

# NON-MOTORIZED TRANSPORTATION PLAN FOR CHURCHTOWN, PENNSYLVANIA

Caernarvon Township, Lancaster County  
2139 Main Street, Narvon, PA 17555



**Date:**

October 5, 2020

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***Funding is provided by the Pennsylvania Department of Health through the State Physical Activity and Nutrition grant and Preventative Health and Health Services Block Grant from the Centers for Disease Control and Prevention.***

## Introduction

### Community Background

Churchtown is a small community (village) located along Route 23 in the Caernarvon Township, Lancaster County, Pennsylvania. Churchtown is located between Berks County and the Pennsylvania Turnpike to the northeast, and New Holland/Blue Ball and Route 322 to the southwest. This places it within a major corridor for businesses and tourism. The area of Churchtown is also surrounded by a large Plain Sect community, which traditionally utilizes non-motorized means of transportation. This provides a challenge for providing a safe means for non-motorized modes of transportation.

The Village of Churchtown consists of approximately 91 parcels, as identified in the Churchtown Village District of the Official Zoning Map. (Reference Appendix I to view parcels in the Churchtown Historic District). At the time of this plan, the parcels are generally broken down as follows:

- Business/Public - 16
- Residential - 70
- Historic – 1
- Church/Religious - 2
- Recreational - 2

The Churchtown Zoning District also includes some parcels that are not technically located within the limits of the Village of Churchtown. The Village of Churchtown is surrounded by the Agricultural Zoning District.

Significant natural resources of Churchtown (and immediate surrounding area) are the Conestoga River, which lies to the south and west, and is a major part of Historic Poole Forge. The area is also known for its prime fertile agricultural soils and agricultural industry.

### Benefits of Non-motorized Transportation

This plan considers non-motorized transportation modes as walking, running, and bicycling, as well as scooters, strollers, and wheelchairs. The different modes of non-motorized transportation can be utilized for recreation, reaching destination points, or commuting to work. Non-motorized transportation can provide the following benefits to a community and its residents:

- Increased exposure to historical and cultural resources.
- Increased exposure to local businesses creating healthy economic impacts.
- Increased public health benefits through physical activity and improved access to recreational facilities.
- Improved accessibility to business/recreational entities by non-motorized use.
- Improved air quality in community from reduced motorized transportation methods.
- Improved public health through recreational and physical activities.

Non-motorized means of transportation have both health and economic benefits to a community and its residents. Non-motorized transportation has been on the rise as people look to improve their personal health and improve the environment. It is anticipated that this trend will continue to rise as non-motorized means become more readily available in communities and people continue to rely more on non-motorized means to get to work, recreational facilities, business, and tourism destinations. Studies have shown that physical activities can reduce obesity, heart disease, diabetes and improve one's overall mental health and mood.

### **Plan Approach, Purpose and Goals**

Society has become dependent upon motorized modes of transportation for convenience and the inability, or in some cases the lack of desire, to utilize non-motorized modes of transportation. Caernarvon Township understands the associated health benefits of providing access to non-motorized transportation modes within the Village of Churchtown and the Churchtown Historic District.

This plan is a first step for the Township to utilize in identifying, prioritizing, and ultimately implementing non-motorized modes of transportation in the Churchtown community. The plans goals are as follows:

- Provide safe, accessible connections between public, recreational, business and tourism destinations within the Village of Churchtown and Churchtown Historic District.
- Collect specific non-motorized transportation data, prioritize current and future short-term and long-term need versus want opportunities, and input from stakeholder group and public.
- Determine implementation methods (both public and private) to construct and install non-motorized transportation facilities.

### **Public Involvement**

Caernarvon Township formed a stakeholder group to assist in the preparation of this plan. The stakeholder group contained individuals from Caernarvon Township (Board of Supervisors), Township employees, representatives from local business, local organizations (i.e. Historic Poole Forge), Lancaster County Planning Commission, Penn Medicine, PennDOT, and the consulting team. The stakeholder group participated in the planning process throughout the development of this plan. In addition, Caernarvon Township held special public meeting(s) that were for the residents of Churchtown and surrounding community to provide input.

Two special meetings were held with the public. One special meeting was held in the preliminary stages of the Active Transportation Plan for the purpose of gathering the public's thoughts on what improvements are considered critical, what improvements are essential, and what improvements are desired. This input, as well as that of the stakeholder's group and consulting team, was utilized in preparing the preliminary Active Transportation Plan. The second special meeting was held with the public to review the draft Active Transportation Plan to ensure that the plan generally represents the desires of the community.

## Existing Conditions / Data Collection and Analysis

### Areas of Existing Sidewalk / Bike Routes / Trails

Sidewalk exists within the limits of the Village of Churchtown. It is located on both sides of Route 23. The existing sidewalk is generally in good shape; however, there are some deficiencies. Some locations are narrow with impediments (i.e. utility poles, mailboxes, etc.) that hinder ADA and public accessibility. The majority of the existing curb ramps also do not meet ADA requirements. (See Appendix VI, which references current PennDOT RC Standards, RC-67M Curb Ramps and Sidewalks). Some vegetation (i.e. shrubs and trees) also impede on the sidewalks that adversely impact the public's use.

**Appendix I** of this Plan identifies the Churchtown Village District, as well as the existing typical cartway sections. (A cartway is defined as that portion of a street which is improved by surfacing with permanent or semi-permanent material and is intended for vehicular traffic).

**Appendix II** of this Plan identifies the existing sidewalk conditions mapping that depicts all properties in which sidewalk is present and designates a rating of "Good", "Repair" or "Replace". A field view was performed by the consulting team to verify the sidewalk conditions and deficiencies.

**Appendix III** of this Plan identifies the existing curb ramps that are not ADA compliant. A field view was performed by the consulting team to verify the curb ramp conditions and deficiencies. (See Appendix VI, which references current PennDOT RC Standards, RC-67M Curb Ramps and Sidewalks).

No bike routes are currently designated within the Village of Churchtown. Route 23 does have a wider shoulder on the south side, between Historic Poole Forge and the Village of Churchtown, that would accommodate bike usage. The cartway narrows within the Village of Churchtown, so bike usage must utilize the existing curbed cartway travel lanes.

No trails are located within the limits of the Village of Churchtown or the Churchtown Historic District. The old school property, located on the eastern side of Churchtown, has open green space where paths/trails could be implemented. A trail could be provided around the perimeter of the site with exercise amenities provided along the trail. Open green space could also remain and provide areas for other forms of exercise or outdoor activities. Historic Pool Forge, located on the western side of Churchtown, has limited trails/paths that provide access to activities within the park (i.e. pavilion, playground, etc.). The open green space of the park could potentially lend to implementation of additional paths or trails.

### Data Collection and Analysis

Data from the U.S. Census was evaluated as a guide to the usage of existing motorized and non-motorized transportation demand within Churchtown. The following table represents this data:

### Churchtown, Lancaster County, Pennsylvania

SUBJECT	2018 ESTIMATE	PERCENTAGE
<b>Workers 16 years or over</b>	203	100
Male	131	64.5%
Female	72	35.5%
<b>Mode of Work</b>		
Drove alone	132	65.0%
Carpooled	22	10.8%
Public Transportation (excluding taxicab)	0	0.0%
Bicycle or walked	18	8.9%
Taxicab, motorcycle, or other mode	7	3.4%
Worked at home	24	11.8%

Source: U.S. Census Bureau's 2018 American Community Survey, 5-Year Estimates

It should be noted that bicycling and walking trips are often for social, school, errands, recreation, and other types of trips that are not included in the US Census data. As people continue to transition (by choice or necessity) to non-motorized transportation methods, there will be a greater need for non-motorized facilities within the Village of Churchtown and surrounding area(s) within Caernarvon Township.

## Identification of Destinations and Connections / Project Selection, Evaluation and Design

### Destinations and Connections

Non-motorized modes of transportation can be for recreational purposes as well to get to a destination point (i.e. stores, work, medical, etc.). The Village of Churchtown contains numerous destination points, although it is limited in dedicated recreational facilities. The following table identifies destination points within the Village of Churchtown and Historic Churchtown District.

Types of Destination Points	Access Via	
Public Entities	<ul style="list-style-type: none"> <li>▪ Caernarvon Township Municipal Offices</li> <li>▪ Caernarvon Fire Company</li> </ul>	Main Street (Route 23) Existing Sidewalks
Religious	<ul style="list-style-type: none"> <li>▪ Churchtown United Methodist Church and Cemetery</li> <li>▪ Bangor Episcopal Church</li> </ul>	Main Street (Route 23) Existing Sidewalks
Lodging	<ul style="list-style-type: none"> <li>▪ Churchtown Inn Bed and Breakfast</li> <li>▪ The Inn at Twin Linden</li> </ul>	Main Street (Route 23) Existing Sidewalks
Personal Care	<ul style="list-style-type: none"> <li>▪ Village Locksmith Hair Studio</li> </ul>	Main Street (Route 23) Existing Sidewalks
Historical	<ul style="list-style-type: none"> <li>▪ Caernarvon Historical Society</li> </ul>	Main Street (Route 23) Existing Sidewalks

Animal Care	<ul style="list-style-type: none"> <li>▪ A&amp;H Harness</li> <li>▪ Gary P. Vandyke Vet</li> <li>▪ Smucker Harness Company</li> </ul>	Main Street (Route 23) Existing Sidewalks
Restaurant/Food	<ul style="list-style-type: none"> <li>▪ Old Bakery House and Deli</li> </ul>	Main Street (Route 23) Existing Sidewalks
Commercial	<ul style="list-style-type: none"> <li>▪ Churchtown Supply</li> <li>▪ Churchtown Automotive Repair</li> <li>▪ Welsh Mountain Company</li> <li>▪ Urban Southern</li> <li>▪ Blue Ridge Furniture</li> <li>▪ Village Barn Antiques</li> </ul>	Main Street (Route 23) Existing Sidewalks
Recreational	<ul style="list-style-type: none"> <li>▪ Historic Poole Forge</li> <li>▪ Old School Property (Twp.)</li> </ul>	Main Street (Route 23) Existing Sidewalks Proposed Sidewalks/Trail

### Projects and Preliminary Costs

Caernarvon Township considered the following factors in prioritizing projects:

- Benefit and necessity of improvement to create connection
- Stakeholder group and public input
- Ease of Implementation (Project Cost)

The Plans project prioritization was determined through the feedback from the stakeholder group, public input, and Township Commissions and Boards. The projects, as described in the following table, will need to be phased as funding becomes available.

### Priority Projects

Project	Length	Description	Destinations	Notes	Cost
Historic Poole Forge Connection	950 LF (Conc. Sidewalk & Curb)	Installation of concrete sidewalk on south side of Route 23 from limits of existing sidewalk. Installation of trail/pathway within Historic Poole Forge.	<ul style="list-style-type: none"> <li>- Village of Churchtown</li> <li>- Historic Poole Forge</li> </ul>	Residents already walk this area to connect from Village of Churchtown to Historic Pool Forge	\$325,000 (Curb & Sidewalk)
	1200 LF (Trail & Pathway)				\$235,000 (Trail & Pathway)
Traffic Calming (Entrance to Churchtown Historic District)	±500 LF (2 locations)	Installation of traffic calming mechanism (i.e. center chicane, signage, and landscaping) creating a “gateway” at either entry point into Churchtown Historic District.	<ul style="list-style-type: none"> <li>- Village of Churchtown</li> </ul>	Entry speed reduction on SR 0023 for safety	\$50,000 (per location)
ADA Curb Ramp Replacement / Installation	32 Existing ±3 Proposed	Replace (and/or install) ADA compliant curb ramps within Churchtown Historic District	<ul style="list-style-type: none"> <li>- Pedestrian walkability improvements throughout Village of Churchtown</li> </ul>	Improve ADA accessibility at intersections and accesses. Installation of 3 crosswalks.	\$227,500 (\$6,500 per Ramp)

## Future Projects

Project	Length	Description	Destinations	Notes	Cost
Main St (Rt 23) Sidewalk Repair*	7800 LF (Total {Possible})	Repair existing sidewalk sections that are cracked, offsets, etc.	- Village of Churchtown	Property owner's responsibility.	\$15 SF (Sidewalk) \$35 LF (Curb)
Old School Property Trail	±9.4 Ac.	Provide walking path / trail with exercise stations; open green space	- Recreational area	Twp. lead with private resident input or committee	TBD

**Appendix IV** of this Plan identifies the Priority and Future Projects.

\*Additional routine improvement items on Main St (by property owners) include the following:

- Maintain existing sidewalk width (horizontally) by trimming vegetative growth encroaching onto sidewalk surface (i.e. grass, landscaping, etc.)
- Maintain existing sidewalk clearances (vertically) by trimming overhanging tree branches to a minimum height of 7-feet.
- Routinely clear existing sidewalks of built-up debris (i.e. stone/gravel, leaf and vegetative, roadside trash, snow, etc.).

## **Design Guidelines**

Design elements shall be in accordance with Caernarvon Township Ordinances and PennDOT Specifications, Guidelines and Standards (i.e. PennDOT Publication 408, PennDOT RC Standards, PennDOT's Pennsylvania Traffic Calming Handbook, etc.). Each identified project will have unique design approval processes (i.e. PennDOT Highway Occupancy Permits, NPDES Permitting, ESC, Environmental, DCNR, PHMC, PNDI, etc.), as it relates to the specific improvement.

Existing physical site conditions (i.e. utility poles, walls, buildings, slopes, drainage, etc.) may also dictate and provide challenges to the design elements of the projects. These conditions could require alternative design elements that are non-standard and/or require "special" approvals.

## **Policy and Implementation**

Caernarvon Township should create a framework for both the private and public implementation so a focused effort can be facilitated by the Township. The following major stakeholders involved with the installation of non-motorized modes of transportation facilities include, but are not limited to:

- Property/Business Owners
- Caernarvon Township Municipal Government
- Pennsylvania Department of Transportation (PennDOT)
- Developers (limited options) / Property Re-Development

Caernarvon Township could use the following implementation methods for installation of non-motorized modes of transportation facilities:

- Requiring Developers (or property Redevelopers) to install or make improvements
- Funding sources (i.e. grants, grants with matching funds from public and/or private entities, etc.)
- Sidewalk Installation/Maintenance Ordinance to enforce private construction and maintenance of sidewalks
- Code enforcement

### **Public Implementation**

The Village of Churchtown sits along Route 23 and is between the PA Turnpike (northeast) and Route 322 (southwest), which is a major corridor for business and tourism entering Lancaster County. The lack of connectivity and accessibility to destinations within the Churchtown area does not promote non-motorized means of transportation in a safe manner.

Public funding sources include federal, state, local and regional government (and quasi-government) grant and loan programs. Such programs may be offered on an annual basis or as one-time funding opportunities. The programs also may or may not require matching funds. Requiring residents and/or businesses to contribute to any match may be beneficial for the Township.

### **Private Implementation**

Caernarvon Township views this plan as a collaborative plan with shared public/private initiative. This is based upon the stakeholder's group, as well as public meetings for input that occurred during the preparation of the plan. Therefore, private property owners, developers and re-developers, and businesses are all considered part of the solution to implement this plan.

### **Proposed Policies**

- Township should consider adopting and implementing a Sidewalk Ordinance making clear the responsibilities of the property owner.
- Township should consider the creation and adoption of an Official Map. An Official Map helps municipalities plan and prioritize community investments in open space and public facilities. Official Maps also assist in implementing elements of a Comprehensive Plan.
- Seek additional right-of-way/easements through the development (or redevelopment) plan submission process to accommodate future non-motorized facilities.
- Utilize existing sidewalk alignments where facilities are in good condition and/or constraints apply. Proposed facilities shall be sensitive to surrounding areas (properties) and designed accordingly to minimize adverse impacts to them.

## **Potential Funding Sources**

See the following page(s) for a table of potential funding sources.

## POTENTIAL FUNDING SOURCES

Funding Program	Funding Entity	Type of Projects Funded/Guidelines	Award Amount	Minimum Match	Application Deadline
Lancaster County Community Development Block Grant	U.S. Department of Housing and Urban Development (HUD)	<ul style="list-style-type: none"> <li>* Funds are limited to construction costs only.</li> <li>* At least five percent (5%) of the cost of the construction contracts must be paid with non-CDBG funds.</li> <li>* Legal, advertising, right-of-way acquisition, engineering, and design (soft) costs are all the responsibility of the project sponsor.</li> <li>* The project area must be primarily residential.</li> <li>* All CDBG Projects must be designed to serve those areas of the community with the highest percentage of low and moderate income (LMI) persons, using current census data or recent income survey results.</li> </ul>	Maximum \$200,000	20% Match Required	Letters of intent typically due in late winter/early spring followed by applications in spring
Multimodal Fund	PA Department of Community and Economic Development (DCED), through the Commonwealth Financing Authority (CFA)	Provides grants to encourage economic development and ensure safe and reliable systems of transportation. Funds may be used for transportation projects, including but not limited to, lighting, streetscape improvements, pedestrian safety, sidewalk enhancements, connectivity of transportation assets, and transit-oriented development. State Road projects are eligible to receive funding with documentation from the appropriate PennDOT Engineering District.	Minimum total project cost \$100,000	30% Local Match of the non-federal share of project costs is required.	Summer 2021 (TBD)
Multimodal Fund	Pennsylvania Department of Transportation	Provides grants to ensure safe and reliable systems of transportation. Funds may be used for transportation projects, including but not limited to, lighting, streetscape improvements, pedestrian safety, sidewalk enhancements, connectivity of transportation assets, and transit-oriented development.	\$100,000 Minimum - \$3 Million Maximum	30% Local Match	November 6, 2020
Transportation Alternatives (TA) Asset-Aside Program	PennDOT	Transportation alternative projects include the construction of pedestrian and bicycle facilities; historic preservation and rehabilitation of historic transportation facilities; conversion of abandoned railway corridors to trails; and stormwater management.	\$50,000 Minimum - \$1 Million Maximum	No match required; pre-construction costs for construction projects	Next round anticipated in 2021 (TBD)

Funding Program	Funding Entity	Type of Projects Funded/Guidelines	Award Amount	Minimum Match	Application Deadline
Smart Growth Transportation Program	Lancaster MPO	Transportation projects/studies located in Lancaster County's designated Growth Areas that support active transportation facilities. At least 80% of the funding will be directed to construction projects and no more than 20% to studies.	No maximum stated	20% match required for studies; pre-construction costs for construction projects	Next round anticipated in 2021 (TBD)
Transportation Alternatives Program	Lancaster MPO	Transportation alternative projects include the construction of pedestrian and bicycle facilities; historic preservation and rehabilitation of historic transportation facilities; conversion of abandoned railway corridors to trails; and stormwater management.	No maximum stated	20% match required for studies; pre-construction costs for construction projects	Next round anticipated in 2021 (TBD)
Community Conservation Partnerships Program (C2P2)	PA Department of Conservation and Natural resources (DCNR)	Provides funding for acquisition, planning, and development (construction) of trails, parks, and recreational facilities.	No maximum request; typically funds projects up to \$350,000	Typically a 50% local match is required	Spring 2021
Greenways, Trails, and Recreational Program (GTRP)	Pennsylvania Department of Community and Economic Development (DCNR) through the Commonwealth Financing Authority (CFA)	Funding used for planning, acquisition, development, rehabilitation, and repair of greenways, recreational trails, open space, parks, and beatification projects.	\$250,000 maximum	15% local match of the total project cost	Applications typically accepted between February 1st and May 31st each year.
Automated Red Light Enforcement (ARLE) Grant Program	PennDOT	Provides grants to local governments for transportation enhancement projects that focus on highway safety or mobility, and which can be completed at relatively low costs.	No maximum stated	Match encouraged but not required	June 30th each year

Funding Program	Funding Entity	Type of Projects Funded/Guidelines	Award Amount	Minimum Match	Application Deadline
AARP Community Challenge	AARP	Provides small grant funds to fund "quick-action" projects supporting the efforts of neighborhoods, towns, cities and rural areas to be great places for people of all ages. Encourages communities to provide safe, walkable streets, age friendly housing and transportation options, access to needed services, and opportunities for residents of all ages to participate in community life.	No maximum stated	No match required	Applications due in mid-May 2021; Projects completed in mid-December 2021
Lancaster Bicycle Club Grant Program	Lancaster Bicycle Club	Provides grant funds to support bicycle related activities and initiatives. Funds may be used for facilities that directly improve bicycling, repairs and maintenance of bicycling facilities, advocacy for bicyclist's rights and safety, and programs promoting bicycling.	No minimum or maximum	No match required	December 1, 2020

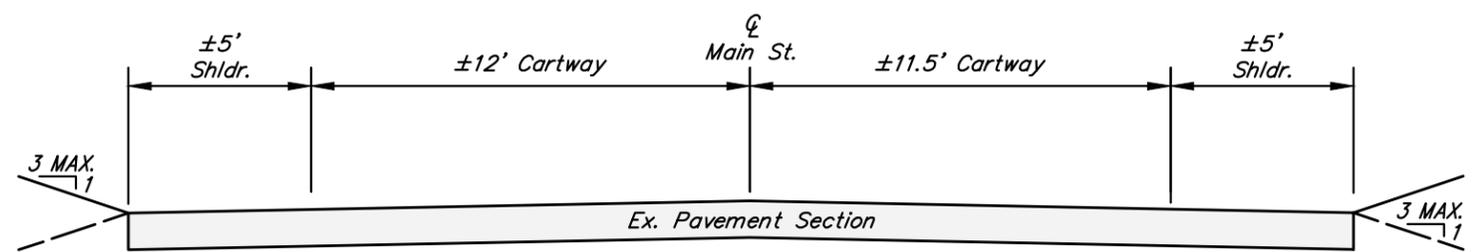
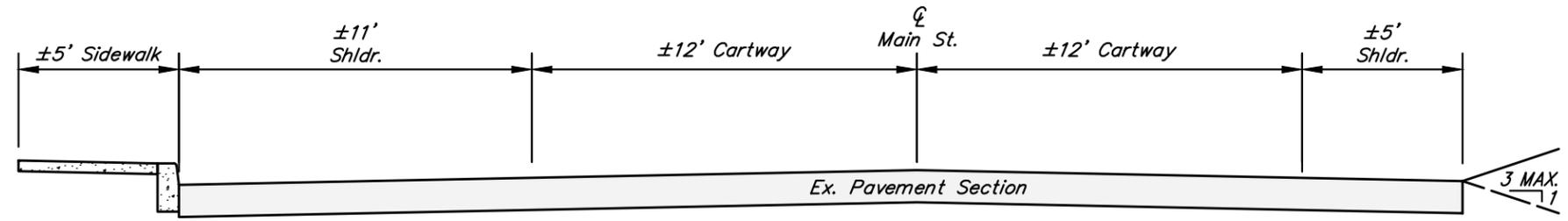
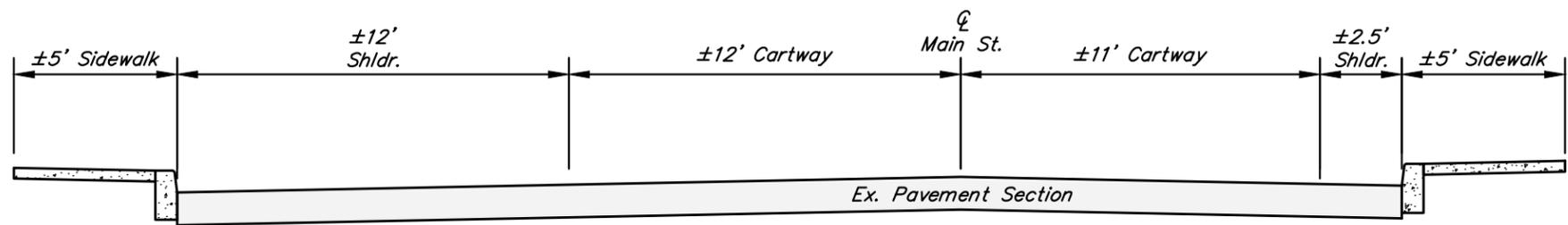
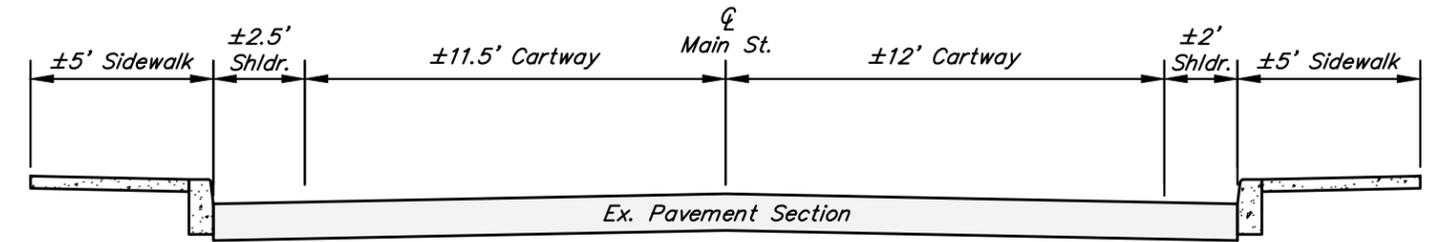
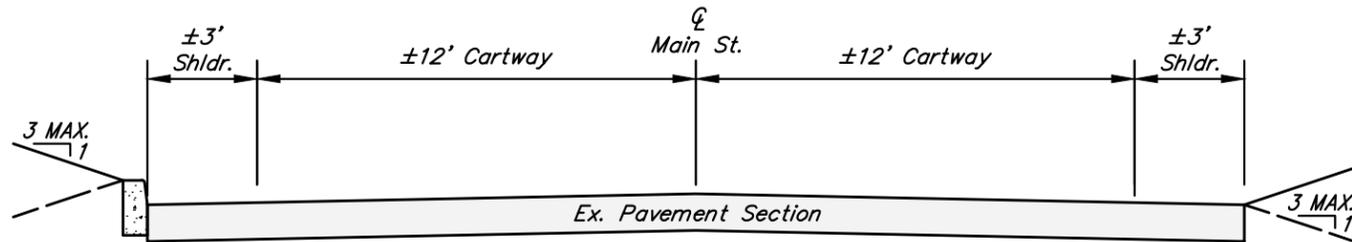


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

1 inch = 800 feet

**A** EXISTING  
CARTWAY  
SECTION

**CHURCHTOWN  
VILLAGE DISTRICT**



DRAWING: F:\Data\455 Coe\marvon Township\455-003 Walk Works - Active Transportation Plan\ATP Report\Exhibits\Ex Cartway Sections.dwg - PLOTTED: May 13, 2020 11:03 am

N CHURCHTOWN RD

WATER ST

MAIN ST

S CHURCHTOWN RD

BOOTJACK RD

**Notes:**

- 1. "Good" sidewalk is generally aged but does not have cracks, lips/offsets or other adverse impediments.
- 2. "Repair" sidewalk is generally minor consisting of cracks, lips/offsets or other impediments.
- 3. "Replace" sidewalk is generally in very poor conditions and requires complete removal and replacement.
- 4. There are encroachment impediments (i.e. utility poles, signs, mailboxes, vegetation, etc.) that are not specifically identified in this Appendix. Reference Appendix V for additional information.
- 5. Non-shaded properties do not contain sidewalks.

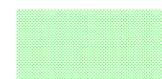
1 inch = 250 feet



SIDEWALK "GOOD"



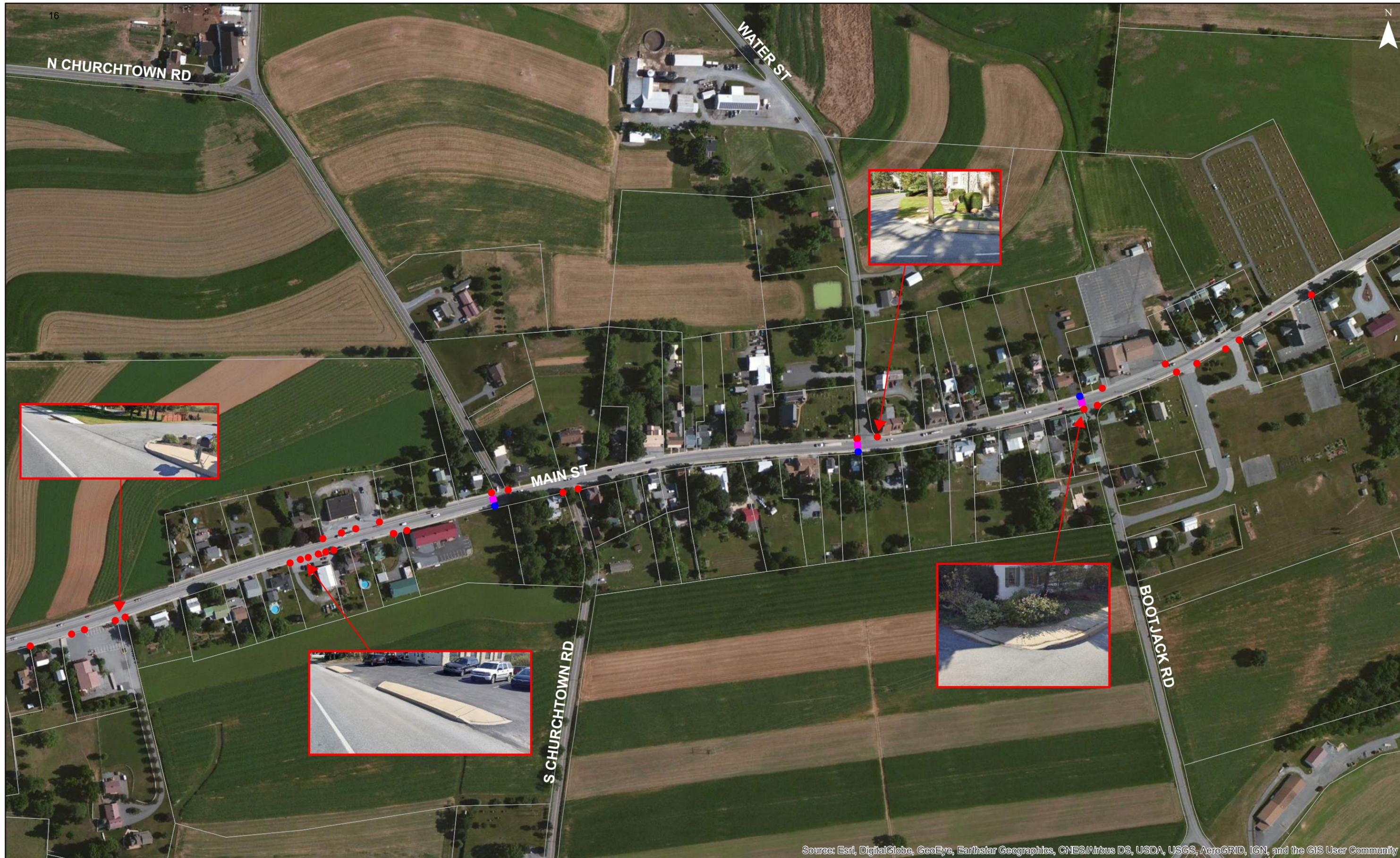
SIDEWALK "REPAIRS"



SIDEWALK "REPLACE"

**APPENDIX II**





N CHURCHTOWN RD

WATER ST

MAIN ST

S CHURCHTOWN RD

BOOTJACK RD

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

1 inch = 250 feet

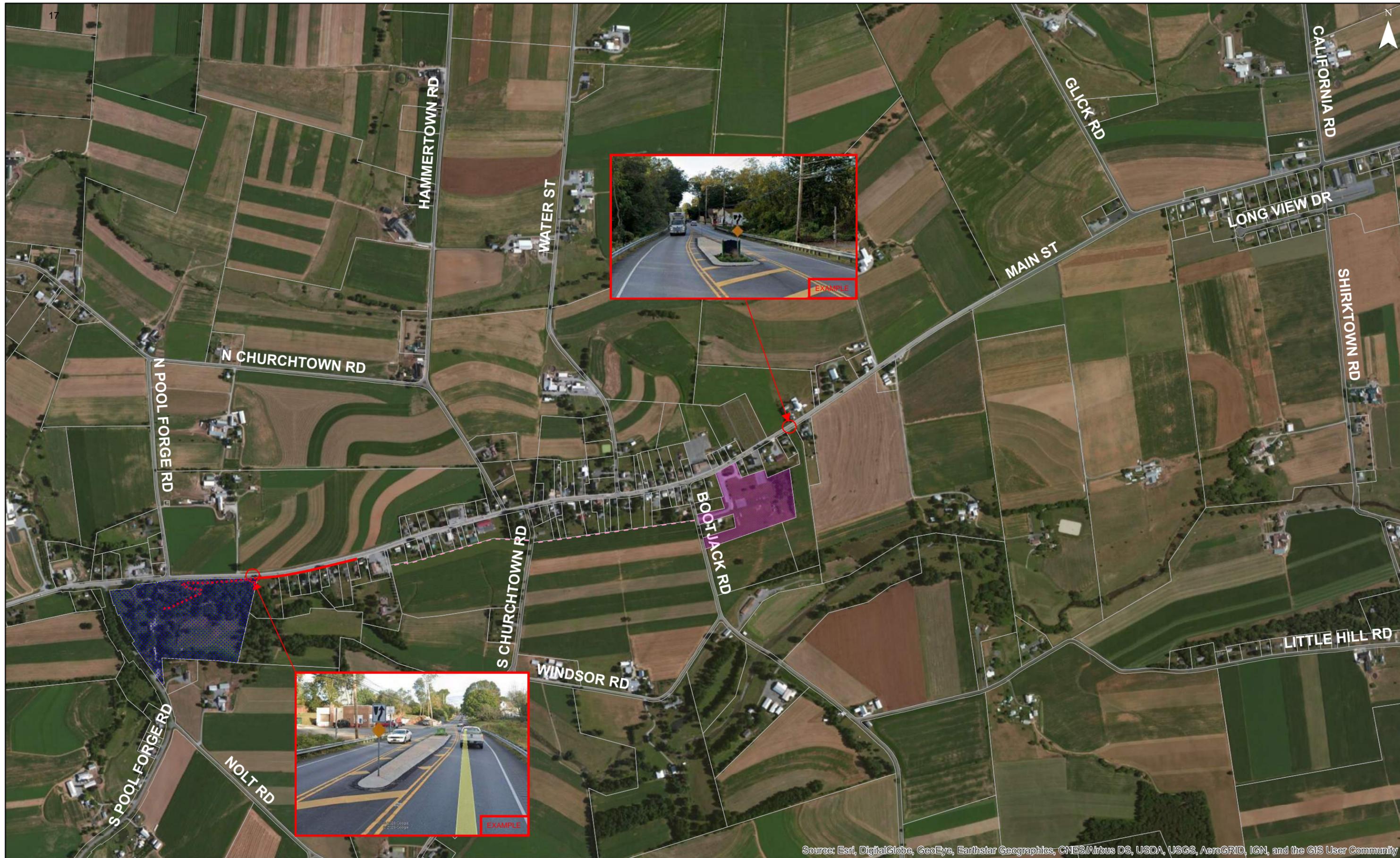
● EXISTING ADA CURB RAMP TO BE REPLACED

● PROPOSED ADA CURB RAMP TO BE INSTALLED

— PROPOSED CROSSWALK (Type TBD)

APPENDIX III





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

1 inch = 800 feet

— PROPOSED CONCRETE SIDEWALK  
 ..... PROPOSED PATHWAY / TRAIL

○ PROPOSED TRAFFIC CALMING (LOCATION TBD)  
 ■ OLD SCHOOL PROPERTY

----- PROPOSED PATHWAY / TRAIL (FUTURE W/UTILITY EASEMENT)  
 ■ HISTORIC POOLE FORGE

**APPENDIX IV**





Sidewalk Obstruction - Mailbox



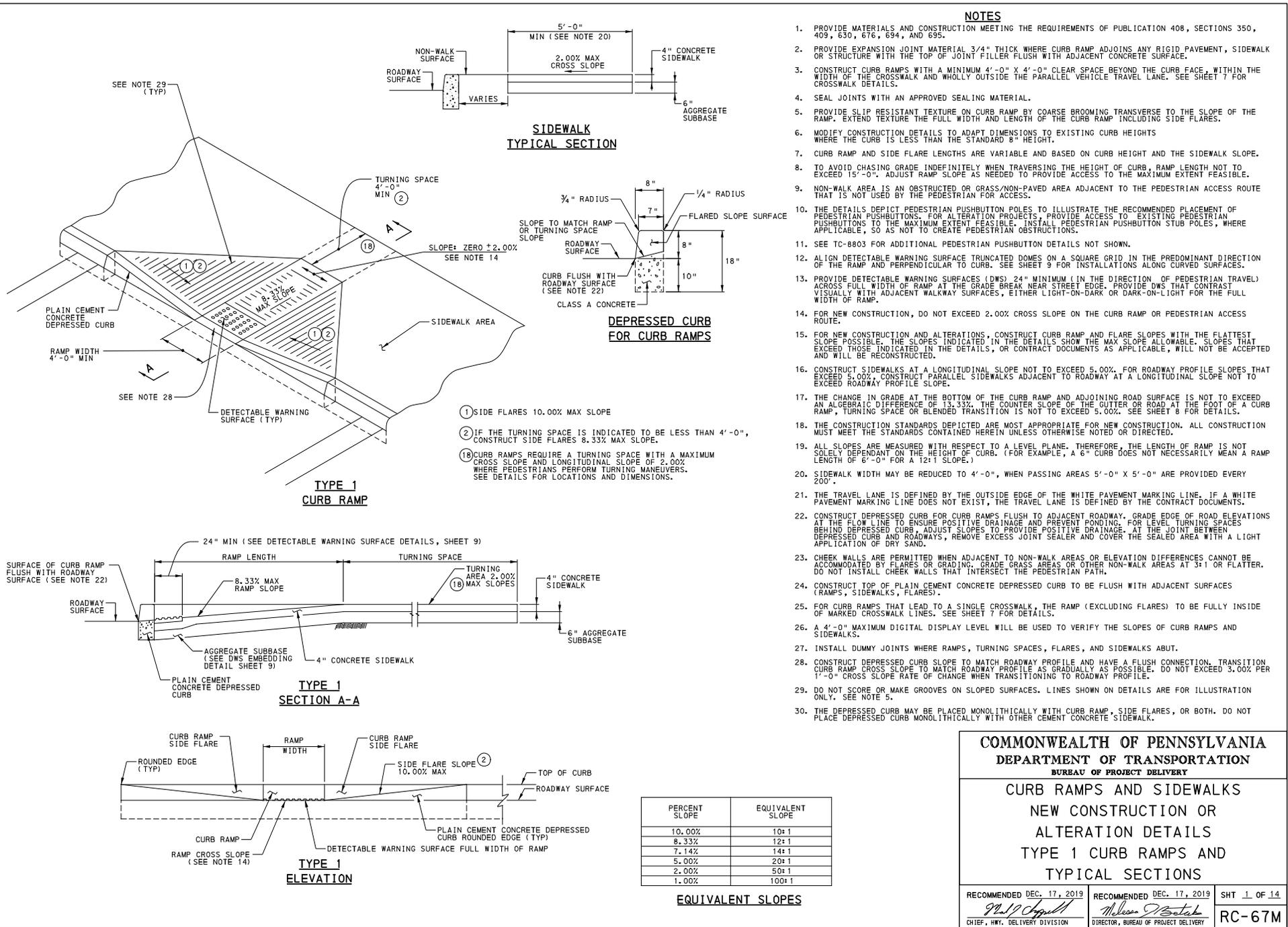
Sidewalk Obstruction - Vegetation

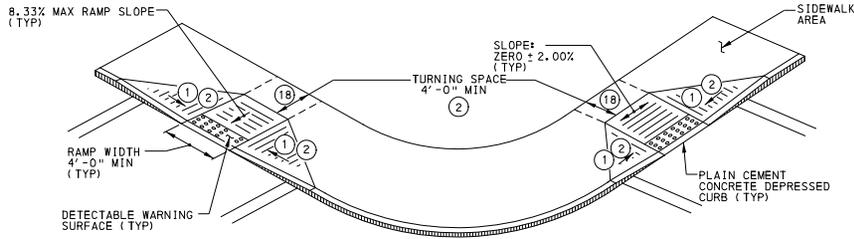


Sidewalk Obstruction - Utility Pole

**Notes:**

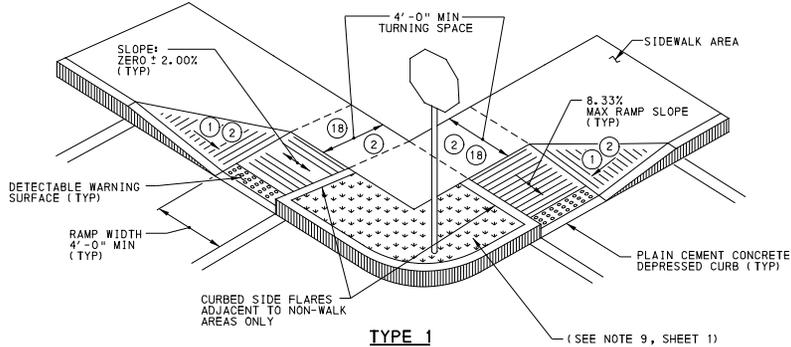
1. This Appendix shows examples of encroachment impediments that occur throughout the Village of Churchtown.
2. These examples are not calling out a specific property, but are solely for the purpose to identify examples of encroachment impediments.



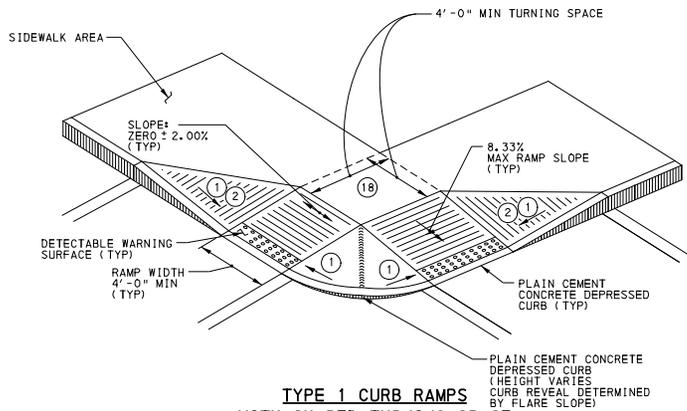


NOTE: IF SPACE IS LIMITED, IT MAY BE NECESSARY TO CURB THE SIDE FLARES OF THE TYPE 1 CURB RAMPS (SEE ALTERNATE INSTALLATION DETAIL BELOW). PEDESTRIAN TRAFFIC SHOULD NOT BE DIRECTED TO CROSS THE VERTICAL DROP.

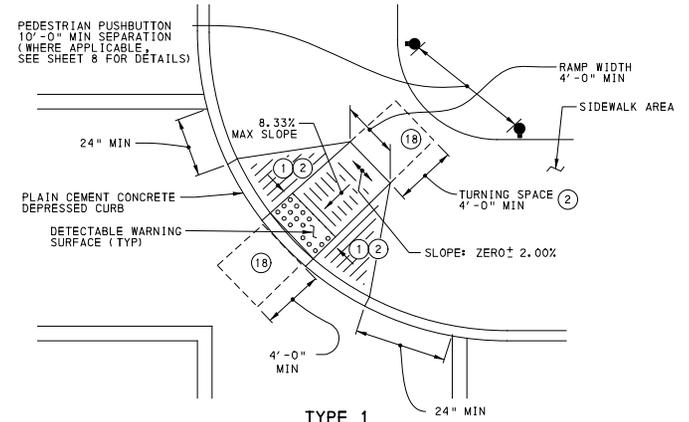
**TYPE 1  
DOUBLE CURB RAMPS  
(PREFERRED INSTALLATION)**



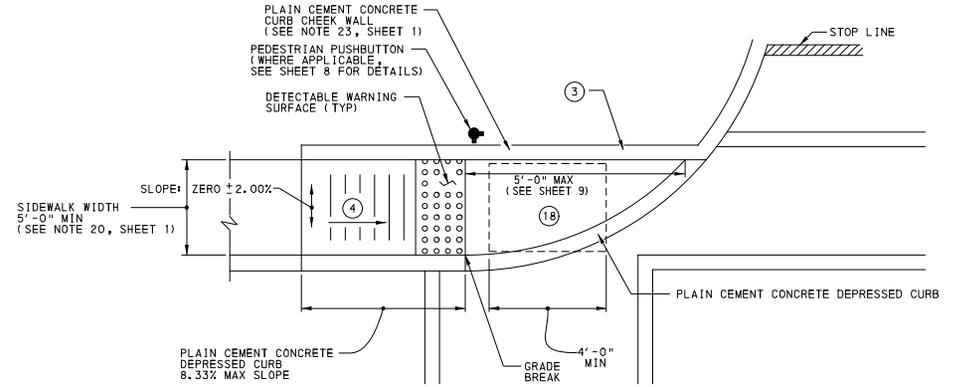
**TYPE 1  
DOUBLE CURB RAMPS  
(ALTERNATE INSTALLATION)**



**TYPE 1 CURB RAMPS  
WITH SHARED TURNING SPACE**



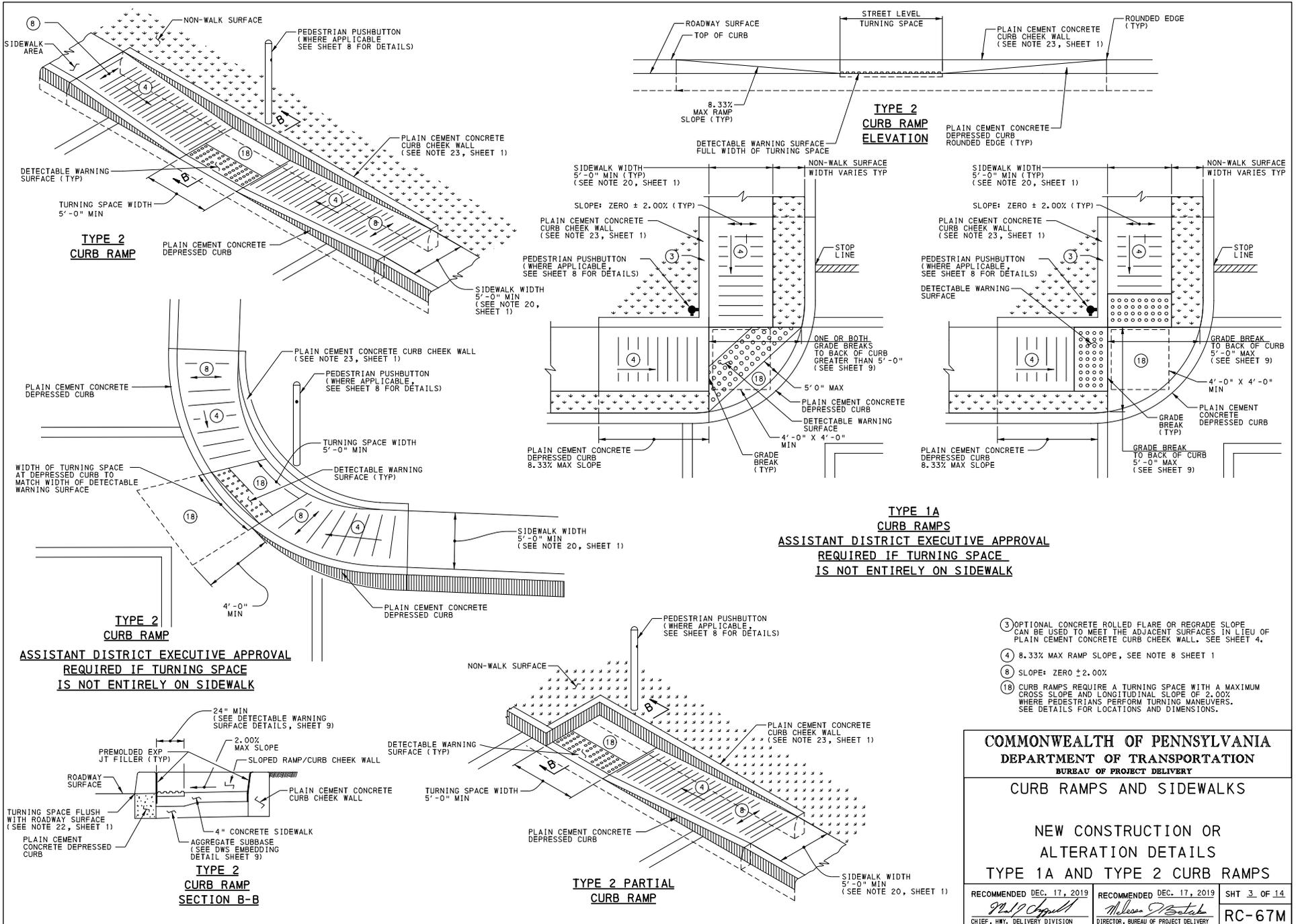
**TYPE 1  
CURB RAMP  
(DIAGONAL - REQUIRES ASSISTANT  
DISTRICT EXECUTIVE APPROVAL)**



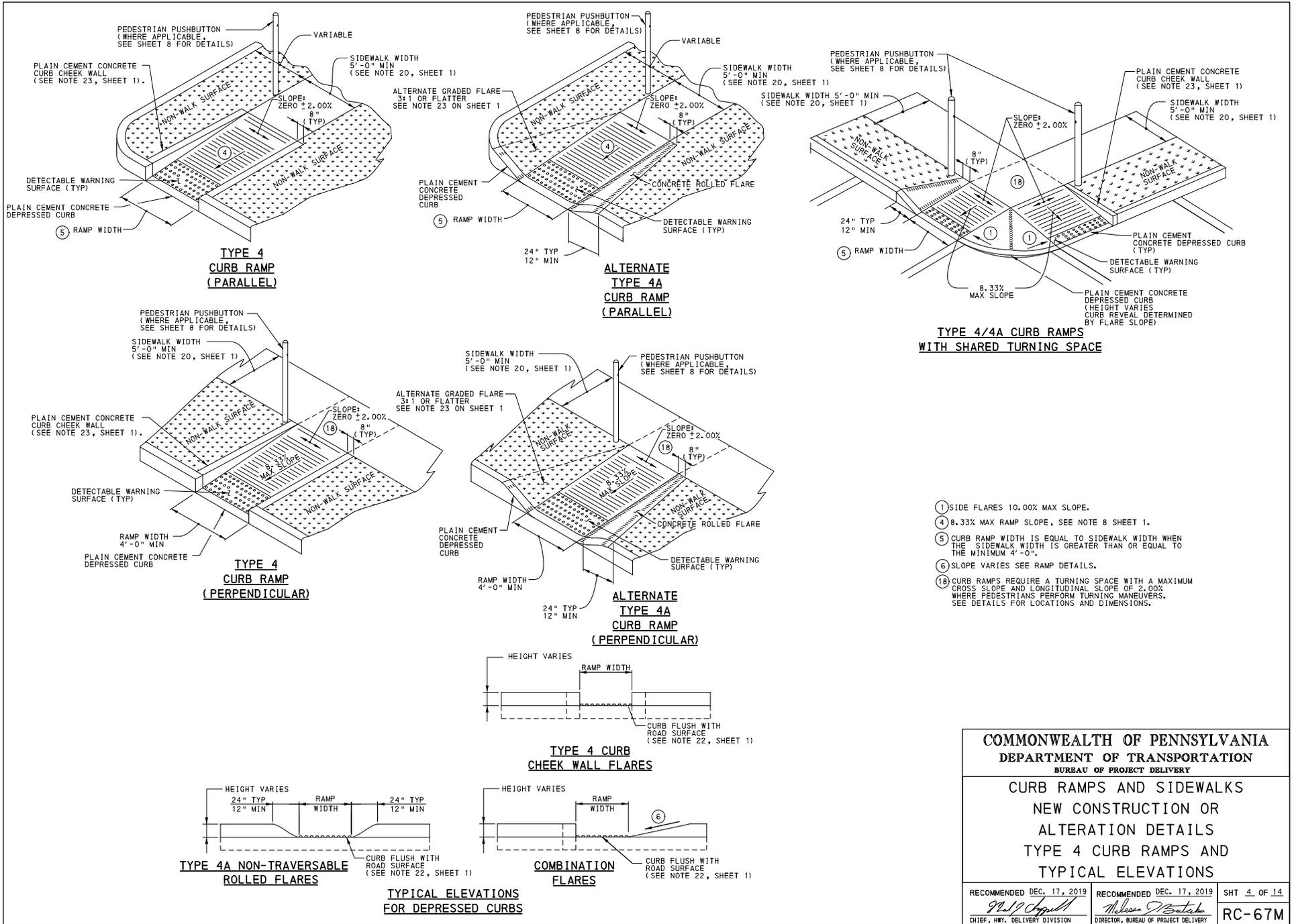
**TYPE 1A  
CURB RAMP  
ASSISTANT DISTRICT EXECUTIVE APPROVAL  
REQUIRED IF TURNING SPACE  
IS NOT ENTIRELY ON SIDEWALK**

- ① SIDE FLARES 10.00% MAX SLOPE.
- ② IF THE TURNING SPACE IS INDICATED TO BE LESS THAN 4'-0", CONSTRUCT SIDE FLARES 8.33% MAX SLOPE.
- ③ OPTIONAL ROLLED CONCRETE SURFACE OR REGRADE SLOPE CAN BE USED TO MEET THE ADJACENT SURFACES IN LIEU OF A RETURN CURB CHEEK WALL.
- ④ 8.33% MAX RAMP SLOPE, SEE NOTE 8 SHEET 1.
- ⑮ CURB RAMPS REQUIRE A TURNING SPACE WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SEE DETAILS FOR LOCATIONS AND DIMENSIONS.

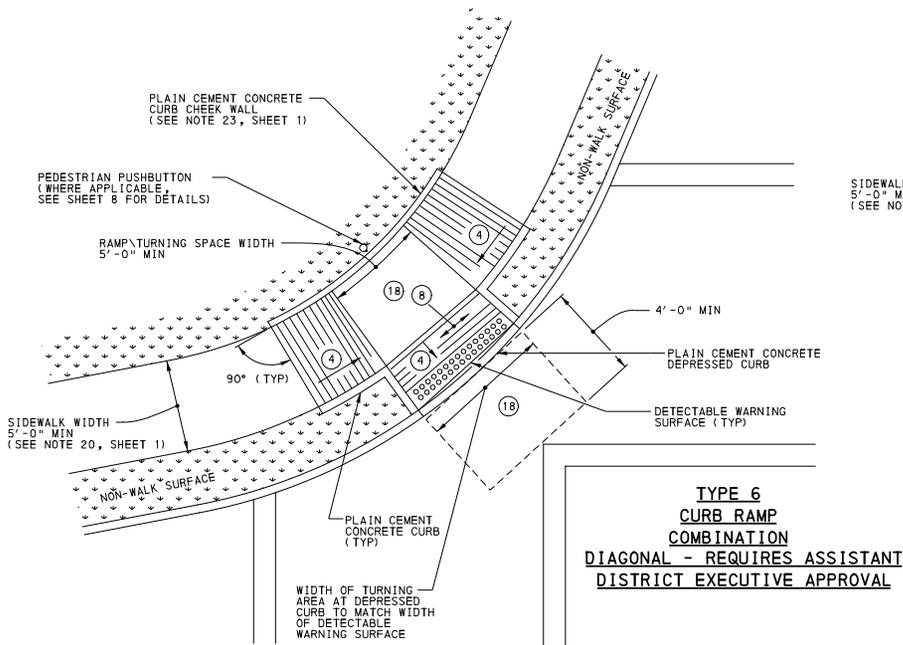
<b>COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION BUREAU OF PROJECT DELIVERY</b>		
<b>CURB RAMPS AND SIDEWALKS</b>		
<b>NEW CONSTRUCTION OR ALTERATION DETAILS TYPE 1 AND TYPE 1A CURB RAMPS</b>		
RECOMMENDED DEC. 17, 2019 <i>9219 Appell</i> CHIEF, HWY. DELIVERY DIVISION	RECOMMENDED DEC. 17, 2019 <i>Melissa D. Bata</i> DIRECTOR, BUREAU OF PROJECT DELIVERY	SHT 2 OF 14 <b>RC-67M</b>



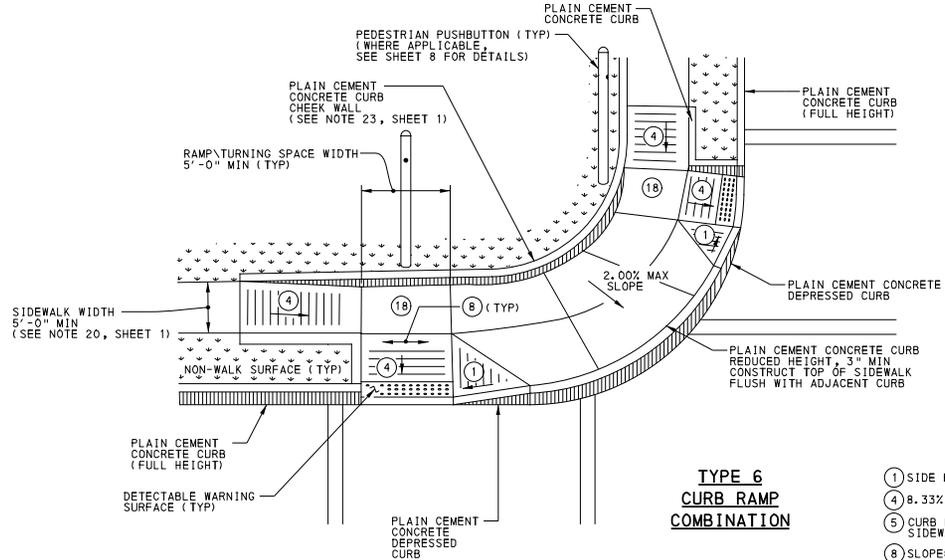
<b>COMMONWEALTH OF PENNSYLVANIA</b>		
<b>DEPARTMENT OF TRANSPORTATION</b>		
<b>BUREAU OF PROJECT DELIVERY</b>		
<b>CURB RAMPS AND SIDEWALKS</b>		
<b>NEW CONSTRUCTION OR ALTERATION DETAILS</b>		
<b>TYPE 1A AND TYPE 2 CURB RAMPS</b>		
RECOMMENDED DEC. 17, 2019 <i>9219 Appell</i> CHIEF, HWY. DELIVERY DIVISION	RECOMMENDED DEC. 17, 2019 <i>Melissa D. Batale</i> DIRECTOR, BUREAU OF PROJECT DELIVERY	SHT 3 OF 14 <b>RC-67M</b>



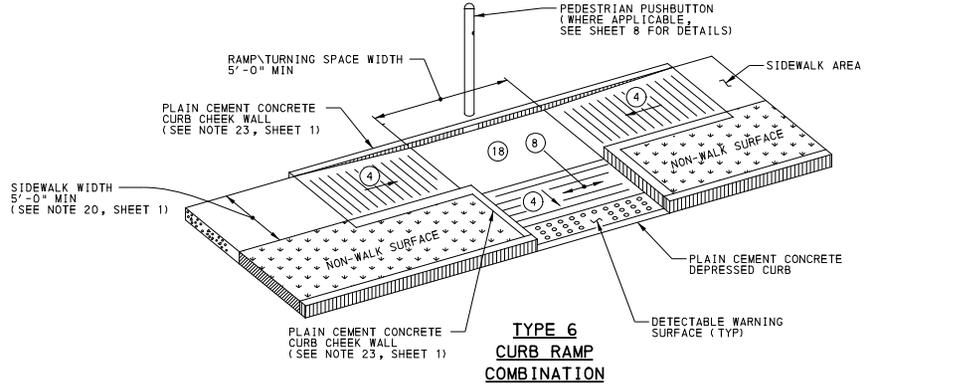
<b>COMMONWEALTH OF PENNSYLVANIA</b>		
<b>DEPARTMENT OF TRANSPORTATION</b>		
<b>BUREAU OF PROJECT DELIVERY</b>		
<b>CURB RAMPS AND SIDEWALKS</b>		
<b>NEW CONSTRUCTION OR</b>		
<b>ALTERATION DETAILS</b>		
<b>TYPE 4 CURB RAMPS AND</b>		
<b>TYPICAL ELEVATIONS</b>		
RECOMMENDED DEC. 17, 2019	RECOMMENDED DEC. 17, 2019	SHT 4 OF 14
<i>9219 Appell</i>	<i>Melissa D. Batale</i>	
CHIEF, HWY. DELIVERY DIVISION	DIRECTOR, BUREAU OF PROJECT DELIVERY	<b>RC-67M</b>



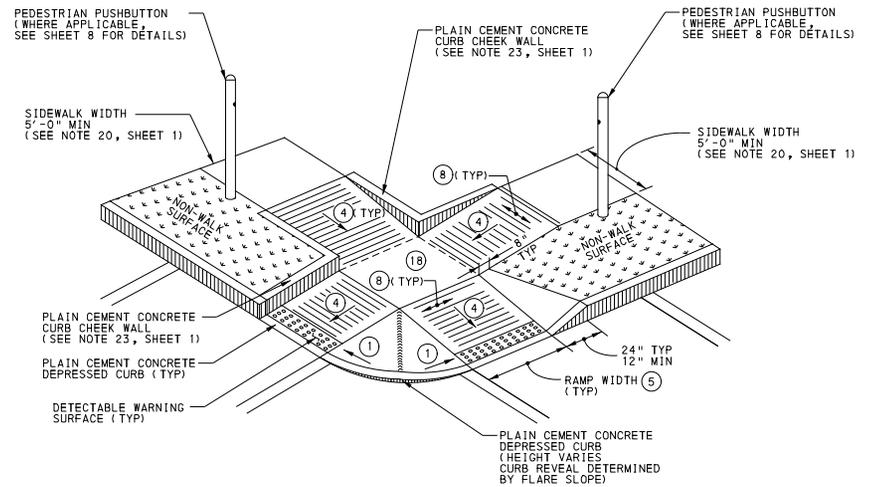
**TYPE 6 CURB RAMP COMBINATION**  
**DIAGONAL - REQUIRES ASSISTANT DISTRICT EXECUTIVE APPROVAL**



**TYPE 6 CURB RAMP COMBINATION**



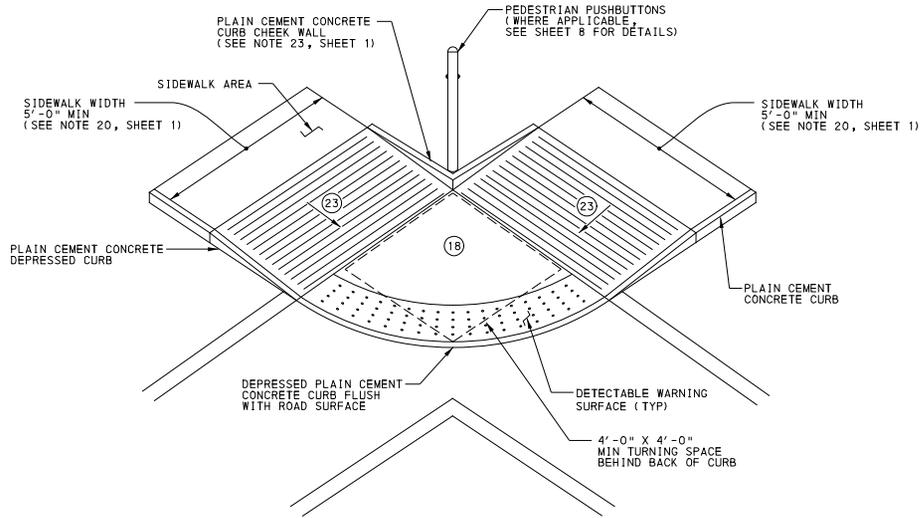
**TYPE 6 CURB RAMP COMBINATION**



**TYPE 6 CURB RAMPS WITH SHARED TURNING SPACE**

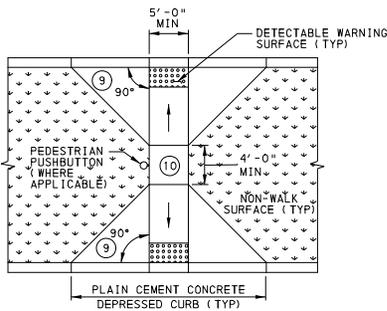
- ① SIDE FLARES 10.00% MAX SLOPE.
- ④ 8.33% MAX RAMP SLOPE, SEE NOTE 8 SHEET 1.
- ⑤ CURB RAMP WIDTH IS EQUAL TO SIDEWALK WIDTH WHEN THE SIDEWALK WIDTH IS GREATER THAN OR EQUAL TO 4'-0".
- ⑧ SLOPE: ZERO ± 2.00%.
- ⑱ CURB RAMPS REQUIRE A TURNING SPACE WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SEE DETAILS FOR LOCATIONS AND DIMENSIONS.

<b>COMMONWEALTH OF PENNSYLVANIA</b> <b>DEPARTMENT OF TRANSPORTATION</b> BUREAU OF PROJECT DELIVERY		
<b>CURB RAMPS AND SIDEWALKS</b>		
<b>NEW CONSTRUCTION OR ALTERATION DETAILS</b> <b>TYPE 6 CURB RAMPS</b>		
RECOMMENDED DEC. 17, 2019 <i>9219 Appell</i> CHIEF, HWY. DELIVERY DIVISION	RECOMMENDED DEC. 17, 2019 <i>Melissa D. Batale</i> DIRECTOR, BUREAU OF PROJECT DELIVERY	SHT 5 OF 14 <b>RC-67M</b>

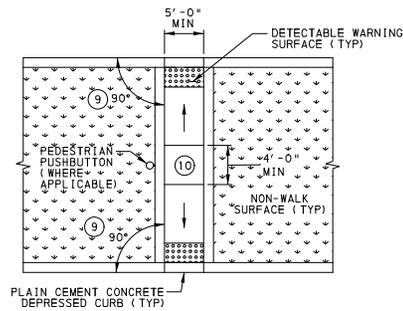


NOTE: DO NOT INSTALL GRATINGS, ACCESS COVERS AND OTHER APPURTENANCES ON THE BLENDED TRANSITION SURFACE WITHIN THE PEDESTRIAN ACCESS ROUTE. EXISTING UTILITY COVERS IN THE PATH OF TRAVEL ARE ACCEPTABLE IF THE TOP SURFACE IS FLUSH (LESS THAN 1/8" IN ELEVATION DIFFERENCE), FIRM, STABLE AND SLIP RESISTANT. INLET GRATES MUST HAVE OPENINGS NO GREATER THAN 1/2" IN DIRECTION OF TRAVEL.

**BLENDING TRANSITION**

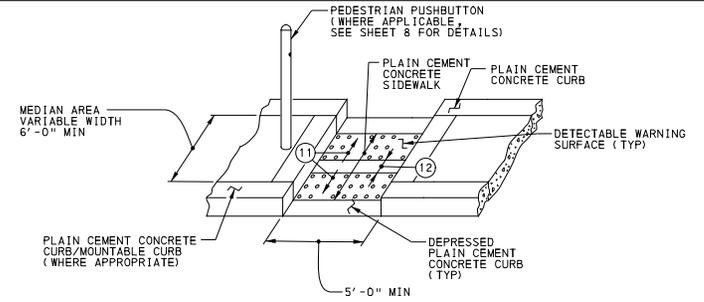


**RAMPED MEDIAN OR ISLAND ACCESS OPENING (TYPE 1 DOUBLE CURB RAMPS)**

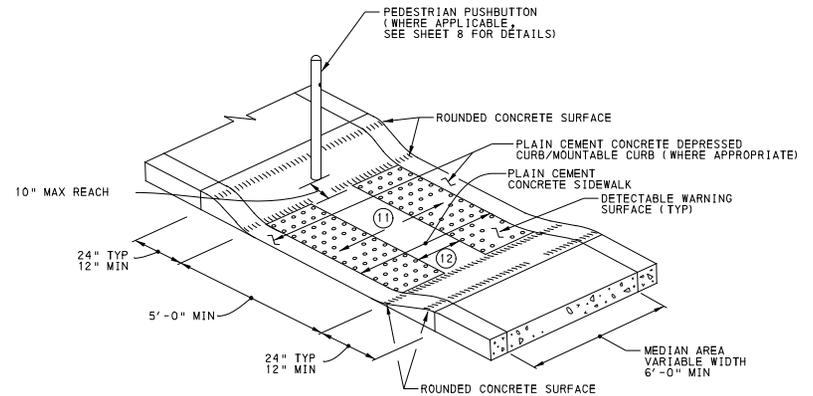


**RAMPED MEDIAN OR ISLAND ACCESS OPENING (TYPE A DOUBLE CURB RAMPS)**

- ⑨ 90° DESIRABLE.
- ⑩ TURNING SPACES ARE NOT REQUIRED FOR LONGITUDINAL SLOPES 5.00% OR LESS.
- ⑪ PROVIDE ADEQUATE SLOPE FOR DRAINAGE (5.00% MAX).
- ⑫ 2'-0" MIN SEPARATION. DO NOT INSTALL DETECTABLE WARNING SURFACES IF SEPARATION IS LESS THAN 2'-0". REFER TO DM-2 CHAPTER 6 FOR ADDITIONAL DETAILS.
- ⑬ CURB RAMPS REQUIRE A TURNING SPACE WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SEE DETAILS FOR LOCATIONS AND DIMENSIONS.
- ⑭ 5.00% MAX RUNNING SLOPE FOR BLENDED TRANSITION. FOR SLOPES GREATER THAN 5.00% SEE TYPE 2 CURB RAMPS ON SHEET 3 FOR ADDITIONAL DETAILS.

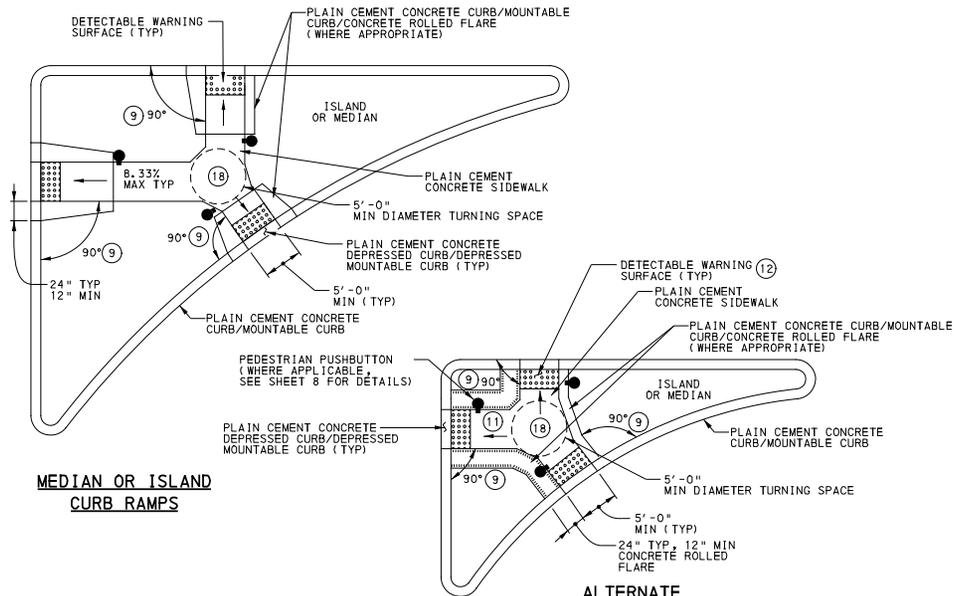


**TYPE A TYPICAL MEDIAN OR ISLAND ACCESS OPENING WITH CURB SIDES (NARROW MEDIANS)**



**TYPE B TYPICAL MEDIAN OR ISLAND ACCESS OPENING WITH FLARED SIDES (NARROW MEDIANS)**

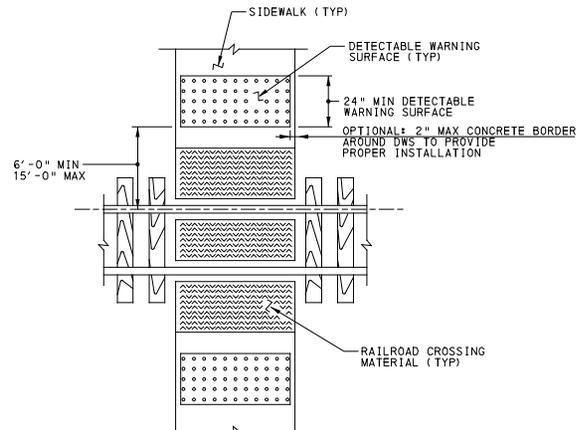
<b>COMMONWEALTH OF PENNSYLVANIA</b>		
<b>DEPARTMENT OF TRANSPORTATION</b>		
<b>BUREAU OF PROJECT DELIVERY</b>		
<b>CURB RAMPS AND SIDEWALKS</b>		
<b>NEW CONSTRUCTION OR ALTERATION DETAILS</b>		
<b>BLENDING TRANSITION / MEDIANS</b>		
RECOMMENDED DEC. 17, 2019	RECOMMENDED DEC. 17, 2019	SHT 6 OF 14
<i>9219</i> CHIEF, HWY. DELIVERY DIVISION	<i>Melissa J. Batah</i> DIRECTOR, BUREAU OF PROJECT DELIVERY	RC-67M



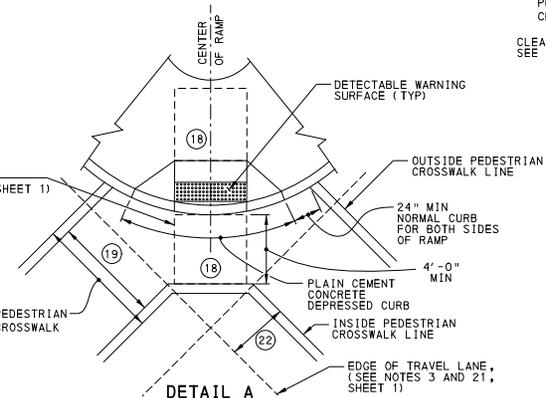
**MEDIAN OR ISLAND CURB RAMPS**

**ALTERNATE SMALL ISLAND WITH CUT THROUGH**

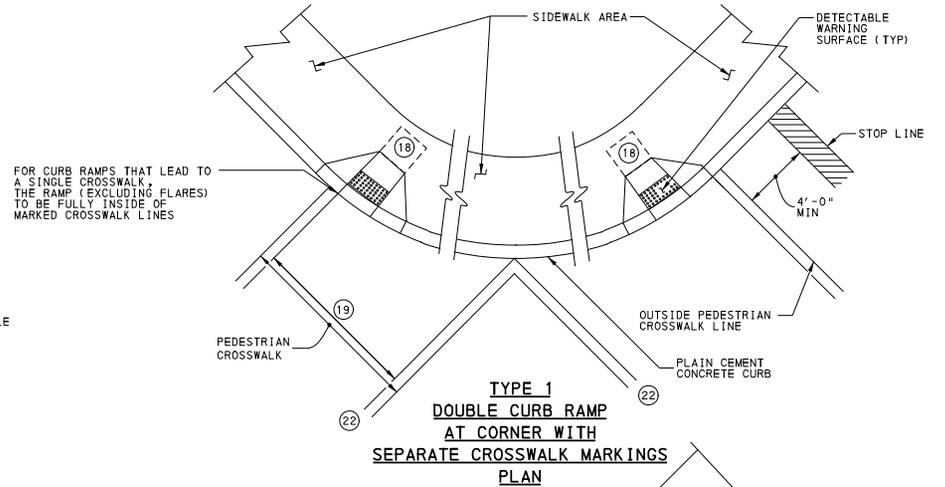
- 9 90° DESIRABLE.
- 11 PROVIDE ADEQUATE SLOPE FOR DRAINAGE (5.00% MAX).
- 12 2'-0" MIN SEPARATION. DO NOT INSTALL DETECTABLE WARNING SURFACES IF SEPARATION IS LESS THAN 2'-0".
- 18 CURB RAMPS REQUIRE A TURNING SPACE WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SEE DETAILS FOR LOCATIONS AND DIMENSIONS.
- 19 6'-0" MIN MEASURED FROM INSIDE OF PAINTED EDGE TO INSIDE OF PAINTED EDGE.
- 22 THE INSIDE PEDESTRIAN CROSSWALK LINES MUST BE OUTSIDE OF THE PARALLEL VEHICLE TRAVEL LANE.



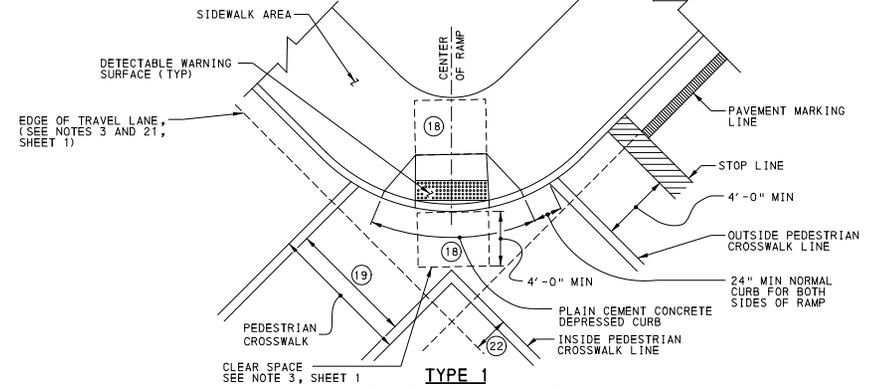
**TYPICAL DETECTABLE WARNING SURFACE AT RAILROAD CROSSING**



**DETAIL A CLEAR SPACE AT CROSSWALK MARKINGS PLAN (DIAGONAL - REQUIRES ASSISTANT DISTRICT EXECUTIVE APPROVAL)**

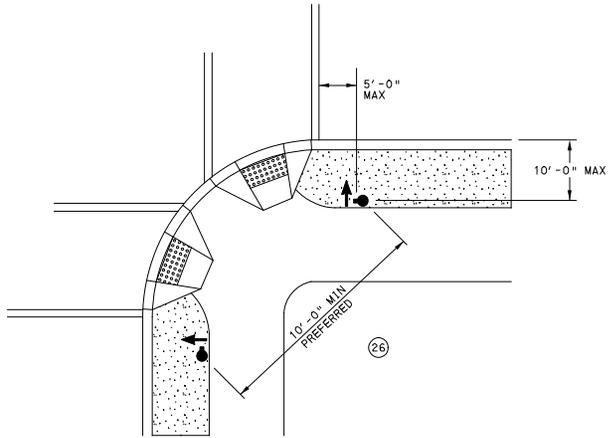


**TYPE 1 DOUBLE CURB RAMP AT CORNER WITH SEPARATE CROSSWALK MARKINGS PLAN**

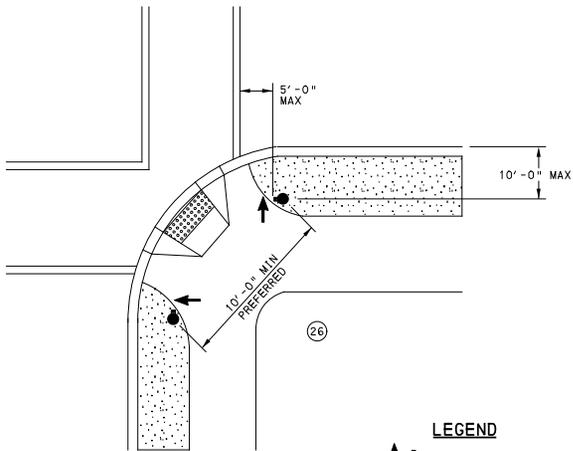


**TYPE 1 SINGLE CURB RAMP AT CORNER WITH CROSSWALK MARKINGS PLAN (DIAGONAL - REQUIRES ASSISTANT DISTRICT EXECUTIVE APPROVAL)**

<b>COMMONWEALTH OF PENNSYLVANIA</b>		
<b>DEPARTMENT OF TRANSPORTATION</b>		
<b>BUREAU OF PROJECT DELIVERY</b>		
<b>CURB RAMPS AND SIDEWALKS</b>		
<b>NEW CONSTRUCTION OR ALTERATION DETAILS</b>		
<b>CROSSWALKS, MEDIANS, RAILROAD CROSSING</b>		
<b>DETECTABLE WARNING SURFACE</b>		
RECOMMENDED DEC. 17, 2019 <i>9219 Appell</i> CHIEF, HWY. DELIVERY DIVISION	RECOMMENDED DEC. 17, 2019 <i>Melissa D. Batale</i> DIRECTOR, BUREAU OF PROJECT DELIVERY	SHT 7 OF 14 <b>RC-67M</b>

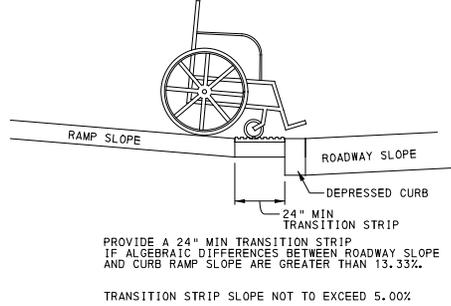
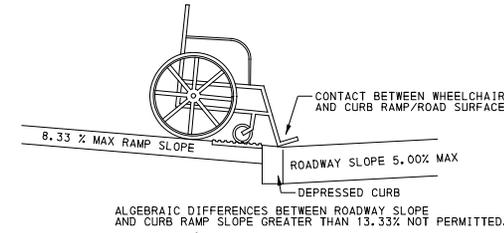


RECOMMENDED PUSHBUTTON LOCATIONS

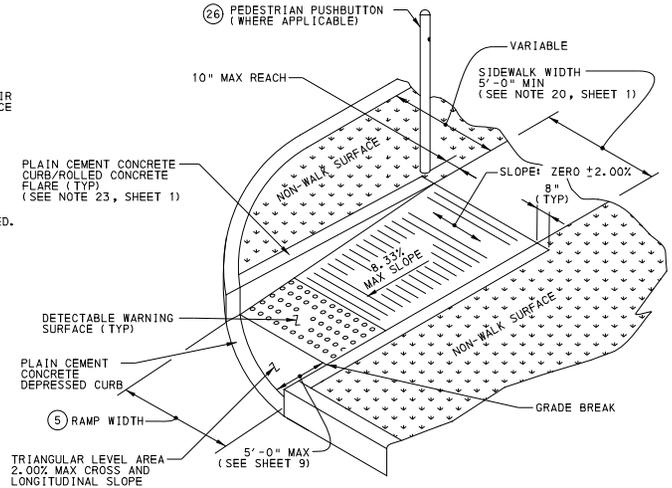


RECOMMENDED PUSHBUTTON LOCATIONS

**LEGEND**  
 PEDESTRIAN PUSHBUTTON



**CHANGE OF GRADE LIMITATIONS**



**TRIANGULAR LEVEL AREA FOR DIRECTIONAL RAMP ON CURB RETURNS**

PROVIDE A LEVEL TRIANGULAR AREA WHEN DIRECTIONAL RAMP ARE INSTALLED ON A CURB RETURN TO TRANSITION THE GRADE BREAK.



**RAMP CROSS SLOPE TRANSITION TO MATCH ROADWAY PROFILE SLOPE**  
 \* SLOPES SHOWN ARE FOR ILLUSTRATION ONLY.

TRANSITION CURB RAMP CROSS SLOPE TO MATCH ROADWAY PROFILE AS GRADUALLY AS POSSIBLE. DO NOT EXCEED 3.00% PER 1'-0" CROSS SLOPE RATE OF CHANGE WHEN TRANSITIONING TO ROADWAY PROFILE.

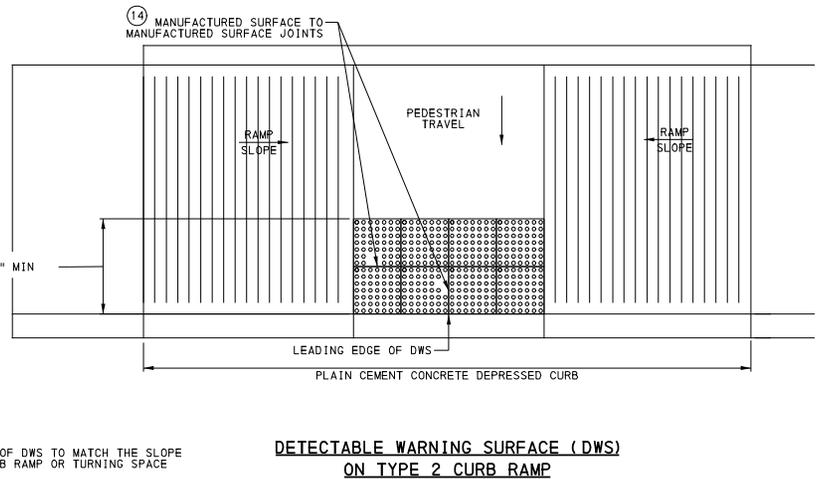
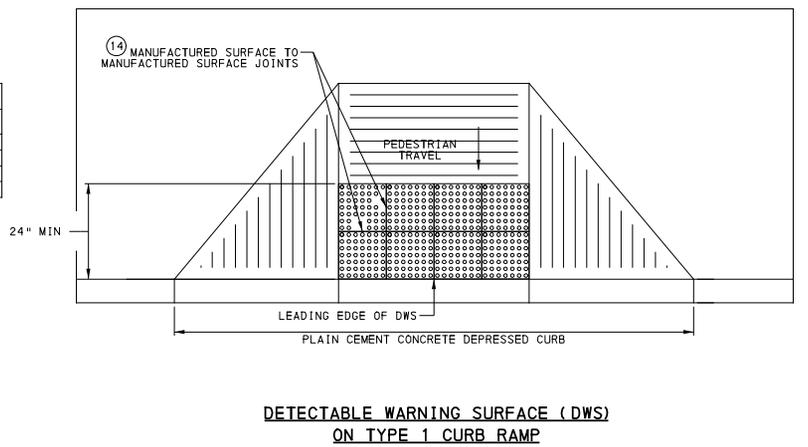
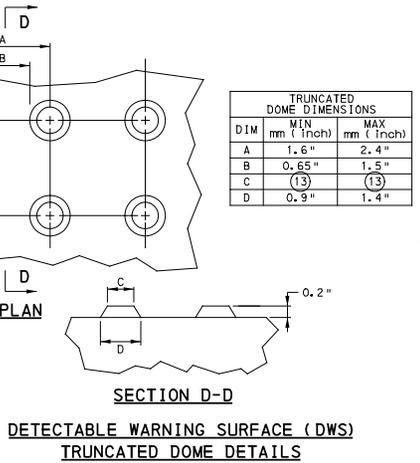
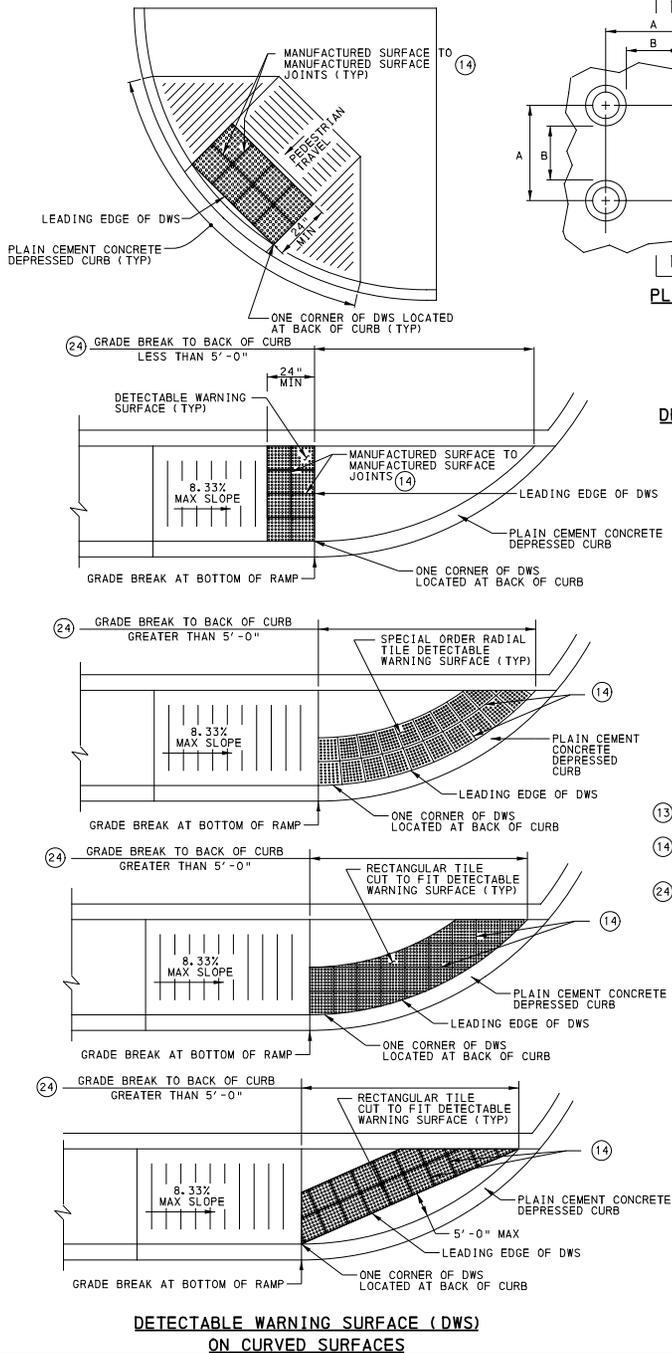
COMPLETE TRANSITION TO ROADWAY PROFILE BEHIND DETECTABLE WARNING SURFACE OR USE 1'-0" DETECTABLE WARNING SURFACE TILES.

CONSTRUCT DEPRESSED CURB SLOPE TO MATCH ROADWAY PROFILE.

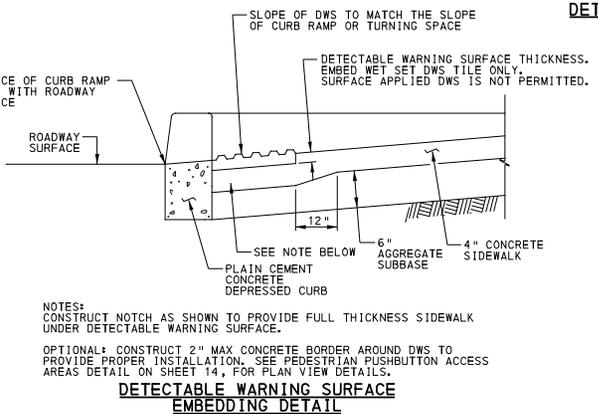
- (5) CURB RAMP WIDTH IS EQUAL TO SIDEWALK WIDTH WHEN THE SIDEWALK WIDTH IS GREATER THAN OR EQUAL TO 4'-0".
- (26) NEW CONSTRUCTION MUST COMPLY WITH RECOMMENDED LOCATIONS. FOR ALTERATION PROJECTS LOCATE PEDESTRIAN PUSHBUTTONS TO THE MAXIMUM EXTENT FEASIBLE, AS FOLLOWS:
  - ADJACENT TO A LEVEL NON-SLIP SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS A NON-SLIP WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.
  - WITHIN 5'-0" OF THE CROSSWALK EXTENDED.
  - BETWEEN 1'-6" AND 10'-0" OF THE EDGE OF CURB, SHOULDER OR PAVEMENT.
  - PARALLEL TO THE CROSSWALK TO BE USED.

<b>COMMONWEALTH OF PENNSYLVANIA</b> <b>DEPARTMENT OF TRANSPORTATION</b> BUREAU OF PROJECT DELIVERY		
<b>CURB RAMPS AND SIDEWALKS</b> <b>NEW CONSTRUCTION OR ALTERATION DETAILS</b> <b>PUSHBUTTONS, TRIANGULAR LEVEL AREA, CHANGE OF GRADE AND CROSS SLOPE TRANSITIONS</b>		
RECOMMENDED DEC. 17, 2019  CHIEF, HWY. DELIVERY DIVISION	RECOMMENDED DEC. 17, 2019  DIRECTOR, BUREAU OF PROJECT DELIVERY	SHT <u>8</u> OF 14 <b>RC-67M</b>

SEE NOTE 3 ON SHEET 1 CONCERNING DIAGONAL RAMPS



- (13) THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.
- (14) PLACE ADJACENT DWS TILES WITH MANUFACTURED SURFACE TO MANUFACTURED SURFACE. CUT TILES ALONG THE PERIMETER ONLY.
- (24) LOCATE ONE CORNER OF THE DWS AT THE BACK OF CURB. NO OTHER POINT ON THE LEADING EDGE OF THE DWS MAY BE MORE THAN 5'-0" AWAY FROM THE BACK OF CURB.

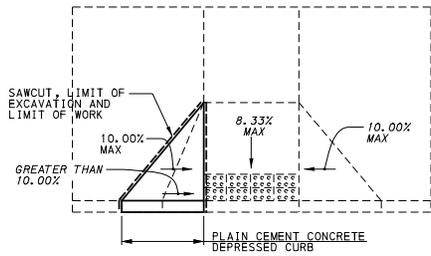


**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF PROJECT DELIVERY**

**CURB RAMPS AND SIDEWALKS**

**NEW CONSTRUCTION OR  
ALTERATION DETAILS  
DETECTABLE WARNING SURFACE**

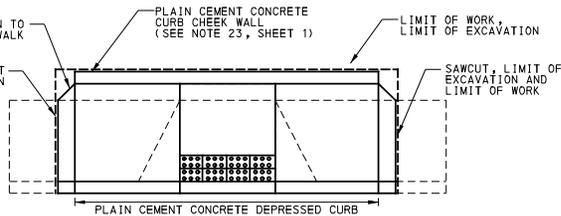
RECOMMENDED DEC. 17, 2019 <i>9219</i> CHIEF, HWY. DELIVERY DIVISION	RECOMMENDED DEC. 17, 2019 <i>Melissa J. Batale</i> DIRECTOR, BUREAU OF PROJECT DELIVERY	SHT 9 OF 14 <b>RC-67M</b>
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DETAIL ILLUSTRATES FLARE REMOVAL AND REPLACEMENT.

**SIDE FLARE RECONSTRUCTION**

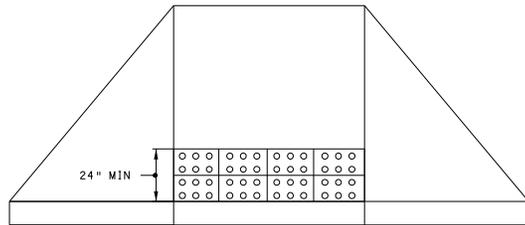
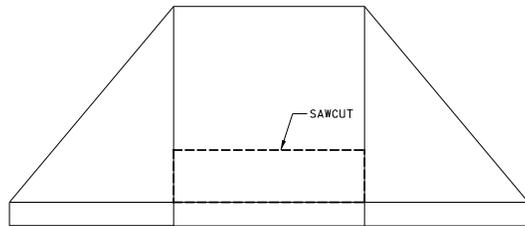
SEE TRANSITION TO EXISTING SIDEWALK DETAIL



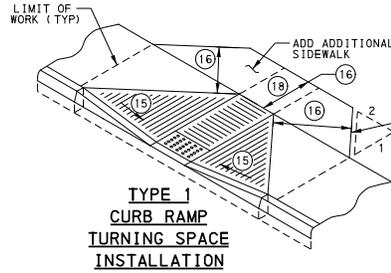
DETAIL ILLUSTRATES CURB RAMP (INCLUDING FLARES) REPLACEMENT.

**TOTAL RAMP RECONSTRUCTION**

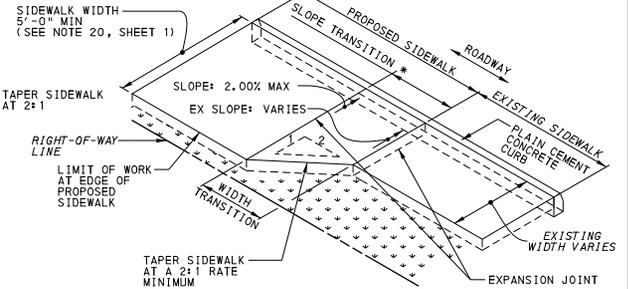
**TOTAL RAMP RECONSTRUCTION (RAMP TYPE CHANGE)**



**DETECTABLE WARNING SURFACE (DWS) INSTALLATION DETAIL**



**TYPE 1 CURB RAMP TURNING SPACE INSTALLATION**



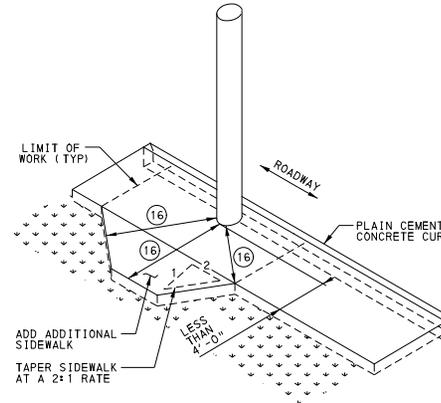
**TRANSITION TO EXISTING SIDEWALK DETAIL**

\* MINIMUM SLOPE TRANSITION LENGTH BASED ON THE DIFFERENCE OF PROPOSED SIDEWALK CROSS SLOPE AND EXISTING SIDEWALK CROSS SLOPE AT THE LOCATION OF TIE IN. THIS MINIMUM LENGTH TO BE DETERMINED BY THE FOLLOWING FORMULA:

THE MINIMUM WIDTH TRANSITION SHALL BE CALCULATED USING THE FOLLOWING FORMULA:

DEPENDENT ON WHICH IS LONGEST, EITHER THE SLOPE TRANSITION OR WIDTH TRANSITION WILL CONTROL THE LENGTH OF SIDEWALK TRANSITION.

TRANSITION AREAS SERVE AS TEMPORARY CONNECTIONS OF THE PEDESTRIAN ACCESS ROUTE. FUTURE IMPROVEMENTS TO THE REMAINING PORTION OF EXISTING SIDEWALK SHALL INCLUDE REMOVING THE TRANSITION AREA AND CONSTRUCTING A FULLY COMPLIANT SIDEWALK.



**SIDEWALK ADDITION DUE TO OBSTRUCTIONS**

**DETECTABLE WARNING SURFACE (DWS) INSTALLATION INSTRUCTIONS**

1. SAW CUT EXISTING CURB RAMP SURFACE WHERE THE DWS WILL BE PLACED.
2. REMOVE EXISTING CONCRETE FROM THIS AREA.
3. REPLACE AND COMPACT ANY DISTURBED AGGREGATE SUBBASE.
4. PLACE NEW CEMENT CONCRETE AND LEVEL TO A 4 INCH DEPTH SO THAT THE TOP OF THE CONCRETE IS LOWER THAN THE ADJOINING SIDEWALK, EQUIVALENT TO THE EMBEDDING DEPTH OF THE DWS MATERIAL.
5. LAY OUT AND PROPERLY FIT EACH UNIT PRIOR TO SETTING IN WET CONCRETE.
6. CUT UNITS AS NECESSARY ALONG PERIMETER OF DETECTABLE WARNING SURFACE.
7. PLACE UNITS ACROSS THE ENTIRE WIDTH OF THE CURB RAMP SURFACE AND/OR WHERE THE CURB IS FLUSH.
8. PRESS UNITS INTO FULL CONTACT WITH THE FRESH CONCRETE.
9. ADJUST HEIGHT OF EACH UNIT EDGE TO BE LEVEL WITH ADJACENT RAMP SURFACES.
10. ONLY TRUNCATED DOMES SHOULD BE ABOVE THE ADJACENT FINISHED CONCRETE.
11. FILL ANY SAW CUT GAPS WITH APPROVED JOINT SEALANT MATERIAL.

15 SIDE FLARES 10.00% MAX FOR RAMPS WITH TURNING SPACES 4'-0" OR GREATER.  
SIDE FLARES 8.33% MAX FOR RAMPS WITH TURNING SPACES LESS THAN 4'-0".

16 4'-0" MIN PEDESTRIAN ACCESS ROUTE.

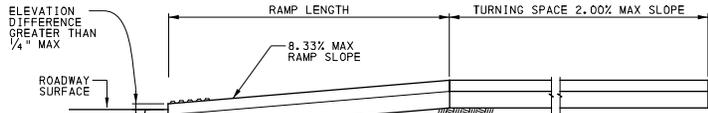
18 CURB RAMPS REQUIRE A TURNING SPACE WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SEE DETAILS FOR LOCATIONS AND DIMENSIONS.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF PROJECT DELIVERY**

**CURB RAMPS AND SIDEWALKS**

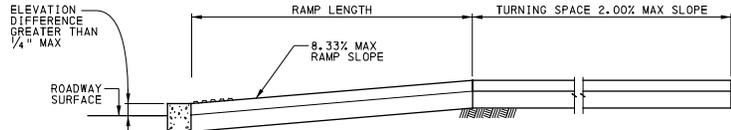
**ALTERATION DETAILS**

RECOMMENDED DEC. 17, 2019 <i>9219 Appell</i> CHIEF, HWY. DELIVERY DIVISION	RECOMMENDED DEC. 17, 2019 <i>Melissa D. Bata</i> DIRECTOR, BUREAU OF PROJECT DELIVERY	SHT 10 OF 14 <b>RC-67M</b>
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**EXISTING CURB RAMP SECTION  
(VERTICAL DROP AT RAMP)**

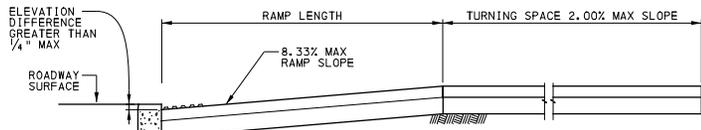
RECOMMENDED CORRECTION:  
RECONSTRUCT THE ENTIRE (OR PORTIONS OF) RAMP, TURNING SPACES AND FLARES WHERE APPLICABLE  
(SEE RAMP RECONSTRUCTION DETAIL ON SHEET 10).



**EXISTING CURB RAMP SECTION  
(VERTICAL DROP AT ROAD SURFACE)**

RECOMMENDED CORRECTION:  
RECONSTRUCT THE ENTIRE (OR PORTIONS OF) RAMP, TURNING SPACES AND FLARES WHERE APPLICABLE  
(SEE RAMP RECONSTRUCTION DETAIL ON SHEET 10).

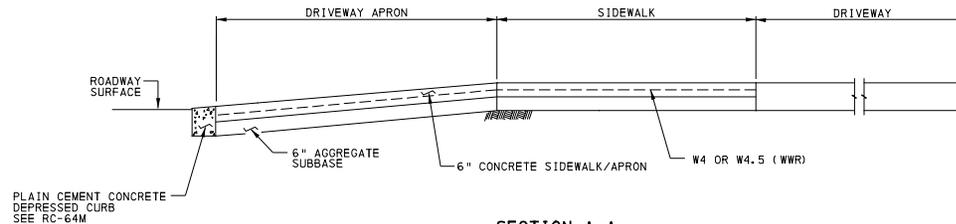
ALTERNATE CORRECTION:  
GRIND CURB TO PROVIDE A MAX SLOPE OF 8.33%, FINISHED SURFACE MUST NOT HAVE ELEVATION DIFFERENCES GREATER THAN 1/4\".



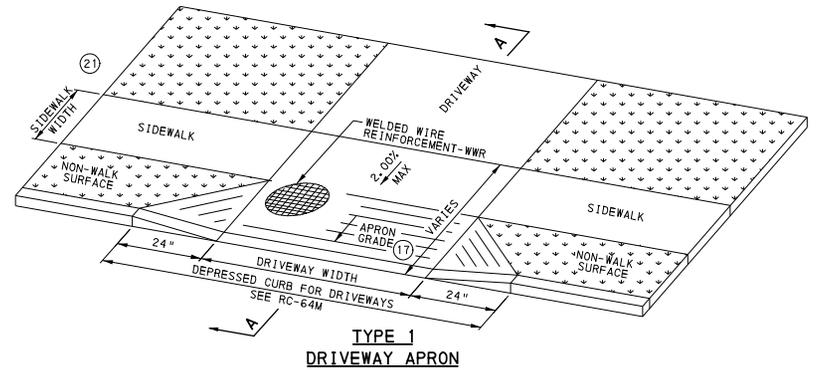
**EXISTING CURB RAMP SECTION  
(RAMP SETTLEMENT)**

RECOMMENDED CORRECTION:  
RECONSTRUCT THE ENTIRE (OR PORTIONS OF) RAMP, TURNING SPACES AND FLARES WHERE APPLICABLE  
(SEE RAMP RECONSTRUCTION DETAIL ON SHEET 10).

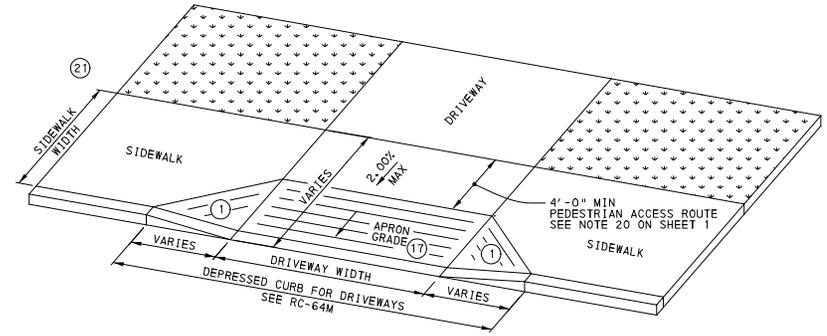
**ALTERATION DETAILS**



**SECTION A-A  
TYPICAL CROSS SECTION FOR SIDEWALKS  
THROUGH DRIVEWAYS**



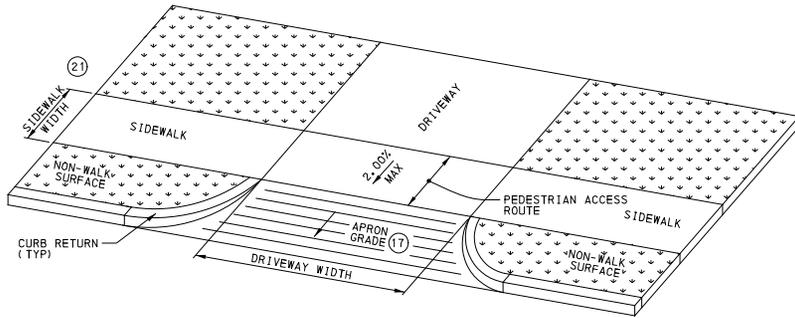
**TYPE 1  
DRIVEWAY APRON**



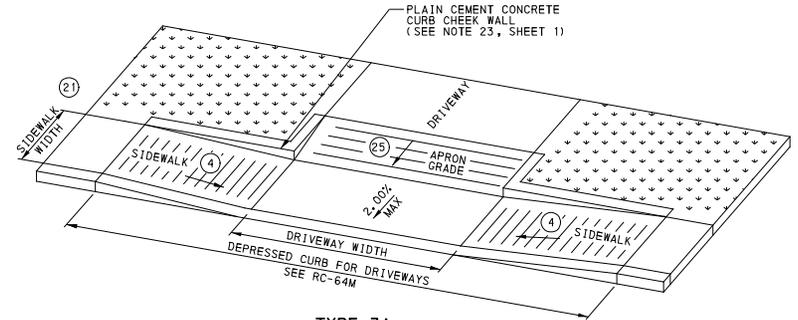
**TYPE 1A  
DRIVEWAY APRON**

- (1) SIDE FLARES 10.00% MAX SLOPE.
- (17) 8.00% MAX CHANGE IN GRADE BETWEEN ROAD SURFACE AND DRIVEWAY.
- (21) MINIMUM SIDEWALK WIDTH 5'-0" (SEE NOTE 20, SHEET 11).

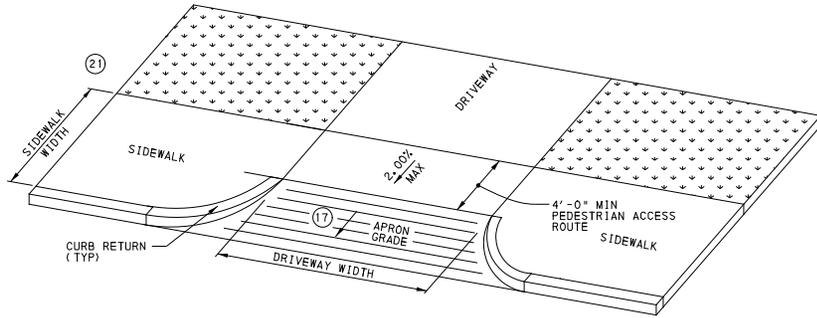
<b>COMMONWEALTH OF PENNSYLVANIA</b>		
<b>DEPARTMENT OF TRANSPORTATION</b>		
<small>BUREAU OF PROJECT DELIVERY</small>		
<b>CURB RAMPS AND SIDEWALKS</b>		
<b>ALTERATION DETAILS AND DRIVEWAY APRONS</b>		
<small>RECOMMENDED DEC. 17, 2019</small>	<small>RECOMMENDED DEC. 17, 2019</small>	<small>SHT 11 OF 14</small>
<i>9219</i> <small>CHIEF, HWY. DELIVERY DIVISION</small>	<i>Melissa D. Batale</i> <small>DIRECTOR, BUREAU OF PROJECT DELIVERY</small>	<b>RC-67M</b>



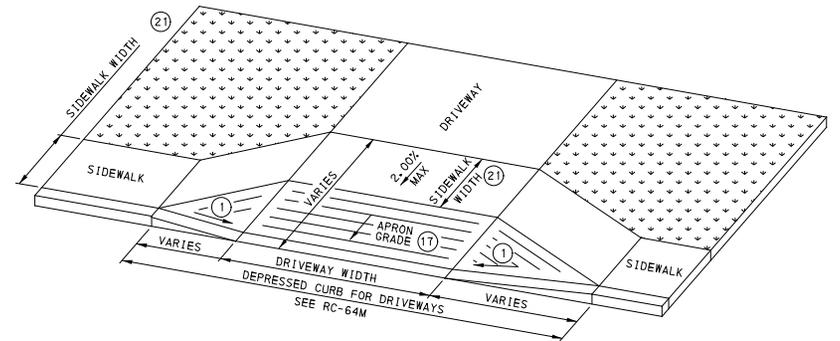
**TYPE 2  
DRIVEWAY APRON**



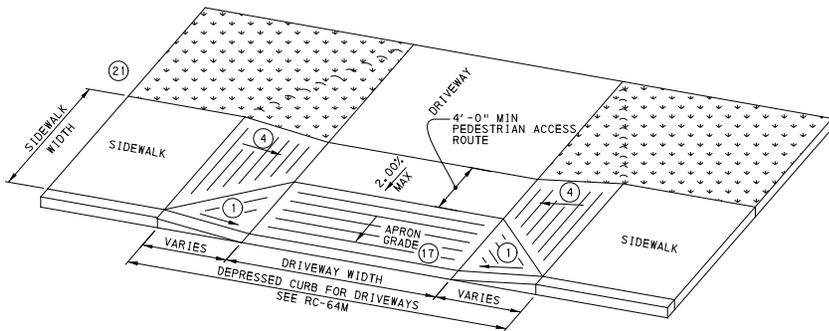
**TYPE 3A  
DRIVEWAY APRON**



**TYPE 2A  
DRIVEWAY APRON**



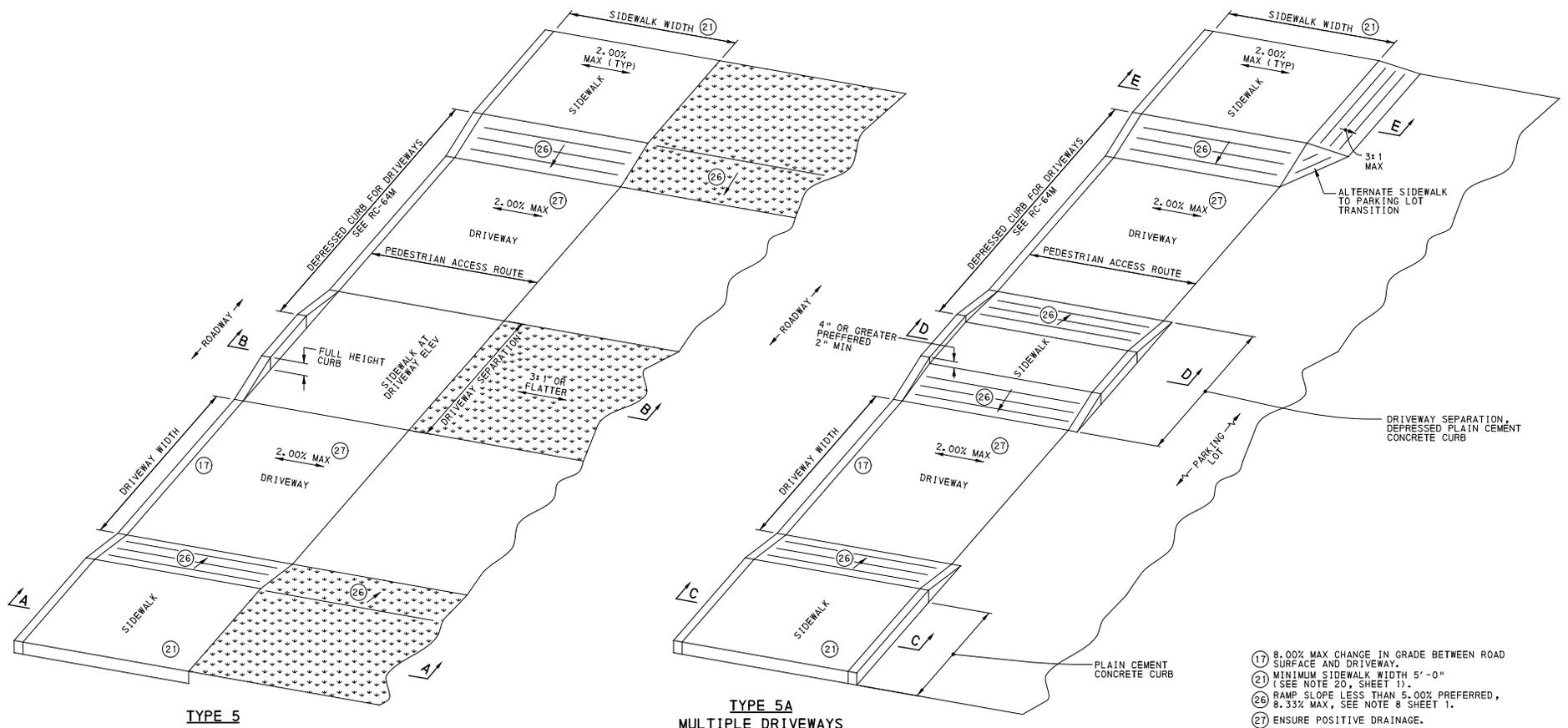
**TYPE 4  
DRIVEWAY APRON**



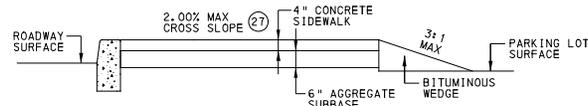
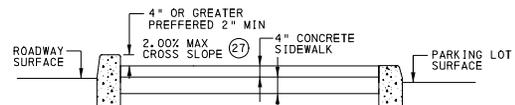
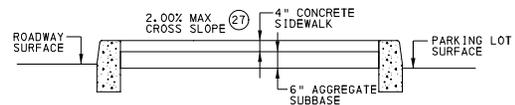
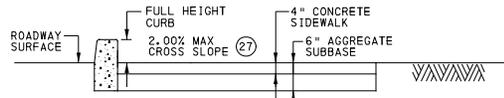
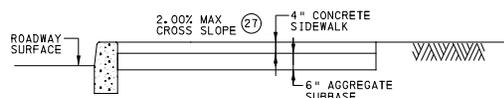
**TYPE 3  
DRIVEWAY APRON**

- ① SIDE FLARES 10.00% MAX SLOPE.
- ④ 8.33% MAX RAMP SLOPE, SEE NOTE 8 SHEET 1.
- ⑦ 8.00% MAX CHANGE IN GRADE BETWEEN ROAD SURFACE AND DRIVEWAY.
- ②① MINIMUM SIDEWALK WIDTH 5'-0" (SEE NOTE 20, SHEET 1)
- ②⑤ 8.00% MAX CHANGE IN GRADE BETWEEN DRIVEWAY SURFACE AND SIDEWALK.

<b>COMMONWEALTH OF PENNSYLVANIA</b>		
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<b>DRIVEWAY APRONS</b>		
RECOMMENDED DEC. 17, 2019 <i>9219</i> CHIEF, HWY. DELIVERY DIVISION	RECOMMENDED DEC. 17, 2019 <i>Melissa D. Batale</i> DIRECTOR, BUREAU OF PROJECT DELIVERY	SHT 12 OF 14 <b>RC-67M</b>



- (17) 8.00% MAX CHANGE IN GRADE BETWEEN ROAD SURFACE AND DRIVEWAY.
- (21) MINIMUM SIDEWALK WIDTH 5'-0" (SEE NOTE 20, SHEET 1).
- (26) RAMP SLOPE LESS THAN 5.00% PREFERRED, 8.33% MAX, SEE NOTE 8 SHEET 1.
- (27) ENSURE POSITIVE DRAINAGE.



<b>COMMONWEALTH OF PENNSYLVANIA</b>		
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