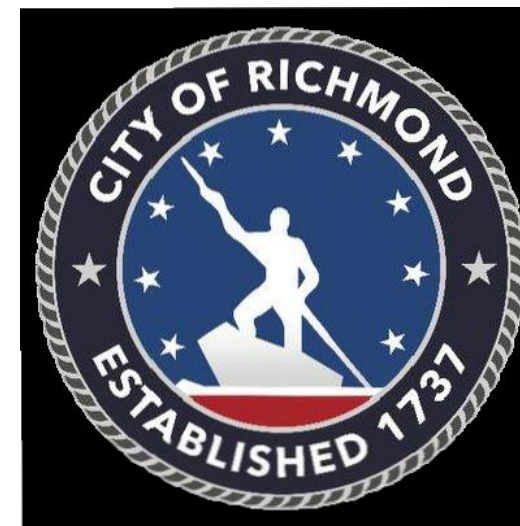


# CITY OF RICHMOND, VIRGINIA

## DEPARTMENT OF PUBLIC WORKS

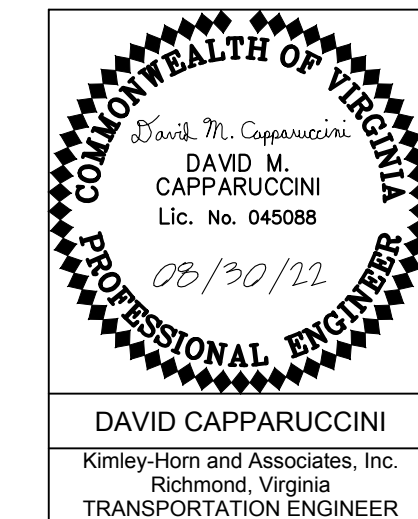
### TRANSPORTATION ENGINEERING DIVISION



# WARWICK ROAD BIKE LANES

## MIDLOTHIAN TURNPIKE TO HULL STREET ROAD

CITY PROJECT NO. 113357077  
AWARD NO. ###



60% PLANS – 08/30/2022

THESE PLANS ARE UNFINISHED  
AND ARE NOT TO BE USED FOR  
ANY TYPE OF CONSTRUCTION.

#### REVISIONS

NO.	DATE	COMMENTS

#### INDEX OF SHEETS

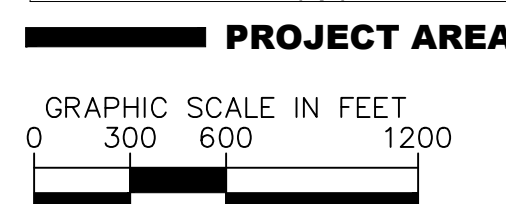
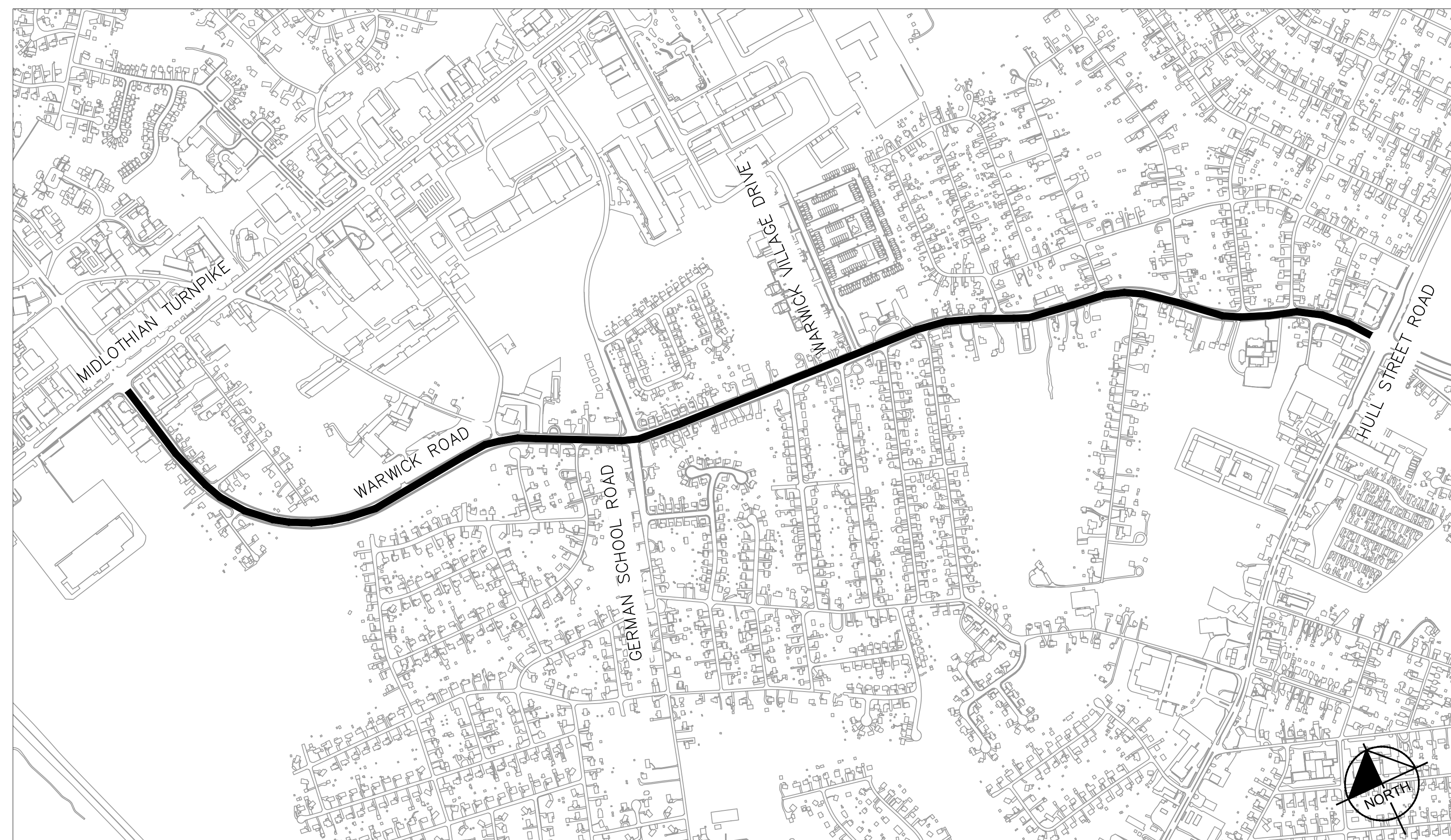
SHEET TITLE	SHEET NO.
TITLE SHEET	1
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SIGNING AND MARKING PLANS	4-10

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE CITY OF RICHMOND.

THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE CITY OF RICHMOND DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS, 2020 VDOT ROAD AND BRIDGE SPECIFICATIONS, 2016 VDOT ROAD AND BRIDGE STANDARDS, 2009 FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2011 VIRGINIA SUPPLEMENT TO THE MUTCD, 2011 VIRGINIA WORK AREA PROTECTION MANUAL, AND AS AMENDED BY CONTRACT PROVISIONS AND THE COMPLETE ELECTRONIC VERSION OF THE PLAN ASSEMBLY INCLUDING ALL REVISIONS.

ALL WORK IS CONTAINED WITHIN EXISTING RIGHT-OF-WAY AND NO PROPOSED RIGHT-OF-WAY OR PERMANENT EASEMENTS ARE REQUIRED.

THE ORIGINAL SIGNED/APPROVED TITLE SHEET, INCLUDING ORIGINAL SIGNATURES, IS FILED IN THE CITY OF RICHMOND DEPARTMENT OF PUBLIC WORKS OFFICE.



#### LOCATION MAP

**AUGUST 2022**

#### CITY OF RICHMOND

##### APPROVED FOR CONSTRUCTION

DATE	PROJECT MANAGER
DATE	CITY TRANSPORTATION ENGINEER
DATE	MAINTENANCE ENGINEER
DATE	CAPITAL PROJECTS ADMINISTRATOR
DATE	CITY ENGINEER
DATE	DIRECTOR OF PUBLIC WORKS

OWNER:  
CITY OF RICHMOND  
DEPARTMENT OF PUBLIC WORKS  
900 E BROAD STREET, 7TH FLOOR, RICHMOND, VA  
PROJECT MANAGER – JACOB HELMBOLDT  
CONTACT # 804-646-7141

# Kimley»Horn

KIMLEY-HORN AND ASSOCIATES, INC.  
1700 WILLOW LAWN DRIVE, SUITE 200, RICHMOND, VA 23230  
PHONE: (804) 673-3882

Plotted By: Murray, Kelsey Sheet: Set: Warwick Bike Lanes Layout: 2 General Notes August 31, 2022 10:32:27pm \\KIMLEY-HORN\horo.com\AT\_RIC\BIC\_IP\101113357\_RIG\_On\_Call\077\_Workpack Road Bike Lanes\3\_Project\_Data\1\_Design\CADD\_Sheetset\2\_General\_Notes.dwg  
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## GENERAL NOTES

- THIS PROJECT CONSISTS OF BICYCLE AND PEDESTRIAN MOBILITY AND SAFETY IMPROVEMENTS WITHIN THE EXISTING ROADWAY CROSS-SECTIONS OF WARWICK ROAD FROM MIDLOTHIAN TURNPIKE TO HULL STREET ROAD IN THE CITY OF RICHMOND.
- THE SIGNING AND MARKING PLANS ONLY INCLUDE PROPOSED SIGNAGE AND EXISTING SPEED LIMIT SIGNS BASED ON FIELD WORK IN MAY 2022. ALL OTHER EXISTING SIGNAGE, INCLUDING EXISTING BIKE LANE SIGNS, WERE NOT INCLUDED IN THE SIGNING AND MARKING PLANS.
- THE CONTRACTOR SHALL PERFORM ALL WORK AND CONSTRUCT AND INSTALL ALL ITEMS WITHIN EXISTING CITY OF RICHMOND RIGHT OF WAY.
- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE CITY OF RICHMOND, THE LATEST STANDARDS AND SPECIFICATIONS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT), THE FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND THE VDOT SUPPLEMENT TO THE MUTCD, EXCEPT AS NOTED ON THE PLANS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE CITY OF RICHMOND PRIOR TO COMMENCING CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE CITY PROJECT MANAGER 72 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- THE LOCATION OF EXISTING SEWER, WATER OR GAS LINES, CONDUITS, OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE LIABLE FOR ALL DAMAGE DONE TO ANY STRUCTURES OR PROPERTY THROUGH HIS/HER NEGLIGENCE OR CARELESSNESS.
- ALL UTILITY CLEARANCES ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE OBTAINED PRIOR TO CONSTRUCTION.
- ANY DEVIATIONS FROM THE APPROVED PLANS AND/OR STANDARDS AND SPECIFICATIONS MUST BE APPROVED BY THE CITY PROJECT MANAGER IN WRITING, PRIOR TO START OF WORK.
- IF A CONFLICT WITH THE PLANS AND FIELD CONDITIONS IS FOUND TO EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE ANY WORK IS STARTED IN ORDER TO COORDINATE THE REMAINDER OF THE WORK TO BE DONE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING UTILITIES AND SHALL REPLACE AT NO ADDITIONAL COST, IF DAMAGED, AS DIRECTED BY THE CITY. EXISTING UTILITIES THAT ARE IN CONFLICT AND MAY NEED TO BE REMOVED OR RELOCATED, WILL BE COORDINATED BY THE CITY. RELOCATIONS OF CITY FACILITIES WILL BE ADMINISTERED BY THE CITY DEPARTMENT OF PUBLIC UTILITIES. IN CASE OF EMERGENCIES OF UTILITY BREAKAGE/CONFLICT CONTACT:

UTILITY	TELEPHONE NUMBERS
GAS	646-8300, 646-8309, 646-8310
WATER	646-8300, 646-8309, 646-8310
SEWER	646-8600, 646-8426
POWER	888-667-3000
TRAFFIC SIGNAL	311, 646-7000

- INSTALLATION DIMENSIONS SHOWN WITHIN THE PLANS ARE TYPICAL. MODIFICATION SHALL BE MADE AS REQUIRED UNDER APPROVAL FROM THE ENGINEER. THE CITY WILL MEET WITH THE CONTRACTOR TO FIELD VERIFY THE LOCATIONS OF THE PAVEMENT MARKINGS PRIOR TO INSTALLATION.
- DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE CITY OF RICHMOND.
- THE TOTAL DISTURBED AREA FOR THE PROJECT IS LESS THAN 10,000 SF, THIS PROJECT IS THEREFORE EXEMPT FROM THE NEED FOR A FORMAL E & S CONTROL PLAN.
- THE COMPLETE PAPER COPY OF THE PLAN ASSEMBLY AS AWARDED INCLUDING ALL SUBSEQUENT REVISIONS WILL BE THE SOLE OFFICIAL CONSTRUCTION PLANS.
- LOCATION OF EXISTING SIGNS, MANHOLES, STRUCTURES, LIGHT POLES, UTILITY POLES, AND DRAINAGE STRUCTURES, AS SHOWN ON THE PLANS ARE APPROXIMATE AS PROVIDED BY CITY GIS DATA. ALL EXISTING UTILITIES ARE NOT SHOWN IN THEIR EXACT LOCATIONS.
- ALL EXISTING RIGHT OF WAY LINES SHOWN ON THE PLANS ARE APPROXIMATE AS PROVIDED BY CITY GIS DATA. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO FIELD LOCATE ALL PROPOSED ITEMS ON THESE PLANS AND SHALL ENSURE ALL ITEMS ARE INSTALLED WITHIN EXISTING RIGHT OF WAY OR ON CITY-OWNED PROPERTY. THE LOCATION AND ORIENTATION OF ALL PROPOSED ITEMS SHALL BE FIELD VERIFIED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
- ALL EXISTING SIGNS TO BE REMOVED BY THE CONTRACTOR SHALL BE SALVAGED AND RETURNED TO THE CITY OF RICHMOND TRANSPORTATION ENGINEERING DIVISION SHOP. THE CONTRACTOR SHALL CALL THE SHOP AT (804) 646-1466 THREE (3) BUSINESS DAYS IN ADVANCE TO SCHEDULE AN APPOINTMENT TO DROP OFF MATERIALS. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE DISPOSAL OF ANY EXISTING SIGNS REFUSED AT DELIVERY.
- ANY AREA THAT IS DISTURBED OUTSIDE OF THE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE RESTORED AND REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
- THE ENGINEER RESERVES THE RIGHT TO MAKE ANY CHANGES TO THESE PLANS AND TRAFFIC CONTROL AS DEEMED NECESSARY.
- ANY TRAFFIC CONTROL DEVICES INCLUDING BUT NOT LIMITED TO PAVEMENT MARKINGS, SIGNS, AND TRAFFIC CONTROL SIGNAL EQUIPMENT DAMAGED OR DESTROYED BY THE CONTRACTOR MUST BE REPLACED AT THE CONTRACTOR'S EXPENSE UNLESS THEIR REMOVAL OR DESTRUCTION IS CALLED FOR BY THE PLANS.
- THE CONTRACTOR SHALL REMOVE AND REPLACE SIDEWALKS DAMAGED FROM THE CONTRACTOR'S OPERATIONS IN FULL SECTIONS TO THE NEAREST JOINT. REPLACEMENT SIDEWALK MATERIAL SHALL MATCH THE EXISTING SIDEWALK TO THE GREATEST EXTENT PRACTICAL.

## SIGNING AND STRIPING NOTES

- THE CONTRACTOR SHALL PREPARE THE PAVEMENT SURFACE FOR THE PROPER ADHESION, REGARDLESS OF PAVEMENT TYPE. ANY SWEEPING OR REMOVAL OF DEBRIS, GRAVEL, DIRT OR OTHER FOREIGN MATERIALS SHALL BE CONSIDERED AS INCIDENTAL TO THE INSTALLATION, AND NO SEPARATE PAYMENT THEREFORE.
- UNLESS SPECIFIED OTHERWISE, THE BASIS OF MEASUREMENT SHALL BE ALONG THE LONGITUDINAL CENTERLINE OF PAVEMENT MARKINGS. MEASUREMENT FOR LEGENDS SHALL BE PER MESSAGE, COMPLETE AND IN PLACE.
- ALL MARKINGS IMPROPERLY APPLIED OR LOCATED IN THE OPINION OF THE ENGINEER SHALL BE COMPLETELY REMOVED AND CORRECTLY REAPPLIED, AT THE SOLE EXPENSE OF THE CONTRACTOR.
- ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC UNLESS OTHERWISE SPECIFIED ON THE PLANS OR DIRECTED BY THE CITY OF RICHMOND.
- THERMOPLASTIC PAVEMENT MARKINGS SHALL NOT BE INSTALLED AT ANYTIME WITHIN A 48 HOUR PERIOD FOLLOWING A RAINFALL.
- COLORS SHALL CONFORM TO STANDARD HIGHWAY COLORS THROUGHOUT THE EXPECTED LIFE OF THE FILM.
- THE CONTRACTOR SHALL REMOVE COMPLETELY ALL PREVIOUS OR EXISTING PAVEMENT MARKINGS OR SIGNS, WHICH IN THE OPINION OF THE ENGINEER OR CITY'S INSPECTOR CONFLICT WITH THE PROPOSED PAVEMENT MARKINGS AND SIGNS.
- THE CONTRACTOR SHALL NOT INSTALL NEW PAVEMENT MARKINGS ON TOP OF ANY EXISTING MARKINGS.
- PRIOR TO APPLICATION, THE CONTRACTOR SHALL FIELD CHECK AND LOCATE ALL PAVEMENT MARKINGS TO THE SATISFACTION OF THE CITY PROJECT MANAGER.
- MARKINGS SHALL NOT BE APPLIED TO EXISTING CONCRETE GUTTER.
- MARKINGS SHALL NOT BE APPLIED TO NON-PAVEMENT SURFACES, INCLUDING BUT NOT LIMITED TO MANHOLES, VALVES, HANDHOLES, AND METERS. THE CONTRACTOR MAY LEAVE A GAP IN THE PROPOSED MARKING OR COVER THE APPURTENANCE DURING APPLICATION AND REMOVE ANY COVERING ONCE THE MARKING HAS BEEN APPLIED.
- MARKING MATERIAL SHALL BE APPLIED AT THE SPECIFIED DIMENSIONS AND AT A RATE TO RESULT IN A MARKING THICKNESS OF 90 MILS ±5 MILS (NOT INCLUDING GLASS BEAD TOP DRESSING).
- THE MARKINGS SHALL BE PROVIDED IN SPECIFIED WIDTHS AND SHAPES. PREFORMED WORDS AND SYMBOLS SHALL CONFORM TO THE APPLICABLE SHAPES AND SIZES AS OUTLINED IN THE MUTCD.
- UNLESS OTHERWISE SPECIFIED ON THE PLANS OR IN CONTRACT DOCUMENTS, ALL PAVEMENT MARKINGS AND LEGENDS IN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH VDOT SPECIFICATIONS.
- SIGNS SHALL BE ERECTED WHERE DESIGNATED IN ACCORDANCE WITH THE PLANS. ALL SIGNS THAT REQUIRE MOUNTING SHALL BE ON STEEL U-CHANNEL POSTS INSTALLED DIRECTLY IN THE GROUND (2' MAXIMUM DEPTH - CONTRACTOR IS TO VERIFY LOCATION AND UTILITY CONFLICTS PRIOR TO INSTALLING).
- SIGN MOUNTING HEIGHT AND DISTANCE FROM FACE OF CURB SHALL CONFORM TO MUTCD GUIDELINES.
- FOR SIGN POST INSTALLATIONS INTO EXISTING CONCRETE OR BRICK SURFACES, NO SLEEVES SHALL BE USED. CONTRACTOR SHALL CORE THROUGH SURFACE AND INSTALL U-CHANNEL POSTS AS SPECIFIED.
- METAL BANDS AND BRACKETS SHALL BE USED FOR MOUNTING SIGNS TO EXISTING POLES IN ACCORDANCE WITH TYPICAL DETAIL SHEET 3.
- SIGN ATTACHMENTS TO EXISTING POLES MAY BE MADE AT THE CONTRACTOR'S DISCRETION, HOWEVER THEY MUST FIRST BE CONFIRMED ACCEPTABLE BY THE CITY PROJECT MANAGER.
- THE CITY PROJECT MANAGER OR HIS/HER DESIGNEE SHALL CONFIRM THAT ALL SIGN AND SIGN POSTS INSTALLATIONS ARE ACCEPTABLE TO THE CITY OF RICHMOND PRIOR TO PROJECT COMPLETION.
- PARKING AREAS SHALL BE NO CLOSER THAN 30' FROM A MARKED CROSSWALK, CURB RAMP, OR CURB RETURN WHERE THERE IS AN ADJACENT DEDICATED BIKE LANE. PARKING AREAS SHALL BE NO CLOSER THAN 20' FROM AN ALLEY OR DRIVEWAY WHERE THERE IS AN ADJACENT DEDICATED BIKE LANE. IF NO ADJACENT DEDICATED BIKE LANE IS PRESENT, PARKING AREAS SHALL BE NO CLOSER THAN 20' FROM A CROSSWALK, CURB RAMP, OR CURB RETURN. PARKING AREAS ARE NOT PERMITTED IN FRONT OF ALLEYS OR DRIVEWAYS, AND SHALL BE NO CLOSER THAN 15' FROM A FIRE HYDRANT.
- BUFFER AREA PAVEMENT MARKINGS SHALL NOT EXTEND INTO INTERSECTIONS, ALLEYS, OR DRIVEWAYS.
- IF BUFFER AREA IS GREATER THAN 4 FEET IN WIDTH, THE BUFFER AREA AT DRIVEWAYS SHALL END USING 4 FOOT RADIUS CURVES AS SHOWN ON PLANS, UNLESS OTHERWISE NOTED.
- IF ACTUAL ROADWAY CROSS SECTION IS LESS THAN THE WIDTH OF THE TYPICAL SECTION SHOWN ON THE PLANS, THE CONTRACTOR SHALL REDUCE THE WIDTH OF THE BUFFER BY THE DIFFERENCE IN WIDTH TO MAINTAIN 10' TRAVEL LANES.
- IF ACTUAL ROADWAY CROSS SECTION IS GREATER THAN THE WIDTH OF THE TYPICAL SECTION SHOWN ON THE PLANS, THE CONTRACTOR SHALL INCREASE THE WIDTH OF THE BUFFER AREA BY THE DIFFERENCE IN WIDTH TO MAINTAIN 11' TRAVEL LANES AND SPECIFIED PARKING LANE WIDTH.
- CALLOUTS ON THE PLANS ARE NOT SHOWN FOR EACH INDIVIDUAL CHEVRON, FLEXI-POST, PAVEMENT MARKING ETC. IF THE CONTRACTOR IS UNCLEAR WHICH PAY ITEM IS DENOTED IN THE PLANS, THE CONTRACTOR SHALL VERIFY THE ITEM WITH THE CITY PROJECT MANAGER OR ENGINEER.
- THE VERTICAL FLEXIBLE DELINEATOR (FLEXI-POST) SHOWN ON THE PLANS SHALL BE THE PEXCO FG300 MODEL UR OR EQUIVALENT, APPROVED EQUAL. THE PROPOSED VERTICAL FLEXIBLE DELINEATOR SHALL BE APPROVED BY THE CITY PROJECT MANAGER.
- STOP BARS SHALL BE 24" WIDE WHITE MARKINGS AND SHALL BE INSTALLED PERPENDICULAR TO THE PATH OF VEHICULAR TRAVEL.
- PROPOSED STOP BAR FOR TWO-WAY APPROACH SHALL EXTEND FROM FACE OF CURB TO CENTER OF ROADWAY OR TO MARKED CENTERLINE.
- PROPOSED STOP BAR FOR ONE-WAY APPROACH SHALL EXTEND THE FULL WIDTH OF THE ROADWAY.
- IF EXISTING STOP BARS ARE IN GOOD CONDITION AND ARE GREATER THAN 3' FROM THE PROPOSED CROSSWALK, THEN AT THE DISCRETION OF THE CITY'S INSPECTOR THE EXISTING STOP BAR MAY REMAIN.
- ALL PROPOSED CROSSWALK MARKINGS SHALL BE PLACED CENTERED WITH PEDESTRIAN RAMPS AND AS SHOWN ON TYPICAL DETAIL SHEET 3, UNLESS OTHERWISE NOTED ON THE PLANS.
- CROSSWALKS SHALL BE INSTALLED AS CLOSE TO PERPENDICULAR TO VEHICULAR TRAVEL AS PRACTICAL.

## MAINTENANCE OF TRAFFIC NOTES

- ALL TEMPORARY TRAFFIC CONTROL, DEVICES, METHODS, AND APPLICATIONS SHALL COMPLY WITH THE MOST RECENT VERSIONS OF THE VIRGINIA WORK AREA PROTECTION MANUAL (VWAPM), THE FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), SPECIAL PROVISIONS OF CONTRACT DOCUMENTS, THE CITY OF RICHMOND'S "DEPARTMENT OF PUBLIC WORKS SPECIAL PROVISIONS" AND/OR AS DIRECTED BY THE CITY PROJECT MANAGER, WHICHEVER IS MORE RESTRICTIVE TAKES PRECEDENCE.
- CONSTRUCTION SHALL BE PROHIBITED ON STREETS BETWEEN THE HOURS OF 7 AM TO 9 AM AND 3:30 PM TO 6 PM MONDAY THROUGH FRIDAY.
- THE CONTRACTOR SHALL SUBMIT A PROPOSED TRAFFIC CONTROL PLAN FOR APPROVAL BY THE CITY'S PROJECT MANAGER PRIOR TO BEGINNING CONSTRUCTION.
- RESIDENT AND EMERGENCY ACCESS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
- PEDESTRIAN ACCESS AT INTERSECTIONS AND TO ALL RESIDENCES AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL TRAFFIC CONTROL AND WORK-IN-STREETS PERMITS WITHIN THE CITY.
- THE COST OF ALL TRAFFIC CONTROL DEVICES SHALL BE PAID FOR BY THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL EXISTING AND TEMPORARY TRAFFIC CONTROL DEVICES ARE PROPERLY MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION. THE CITY PROJECT MANAGER WILL DETERMINE IF SIGNS ARE BEING MAINTAINED IN THE PROPER MANNER BY THE CONTRACTOR. THE CONTRACTOR WILL BE CHARGED FOR ANY COSTS INCURRED BY THE CITY OF RICHMOND AS A RESULT OF THE CONTRACTOR'S FAILURE TO PROPERLY MAINTAIN TEMPORARY TRAFFIC CONTROL DEVICES WITHIN THE PROJECT AREA.
- THE CONTRACTOR SHALL PROVIDE THE NAMES AND PHONE NUMBERS TO THE CITY PROJECT MANAGER OF PERSONS DESIGNATED BY THE CONTRACTOR TO BE CONTACTED AFTER WORKING HOURS CONCERNING ANY PROBLEMS WHICH MAY ARISE REGARDING TEMPORARY TRAFFIC CONTROL DEVICES ON THIS PROJECT.
- ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED, UNLOADED, AND STORED AT LOCATIONS APPROVED BY THE CITY PROJECT MANAGER. THE CONTRACTOR SHALL MAKE ARRANGEMENTS TO STORE EQUIPMENT AND MATERIALS.
- PERSONAL VEHICLES OF THE CONTRACTOR'S EMPLOYEES SHALL NOT BE PARKED IN THE TRAVELED WAY OF ANY ROADWAY AT ANY TIME, INCLUDING ANY SECTION OF ROADWAY CLOSED TO TRAFFIC.

## SIGN LEGEND

NOT TO SCALE



R3-17  
24" x 18"



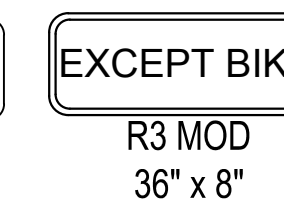
R3-17aP  
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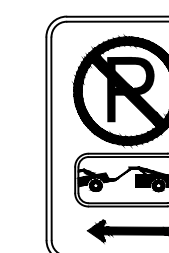
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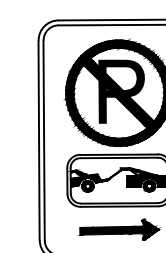
R3-17bP  
24" x 8"



R3 MOD  
36" x 8"



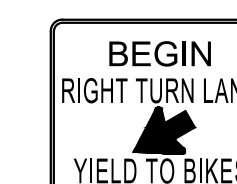
R7-2L MOD  
12" x 18"



R7-2R MOD  
12" x 18"



R7-2 MOD  
12" x 18"



R4-4  
36" x 30"



W23-2  
36" x 36"



R3-5a  
30" x 36"

## UTILITY AND SIGN LEGEND

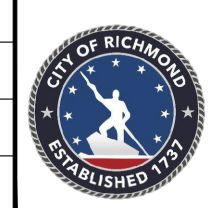
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING SIGNAL POLE

- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- PROPOSED FLEXIBLE DELINEATOR

No.	REVISIONS	DATE	BY

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 PHONE: 804-673-3882  
 WWW.KIMLEY-HORN.COM

KHA PROJECT	113357077
DATE	AUGUST 2022
SCALE	NTS
DESIGNED BY	HMM
DRAWN BY	MKM
CHECKED BY	DMC

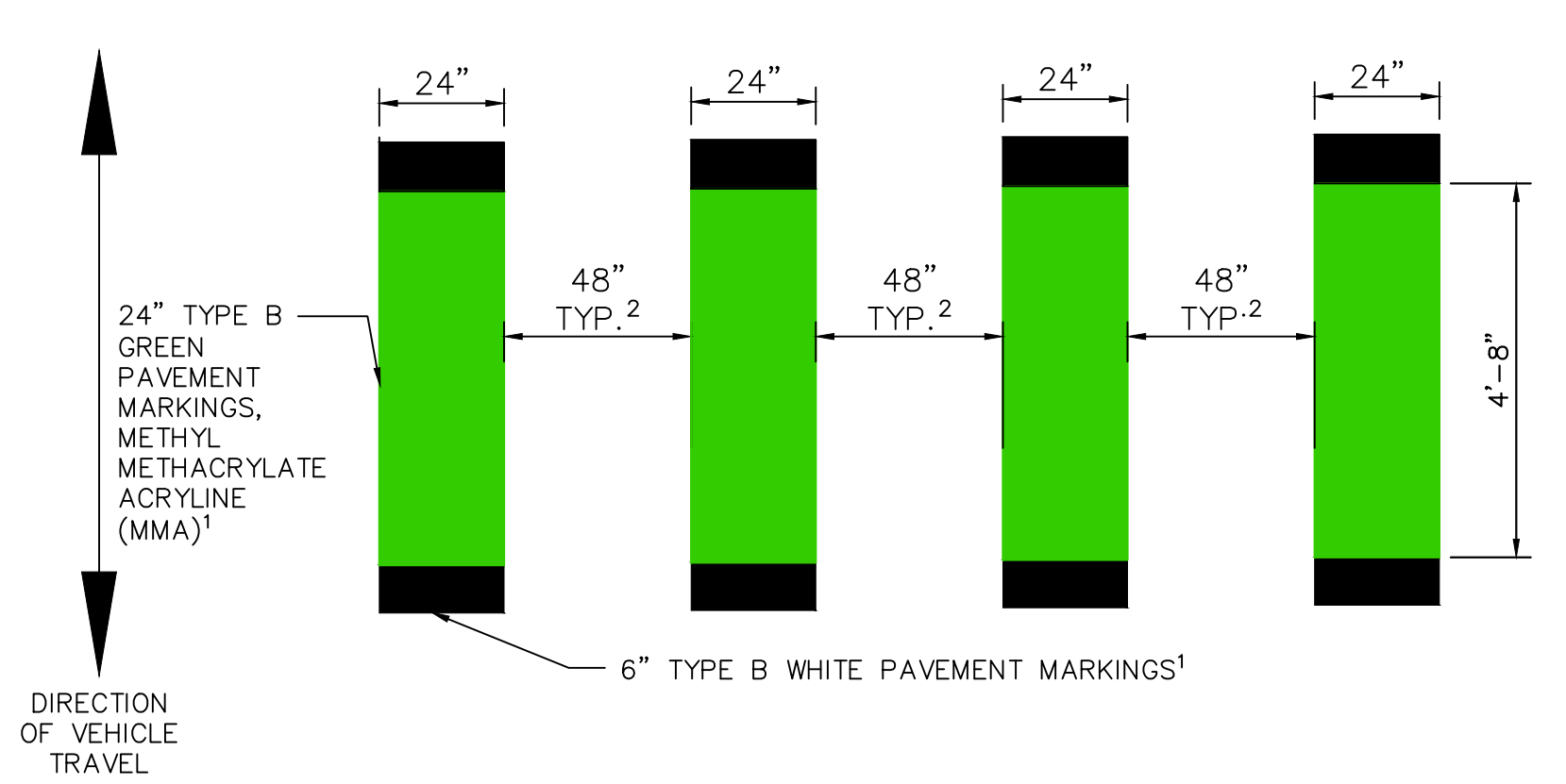


**CITY OF RICHMOND**  
**WARWICK ROAD BIKE LANES**  
 CITY OF RICHMOND VIRGINIA

**GENERAL NOTES AND LEGEND**  
 SHEET NUMBER **2**

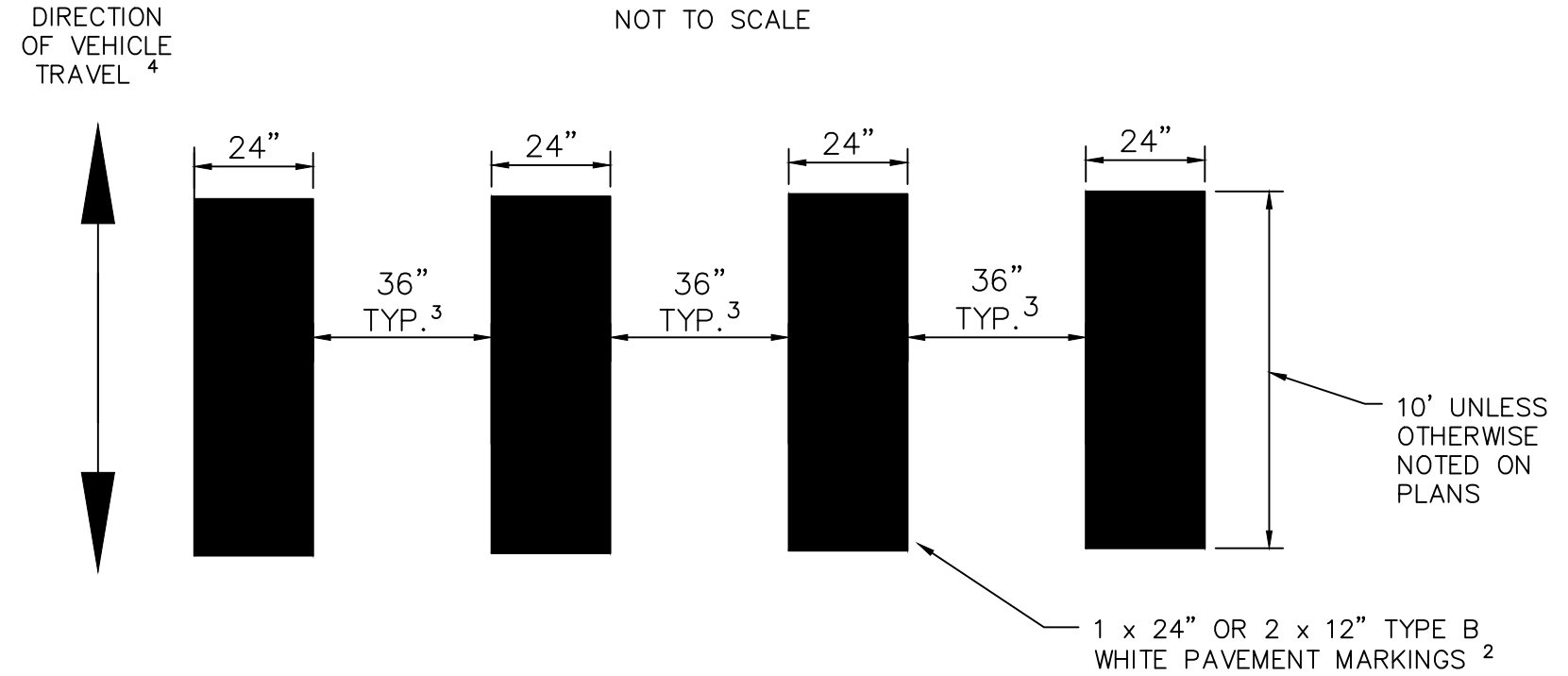
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**BICYCLE CROSSWALK MARKING**



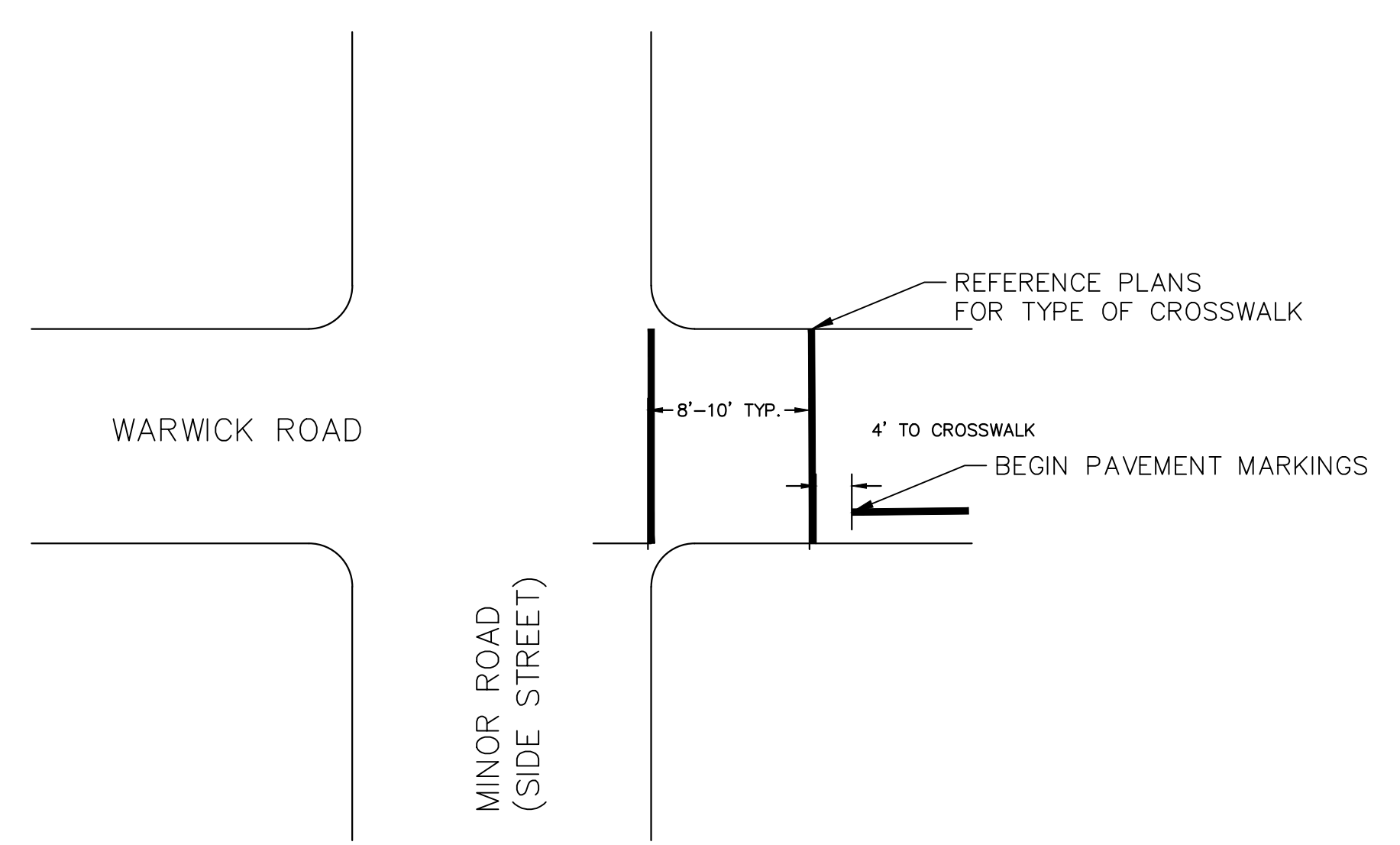
<sup>1</sup> SEE PLANS FOR CLASS OF PAVEMENT MARKINGS.  
<sup>2</sup> GAP BETWEEN MARKINGS TO BE 36" TYPICAL, BUT MAY BE BETWEEN 24" (MINIMUM) AND 48" (MAXIMUM) TO LOCATE MARKINGS OUTSIDE OF WHEEL PATHS OF VEHICLES.

**TYPICAL LONGITUDINAL CROSSWALK MARKING <sup>1</sup>**



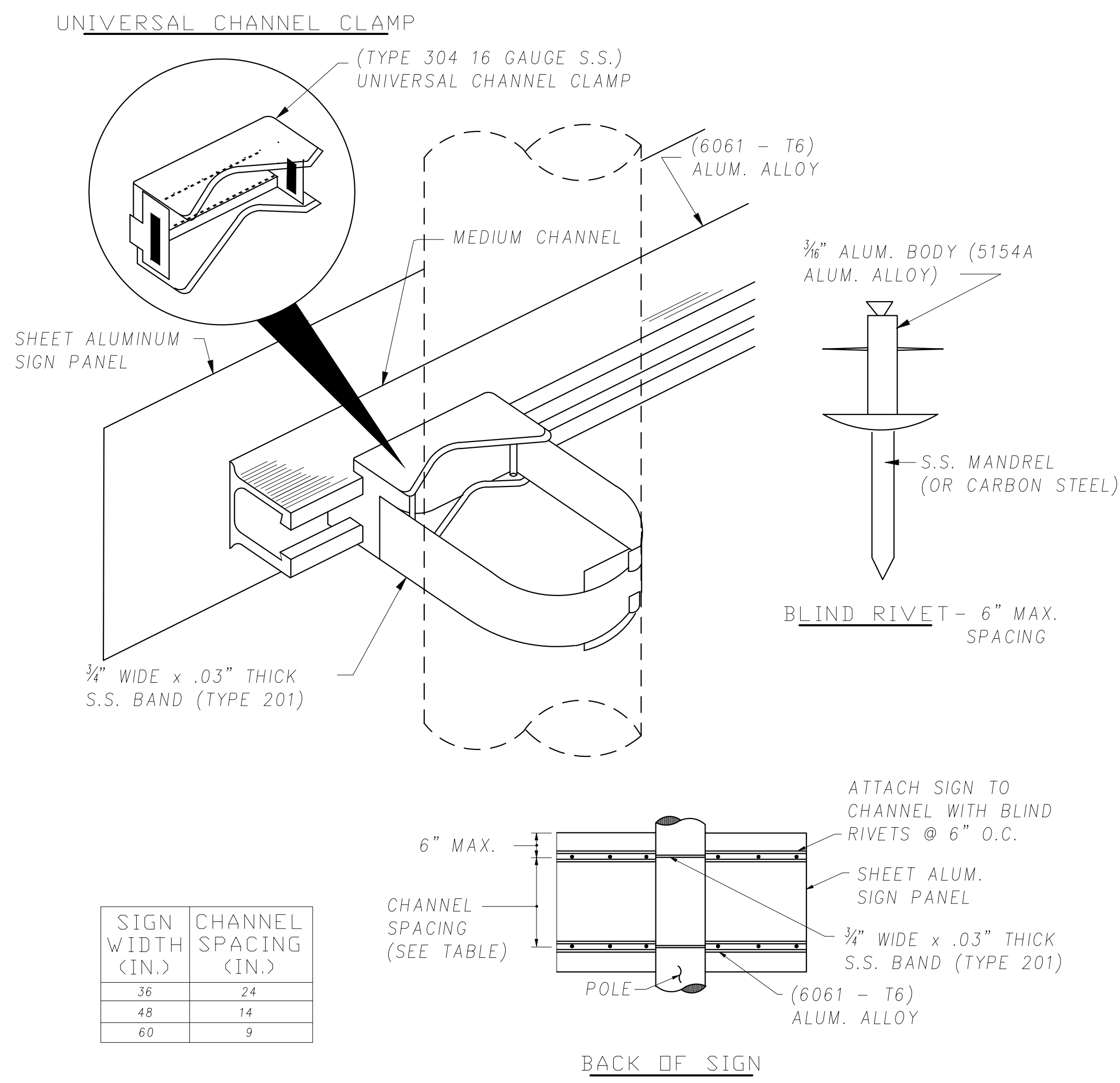
<sup>1</sup> CROSSWALKS SHALL BE INSTALLED NO CLOSER THAN 1' FROM THE EXTENSION OF THE EDGE OF THE ROADWAY OF THE INTERSECTING STREET.  
<sup>2</sup> SEE PLANS FOR CLASS OF PAVEMENT MARKINGS.  
<sup>3</sup> GAP BETWEEN MARKINGS TO BE 36" TYPICAL, BUT MAY BE MODIFIED BETWEEN 24" (MINIMUM) AND 48" (MAXIMUM) TO LOCATE MARKINGS OUTSIDE OF WHEEL PATHS OF VEHICLES.  
<sup>4</sup> LONGITUDINAL CROSSWALK LINES SHALL BE PARALLEL TO THE DIRECTION OF VEHICLE TRAVEL AND MAY NOT NECESSARILY BE PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.

**INTERSECTION TREATMENT (TYP.) <sup>1</sup>**



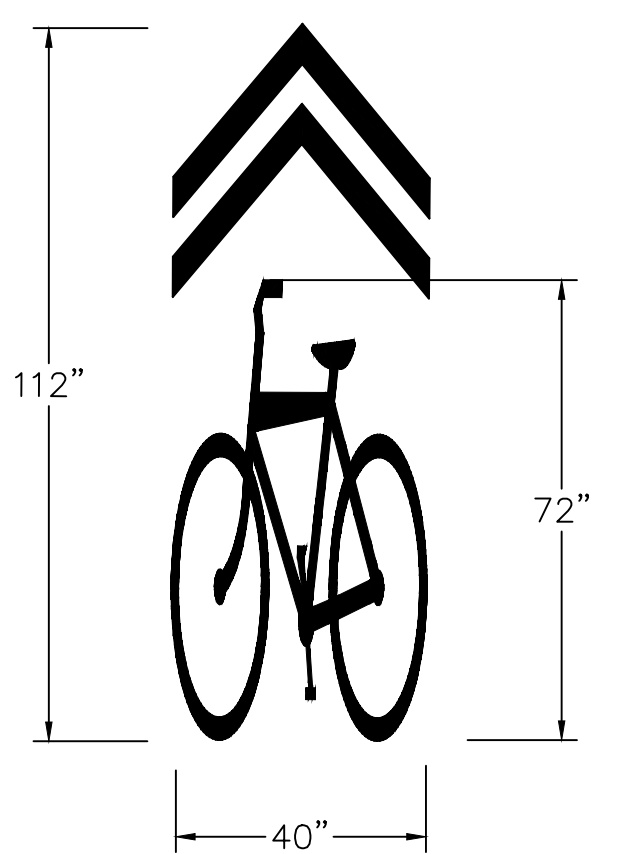
<sup>1</sup> WITHOUT CROSSWALK START PAVEMENT MARKINGS 4' FROM EDGE OF MINOR ROAD TRAVEL WAY.

**SIGN ATTACHMENT DETAIL  
VERTICAL POLE INSTALLATION ONLY  
MAX. SIGN WIDTH = 5'-0"**

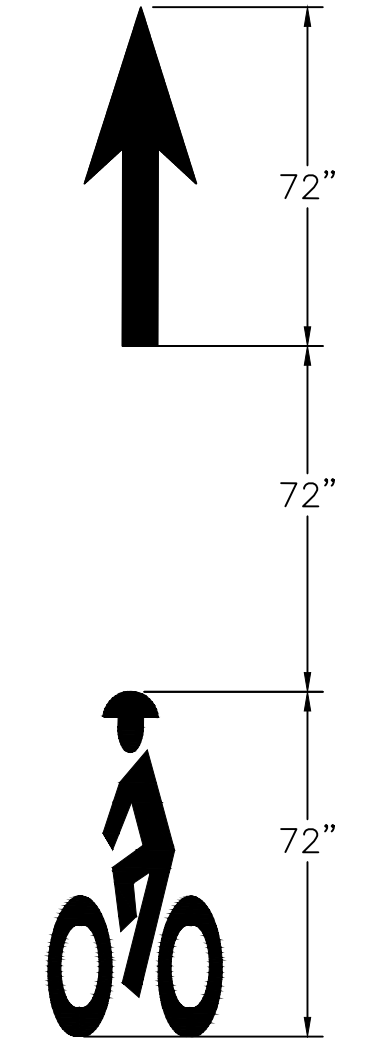


SIGN WIDTH (IN.)	CHANNEL SPACING (IN.)
36	24
48	14
60	9

**SHARED LANE MARKING,  
FIGURE 9C-9  
FROM 2009 MUTCD  
NOT TO SCALE**



**HELMETED BICYCLE SYMBOL,  
FIGURE 9C-3  
FROM 2009 MUTCD  
NOT TO SCALE**



**Kimley»Horn**

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PHONE: 804-673-3882  
WWW.KIMLEY-HORN.COM

KHA PROJECT	113357077
DATE	AUGUST 2022
SCALE	NTS
DESIGNED BY	HMM
DRAWN BY	MKM
CHECKED BY	DMC

**CITY OF RICHMOND  
WARWICK ROAD BIKE LANES**

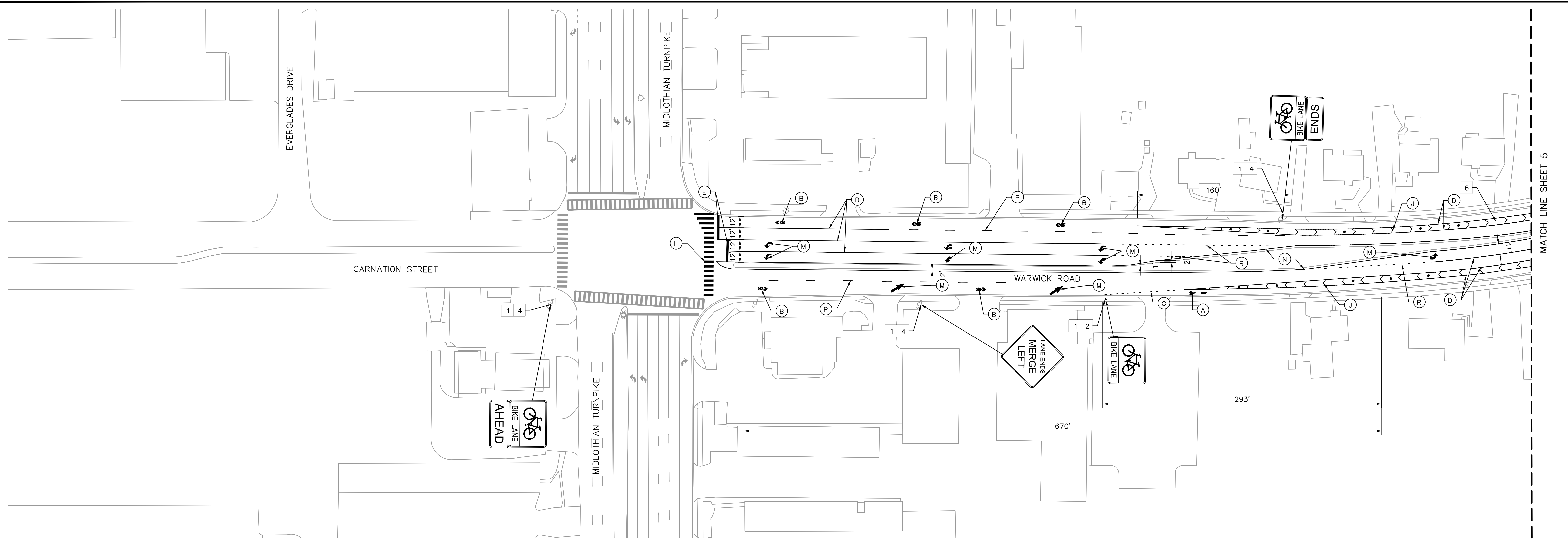
CITY OF RICHMOND VIRGINIA

**TYPICAL DETAILS**

SHEET NUMBER	4
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No.	REVISIONS	DATE	BY

Plotted By: Murray, Kelsey  
 Sheet Set: Warwick Bike Lanes - Layout: 4 - MIDLOTHIAN TURNPIKE TO BROOKLINE STREET - August 31, 2022, 10:33:08am  
 \\Korley-Horn.com\AT\_RIC\BIC\_IP\TO\113357\_RIC\_On\_Coll\077\_Warwick\_Bike\_Lanes\3 Project\_Data\3-1 Design\CAD\Sheetset\Design\_Sheets.dwg  
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**PAVEMENT MARKING NOTES**

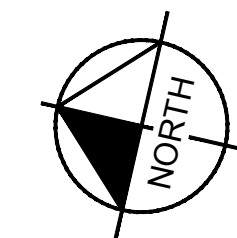
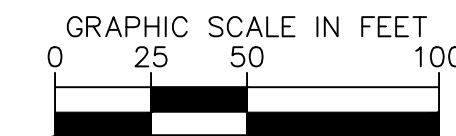
- (A) INSTALL TYPE B CLASS II WHITE HELMETED BICYCLIST SYMBOL PAVEMENT MARKING PER TYPICAL DETAIL ON SHEET 3.
- (B) INSTALL TYPE B CLASS II SHARED LANE MARKING PER TYPICAL DETAIL ON SHEET 3.
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- (G) INSTALL 4" SOLID WHITE TYPE B CLASS I PAVEMENT MARKING, 2' LONG, 4' SPACING.
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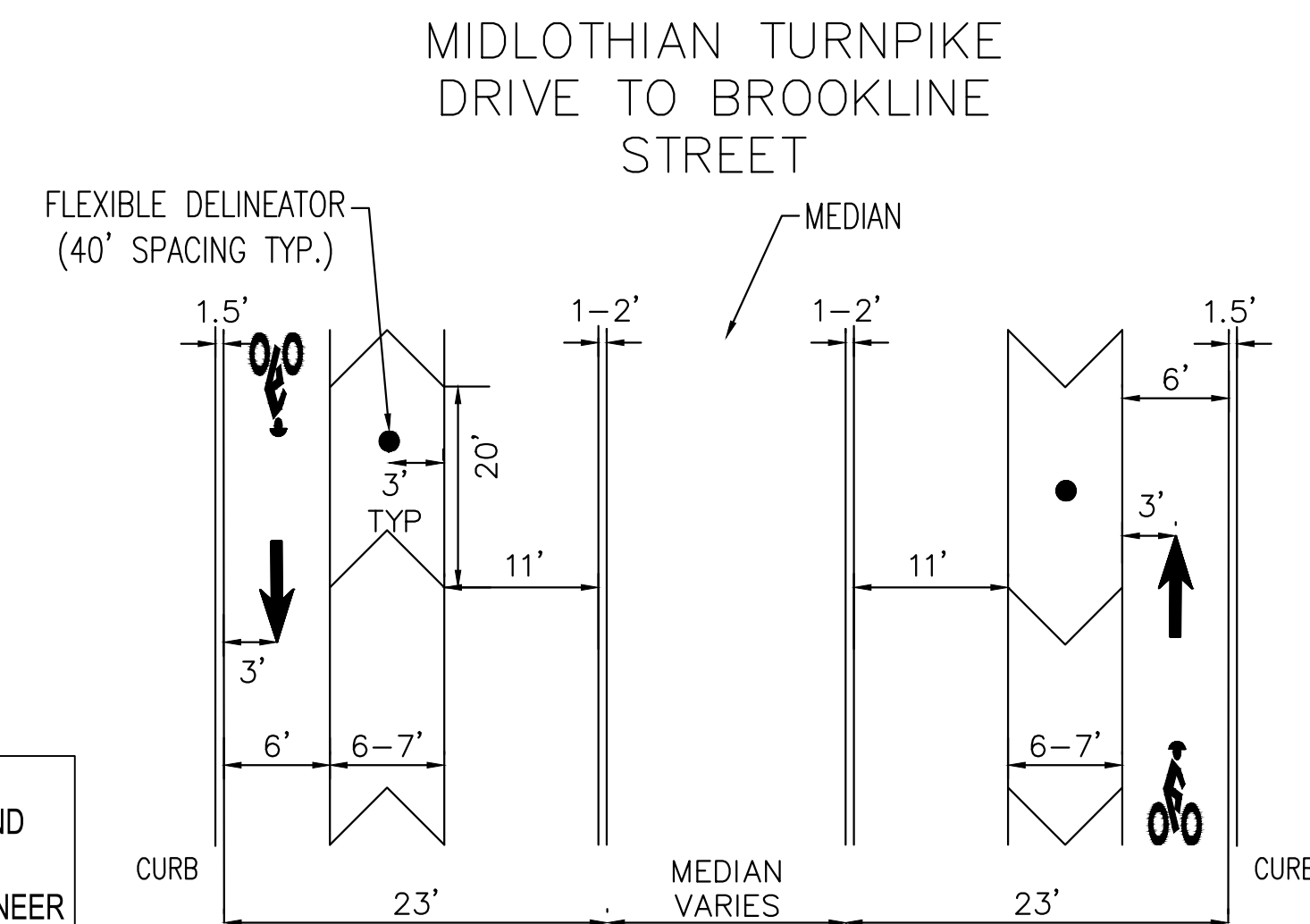
**CONSTRUCTION NOTES**

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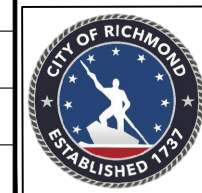
**TYPICAL SECTIONS**  
NOT TO SCALE



**Kimley»Horn**

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 WWW.KIMLEY-HORN.COM

KHA PROJECT  
 113357077  
 DATE  
 AUGUST 2022  
 SCALE 1"=50'  
 DESIGNED BY HMM  
 DRAWN BY MKM  
 CHECKED BY DMC



**CITY OF RICHMOND**  
**WARWICK ROAD BIKE LANES**

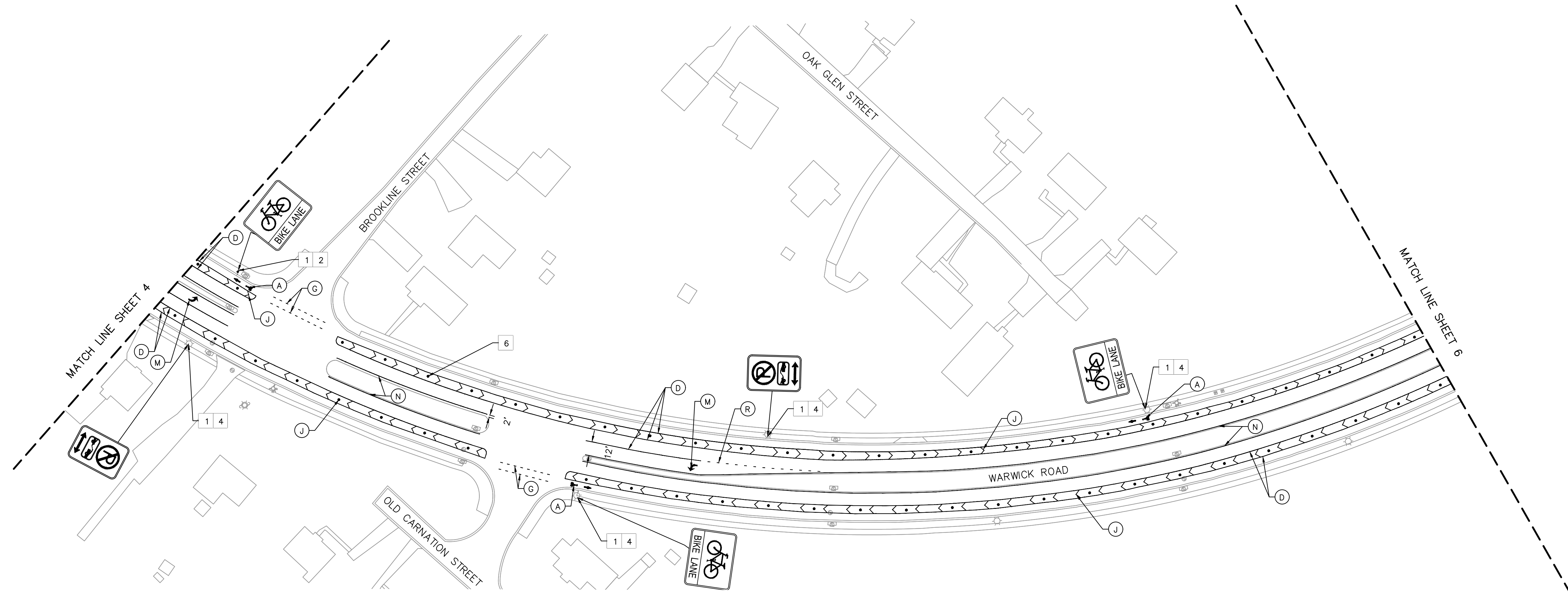
CITY OF RICHMOND VIRGINIA

**MIDLOTHIAN TURNPIKE**  
**TO BROOKLINE STREET**

SHEET NUMBER

4

Plotted By: Murrey, Kelsey  
 Sheet Set: Warwick Bike Lanes - Layout: 5 - Brookline Street to Community Center Entrance - August 31, 2022 - 10:33:50am  
 \\k:\projects\Warwick\Bike Lanes\3 Project Data\1-1 Design\CAD\Sheetset\Design Sheets.dwg  
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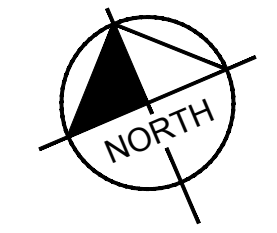
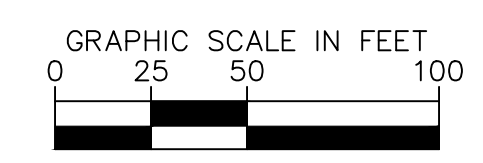
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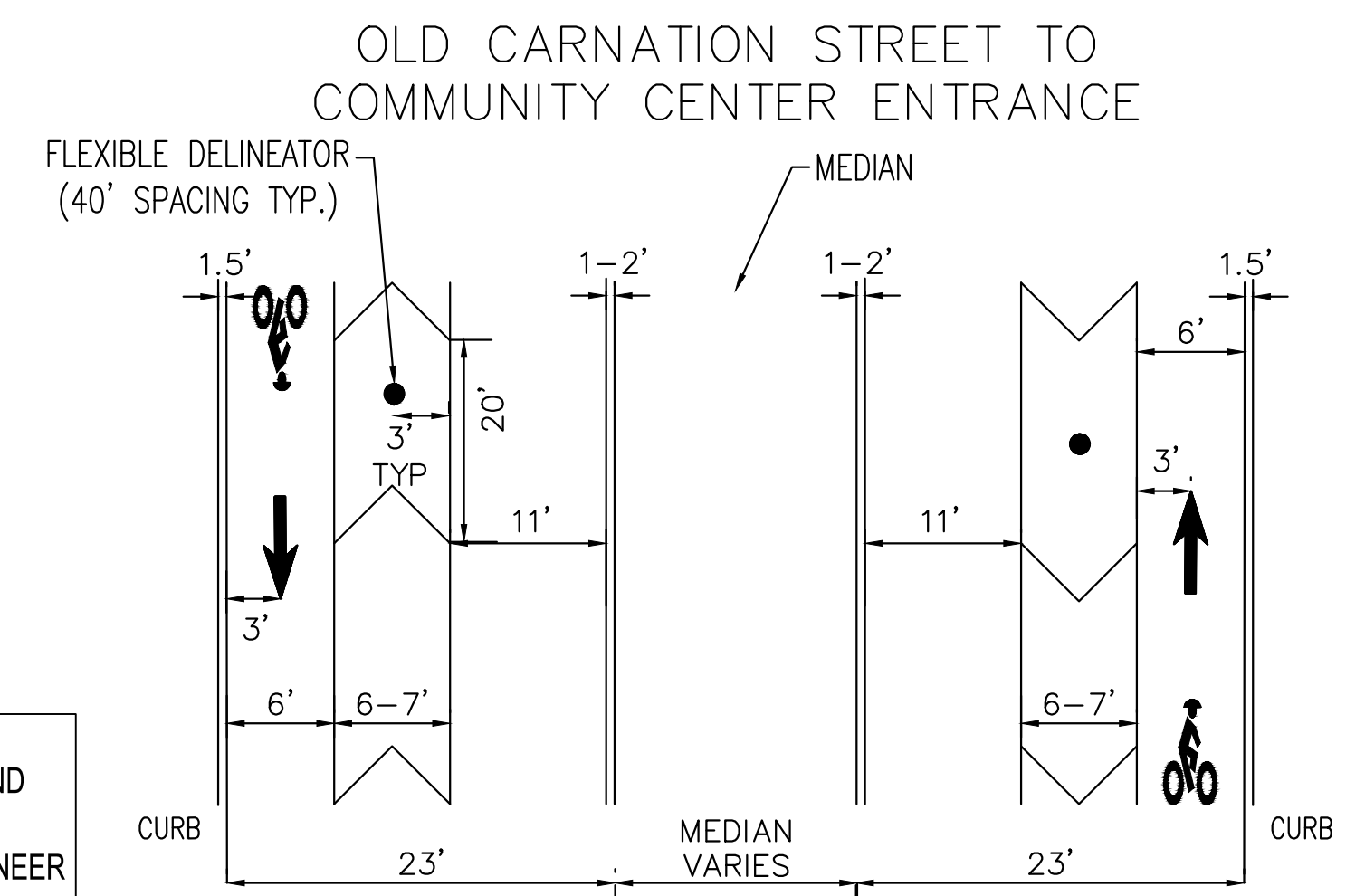
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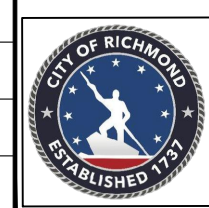


**TYPICAL SECTIONS**  
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KHA PROJECT	113357077
DATE	AUGUST 2022
SCALE	1"=50'
DESIGNED BY	HMM
DRAWN BY	MKM
CHECKED BY	DMC



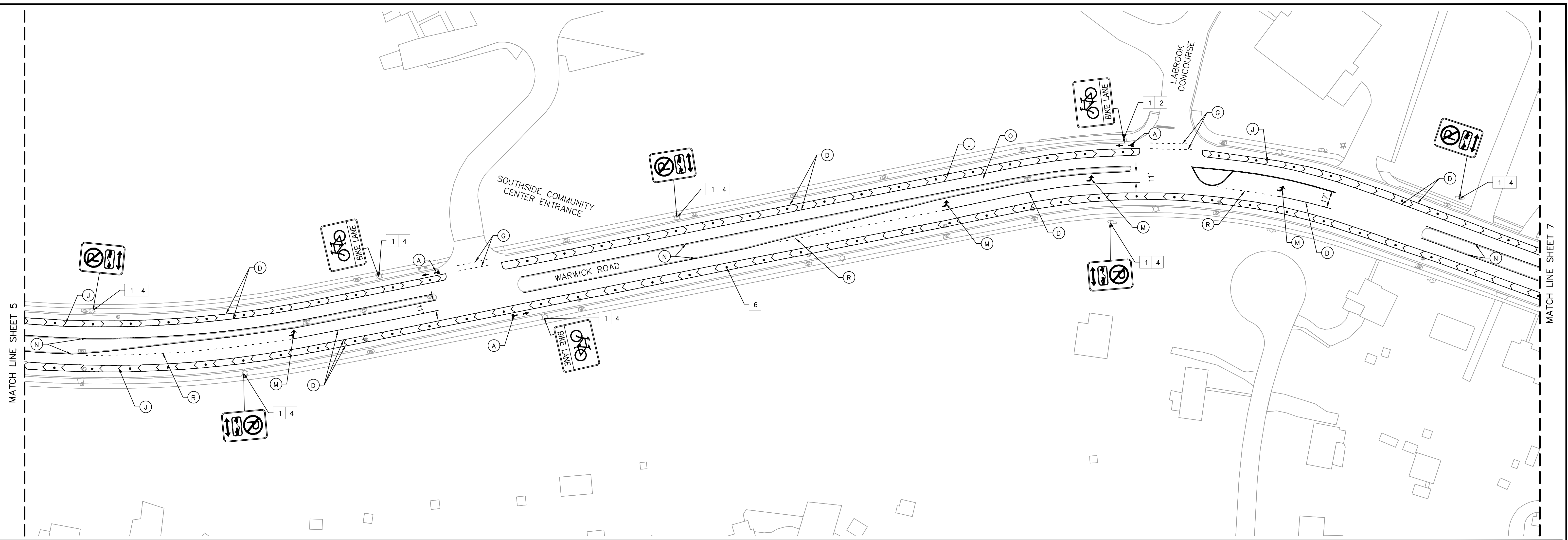
**CITY OF RICHMOND**  
**WARWICK ROAD BIKE LANES**  
 CITY OF RICHMOND VIRGINIA

**BROOKLINE STREET TO**  
**COMMUNITY CENTER**  
**ENTRANCE**

SHEET NUMBER  
**5**

No.	REVISIONS	DATE	BY

Plotted By: Murrey, Kelsey  
 Sheet Set: Warwick Bike Lanes - Layout: 6 - COMMUNITY CENTER ENTRANCE TO GERMAN SCHOOL ROAD - August 31, 2022  
 10:34:32am  
 \\Kimley-Horn.com\AT-RIC\BIC\_TPTO\11357\_RIC\_00\_Coll\077\_Warwick Road Bike Lanes\3 Project Data\3-1 Design\CAD\Sheets\Design Sheets.dwg  
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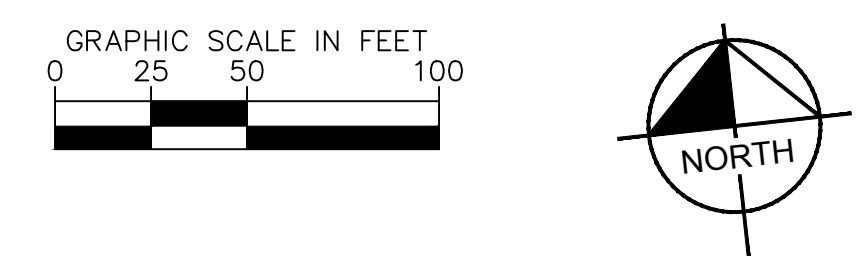


- ### PAVEMENT MARKING NOTES
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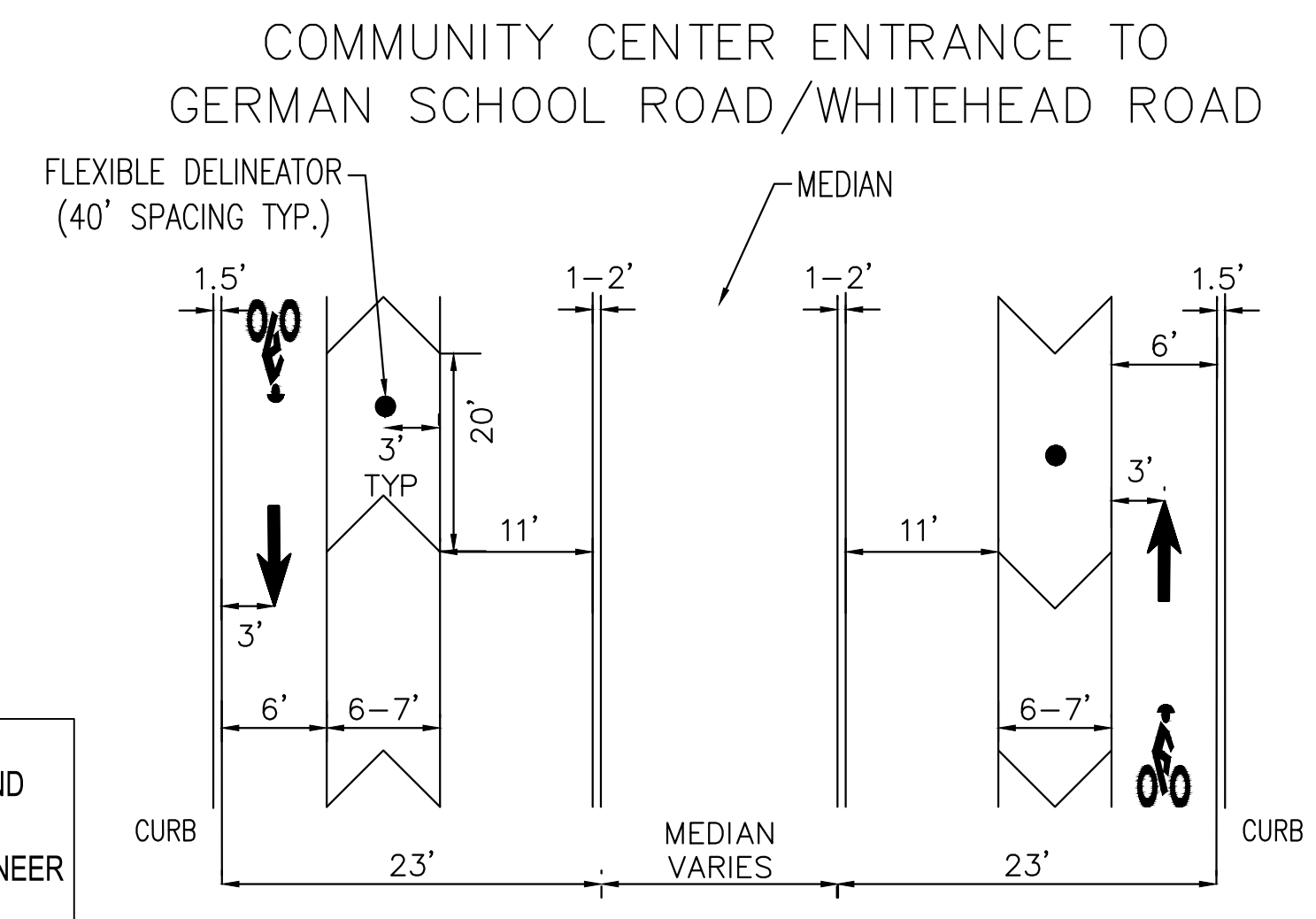
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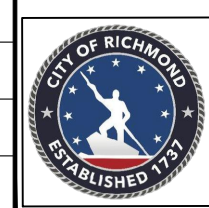
TYPICAL SECTIONS  
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No.	REVISIONS	DATE	BY

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KHA PROJECT 113357077
DATE AUGUST 2022
SCALE 1"=50'
DESIGNED BY HMM
DRAWN BY MKM
CHECKED BY DMC

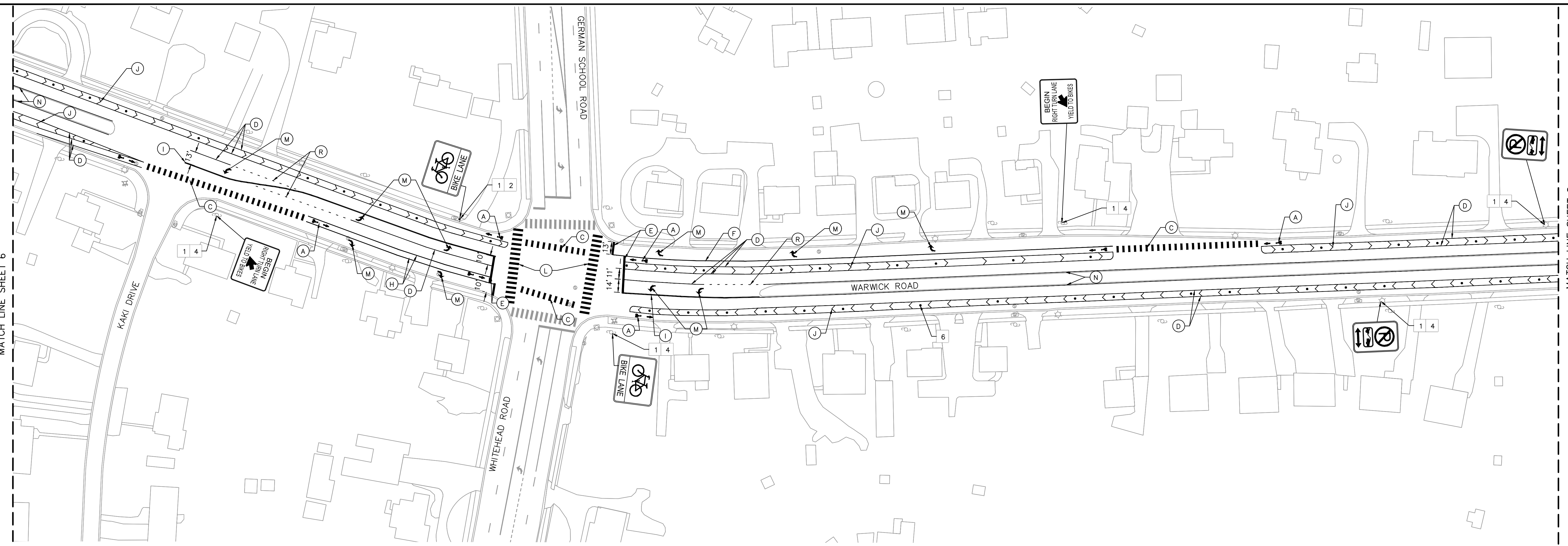


CITY OF RICHMOND  
 WARWICK ROAD BIKE LANES  
 CITY OF RICHMOND VIRGINIA

COMMUNITY CENTER  
 ENTRANCE TO GERMAN  
 SCHOOL ROAD

SHEET NUMBER  
 6

Plotted By: Murray, Kelsey Sheet Set: Warwick Bike Lanes Layout: 7 - GERMAN SCHOOL ROAD TO GREEN RIDGE DRIVE August 31, 2022 10:35:14am  
 \\Kimley-Horn.com\AT\_RIC\BIC\_IP\113357\_RIC\_On\_Coll\077\_Warwick\_Road\_Bike\_Lanes\_3\_Project\_Data\3-1\_Design\CAD\_Sheetset\Design\_Sheets.dwg  
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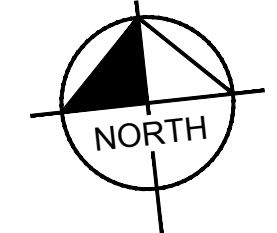
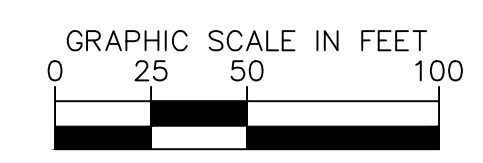
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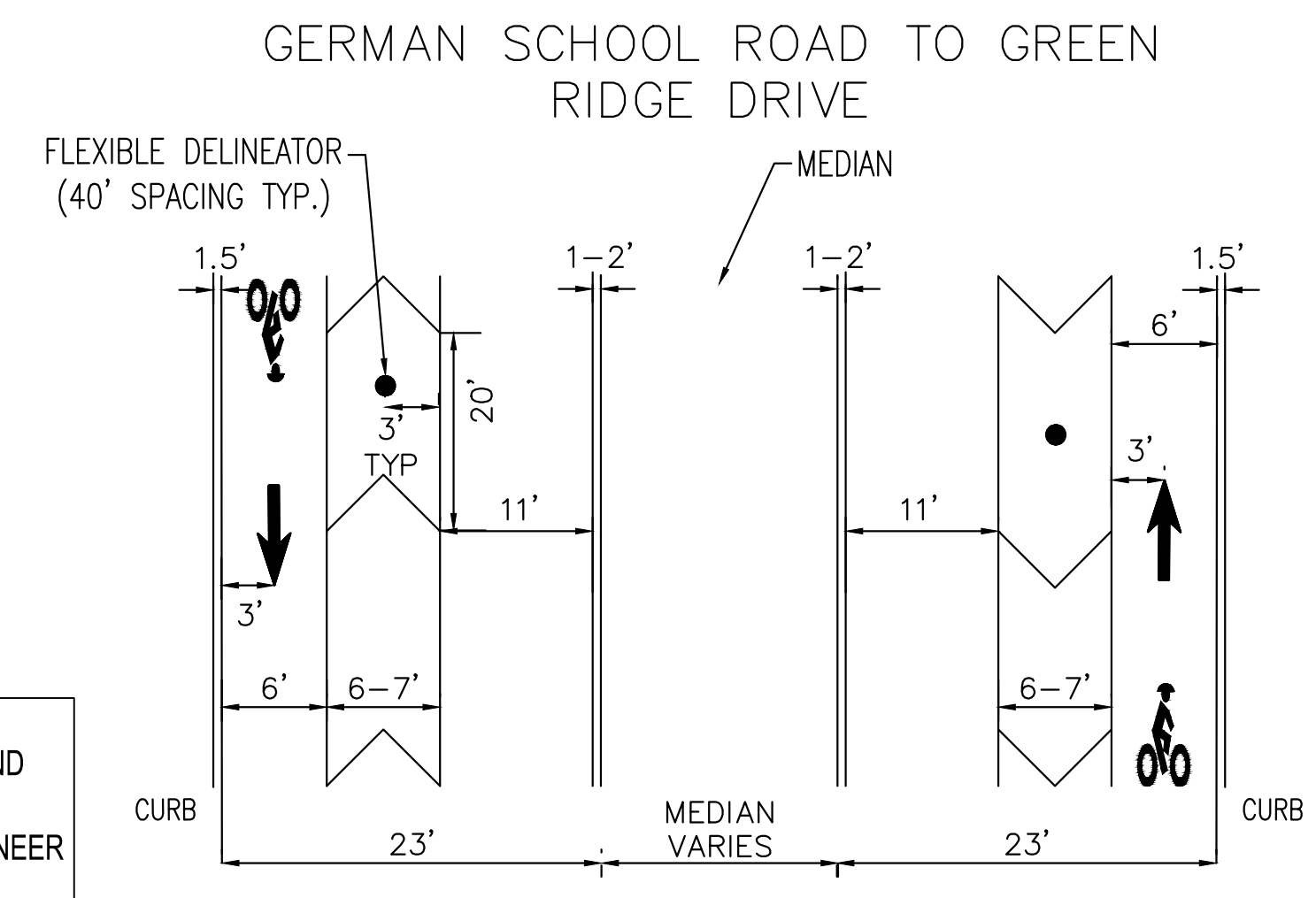
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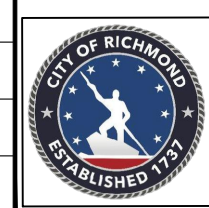


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KHA PROJECT	113357077
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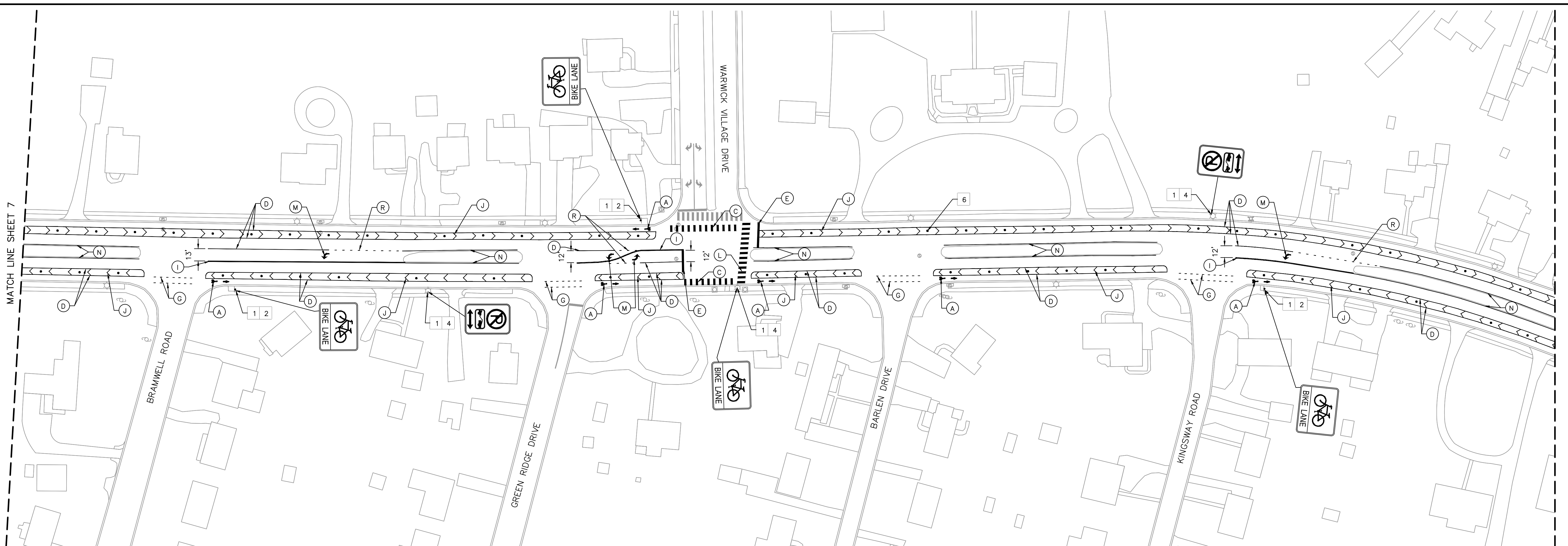
**CITY OF RICHMOND**  
**WARWICK ROAD BIKE LANES**  
 CITY OF RICHMOND VIRGINIA

**GERMAN SCHOOL**  
**ROAD TO GREEN RIDGE**  
**DRIVE**

SHEET NUMBER  
**7**

No.	REVISIONS	DATE	BY

Plotted By: Murray, Kelsey  
 Sheet Set: Warwick Bike Lanes - Layout: 8 - WARWICK VILLAGE DRIVE TO QUEEN ANNE DRIVE August 31, 2022 10:35:45am  
 \\\Kimley-Horn.com\AT-RIC\BIC\_TPTO\113357\_RIC\_On\_Coll\077\_Warwick\_Village\_Drive\_Bike\_Lanes\3-1\_Design\CAD\Sheetset\Design\_Sheets.dwg  
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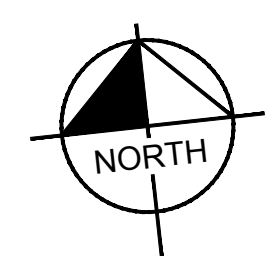
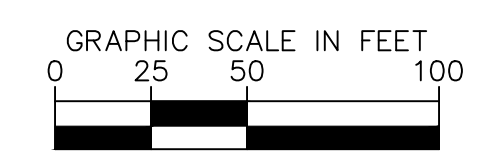
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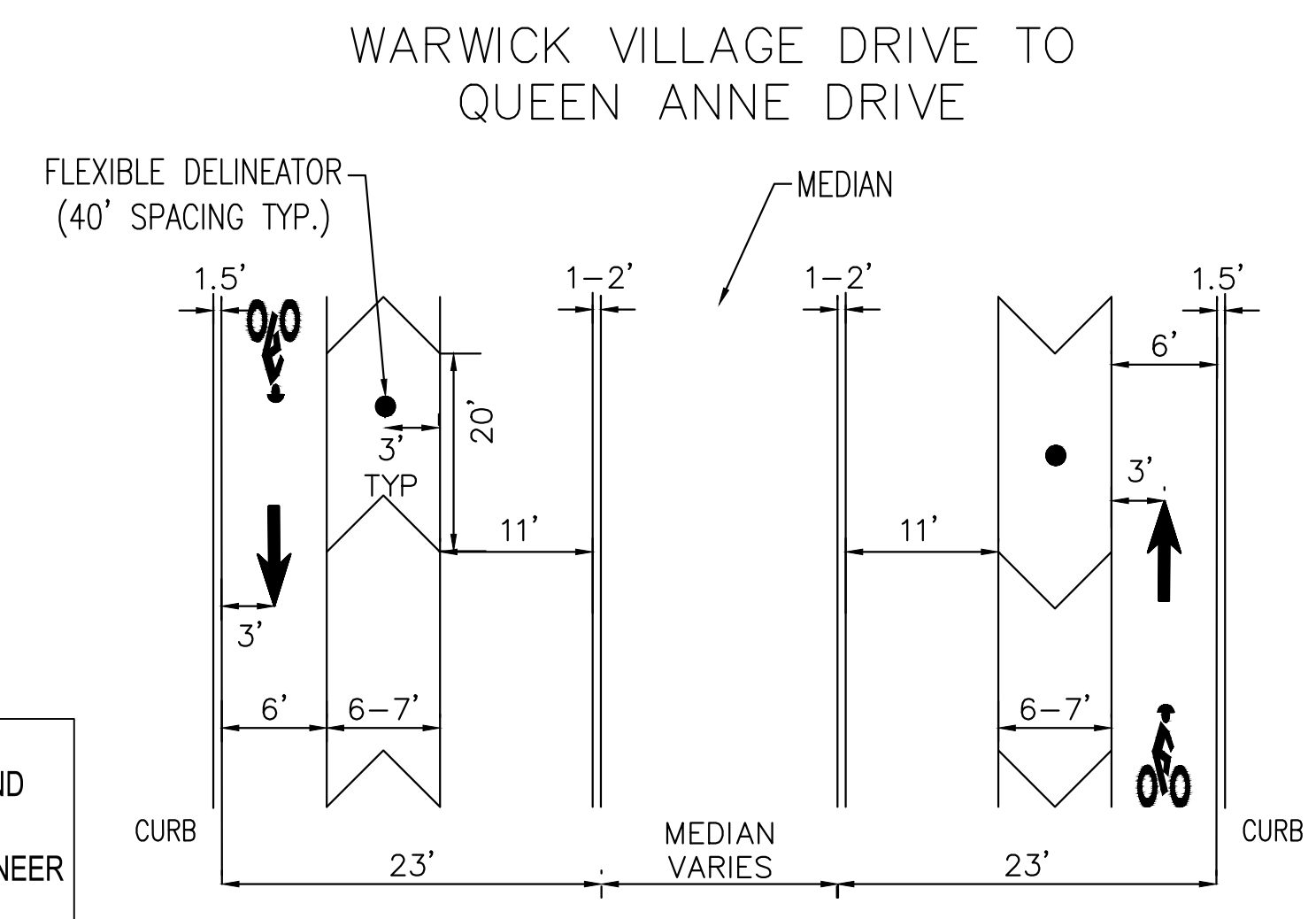
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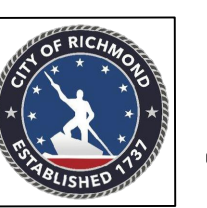
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**Kimley»Horn**

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 1700 WILLOW LAWN DR., SUITE 200, RICHMOND, VA 23230  
 PHONE: 804-673-3882  
 WWW.KIMLEY-HORN.COM

KHA PROJECT 113357077
DATE AUGUST 2022
SCALE 1"=50'
DESIGNED BY HMM
DRAWN BY MKM
CHECKED BY DMC



**CITY OF RICHMOND**  
**WARWICK ROAD BIKE LANES**

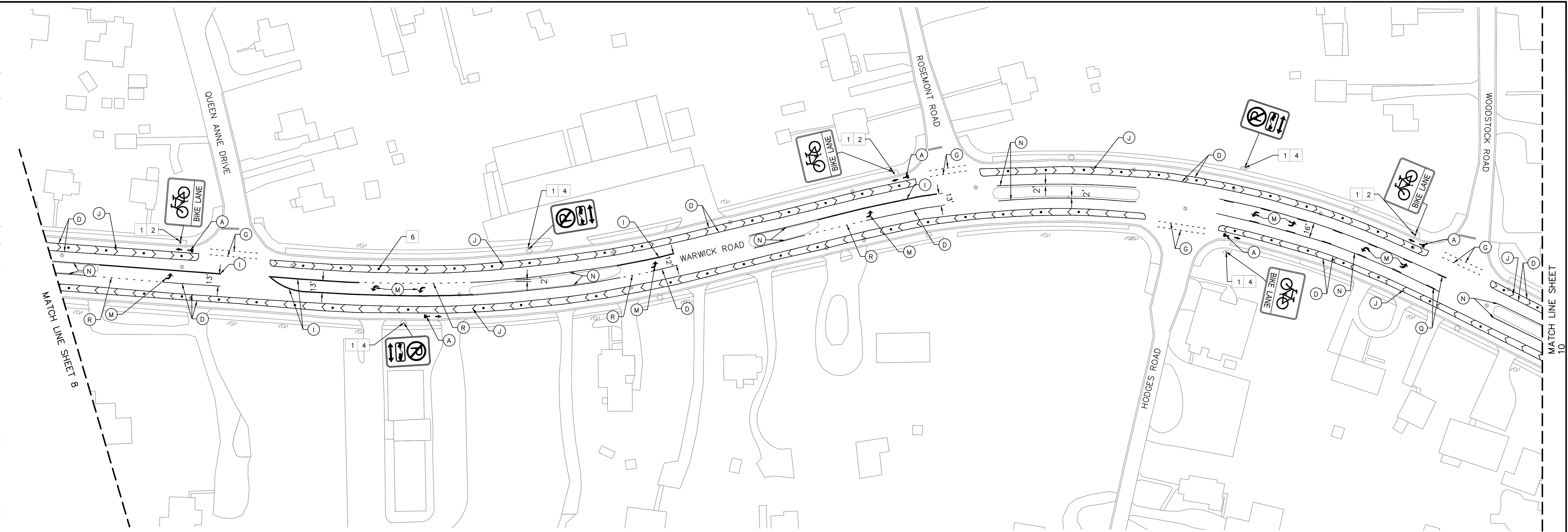
CITY OF RICHMOND VIRGINIA

**WARWICK VILLAGE  
 DRIVE TO QUEEN ANNE  
 DRIVE**

SHEET NUMBER  
**8**



Plotted By: Murray, Kelsey. Sheet Set: Warwick Bike Lanes. Layout: 9 - ROSEMONT ROAD TO WEATHERFORD ROAD. August 31, 2022. 10:46:40am. \\Kimley-Horn.com\AT\_RIC\113357\_RIC\_00\_Cad\077\_Warwick\_Road\_Bike\_Lanes\3\_Project\_Data\1-1\_Design\CAD\_Sheetset\Design\_Sheets.dwg. It was prepared. Read of and employer reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



**PAVEMENT MARKING NOTES**

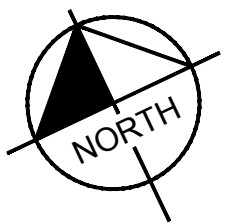
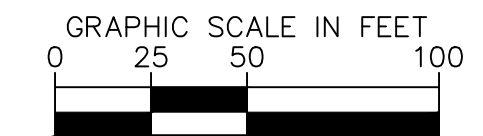
- (A) INSTALL TYPE B CLASS II WHITE HELMETED BICYCLIST SYMBOL PAVEMENT MARKING PER TYPICAL DETAIL ON SHEET 3.
- (B) INSTALL TYPE B CLASS II SHARED LANE MARKING PER TYPICAL DETAIL ON SHEET 3.
- (C) INSTALL BICYCLE CROSSWALK MARKING PER TYPICAL DETAIL ON SHEET 3.
- (D) INSTALL 4" SOLID WHITE TYPE B CLASS I PAVEMENT MARKING.
- (E) INSTALL 24" SOLID WHITE TYPE B CLASS I PAVEMENT MARKING.
- (F) INSTALL 6" SOLID WHITE TYPE B CLASS I PAVEMENT MARKING.
- (G) INSTALL 4" SOLID WHITE TYPE B CLASS I PAVEMENT MARKING, 2' LONG, 4' SPACING.
- (H) INSTALL 6" SOLID WHITE TYPE B CLASS I PAVEMENT MARKING, MARKING ON 45° ANGLE WITH LONGITUDINAL LINES THEY INTERSECT.
- (I) INSTALL 4" DOUBLE YELLOW TYPE B CLASS I PAVEMENT MARKING.
- (J) INSTALL 4" SOLID WHITE TYPE B CLASS I PAVEMENT MARKING ON 45° ANGLE WITH LONGITUDINAL LINES THEY INTERSECT.
- (K) INSTALL 12" YIELD LINE MARKINGS TYPE B, CLASS II.
- (L) INSTALL LONGITUDINAL CROSSWALK MARKINGS PER DETAIL SHEET 3.
- (M) INSTALL ARROW MARKING PER THE LATEST STANDARDS AND SPECIFICATIONS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT).
- (N) INSTALL 4" SOLID YELLOW TYPE B CLASS I PAVEMENT MARKING.

- (O) INSTALL ONE LANE APPLICATION OF SCHOOL PAVEMENT MARKING PER THE LATEST STANDARDS AND SPECIFICATIONS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT).
- (P) INSTALL 4" SOLID WHITE TYPE B CLASS I PAVEMENT MARKING, 10' LONG, 30' SPACING.
- (Q) INSTALL 4" SOLID YELLOW TYPE B CLASS I PAVEMENT MARKING, 10' LONG, 30' SPACING.
- (R) INSTALL 4" SOLID WHITE TYPE B CLASS I PAVEMENT MARKING, 2' LONG, 6' SPACING.

**CONSTRUCTION NOTES**

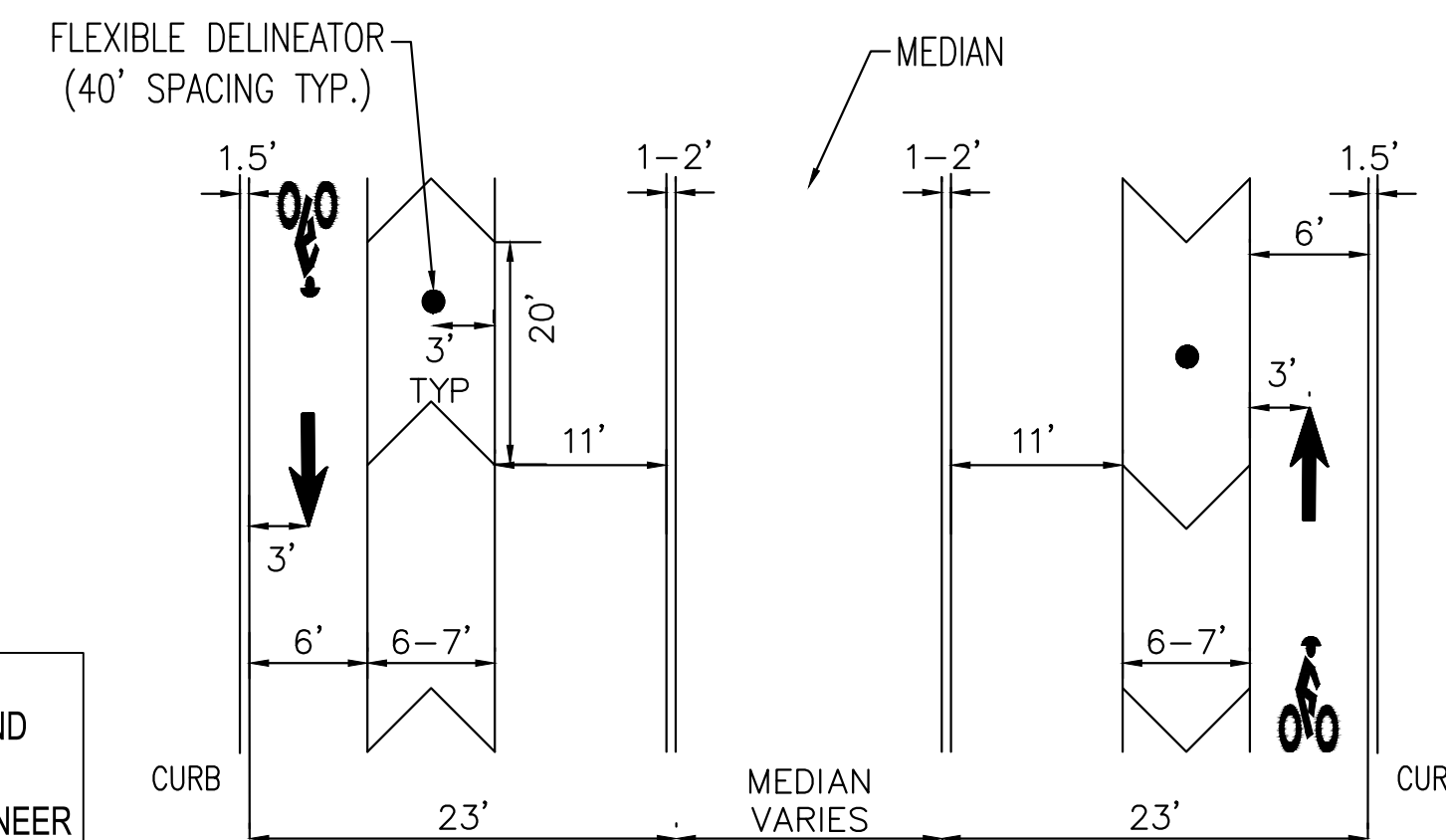
- 1 INSTALL PROPOSED SIGN AS SHOWN.
- 2 INSTALL U-TYPE STEEL SIGN POST.
- 3 INSTALL PROPOSED SIGN ON EXISTING SIGN POST.
- 4 INSTALL PROPOSED SIGN ON EXISTING UTILITY POLE OR SIGNAL POLE.
- 5 REMOVE EXISTING SIGN.
- 6 INSTALL FLEXIBLE DELINEATOR POST (40' SPACING TYP.).
- 7 RELOCATE EXISTING SIGN.

ALL EXISTING ITEMS SHOWN ON THESE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO FIELD LOCATE ALL PROPOSED ITEMS ON THESE PLANS AND SHALL ENSURE ALL ITEMS ARE INSTALLED WITHIN EXISTING RIGHT OF WAY. THE LOCATION AND ORIENTATION OF ALL PROPOSED ITEMS SHALL BE FIELD VERIFIED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.



**TYPICAL SECTIONS**  
NOT TO SCALE

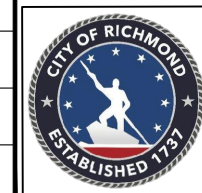
**ROSEMONT ROAD TO WEATHERFORD ROAD**



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KHA PROJECT	113357077
DATE	AUGUST 2022
SCALE	1"=50'
DESIGNED BY	HMM
DRAWN BY	MKM
CHECKED BY	DMC



**CITY OF RICHMOND**  
**WARWICK ROAD BIKE LANES**

CITY OF RICHMOND VIRGINIA

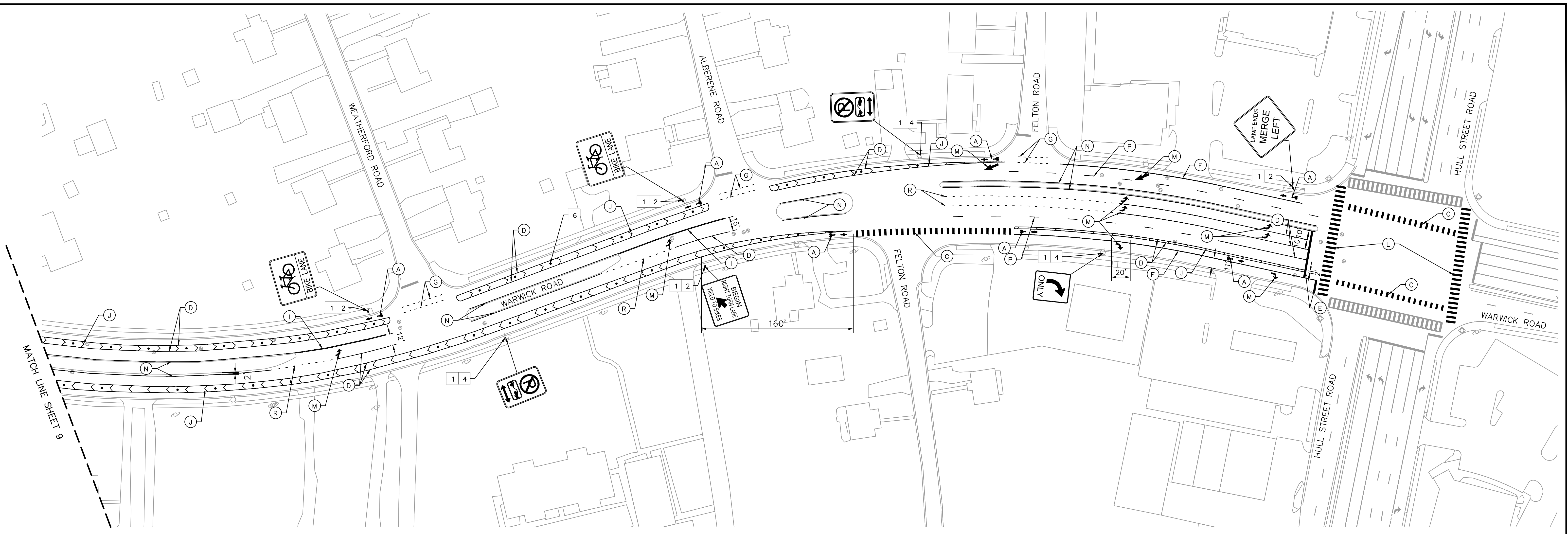
**ROSEMONT ROAD TO WEATHERFORD ROAD**

SHEET NUMBER

9

No.	REVISIONS	DATE	BY

Plotted By: Murrey, Kelsey  
 Sheet Set: Warwick Bike Lanes - Layout: 10 - ALBERENE ROAD TO HULL STREET ROAD - August 31, 2022 - 10:37:23 am  
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 It was prepared. Please of our engineer's reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



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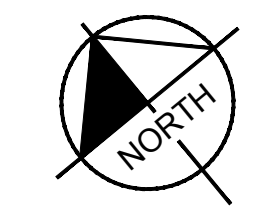
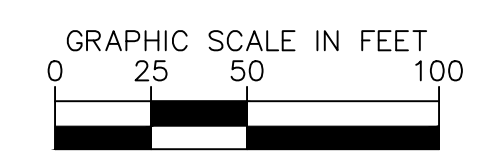
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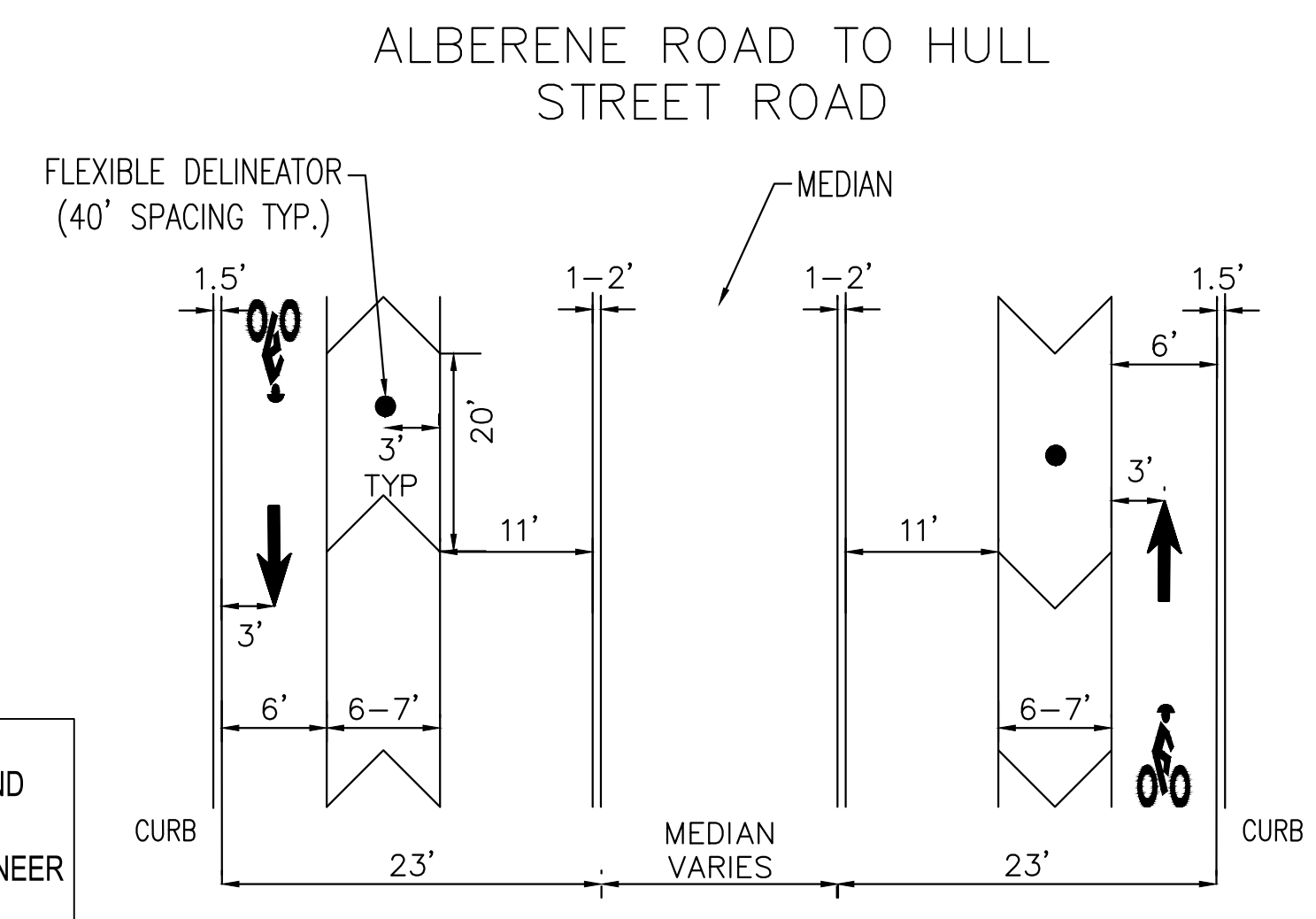
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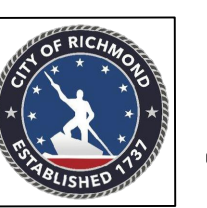


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 CITY OF RICHMOND VIRGINIA

**ALBERENE ROAD TO HULL STREET ROAD**

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