

09/28/14

**TIP PROJECT: 3614.3.37**

See Sheet 1-A For Index of Sheets

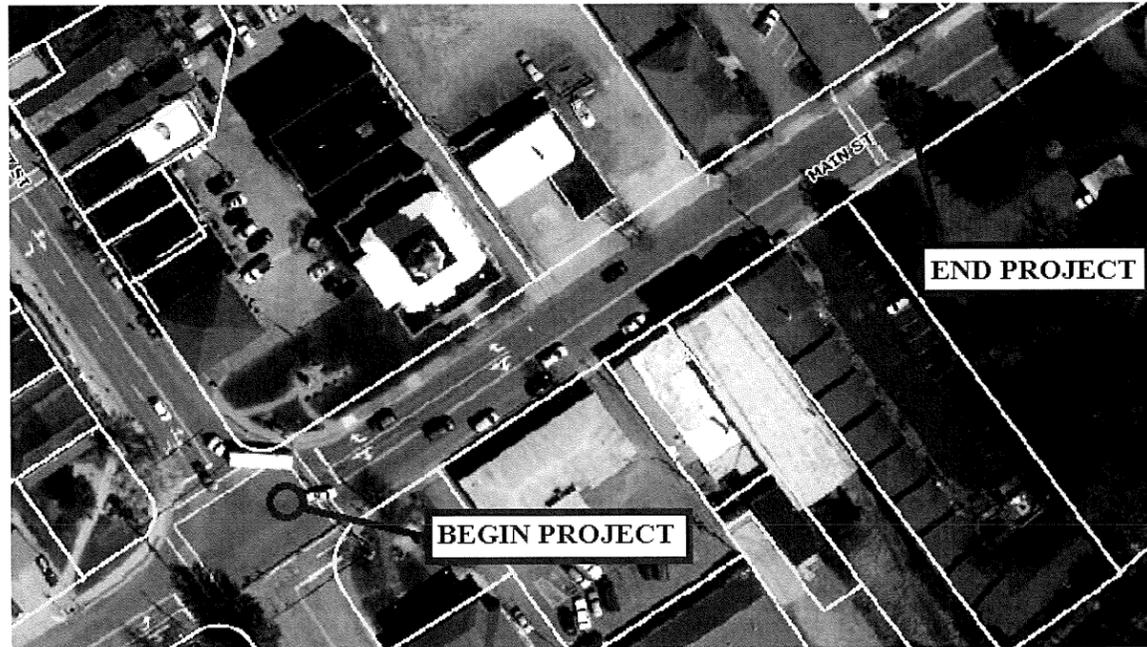
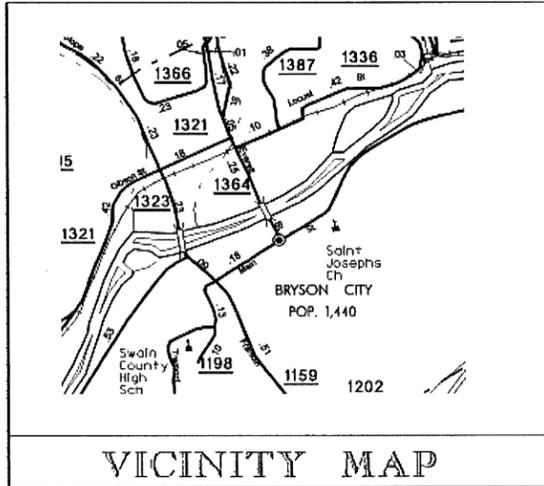
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**SWAIN COUNTY**

**LOCATION:** US 19, MAIN STREET

**TYPE OF WORK:** CURB RAMPS, STRIPING, TRAFFIC CONTROL

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	3614.3.37	1	
STATE PROJECT	P.A. PROJECT	DESCRIPTION	

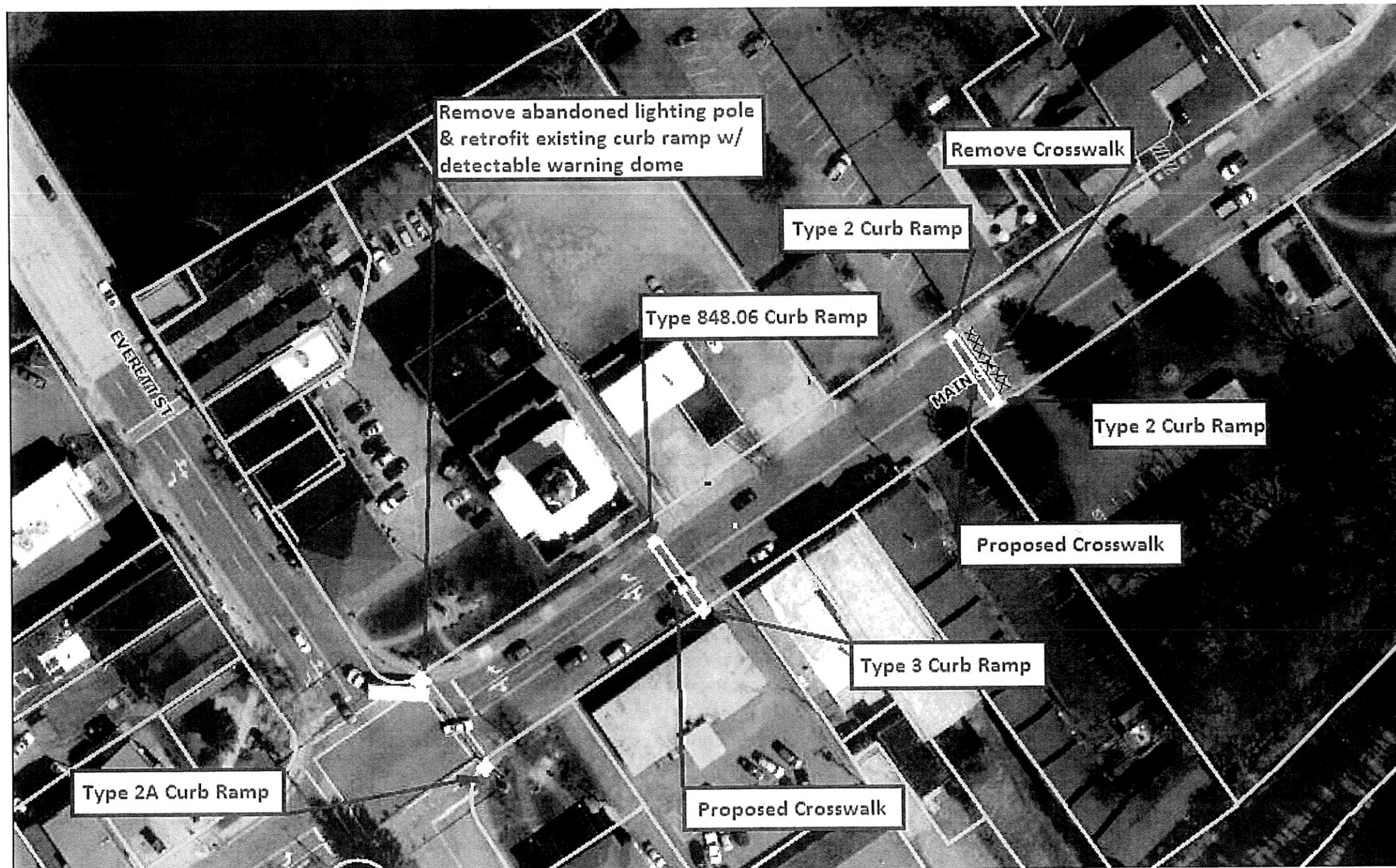


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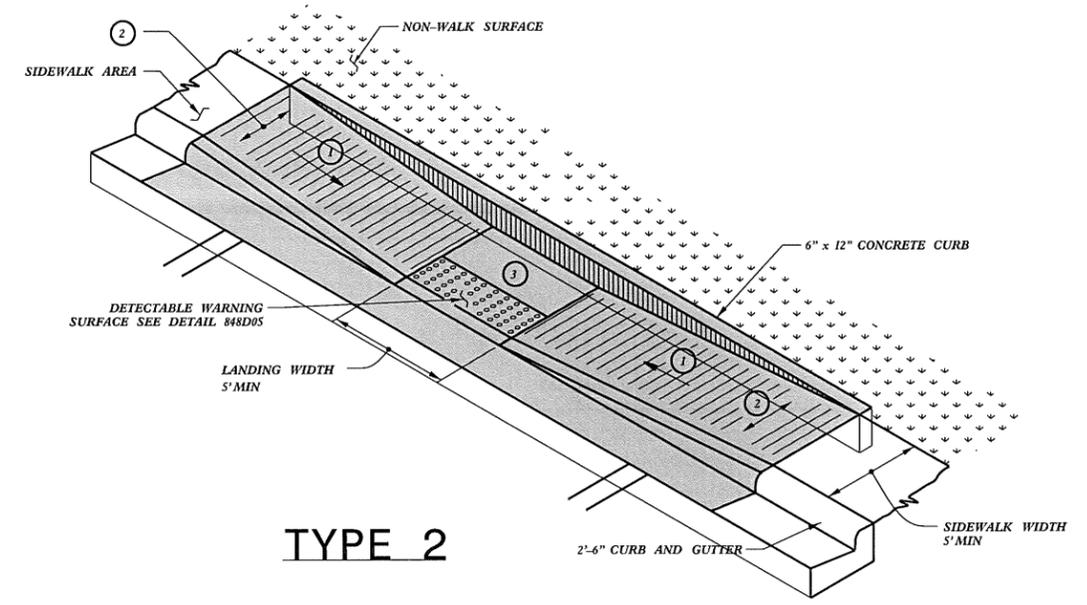
**CONTRACT:**

<p><b>GRAPHIC SCALES</b></p> <p>PLANS</p>	<p><b>DESIGN DATA</b></p>	<p><b>PROJECT LENGTH</b></p> <p>- L - 550'</p>	<p>Prepared in the Office of: <b>DIVISION OF HIGHWAYS</b> 1000 Birch Ridge Dr., Raleigh, NC, 27610</p> <p>2011 STANDARD SPECIFICATIONS</p> <p>RIGHT OF WAY DATE: _____</p> <p>LETTING DATE: _____</p> <p><b>J. L. WOODARD, P.E.</b> PROJECT ENGINEER</p> <p><b>J. L. WOODARD, P.E.</b> PROJECT DESIGN ENGINEER</p>	<p><b>HYDRAULICS ENGINEER</b></p> <p>SIGNATURE: _____ P.E.</p> <p><b>ROADWAY DESIGN ENGINEER</b></p> <p>SIGNATURE: _____ P.E.</p>	
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REVISIONS



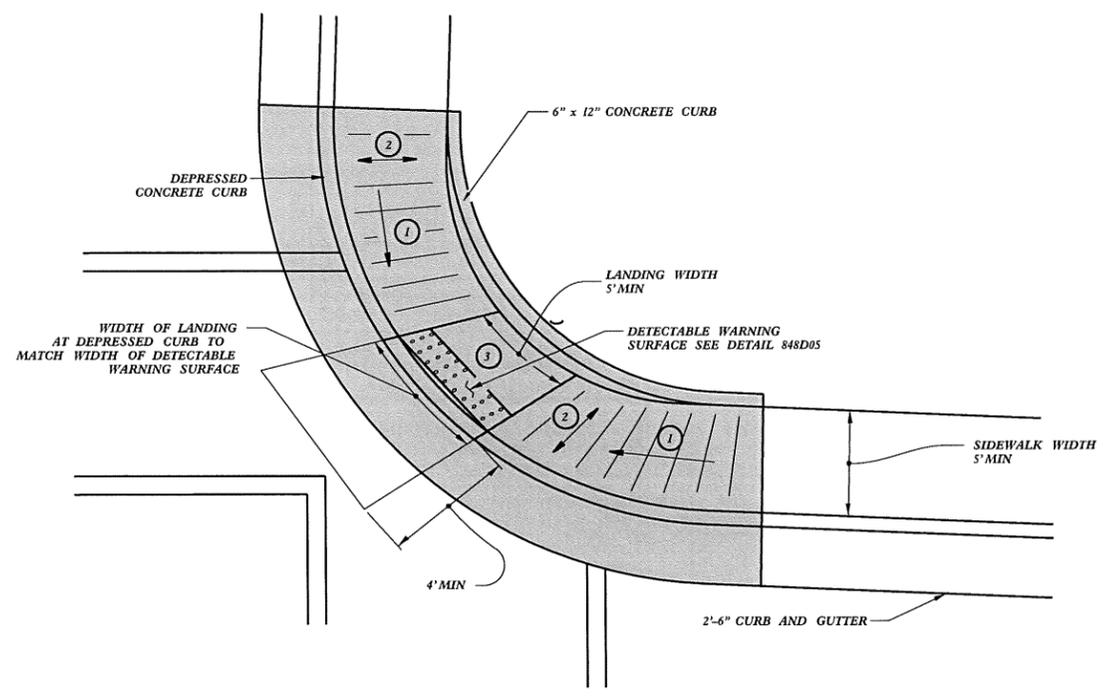
PROJECT REFERENCE NO.	SHEET NO.
3014.3.37	2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



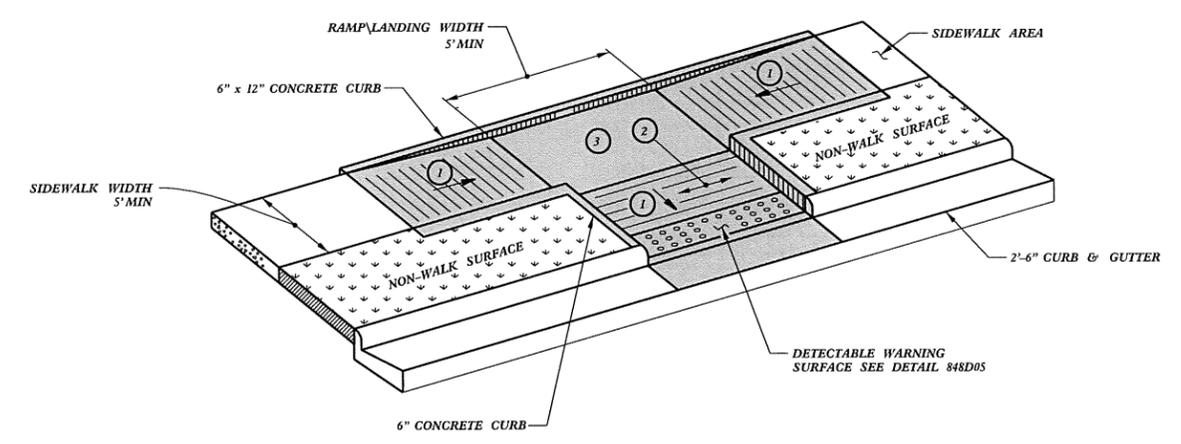
**TYPE 2**

PAY LIMITS FOR CURB RAMP

- ① 8.33% (12:1) MAX RAMP SLOPE
- ② CROSS SLOPE: 2.00%
- ③ CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



**TYPE 2A**



**TYPE 3**

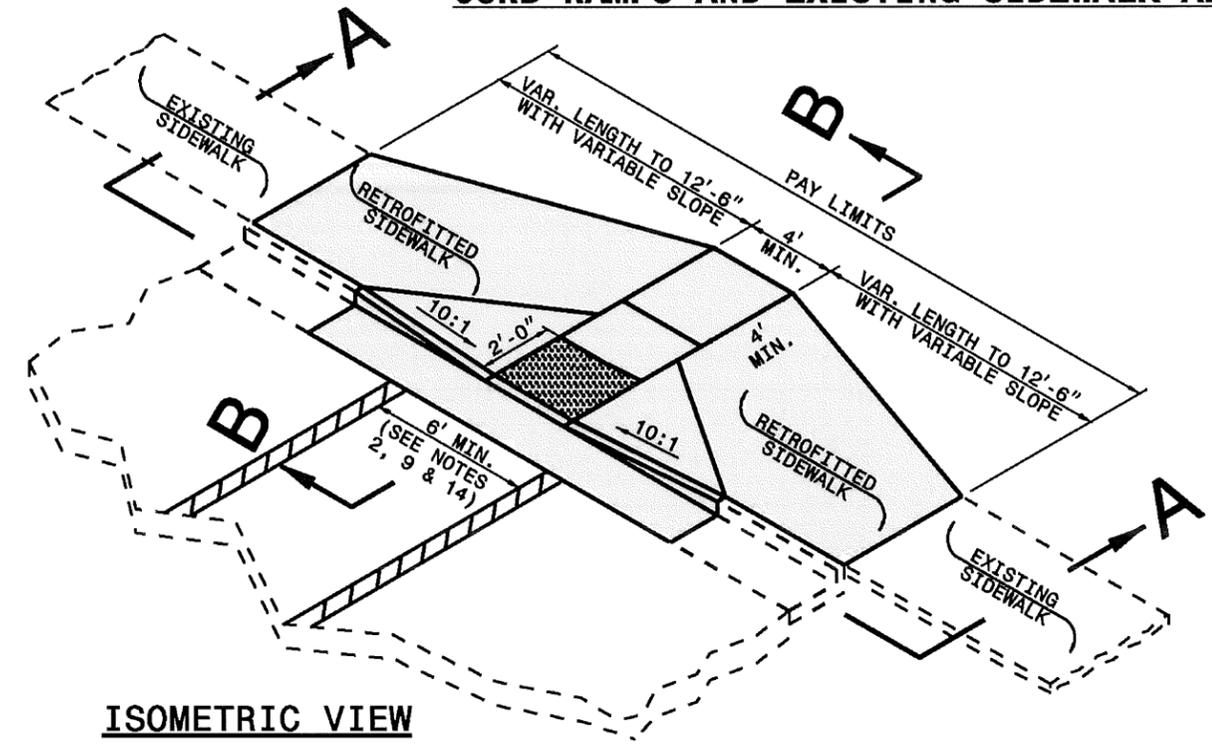
<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950 FAX 919-250-4119	
<b>CURB RAMPS</b>	
Parallel Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dwg	

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

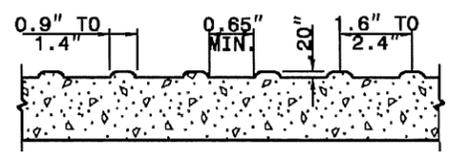
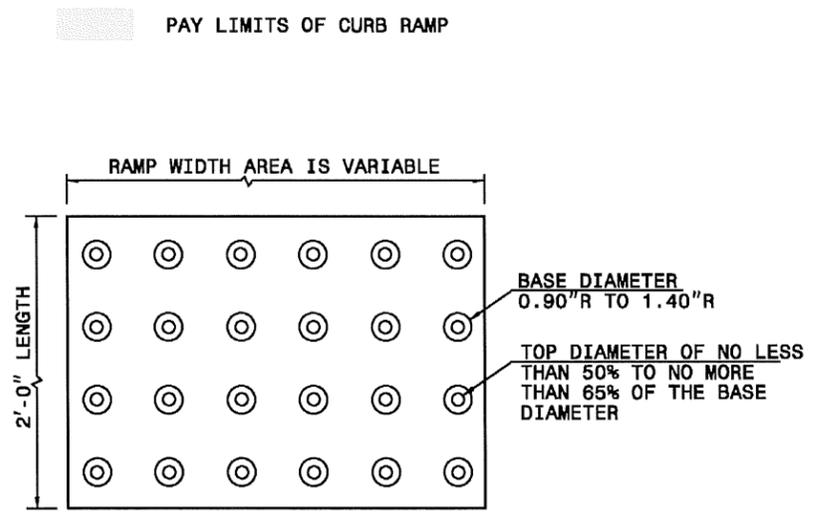
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 Jhowerton  
 AT CDBS/501

1-12

**CURB RAMPS AND EXISTING SIDEWALK ADJACENT TO CURB**

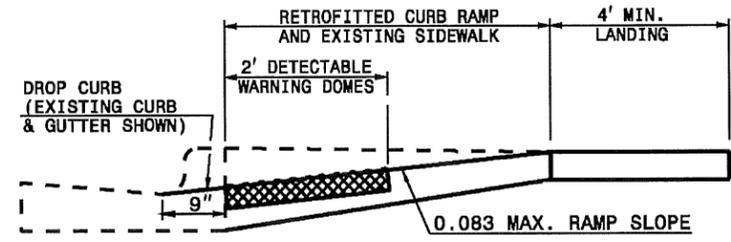


**ISOMETRIC VIEW**

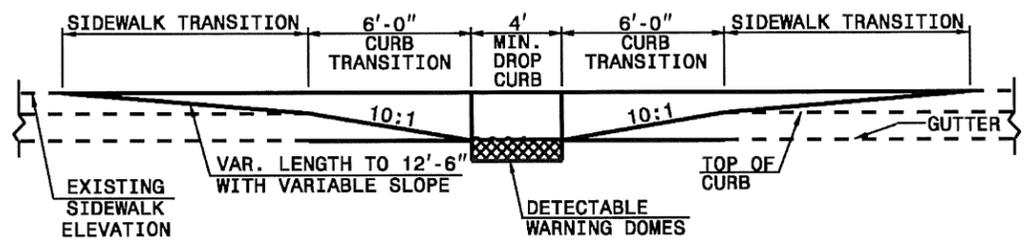


**DETECTABLE WARNING DOMES**

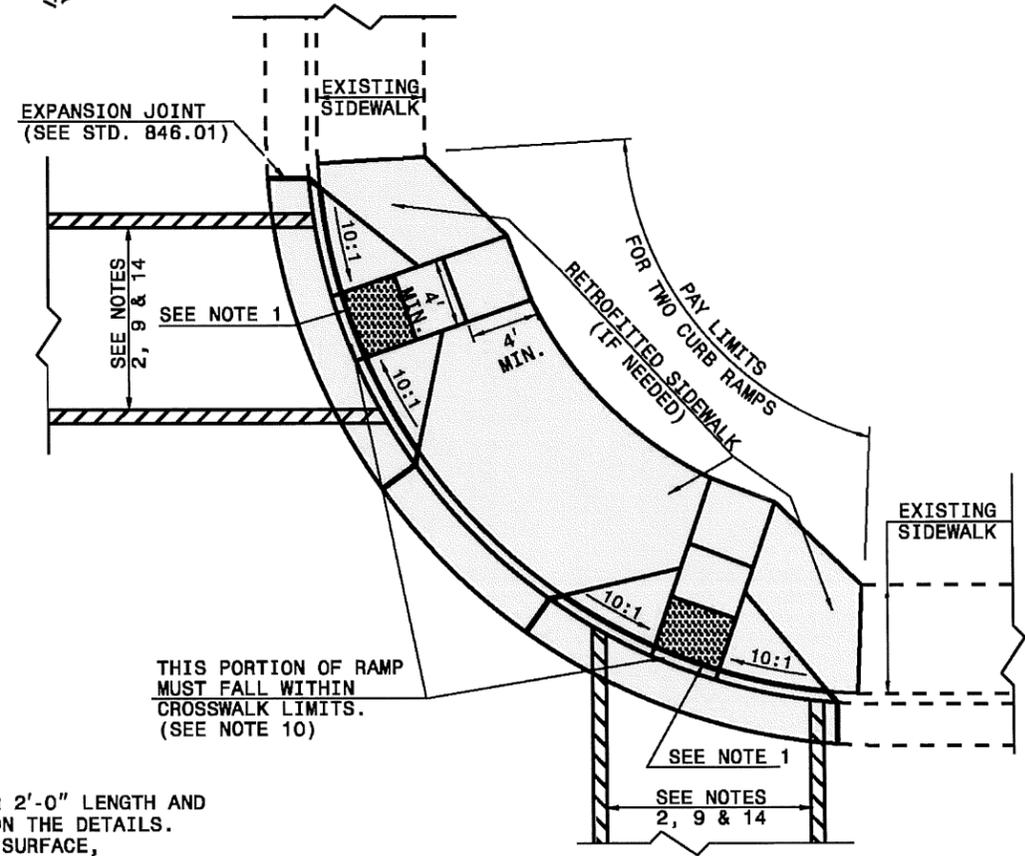
- NOTES:  
1. PLACE DETECTABLE WARNING DOMES TO COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.  
2. OBTAIN VISIBLE CONTRAST WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



**SECTION B-B**



**SECTION A-A**

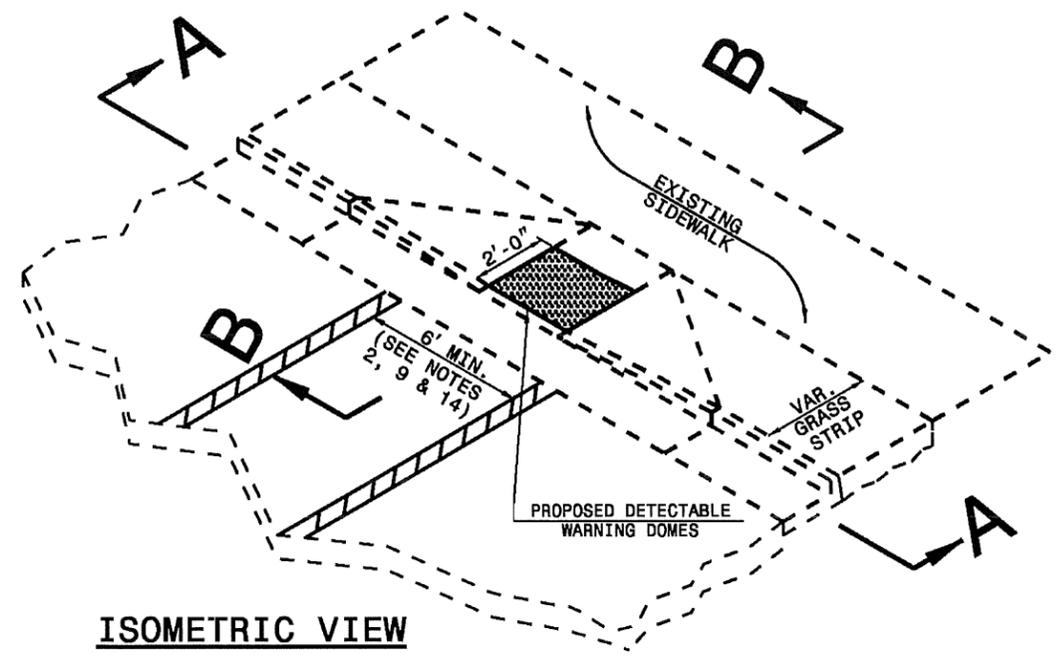


**PLAN VIEW**

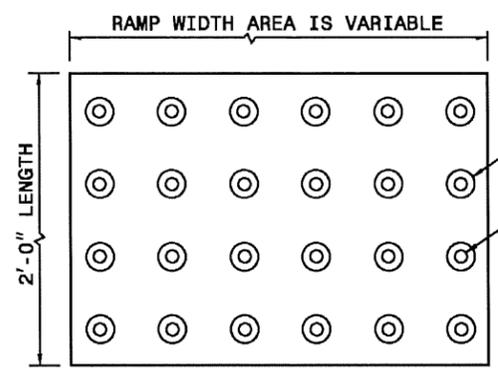
DUAL RAMPS  
ANY RADII  
(40" MIN. FLOOR WIDTH)

1-12

**RETROFITTING DETECTABLE WARNING DOMES ONTO EXISTING CURB RAMP**

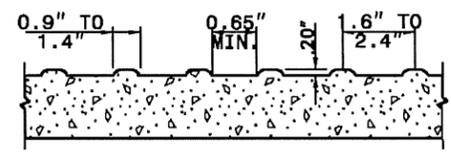


PAY LIMITS OF RETROFIT CURB RAMP



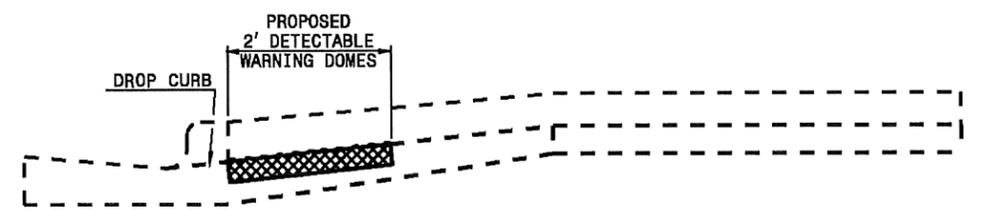
BASE DIAMETER  
0.90"R TO 1.40"R

TOP DIAMETER OF NO LESS THAN 50% TO NO MORE THAN 65% OF THE BASE DIAMETER

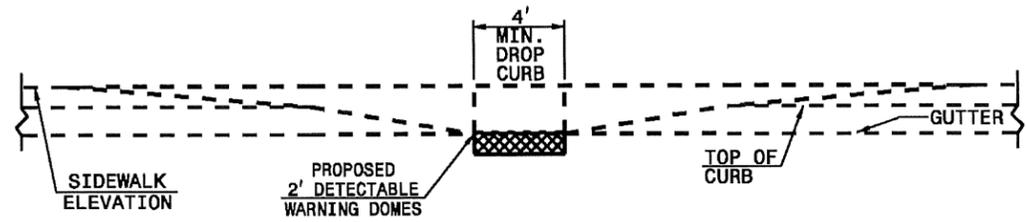


- NOTES:
1. PLACE DETECTABLE WARNING DOMES TO COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
  2. OBTAIN VISIBLE CONTRAST WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

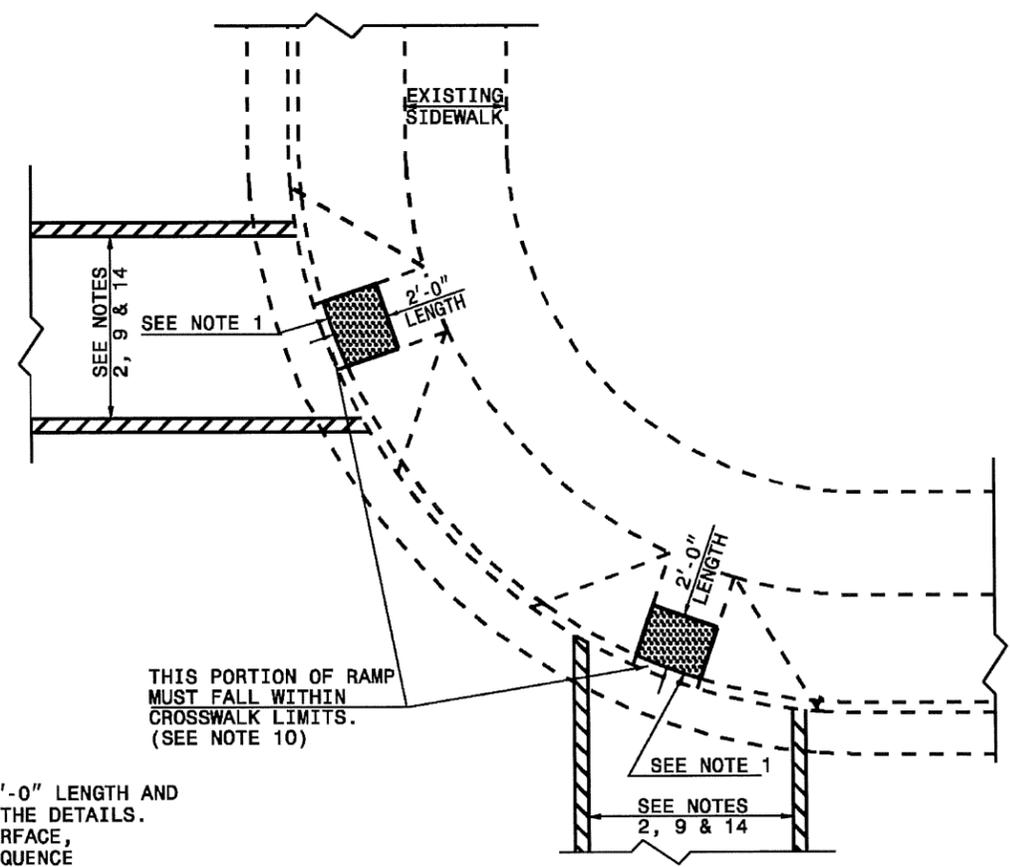
**DETECTABLE WARNING DOMES**



**SECTION B-B**



**SECTION A-A**



**PLAN VIEW**

DUAL RAMPS  
ANY RADII  
(40" MIN. FLOOR WIDTH)

STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR  
**CURB RAMP**  
EXISTING CURB AND GUTTER

SHEET 5 OF 5

**848.06**

### CURB RAMP AND EXISTING SIDEWALK

NOTES:

1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
6. TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGH THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'x5' LANDING AT THE TOP OF A RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

STATE OF NORTH CAROLINA  
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DIVISION OF HIGHWAYS  
RALEIGH, N.C.

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ENGLISH STANDARD DRAWING FOR  
**CURB RAMP**  
EXISTING CURB AND GUTTER

SHEET 5 OF 5

**848.06**