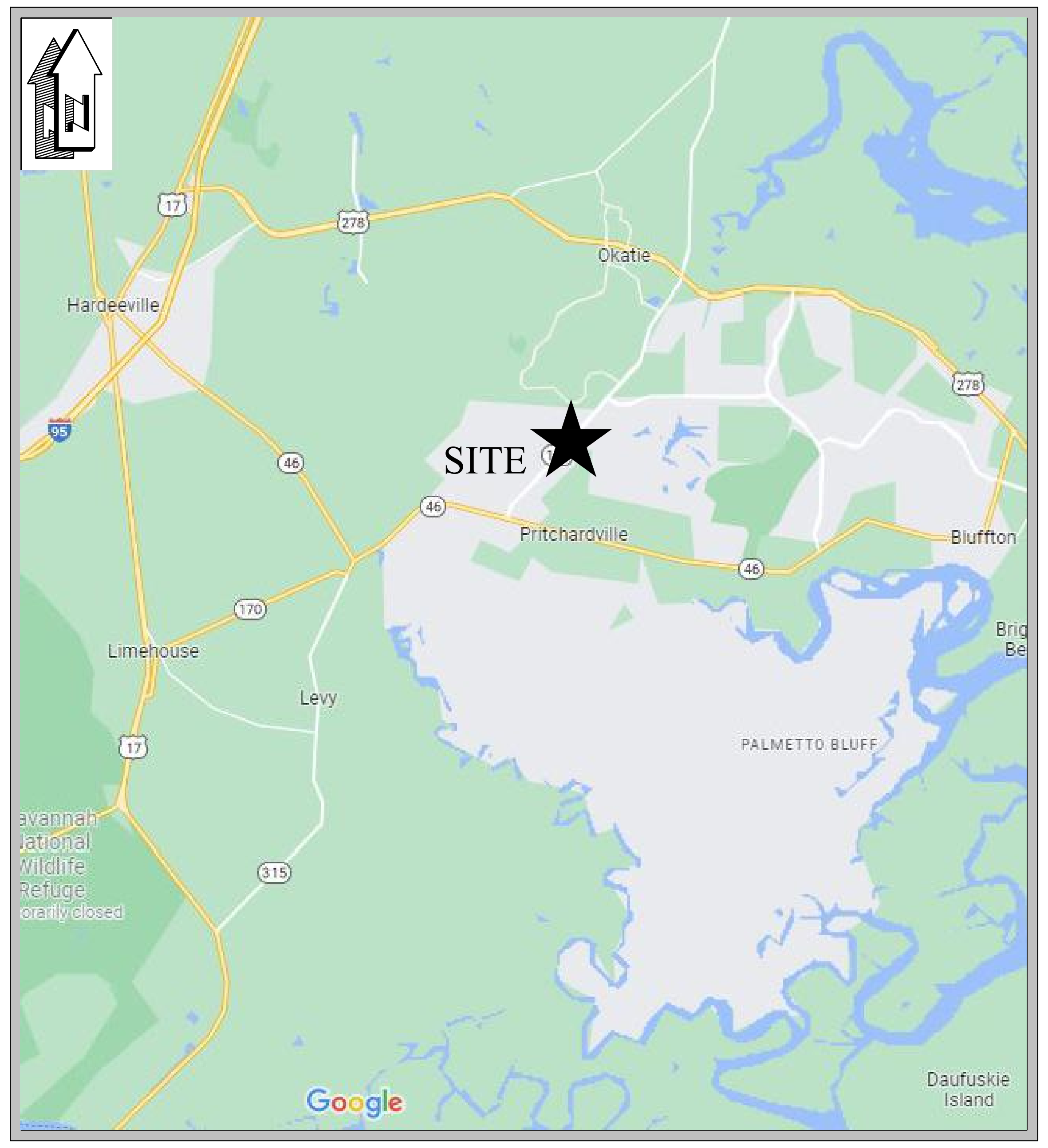


VICINITY MAP
N.T.S.

PERMIT PLANS FOR

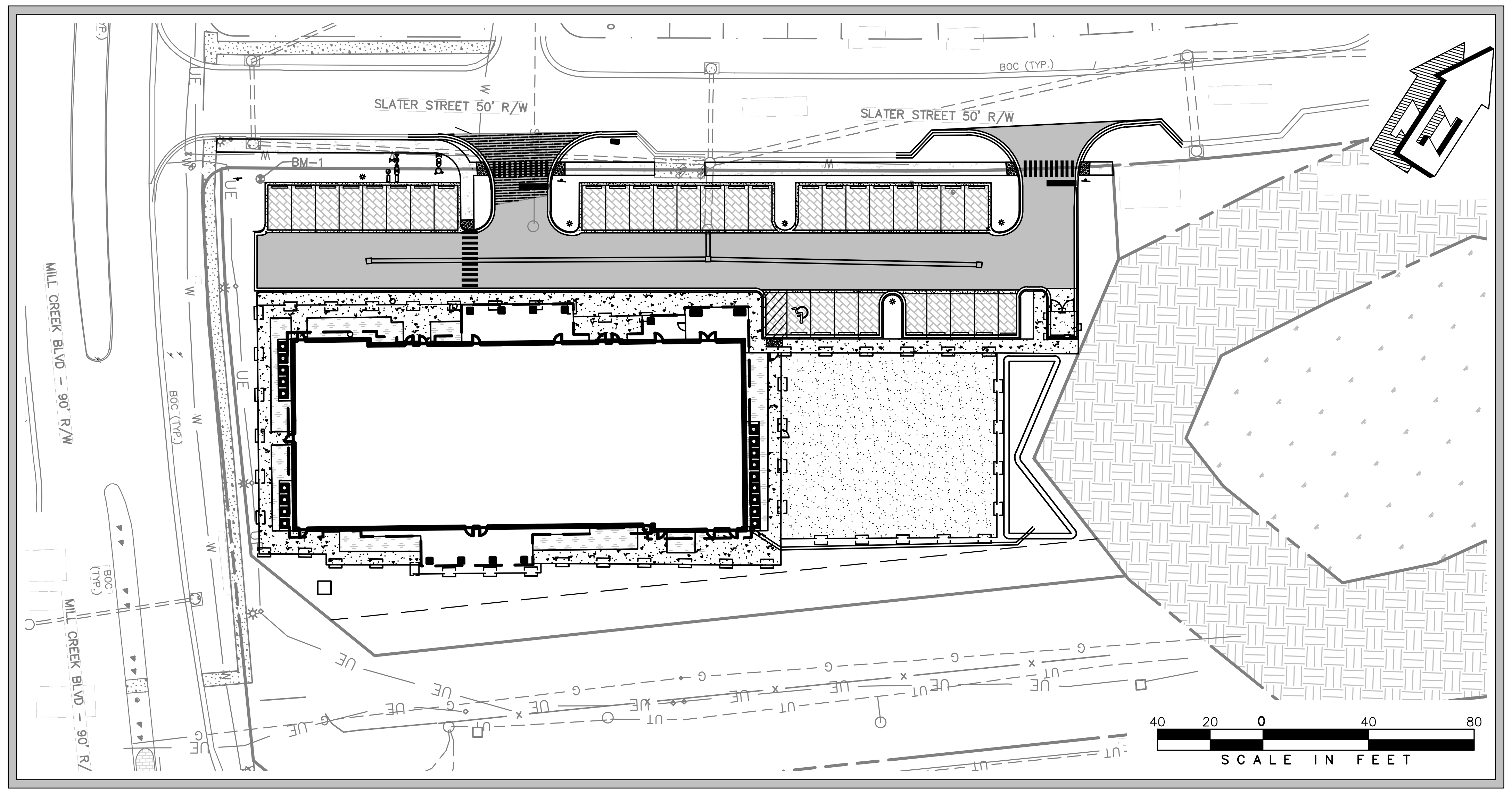
BIG BLUE MARBLE ACADEMY

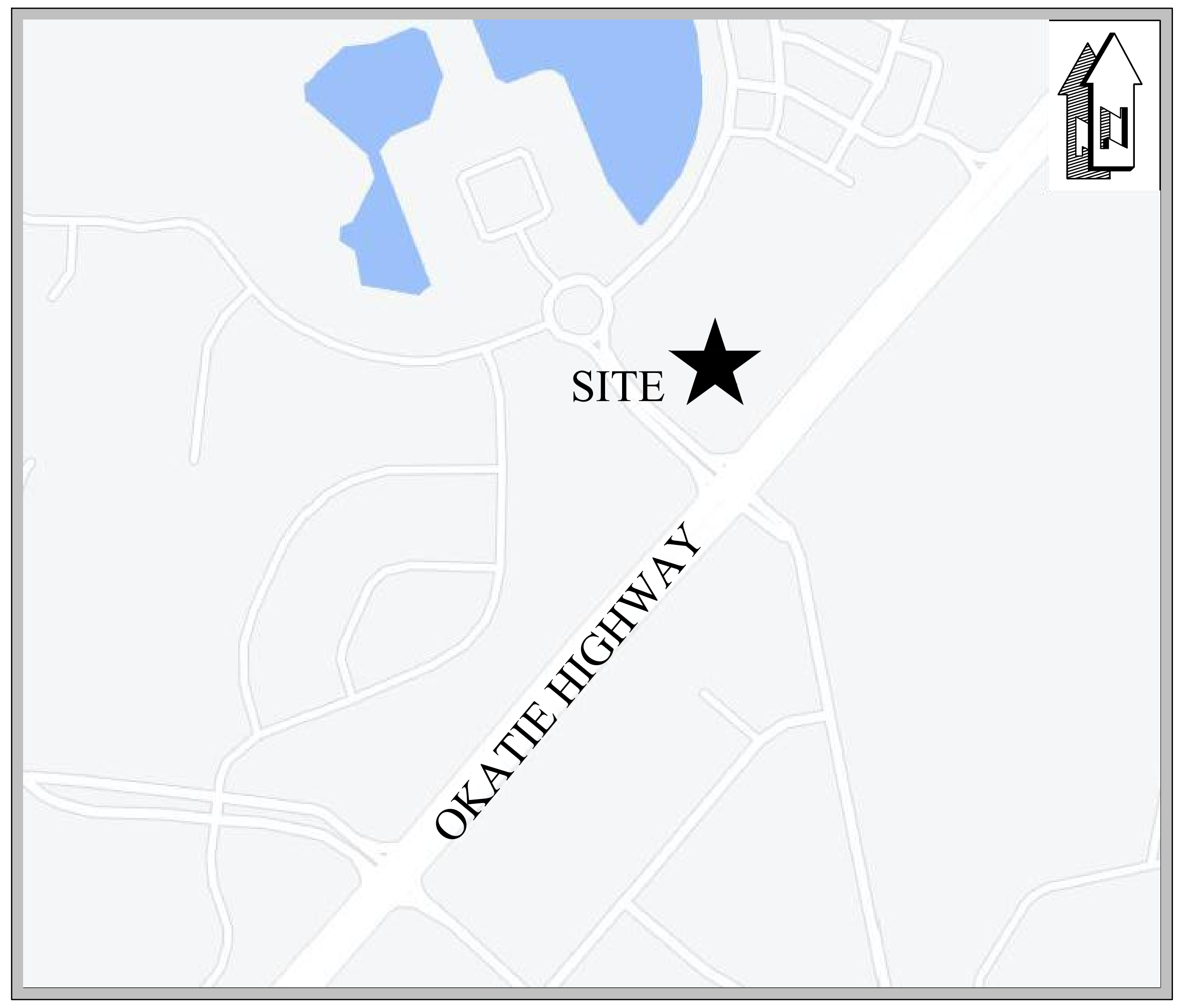
SLATER STREET
BLUFFTON, SC 29909

PREPARED FOR

EIG14T DEVELOPMENT

1695 TWELVE MILE ROAD
BERKELE, MI 48072





LOCATION MAP
N.T.S.

PROJECT DATA:

1. ACREAGE OF PROPERTY: 1.276 ACRES
2. ACREAGE OF DEVELOPMENT: 1.276 ACRES
3. OWNER/DEVELOPER:
    EIG14T DEVELOPMENT
    1695 TWELVE MILE ROAD
    BERKELEY, MI 48702
    PHONE: (248) 817-1691
  24 HOUR CONTACT:
    NAME: MARK KELLENBERGER
    PHONE: (248) 921-3733
4. TAX MAP & PARCEL NUMBERS: R614 028 000 5285 0000
5. ZONING: PUD
6. IMPERVIOUS AREA:
    EXISTING: 0.00 ACRES
    PROPOSED: 0.442 ACRES
7. PERVIOUS AREA:
    EXISTING: 1.276 ACRES
    PROPOSED: 0.833 ACRES
8. RECEIVING STREAM: RECEIVING STREAM
9. ULTIMATE STREAM: ULTIMATE STREAM
10. EXISTING LAND USE: UNDEVELOPED
11. PROPOSED LAND USE: DAY CARE
12. PARKING REQUIRED: 25
13. PARKING PROVIDED: 33

SHEET LIST TABLE	
Sheet Number	SHEET TITLE
C100	COVER SHEET
C101	GENERAL NOTES & LEGEND
C200	EXISTING CONDITIONS-SURVEY
C300	EXISTING CONDITIONS & DEMO
C301	SWPPP DETAILS
C302	SWPPP DETAILS
C303	SWPPP DETAILS
C400	SITE PLAN
C500	UTILITY PLAN
C501	UTILITY DETAILS
C502	UTILITY DETAILS
C600	GRADING, DRAINAGE AND PAVING PLAN
C700	LANDSCAPE PLAN
C800	DETAILS SHEET
C801	DETAILS SHEET

PREPARED BY

CRANSTON

9/25/2023

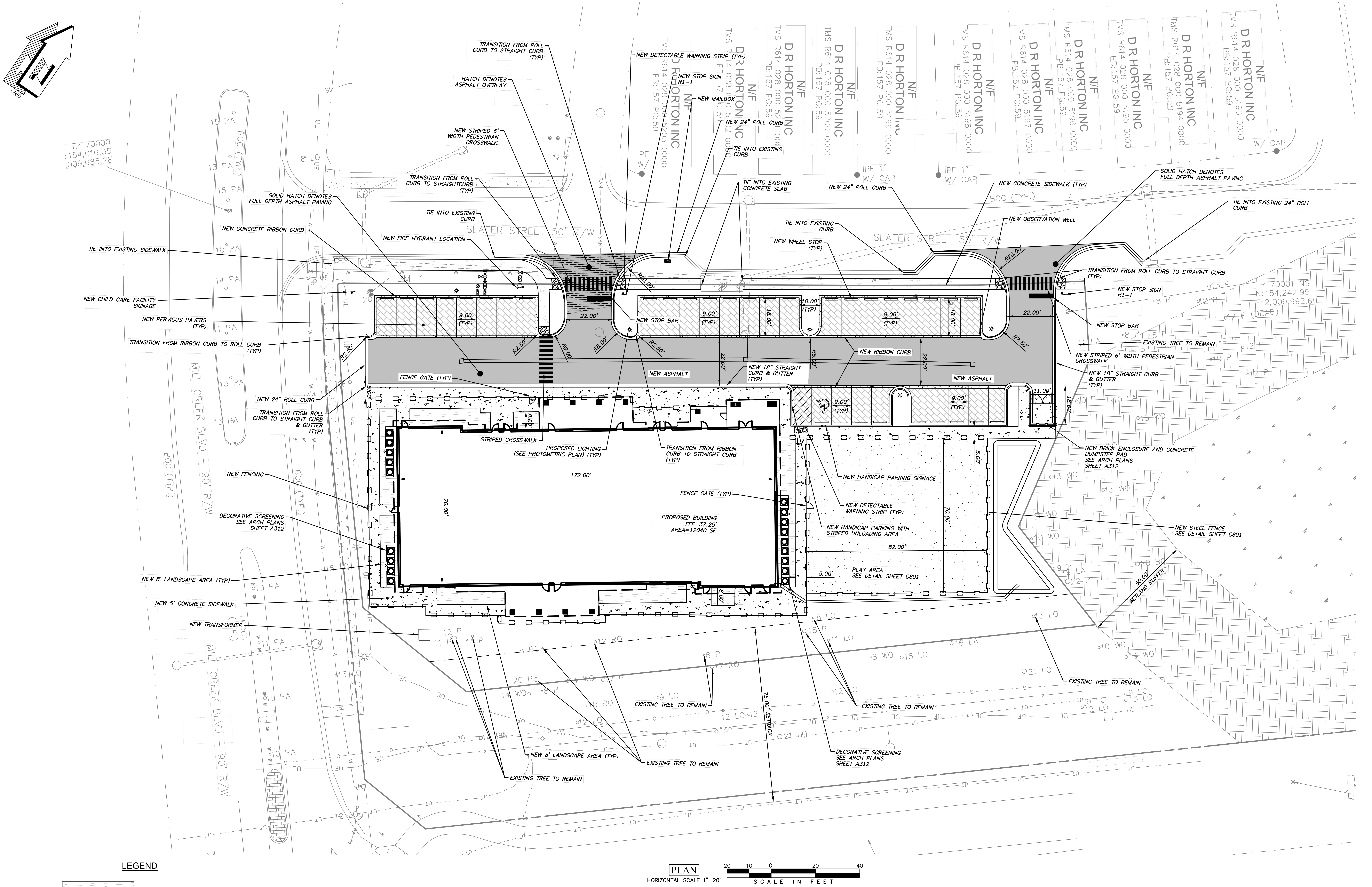
Cranston Engineering Group
NO. C00575

NO. 38607
MEGAN E. SMITH

BENCHMARK DATA					
NAME	**DESCRIPTION**	**PT #**	**NORTHING**	**EASTING**	**ELEVATION**
BM-1	**Nail in Tree**	**-**	**154033.26**	**2009756.94**	**37.11**

South Carolina 811
Call 811 Before You Dig

ATTACHMENT 2



PLAN
HORIZONTAL SCALE 1"=20'

LEGEND

▨	LANDSCAPE AREA
▦	PERVIOUS PAVING
☐	CONCRETE
■	ASPHALT

South Carolina 811 Call 811 Before You Dig

CRANSTON

SOUTH CAROLINA Cranston Engineering Group NO. C00575 CERTIFICATE OF AUTHORIZATION

NO.38607 MEGAN E. SMITH
9/21/23

DESCRIPTION	DATE	REV #

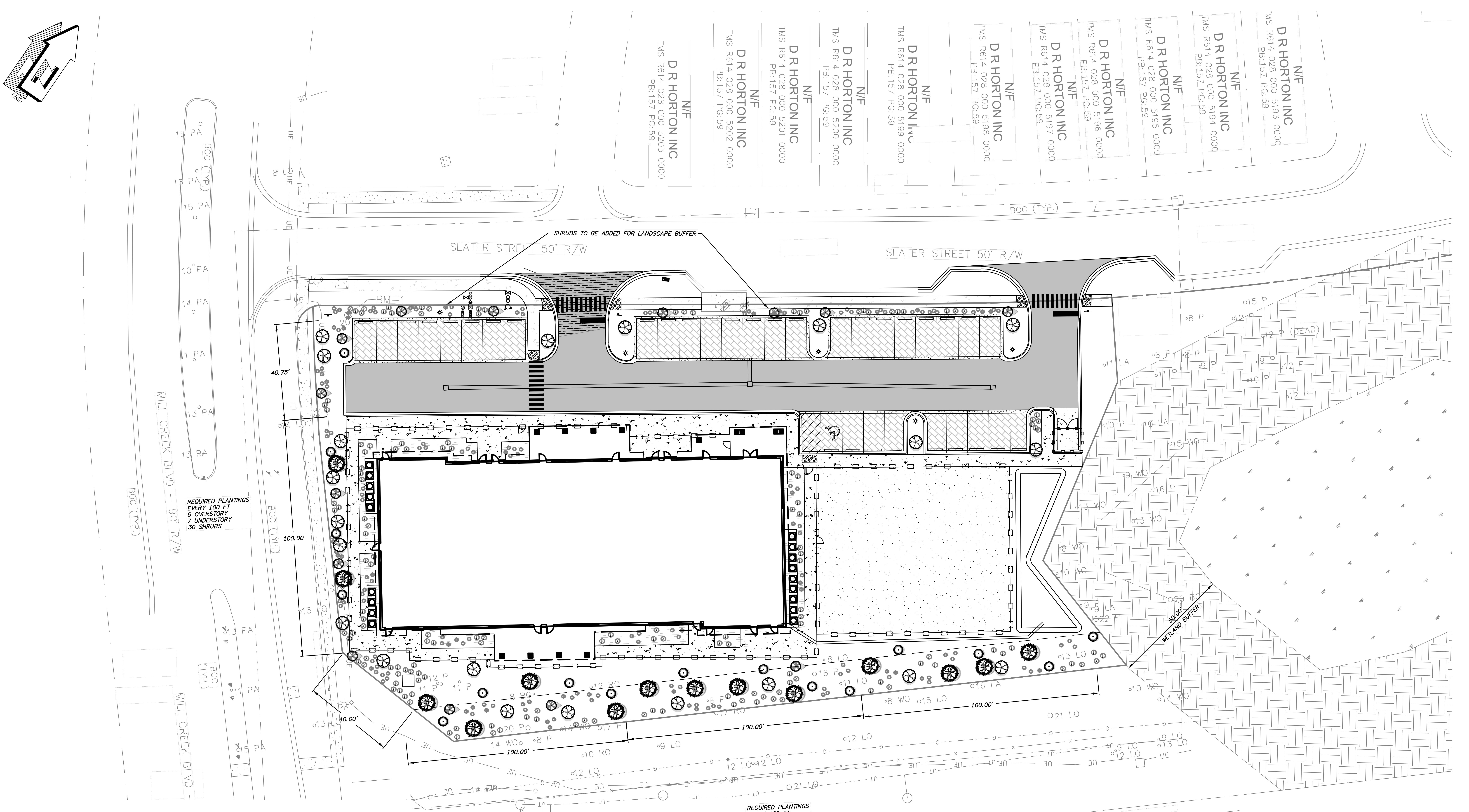
BIG BLUE MARBLE ACADEMY

SITE PLAN

DRAWN BY: AWD
CHECKED BY: MES
APPROVED BY: MES
DATE: 9/25/2023
SCALE: 1" = 20'
JOB No. 2022–0214
DRAWING No. C400

G:\PROJECTS\2022\2022-0214_BIG BLUE MARBLE ACADEMY - BLUFFTON, SC\AC-DRAWINGS\CIVIL\2022-0214 OV - UPDATE.DWG 10/27/2023 1:33 PM

ATTACHMENT 2



PLAN
HORIZONTAL SCALE 1"=20'

20 10 0 20 40
SCALE IN FEET

PLANT_SCHEDULE

LARGE CANOPY TREES	BOTANICAL / COMMON NAME	SIZE		QTY
●	Quercus Virginiana Live Oak	2.5" CAL 12' HIGH		16
⊛	Quercus Palustris Pin Oak	2.5" CAL 12' HIGH		22
UNDERSTORY TREES	**BOTANICAL / COMMON NAME**	**SIZE**		**QTY**
⊛	lagerstroemia indica Crepe Myrtle	2" CAL 10' HIGH		40
⊙	Halesia Carolina Carolina Silverbell	2" CAL 6' HIGH		37
SHRUBS	**BOTANICAL / COMMON NAME**	**GAL**	**SPACING**	**QTY**
•	Podocarpus Podocarpus	5	18" o.c. 4' HIGH	261
⊘	Callistemon cirtinus Crimson Bottlebrush	5	18" o.c. 4' HIGH	217

South Carolina 811
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CRANSTON

SOUTH CAROLINA
Cranston Engineering Group
NO. C00575
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
LICENSED PROFESSIONAL ENGINEER
NO.38607
MEGAN E. SMITH
9/21/23

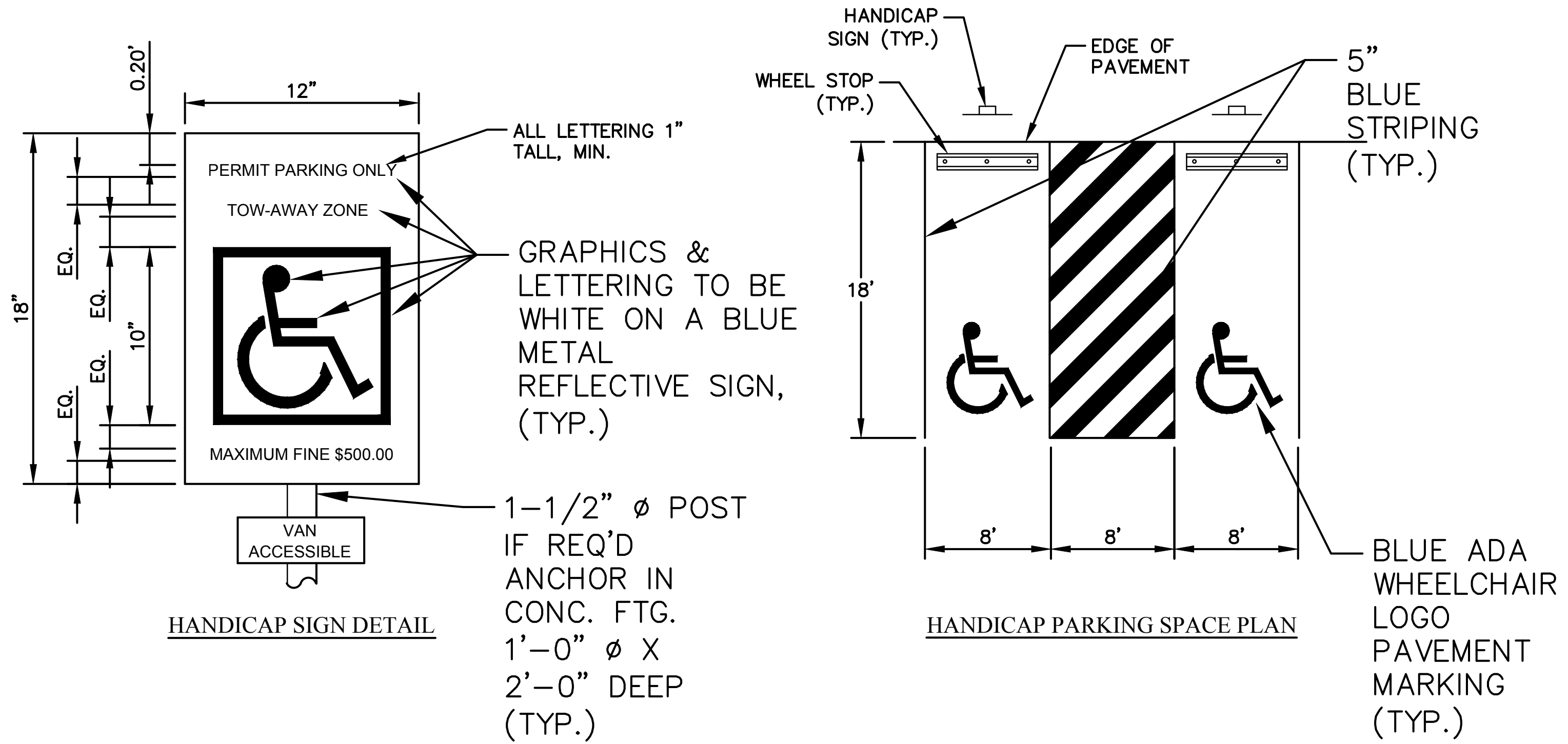
REV #	DATE	DESCRIPTION

BIG BLUE MARBLE ACADEMY

LANDSCAPE PLAN

DRAWN BY:	AWD
CHECKED BY:	MES
APPROVED BY:	MES
DATE:	9/25/2023
SCALE:	1" = 40'
JOB No.	2022–0214
DRAWING No.	C700

ATTACHMENT 2



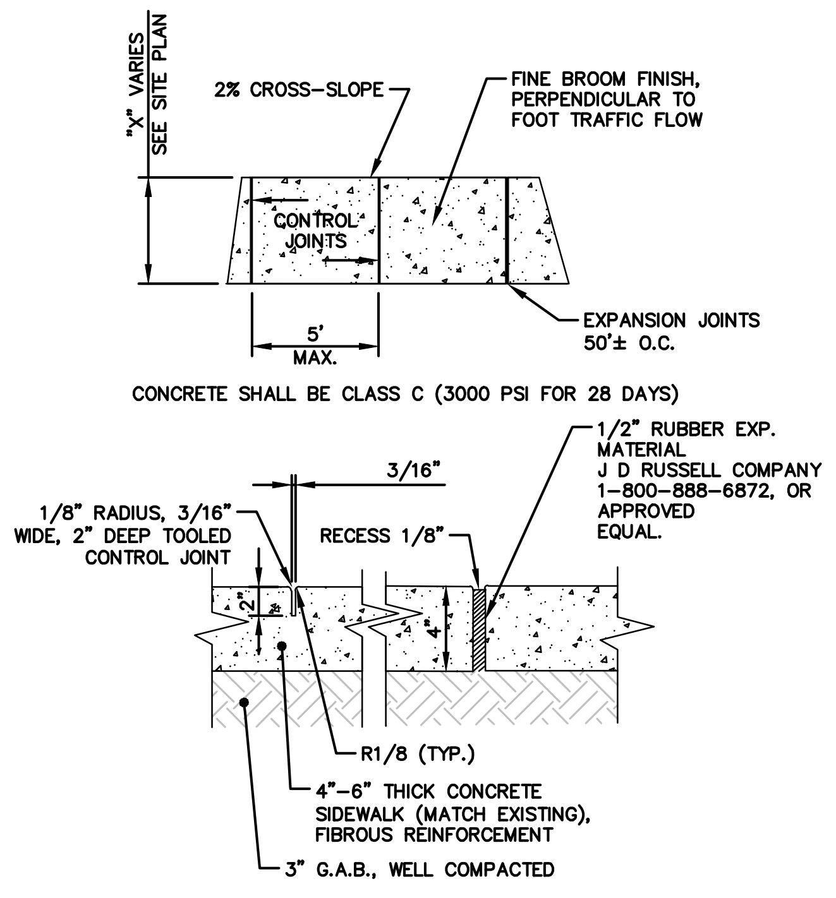
HANDICAP SIGN DETAIL

HANDICAP PARKING SPACE PLAN

HANDICAP PARKING

N.T.S.

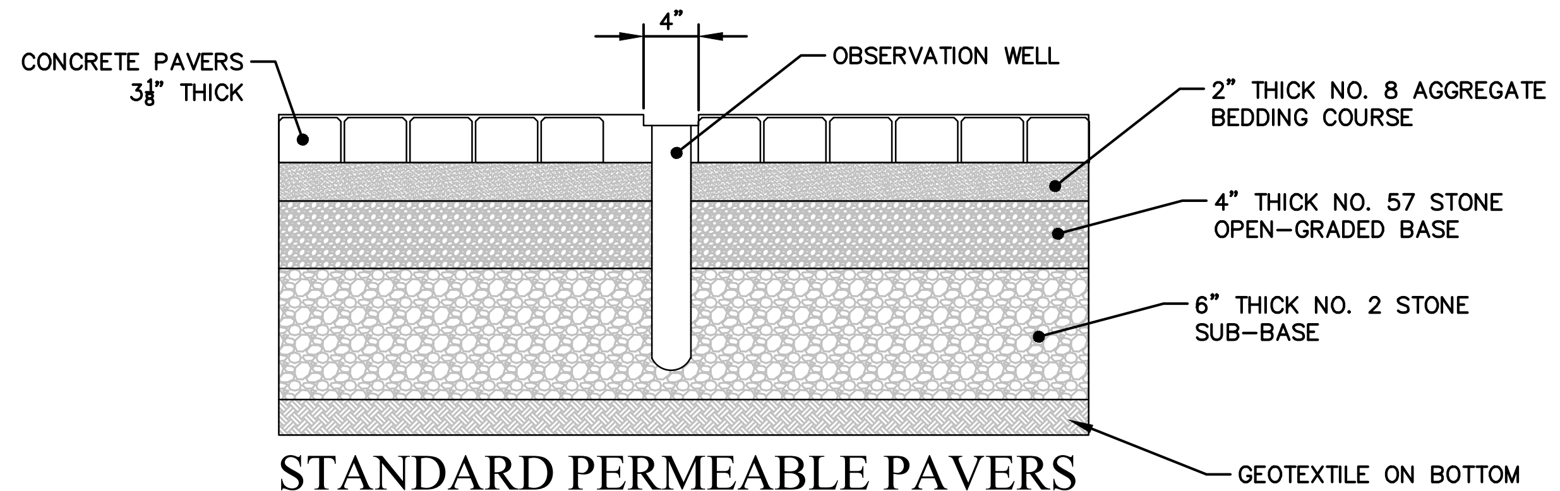
NOTE:
1. EACH PARKING SPACE DESIGNATED AS ACCESSIBLE FOR THE DIABLED MUST BE MARKED WITH AN APPROPRIATE SIGN, MOUNTED IN CLEAR VIEW FOR MOTORISTS. A HEIGHT OF AT LEAST 60 INCHES, MEASURED FROM THE GROUND TO THE BOTTOM EDGE OF THE SIGN, IS RECOMMENDED.



1. SIDEWALK WIDTH IS TYPICALLY 5', HOWEVER, CAN VERY DEPENDING ON LOCATION, SEE PLAN SHEETS.
2. CONTROL JOINTS ON CENTER SPACING TO EQUAL WIDTH OF SIDEWALK.
3. EXPANSION JOINTS TO BE INSTALLED EVERY 50'± AND AT ALL RIGID CONNECTIONS.
4. JOINTS IN CURB & GUTTER SHALL ALIGN WITH CORRESPONDING JOINTS IN SIDEWALK WHERE ADJOINING.

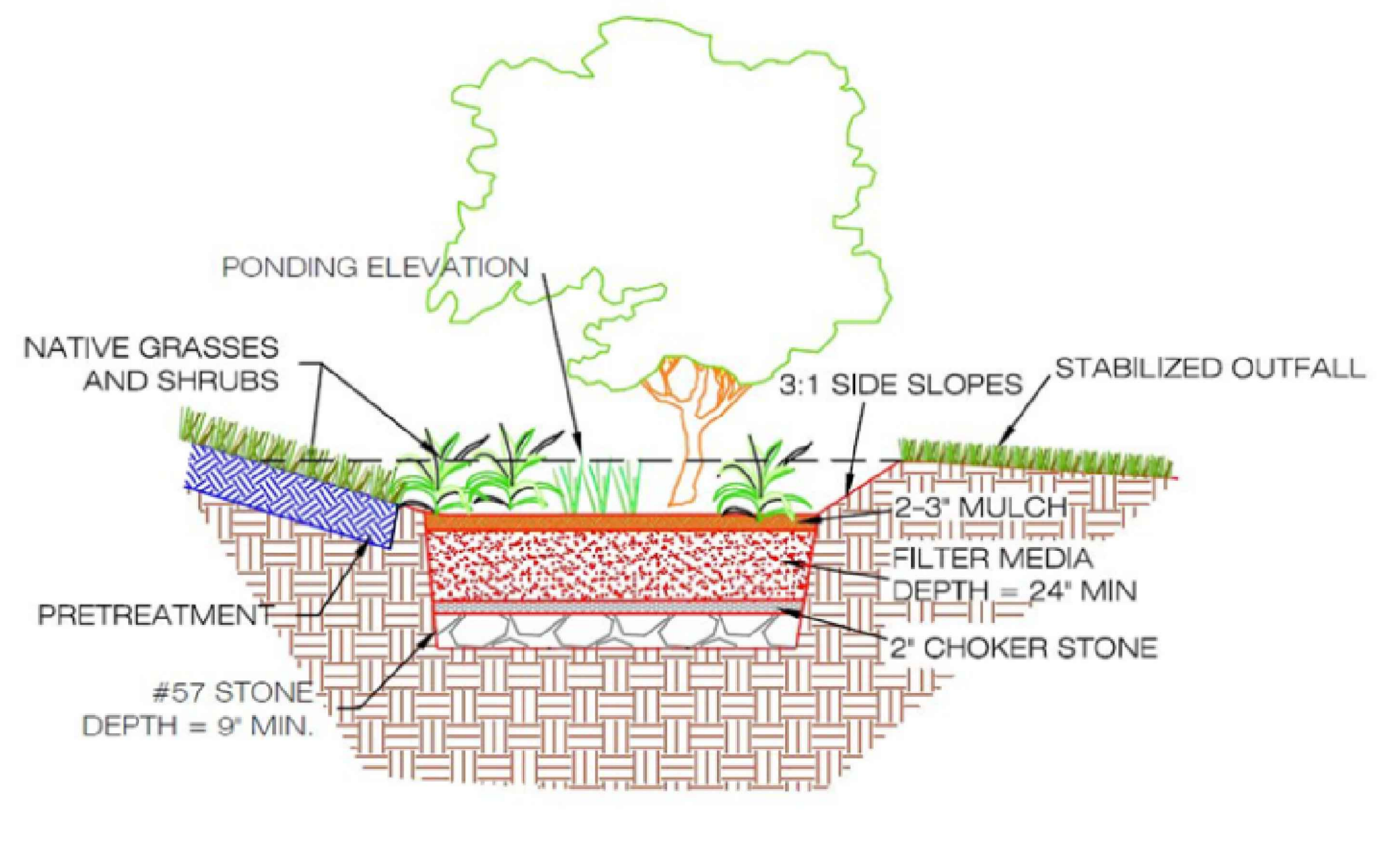
SIDEWALK - TYPICAL SECTION

N.T.S.



STANDARD PERMEABLE PAVERS OBERSVATION WELL

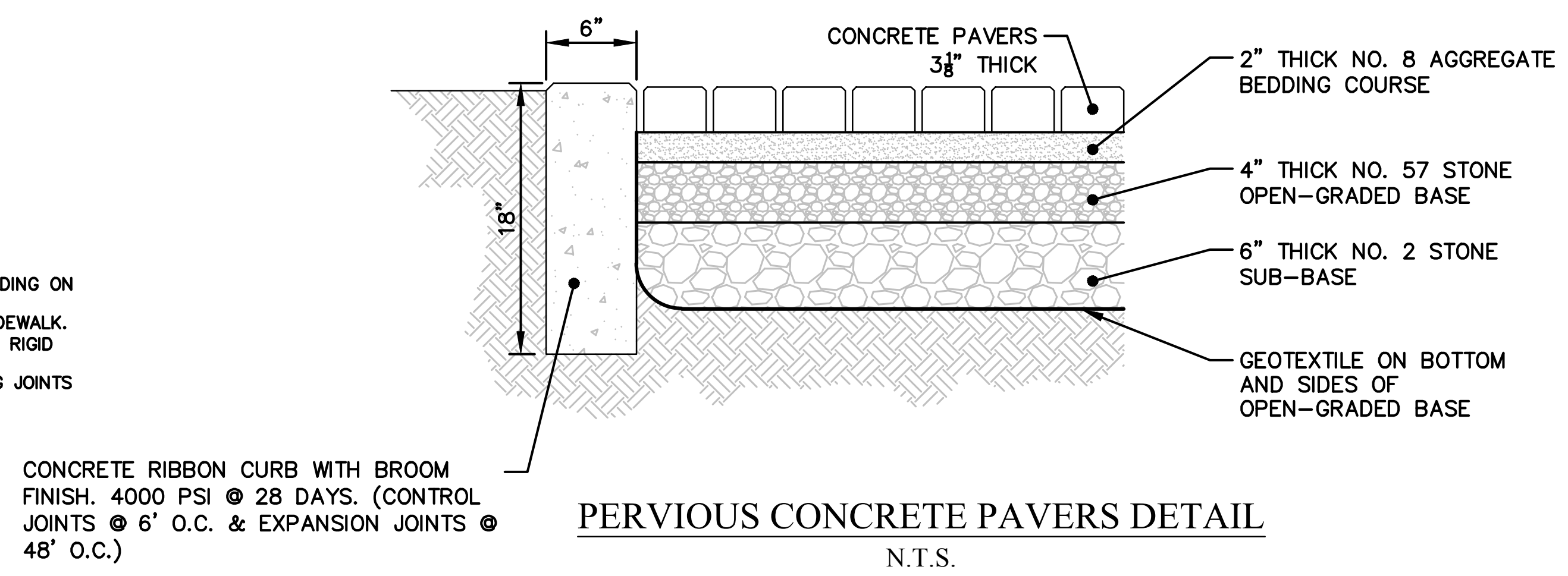
N.T.S.



BIORETENTION WITHOUT UNDERDRAIN SECTION DETAIL

N.T.S.

DETAIL FROM SOUTHERN LOWCOUNTRY STORMWATER DESIGN MANUAL

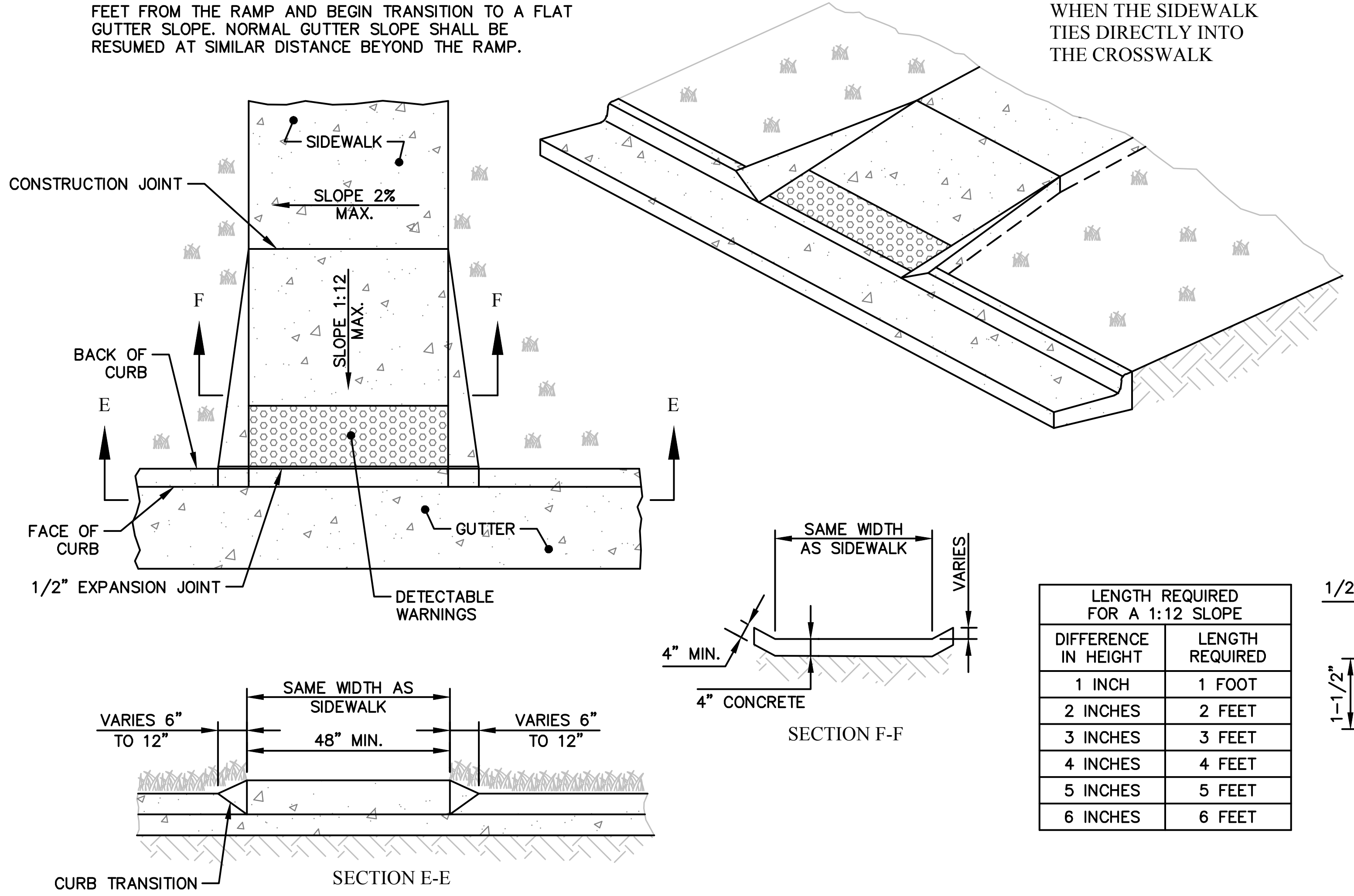


PERVIOUS CONCRETE PAVERS DETAIL

N.T.S.

IN AREAS WHERE THE GUTTER HAS A SLOPE OF 1" IN 1', END NORMAL GUTTER SLOPE AT DISTANCE TO 6 TO 10 FEET FROM THE RAMP AND BEGIN TRANSITION TO A FLAT GUTTER SLOPE. NORMAL GUTTER SLOPE SHALL BE RESUMED AT SIMILAR DISTANCE BEYOND THE RAMP.

NORMALLY USED WHEN THE SIDEWALK TIES DIRECTLY INTO THE CROSSWALK



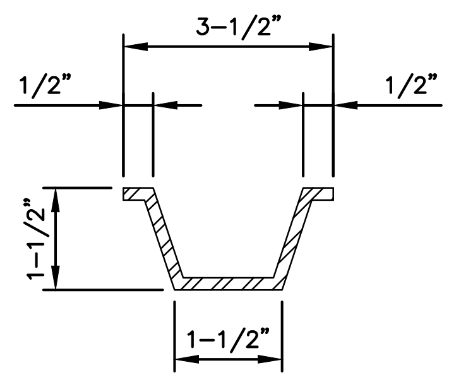
SECTION F-F

SECTION E-E

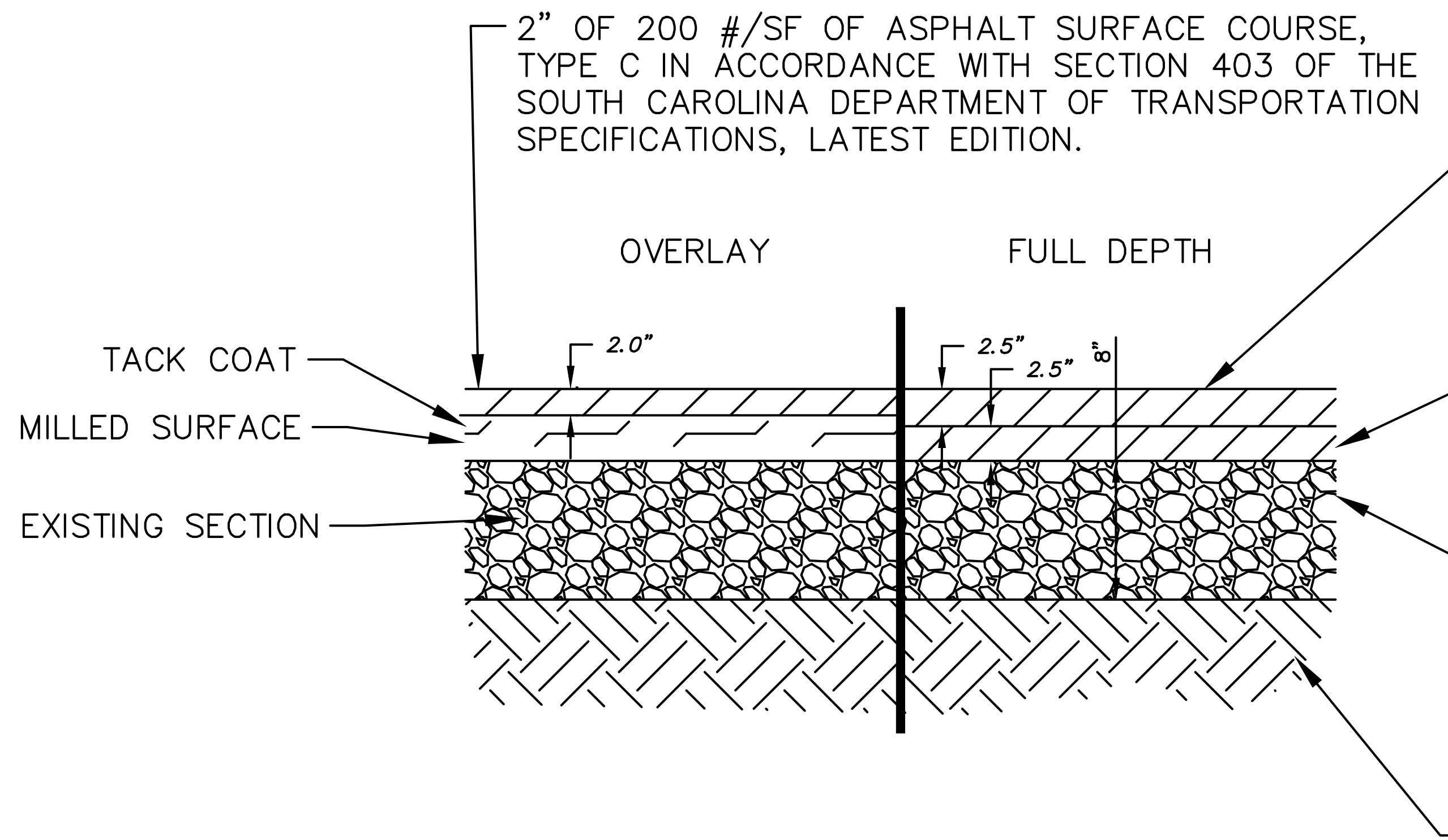
LENGTH REQUIRED FOR A 1:12 SLOPE	
DIFFERENCE IN HEIGHT	LENGTH REQUIRED
1 INCH	1 FOOT
2 INCHES	2 FEET
3 INCHES	3 FEET
4 INCHES	4 FEET
5 INCHES	5 FEET
6 INCHES	6 FEET

TYPE D ADA RAMP DETAIL

N.T.S.



METAL SIGN POST



2" OF 200 #/SF OF ASPHALT SURFACE COURSE, TYPE C IN ACCORDANCE WITH SECTION 403 OF THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, LATEST EDITION.

2.5" OF 200 #/SF OF ASPHALT SURFACE COURSE, TYPE C IN ACCORDANCE WITH SECTION 403 OF THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, LATEST EDITION.

2.5" OF 200#/SF OF ASPHALT INTERMEDIATE COURSE, TYPE C IN ACCORDANCE WITH SECTION 403 OF THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, LATEST EDITION.

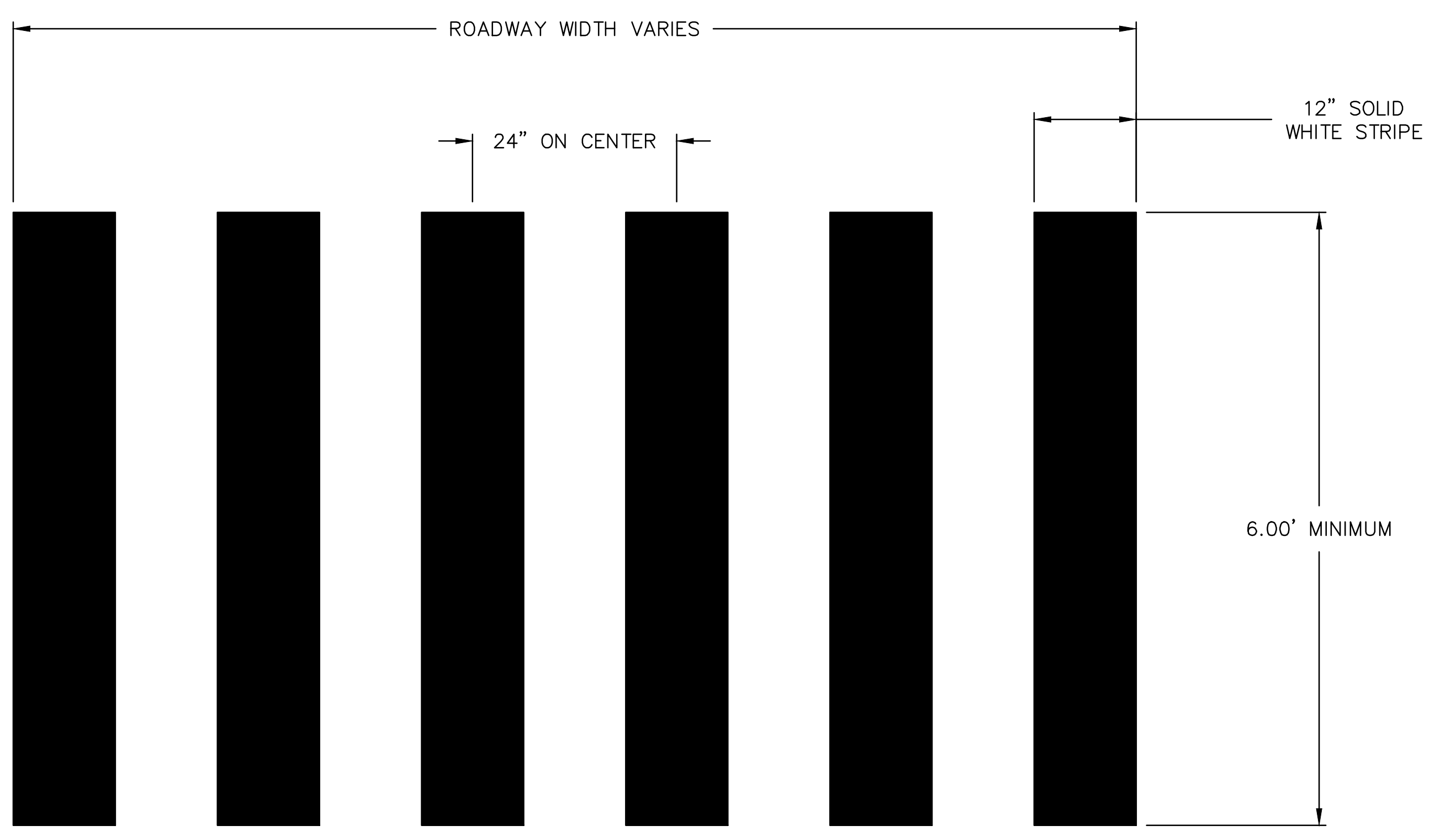
8" OF GRADED AGGREGATE BASE COURSE COMPACTED TO 100% MAXIMUM DRY DENSITY, MATERIALS & COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 305 OF THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, LATEST EDITION.

SUBGRADE COMPACTED TO 100% MAXIMUM DRY DENSITY, MATERIALS & COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 208 OF THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, LATEST EDITION.

ASPHALT PAVING DETAIL OVERLAY

OVERLAY & FULL DEPTH

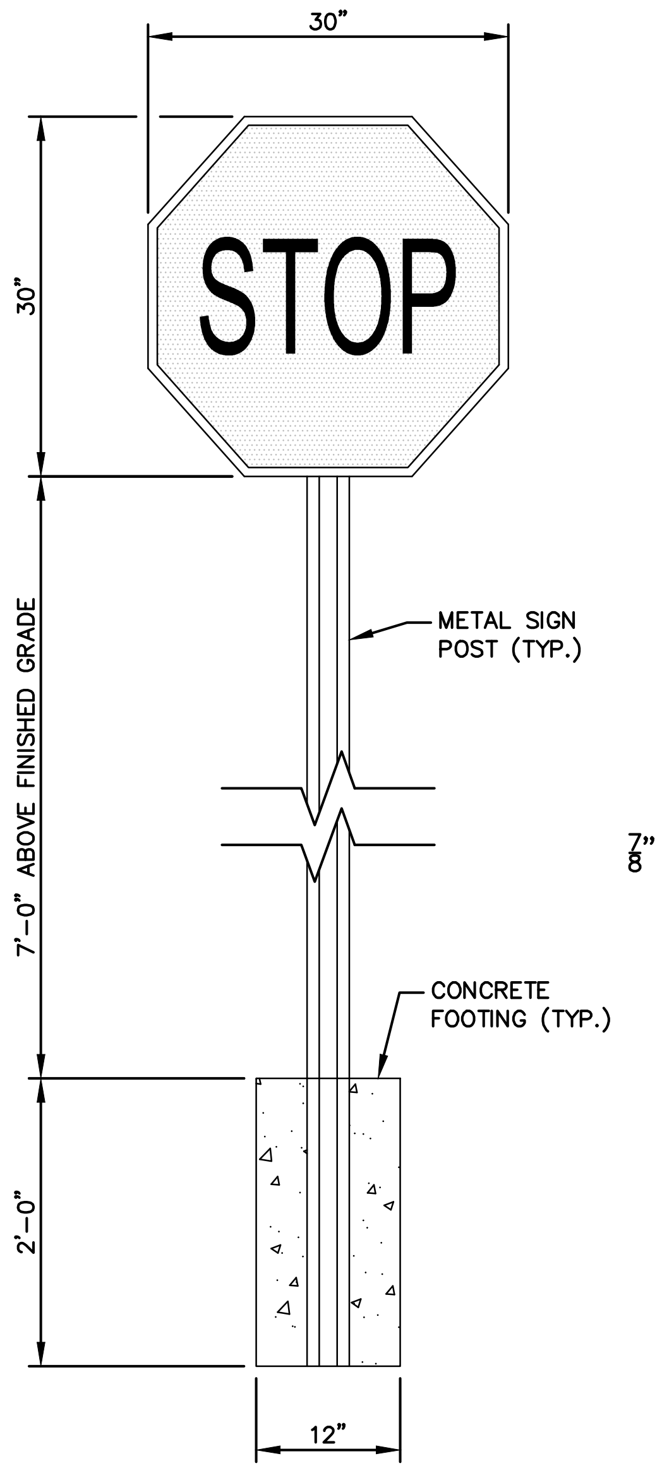
N.T.S.



TOWN OF BLUFFTON CROSSWALK STRIPING DETAIL

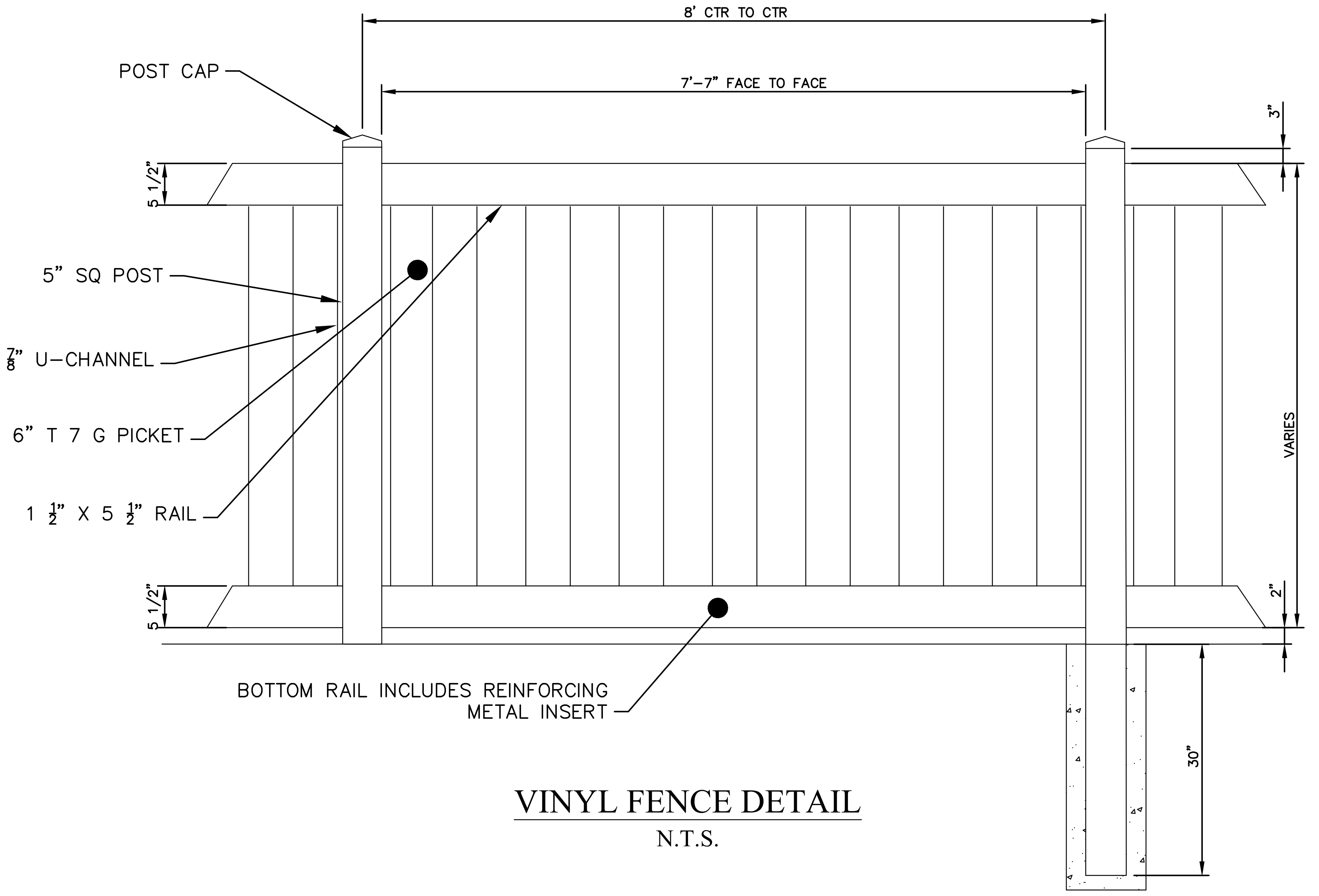
N.T.S.

COLORS:
BACKGROUND – RED
LETTERING – WHITE
BORDER – WHITE



STOP SIGN

N.T.S.



VINYL FENCE DETAIL

N.T.S.

South Carolina 811 Call 811 Before You Dig

CRANSTON

SOUTH CAROLINA Cranston Engineering Group NO. C00575 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER NO.38607 MEGAN E. SMITH

9/21/23

REV #	DATE	DESCRIPTION

BIG BLUE MARBLE ACADEMY

DETAILS SHEET

DRAWN BY: AWD
CHECKED BY: MES
APPROVED BY: MES
DATE: 9/25/2023
SCALE: NO SCALE
JOB No. 2022–0214
DRAWING No. C800

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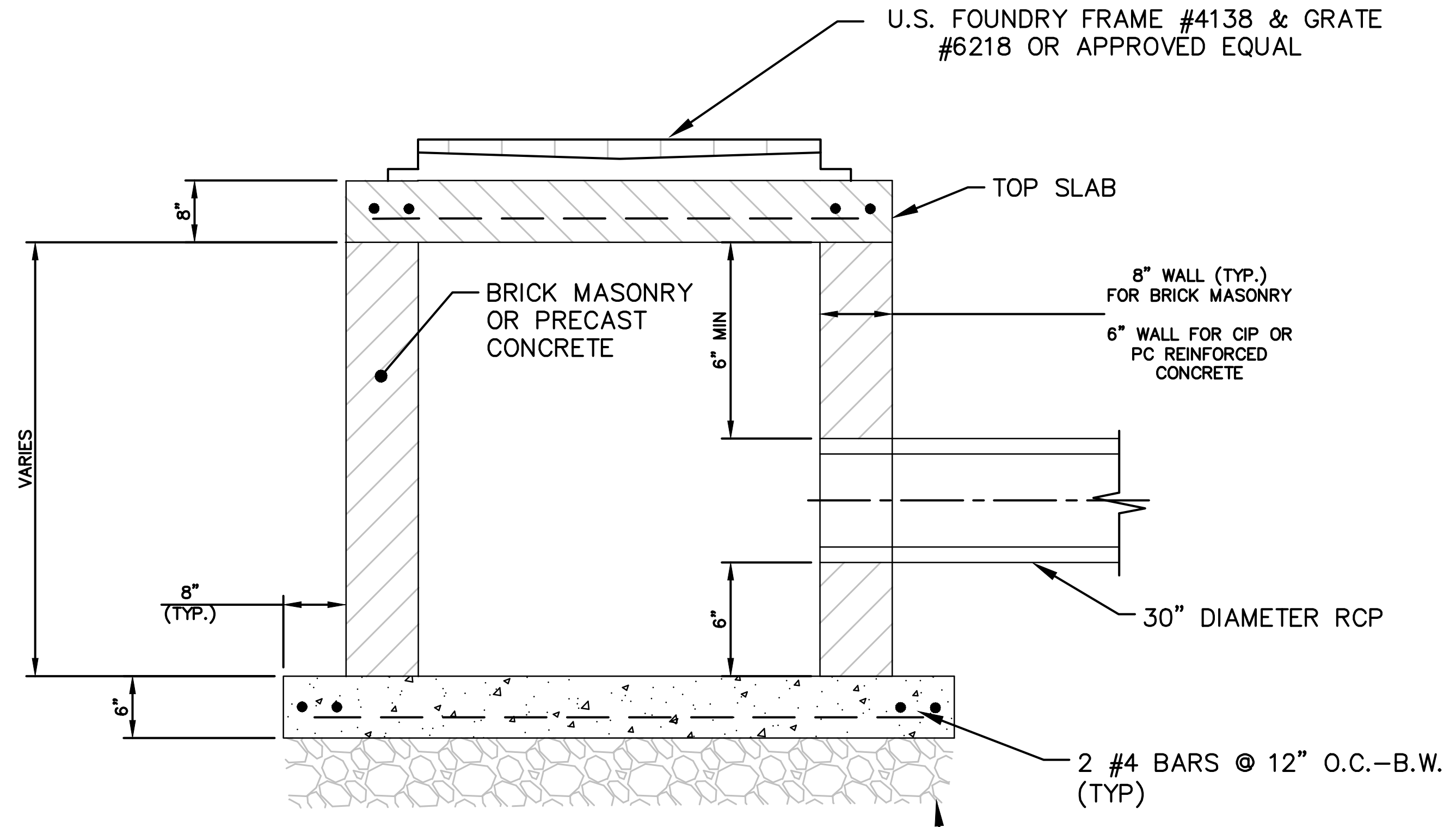
ATTACHMENT 2

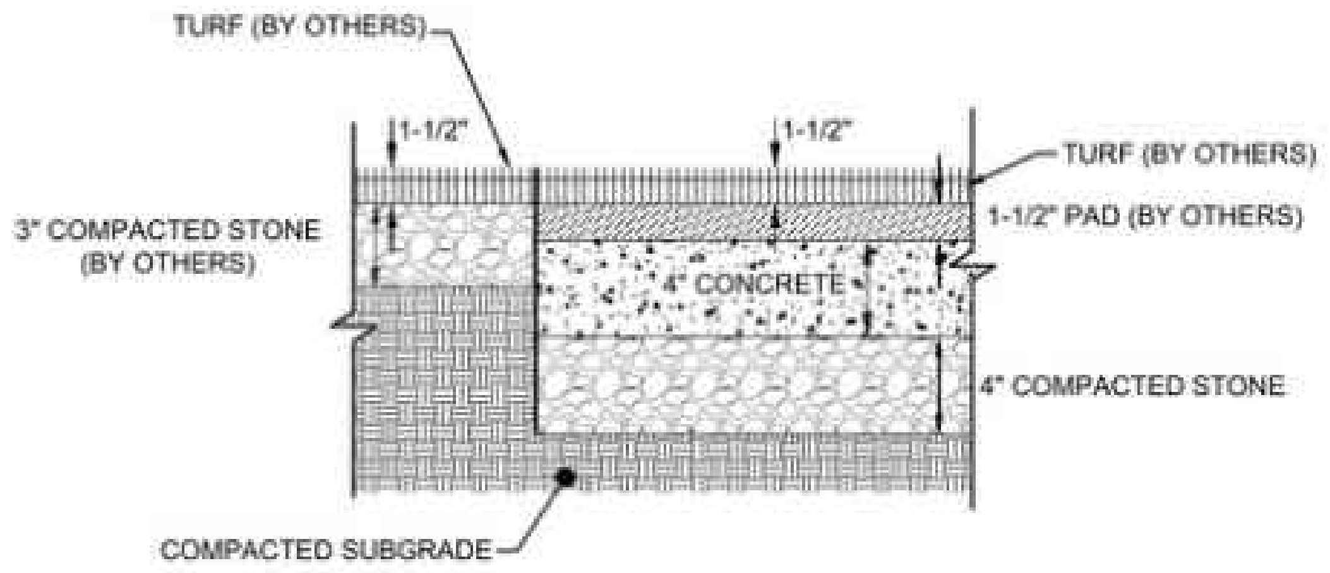


CATCH BASIN DETAIL

N.T.S.

1. INSTALLATION OF CATCH BASIN TO FOLLOW SCDOT DETAILS

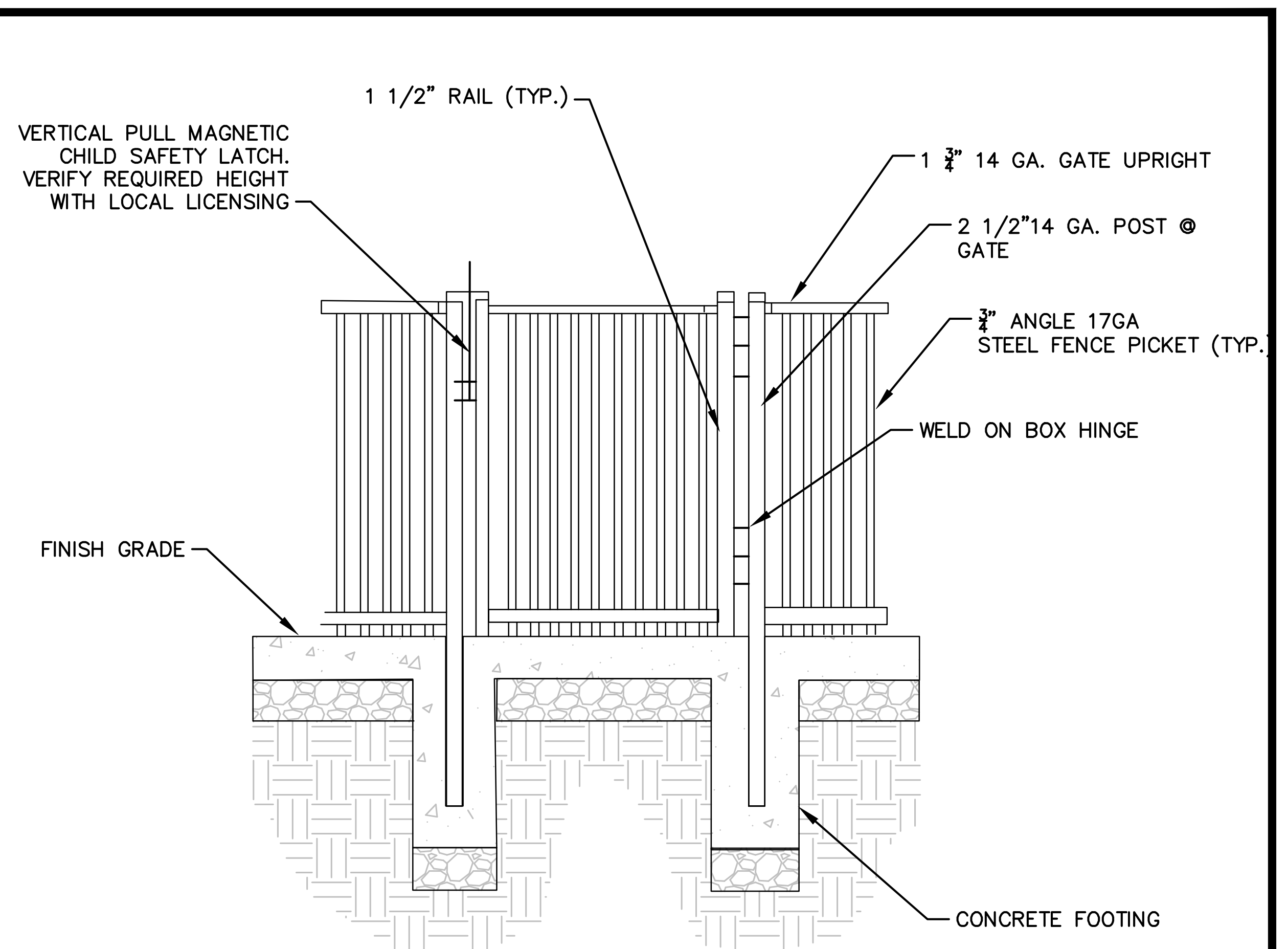
GENERAL DRAINAGE NOTES:
1. ALL EXISTING WATER, SANITARY, GAS, OR OTHER UNDERGROUND UTILITIES, BOTH MAINS AND HOUSE CONNECTIONS, THAT ARE IMPACTED BY OR CROSS THE PROPOSED STORM DRAIN SHALL BE TEST PITTED. ALL TEST PIT INFORMATION SHALL BE SUBMITTED TO THE ENGINEER THREE WEEKS PRIOR TO CONSTRUCTION OF THE PIPE WORK. THE ENGINEER WILL HAVE TWO WEEKS TO REVIEW THE TEST PIT INFORMATION AND RESOLVE ANY CONFLICTS. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE SERVICE DURING CONSTRUCTION AND TEST PITTING ACTIVITIES. IN THE CASE OF GAS LINE CONFLICTS, THE CONTRACTOR SHALL NOTIFY DOMINION ENERGY TO RELOCATE AS NECESSARY.
2. CONTRACTOR SHALL PROVIDE AND INSTALL DEWATERING EQUIPMENT SUCH AS SUMP PITS, PUMPS, PIPING, DIVERSIONS, ETC. AND PERFORM DEWATERING AS NECESSARY TO PROVIDE SUITABLE CONDITIONS TO PERFORM AND COMPLETE THE PROJECT WORK.
3. CONTRACTOR IS RESPONSIBLE FOR RESTORING, REPAIRING, OR RECONSTRUCTING EXISTING SITE FEATURES (I.E. SIDEWALKS, CURB/GUTTER, FENCING, PAVING, LIGHTING, UTILITIES, ETC.) THAT ARE DAMAGED AS A RESULT OF THE PROJECT WORK.
4. ALL AGGREGATES ASSOCIATED WITH BMP'S SHALL BE WASHED STONE, CLEAN AND FREE OF FINE SEDIMENTS.
5. CONTRACTOR SHALL ENSURE SEDIMENT AND EROSION CONTROL MEASURES ARE IN PLACE AND UTILIZED DURING CONSTRUCTION AND IMMEDIATELY THEREAFTER TO PREVENT SEDIMENT CONTAMINATION OF BMP INFILTRATION AREA.



NOTES:
1. CONTRACTOR TO INSTALL CONCRETE SLAB AND STONE IN LOCATIONS SHOWN ON THE PLAN.
2. ALL TURF AND PAD IS BY OTHERS.
3. THE COMPACTED STONE BELOW THE TURF AREA IS BY OTHERS. CONTRACTOR TO PREPARE SUBGRADE TO BOTTOM OF STONE ELEVATION.

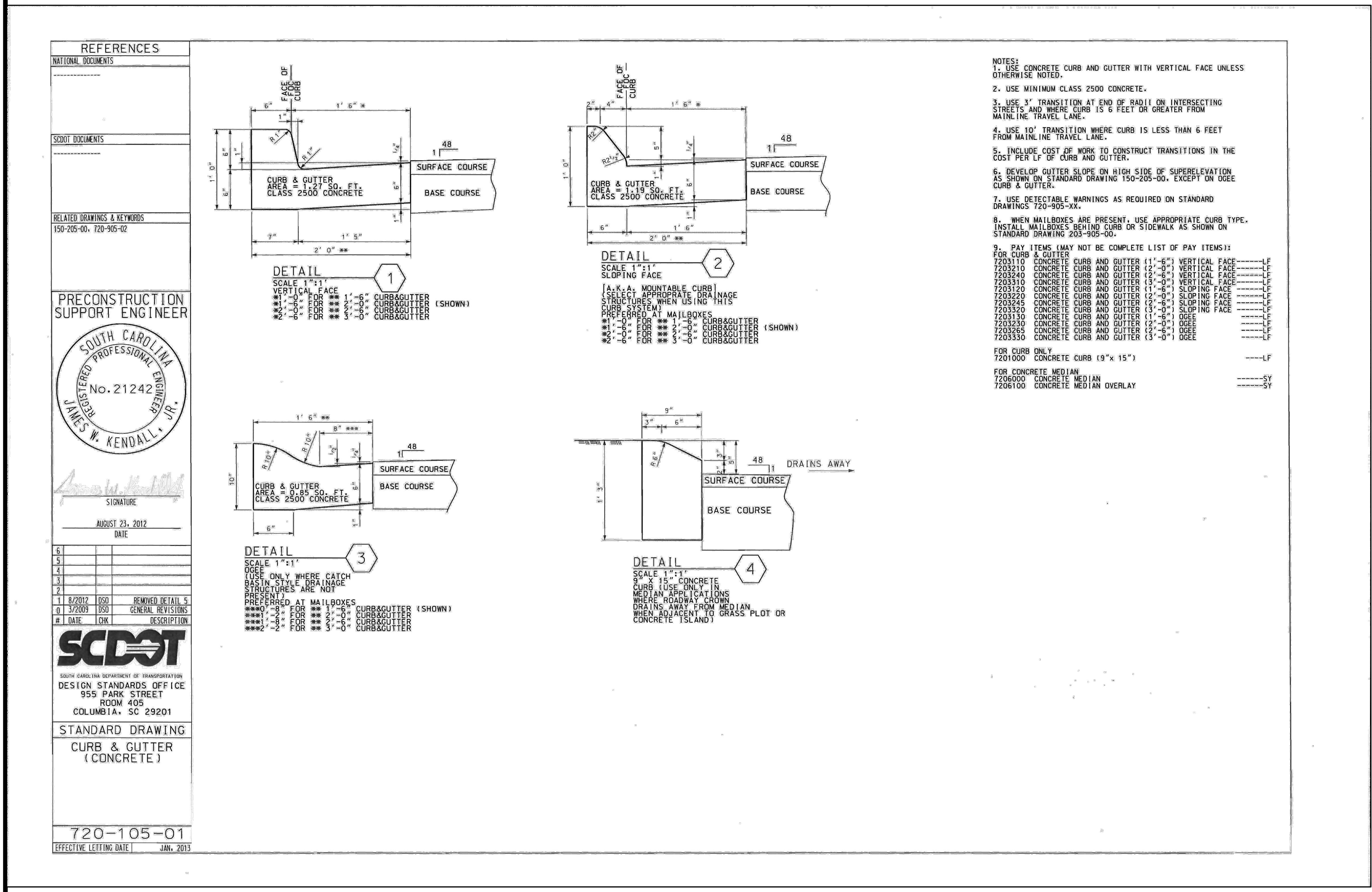
PLAY AREA SECTION

(N.T.S.)



STEEL FENCE DETAIL

N.T.S.



REFERENCES
NATIONAL DOCUMENTS

SCDOT DOCUMENTS

RELATED DRAWINGS & KEYWORDS
150-205-00, 720-905-02

PRECONSTRUCTION SUPPORT ENGINEER
No. 21242
JAMES W. KENDALL, JR.
SIGNATURE
AUGUST 23, 2012
DATE

#	DATE	CHK	DESCRIPTION
6			
5			
4			
3			
2			
1	8/2012	DSO	REMOVED DETAIL 5
0	3/2009	DSO	GENERAL REVISIONS

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING
CURB & GUTTER
(CONCRETE)

720-105-01
EFFECTIVE LETTING DATE JAN. 2013

CURB & GUTTER
AREA = 1.27 SQ. FT.
CLASS 2500 CONCRETE

DETAIL ①
SCALE 1":1'
VERTICAL FACE
*1'-0" FOR ** 1'-6" CURB&GUTTER
*1'-6" FOR ** 2'-0" CURB&GUTTER (SHOWN)
*2'-0" FOR ** 2'-6" CURB&GUTTER
*2'-6" FOR ** 3'-0" CURB&GUTTER

CURB & GUTTER
AREA = 1.19 SQ. FT.
CLASS 2500 CONCRETE

DETAIL ②
SCALE 1":1'
SLOPING FACE
[A.K.A. MOUNTABLE CURB]
(SELECT APPROPRATE DRAINAGE STRUCTURES WHEN USING THIS CURB SYSTEM)
PREFERRED AT MAILBOXES
*1'-0" FOR ** 1'-6" CURB&GUTTER
*1'-6" FOR ** 2'-0" CURB&GUTTER (SHOWN)
*2'-0" FOR ** 2'-6" CURB&GUTTER
*2'-6" FOR ** 3'-0" CURB&GUTTER

CURB & GUTTER
AREA = 0.85 SQ. FT.
CLASS 2500 CONCRETE

DETAIL ③
SCALE 1":1'
OGEE
(USE ONLY WHERE CATCH BASIN STYLE DRAINAGE STRUCTURES ARE NOT PRESENT)
PREFERRED AT MAILBOXES
***0'-8" FOR ** 1'-6" CURB&GUTTER (SHOWN)
***1'-2" FOR ** 2'-0" CURB&GUTTER
***1'-8" FOR ** 2'-6" CURB&GUTTER
***2'-2" FOR ** 3'-0" CURB&GUTTER

DETAIL ④
SCALE 1":1'
9" X 15" CONCRETE CURB (USE ONLY IN MEDIAN APPLICATIONS WHERE ROADWAY CROWN DRAINS AWAY FROM MEDIAN WHEN ADJACENT TO GRASS PLOT OR CONCRETE ISLAND)

NOTES:
1. USE CONCRETE CURB AND GUTTER WITH VERTICAL FACE UNLESS OTHERWISE NOTED.

2. USE MINIMUM CLASS 2500 CONCRETE.

3. USE 3' TRANSITION AT END OF RADII ON INTERSECTING STREETS AND WHERE CURB IS 6 FEET OR GREATER FROM MAINLINE TRAVEL LANE.

4. USE 10' TRANSITION WHERE CURB IS LESS THAN 6 FEET FROM MAINLINE TRAVEL LANE.

5. INCLUDE COST OF WORK TO CONSTRUCT TRANSITIONS IN THE COST PER LF OF CURB AND GUTTER.

6. DEVELOP GUTTER SLOPE ON HIGH SIDE OF SUPERELEVATION AS SHOWN ON STANDARD DRAWING 150-205-00, EXCEPT ON OGEE CURB & GUTTER.

7. USE DETECTABLE WARNINGS AS REQUIRED ON STANDARD DRAWINGS 720-905-XX.

8. WHEN MAILBOXES ARE PRESENT, USE APPROPRIATE CURB TYPE. INSTALL MAILBOXES BEHIND CURB OR SIDEWALK AS SHOWN ON STANDARD DRAWING 203-905-00.

9. PAY ITEMS (MAY NOT BE COMPLETE LIST OF PAY ITEMS):

FOR CURB & GUTTER

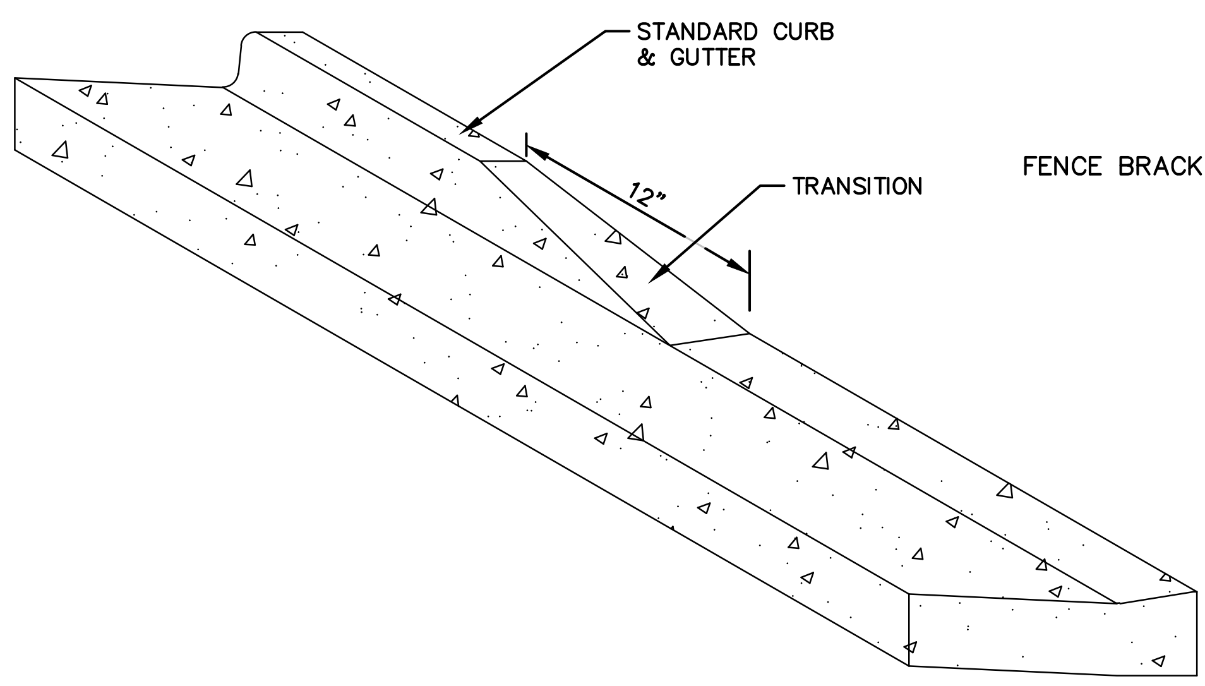
7203110	CONCRETE CURB AND GUTTER (1'-6") VERTICAL FACE	------LF
7203210	CONCRETE CURB AND GUTTER (2'-0") VERTICAL FACE	------LF
7203240	CONCRETE CURB AND GUTTER (2'-6") VERTICAL FACE	------LF
7203310	CONCRETE CURB AND GUTTER (3'-0") VERTICAL FACE	------LF
7203120	CONCRETE CURB AND GUTTER (1'-6") SLOPING FACE	------LF
7203220	CONCRETE CURB AND GUTTER (2'-0") SLOPING FACE	------LF
7203245	CONCRETE CURB AND GUTTER (2'-6") SLOPING FACE	------LF
7203320	CONCRETE CURB AND GUTTER (3'-0") SLOPING FACE	------LF
7203130	CONCRETE CURB AND GUTTER (1'-6") OGEE	-----LF
7203230	CONCRETE CURB AND GUTTER (2'-0") OGEE	-----LF
7203265	CONCRETE CURB AND GUTTER (2'-6") OGEE	-----LF
7203330	CONCRETE CURB AND GUTTER (3'-0") OGEE	-----LF

FOR CURB ONLY

7201000	CONCRETE CURB (9"x 15")	----LF

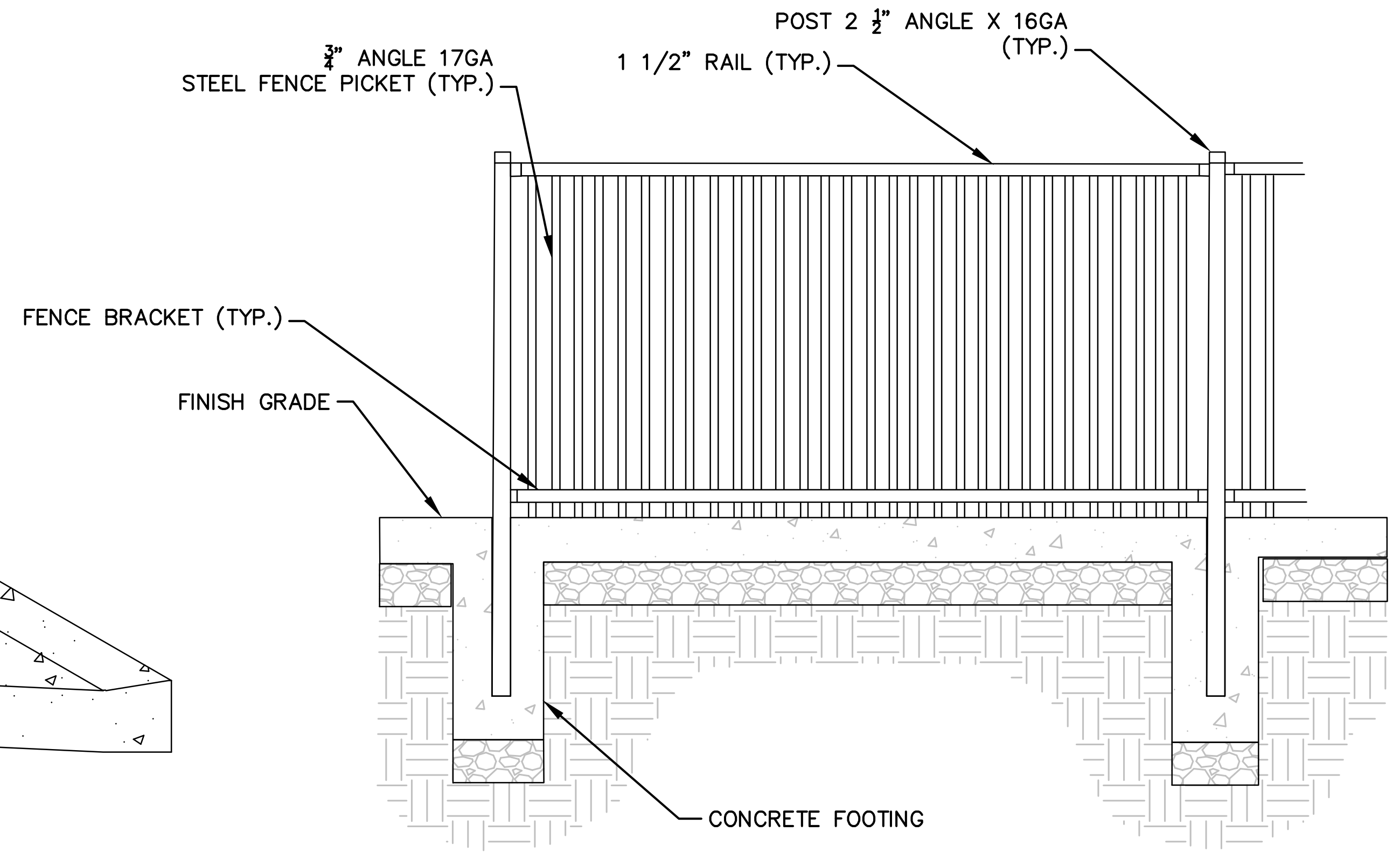
FOR CONCRETE MEDIAN

7206000	CONCRETE MEDIAN	------SY
7206100	CONCRETE MEDIAN OVERLAY	------SY



CURB TRANSITION DETAIL

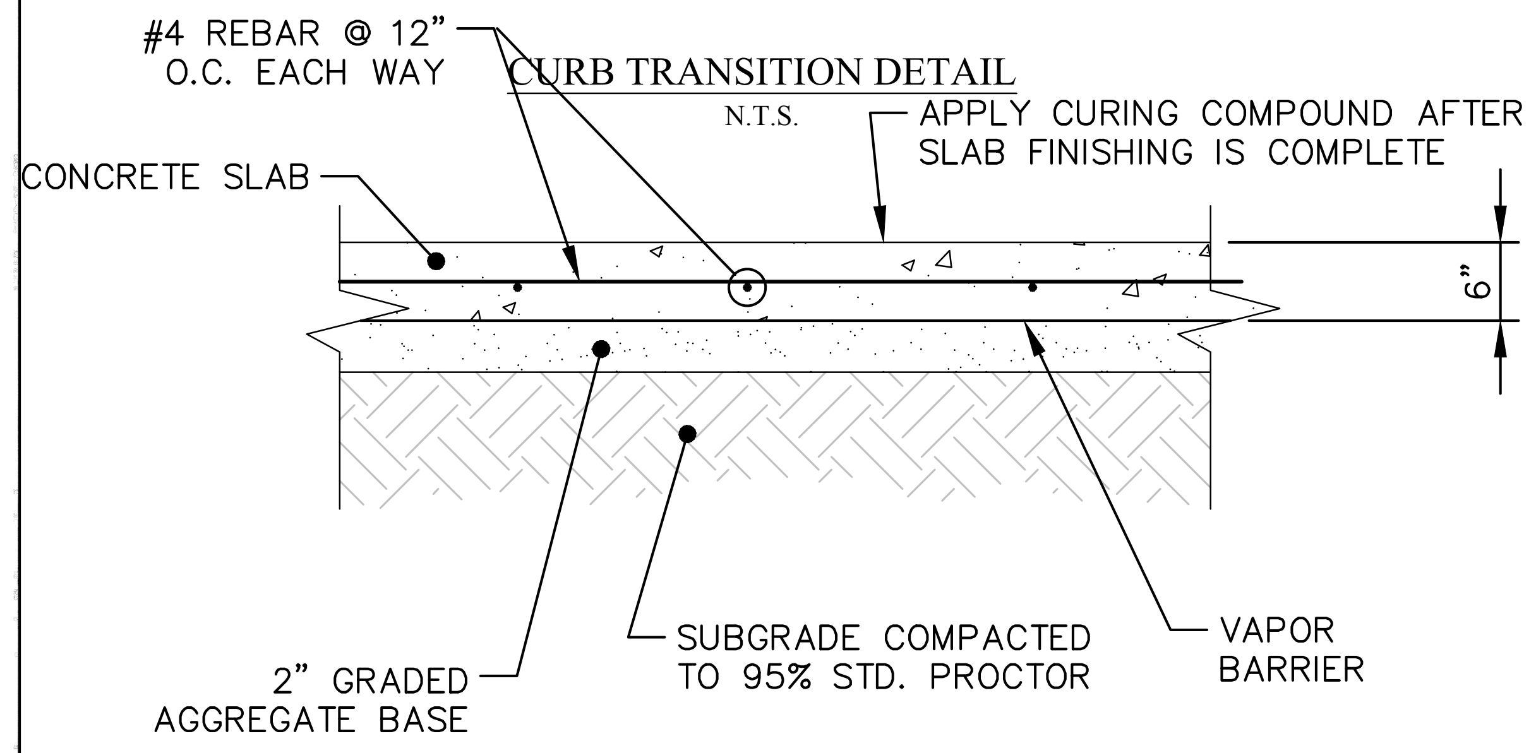
N.T.S.



STEEL FENCE DETAIL

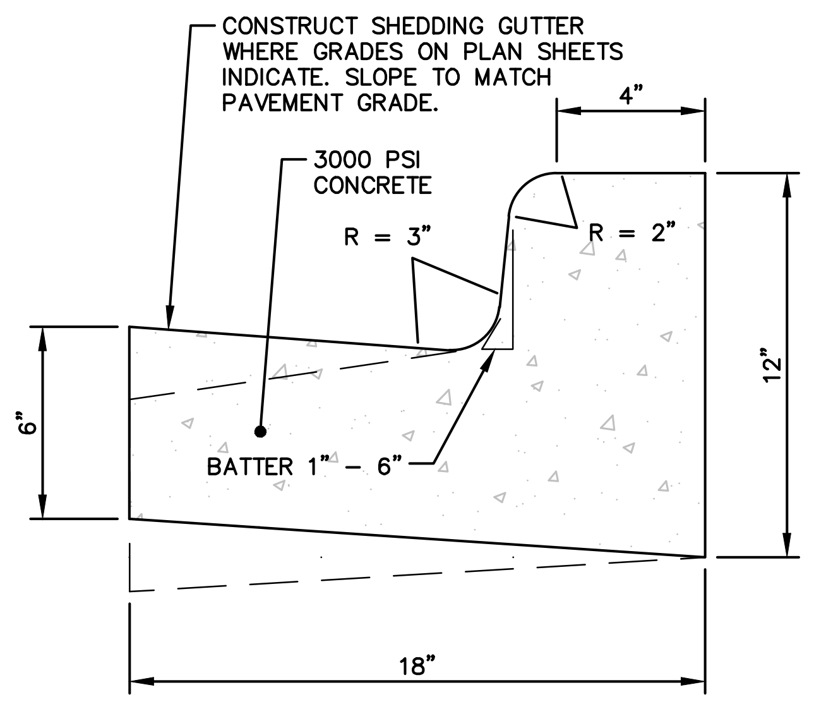
N.T.S.

NOTES:
1. STYLE TO BE MONTAGE PLUS ATF WELDED ORNAMENTAL STEEL MAJESTIC FENCING. SEE MANUFACTURES SPECIFICATIONS FOR ADDITIONAL INFORMATION AND DETAILS



DUMPSTER PAD DETAIL

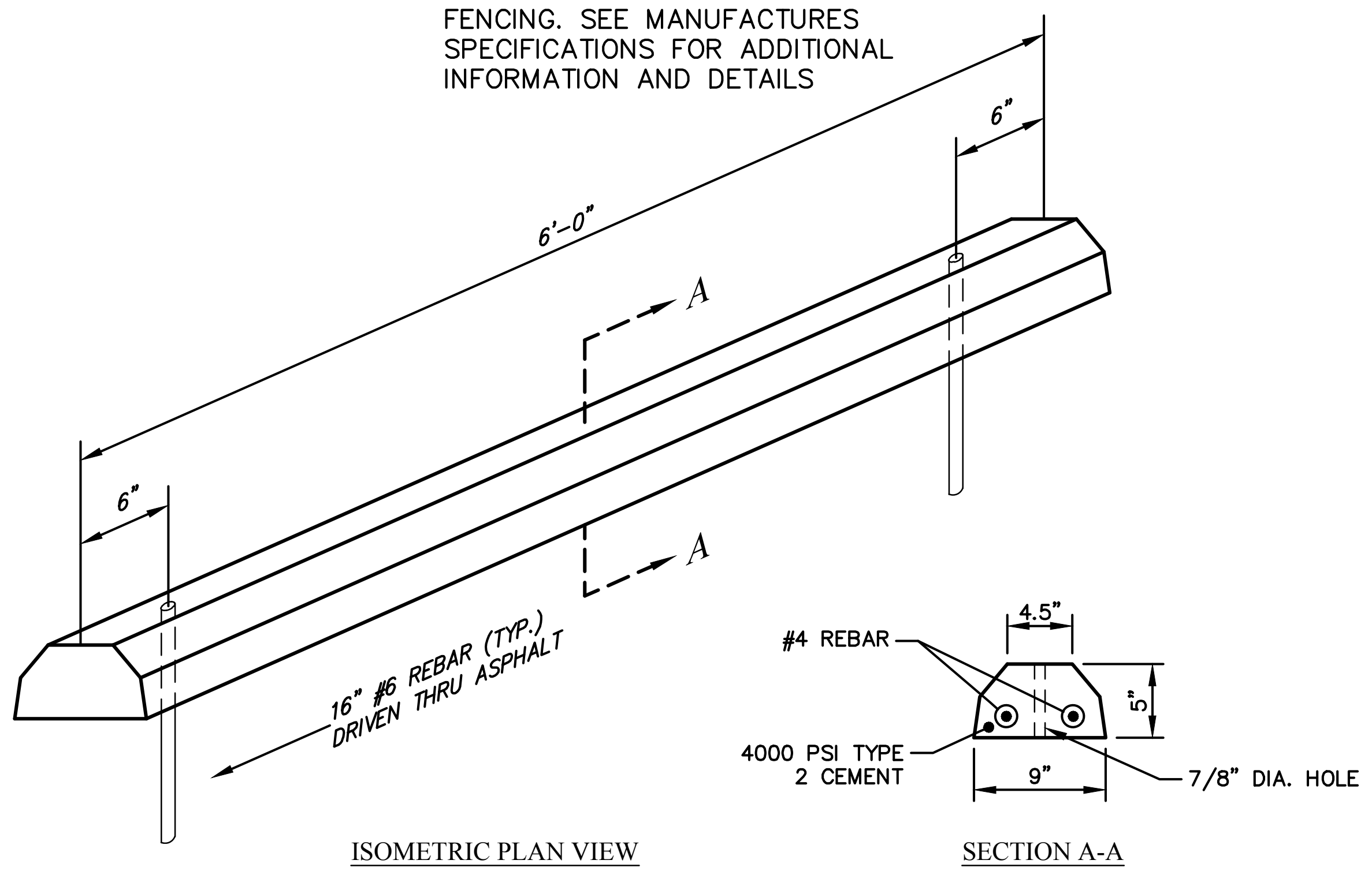
N.T.S



1. CONTROL JOINTS TO BE SCORED EVERY 10' MAX.
2. EXPANSION JOINTS TO BE INSTALLED EVERY 50'± AND AT ALL RIGID CONNECTIONS.
3. JOINTS IN CURB & GUTTER SHALL ALIGN WITH CORRESPONDING JOINTS IN SIDEWALK WHERE ADJOINING.

18" CURBING DETAIL

N.T.S



ISOMETRIC PLAN VIEW

SECTION A-A

WHEEL STOP

N.T.S.

South Carolina 811
Call 811 Before You Dig

CRANSTON

Cranston Engineering Group
NO. C00575

NO.38607
MEGAN E. SMITH
9/21/23

REV #	DATE	DESCRIPTION

BIG BLUE MARBLE ACADEMY

DETAILS SHEET

DRAWN BY:	AWD
CHECKED BY:	MES
APPROVED BY:	MES
DATE:	9/25/2023
SCALE:	NO SCALE
JOB No.	2022–0214
DRAWING No.	C801

G:\PROJECTS\2022\2022-0214_BIG BLUE MARBLE ACADEMY – BLUFFTON, SC\AC-DRAWINGS\CIVIL\2022-0214 OV – UPDATE.DWG 10/27/2023 1:33 PM