

# Construction Plans

For

## Wardlaw Parking Lot Renovation

In The City Of Columbia, Richland County, SC

Prepared For

### University of South Carolina

743 Greene Street, Columbia, South Carolina 29208  
Telephone: (803) 777-3128

by:

### Chao & Associates, Inc.

Consulting Engineers

C & A #: 398518-15



#### Chao & Associates, Inc.

Civil - Structural - Survey  
7 Clusters Court  
Columbia, SC 29210  
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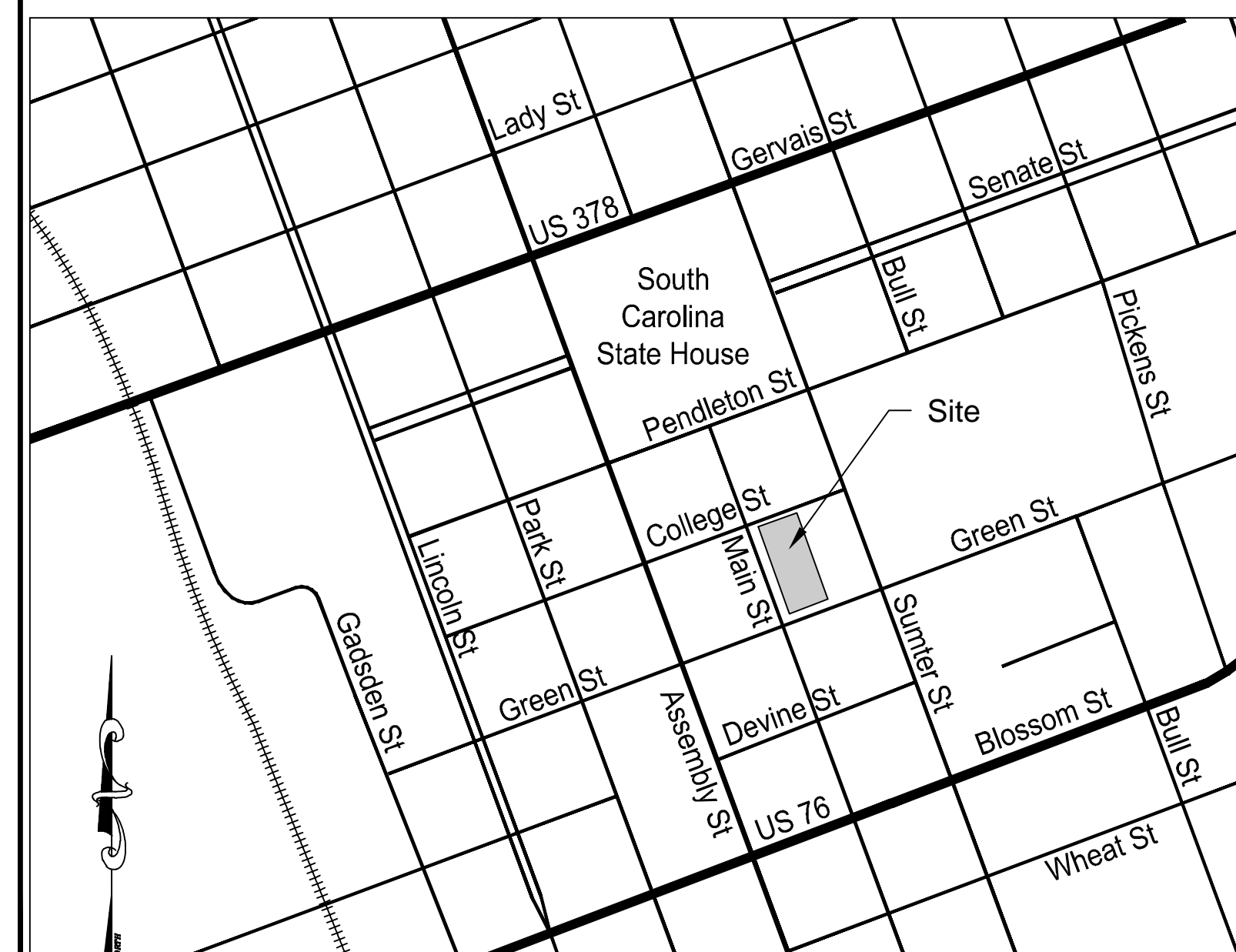


#### Drawing Index

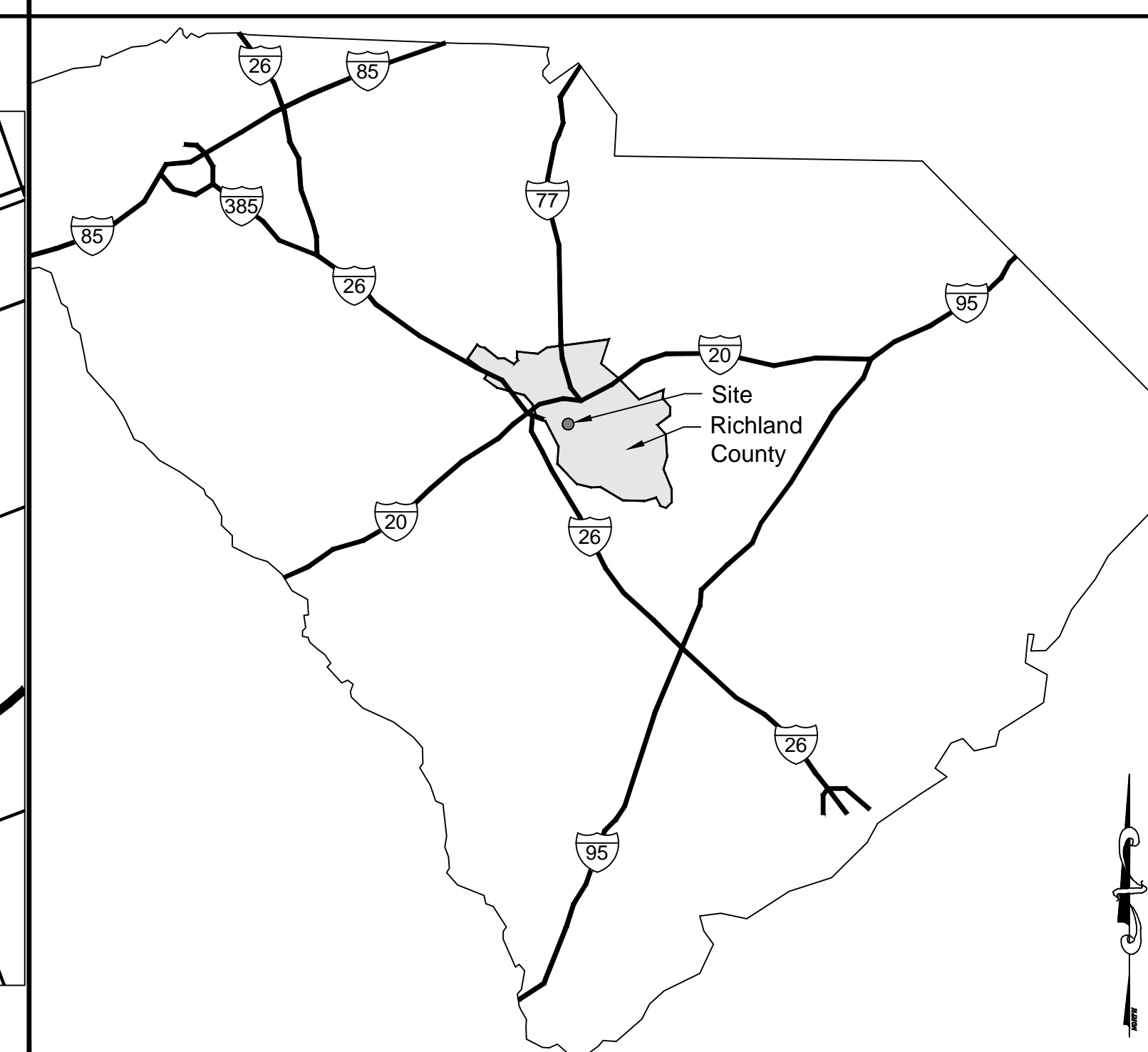
- C1.0 - Existing Conditions and Demolition Plan
- C2.0 - Site Layout Plan
- C3.0 - Grading and Erosion Control Plan
- C4.0 - Construction Details
- C4.1 - Construction Details

#### Location Map

City of Columbia  
Scale: 1" = 500'



State of South Carolina  
Scale: 1" = 30 Miles



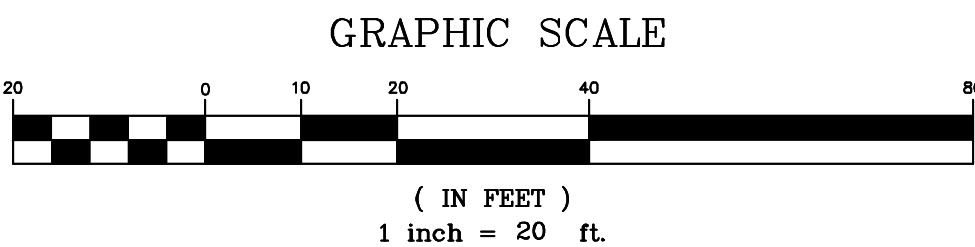


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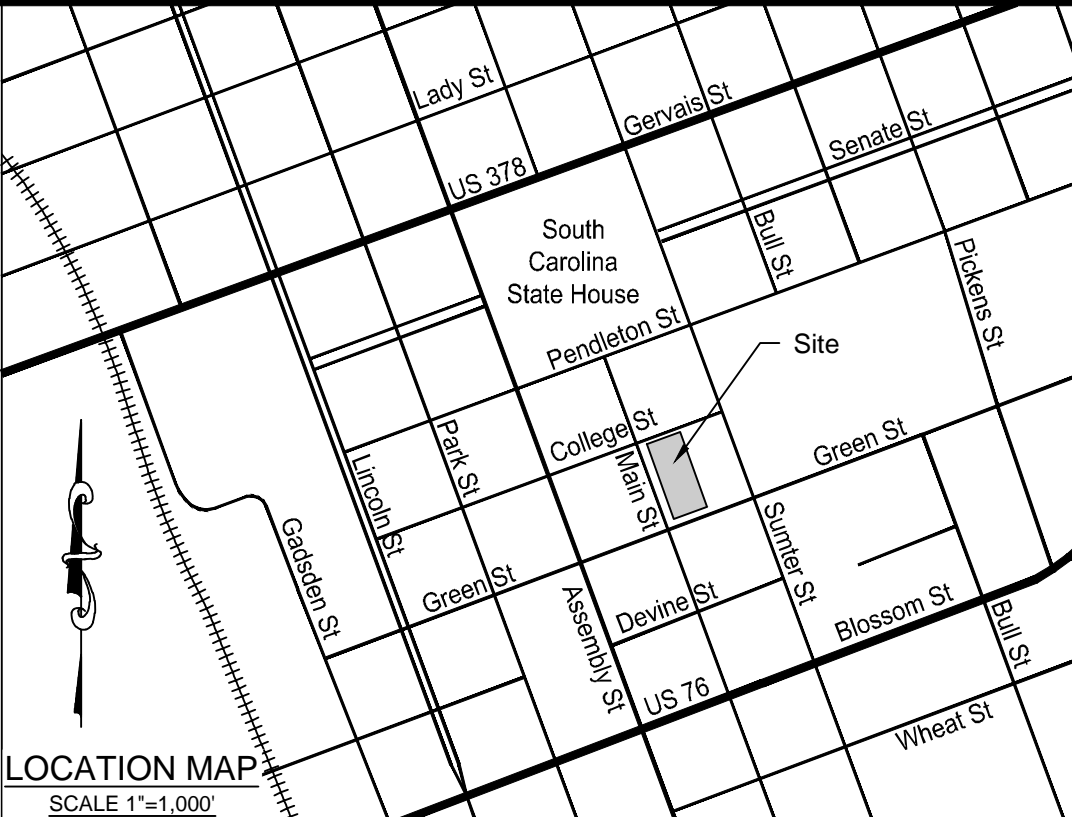
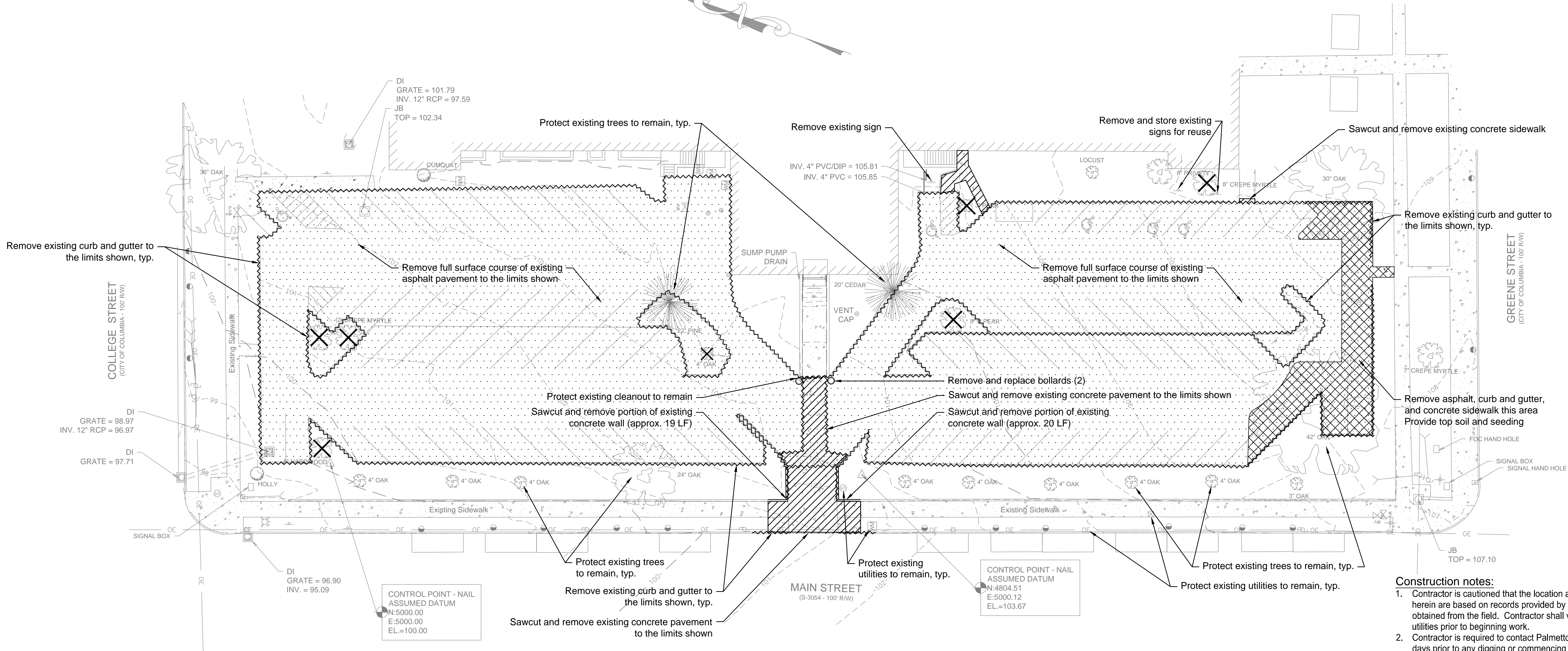
3 DAYS BEFORE DIGGING IN  
SOUTH CAROLINA  
**CALL 811**  
Palmetto Utility Protection Service

Notes:

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2. Benchmark is based on assumed datum. Refer to plan for horizontal and vertical controls.
3. Proposed contours & proposed spot elevations represent finished grade.
4. All pavement dimensions are referenced to the face of curb, where applicable.
5. All pavement markings within SCDOT ROW shall be thermoplastic and installed according to SCDOT Standard Drawings and Specifications.



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LEGEND	
	Fire hydrant
	Water valve
	Water meter
	Gas valve
	Sanitary sewer manhole
	Cleanout (CO)
	Natural gas line
	Sanitary sewer line
	Water line
	Fenceline
	Overhead electric
	Underground telephone
	Underground fiber optic
	Underground cable TV
	Telephone pedestal
	Curb & gutter
	Junction box (JB)
	Drop inlet (DI)
	Hood & grate inlet (H&G)
	Yard inlet (YI)
	Storm drain pipe
	Concrete sidewalk
	Power pole & guy
	Light pole
	Electrical box
	Sign
	Limits of disturbance
	Tree to be removed

Construction notes:

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3. Provide silt fence and other erosion control devices, as may be required, to control soil erosion during construction. All disturbed areas shall be cleaned, graded and stabilized with grassing immediately after completion of construction in the area.
4. Contractor shall repair any damage caused to any existing site features to remain including, but not limited to, buildings, pavement, curb and gutter, storm drains, underground utilities, fencing, etc. in their entirety. Repairs shall be at the contractor's expense.
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6. If necessary, slopes which exceed four vertical feet or 4:1 slopes should be stabilized with an approved turf reinforcing mat in addition to hydroseeding. It may be necessary to install temporary slope drains during construction. Temporary berms may be needed daily until slope is brought to grade.
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9. Contractor shall abide by all provisions of the applicable city and or county storm drainage and erosion control ordinances as well as the South Carolina Sediment Reduction Act.
10. All excavation is unclassified. Excess material is to be removed from the site and disposed of in a legal manner.
11. All construction staking shall be provided at the contractor's expense.

Existing Conditions and Demolition Plan

Wardlaw Parking Lot Renovation

Prepared for:

University of South Carolina

Columbia, South Carolina 29208

Drawn: JDS

Revised:

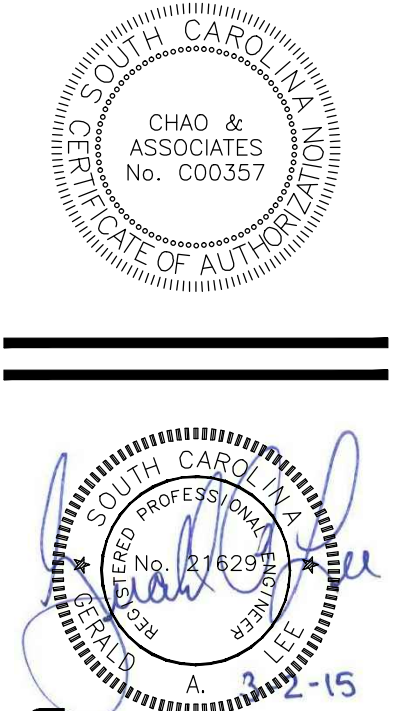
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File: 398518C.dwg

Project No.: 398518

**C1.0**  
Sheet Number  
March 02, 2015  
Date

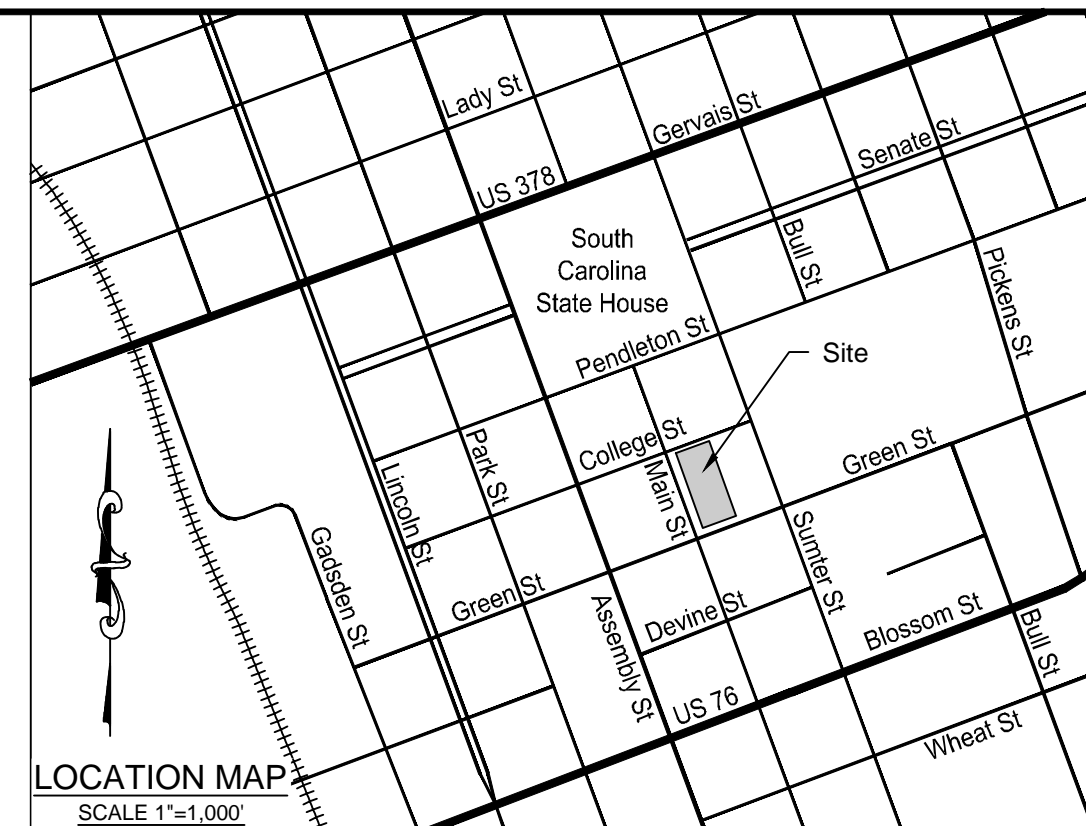
**CHAO & ASSOCIATES, INC.**  
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




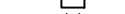





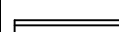




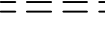
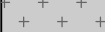


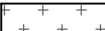
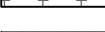




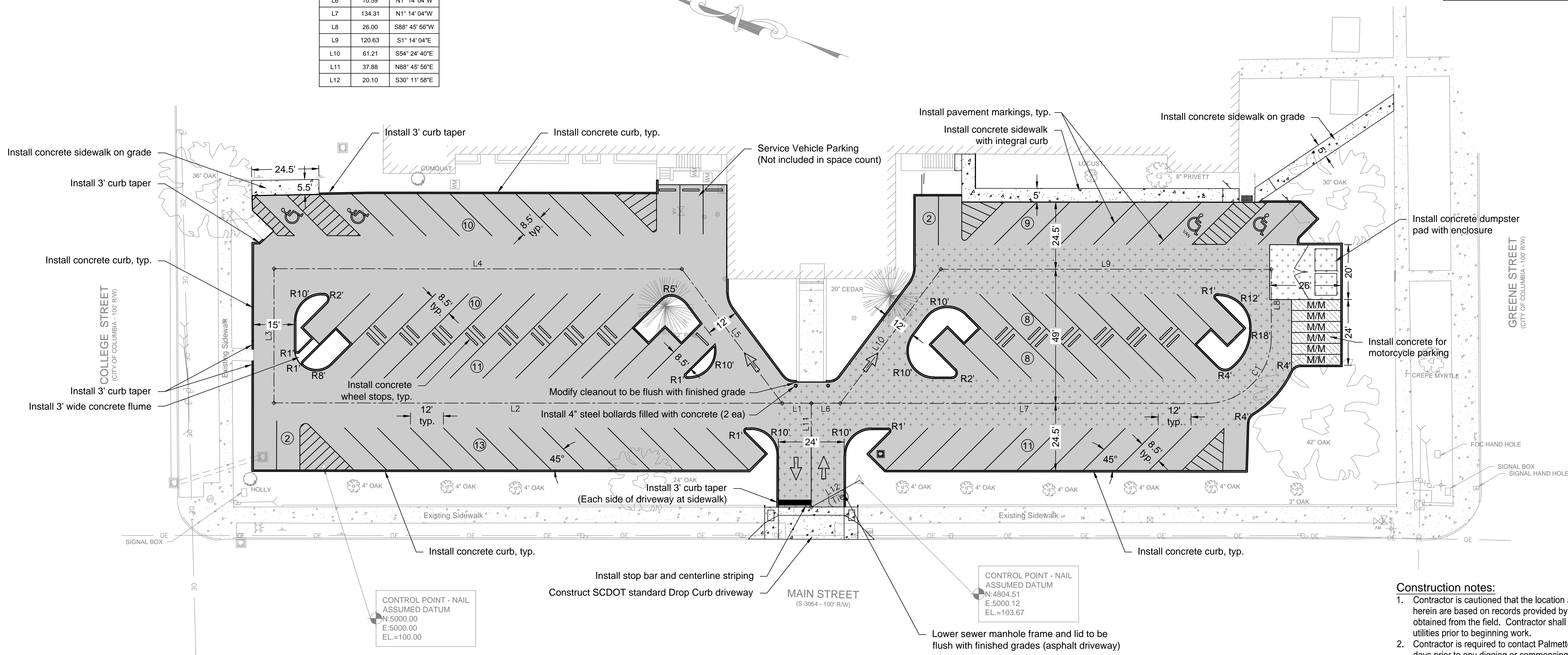


CURVE TABLE				
CURVE #	RADIUS	LENGTH	CHORD LENGTH	BEARING
C1	24.00	37.70	33.94	S46° 14' 04"E

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	10.63	N1° 14' 04"W
L2	185.55	N1° 14' 04"W
L3	49.00	N88° 45' 56"E
L4	148.86	S1° 14' 04"E
L5	61.21	S51° 56' 33"W
L6	10.59	N1° 14' 04"W
L7	134.31	N1° 14' 04"W
L8	26.00	S88° 45' 56"W
L9	120.63	S1° 14' 04"E
L10	61.21	S54° 24' 40"E
L11	37.88	N88° 45' 56"E
L12	20.10	S30° 11' 58"E



LEGEND	
	Fire hydrant
	Water valve
	Water meter
	Gas valve
	Sanitary sewer manhole
	Cleanout (CO)
	Natural gas line
	Sanitary sewer line
	Water line
	Fence line
	Overhead electric
	Underground telephone
	Underground fiber optic
	Underground cable TV
	Telephone pedestal
	Limits of disturbance
	Curb & gutter
	Junction box (JB)
	Drop inlet (DI)
	Hood & grate inlet (H&G)
	Storm drain pipe
	Heavy duty asphalt pavement
	Standard duty asphalt pavement
	Heavy duty concrete pavement
	Standard duty concrete pavement for motorcycle parking
	Concrete sidewalk
	Power pole & guy
	Light pole
	Sign



Construction notes:

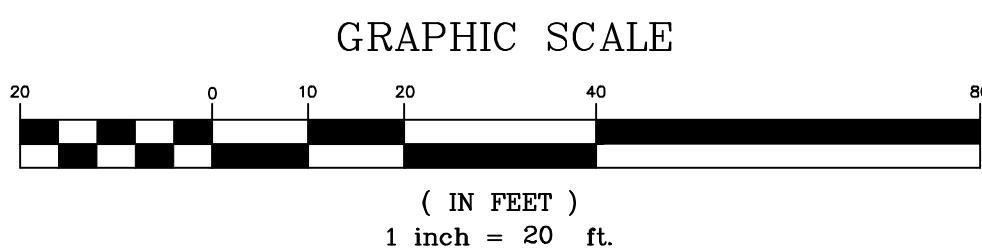
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## Project Summary

Existing Parking:  
94 Automobile  
0 Motorcycle

Proposed Parking:  
84 Automobile  
6 Motorcycle

Tax map reference: Richland County, TMS No. R11304-06-01  
Current zoning: C1 (Office and Institutional District - City of Columbia)



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SOUTH CAROLINA  
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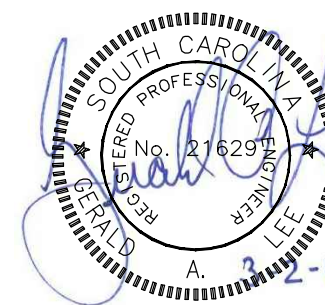
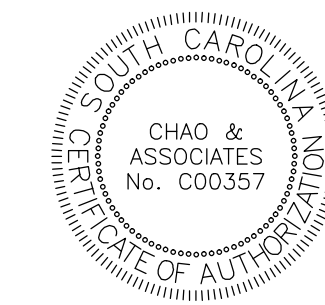
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**CHAO**  
AND ASSOCIATES, INC.  
CONSULTING ENGINEERS  
& LAND SURVEYORS

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**Site Layout Plan**  
Wardlaw Parking Lot Renovation  
Prepared for:  
University of South Carolina  
Columbia, South Carolina 29208

Drawn: .IDS  
Checked: GAI

Revised:

File: 398518C.dwg Project No: 398518

C2.0  
Sheet Number  
March 02, 2015  
Date



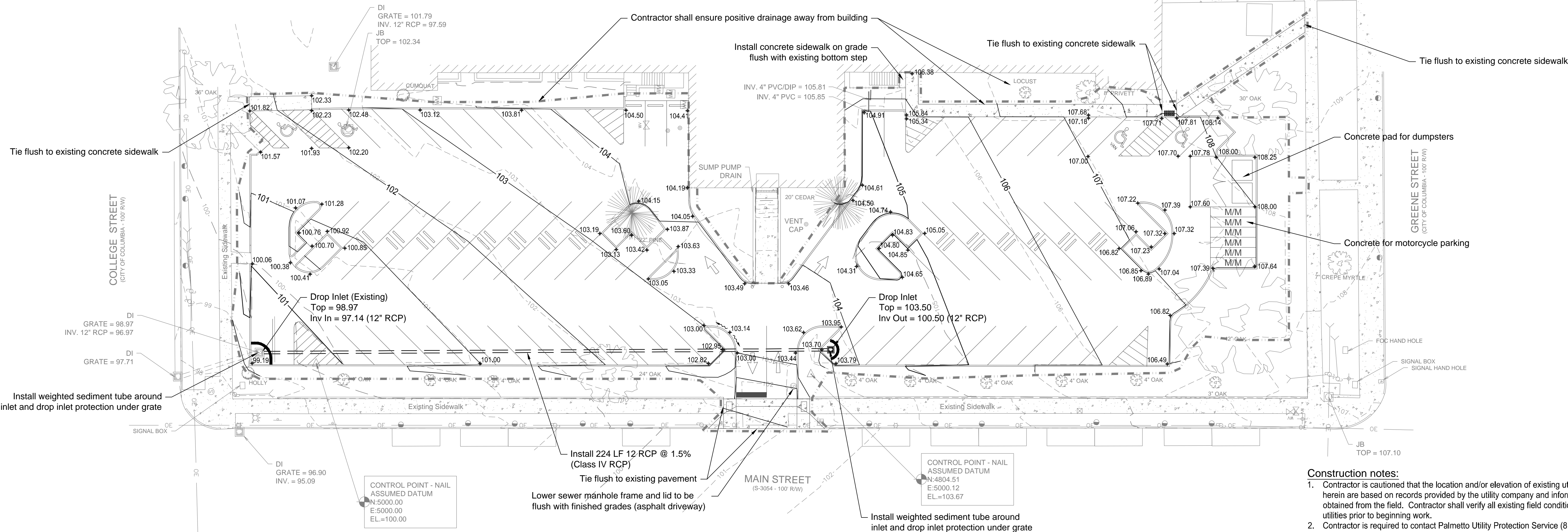
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Tax map reference: Richland County, TMS No. R11304-06-01  
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**Flood Certification**

I hereby certify that I have consulted the National Flood Insurance Program, "Flood Insurance Rate Map", map number 45079C0094 H, panel number 94 of 275, effective date: February 20, 2002. I have determined that the above site lies within an unshaded zone "X".

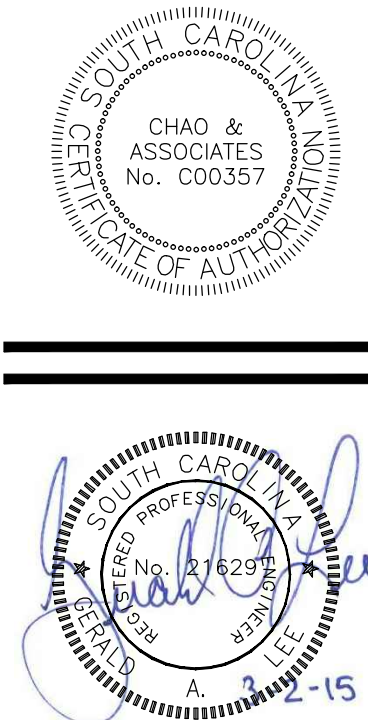
*Gerald A. Lee*  
Gerald A. Lee, P.E.  
SC Reg. Professional Engineer #29169

Area of disturbance: 1.0 acre

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**Grading and Drainage Plan**  
Wardlaw Parking Lot Renovation  
Prepared for:  
University of South Carolina  
Columbia, South Carolina 29208

Drawn: JDS	Checked: GAL
Revised:	
Project No.: 398518	
File: 398518C.dwg	

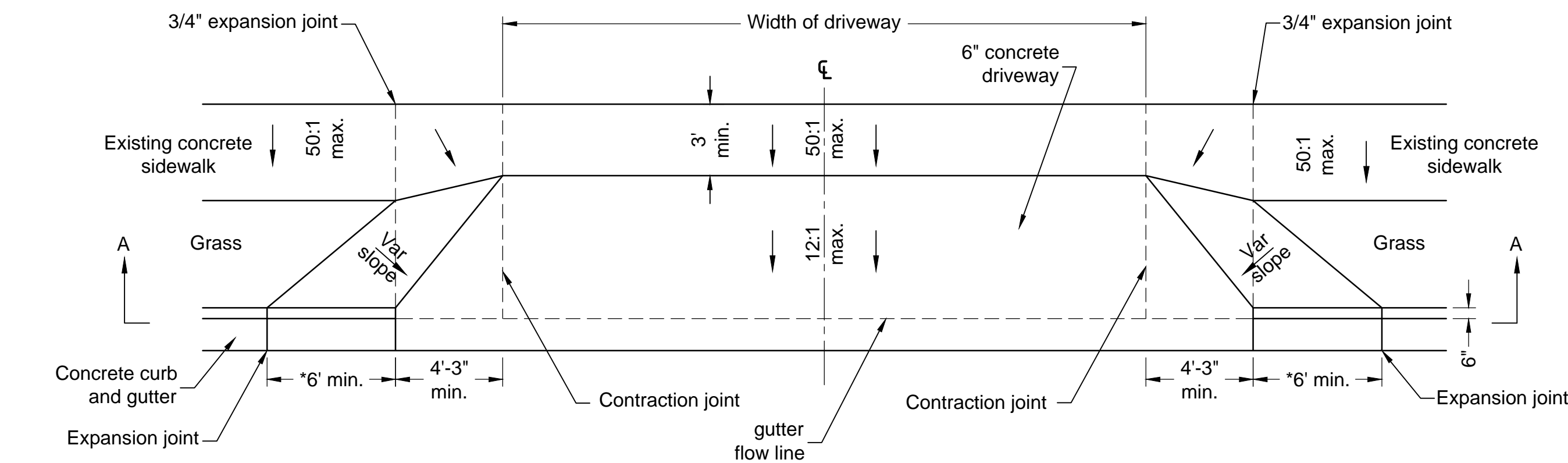
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Sheet Number  
March 02, 2015  
Date







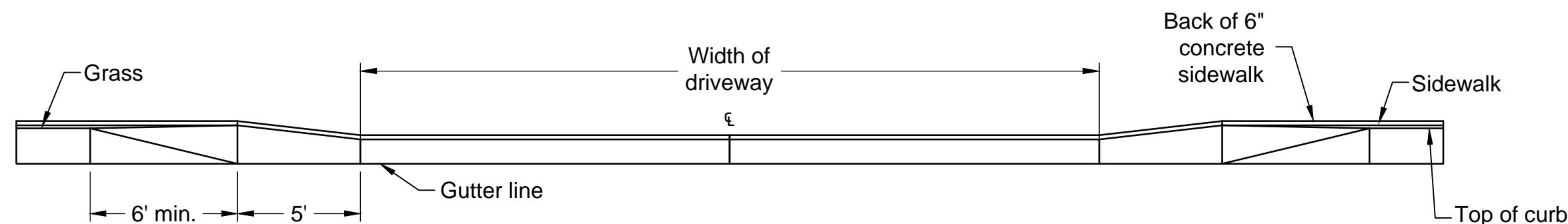
Drawing file: 398518C.dwg Plotted: Mar 02, 2015 - 7:21pm



Driveway Plan

NOTES:

1. The flared slope in the sidewalk on either side of the driveway may require modification due to elevation differences between the curb and the sidewalk. The slope, however, shall be no steeper than 12:1
2. \* This 6" min. is only if curb line is on a 0% grade. This figure will vary with grade and should be determined by slope of roadway.



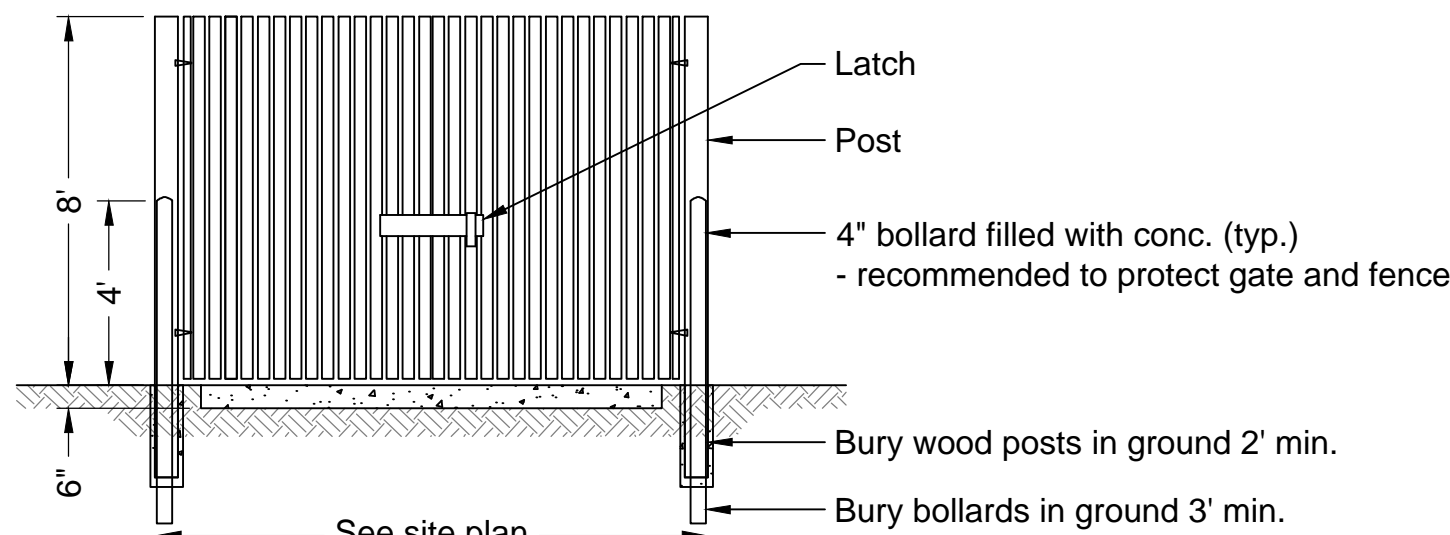
Section A-A

NOTES:

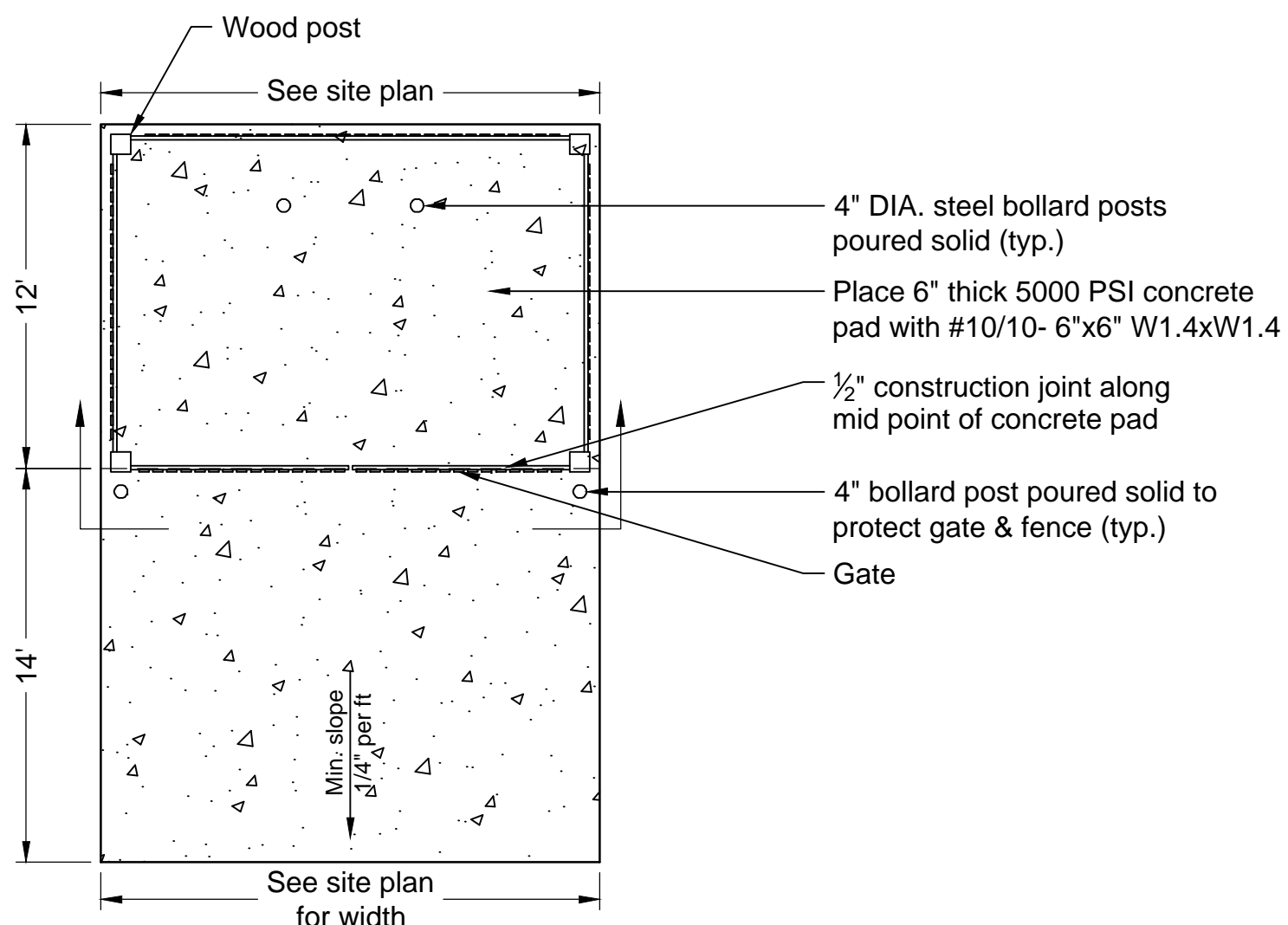
1. Provide additional contraction joints within driveway width as specified in SCDOT Standard Specifications, Section 720.
2. Sidewalks are to be constructed on a 50:1 max. cross slope. The side slopes of the ramp are not to exceed 12:1 at any location where pedestrian traffic crosses the ramp.
3. Metal keyway style joints may be installed between driveway approach and sidewalk to achieve line and grade. Keep metal joint material flush with or below elevation of concrete.

Standard Drop-Curb Driveway with Separated Sidewalk within 7'-4 3/4"

Not to scale



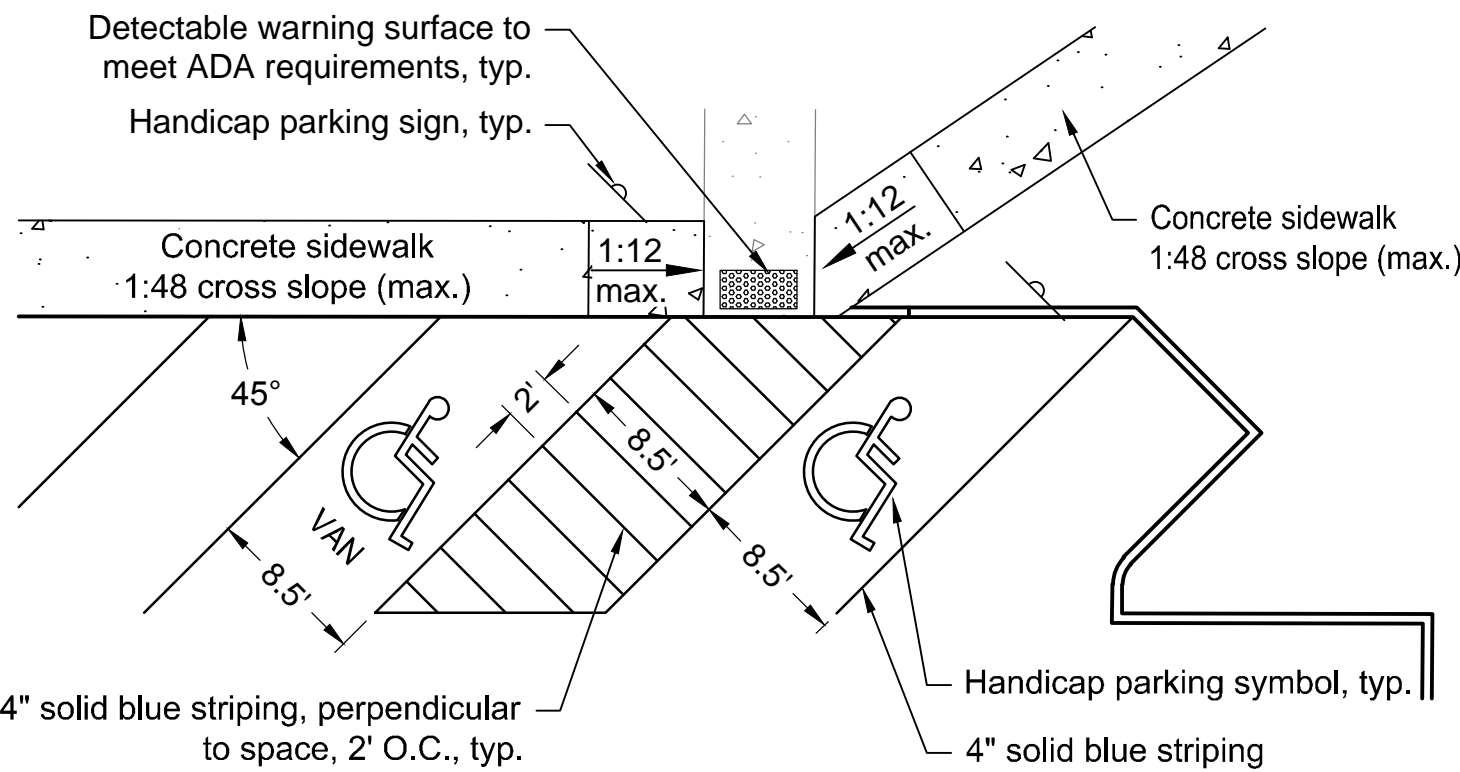
Section



Plan View

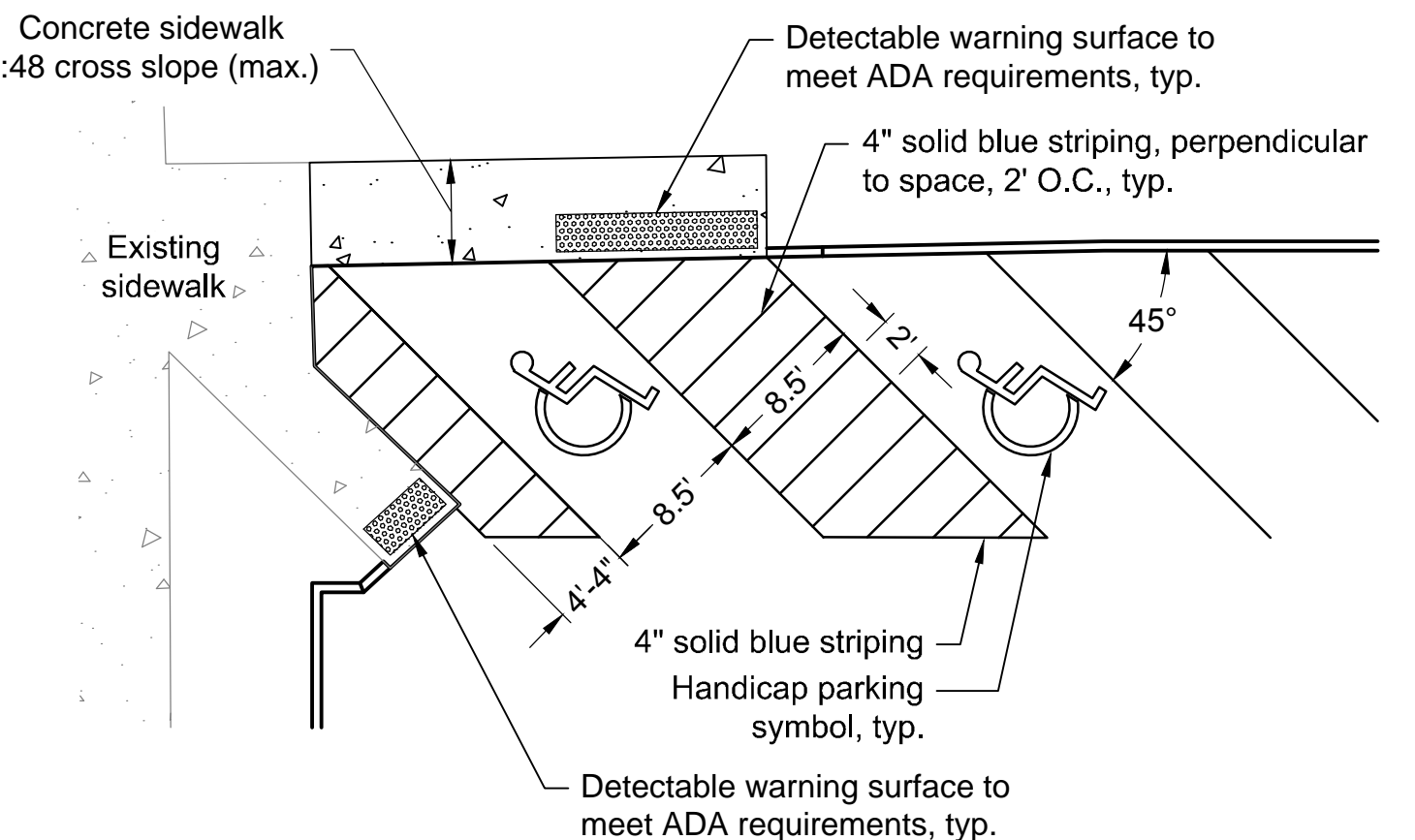
Dumpster Pad with Enclosure

Not to scale



Handicap Parking Layout - Area 1

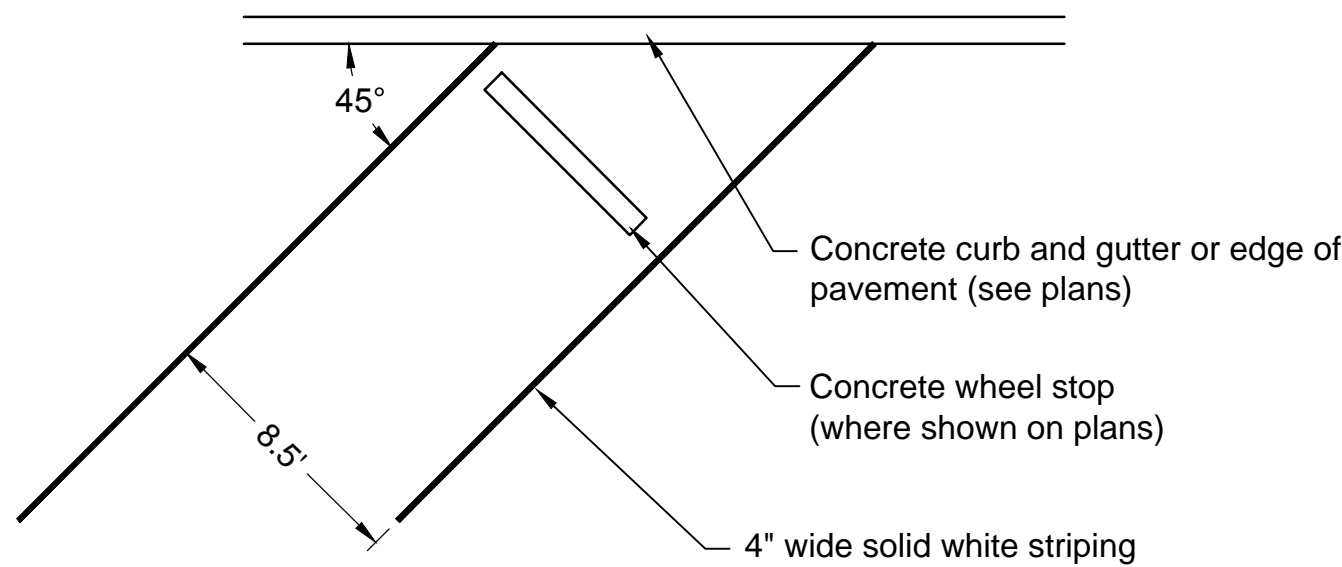
Not to scale



Handicap Parking Layout - Area 2

Not to scale

Note:  
Ramps, flares, sidewalk, parking, paint, and signage shall meet ADA requirements.  
All pavement markings not within SCDOT Right-of-Way shall receive two coats of traffic paint.

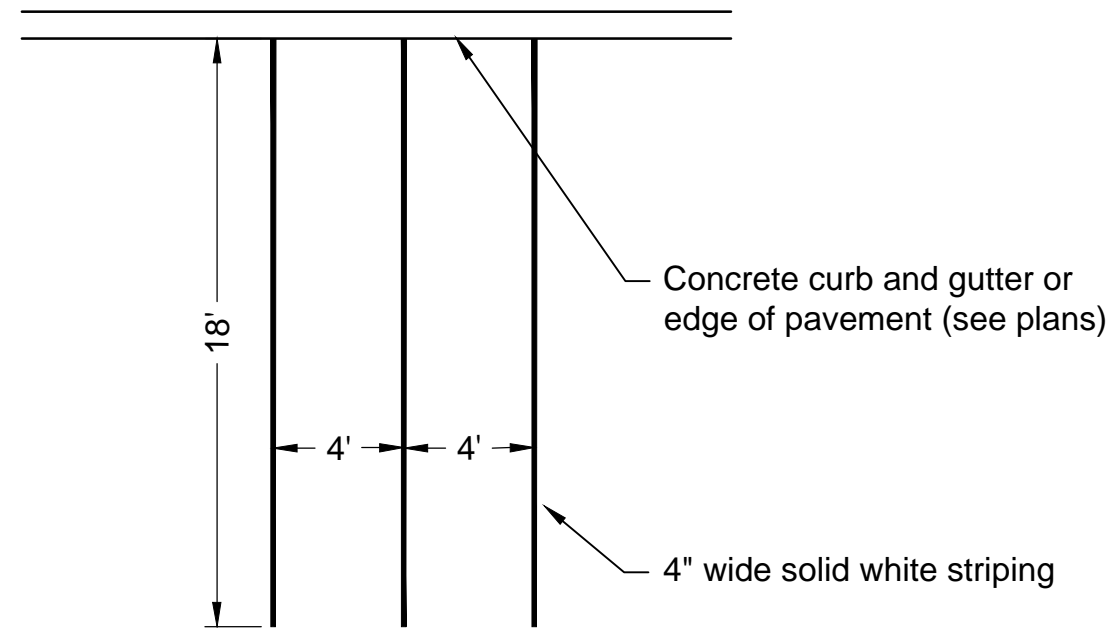


Notes:

All pavement markings not within SCDOT Right-of-Way shall receive two coats of traffic paint.

Parking space layout

Not to scale

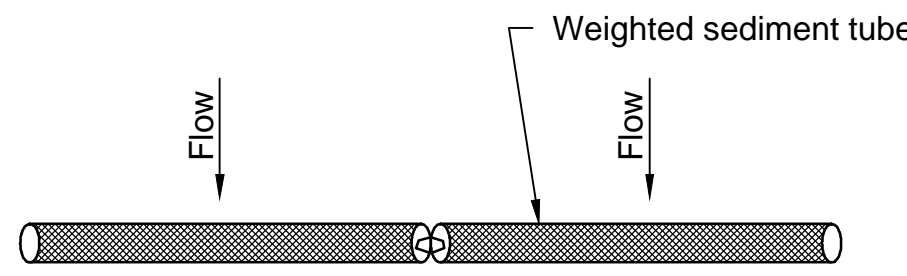


Notes:

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Motorcycle parking space layout

Not to scale



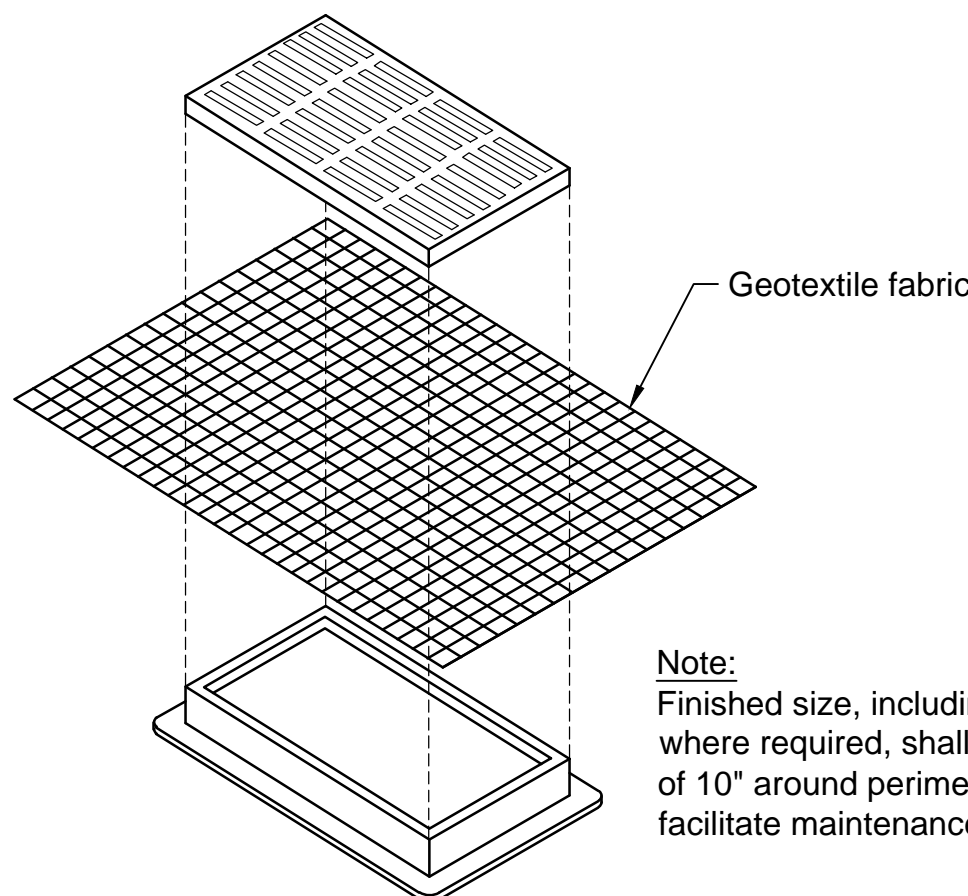
Plan

Notes:

1. Sediment tube may be temporarily moved during construction as needed.
2. Diameter of sediment tube shall be 12 inch minimum for pavement applications.
3. Sediment tubes shall be tied together with heavy duty ties or a 12" minimum overlap shall be provided between two sediment tubes.
4. Weighted sediment tubes (12" dia.) shall have a minimum unit weight of 2 Lbs/Ft.

Weighted Sediment Tube Detail

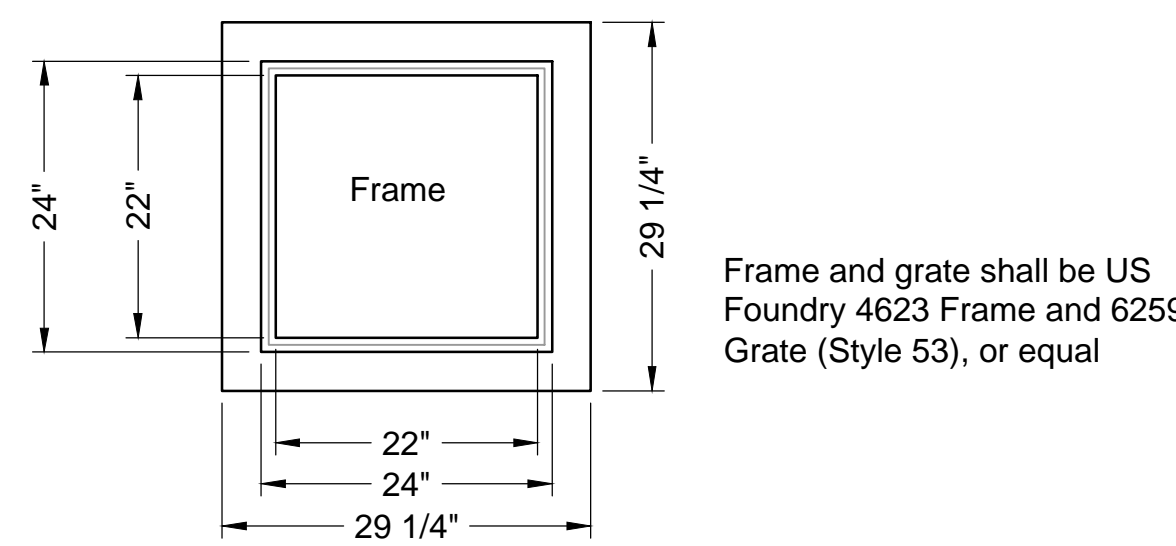
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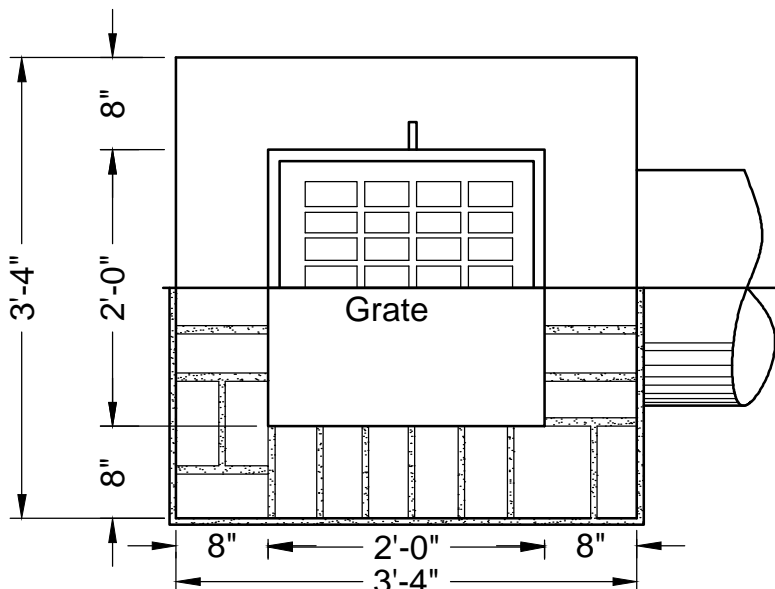
Inlet Protection Detail

(Drop inlet located in vehicular access)

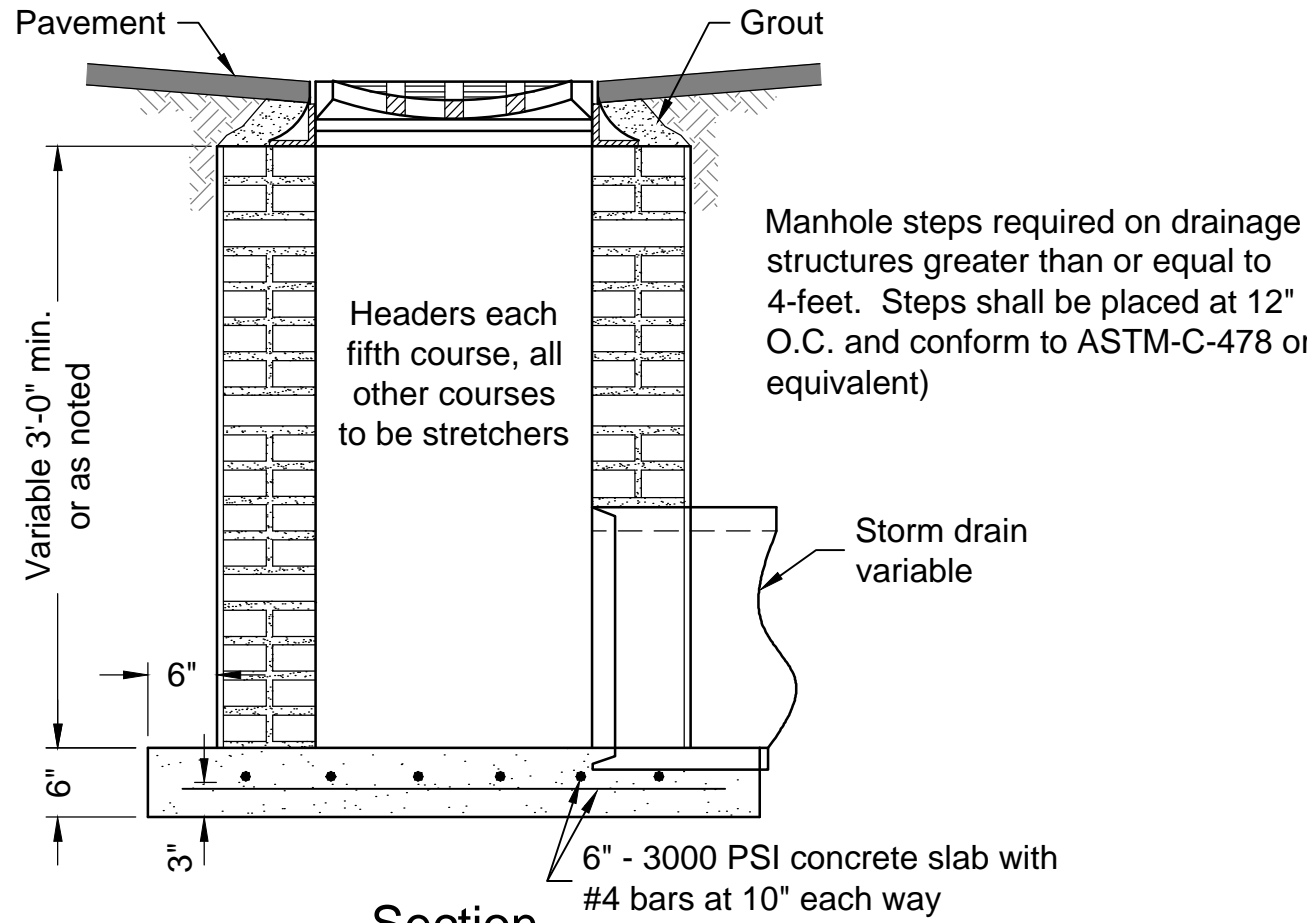
Not to scale



Frame and grate shall be US Foundry 4623 Frame and 6259 Grate (Style 53), or equal



Plan



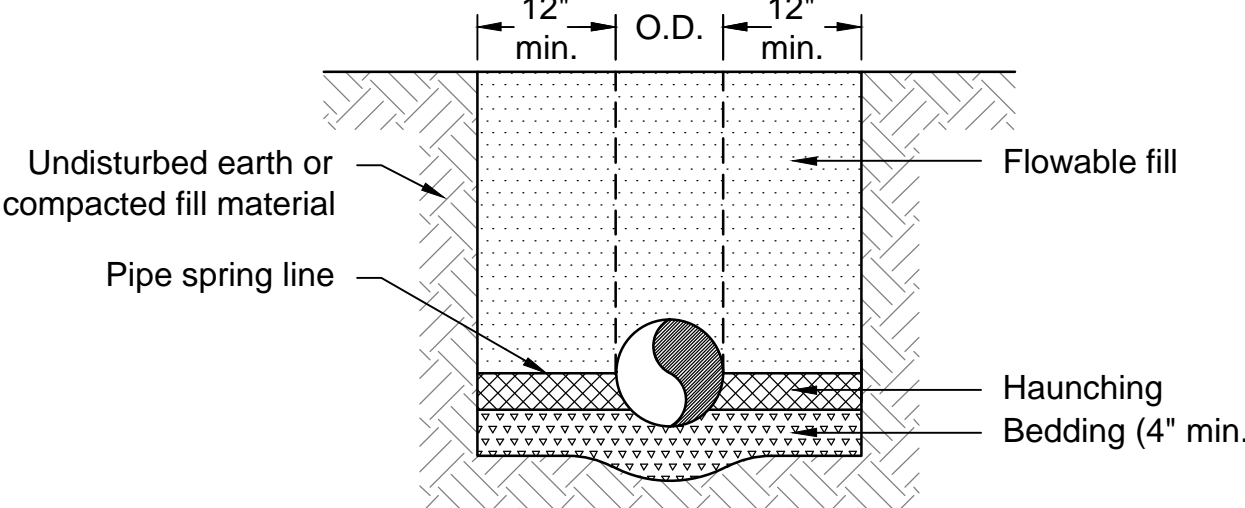
Section

Notes:

1. Walls of drop inlet shall be 8" brick or 6" precast class 'A' concrete.
2. Ends of storm drain pipe shall be flush with inside walls.
3. Bottom of drop inlet shall not have sump. Provide smooth grouted invert continuous to invert of pipe.

Drop Inlet (DI)

Not to scale



Notes:

1. Where installed below pavement, final backfill shall also meet requirements of new pavement section.
2. Bedding shall be Class I-A worked by hand.
3. Haunching shall be worked around the pipe by hand to eliminate voids and shall be Class I-A or Class I-B compacted to 85% Standard Proctor.
4. All materials are classified in accordance with ASTM D 2321.
5. All materials shall be installed in maximum 8" loose lifts in accordance with ASTM D 698.

Storm pipe trench

Not to scale



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