

DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION



ENGINEERING STANDARD DETAILS

REVISED: MARCH 24, 2016

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DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
201 EAST OAK STREET, SUITE 204
ARCADIA, FLORIDA 34266
OFFICE: 863-491-6165
FAX: 863-491-6163

SHEET INDEX

REVISION DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL

INDEX

GENERAL NOTES

PUBLICATIONS, CODES AND SPECIFICATIONS, AS HEREINAFTER LISTED AND REFERENCED THROUGHOUT THESE REGULATIONS, ARE A PART OF THIS DIVISION JUST AS IF INCORPORATED THEREIN. REFERENCE IS INTENDED TO REFER TO THE LATEST REVISION OR PUBLICATION WHICH HAS BEEN OFFICIALLY ADOPTED BY THE ISSUING AGENCY UNLESS A DATED ISSUE IS INDICATED. REFERENCE IN F.D.O.T. STANDARD SPECIFICATIONS TO THE STATE SHALL BE INTERPRETED TO MEAN THE COUNTY ENGINEER OR PROJECT ENGINEER, DEPENDING ON THE RESPONSIBILITIES ASSIGNED BY REQUIREMENTS HEREIN. REFERENCE TO TESTING, SAMPLING, JOB MIXTURES AND OTHER QUALITY CONTROL PROVISIONS THEREIN ARE DELETED IN FAVOR OF QUALITY CONTROL PROVISIONS OF THESE REQUIREMENTS.

MINIMUM STANDARDS: THE REQUIREMENTS INCLUDED HEREIN ARE MINIMUM STANDARDS CONSIDERED ONLY AS BASIC REQUIREMENTS FOR PERFORMANCE, STRUCTURAL SUITABILITY AND DURABILITY. ALL PROPOSED CONSTRUCTION MUST BE DESIGNED WITH FULL CONSIDERATION GIVEN TO THE FUNCTIONAL, STRUCTURAL AND AESTHETIC REQUIREMENTS OF THE PARTICULAR INSTALLATION. WHERE STRICT ADHERENCE TO THE STANDARDS IS NOT PRACTICAL, A DEVIATION MAY BE GRANTED BY THE COUNTY ENGINEER.



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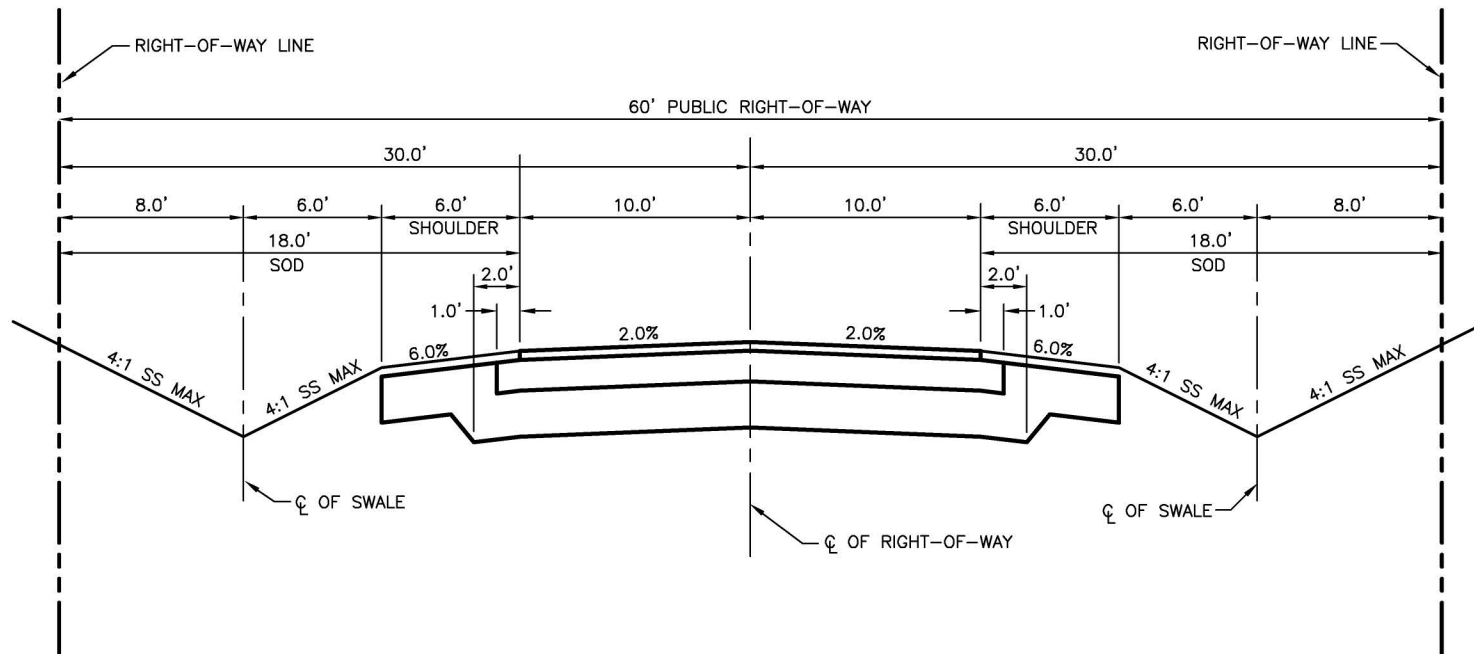
G-1



UTILITY LOCATIONS IN RIGHT-OF-WAY

D - 1

D - 2



NOTE:

SUB-GRADE, STABILIZED SHOULDER, SHELL OR LIMEROCK BASE COURSE, PRIME COAT APPLICATION AND ASPHALTIC CONCRETE SURFACE COURSE ALONG WITH THE STRUCTURAL NUMBER OF THE PAVEMENT SECTION SHALL CONFORM TO DETAILS D-17A THROUGH D-17F.



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**60' PUBLIC RIGHT-OF-WAY
(OPEN DRAINAGE)**

SCALE:

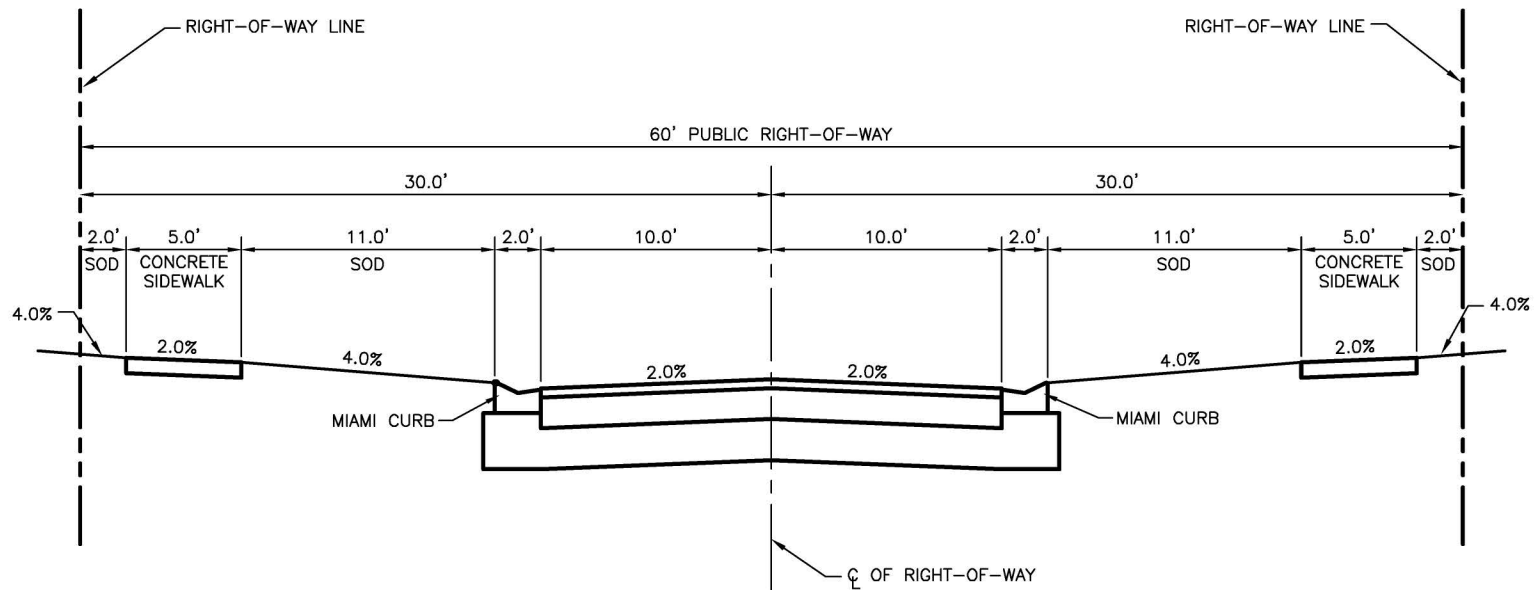
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DETAIL

D-3A



NOTE:

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**60' PUBLIC RIGHT-OF-WAY
(CLOSED DRAINAGE)**

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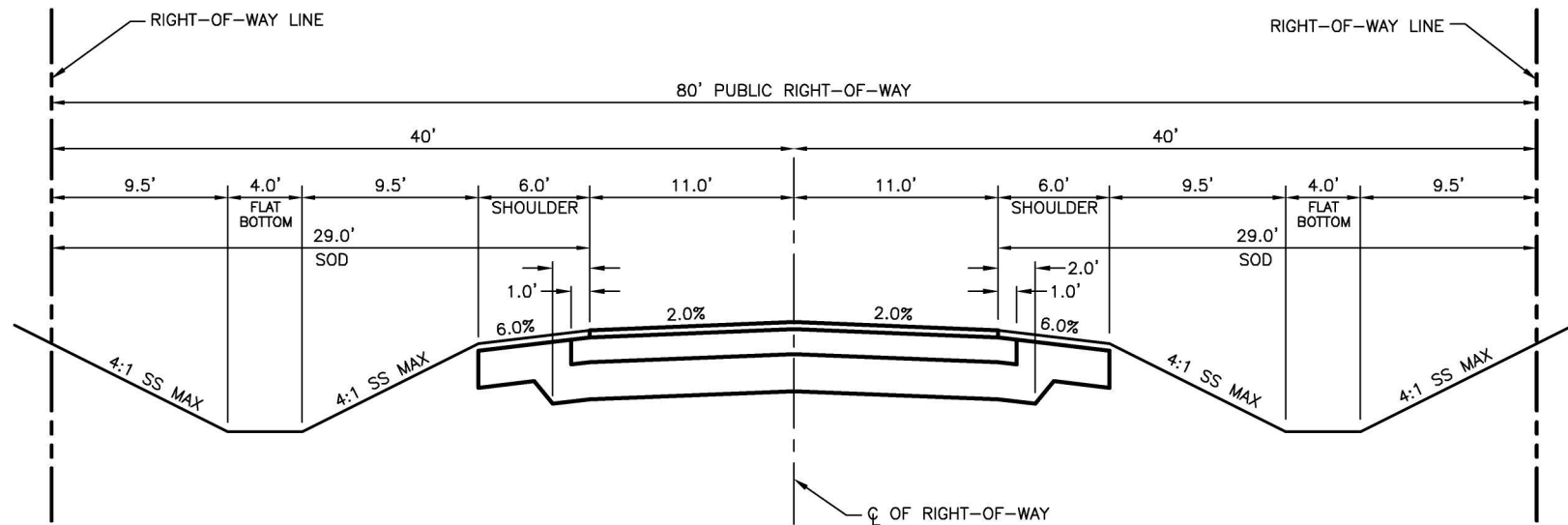
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DETAIL

D-3B



NOTE:

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**80' PUBLIC RIGHT-OF-WAY
(OPEN DRAINAGE)**

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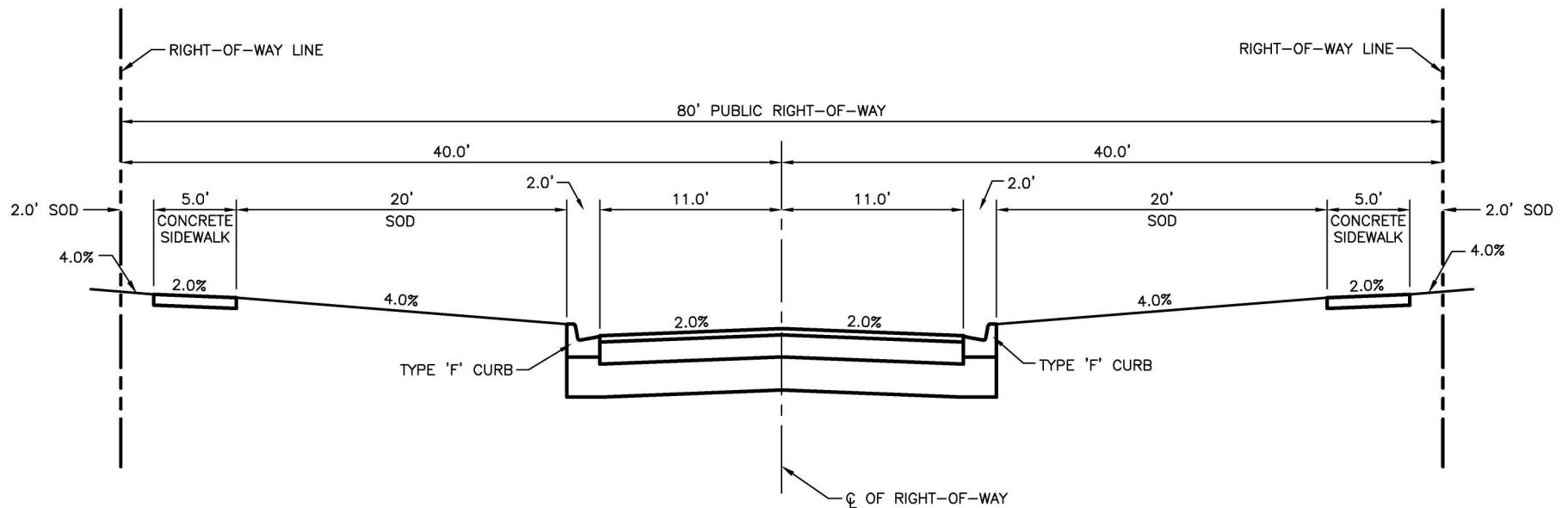
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DETAIL

D-3C



NOTE:

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**80' PUBLIC RIGHT-OF-WAY
(CLOSED DRAINAGE)**

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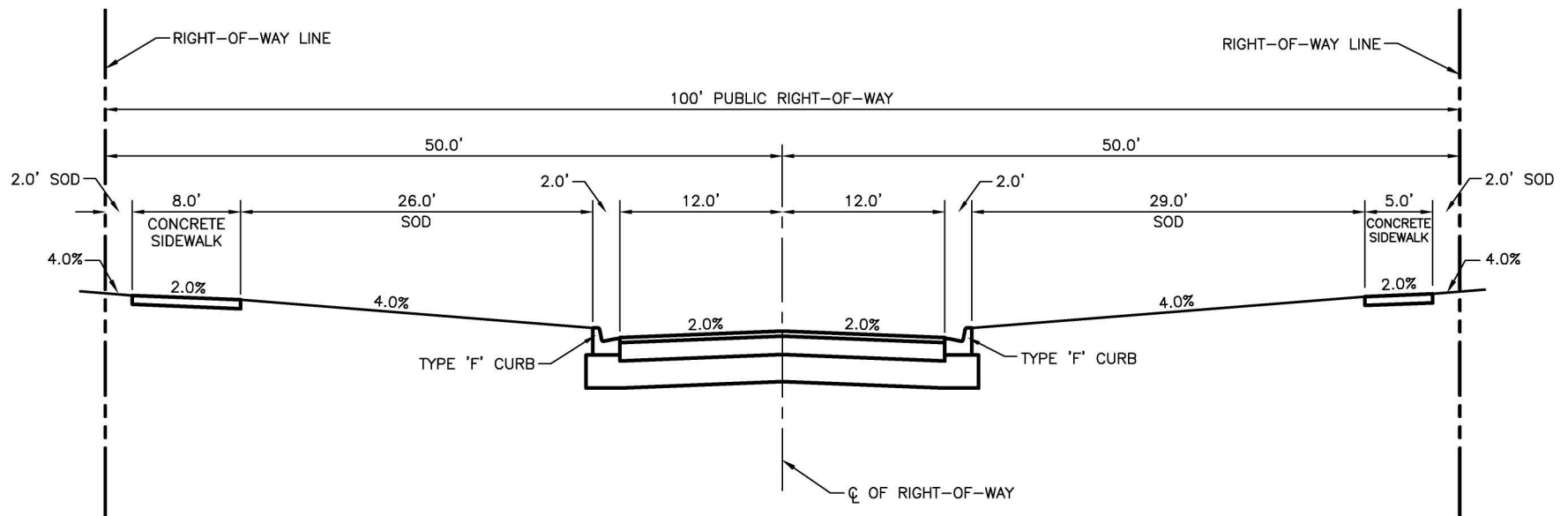
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D-3D



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**100' PUBLIC RIGHT-OF-WAY
(CLOSED DRAINAGE)**

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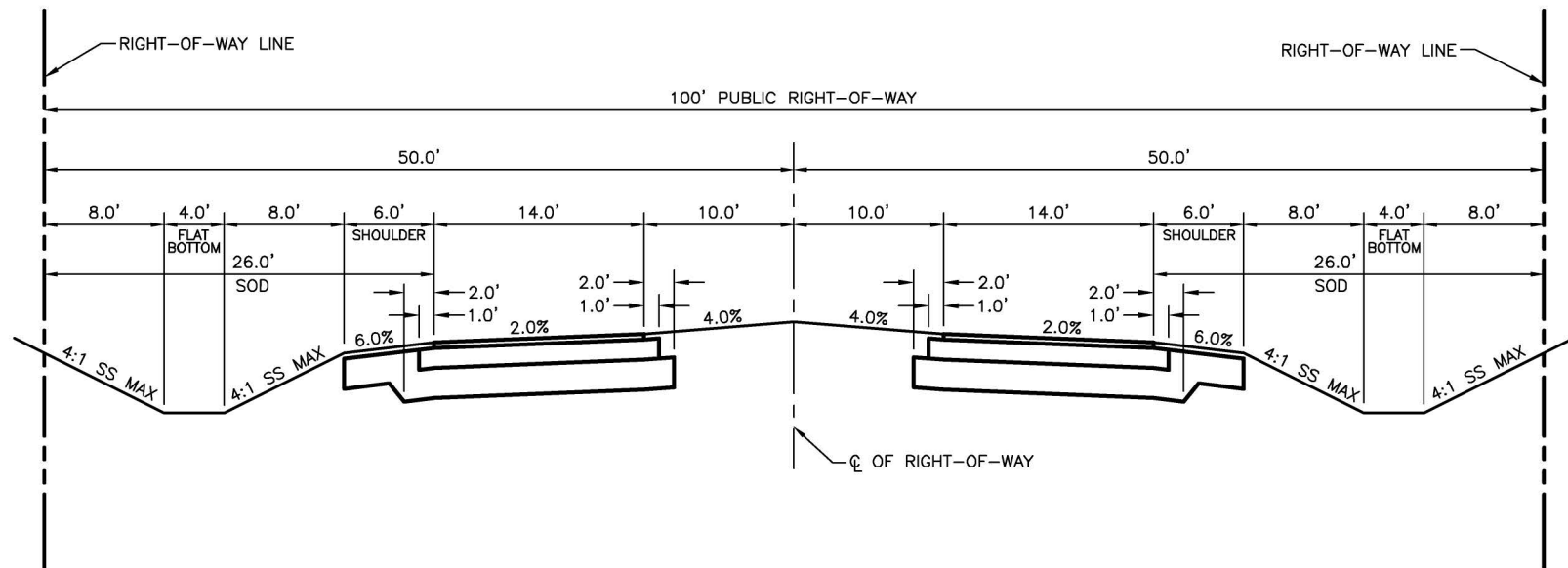
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DETAIL

D-3F



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**100' PUBLIC RIGHT-OF-WAY
2 LANE DIDIVED
(OPEN DRAINAGE)**

SCALE:

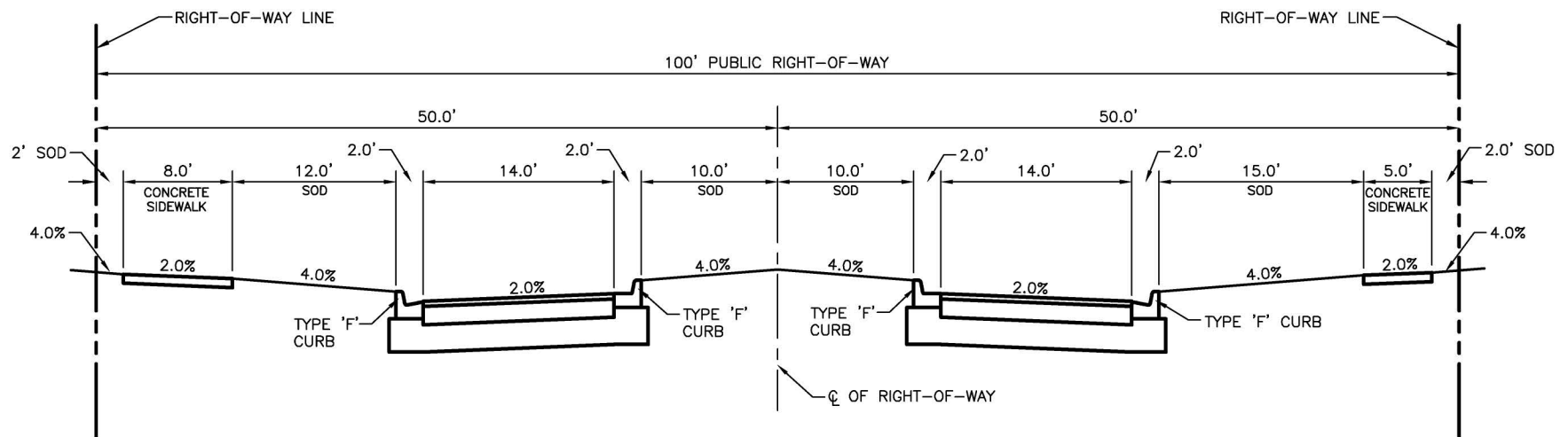
NOT TO SCALE

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DETAIL

D-3G



NOTE:

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**100' PUBLIC RIGHT-OF-WAY
2 LANE DIDIVED
(CLOSED DRAINAGE)**

SCALE:

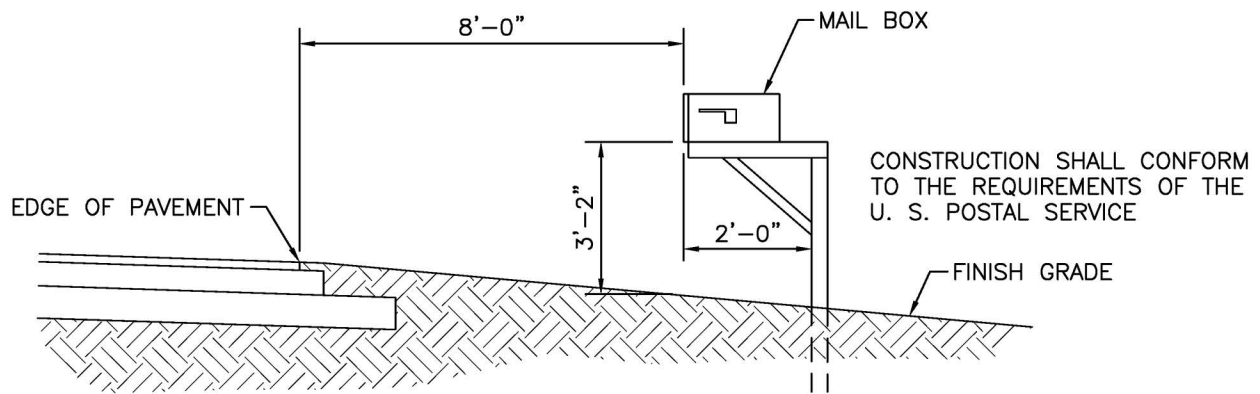
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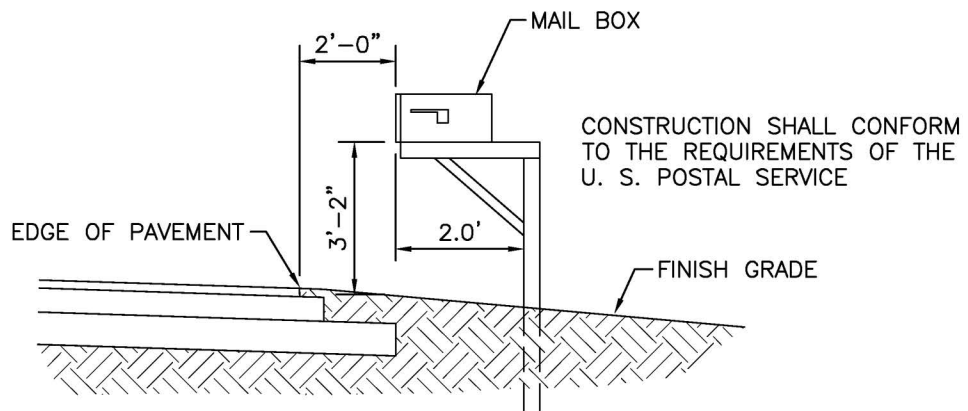
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DETAIL

D-3H



FOR RIGHT-OF-WAYS
80' AND GREATER



FOR RIGHT-OF-WAYS
LESS THAN 80'



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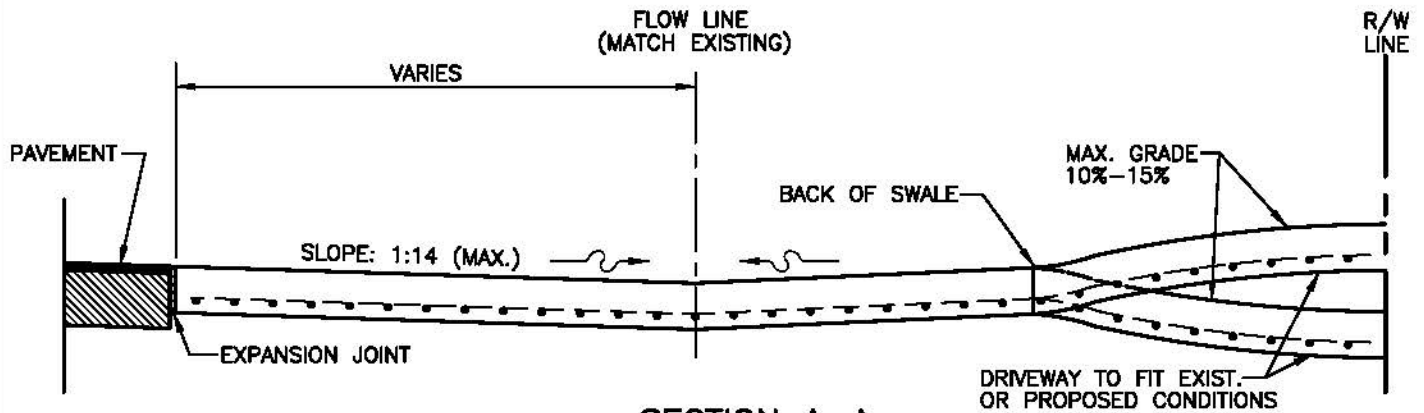
MAIL BOX LOCATION

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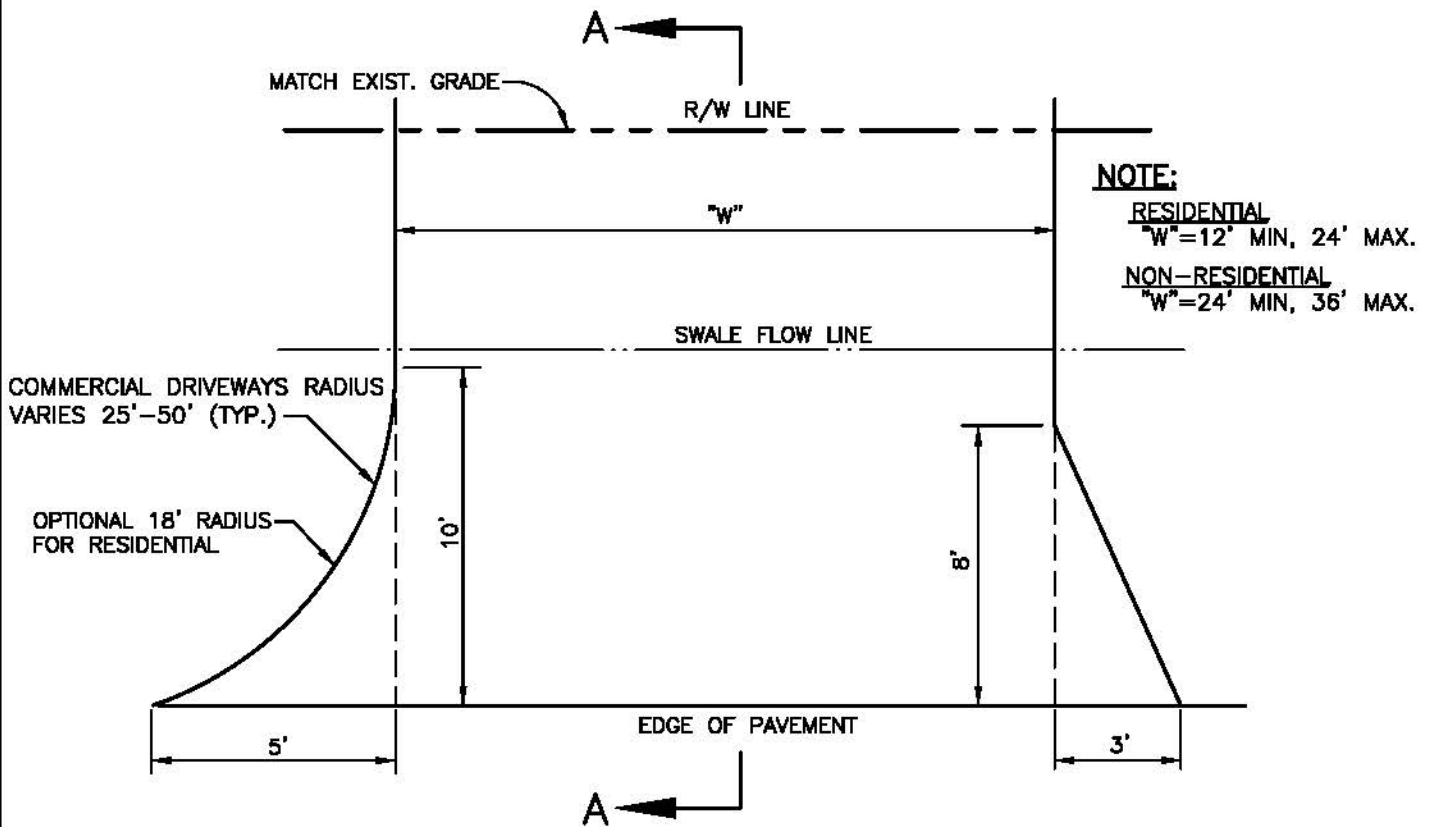
SCALE:
NOT TO SCALE

DETAIL

D - 4



SECTION A-A



PLAN VIEW

- (A) CONSTRUCT WITH 6" REINFORCED CONCRETE (3,000 psi @ 28 DAYS) WITH 6"x6" #10 MESH FROM EDGE OF PAVEMENT TO THE RIGHT-OF-WAY LINE.
- (B) DRIVEWAYS ADJACENT TO A PAVED ROADWAY MUST HAVE THE APRON CONSTRUCTED IN COMPLIANCE WITH THE NOTE (A) ABOVE.
- (C) EXISTING DRAINAGE FLOWLINE TO BE MAINTAINED. PIPING MAY BE REQUIRED AT THE COUNTY'S DISCRETION.
- (D) 3'x8' FLARED APRON IS MINIMAL, OR 18' RADIUS.
- (E) IF THE DRIVEWAY SLOPE IS STEEPER THAN 1:14, A STORM PIPE WITH MITERED ENDS SHALL BE INSTALLED.
- (F) NO DRIVEWAY RETURN, AT THE EDGE OF PAVEMENT, SHALL BE CLOSER THAN 50' FROM THE INTERSECTING STREET EDGE OF PAVEMENT.



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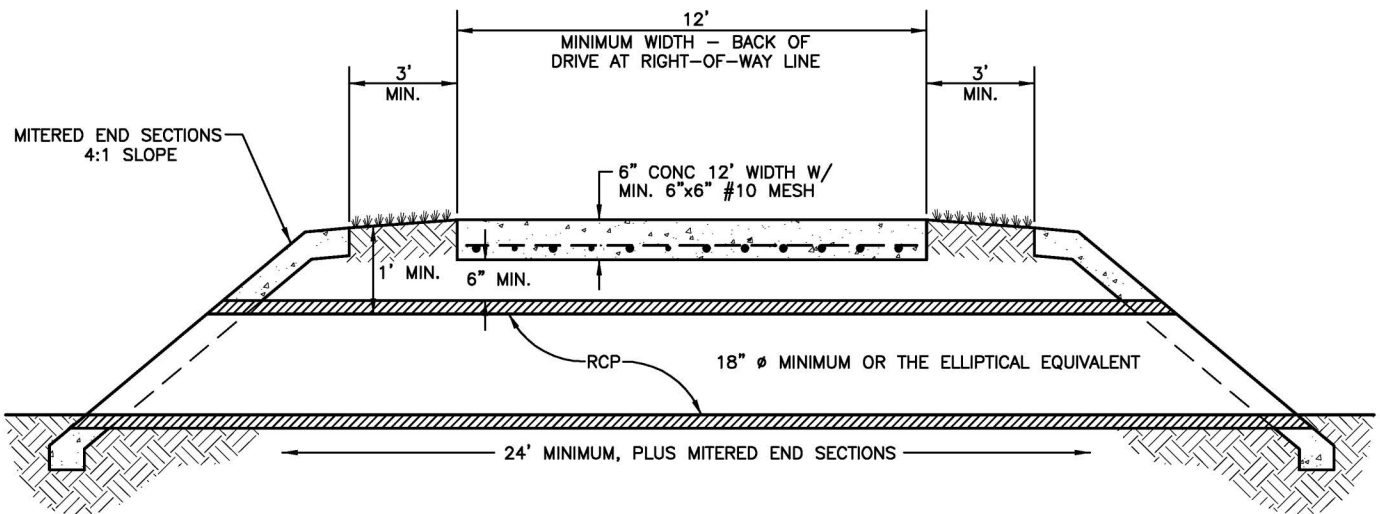
RURAL SWALE DRIVEWAY

REVISION DATE:
3-24-16

SCALE:
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DETAIL

D - 5



TYPICAL DRIVEWAY

VARIABLES: TOTAL OF 1' OF COVER. HDPE OR CMP PIPE IS ACCEPTABLE IN LIEU OF RCP.
R.C.P. WILL REQUIRE A MINIMUM 6" OF COVER BENEATH BOTTOM OF DRIVEWAY, FOR A

- NOTE: 1) GRADES AND LOCATIONS MUST BE REVIEWED AND APPROVED BY THE COUNTY ENGINEERING STAFF FOR ALL PIPE INSTALLATIONS.
- 2) ACTUAL REQUIRED PIPE DIAMETER WILL BE BASED ON THE FLOW RATE REQUIRED TO PASS THROUGH PIPE SO AS NOT TO IMPOUND WATER UPSTREAM.
- 3) PIPE SIZE TO BE DETERMINED AND APPROVED BY DESOTO COUNTY.



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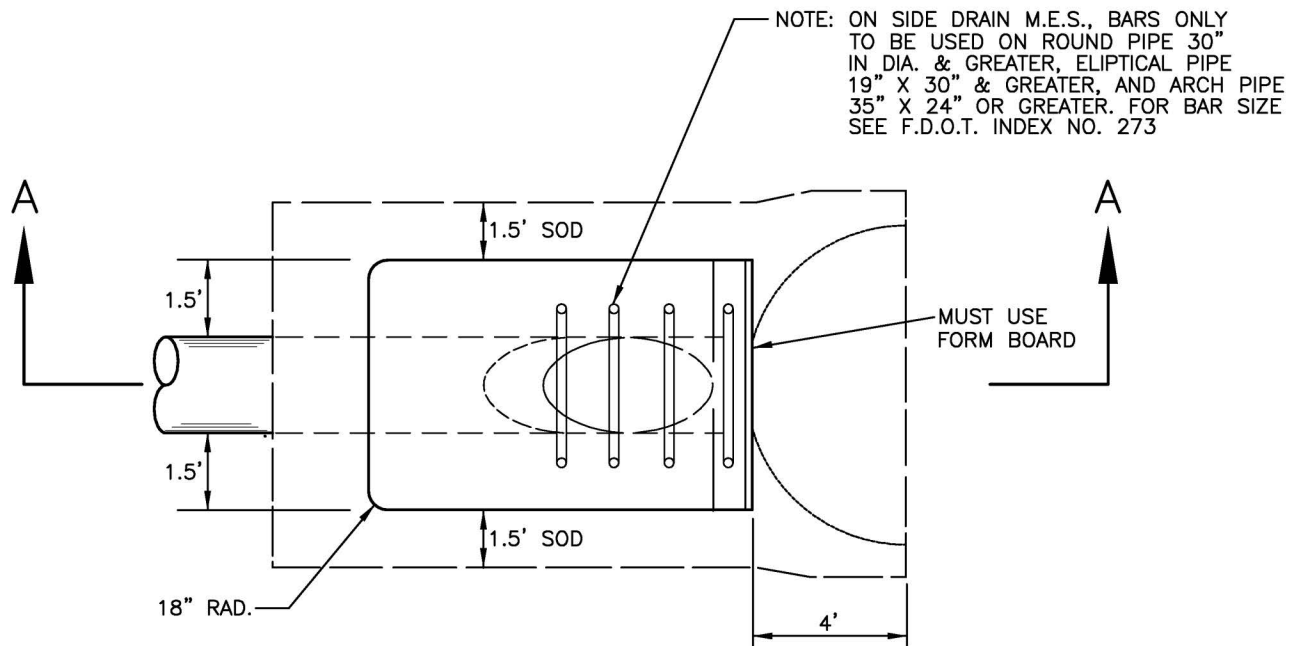
TYPICAL DRIVEWAY STORM PIPE CROSS SECTION

REVISION DATE:
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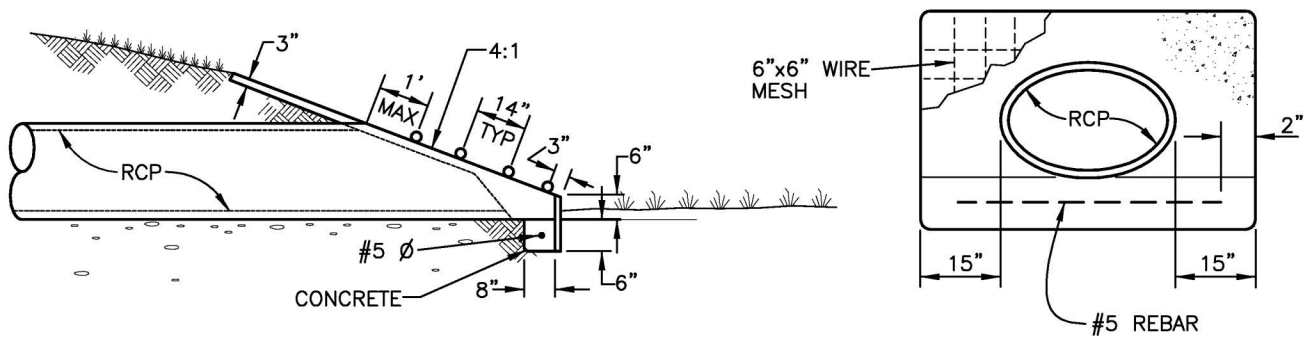
SCALE:
NOT TO SCALE

DETAIL

D - 6



PLAN VIEW



SECTION A-A

END VIEW



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RESIDENTIAL DRIVEWAY MITERED END SECTION

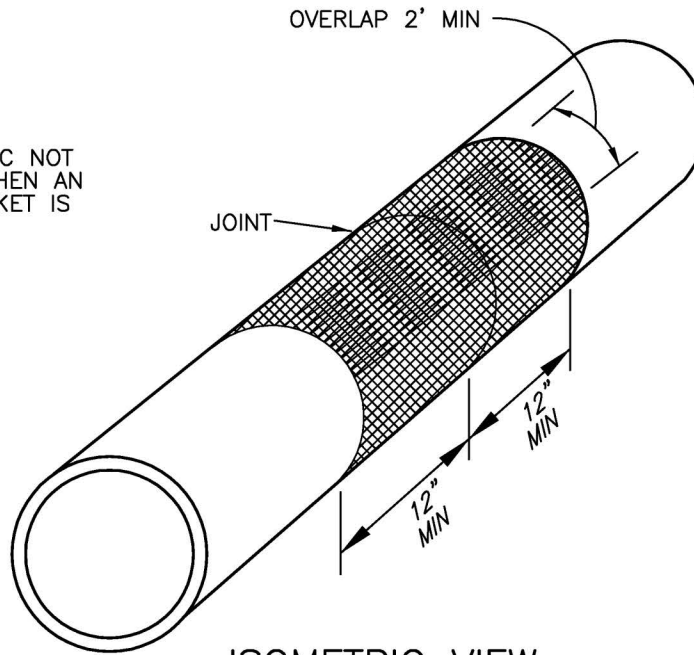
REVISION DATE:
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SCALE:
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DETAIL

D - 7

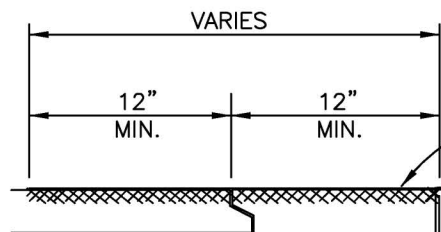
NOTE: FILTER FABRIC NOT
REQUIRED WHEN AN
O-RING GASKET IS
USED.



ISOMETRIC VIEW

NOTE: FILTER FABRIC MATERIAL
MUST MEET THE FOLLOWING
ASTM REQUIREMENTS:

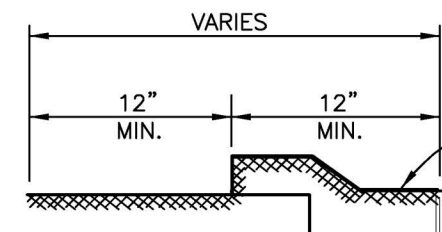
ASTM D 4595
ASTM D 4632
ASTM D 4533
ASTM D 4833
ASTM D 4491



BUTT JOINT

WOVEN OR NON-WOVEN
FILTER FABRIC

NOTE: NOT NECESSARY
WITH O-RING GASKET



BELL JOINT

WOVEN OR NON-WOVEN
FILTER FABRIC



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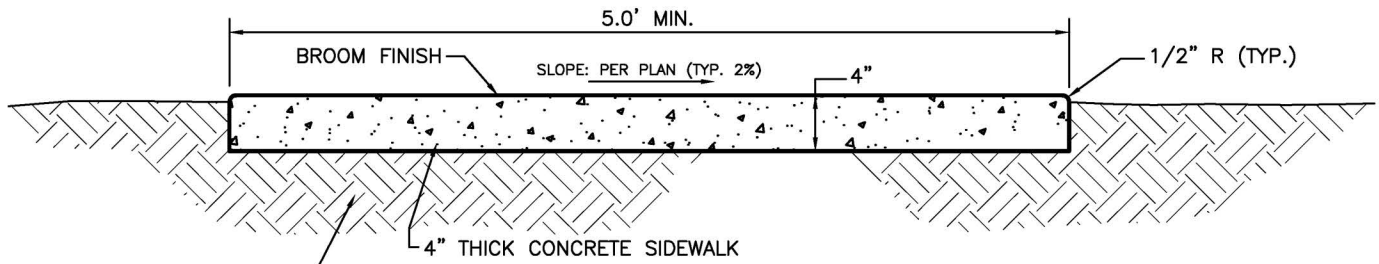
CONCRETE STORM PIPE FILTER WRAP

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DETAIL

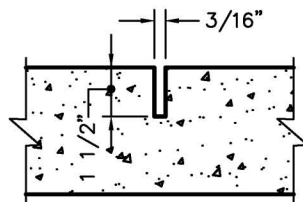
D - 8



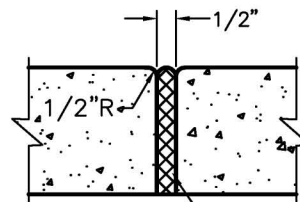
THE PROPOSED FILL SHALL BE COMPACTED IN 12" LIFTS
TO 95% MAXIMUM DENSITY IN ACCORDANCE WITH AASHTO T-180

SIDEWALK NOTES:

1. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 P.S.I. IN 28 DAYS.
2. CONTRACTION JOINTS SHALL BE SAW CUT TO A 1 1/2" DEPTH AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK. AND MAXIMUM SPACING OF 5.0'.
3. AN EXPANSION JOINT WILL BE PLACED AT THE END OF ALL RETURNS, AT FIXED OBJECTS (DRIVEWAYS, CURBS ETC.) AND INTERVALS NOT TO EXCEED 20'. EXPANSION JOINTS SHALL BE CONSTRUCTED WITH 1/2" PREMOLDED EXPANSION JOINT MATERIAL.
4. ALL SIDEWALKS AND SIDEWALK CROSSING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).



TYPE 'A'



TYPE 'B'

TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
'A'	5'-0" CENTER TO CENTER ON SIDEWALKS.
'B'	WHERE SIDEWALK ABUTS CONCRETE CURBS, DRIVEWAYS & SIMILAR STRUCTURES AT INTERVALS NOT TO EXCEED 20 FEET.

NOTES:

1. ALL ORGANIC MATERIAL & DEBRIS SHALL BE REMOVED & AREA SHALL BE GRADED & COMPACTED PRIOR TO CONCRETE PLACEMENT.
2. THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE CLASS 1, 3,000 P.S.I. @ 28 DAYS.



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CONCRETE SIDEWALK

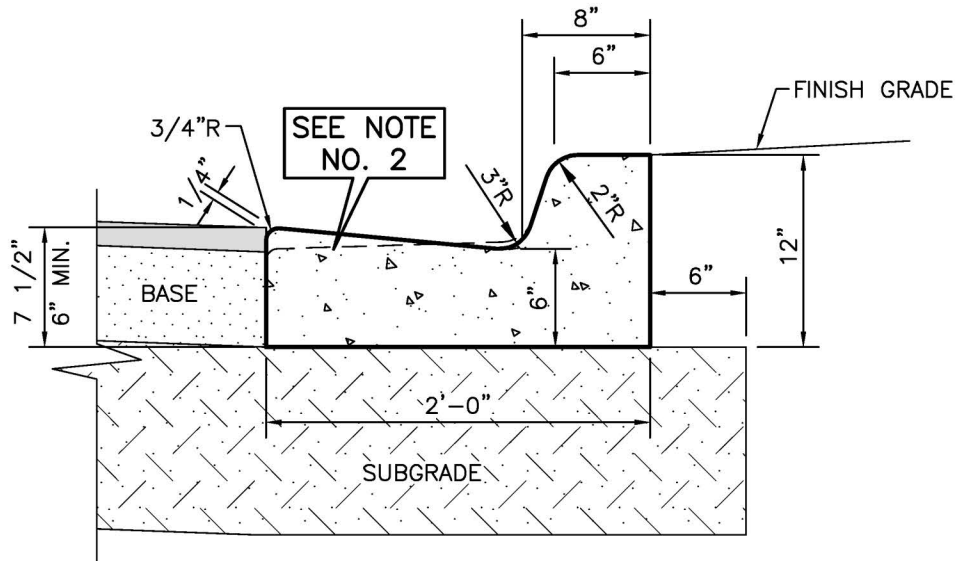
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DETAIL

D - 9

TYPE 'D' CONCRETE CURB



CURB NOTES:

- 1) CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 P.S.I. IN 28 DAYS.
- 2) WHEN USED ON THE HIGH SIDE OF THE ROADWAY THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT.
- 3) AN EXPANSION JOINT WILL BE PLACED AT THE END OF ALL RETURNS AND AT INTERVALS NOT TO EXCEED 20'. CONSTRUCTION JOINTS AT A MAXIMUM SPACING OF 10' SHALL BE SAW CUT 1-1/2" DEEP.
- 4) EXPANSION JOINTS SHALL BE CONSTRUCTED WITH 1/2" BITUMINOUS IMPREGNATED EXPANSION JOINT MATERIAL.



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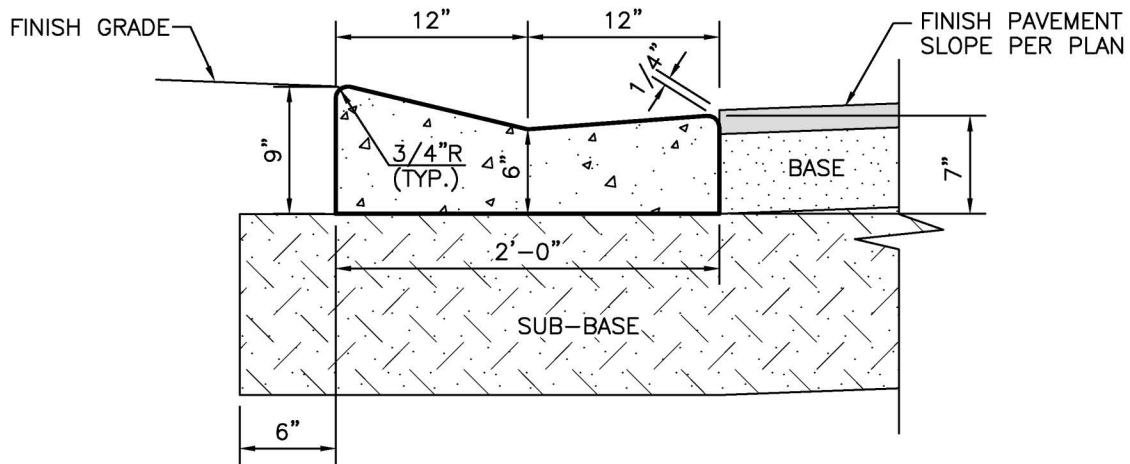
TYPE 'F' CONCRETE CURB

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DETAIL

D - 10B



CURB NOTES:

- 1) CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 P.S.I. IN 28 DAYS.
- 2) AN EXPANSION JOINT WILL BE PLACED AT THE END OF ALL RETURNS AND AT INTERVALS NOT TO EXCEED 20'. CONSTRUCTION JOINTS AT A MAXIMUM SPACING OF 10' SHALL BE SAW CUT 1-1/2" DEEP.
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MIAMI CONCRETE CURB

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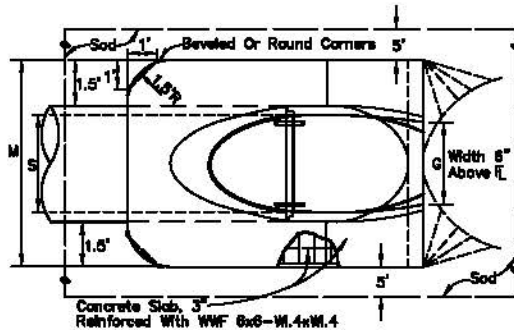
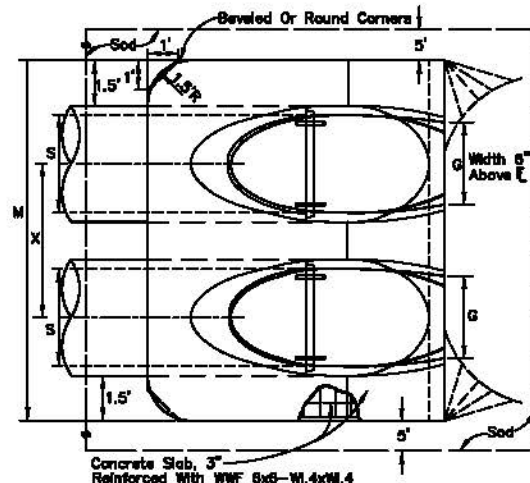
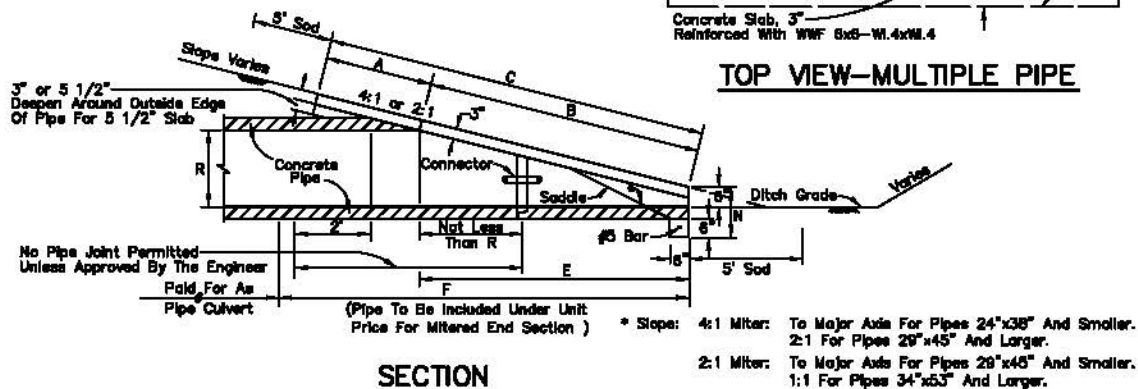
DETAIL
D - 10C

NOTE:

ON SIDE DRAIN M.E.S. BARS SHALL ONLY BE USED ON ELLIPTICAL PIPE 19"x30" ERCP
& GREATER. FOR BAR SIZE SEE F.D.O.T. INDEX NO. 273

ELLIPTICAL CONCRETE PIPE

DIMENSIONS & QUANTITIES													
	Rise R	Span S	X	A	B	C	E	F	G	M			
										Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe
2:1 Slope	12"	18"	2'-10"	1.97'	1.82'	3.58'	1.56'	4'	1.50'	4.92'	7.75'	10.58'	13.42'
	14"	23"	3'-4"	2.01'	1.89'	4.00'	1.89'	5'	1.90'	5.38'	8.71'	12.04'	15.38'
	19"	30"	4'-0"	2.11'	2.82'	5.03'	2.73'	6'	2.37'	6.04'	10.04'	14.04'	18.04'
	24"	38"	5'-0"	2.20'	3.85'	6.06'	3.56'	7'	2.85'	6.78'	11.79'	16.79'	21.79'
	29"	45"	5'-11"	2.34'	4.78'	7.13'	4.39'	8'	3.19'	7.50'	13.42'	19.33'	25.25'
	34"	53"	7'-0"	2.43'	5.72'	8.15'	5.23'	9'	3.57'	8.25'	15.25'	22.25'	29.25'
	38"	60"	7'-10"	2.52'	6.46'	8.88'	5.89'	9'	3.95'	8.92'	16.75'	24.58'	32.42'
	43"	68"	8'-11"	2.62'	7.39'	10.01'	6.73'	10'	4.28'	9.67'	18.58'	27.50'	36.42'
	48"	76"	9'-11"	2.71'	8.33'	11.04'	7.56'	11'	4.59'	10.42'	20.33'	30.25'	40.17'
	53"	83"	10'-8"	2.80'	9.26'	12.06'	8.39'	12'	4.77'	11.08'	21.75'	32.42'	43.08'
4:1 Slope	58"	91"	11'-8"	2.90'	10.19'	13.08'	9.23'	13'	5.01'	11.83'	23.50'	35.17'	46.83'
	12"	18"	2'-10"	2.36'	3.08'	5.42'	3.03'	5'	1.50'	4.92'	7.75'	10.58'	13.42'
	14"	23"	3'-4"	2.44'	3.75'	6.19'	3.70'	6'	1.90'	5.38'	8.71'	12.04'	15.38'
	19"	30"	4'-0"	2.62'	5.47'	8.09'	5.36'	8'	2.37'	6.04'	10.04'	14.04'	18.04'
	24"	38"	5'-0"	2.79'	7.18'	9.87'	7.03'	10'	2.85'	6.78'	11.79'	16.79'	21.79'
	29"	45"	5'-11"	3.05'	8.90'	11.95'	8.70'	12'	3.19'	7.50'	13.42'	19.33'	25.25'
	34"	53"	7'-0"	3.22'	10.62'	13.84'	10.36'	13'	3.57'	8.25'	15.25'	22.25'	29.25'
	38"	60"	7'-10"	3.39'	11.99'	15.38'	11.70'	15'	3.95'	8.92'	16.75'	24.58'	32.42'
	43"	68"	8'-11"	3.56'	13.71'	17.27'	13.36'	17'	4.28'	9.67'	18.58'	27.50'	36.42'
	48"	76"	9'-11"	3.73'	15.43'	19.18'	15.03'	19'	4.59'	10.42'	20.33'	30.25'	40.17'
	53"	83"	10'-8"	3.91'	17.15'	21.06'	16.70'	20'	4.77'	11.08'	21.75'	32.42'	43.08'
	58"	91"	11'-8"	4.08'	18.87'	22.95'	18.36'	22'	5.01'	11.83'	23.50'	35.17'	46.83'

**TOP VIEW-SINGLE PIPE****TOP VIEW-MULTIPLE PIPE****SECTION****FOR NON-RESIDENTIAL USE**

DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
201 EAST OAK STREET, SUITE 204
ARCADIA, FLORIDA 34266
OFFICE: 863-491-6165
FAX: 863-491-6163

MITERED END SECTION ELLIPTICAL CONCRETE PIPE

REVISION DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL

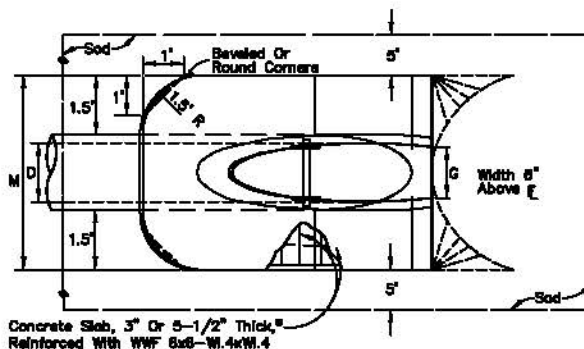
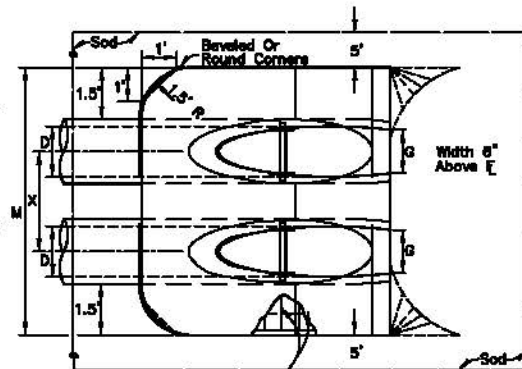
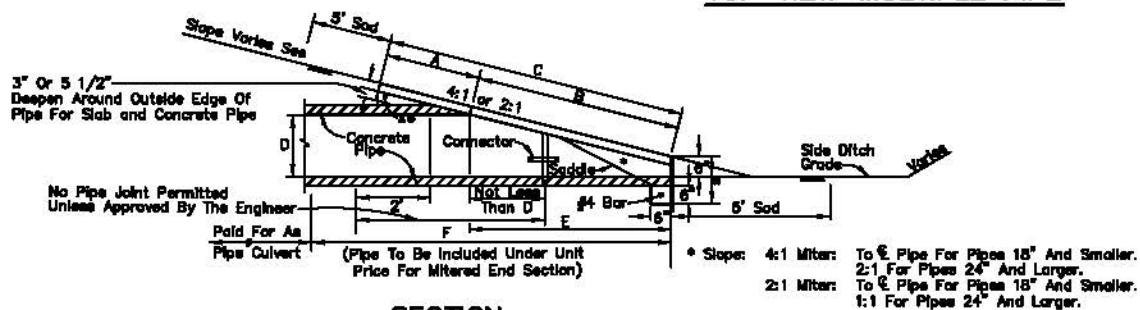
D - 11A

NOTE:

ON SIDE DRAIN M.E.S. BARS SHALL ONLY TO BE
USED ON ROUND PIPE 30" IN DIA. & GREATER. FOR
BAR SIZE SEE F.D.O.T. INDEX NO. 273

ROUND CONCRETE PIPE

DIMENSIONS AND QUANTITIES												
	D	X	A	B	C	E	F	G	M			
									Single	Double	Triple	Quad.
									Pipe	Pipe	Pipe	Pipe
2:1 Slope	15"	2'-7"	1.92'	2.18'	4.10'	2.06'	5'	1.22'	4.63'	7.21'	9.79'	12.37'
	18"	2'-10"	1.97'	2.74'	4.71'	2.56'	6'	1.41'	4.92'	7.75'	10.58'	13.42'
	24"	3'-5"	2.06'	3.85'	5.91'	3.56'	7'	1.73'	5.50'	8.92'	12.33'	15.75'
	30"	4'-3"	2.15'	4.95'	7.10'	4.66'	8'	2.00'	6.08'	10.33'	14.58'	18.83'
	36"	5'-1"	2.25'	6.08'	8.33'	5.56'	9'	2.24'	6.67'	11.75'	16.83'	21.92'
	42"	6'-0"	2.34'	7.21'	9.55'	6.56'	10'	2.45'	7.25'	13.25'	18.25'	25.25'
	48"	6'-8"	2.43'	8.33'	10.76'	7.56'	11'	2.65'	7.83'	14.58'	21.33'	28.08'
	54"	7'-8"	2.52'	9.44'	11.98'	8.56'	12'	2.83'	8.42'	16.08'	23.75'	31.42'
	60"	8'-6"	2.62'	10.56'	13.18'	9.56'	14'	3.00'	9.00'	17.50'	26.00'	34.50'
	66"	9'-2"	2.71'	11.68'	14.39'	10.56'	15'	3.18'	9.58'	18.75'	27.92'	37.08'
	72"	10'-0"	2.80'	12.80'	15.60'	11.56'	16'	3.30'	10.16'	20.16'	30.16'	40.16'
4:1 Slope	15"	2'-7"	2.27'	4.06'	6.36'	4.03'	8'	1.22'	4.63'	7.21'	9.79'	12.37'
	18"	2'-10"	2.36'	5.12'	7.48'	5.03'	9'	1.41'	4.92'	7.75'	10.58'	13.42'
	24"	3'-5"	2.53'	7.18' Δ	9.71'	7.03' Δ	11'	1.73'	5.50'	8.92'	12.33'	15.75'
	30"	4'-3"	2.70'	9.25'	11.95'	9.03'	13'	2.00'	6.08'	10.33'	14.58'	18.83'
	36"	5'-1"	2.87'	11.31' ◇	14.18'	11.03' ◇	15'	2.24'	6.67'	11.75'	16.83'	21.92'
	42"	6'-0"	3.05'	13.37'	16.42'	13.03'	17'	2.45'	7.25'	13.25'	18.25'	25.25'
	48"	6'-8"	3.22'	15.43'	18.65'	15.03'	19'	2.65'	7.83'	14.58'	21.33'	28.08'
	54"	7'-8"	3.39'	17.48'	20.88'	17.03'	21'	2.83'	8.42'	16.08'	23.75'	31.42'
	60"	8'-6"	3.56'	19.55'	23.11'	19.03'	23'	3.00'	9.00'	17.50'	26.00'	34.50'
	66"	9'-2"	3.73'	21.62'	25.35'	21.03'	25'	3.18'	9.58'	18.75'	27.92'	37.08'
	72"	10'-0"	3.91'	23.68'	27.59'	23.03'	27'	3.30'	10.16'	20.16'	30.16'	40.16'

**TOP VIEW-SINGLE PIPE****TOP VIEW-MULTIPLE PIPE****SECTION****FOR NON-RESIDENTIAL USE**

**DESOTO COUNTY
ENGINEERING DEPARTMENT**

201 EAST OAK STREET, SUITE 201
ARCADIA, FLORIDA 34266 OFFICE
863-491-6165 FAX
863-491-6163

**MITERED END SECTION
ROUND CONCRETE PIPE**

REVISION DATE:
3-24-16

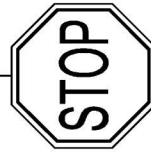
SCALE:
NOT TO SCALE

DETAIL

D - 11B

** 20' TO 25' PREFERRED
SIGN SETBACK

**8' MIN.
**30' MAX.



(R1-1)
(30"x30")

*6' MIN.
*12' MAX.

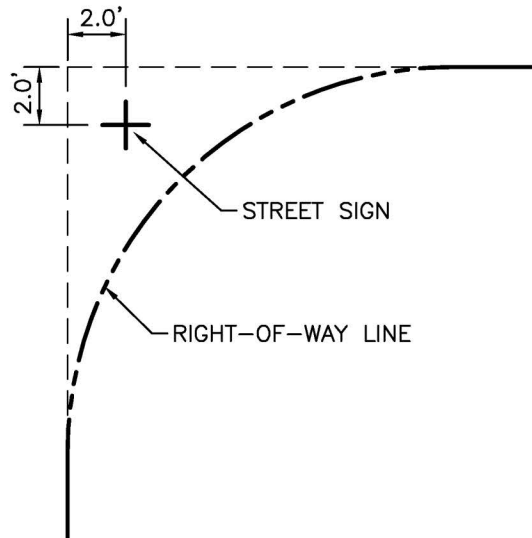
* 8' PREFERRED TO
EDGE OF SIGN

24" WHITE STOP BAR

DOUBLE 6" WIDE YELLOW STRIPE

50'

PAVEMENT



STRIPING NOTES

1. STRIPING AND SIGNAGE SHALL CONFORM WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE F.D.O.T. STANDARD INDEX DRAWINGS FOR SUCH.
2. ALL STRIPING FOR THE INTERSECTIONS SHALL CONFORM WITH THE F.D.O.T. STANDARD INDEX NO. 17346
3. ALL STRIPING SHALL BE PAINT.



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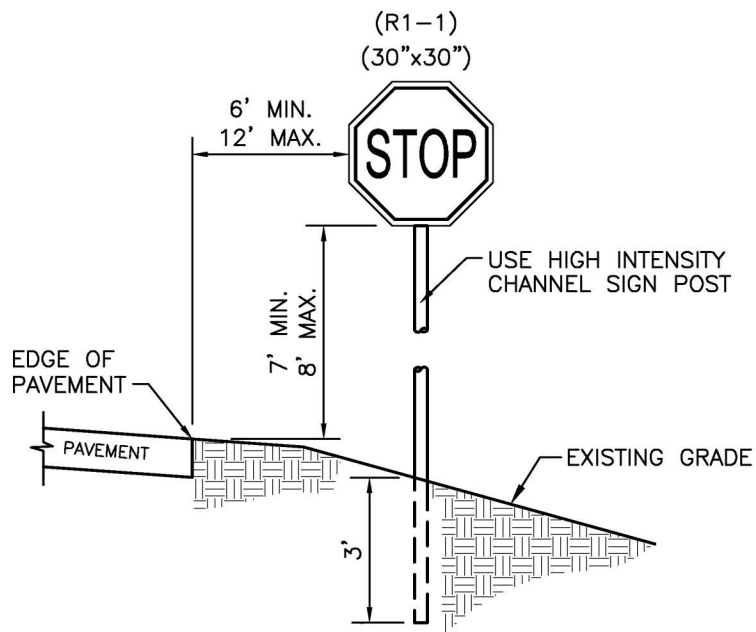
STOP BAR, STOP SIGN AND INTERSECTION STRIPING

REVISION DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL

D - 12



DESOTO COUNTY
DEVELOPMENT DEPARTMENT
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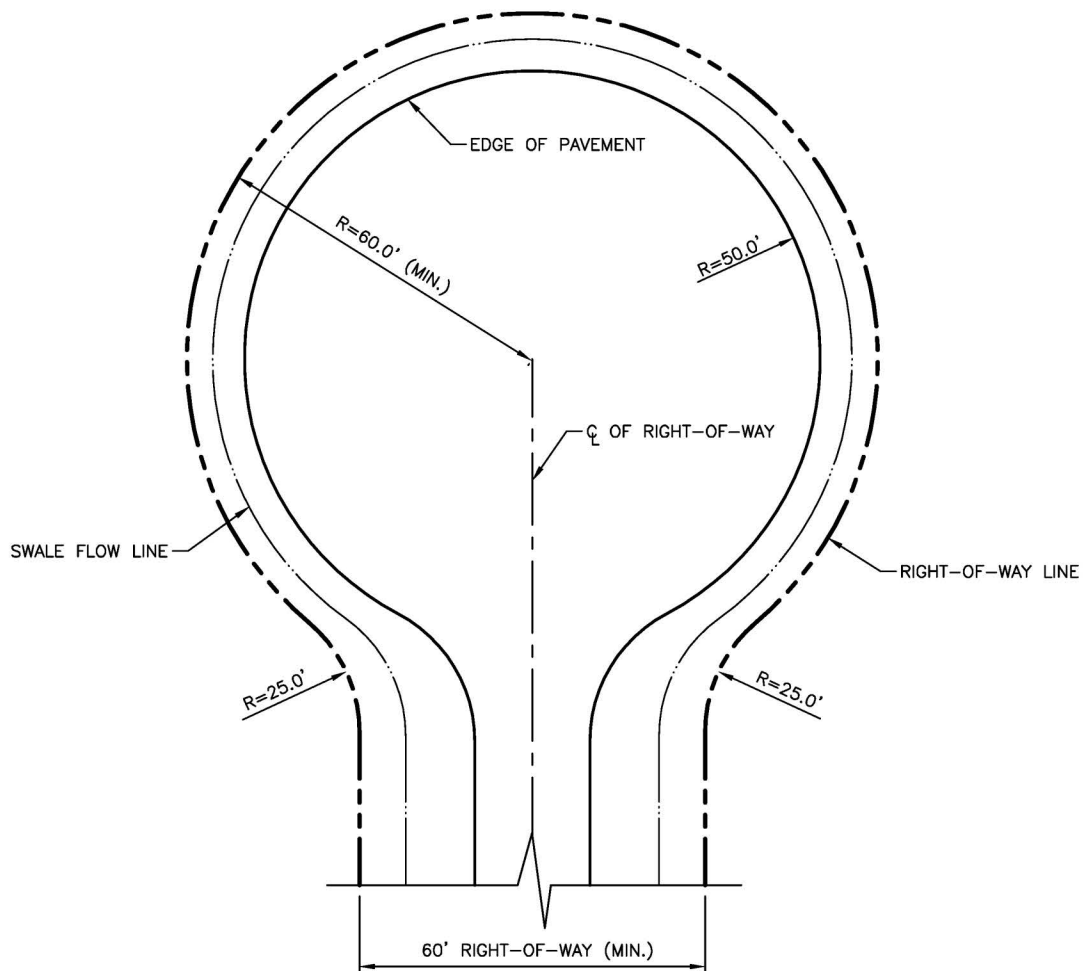
STOP SIGN INSTALLATION

REVISION DATE:
3-24-16

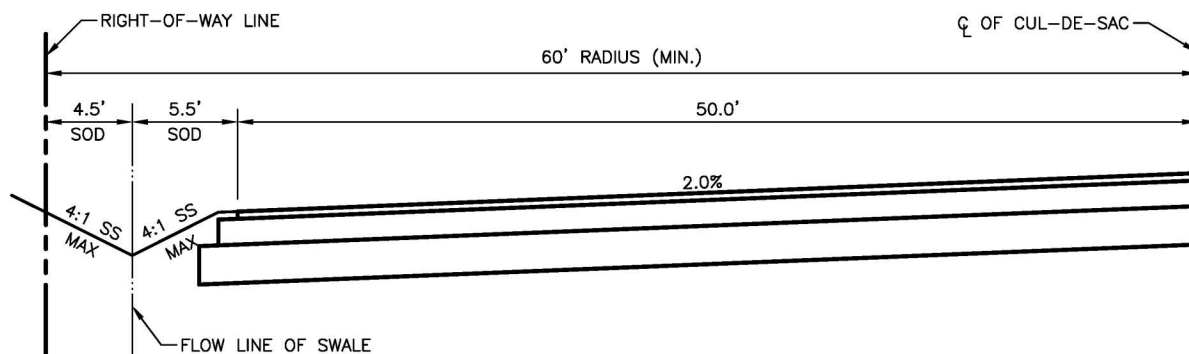
SCALE:
NOT TO SCALE

DETAIL

D - 13



PLAN



SECTION

NOTE:

SUB-GRADE, STABILIZED SHOULDER, SHELL OR LIMEROCK BASE COURSE, PRIME COAT APPLICATION AND ASPHALTIC CONCRETE SURFACE COURSE ALONG WITH THE STRUCTURAL NUMBER OF THE PAVEMENT SECTION SHALL CONFORM TO DETAILS D-17A THROUGH D-17F.



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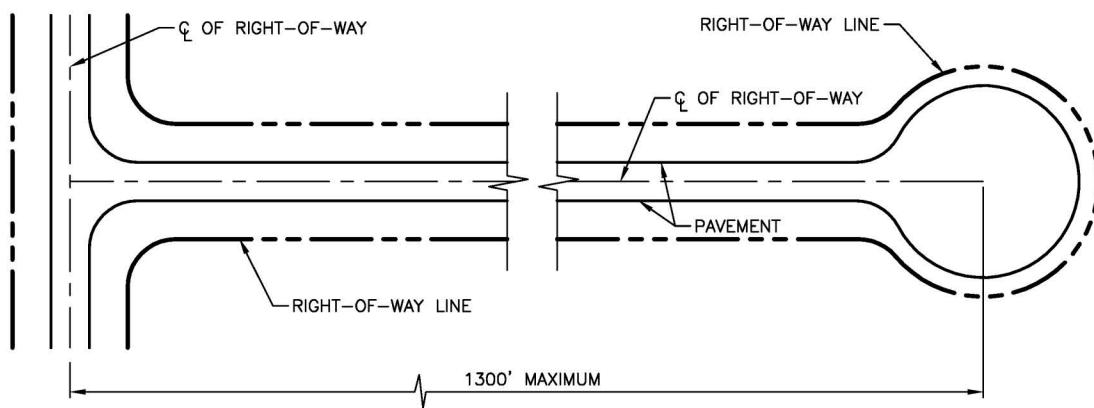
CUL-DE-SAC DETAIL

REVISION DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL

D - 14



DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
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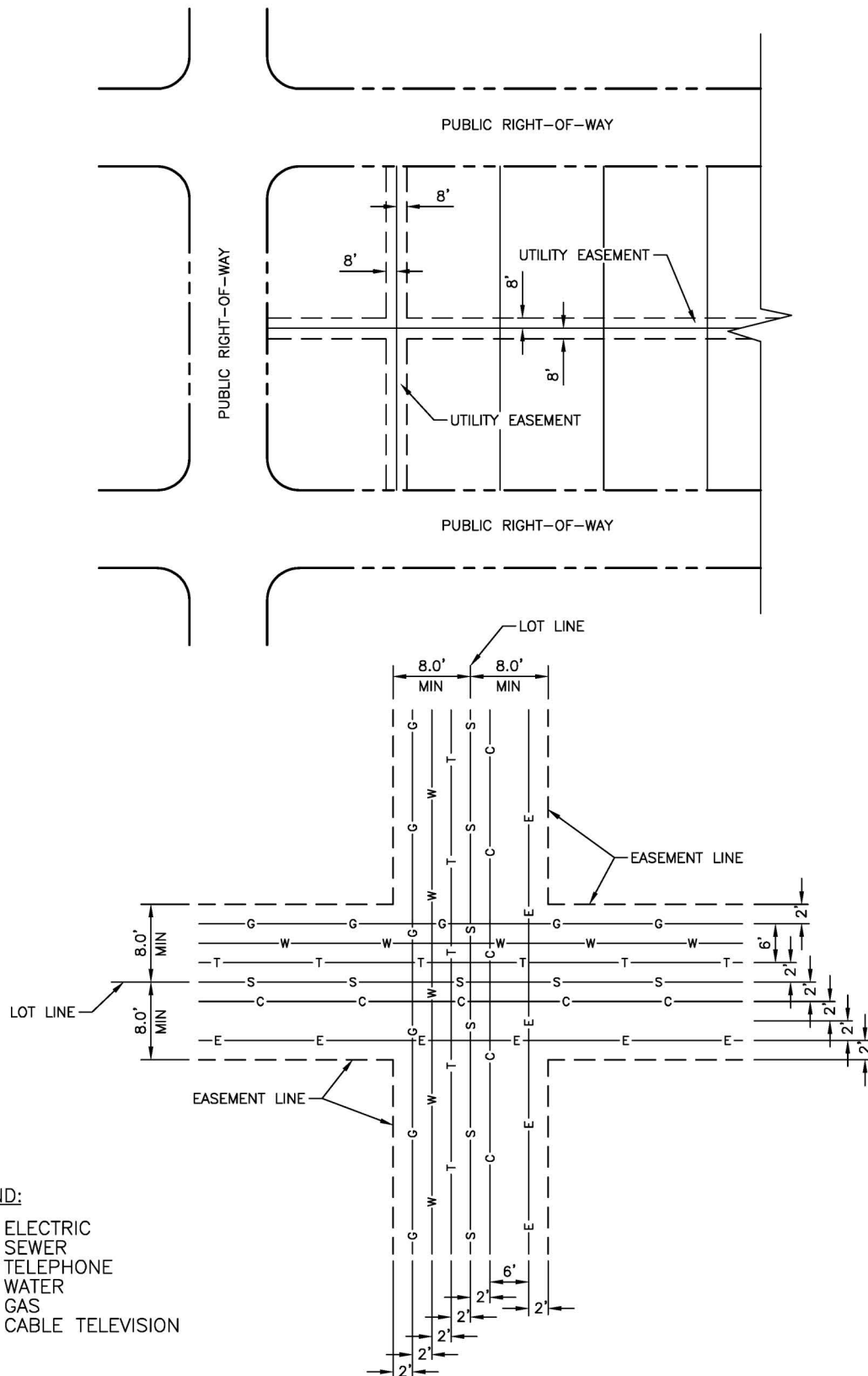
MAXIMUM CUL-DE-SAC LENGTH

REVISION DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL

D - 15



LEGEND:

E ELECTRIC
 S SEWER
 T TELEPHONE
 W WATER
 G GAS
 C CABLE TELEVISION



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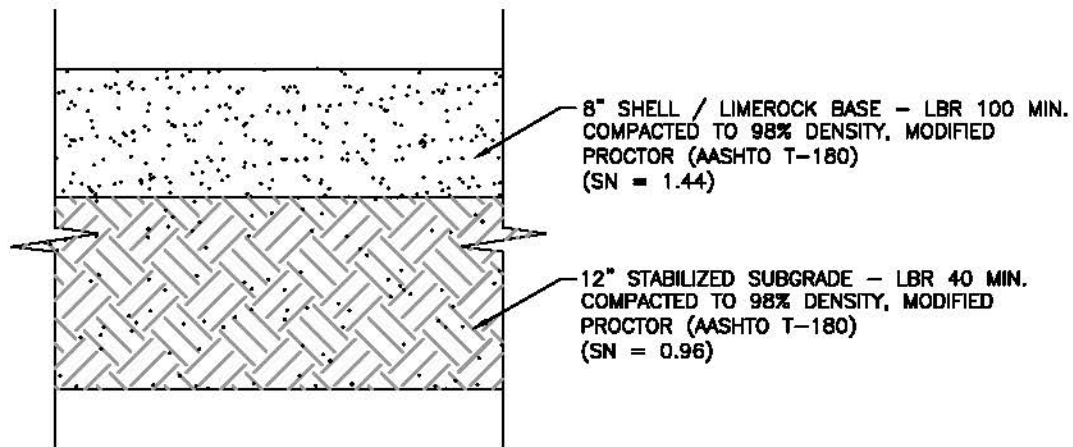
SUBDIVISION EASEMENT UTILITY LOCATIONS

REVISION DATE:
 3-24-16

SCALE:
 NOT TO SCALE

DETAIL

D - 16



PAVEMENT SECTION NO. 1

STRUCTURAL NO. = 2.40

MINIMUM STANDARD FOR STABILIZED GRAVEL ROADWAYS,
FIRE ACCESS & PARKING AREAS ALLOWED BY CODE

NOTE:

ALTERNATE PAVEMENT DESIGNS CONFORMING
TO A STRUCTURAL NUMBER FOR THAT PAVEMENT
SECTION MAY BE APPROVED BY THE COUNTY ENGINEER.



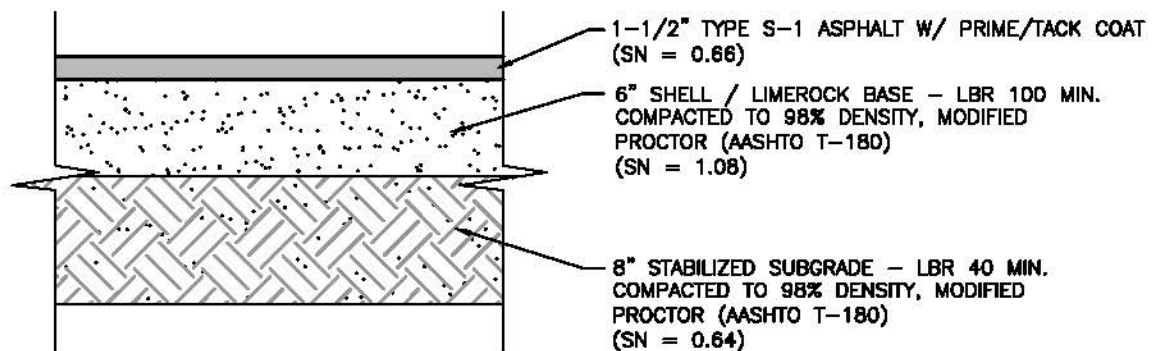
DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
201 EAST OAK STREET, SUITE 204
ARCADIA, FLORIDA 34266
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FAX: 863-491-6163

TYPICAL PAVEMENT SECTIONS NO. 1

DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL
D-17A



PAVEMENT SECTION NO. 2

STRUCTURAL NO. = 2.38

LIGHT TRAFFIC - ON-SITE ONLY

NOTE:

ALTERNATE PAVEMENT DESIGNS CONFORMING
TO A STRUCTURAL NUMBER FOR THAT PAVEMENT
SECTION MAY BE APPROVED BY THE COUNTY ENGINEER.



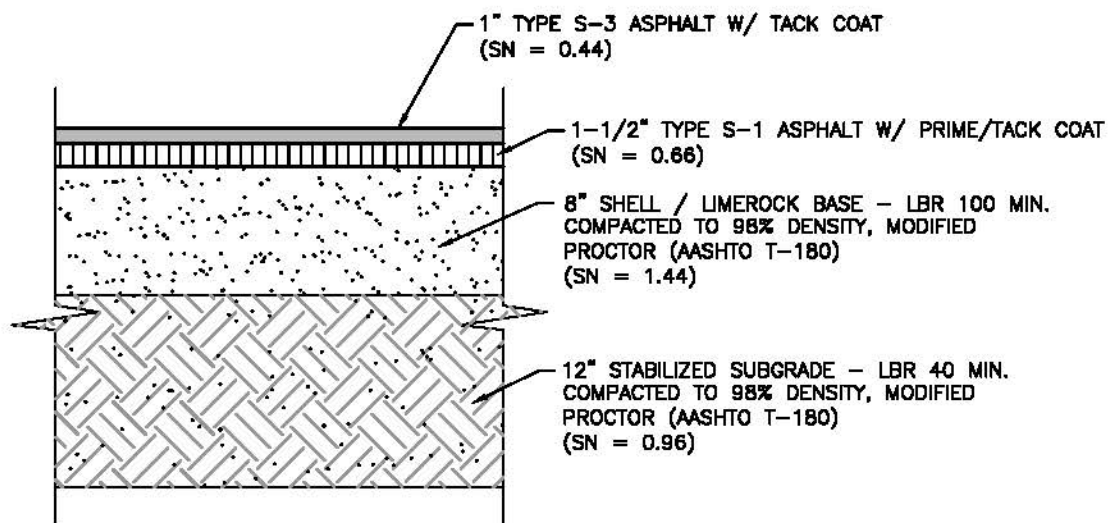
DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
201 EAST OAK STREET, SUITE 204
ARCADIA, FLORIDA 34266
OFFICE: 863-491-6165
FAX: 863-491-6163

TYPICAL PAVEMENT SECTIONS NO. 2

DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL
D-17B



PAVEMENT SECTION NO. 3

STRUCTURAL NO. = 3.50

MINIMUM STANDARD FOR PUBLIC ROADWAY & ASPHALT DRIVEWAY
WITHIN THE PUBLIC RIGHT-OF-WAY & MODERATE ON-SITE TRAFFIC

NOTE:

ALTERNATE PAVEMENT DESIGNS CONFORMING
TO A STRUCTURAL NUMBER FOR THAT PAVEMENT
SECTION MAY BE APPROVED BY THE COUNTY ENGINEER.



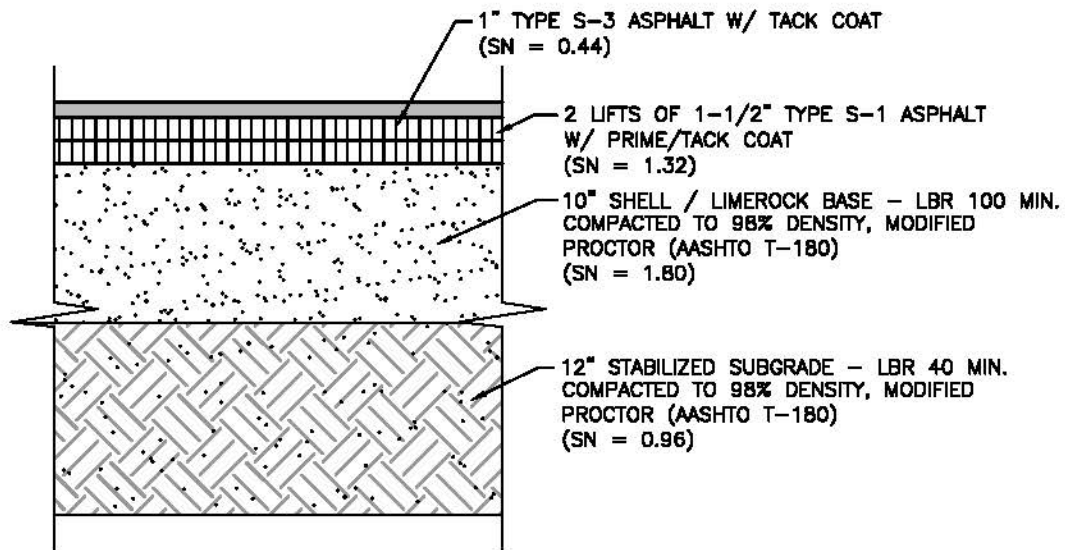
DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
201 EAST OAK STREET, SUITE 204
ARCADIA, FLORIDA 34266
OFFICE: 863-491-6165
FAX: 863-491-6163

TYPICAL PAVEMENT SECTIONS NO. 3

DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL
D-17C



PAVEMENT SECTION NO. 4

STRUCTURAL NO. = 4.52

MINIMUM STANDARD FOR LARGE COMMERCIAL VEHICLE WITHIN THE
PUBLIC RIGHT-OF-WAY & FOR HEAVY ON-SITE TRUCK TRAFFIC

NOTE:

ALTERNATE PAVEMENT DESIGNS CONFORMING
TO A STRUCTURAL NUMBER FOR THAT PAVEMENT
SECTION MAY BE APPROVED BY THE COUNTY ENGINEER.



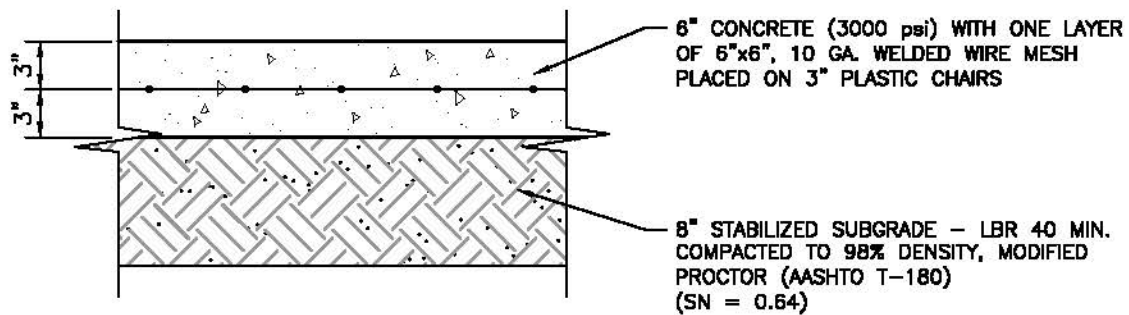
DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
201 EAST OAK STREET, SUITE 204
ARCADIA, FLORIDA 34266
OFFICE: 863-491-6165
FAX: 863-491-6163

TYPICAL PAVEMENT SECTIONS NO. 4

DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL
D-17D



PAVEMENT SECTION NO. 5

MINIMUM STANDARD FOR CONCRETE
DRIVEWAY WITHIN THE PUBLIC RIGHT-OF-WAY

NOTES:

1. EXPANSION JOINTS (COLD JOINTS) SHALL BE 1/2" EXPANSION JOINT MATERIAL AND ARE TO BE SPACED AT 40' MAXIMUM INCREMENTS AND SHALL BE SHOWN ON THE PLANS. ALL EXPANSION JOINTS SHALL BE SEALED WITH "SIKAFLEX-1C SL" SEALANT AND BACKER ROD BOND BREAKER OR ENGINEER APPROVED EQUAL.
2. CONTRACTION JOINTS SHALL BE 1/4"x1" DEEP SAWCUTS MADE ON ALL CONCRETE PAVEMENT. THE SPACING SHALL BE AS FOLLOWS: THE SPACING SHALL BE THE EQUIVALENT TO THE WIDTH OF THE TRAVEL LANE.



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TYPICAL PAVEMENT SECTIONS NO. 5

DATE: 3-24-16	SCALE: NOT TO SCALE	DETAIL D-17E
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WORK WITHIN THE PUBLIC RIGHT-OF-WAY

1. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY REQUIRES A PERMIT. CONTACT THE DESOTO COUNTY DEVELOPMENT DEPARTMENT, ENGINEERING DIVISION AT PHONE: 863-491-7543.
2. IF A CULVERT IS REQUIRED, THE THE CULVERT SIZE, TYPE AND INVERTS SHALL BE DETERMINED BY THE COUNTY.
3. REQUIRED INSPECTIONS:
 - AT STAKE OUT OF CULVERT AND SWALE
 - AFTER PIPE HAS BEEN PLACED
 - AFTER COMPACTION / PRIOR TO PAVEMENT
 - FINAL
4. DENSITY TEST:
 - COMMERCIAL DEVELOPMENT REQUIRES ONE TEST PER LANE, 12" LIFTS AT 98% DENSITY MODIFIED PROCTOR (ASSHTO T-180) SIGNED AND SEALED BY A FLORIDA PROFESSIONAL ENGINEER AND SHALL BE SUPPLIED TO THE COUNTY.
5. THE DESOTO COUNTY ENGINEERING DIVISION SHALL BE NOTIFIED A MINIMUM OF 2 BUSINESS DAYS PRIOR TO INSPECTIONS / TESTING.



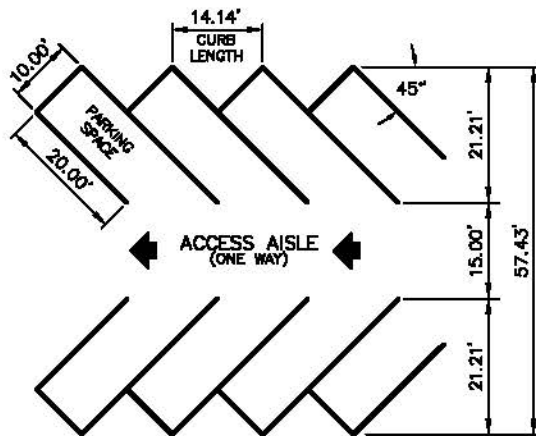
DESOTO COUNTY
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**TYPICAL PAVEMENT
SECTION - NOTES**

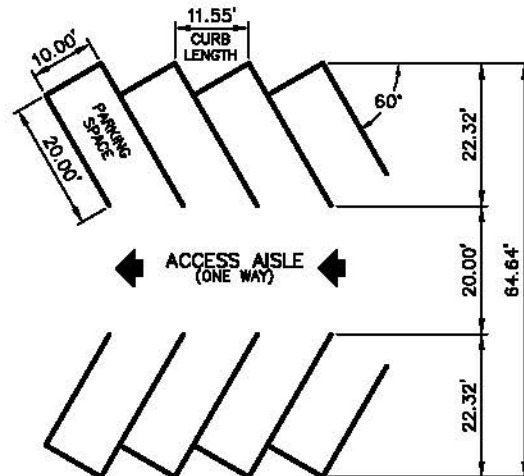
DATE:
3-24-16

SCALE:
NOT TO SCALE

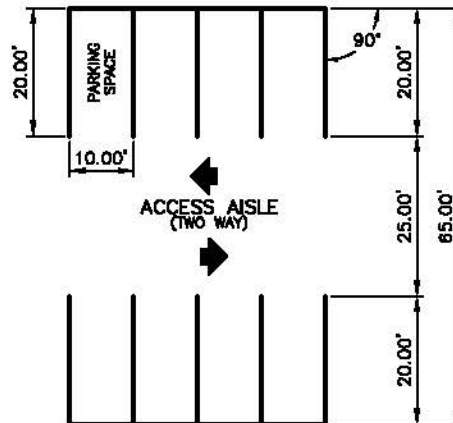
DETAIL
D-17F



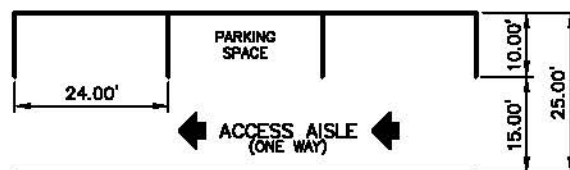
45° PARKING



60° PARKING



90° PARKING



PARALLEL PARKING

NOTE:

1. ALL DIMENSIONS SHOWN ARE MINIMUM.
2. COMMERCIAL, INDUSTRIAL AND MULTIFAMILY ON-SITE PARKING SHALL HAVE, AS A MINIMUM, PAVEMENT SECTION NO. 2 (DETAIL D-17B).
3. PARKING SPACES SHALL COMPLY WITH TYPICAL PARKING SPACE (DETAIL D-19) AND TYPICAL HANDICAP PARKING SPACE (DETAIL D-20).



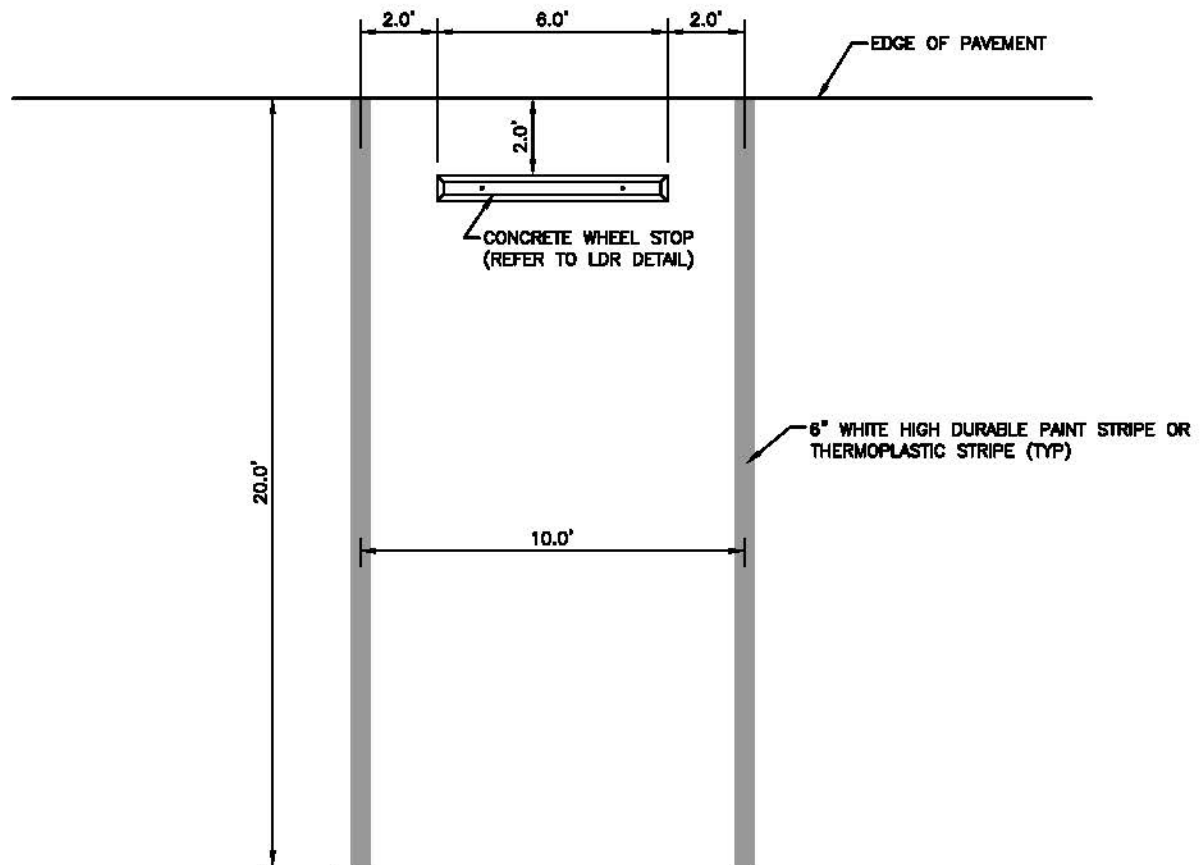
DESOTO COUNTY
DEVELOPMENT DEPARTMENT
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201 EAST OAK STREET, SUITE 204
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OFFICE: 863-491-6165
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**TYPICAL ON-SITE
PARKING SPACE LAYOUT**

DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL
D-18



DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
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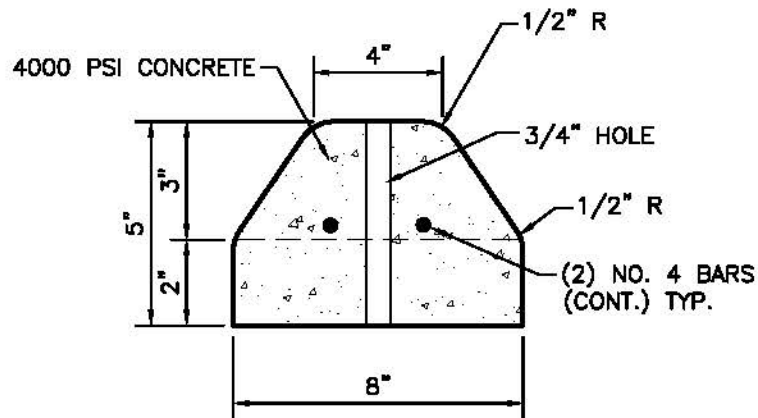
TYPICAL PARKING SPACE

DATE:
3-24-16

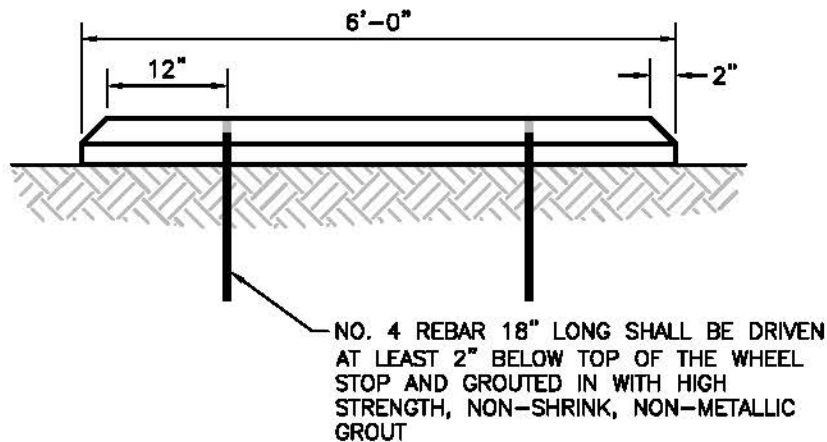
SCALE:
NOT TO SCALE

DETAIL

D-19



SECTION



ELEVATION

NOTE:

1. REBARS SHALL BE 3" CLEAR AT ENDS
2. EQUIVANT DESIGNS MAY BE APPROVED AT THE DISCRETION OF THE COUNTY ENGINEER.
3. WHEEL STOPS SHALL BE REQUIRED ON ALL PARKING SPACES EXCEPT PARALLEL PARKING SPACES.



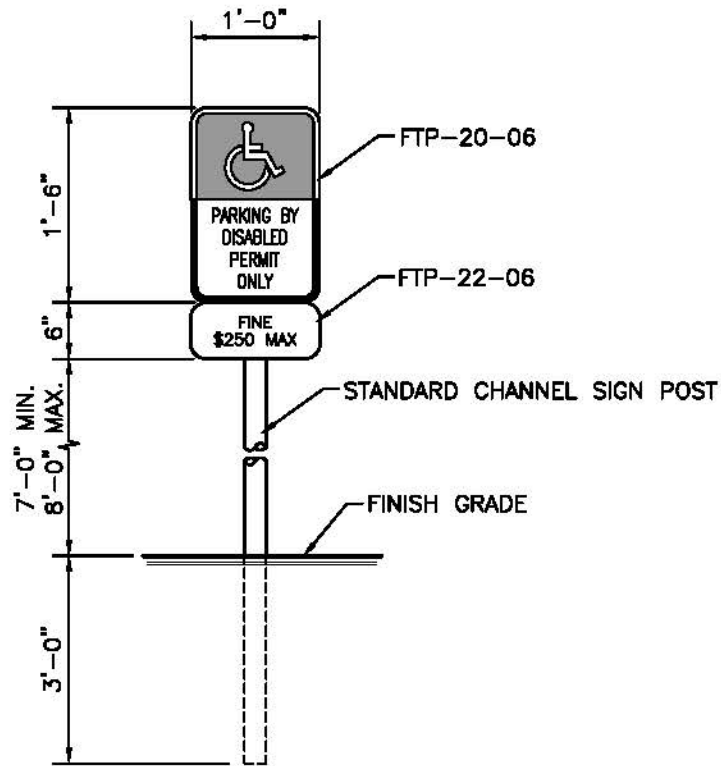
DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
201 EAST OAK STREET, SUITE 204
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FAX: 863-491-6163

**TYPICAL CONCRETE
WHEEL STOP DETAIL**

DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL
D-19A



NOTE:

1. AN ALTERNATE MOUNTING LOCATION, SUBJECT TO ADA REQUIREMENTS, MAY BE APPROVED BY THE DEVELOPMENT DIRECTOR.



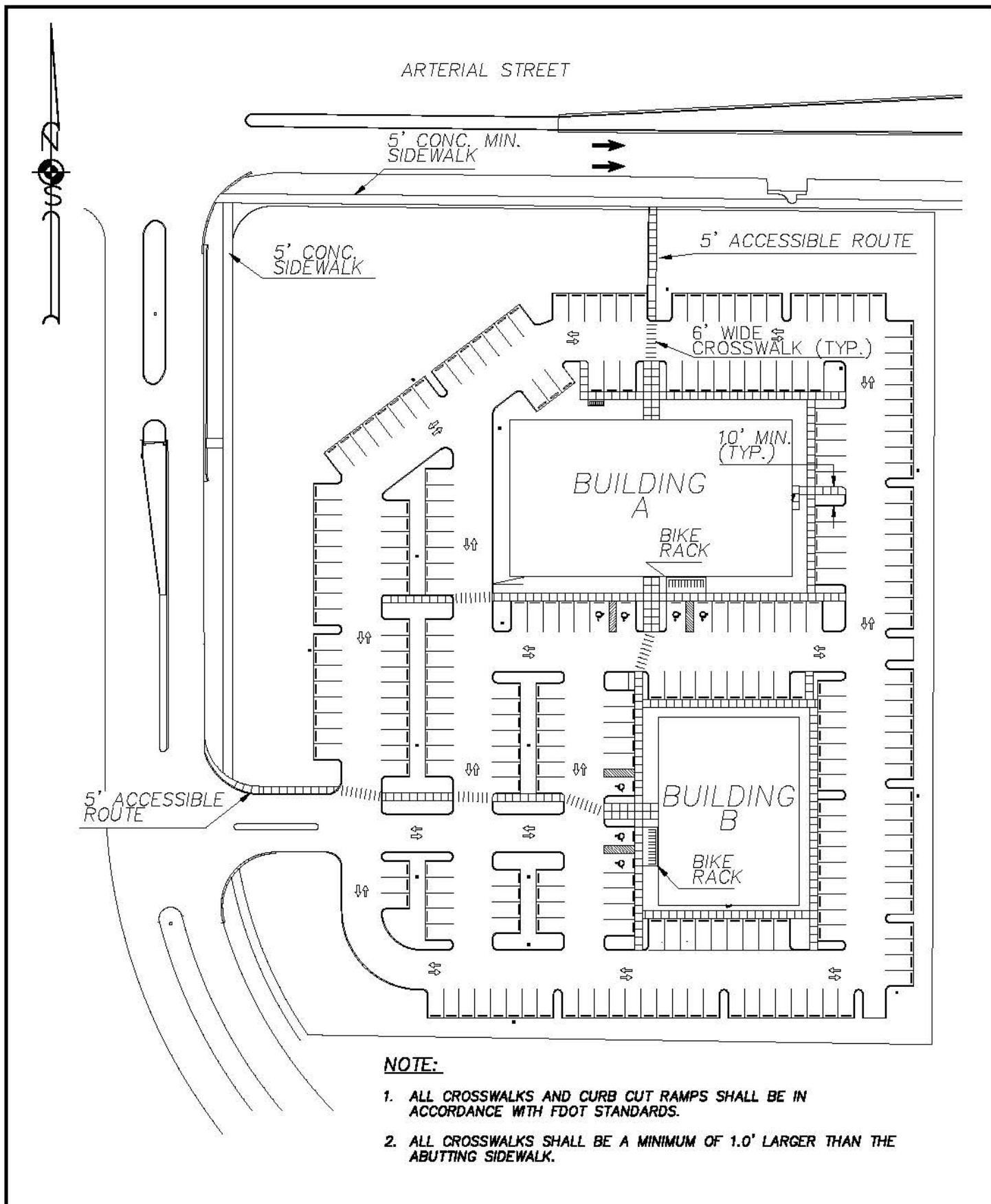
DESOTO COUNTY
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HANDICAPPED PARKING SIGN DETAIL

DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL
D-21



DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
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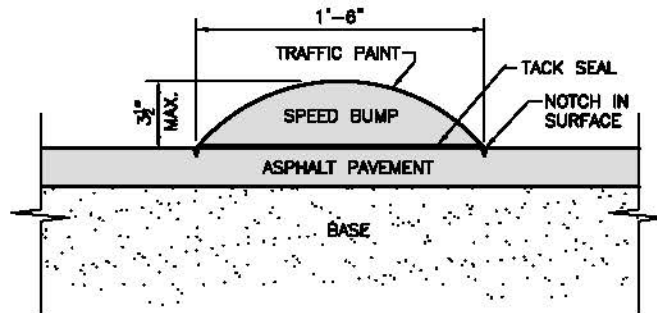
CONCEPTUAL LAYOUT OF ACCESSIBLE
ROUTES FOR BICYCLE AND
PEDESTRIAN CIRCULATION

DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL

D-22



NOTE:

1. SPEED BUMPS SHALL ONLY BE USE IN ON-SITE PARKING LOTS.
2. LAY OUT AND MARK AREA FOR PLACEMENT OF SPEED BUMPS.
3. CLEAN AREA OF ALL DIRT AND DEBRIS.
4. NOTCH EXISTING ASPHALT SURFACE TO ALLEVATE SPEED BUMP DISPLACEMENT.
5. TACK COAT AREA OF INSTALLATION USING LIQUID ASPHALT.
6. INSTALL HOT MIX SURFACE ASPHALT TO A MAXIMUM HEIGHT OF $\frac{3}{4}$ " AT THE APEX AND A WIDTH OF 18".
7. APPLY A SEAL OF LIQUID ASPHALT TO THE ADJOINING EDGE OF THE INSTALLATION TO HELP PREVENT MOISTURE PENETRATION.
8. APPLY HEAVY-DUTY REFLECTIVE TRAFFIC PAINT SUFFICIENT TO IDENTIFY THE SPEED BUMP.
9. "SPEED HUMP" WARNING SIGN (W17-1) WITH POSTED SPEED LIMIT SIGN (W13-1P) SHALL BE POSTED 100 FT. FROM THE SPEED BUMP.
10. SPEED BUMPS SHALL BE AT LEAST 25 FT. FROM ANY ROAD INTERSECTION.
11. SPEED BUMPS SHALL BE AT LEAST 90 FT. FROM AN ADJACENT CROSSWALK.
12. THE MINIMUM SPACING FOR SPEED BUMPS SHALL BE: 15 mph SPEED LIMIT THE SPACING IS 120 LF; 20 mph SPEED LIMIT THE SPACING IS 240 LF AND A 25 mph SPEED LIMIT THE SPACING IS 360 LF.



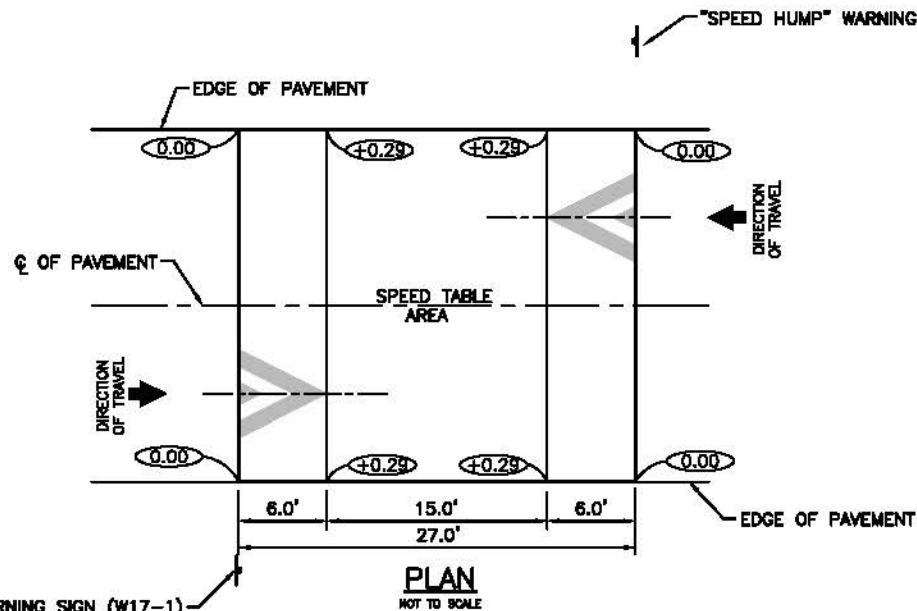
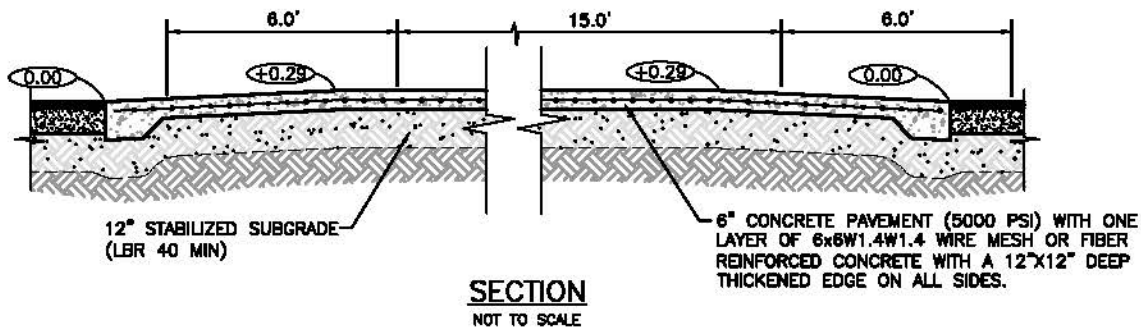
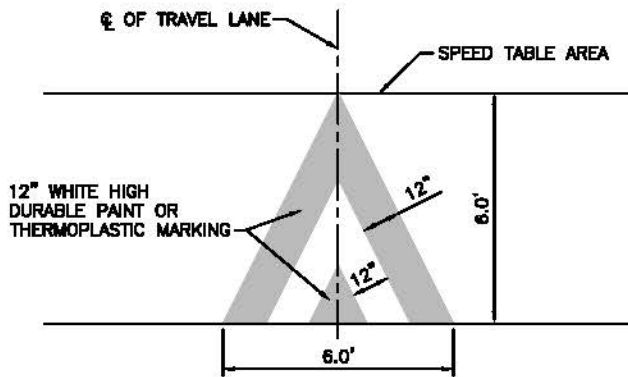
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ENGINEERING DIVISION
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FAX: 863-491-6163

SPEED BUMP DETAIL

DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL
D-23



NOTE:

1. "SPEED HUMP AHEAD" WARNING SIGN (W17-1) WITH POSTED SPEED LIMIT SIGN (W13-1P) SHALL BE POSTED 100 FT. FROM THE SPEED TABLE AND A "SPEED HUMP" WARNING SIGN (W17-1) SHALL BE POSTED AT THE BEGINNING OF THE SPEED TABLE.
2. SPEED TABLES SHALL BE AT LEAST 25 FT. FROM ANY ROAD INTERSECTION.
3. SPEED TABLES SHALL BE AT LEAST 90 FT. FROM AN ADJACENT CROSSWALK.
4. THE MINIMUM SPACING FOR SPEED TABLES SHALL BE THE FOLLOWING: 15 mph SPEED LIMIT THE SPACING IS 120 LF; 20 mph SPEED LIMIT THE SPACING IS 240 LF AND A 25 mph SPEED LIMIT THE SPACING IS 360 LF.



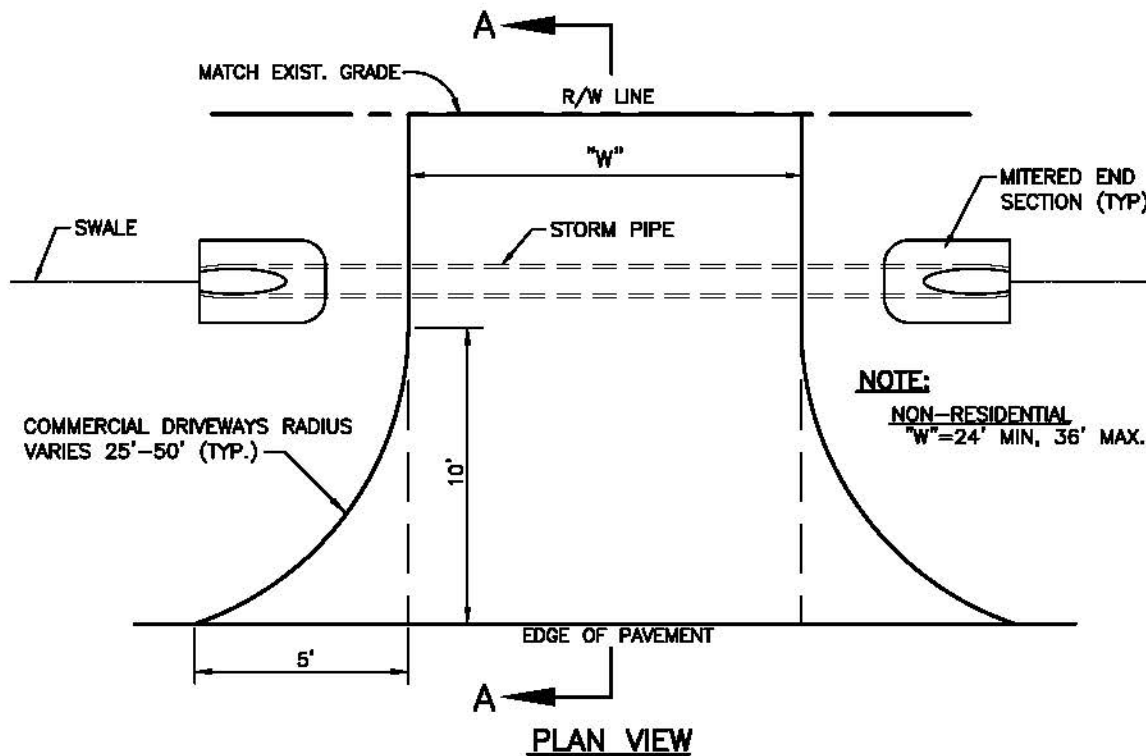
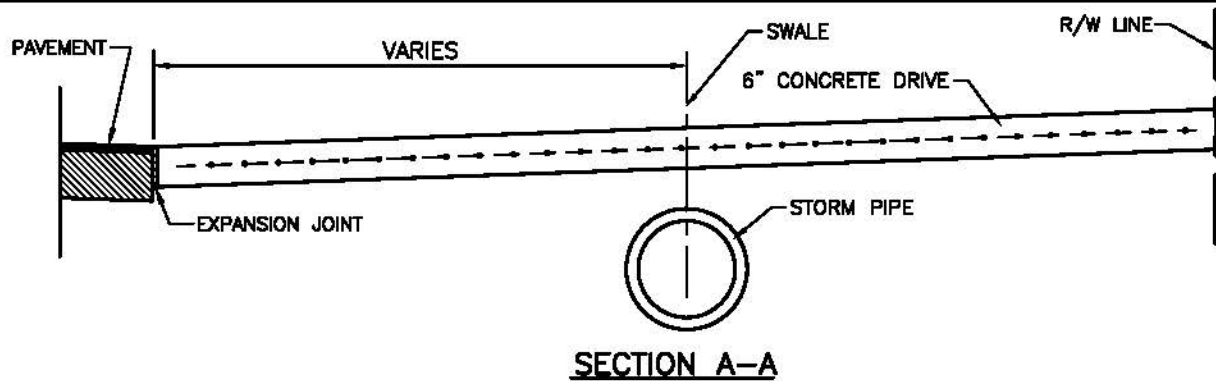
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SPEED TABLE DETAIL

DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL
D-24



NOTES:

1. CONSTRUCT WITH 6" REINFORCED CONCRETE (3,000 psi @ 28 DAYS) WITH 6"x6" #10 MESH FROM EDGE OF PAVEMENT TO THE RIGHT-OF-WAY LINE.
2. DRIVEWAYS ADJACENT TO A PAVED ROADWAY MUST HAVE THE APRON CONSTRUCTED IN COMPLIANCE WITH THE NOTE NO. 1 (ABOVE).
3. EXISTING DRAINAGE FLOWLINE TO BE MAINTAINED. PIPING MAY BE REQUIRED AT THE COUNTY'S DISCRETION.
4. NO DRIVEWAY RETURN, AT THE EDGE OF PAVEMENT, SHALL BE CLOSER THAN 50' FROM THE INTERSECTING STREET EDGE OF PAVEMENT.
5. ALL CULVERTS INSTALLED WITHIN THE COUNTY RIGHT OF WAY SHALL HAVE MITERED END SECTIONS WHICH SHALL COMPLY WITH THE SPECIFICATIONS AS SET FORTH IN THE MOST RECENT EDITION OF THE FDOT DESIGN STANDARDS MANUAL AND THE DESOTO COUNTY STANDARD ENGINEERING DETAILS. THE DEVELOPMENT DIRECTOR, UPON THE ADVICE OF THE COUNTY ENGINEER, SHALL HAVE THE AUTHORITY TO MAKE EXCEPTIONS TO MEET SPECIAL OR UNIQUE SITE CONDITIONS SUCH AS SPEED LIMIT, CROSS SLOPE OF SWALE, WIDTH OF THE RIGHT OF WAY, DISTANCE OF THE CULVERT OFF THE EDGE OF THE PAVEMENT, NEIGHBORHOOD CHARACTERISTICS, AND CULVERT MATERIAL TYPE.



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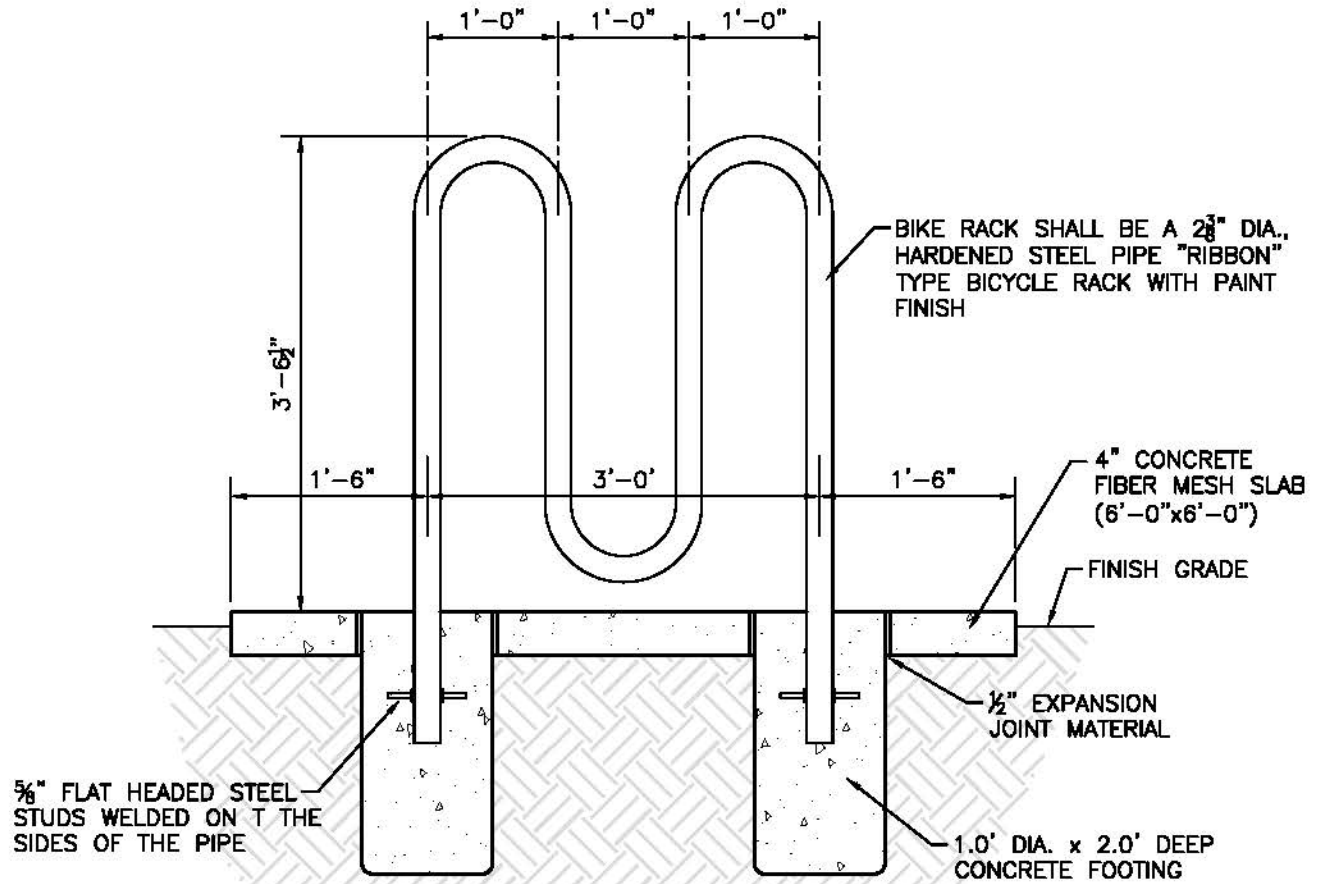
NON-RESIDENTIAL DRIVEWAY

DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL

D-25



NOTE:

ALL BICYCLE PARKING SPACES SHALL INCLUDE A STATIONARY PARKING DEVICE ON A CONCRETE SURFACE WHICH ADEQUATELY SUPPORTS THE BICYCLE AND MUST HOLD AT LEAST 180° OF THE WHEEL ARC.



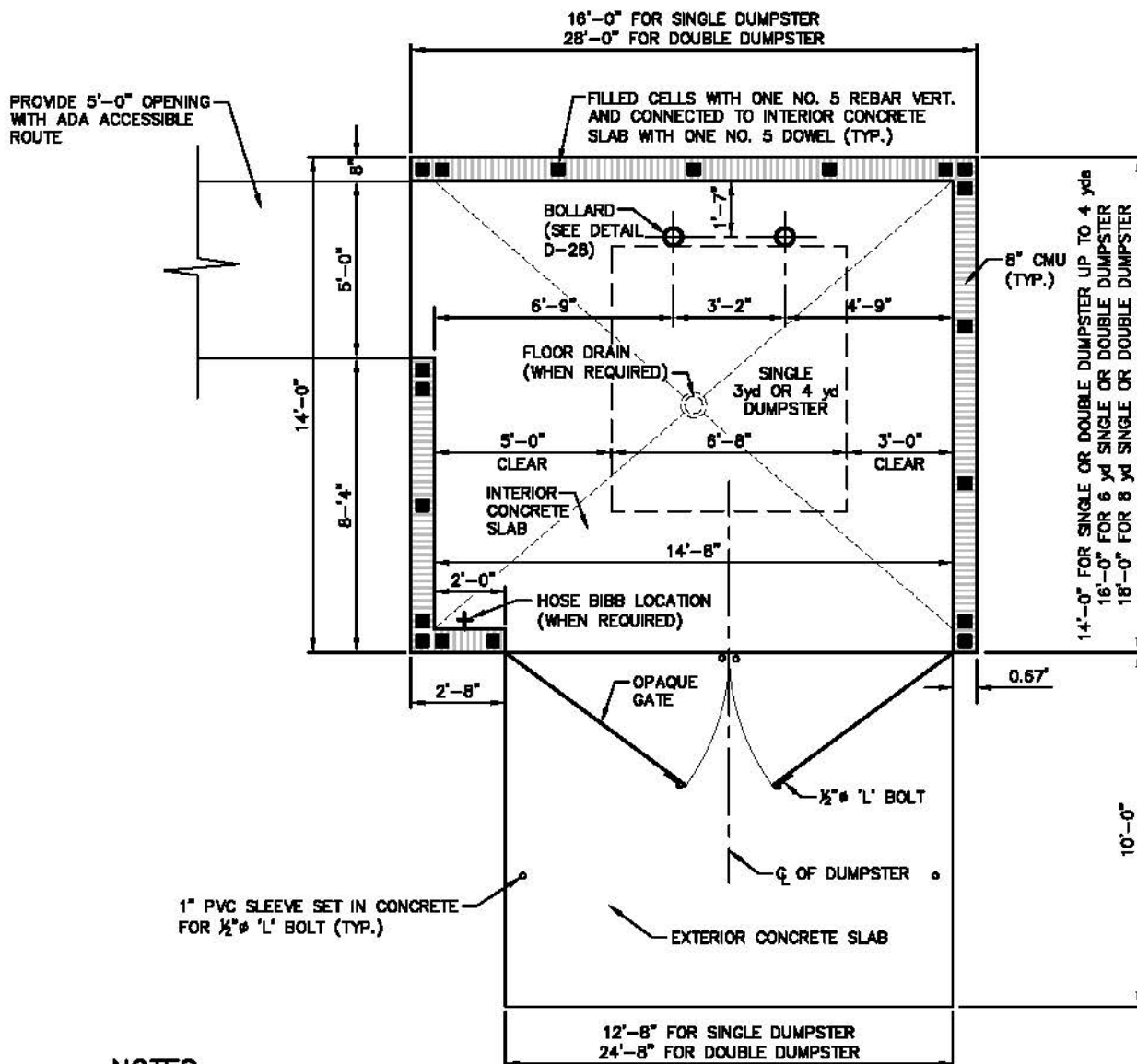
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TYPICAL BICYCLE RACK DETAIL

DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL
D-26



NOTES:

1. THE INTERIOR SLAB SHALL BE 6" CONCRETE (3000 psi) WITH 6"x6"W1.4W1.4 OR FIBER MESH EQUIVALENT AND A 12" WIDE x 12" DEEP CONCRETE FOOTING WITH (2) NO. 5 REBAR'S CONTINUOUS ON 12" STABILIZED SUBGRADE (LBR 40). THE INTERIOR CONCRETE SLAB SHALL BE SLOPED TO THE FRONT FOR POSITIVE DRAINAGE, UNLESS A FLOOR DRAIN IS REQUIRED. THE EXTERIOR SLAB SHALL BE 6" CONCRETE (3000 psi) WITH NO. 4 REBAR'S AT 12" O.C.E.W. AND A 12"x12" THICKENED EDGE WITH 2 NO. 5 REBAR'S CONTINUOUS ON 12" STABILIZED SUBGRADE (LBR 40). THE EXTERIOR CONCRETE SLAB SHALL MATCH THE PARKING LOT/ROADWAY DRAINAGE.
2. THE WALLS SHALL BE 6'-0" HIGH AND SHALL BE CONSTRUCTED OF 8" CMU WITH FILLED CELLS AS SHOWN ON THE PLAN. THE TOP COURSE SHALL BE A UNTEL BEAM WITH (1) NO. 5 REBAR CONTINUOUS. THE EXTERIOR FINISH OF THE WALLS SHALL MATCH THE FINISH OF THE PRINCIPLE STRUCTURE.
3. TWO BOLLARDS ARE REQUIRED WITH ONE DUMPSTER AND 5 BOLLARDS ARE REQUIRED WITH TWO DUMPSTERS. SEE TYPICAL BOLLARD DETAIL D-28.
4. THE DUMPSTER ENCLOSURE SHALL HAVE AN OPAQUE DOUBLE GATE HAVING FRAME WORK MADE OF 2"x2"x1/4" STEEL ANGLE IRON AND 18 GA. SHEETING WITH DIAGONAL BRACING. CONTINUOUS WELD ALL JOINTS. EACH GATE SHALL HAVE A 1/2" L BOLT TO SECURE THE GATE CLOSED AND OPEN WHEN THE DUMPSTER IS BEING EMPTIED. THE GATE SHALL SWING 90° MINIMUM.
5. WHEN THE DUMPSTER IS USED BY A RESTAURANT A HOSE BIBB SHALL BE INSTALLED AND THE DUMPSTER INTERIOR SLAB SHALL BE SLOPED FROM THE OUTSIDE EDGES TO A POINT CENTERED ON THE DUMPSTER AT A SLOPE OF 1/8" PER FOOT. A 4" FLOOR DRAIN SHALL BE INSTALL AND SHALL DRAIN TO THE SANITARY SEWER. WHEN DOUBLE DUMPSTERS ARE USED THE DEVELOPER SHALL INSTALL 2 FLOOR DRAINS, ONE AT EACH DUMPSTER.
6. THE DEVELOPER SHALL COORDINATE WITH THE LOCAL WASTE HAULER FRANCHISEE FOR HIS SIZING REQUIREMENTS FOR THE DUMPSTER AND THE ENCLOSURE.



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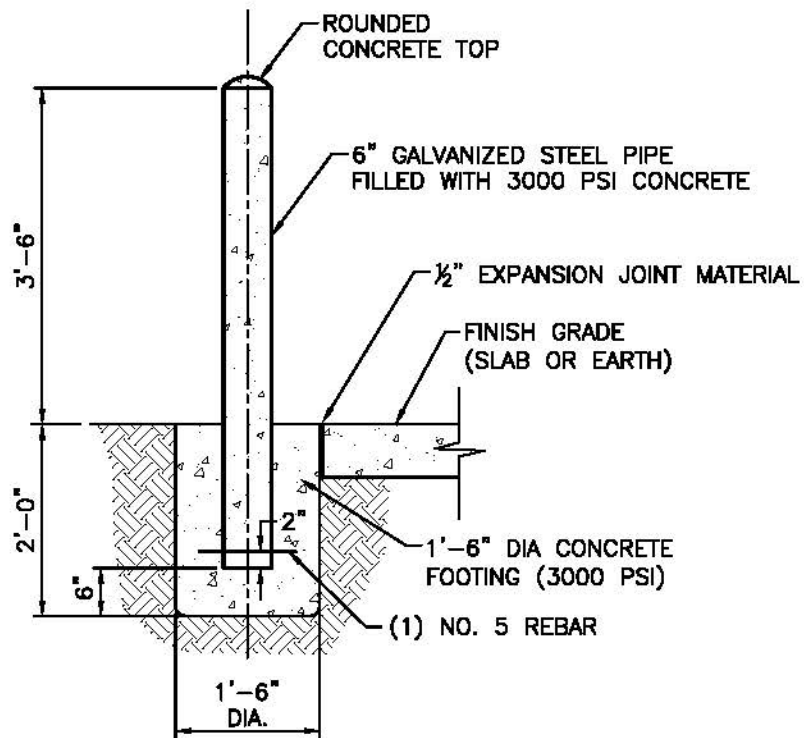
TYPICAL DUMPSTER ENCLOSURE DETAIL

DATE:
3-24-16

SCALE:
NOT TO SCALE

DETAIL

D-27



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TYPICAL BOLLARD DETAIL

DATE:
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SCALE:
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DETAIL

D-28

MATERIAL STANDARDS

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS

AASHTO M36-03 (R2011)	Zinc Coated (Galvanized) Corrugated Iron or Steel Culverts and Under drains
AASHTO M171-05	Standard Specifications for Waterproof Paper for Curing Concrete
AASHTO M148-05	Standard Specifications for Liquid Membrane-Forming Compounds for Curb Concrete
AASHTO M171-05	Standard Specifications for White Polyethylene Sheeting (Film) for curing Concrete
AASHTO M190-4	Bituminous Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO T245-97 (2004)	Resistance to Plastic Flow of Bituminous Mixtures using Marshall Apparatus
AASHTO M114-10	Building Brick (Made from Clay or Shale)

AMERICAN CONCRETE INSTITUTE (ACI)

ACI STANDARD 301-10	Specifications for Structural Concrete for buildings
ACI STANDARD 318-11	Building code Requirements for Reinforced Concrete

AMERICAN IRON AND STEEL INSTITUTE (AISI) HANDBOOK OF STEEL DRAINAGE AND HIGHWAY CONSTRUCTION PRODUCTS – 2007 EDITION

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A53/A53M-10	Pipe, Steel, Black and Hot Dipped Zinc-Coated (Galvanized) Welded and Seamless, for Ordinary Uses, Spec. for
ASTM A123/A123M-09	Zinc (Hot Galvanized) Coatings on products Fabricated From Rolled, Pressed and forged Steel Shapes, Plates, Bars And Strip, Spec. for,
ASTM B766	Electrodeposited Coatings of Cadmium on Steel, Spec. for,
ASTM F1554 (Grade C)	Carbon Steed Externally Threaded Standard Fasteners, Spec. for
ASTM A185/A185M-07	Welding Steel Wire Fabric for Concrete Reinforcement, Spec. for,
ASTM A615M-0913	Deformed and Plain Billet-Steel Bars for concrete Reinforcement, Spec. for,
ASTM B88-09	ASTM B88-09 Seamless Copper Water Tube, Spec. for,
ASTM B108/B108M-11	ASTM B108/B108M-11 Aluminum-Alloy Permanent Mold Castings, Spec. for,
ASTM B209-10	ASTM B209-10Aluminum and Aluminum Alloy sheet and Plate, Spec. for,
ASTM F1554	ASTM F1554 (Grade C) Carbon Steed Externally Threaded Standard Fasteners, Spec. for
ASTM A185/A185M-07	ASTM A185/A185M-07 Welding Steel Wire Fabric for Concrete Reinforcement, Spec. for,
ASTM A615M-0913	ASTM A615M-0913 Deformed and Plain Billet-Steel Bars for concrete Reinforcement, Spec. for,
ASTM B88-09	Seamless Copper Water Tube, Spec. for,
ASTM B108/B108M-11	Aluminum-Alloy Permanent Mold Castings, Spec. for,
ASTM B209-10	Aluminum and Aluminum Alloy sheet and Plate, Spec. for,
ASTM C12-09	Installing Vitrified Clay Sewer Pipe, Rec. Practice for,



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MATERIAL STANDARDS

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ASTM C55-11	Concrete Building Brick, Spec. for,
ASTM C76-11	Reinforced Concrete Culvert, Storm Drain and Sewer Pipe, Spec. for,
ASTM C139-11	Concrete Masonry Units for Construction of Catch Basins and Manholes, Spec. for,
ASTM C172-10	Fresh Concrete, Sampling.
ASTM C270-10	Mortar for Unit Masonry, Spec. for,
ASTM C245-04 (2009)	Compression Joints for Vitrified Clay Bell and Spigot Pipe, Spec. for,
ASTM C700-11	Vitrified Clay Pipe, Extra Strength, Standards Strength, and Perforated, Spec. for,
ASTM D6690-07	Concrete Joint Sealer, Hot Poured Elastic Type, Spec. for,
ASTM D1556-07	Density of Soil in Place by the Sand-Cone Method, Test for,
ASTM D1557-09	Moisture-Density Relations of Soils and Soil-Aggregate Mixtures using 10-lb Rammer and 18-in Drop, Test for,
ASTM D1751-04 (2008)	Preformed Expansion Joint Fillers for Concrete Paving and Structural Constriction (Nonextruding and Resilient Bituminous Types), spec. for,
ASTM D1752-04A (2008)	Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Constriction, Spec. for,
ASTM D1752-04A (2008)	Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Constriction, Spec. for,
ASTM D1785-06	Poly Vinyl Chloride (PVC) Plastic Pipe Schedules 40, 80, 120, Spec. for,
ASTM D1856-09	Recovery of Asphalt from Solution by the Abson Method, Test for,
ASTM D2104-74	Withdrawn, No Replacement Polyethylene (PE) Plastic Pipe Schedule, 40, Spec. for,
ASTM D2167-08	Density of Soil in Place by the Rubber-Balloon Method, Test for,
ASTM D2172/2172M-11	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures, Test for,
ASTM D2239-03	Polyethylene (PE) Plastic Pipe (SDR-PR), spec. for,
ASTM D2241-09	Poly Vinyl Chloride (PVC) Plastic Pipe (SDR-PR), Spec. For,
ASTM D1752-04A (2008)	Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Constriction, Spec. for,
ASTM D1785-06	Poly Vinyl Chloride (PVC) Plastic Pipe Schedules 40, 80, 120, Spec. for,
ASTM D1856-09	Recovery of Asphalt from Solution by the Abson Method, Test for,
ASTM D2104-74	Withdrawn, No Replacement Polyethylene (PE) Plastic Pipe Schedule, 40, Spec. for,
ASTM D2167-08	Density of Soil in Place by the Rubber-Balloon Method, Test for,
ASTM D2172/2172M-11	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures, Test for,
ASTM D2239-03	Polyethylene (PE) Plastic Pipe (SDR-PR), spec. for,
ASTM D2241-09	Poly Vinyl Chloride (PVC) Plastic Pipe (SDR-PR), Spec. For,
ASTM D2447-74	Withdrawn, No Replacement Polyethylene (PE) Plastic Pipe, Schedules 40 and 80 Based on Outside diameter, Spec. for,
ASTM D2321-11	Underground Installation of flexible Thermoplastic SewerPipe, Rec. Practice for,
ASTM D2487-11	Classification of Soils for Engineering.
ASTM D2662-78	Withdrawn, No Replacement Polybutylene (PB) Plastic Pipe (SDR-PR), Spec. for,
ASTM D2751-05	Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings, Spec. for,



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MATERIAL STANDARDS

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DETAIL

M - 2

ASTM D6938-10	Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth), Tests for,
ASTM D3000-73	Withdrawn, No Replacement Polybutylene (PB) Plastic Pipe (SDR-PR) Based on Outside Diameter, Spec. for,
ASTM D3033-80	Withdrawn, No Replacement Type PSP Poly (Vinyl-Chloride) (PVC) Sewer Pipe and Fittings, Spec. for,
ASTM D3034-08	Type PSM Poly (Vinyl-Chloride) (PVC) Sewer Pipe and Fittings, Spec. for,
ASTM D3035-10	Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Controlled Outside Diameter, Spec. for,
ASTM D3139-98 (2011)	Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals, Spec. for,
ASTM D3212-07	Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric seals, Spec. for,

AMERICAN WATER WORKS ASSOCIATION

Gate Values for ordinary water works service.
Fire Hydrants for ordinary water works service.

DEPARTMENT OF TRANSPORTATION – STATE OF FLORIDA (F.D.O.T.)

Standard Specifications for Road and Bridge Construction
January 1, (2012) Specifications (Referred to herein as
D.O.T. Standard Specifications) Bulletin 22 – Lime rock
Bearing Ratio Method

FEDERAL HIGHWAY ADMINISTRATION

Manual on Uniform Traffic Control Devices (2009)

AMERICAN NATIONAL STANDARDS INSTITUTE

ANSI/AWWA C150/A21.50	Thickness Design of Cast-iron Pipe
ANS A21.6 (Cancelled)	Cast-iron pipe centrifugally cast in metal molds for water and other liquids.
ANS A21.8 (Cancelled)	Cast-iron pipe centrifugally cast in sand-lined molds, for water and other liquids.
ANSI/AWWA C110/A21.10	Grey-Iron and ductile-Iron fittings 2 in. through 48 in. for water and Other Liquids.
ANSI/AWWA C111/A21.11	Rubber gasket joints for cast-iron and ductile-iron pressure pipe and fittings.
ANSI/A21.51 AWWA C151	Ductile-iron pipe, centrifugally cast in metal molds or sand-lined molds, for water or other liquids.



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MATERIAL STANDARDS

REVISION DATE: 3-24-16	SCALE: NOT TO SCALE	DETAIL M - 3
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