

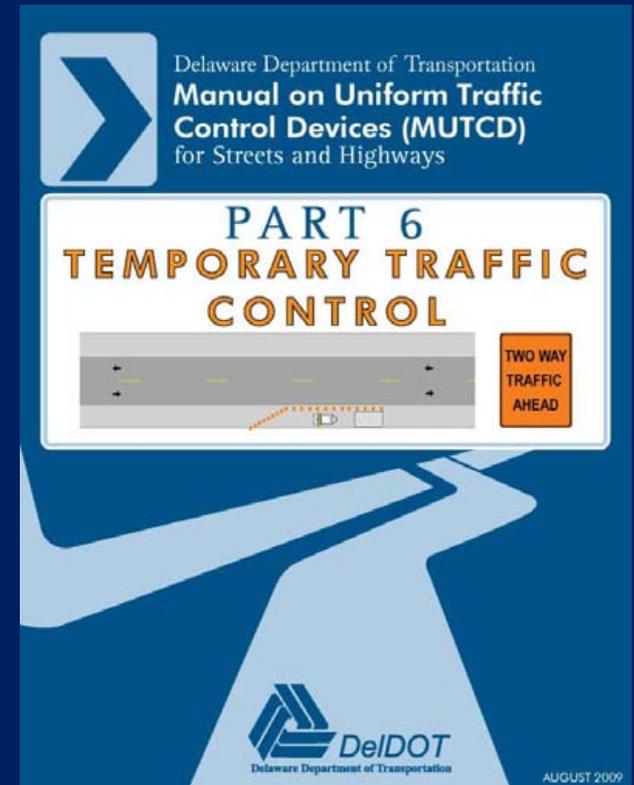
AGENDA

- Pedestrian TTC Requirements
- Planning Considerations
- Design Considerations
- Construction Considerations
- Examples (good and bad)
- Questions

PEDESTRIAN TTC REQUIREMENTS

- Delaware MUTCD

- The needs and control of all road users shall be an essential part of any TTC zone.
- If the TTC zone affects:
 - the movement of pedestrians, adequate pedestrian access and walkways shall be provided
 - an accessible pedestrian facility, the alternate pedestrian route or path shall have the same level of accessibility.



PEDESTRIAN TTC REQUIREMENTS

- **Public Right-of-way Accessibility Guidelines (Draft)**
 - **R201.2 Temporary and Permanent Facilities.** These requirements shall apply to temporary and permanent facilities.
 - **R205 Alternate Pedestrian Access Route**

When an existing pedestrian access route is blocked by construction, alteration, maintenance, or other temporary conditions, an alternate pedestrian access route complying to the maximum extent feasible with R301, R302, and Section 6D.01 and 6D.02 of the MUTCD (incorporated by reference; see R104.2.1) shall be provided.
 - **R302.3 Protection.** Where the alternate circulation path is exposed to adjacent construction, excavation drop-offs, traffic, or other hazards, it shall be protected with a pedestrian barricade or channelizing device complying with R302.4.

PLANNING CONSIDERATIONS

- Pedestrian accommodations during construction should be considered early in the design and planning process
 - Develop construction phasing around accommodations for all users
 - Determine TTC impacts on pedestrians, including significant generators
 - Schools
 - Senior centers
 - Transit stops
 - Commercial areas

PLANNING CONSIDERATIONS

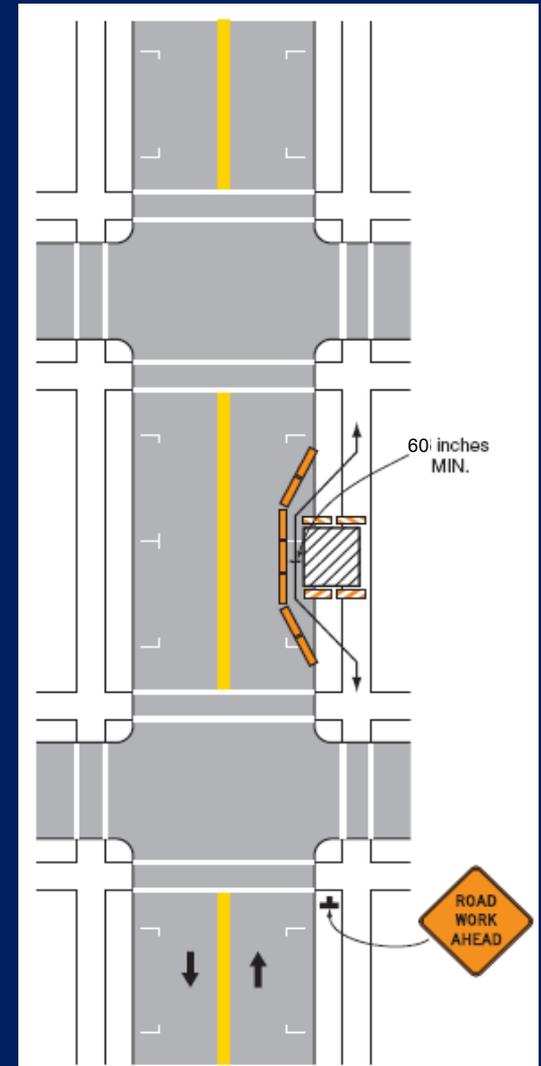
- **Pedestrians should not be led into conflicts with:**
 - work site vehicles, equipment and operations
 - vehicles moving through or around the work site.
- **Pedestrians should be provided with:**
 - a reasonably safe, convenient and accessible path that replicates the most desirable characteristics of the existing sidewalk(s) or footpath(s).
- **A pedestrian route should not be:**
 - severed and/or moved for non-construction activities such as parking for vehicles and equipment.

DESIGN CONSIDERATIONS

- Provide pedestrian information throughout the TTC zone
 - Clearly defined advanced warning area
 - Clearly define transition to pedestrian detour routes or alternate walking paths
 - May require temporary curb ramps
 - Trailblazer s identifying route
 - Avoid abrupt grade changes
 - Barriers and channelizing devices should be detectable to pedestrians with visual disabilities
 - Clearly separate the work area from pedestrians
 - Provide a separate footpath for movement through or around the work zone, a temporary boardwalk and/or detour may be required.
 - Cross pedestrians to the other side of the street
 - Positive protection to separate vehicles from pedestrians and pedestrians from work area

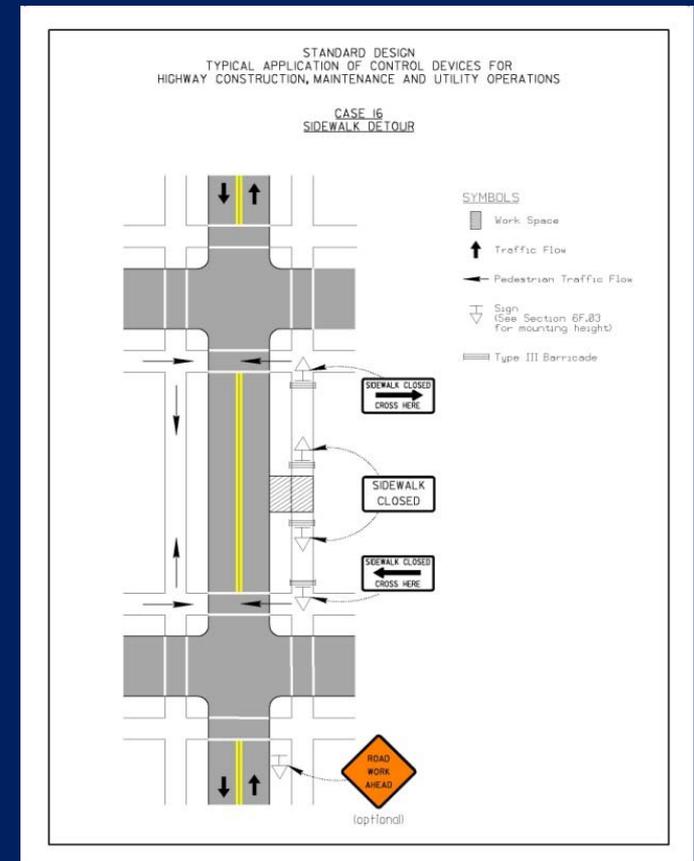
DESIGN CONSIDERATIONS

- **Sidewalk detours/closures**
 - Closing sidewalks or pathways is undesirable, but is not avoidable
 - If a parking lane is available, a sidewalk diversion should be used
 - Use channelizing devices to delineate the route (must be detectable)
 - Protect pedestrians from vehicular traffic (positive protection)
 - Protect pedestrians from hazards such as holes, cracks and debris
 - Maintain at least a 60-inch wide path for wheelchair access
 - Provide temporary curb ramps where necessary
 - Advanced signing should be placed at intersections, not midblock



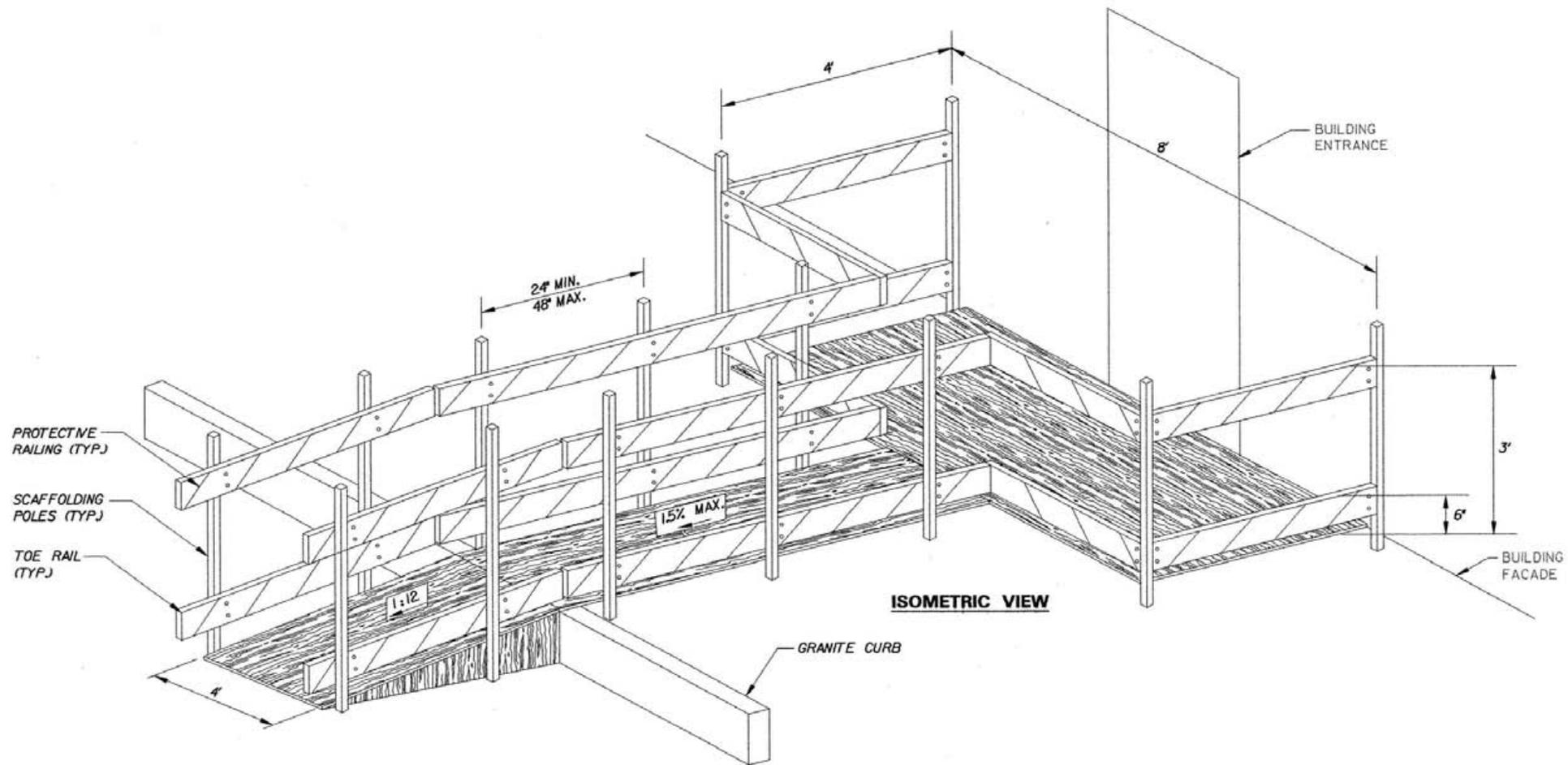
DESIGN CONSIDERATIONS

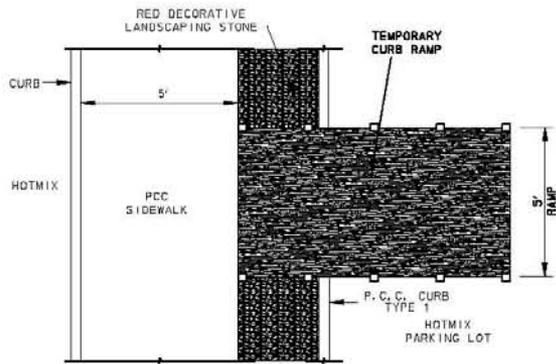
- Sidewalk detours/closures
 - If a diversion is not feasible, then a pedestrian detour shall be used
 - Use sidewalk on other side of street, if available
 - Use Case 16 of the Delaware MUTCD
 - Type III barricades and SIDEWALK CLOSED signs are required.
 - Pedestrian crossing should occur at intersections, not midblock locations



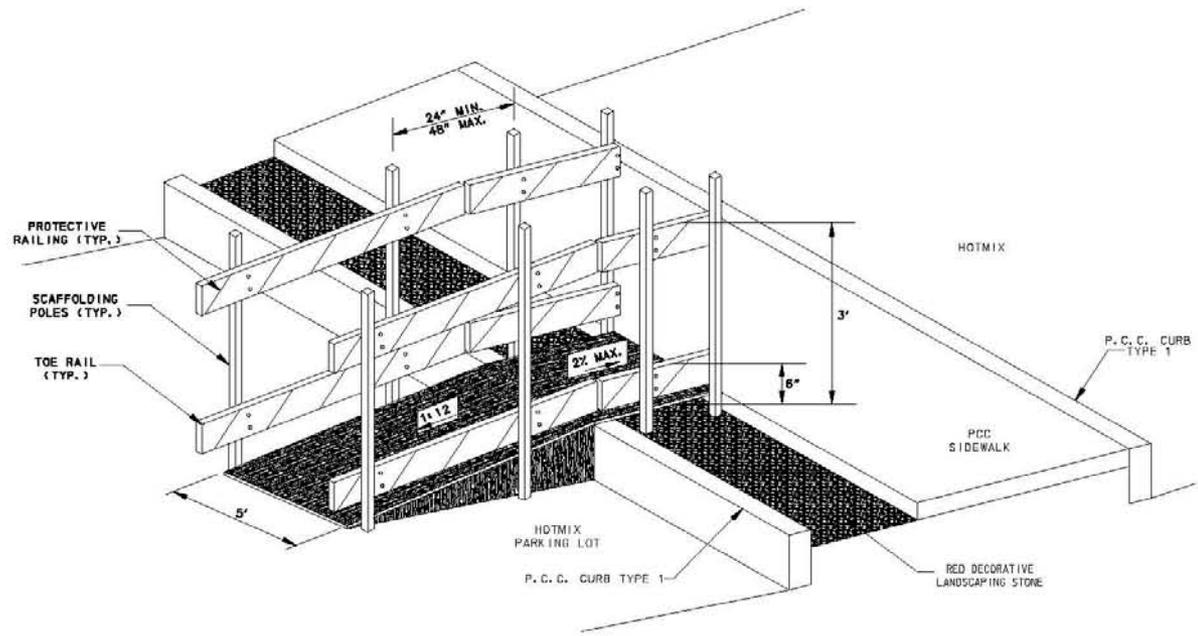
DESIGN CONSIDERATIONS

- What to include in PS&E packages
 - TTC plans should clearly show:
 - Pedestrian diversions and necessary TTC devices
 - Show locations of barricades, signage and channelizing devices
 - Pedestrian detours (approved detour plan, if necessary)
 - Necessary construction details for non-standard items
 - Temporary curb ramps
 - Boardwalks with detectable edging
 - Specifications
 - Temporary curb ramps
 - Boardwalks with detectable edging
 - Channelization devices





PLAN VIEW



ISOMETRIC VIEW

TEMPORARY CURB RAMP DETAIL

N. T. S.

CONSTRUCTION CONSIDERATIONS

- Tape, rope or plastic chain strung between devices is not detectable and shall not be used
- Inspect pathways regularly
 - Keep clear of debris
 - Maintain channelization devices
- Treat surfaces with non-slip materials for inclement weather
- Inspect detour pathways regularly
 - Maintain signing
 - Maintain barricades
- Minimize work vehicle and equipment movements across pedestrian pathways

CONSTRUCTION CONSIDERATIONS

- **Sign Placement**

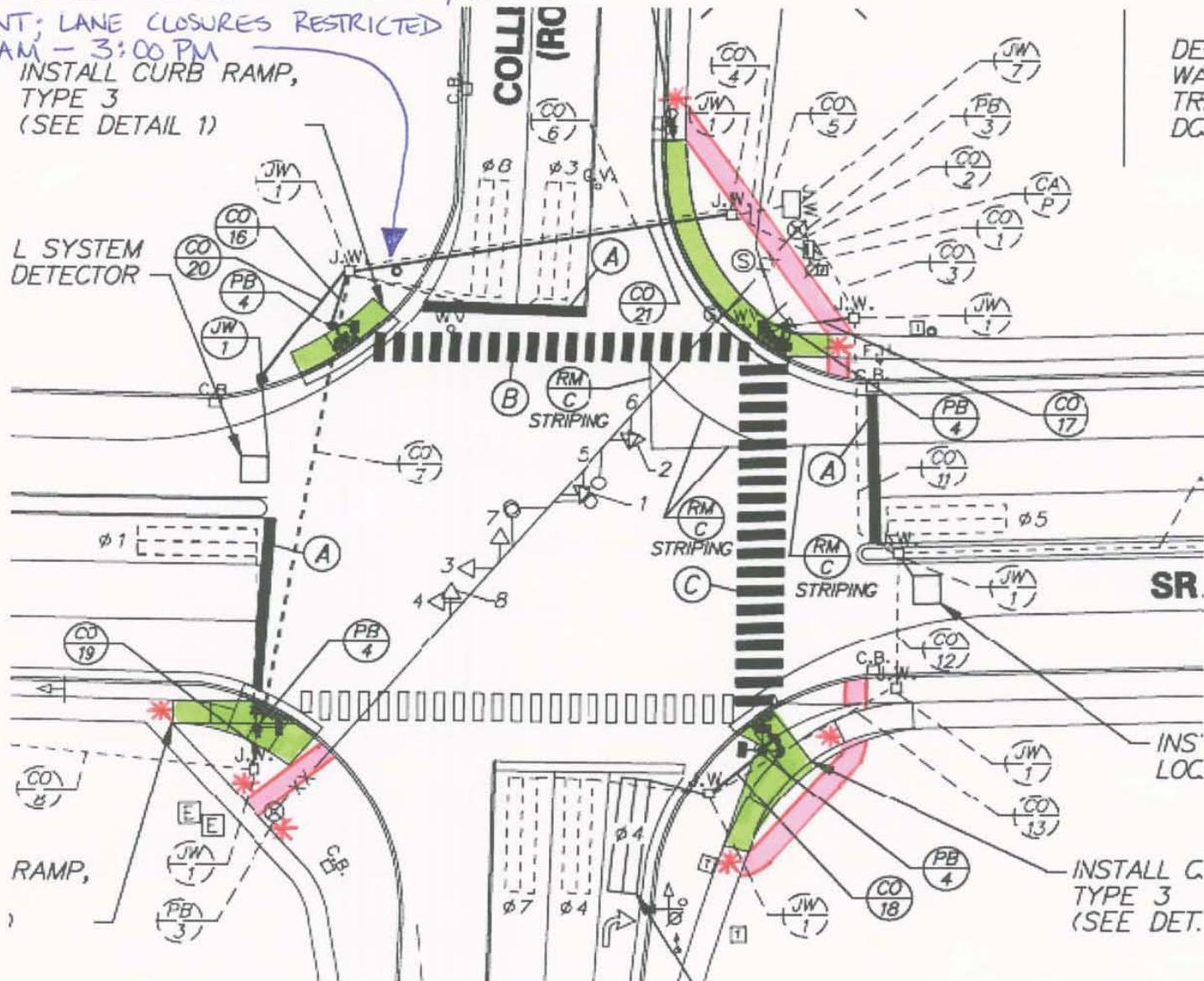
- Portable and permanent sign supports should not be located within pedestrian paths
- Signs mounted lower than 7 feet (temporary warning signs) should not project more than 4 inches into pedestrian facilities



* REQUIRES CLOSING WB THRU/RIGHT-TURN LANE;
 TRAFFIC OFFICERS (DOVER PD) SHOULD BE ON-SITE
 TO CONTROL INTERSECTION BECAUSE EB/WB IS
 CONCURRENT; LANE CLOSURES RESTRICTED
 TO 9:00 AM - 3:00 PM

INSTALL CURB RAMP,
 TYPE 3
 (SEE DETAIL 1)

DE
 WA
 TR.
 DC



= PHASE 1 WORK AREA

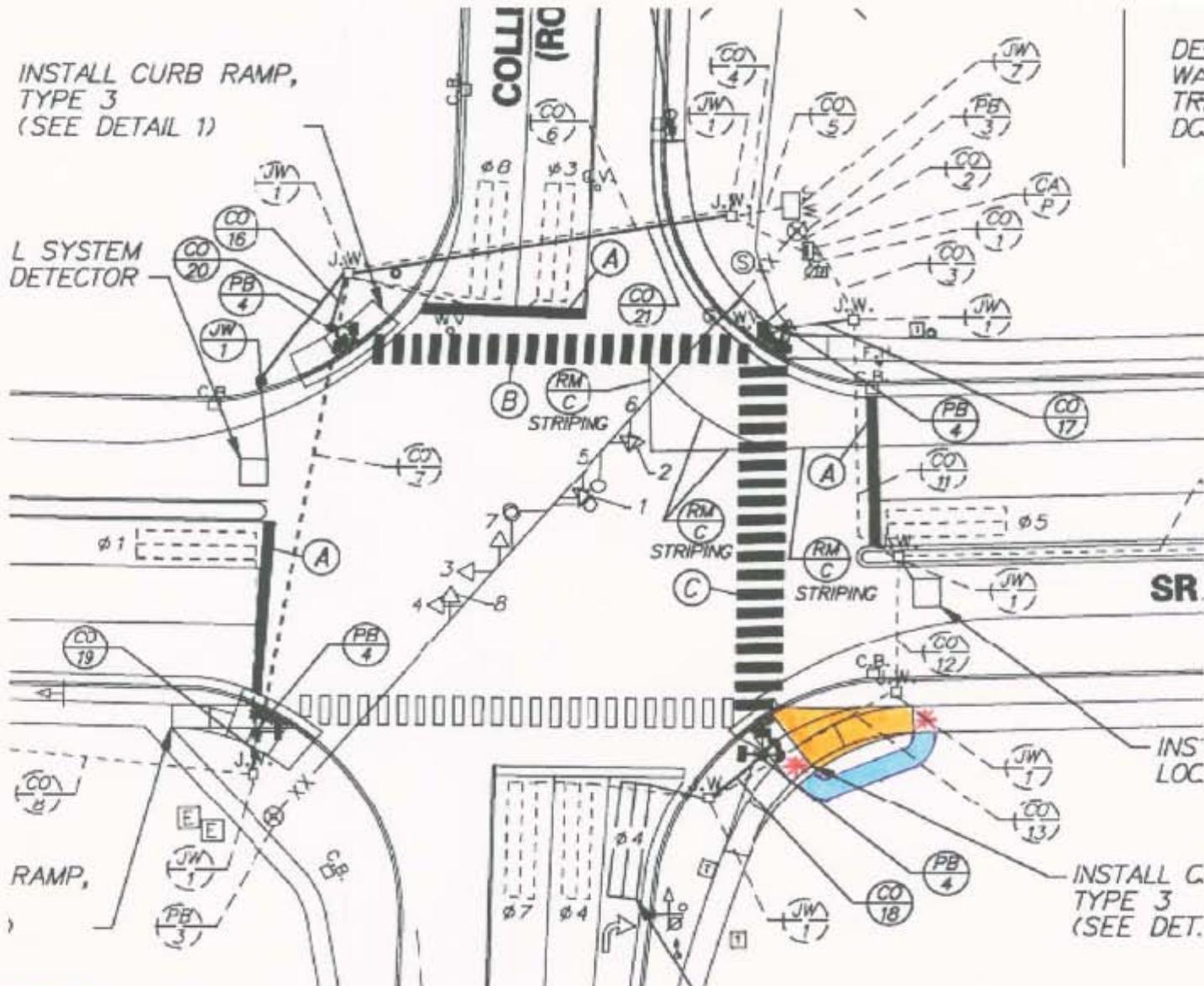
= PHASE 1 TEMPORARY BOARDWALK/CURB RAMP

* = TYPE 3 BARRICADE & PED DETOUR SIGN

INSTALL CURB RAMP,
TYPE 3
(SEE DETAIL 1)

DE
WA
TR.
DC

L SYSTEM
DETECTOR



= PHASE 2 WORK AREA
 = PHASE 2 TEMPORARY BOARDWALK

* = TYPE 3 BARRICADE & PED DETOUR SIGN

CHANGEABLE MESSAGE BOARDS

CMS-1 PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

SCREEN 1 SCREEN 2

CMS-1 DURING DETOUR

CMS-2 PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

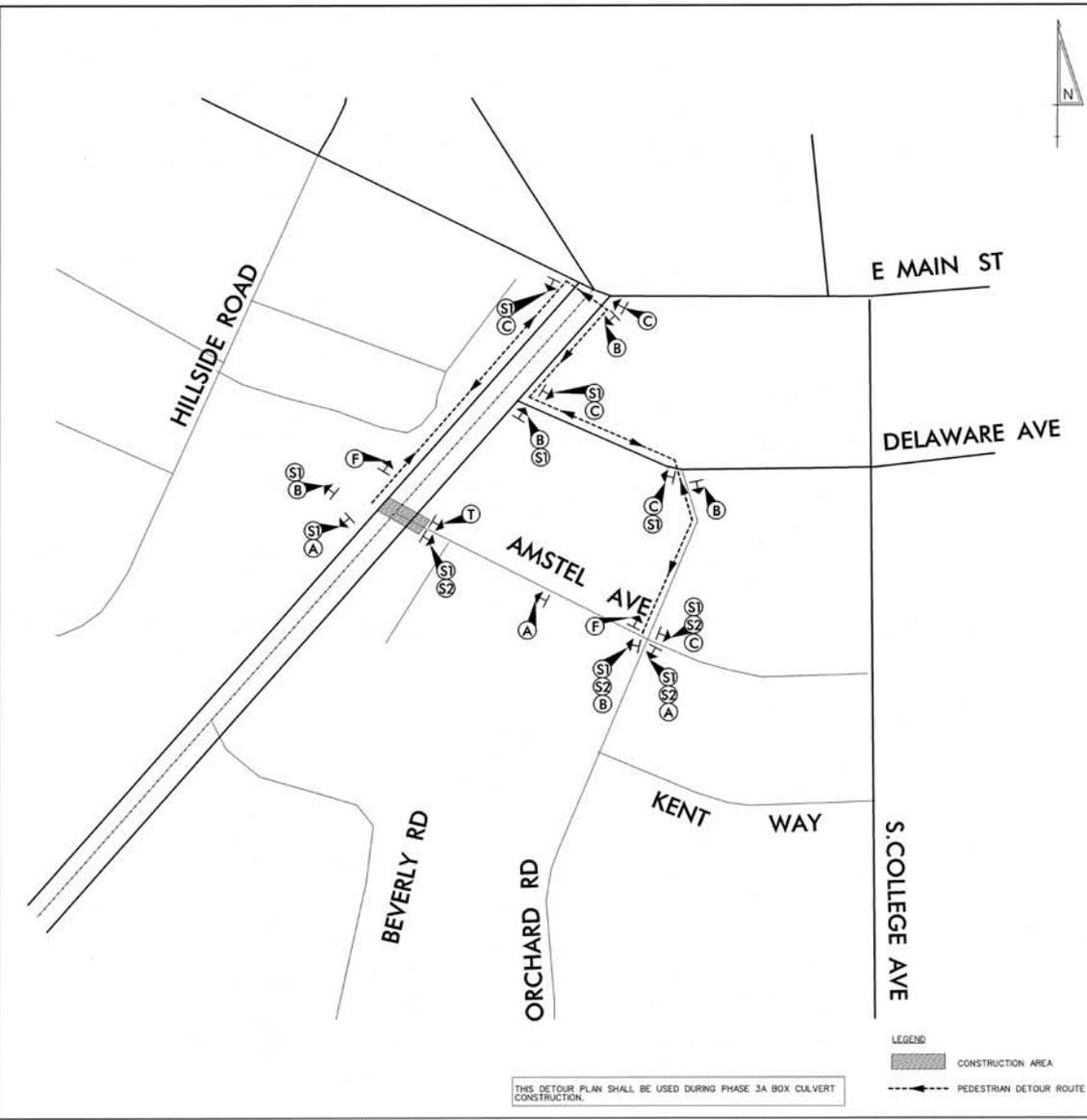
SCREEN 1 SCREEN 2

CMS-2 DURING DETOUR

SPECIAL SIGNS

S1

S2



LEGEND

A: DETOUR (up arrow)

B: DETOUR (left arrow)

C: DETOUR (right arrow)

D: DETOUR (up arrow)

E: DETOUR (up arrow)

F: END DETOUR

G: DETOUR AHEAD

H: DETOUR 1000 FT

I: DETOUR 500 FT

J: ROAD CLOSED AHEAD

K: ROAD CLOSED 1000 FT

L: ROAD CLOSED 500 FT

M: ELKTON RD

N: DETOUR (left arrow)

O: DETOUR (right arrow)

P: ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY

Q: SIDEWALK CLOSED

R: ROAD CLOSED TO THRU TRAFFIC

S: Barricade

T: Barricade

GENERAL NOTES

- ALL DETOUR SIGNING INCLUDING TRAILBLAZERS ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE TO THE DE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD PART 6) FOR LIGHTS, BARRICADES AND SIGNS (AS PER LATEST REVISION)
- FIELD CONDITIONS MAY DICTATE CHANGES AT SOME TIME DURING THE LIFE OF THE CONTRACT. IN THE EVENT OF OMISSIONS OR CORRECTIONS, THE SIGNING PROVISIONS OF THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES WILL PREVAIL.
- WARNING SIGNS SHOULD BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT SHEETING.
- "S" BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF ROADWAY.
- BARRICADES PLACED ON SIDEWALK SHALL BE A MINIMUM OF 4 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

RECOMMENDED Ma Nabel DATE: 1/27/10 RECOMMENDED Ma Nabel DATE: 02/01/10 RECOMMENDED _____ DATE: _____

APPROVED CHIEF SAFETY OFFICER Ma Nabel DATE: 2-1-10 APPROVED TRAFFIC ENGINEER Ma Nabel DATE: 01/10

CONTRACT	PERMIT NO.	X	PEDESTRIAN	SHEET NO.
24-044-01	DESIGNED BY: ANV/JDS		DETOUR PLAN	278
COUNTY	CHECKED BY: MAW			TOTAL SHTS.
NEW CASTLE				384

NOT TO SCALE ELKTON ROAD, CASHO MILL ROAD TO DELAWARE AVENUE





7 12:13 AM



SIDEWALK
CLOSED



SIDEWALK
CLOSED

DETOUR
←

HALFERN EYE CARE



QUESTIONS??