380**

**In Canada Call:**

**1-800-3M HELPS (1-800-364-3577)**

## **Internet:**

<http://www.3M.com/roadsafety>

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All statements, technical information and recommendations contained herein are based on tests we believe to be reliable at the time of this publication, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, or conditions express or implied. Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct, indirect, special, or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his/her intended use, and user assumes all risk and liability whatsoever in connection therewith. Statements or recommendations not contained herein shall have no force or effect unless in an agreement signed by officers of seller and manufacturer.

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## **Appendix B**

Regarding the 10<sup>th</sup> St survey, the English survey was developed in early January of 2021 and a Spanish translation was developed shortly after in early February 2021. Both surveys will remain open for submissions until the traffic calming project construction phase starts. The survey was publicized by distributing flyers in English to the houses along 10<sup>th</sup> St (Figure 58), and placing flyers in public places, including Jockamo's pizza on Washington St.. Yard signs in both English and Spanish were placed around 10<sup>th</sup> St in February 2021 (Figure 59). Posts were made on several Community Heights and Irvington neighborhood groups on Facebook. Currently, 199 responses to the survey have been completed. The demographics of the 10<sup>th</sup> St survey responders so far can be found in Figure 63.

Regarding the 16<sup>th</sup> St survey, both an English and Spanish survey was developed and distributed at Bingo night at the IPS 88. The demographics of the 16<sup>th</sup> St survey responders can be found in

# CONCERNED ABOUT SPEEDING ON 10TH STREET?

You can make  
our street safer

## ATTEND THE MEETING

The Department of Public Works will be attending the January Community Heights Neighborhood meeting to get feedback on changes to 10th St.

The meeting is Tuesday, January 11th, 2022 at 7 pm at the Lutherwoods Chapel, 1525 N Ritter Ave. Masks are required.

## VOLUNTEER WITH THE TRAFFIC CALMING TEAM

Email [CHNOIndy@gmail.com](mailto:CHNOIndy@gmail.com) or text/call (317)296-4262 to sign up for updates.

## BE A GOOD ROLE MODEL

Being a good driver means driving the speed limit and not using the center left turn lane to pass.



## SIGN THE PETITION

Go to [www.CalmIndyTraffic.com](http://www.CalmIndyTraffic.com) or scan the QR code to fill out the petition and give your opinion.

Figure 101. Flyers were distributed to houses along 10<sup>th</sup> St from Emerson to Arlington Ave. Similar yard signs were placed in and around 10<sup>th</sup> St in both English and Spanish



# PREOCUPADO POR EXCESO DE VELOCIDAD EN LA CALLE 10?

## FIRMA LA PETICIÓN

Vaya a [www.CalmIndyTraffic.com](http://www.CalmIndyTraffic.com) o escanee el código QR para completar la petición y dar su opinión

## ALISTESE CON EL EQUIPO DE PACIFICACIÓN DEL TRÁFICO COMO VOLUNTARIO

Email [CHNOIndy@gmail.com](mailto:CHNOIndy@gmail.com) o texto (317)296-4262 para registrarse para recibir actualizaciones.



Figure 102. A Spanish yard sign advertising the survey

## Demographics of Survey Responders

- Total responses: 199
- **Ages**
  - 18-35: 40
  - 35-65: 127
  - 65+: 30
  - No response: 2
- Gender
  - Female: 129
  - Male: 61
  - Non-Binary: 3
  - No response: 6
- Race/Ethnicity:
  - American Indian/Alaska Native: 1
  - Black/African American: 2
  - Hispanic/Latino: 4
  - White: 165
  - Two or More Races: 4
  - Prefer not to say/no response: 23
- Where do you live?
  - On/very near 10<sup>th</sup>: 115
  - Within 1 mile: 73
  - On eastside: 5
  - In Indianapolis: 4
  - No response: 2

*Figure 103. The demographics of the 199 responses, from both the English and Spanish versions of the 10<sup>th</sup> St survey collected so far, include a range of members of the public. Survey takers are all 18 years of age or older. They include male, female, and non-binary people, and American Indian/Alaska Native, Black/African American, Hispanic/Latino, and White people, as well as people of multiple races. The majority, 58%, live on 10<sup>th</sup> St or can see 10<sup>th</sup> St from their property.*

## Demographics of Survey Responders

- Total responses: 10
- **Ages**
  - 18-35: 7
  - 35-65: 2
  - No response: 1
- Gender
  - Female: 10
  - Male: 1
- Race/Ethnicity:
  - Black/African American: 7
  - White: 2
  - 2 or more races: 1
- Where do you live?
  - Within 1 mile of IPS 88: 4
  - On eastside: 3
  - In Indianapolis: 2
  - No response: 1

*Figure 104. The demographics of the 10 responses, from the English version of the 16<sup>th</sup> St survey collected so far. It is interesting to note that 4 of the survey responders live within 1 mile of IPS 88, however only 1 survey responder walks, and 0 bike.*