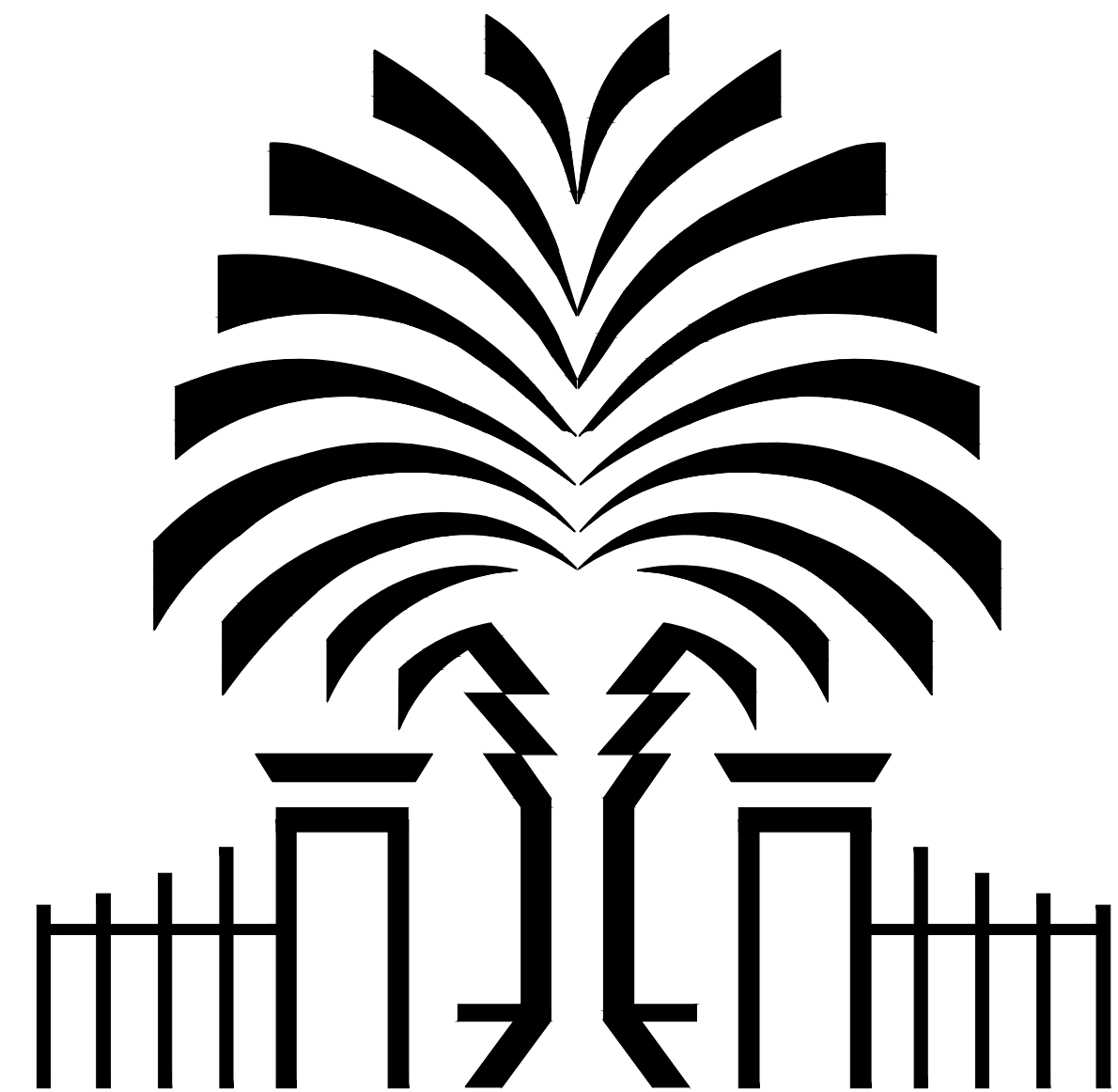


USCA Pedestrian Bridge

State Project No.: H29-9545-PG

In Aiken County, SC



Prepared For
University of South Carolina Aiken

by:

Chao & Associates, Inc.

Consulting Engineers

C & A #: 391402B-11



October 9, 2012

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OWNER:

UNIVERSITY OF SOUTH CAROLINA AIKEN
FACILITIES MANAGEMENT
471 UNIVERSITY PARKWAY
AIKEN, SC 29801

PROJECT MANAGER, CIVIL, SURVEYING, AND STRUCTURAL ENGINEER:

CHAO & ASSOCIATES, INC
7 CLUSTERS COURT
COLUMBIA, SC 29210
TEL: 803-772-8420

ARCHITECT:

McCREARY/SNOW ARCHITECTS, PA
PO BOX 11143
COLUMBIA, SC 29211
TEL: 803-771-6267

ELECTRICAL ENGINEER:

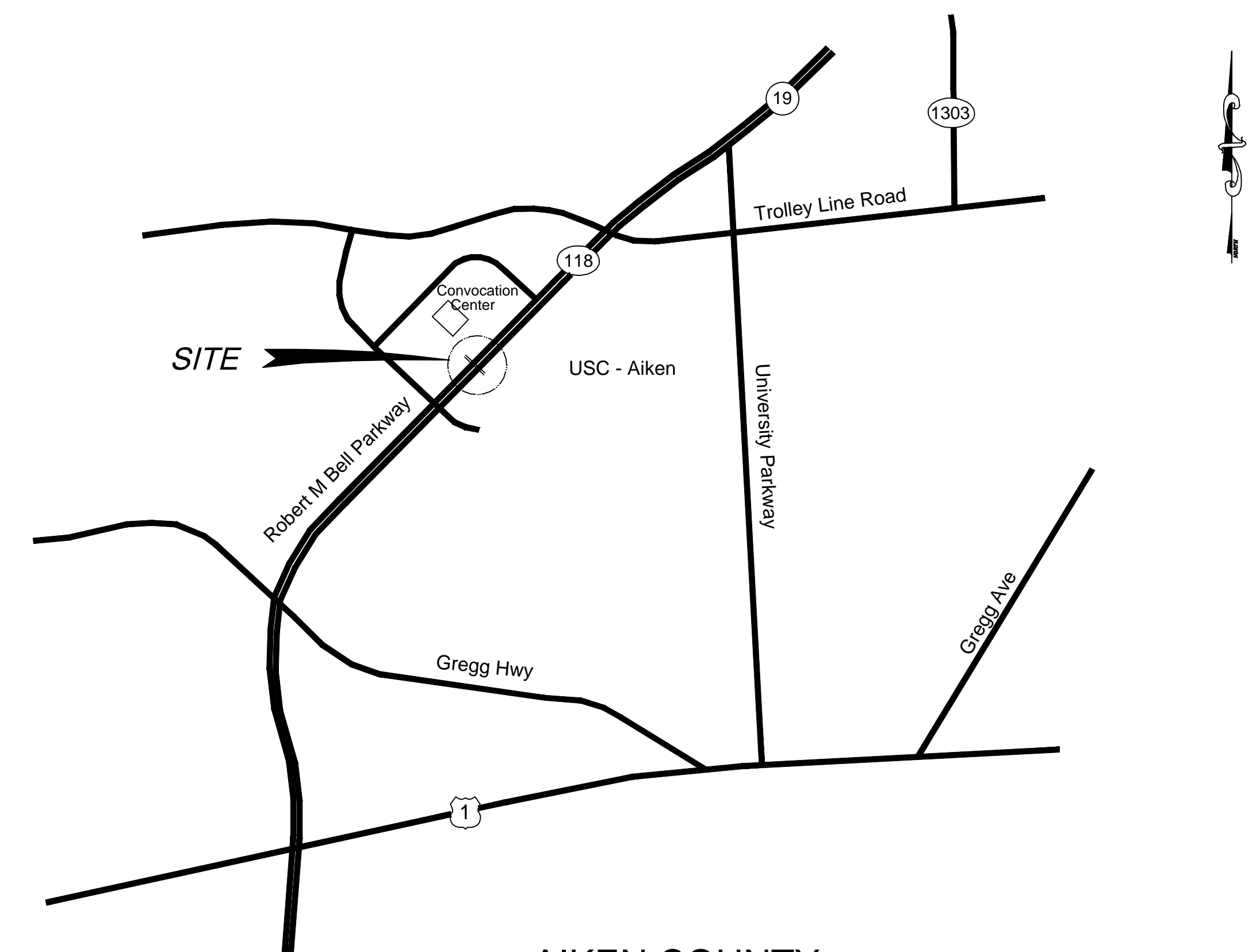
GWA, INC
168 LAURELHURST AVENUE
COLUMBIA, SC 29210
TEL: 803-252-6919

GEOTECHNICAL ENGINEER:

GEOSTELLAR ENGINEERING, LLC
1077 RODNEY DRIVE
BATON ROUGE, LA 70808
TEL: 803-997-0554



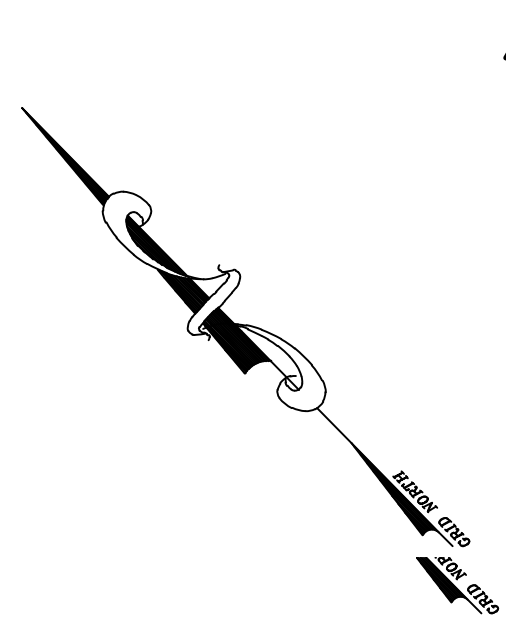
LOCATION MAP



AIKEN COUNTY
APPROX. SCALE: 1" = 1000'

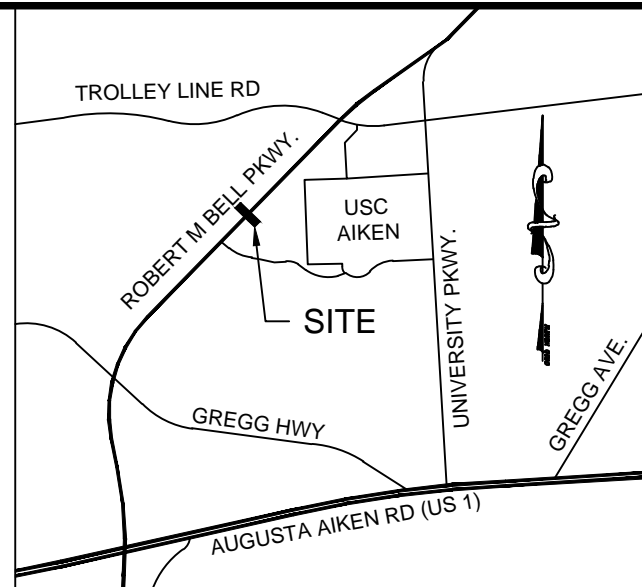
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LEGEND	
	FIRE HYDRANT
	WATER VALVE
	WATER METER
	GAS VALVE
	SANITARY SEWER MANHOLE
	CLEANOUT (CO)
	NATURAL GAS LINE
	SANITARY SEWER LINE (MATERIAL UNKNOWN)
	WATER LINE
	FENCE
	OVERHEAD ELECTRIC
	UNDERGROUND TELEPHONE
	UNDERGROUND FIBER OPTIC LINE
	UNDERGROUND CABLE TV
	CONC. CURB & GUTTER
	YARD INLET (YI)
	JUNCTION BOX (JB)
	DROP INLET (DI)
	CURB INLET (CI)
	STORM DRAIN PIPE
	CONCRETE SIDEWALK
	POWER POLE & GUY
	LIGHT POLE
	ELEC BOX
	TELEPHONE PED
	A/C 12 X 2 PAD

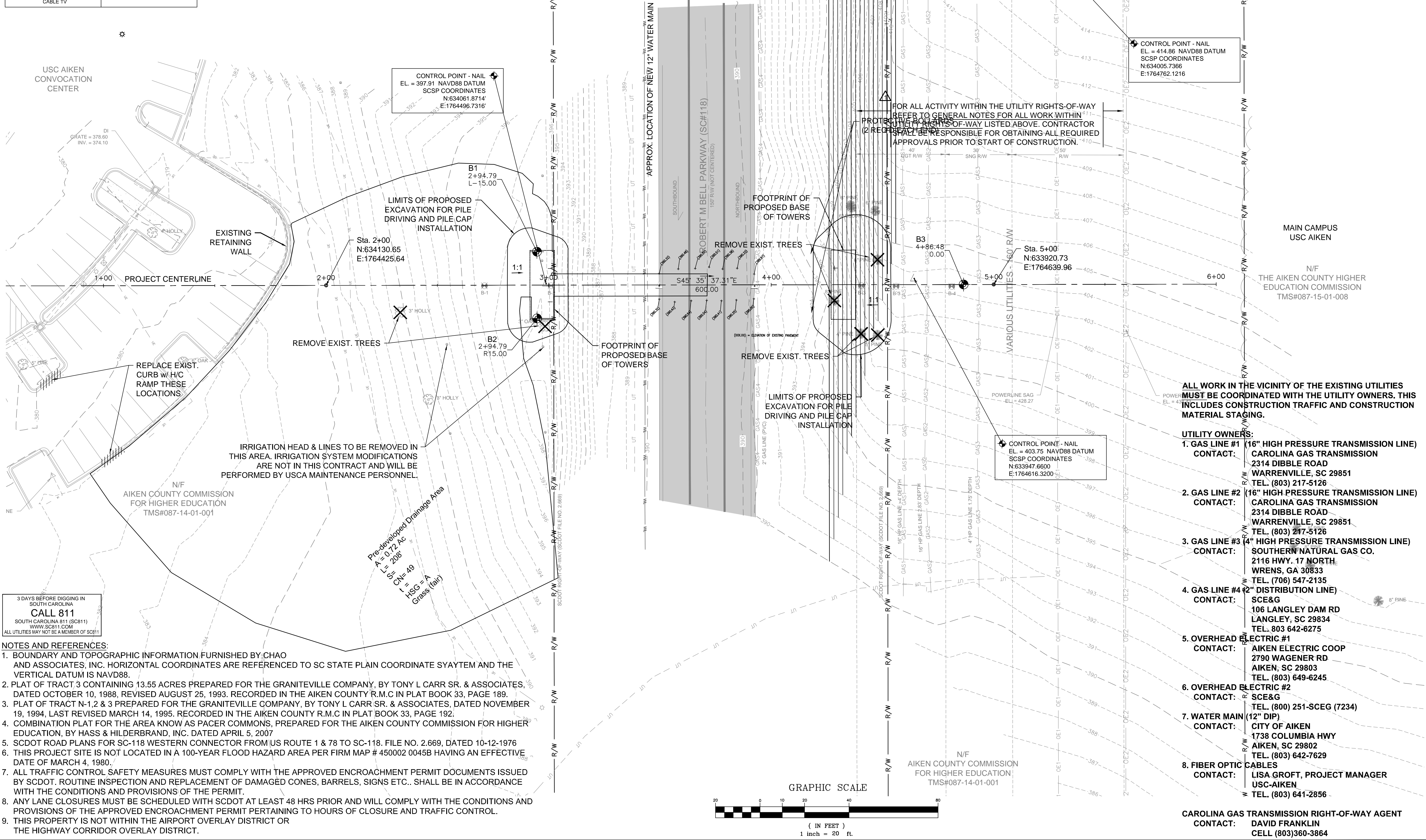


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- DEMOLITION NOTES
1. NO WORK SHALL BE PERFORMED UNTIL ALL PERMITS HAVE BEEN RECEIVED.
 2. ALL EROSION CONTROL MEASURES MUST BE INSTALLED PRIOR TO START OF LAND DISTURBANCE ACTIVITIES. CLEARING WILL BE ALLOWED ONLY TO FACILITATE INSTALLATION OF PERIMETER CONTROL MEASURES.
 3. ALL EXCESS AND DELETERIOUS MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A LEGAL AND APPROVED OF MANNER.
 4. ALL FEES ASSOCIATED WITH THE DISPOSAL OF EXCESS AND DELETERIOUS MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 5. EXCAVATION IS DEFINED AS UNCLASSIFIED EXCAVATION OF EVERY DESCRIPTION REGARDLESS OF MATERIALS ENCOUNTERED.

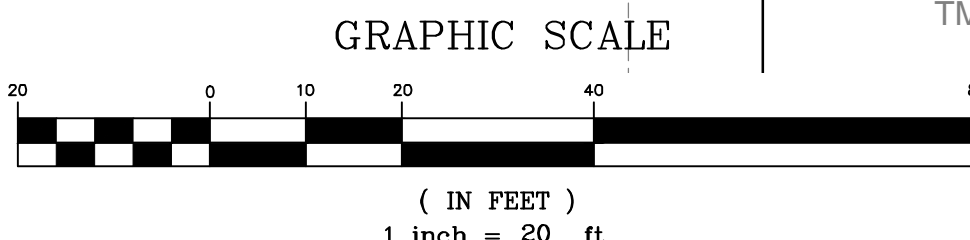


LOCATION MAP
NOT TO SCALE



3 DAYS BEFORE DIGGING IN
SOUTH CAROLINA
CALL 811
SOUTH CAROLINA 811 (SC811)
WWW.SC811.COM
ALL UTILITIES MAY NOT BE A MEMBER OF SC811

- NOTES AND REFERENCES:
1. BOUNDARY AND TOPOGRAPHIC INFORMATION FURNISHED BY CHAO AND ASSOCIATES, INC. HORIZONTAL COORDINATES ARE REFERENCED TO SC STATE PLAIN COORDINATE SYAYTEM AND THE VERTICAL DATUM IS NAVD88.
 2. PLAT OF TRACT 3 CONTAINING 13.55 ACRES PREPARED FOR THE GRANITEVILLE COMPANY, BY TONY L CARR SR. & ASSOCIATES, DATED OCTOBER 10, 1988, REVISED AUGUST 25, 1993. RECORDED IN THE AIKEN COUNTY R.M.C IN PLAT BOOK 33, PAGE 189.
 3. PLAT OF TRACT N-1,2 & 3 PREPARED FOR THE GRANITEVILLE COMPANY, BY TONY L CARR SR. & ASSOCIATES, DATED NOVEMBER 19, 1994, LAST REVISED MARCH 14, 1995. RECORDED IN THE AIKEN COUNTY R.M.C IN PLAT BOOK 33, PAGE 192.
 4. COMBINATION PLAT FOR THE AREA KNOW AS PACER COMMONS, PREPARED FOR THE AIKEN COUNTY COMMISSION FOR HIGHER EDUCATION, BY HASS & HILDERBRAND, INC. DATED APRIL 5, 2007
 5. SCDOT ROAD PLANS FOR SC-118 WESTERN CONNECTOR FROM US ROUTE 1 & 78 TO SC-118. FILE NO. 2.669, DATED 10-12-1976
 6. THIS PROJECT SITE IS NOT LOCATED IN A 100-YEAR FLOOD HAZARD AREA PER FIRM MAP # 450002 0045B HAVING AN EFFECTIVE DATE OF MARCH 4, 1980.
 7. ALL TRAFFIC CONTROL SAFETY MEASURES MUST COMPLY WITH THE APPROVED ENCROACHMENT PERMIT DOCUMENTS ISSUED BY SCDOT. ROUTINE INSPECTION AND REPLACEMENT OF DAMAGED CONES, BARRELS, SIGNS ETC.. SHALL BE IN ACCORDANCE WITH THE CONDITIONS AND PROVISIONS OF THE PERMIT.
 8. ANY LANE CLOSURES MUST BE SCHEDULED WITH SCDOT AT LEAST 48 HRS PRIOR AND WILL COMPLY WITH THE CONDITIONS AND PROVISIONS OF THE APPROVED ENCROACHMENT PERMIT PERTAINING TO HOURS OF CLOSURE AND TRAFFIC CONTROL.
 9. THIS PROPERTY IS NOT WITHIN THE AIRPORT OVERLAY DISTRICT OR THE HIGHWAY CORRIDOR OVERLAY DISTRICT.



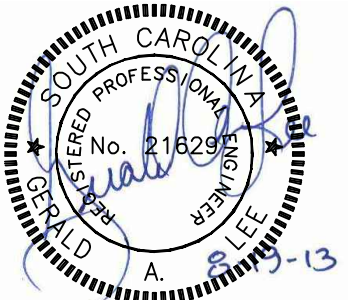
ALL WORK IN THE VICINITY OF THE EXISTING UTILITIES
MUST BE COORDINATED WITH THE UTILITY OWNERS. THIS
INCLUDES CONSTRUCTION TRAFFIC AND CONSTRUCTION
MATERIAL STAGING.

- UTILITY OWNERS:
1. GAS LINE #1 (16" HIGH PRESSURE TRANSMISSION LINE)
CONTACT: CAROLINA GAS TRANSMISSION
2314 DIBBLE ROAD
WARRENVILLE, SC 29851
TEL. (803) 217-5126
 2. GAS LINE #2 (16" HIGH PRESSURE TRANSMISSION LINE)
CONTACT: CAROLINA GAS TRANSMISSION
2314 DIBBLE ROAD
WARRENVILLE, SC 29851
TEL. (803) 217-5126
 3. GAS LINE #3 (4" HIGH PRESSURE TRANSMISSION LINE)
CONTACT: SOUTHERN NATURAL GAS CO.
2116 HWY. 17 NORTH
WRENS, GA 30833
TEL. (706) 547-2135
 4. GAS LINE #4 (2" DISTRIBUTION LINE)
CONTACT: SCE&G
106 LANGLEY DAM RD
LANGLEY, SC 29834
TEL. 803 642-6275
 5. OVERHEAD ELECTRIC #1
CONTACT: AIKEN ELECTRIC COOP
2790 WAGENER RD
AIKEN, SC 29803
TEL. (803) 649-6245
 6. OVERHEAD ELECTRIC #2
CONTACT: SCE&G
TEL. (800) 251-SCEG (7234)
 7. WATER MAIN (12" DIP)
CONTACT: CITY OF AIKEN
1738 COLUMBIA HWY
AIKEN, SC 29802
TEL. (803) 642-7629
 8. FIBER OPTIC CABLES
CONTACT: LISA GROFT, PROJECT MANAGER
USC-AIKEN
TEL. (803) 641-2856

CAROLINA GAS TRANSMISSION RIGHT-OF-WAY AGENT
CONTACT: DAVID FRANKLIN
CELL (803)360-3864



Chao & Associates, Inc.
Civil - Structural - Survey
7 Clusters Court
Columbia, SC 29210
Voice: (803) 772-8420
Fax: (803) 772-9120
Email: consult@chaoinc.com



E^oistin^oonditions
USCA Pedestrian Bridge
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

Drawn: TKS Checked: LEE
Revised: 9-21-13 Added GENERAL NOTES FOR ALL WORK WITHIN UTILITY RIGHTS-OF-WAY
Project No.: 391402B
File: 391402C.dwg

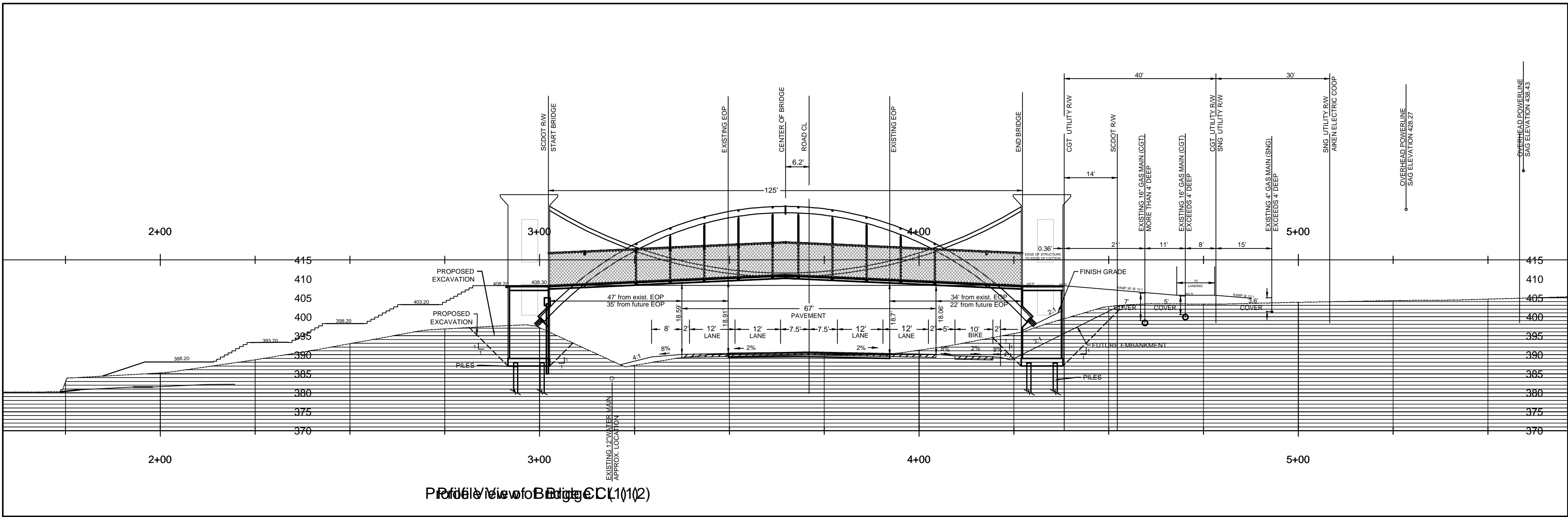
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October 9, 2012
Date

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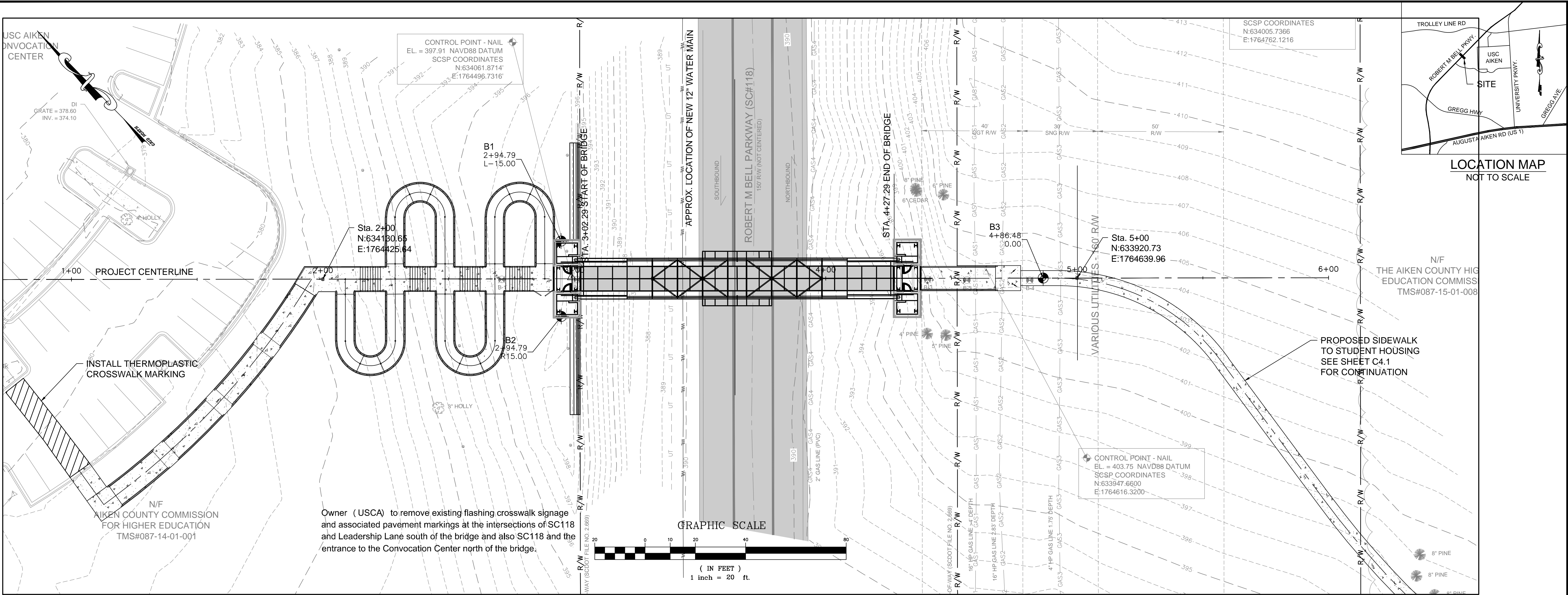
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NOTES:

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2. BENCHMARK IS BASED ON MEAN NAVD88 DATUM.
3. PROPOSED CONTOURS & PROPOSED SPOT ELEVATIONS REPRESENT FINISHED GRADE.
4. THIS PROPERTY IS NOT LOCATED IN THE AIRPORT OVERLAY DISTRICT OR HIGHWAY CORRIDOR OVERLAY DISTRICT.



Profile View of Bridge C2.0 (1/12)



Overall Bridge Plan and Profile
University of South Carolina - Aiken
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

Drawn: TKS Checked: LEE

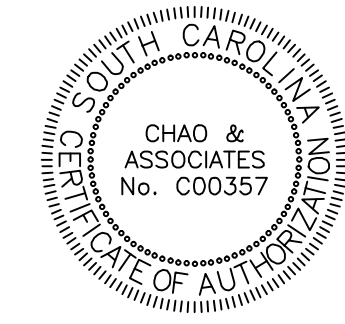
Revised:

File: 391402C.dwg Project No.: 391402B

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Overall Bridge Plan and Profile
University of South Carolina - Aiken
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

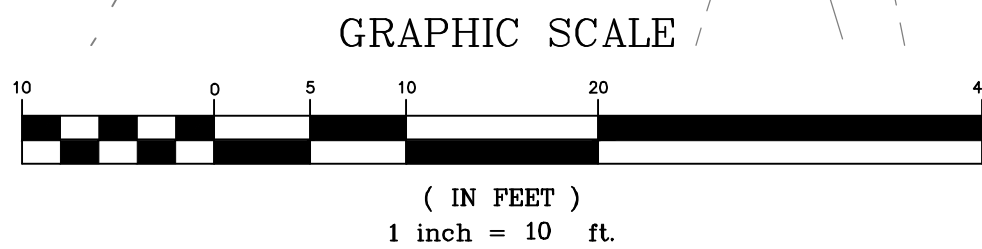
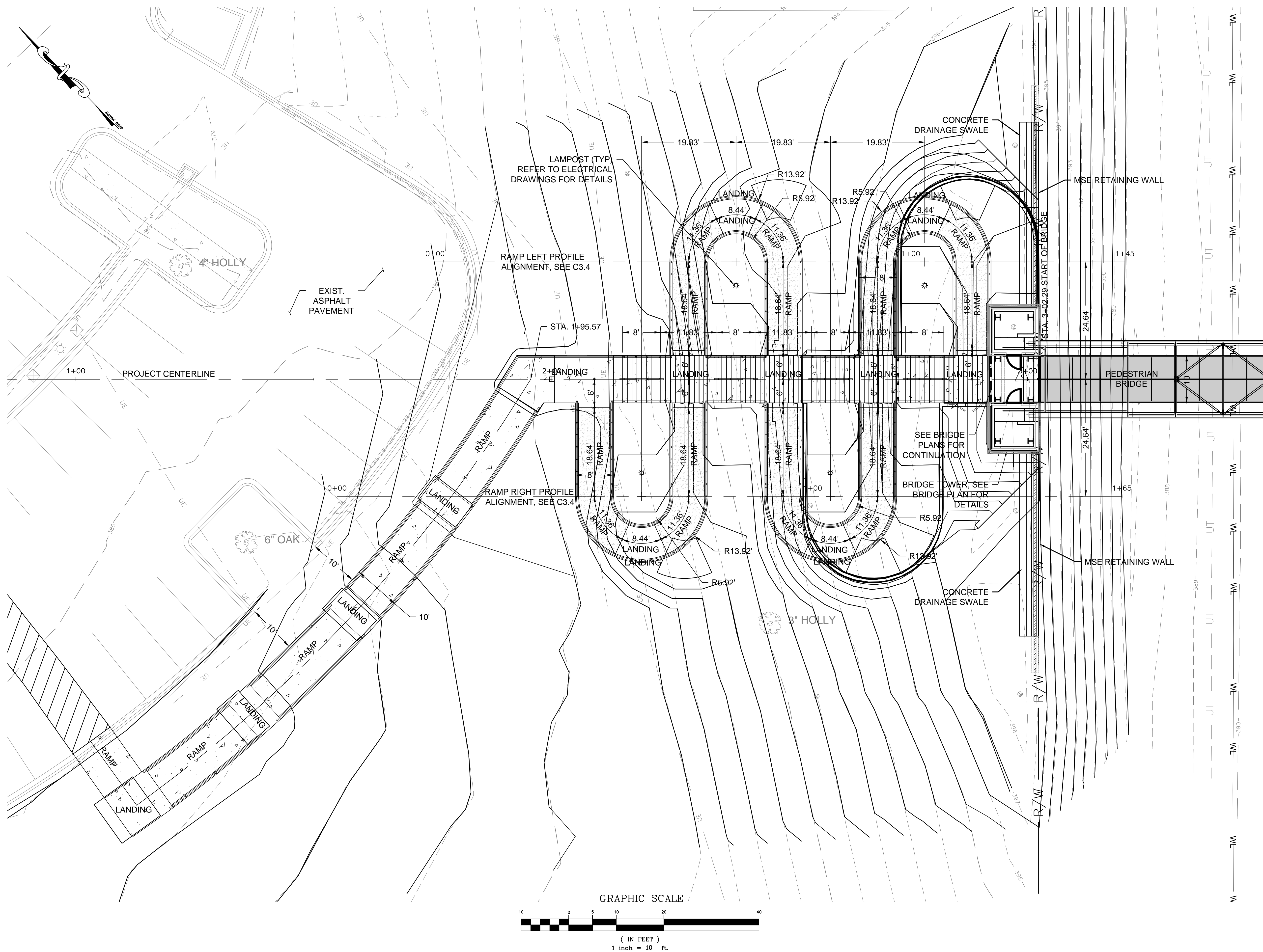
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Revised:

File: 391402C.dwg Project No.: 391402B

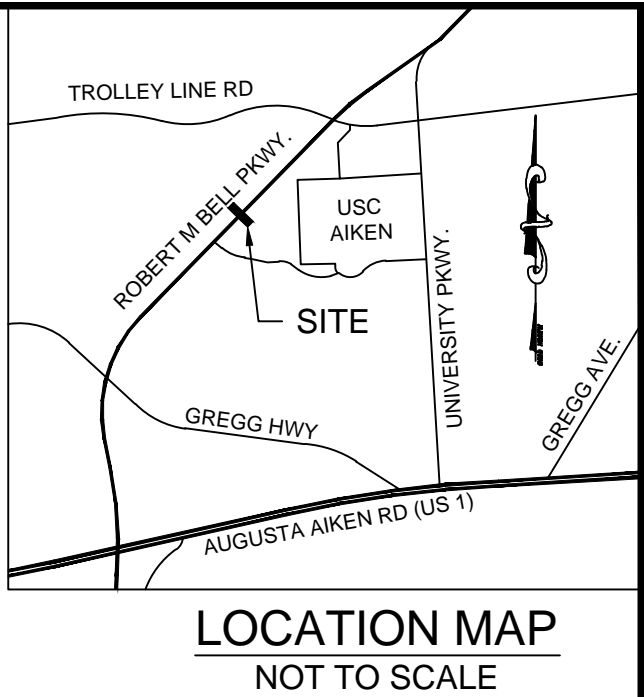
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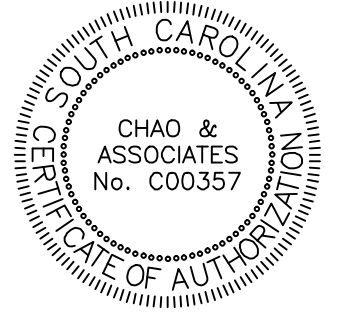
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- PERVIOUS CONCRETE PAVEMENT
- STANDARD DUTY CONCRETE PAVEMENT



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☐ Layout Plan ☐ orth ☐ am
USCA Pedestrian Bridge
 State Project No. H29-9545-PG
 University of South Carolina
 Aiken County, SC

Drawn: TKS Checked: LEE
 Revised:
 Project No.: 391402B
 File: 391402C.dwg

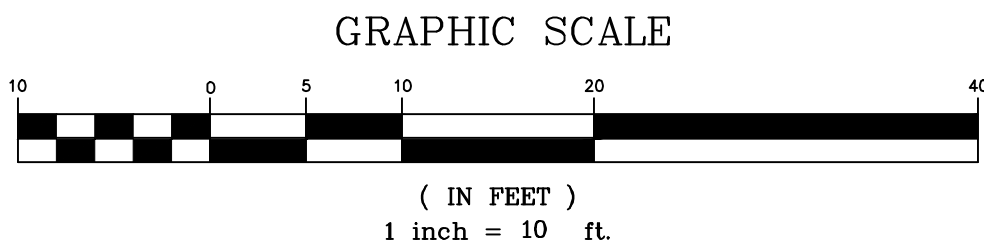
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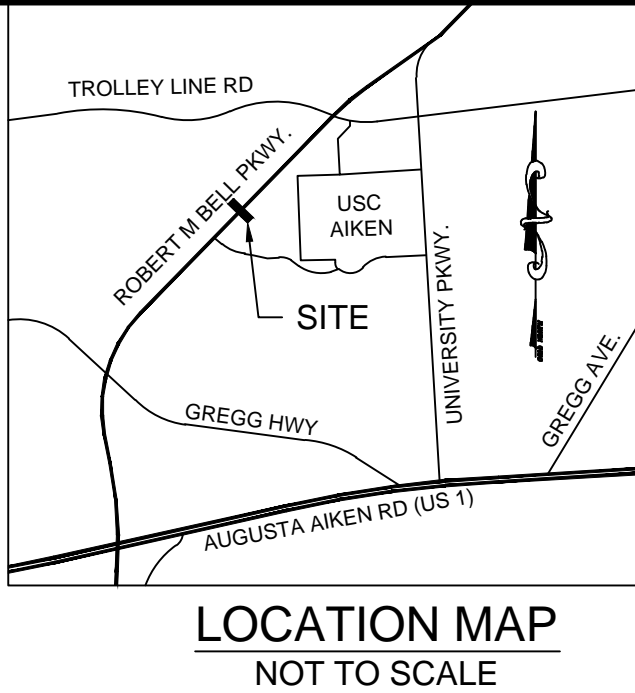
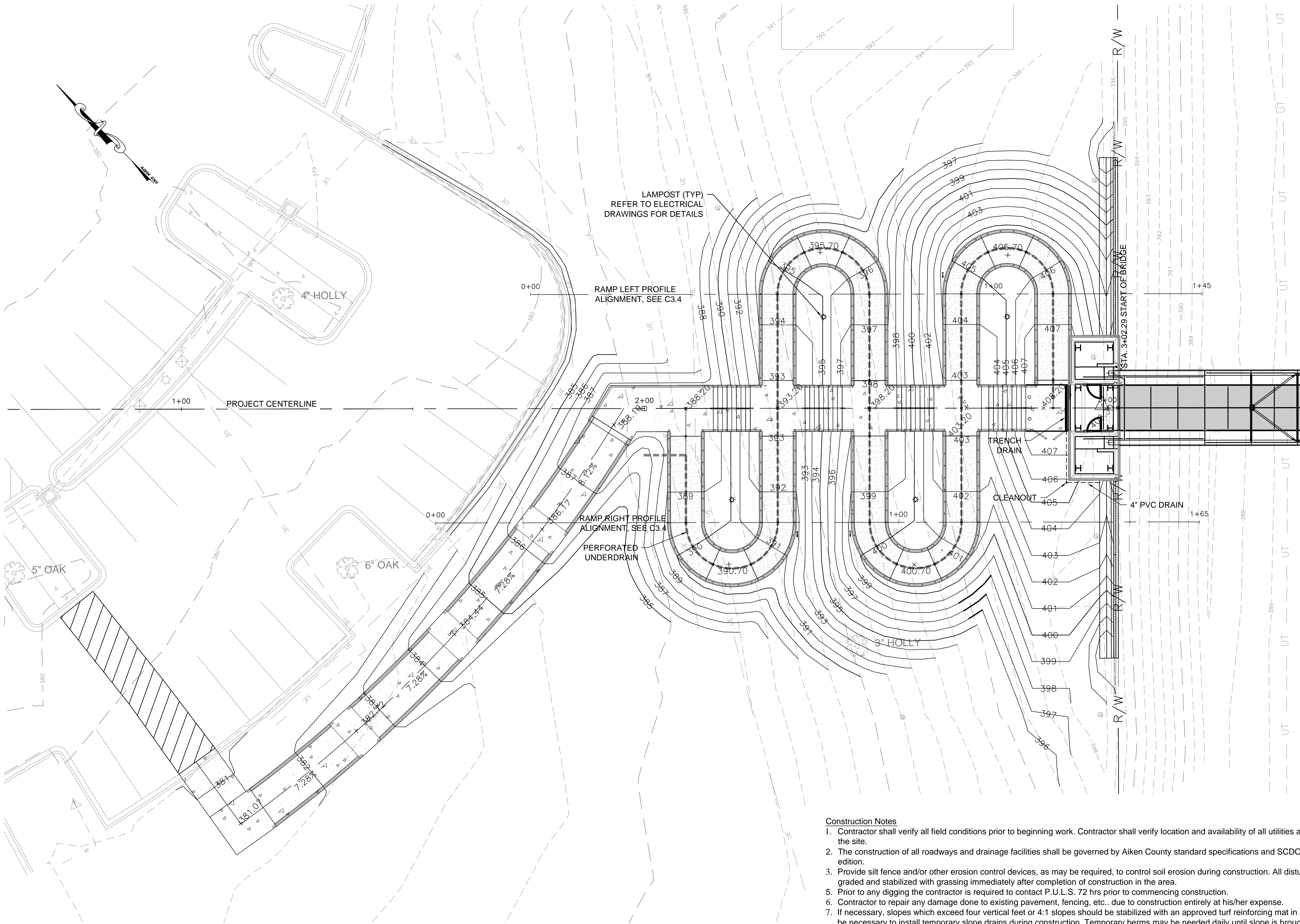
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Construction Notes

1. Contractor shall verify all field conditions prior to beginning work. Contractor shall verify location and availability of all utilities affecting the project on and off the site.
2. The construction of all roadways and drainage facilities shall be governed by Aiken County standard specifications and SCDOT standard specifications, 2007 edition.
3. Provide silt fence and/or 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.
5. Prior to any digging the contractor is required to contact P.U.L.S. 72 hrs prior to commencing construction.
6. Contractor to repair any damage done to existing pavement, fencing, etc., due to construction entirely at his/her expense.
7. 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.
8. Contractor must take necessary action to minimize the tracking of mud onto the paved roadway from construction areas. Contractor to daily remove mud/soil from pavement as required.
9. All erosion control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been stabilized. Additional control devices may be required during construction in order to control erosion and/or offsite sedimentation. All temporary control devices shall be removed once construction is complete and the site is stabilized to the satisfaction of Aiken County and SCDHEC.
10. All excavation is unclassified. Excess material is to be removed from the site and disposed of in a legal manner.
11. Stormwater Pollution Prevention Plan must be kept on site or within thirty minutes of the site at all times, and in a designated area that is accessible to the inspectors.
12. Aiken County shall not maintain Stormwater Detention or Retention Ponds. The Property Owner shall maintain all Stormwater Detention Facilities shown hereon.



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USCA Pedestrian Bridge
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

Drawn: TKS Checked: LEE

Revised:

File: 391402C.dwg Project No.: 391402B

C3.1
Sheet Number
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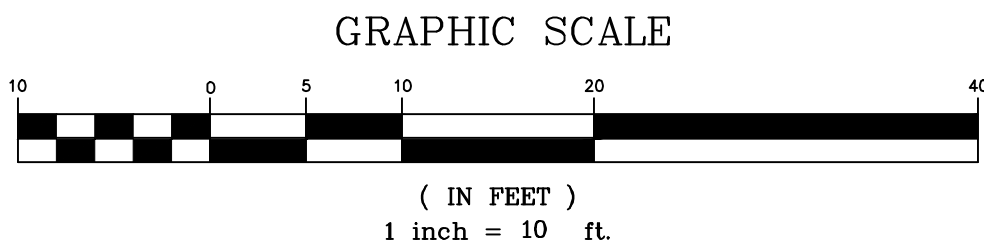


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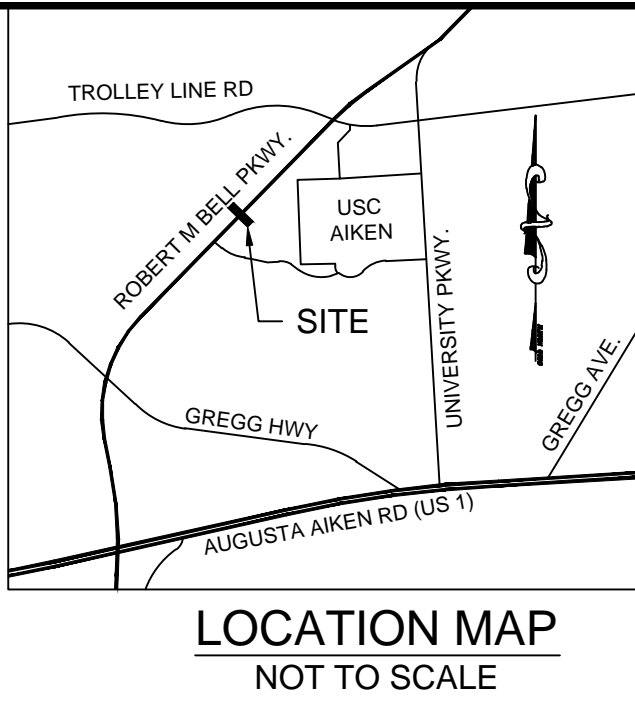
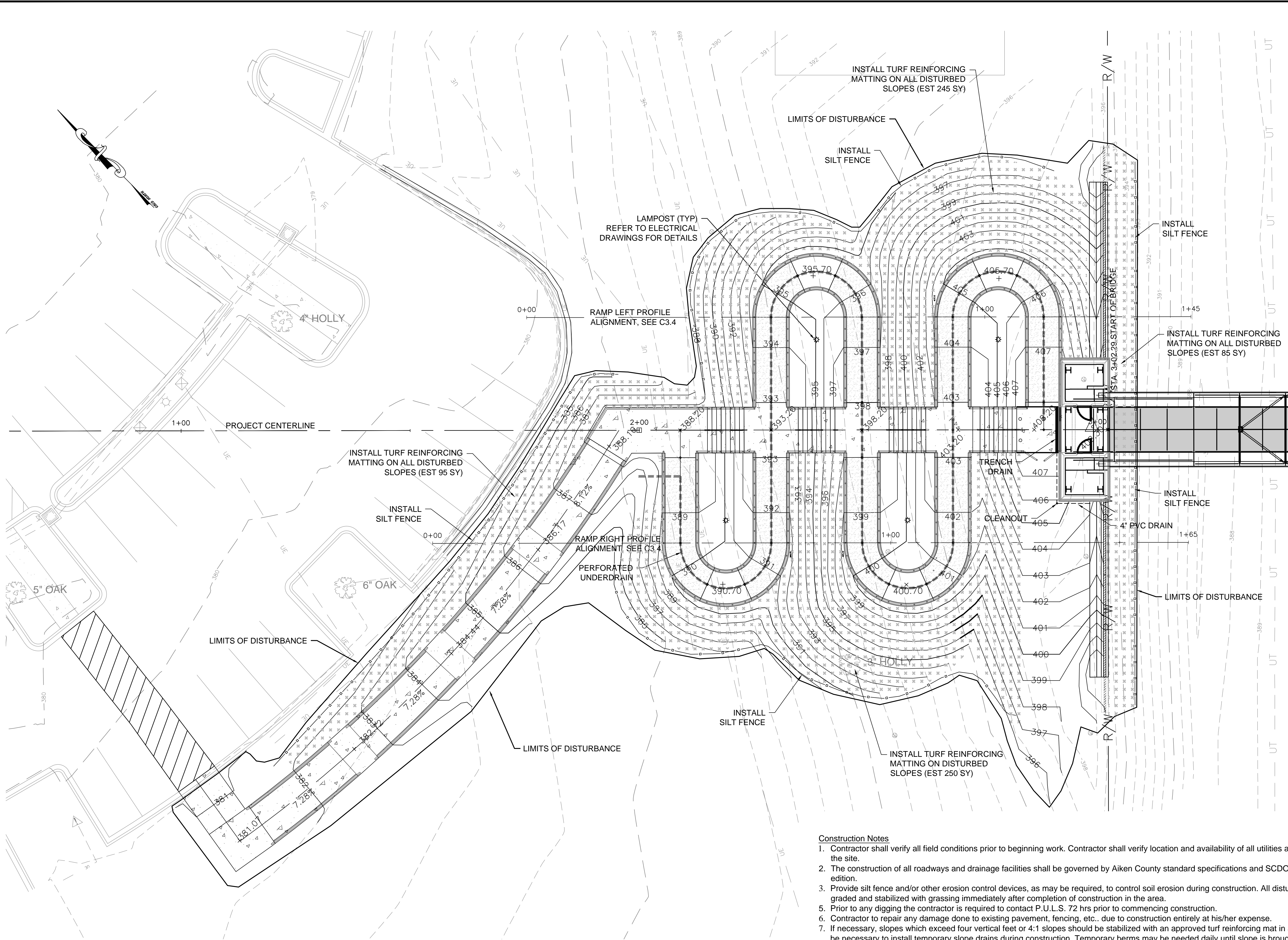
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Sediment and Erosion Control
USCA Pedestrian Bridge
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

Drawn: TKS Checked: LEE

Revised:

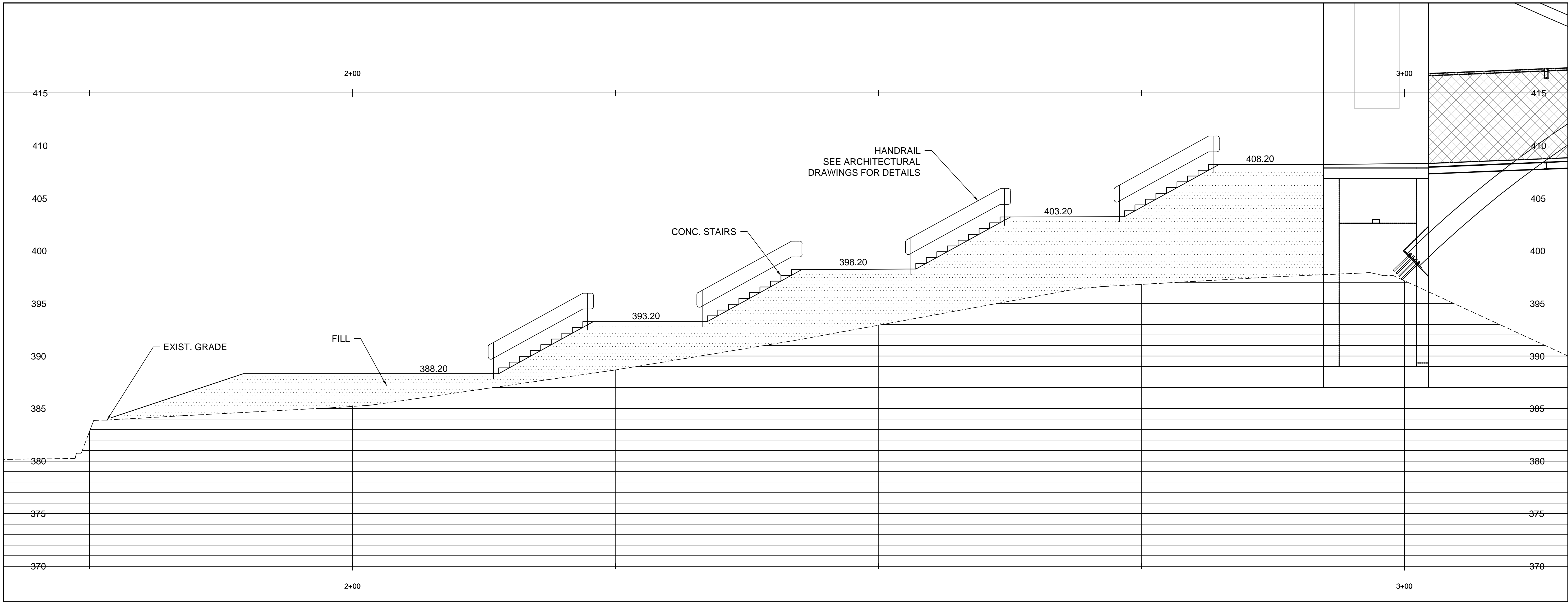
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October 9, 2012
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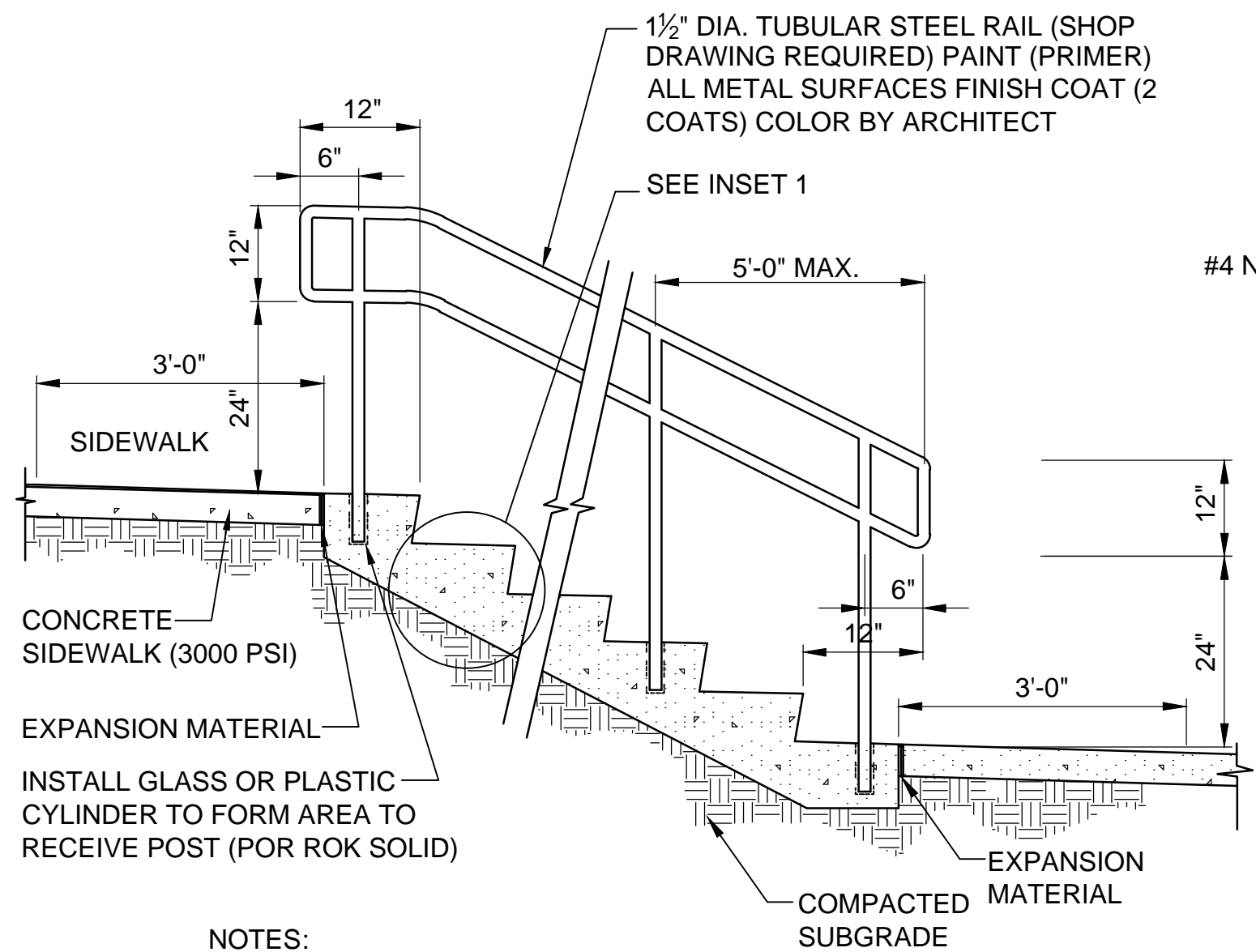


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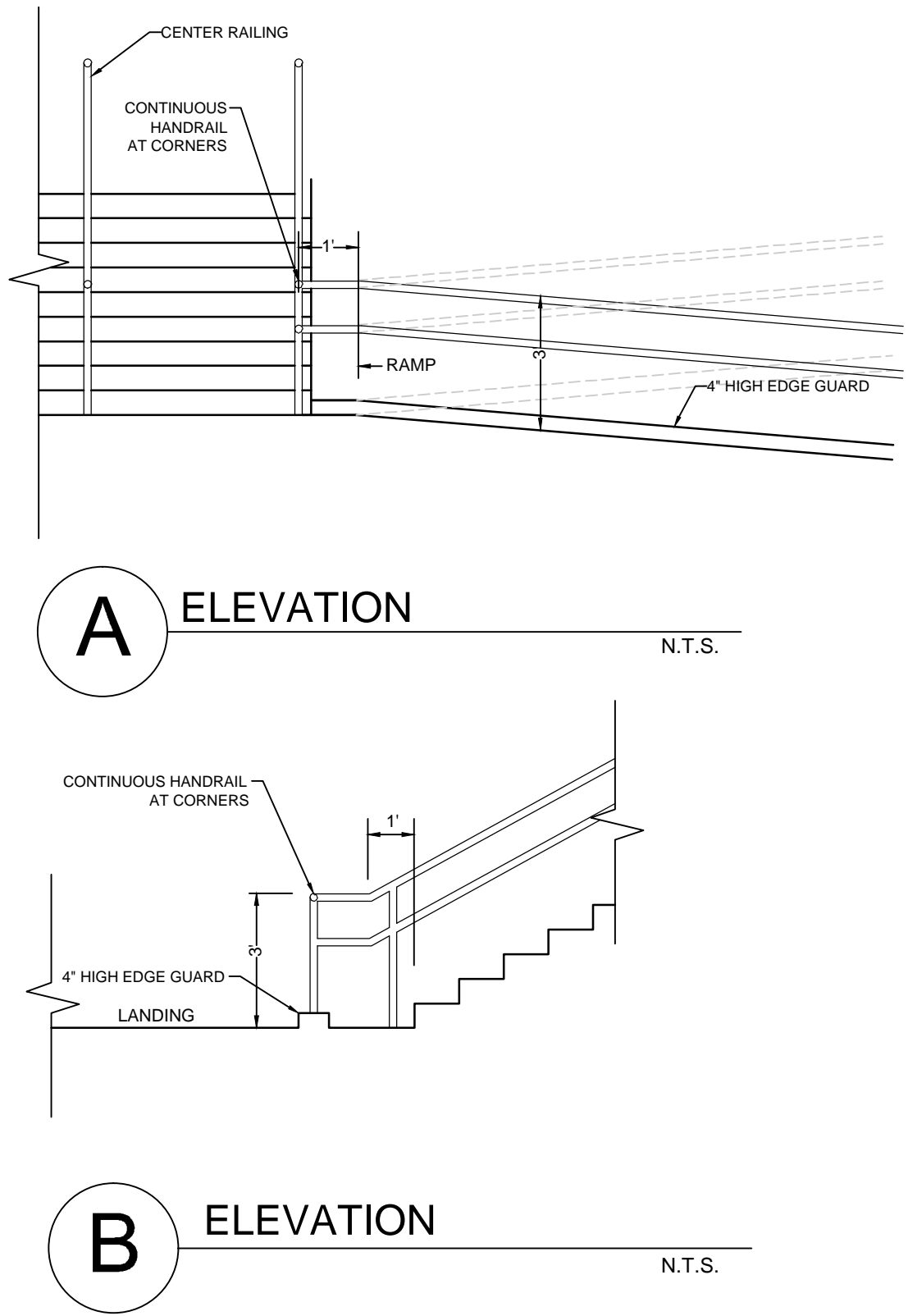
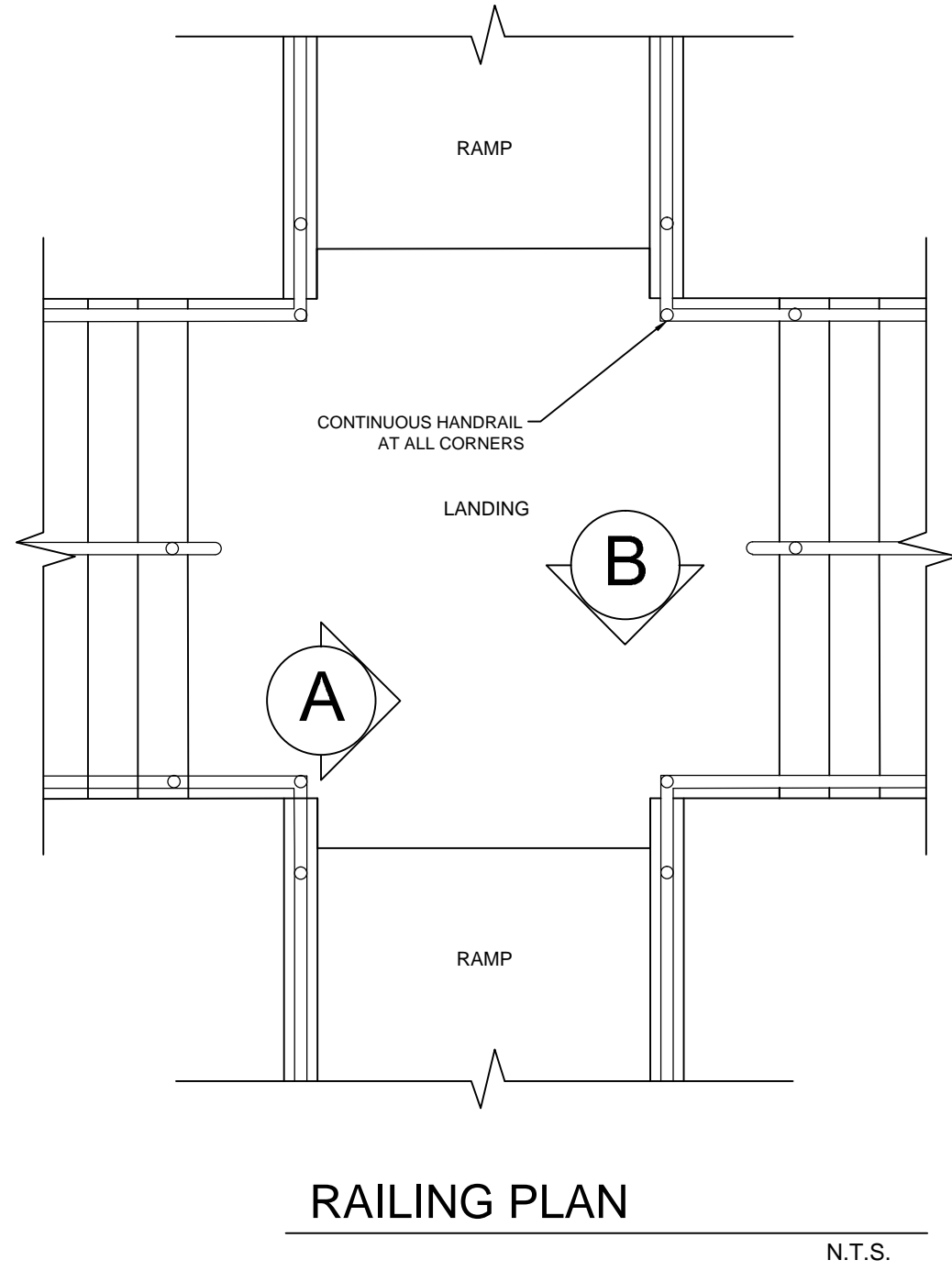
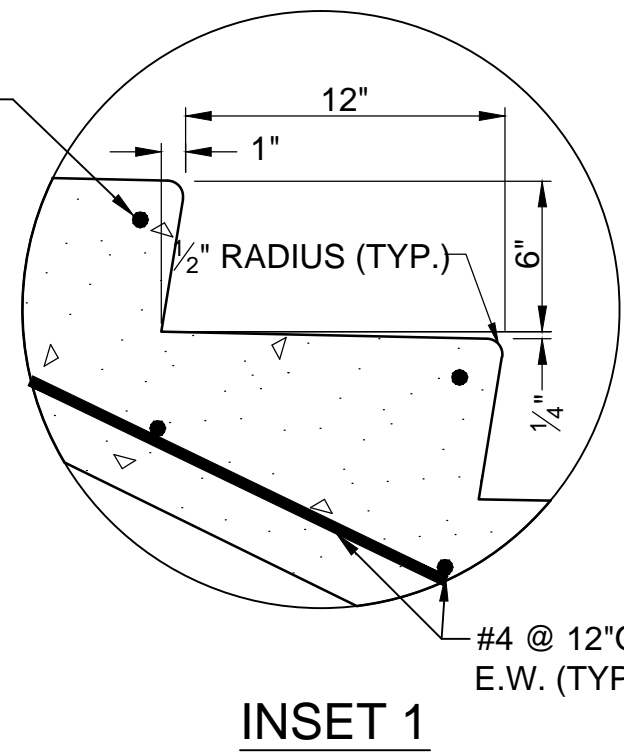


CONCRETE STAIR DETAIL
SCALE: 1" = 5'



- NOTES:
1. ALL HANDRAILS AND STEPS TO MEET ALL STANDARD BUILDING CODES AND A.D.A. REQUIREMENTS AND REGULATIONS.
 2. HANDRAILS TO BE INSTALLED AS SHOWN ON DRAWINGS.
 3. CENTERLINE OF POSTS SHALL BE 3" FROM EDGE OF STAIRS.

CONCRETE STEP AND HANDRAIL DETAIL
NOT TO SCALE



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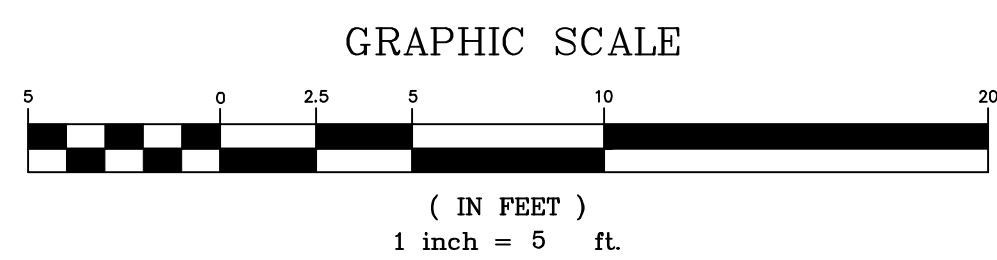
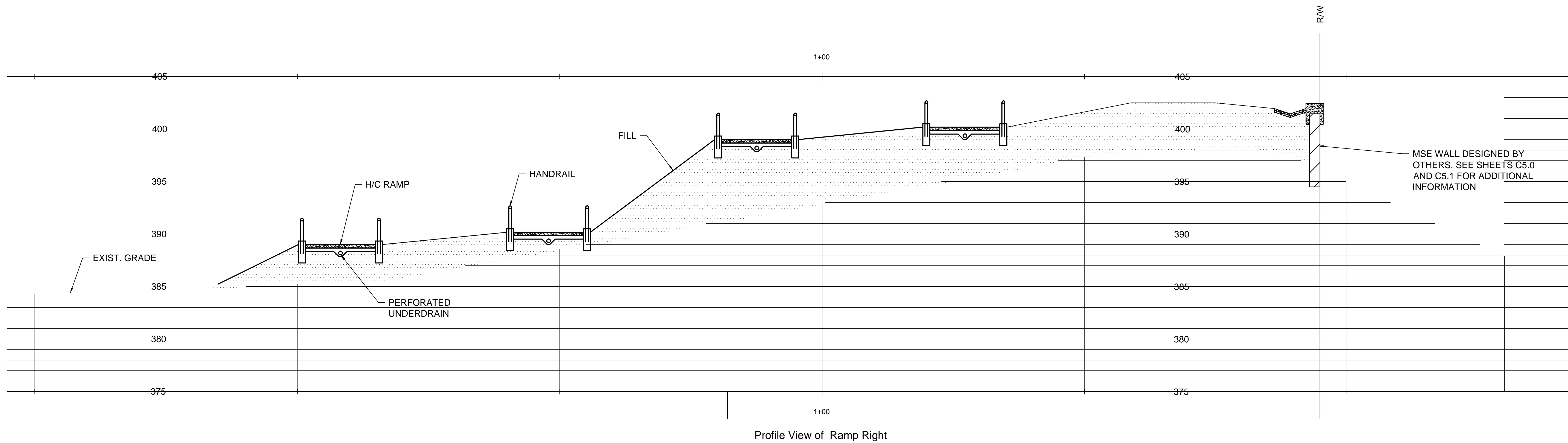
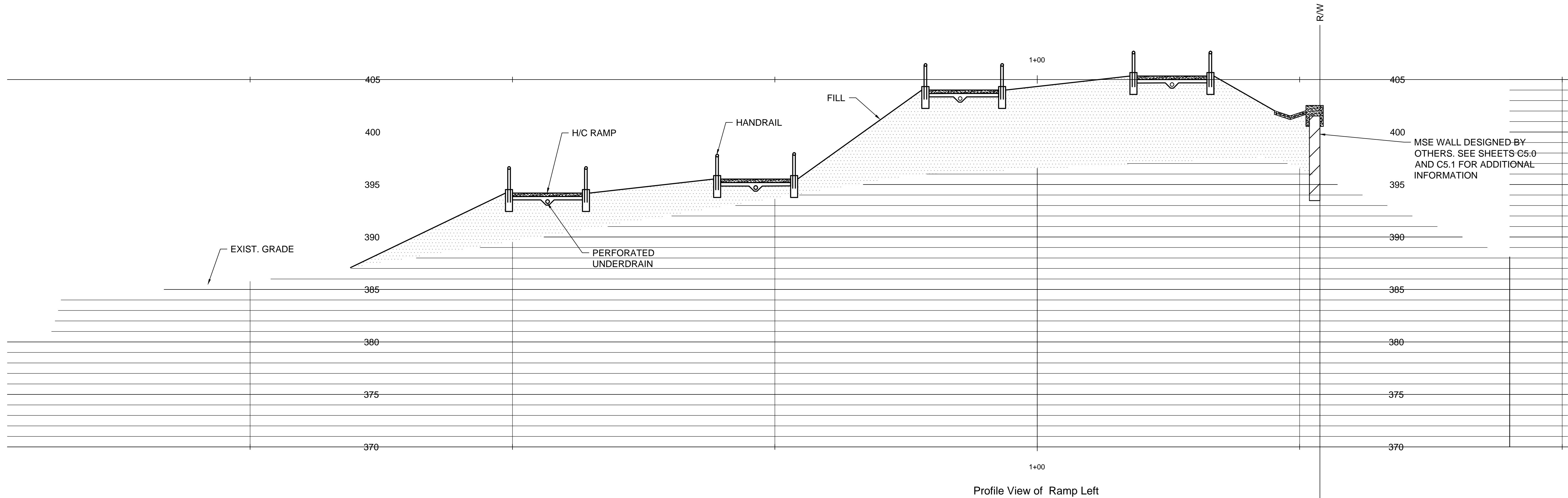
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Drawn: TKS Checked: LEE
Revised:
Project No.: 391402B
File: 391402C.dwg

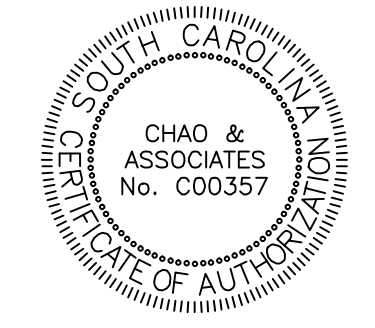
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Drawing File: 391402C.dwg Plotted: Jan 21, 2014 - 10:41am

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USCA Pedestrian Bridge
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

Drawn: TKS Checked: LEE

Revised:

Project No.: 391402B

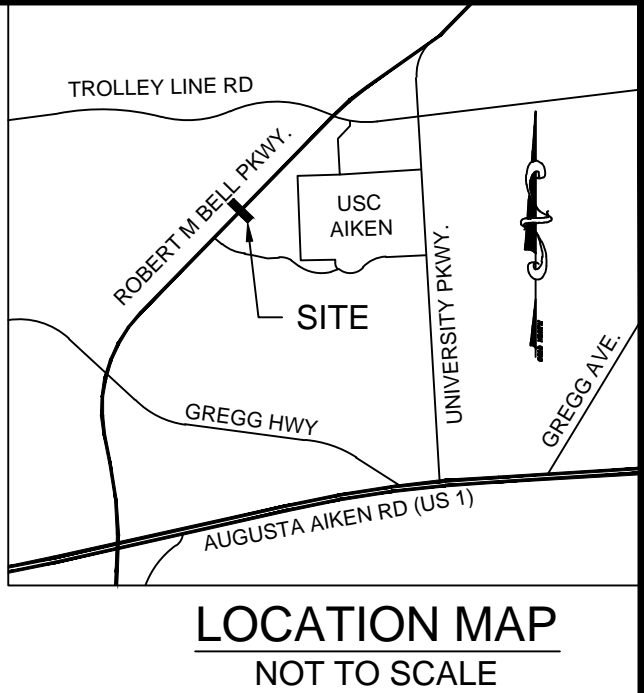
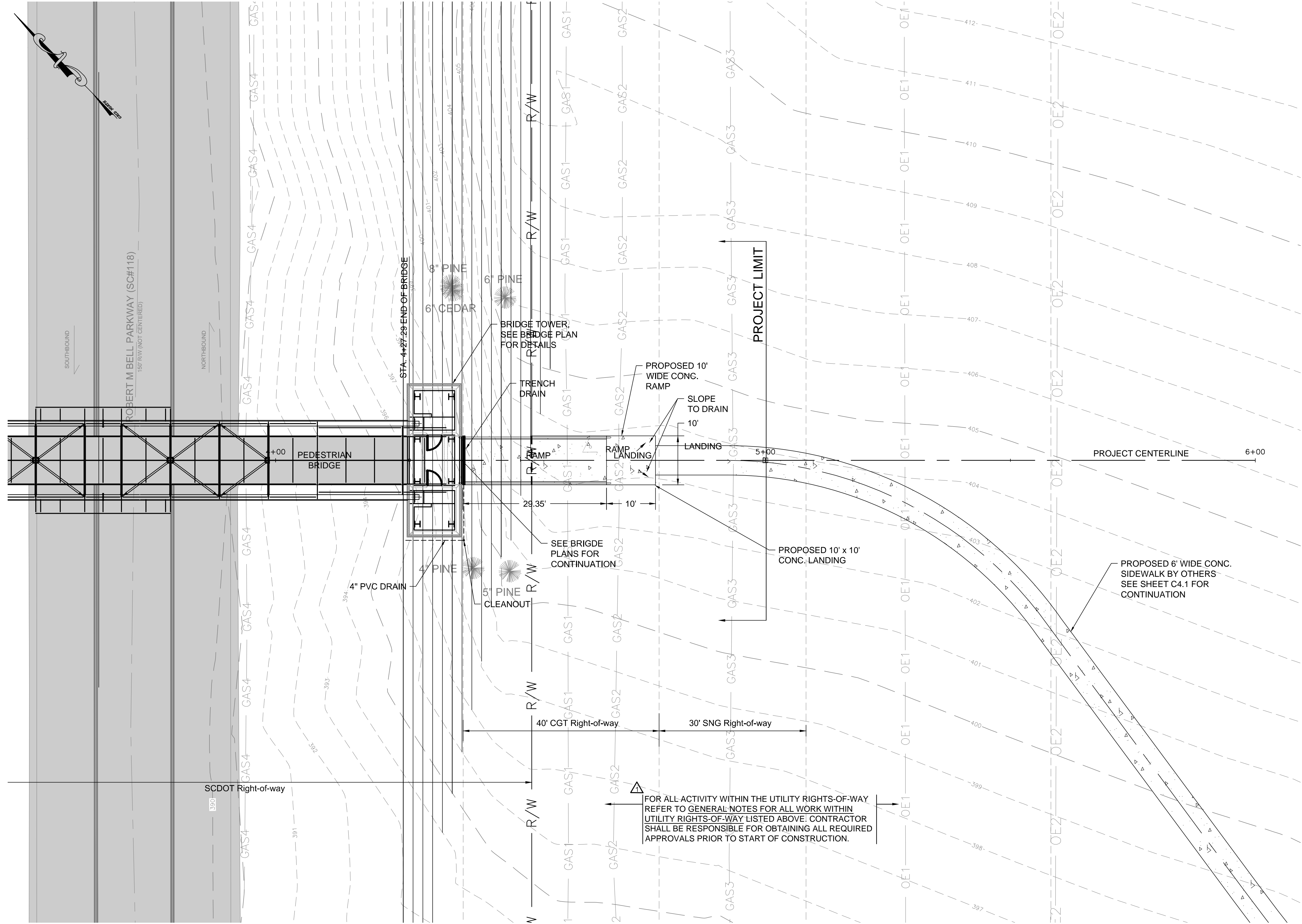
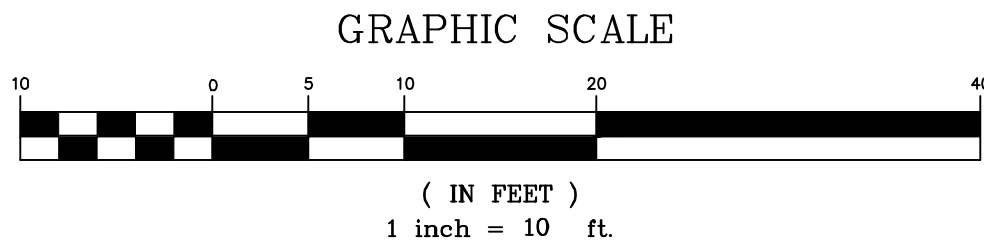
File: 391402C.dwg

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Sheet Number
October 9, 2012
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- NOTES:
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 - BENCHMARK IS BASED ON MEAN NAVD88 DATUM.
 - PROPOSED CONTOURS & PROPOSED SPOT ELEVATIONS REPRESENT FINISHED GRADE.
 - THIS PROPERTY IS NOT LOCATED IN THE AIRPORT OVERLAY DISTRICT OR HIGHWAY CORRIDOR OVERLAY DISTRICT.



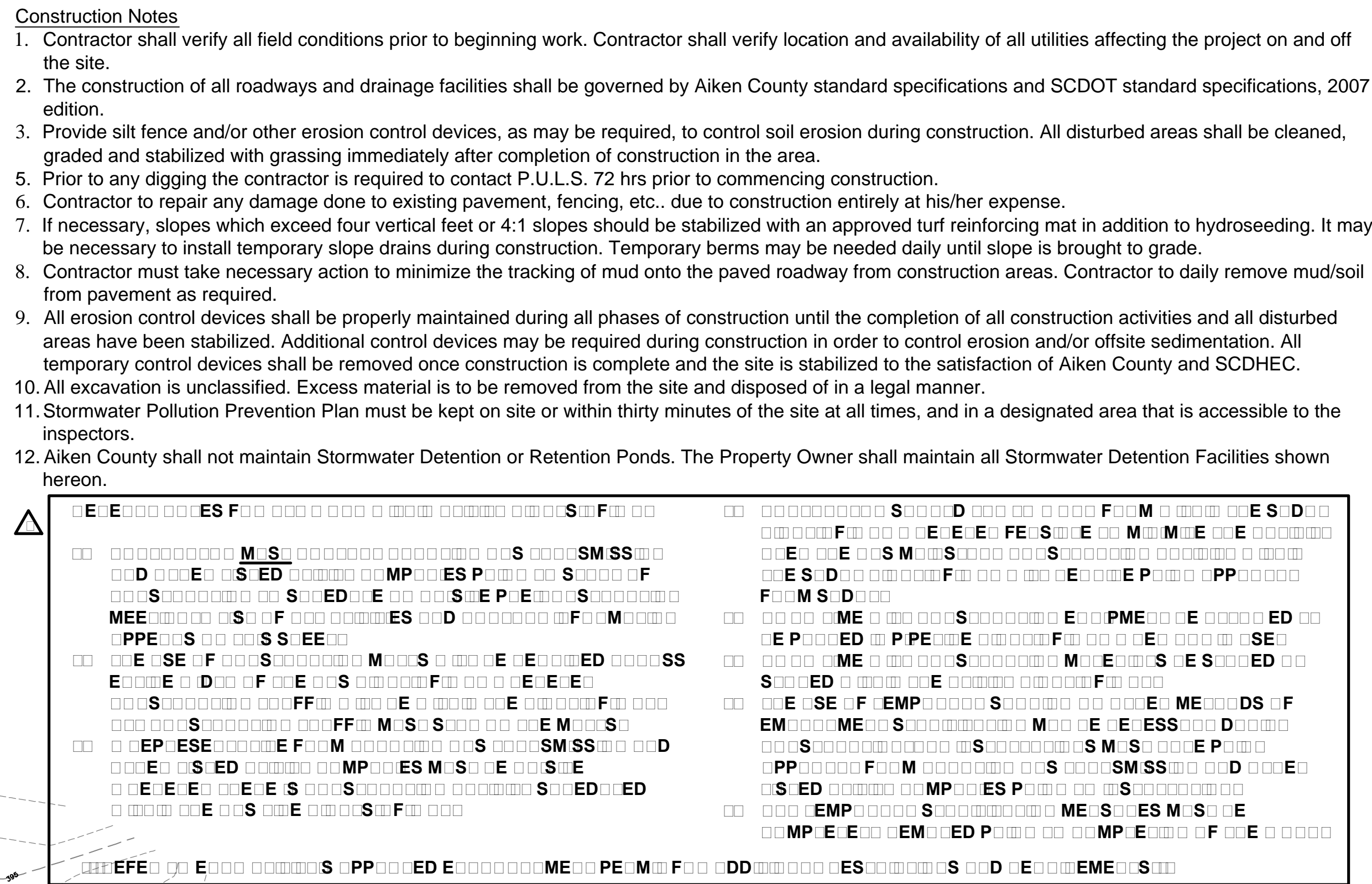
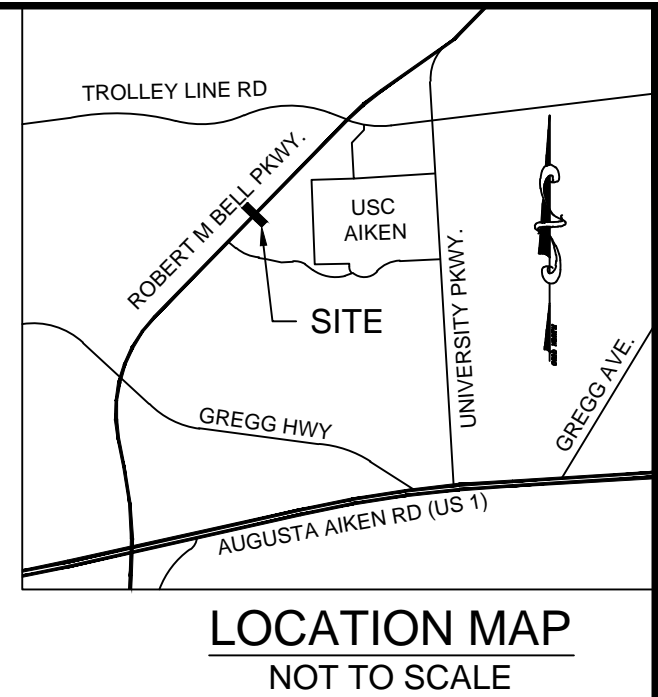
- PERVIOUS CONCRETE PAVEMENT
- STANDARD DUTY CONCRETE PAVEMENT



Layout Plan South am
USCA Pedestrian Bridge
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

Drawn: TKS Checked: LEE
Revised: 9-21-13 Added GENERAL NOTES FOR ALL WORK WITHIN UTILITY RIGHTS-OF-WAY
Project No.: 391402B
File: 391402C.dwg

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Date



The diagram illustrates a T-intersection where a road terminates into the path of another road. Key features include:

- PERIMETER DRIVE:** The road that terminates at the intersection.
- CROSSWALK SIGN:** A sign located at the end of the terminating road.
- PLASTIC CROSSWALK MARKINGS:** Temporary markings applied to the pavement at the crosswalk location.
- STOP:** A stop line and sign for the terminating road.
- Yield:** A yield sign for the road continuing through the intersection.
- STOP:** A stop line and sign for the road continuing through the intersection.


NOTE:
ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

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A circular professional engineer seal for the State of South Carolina. The outer ring contains the text "SOUTH CAROLINA" at the top and "GERALD A. BLEE" at the bottom, separated by two stars. The inner ring contains the text "REGISTERED PROFESSIONAL ENGINEER". In the center, the license number "No. 21629" is printed. A blue ink signature is written across the seal.



Sediment and Erosion ☐ **ontrol**
USCA Pedestrian Bridge
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

Drawn: TKS Checked: LEE

Revised:  9-21-13 Added GENERAL NOTES FOR ALL WORK WITHIN UTILITY RIGHTS-OF-WAY

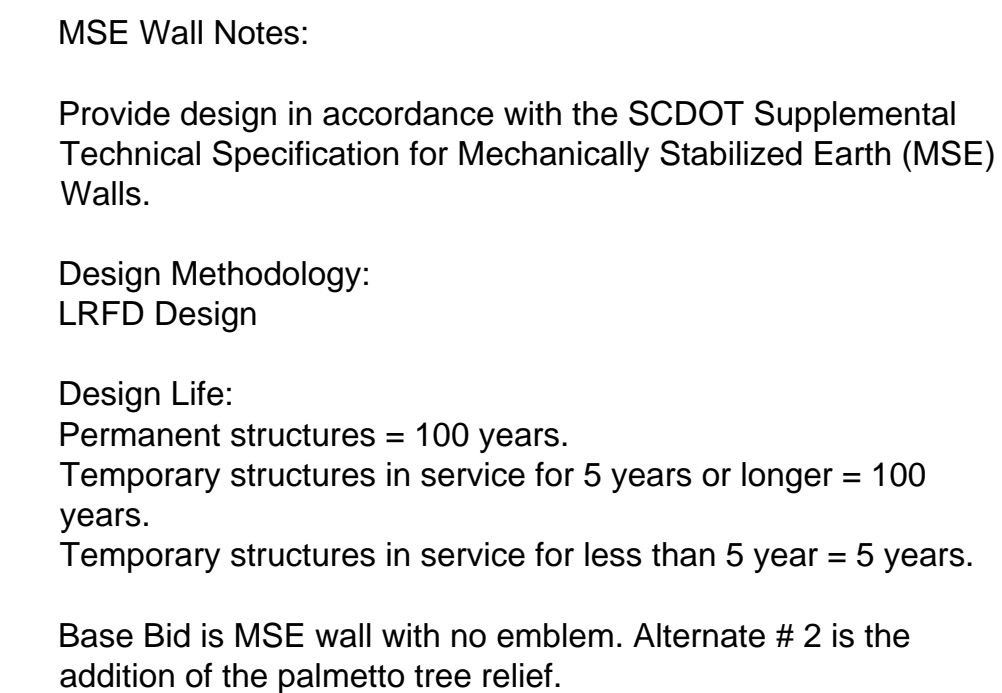
File: 391402C.dwg Project No.: 391402B

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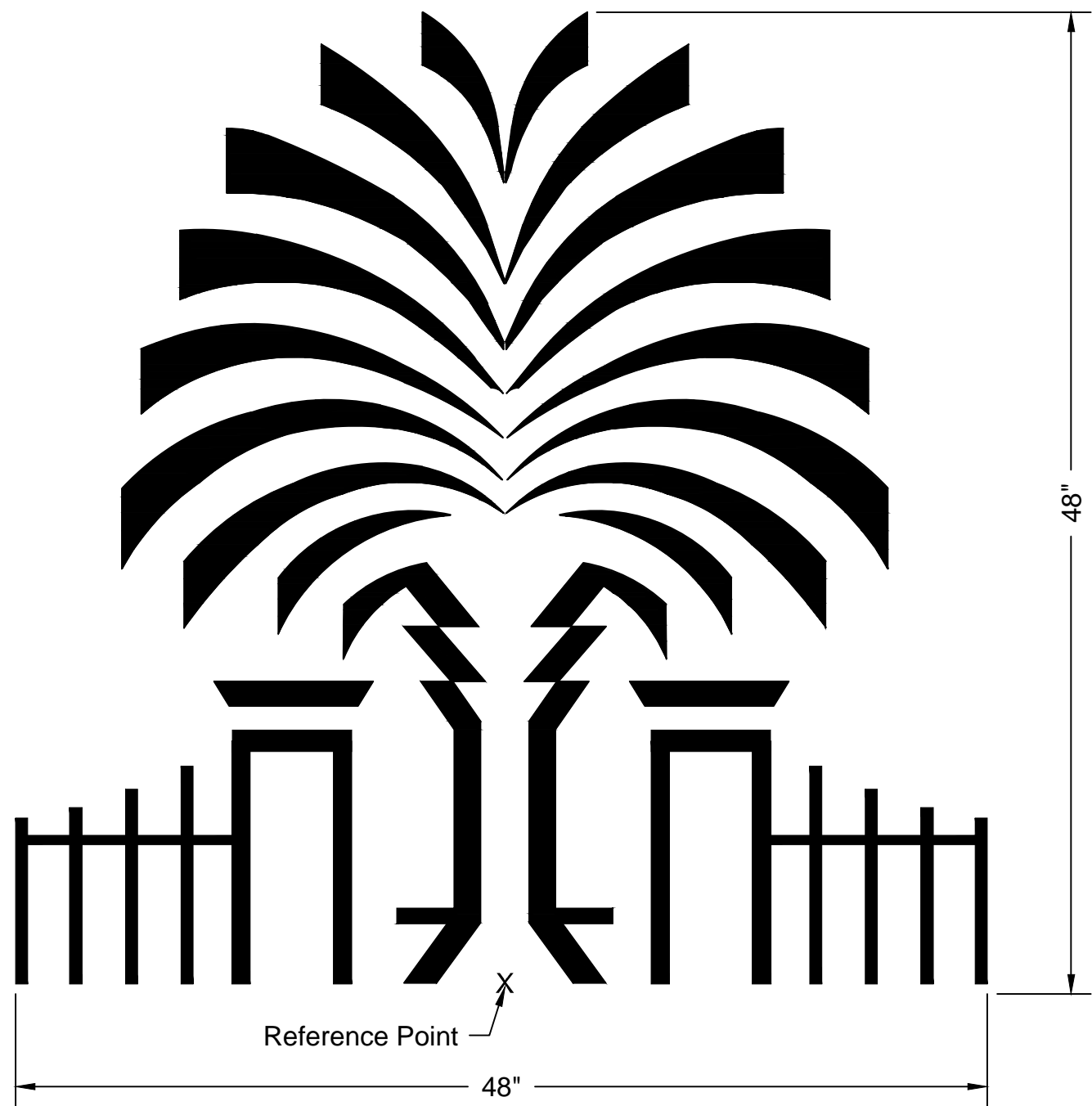
GRAPHIC SCALE

(IN FEET)
1 inch = 5 ft.



-
- This technical cross-section diagram illustrates the construction details of a retaining wall system. The diagram is divided into several key sections and components:
- Top Left:** A slope with a 12" vertical dimension and a 4" concrete slope protection layer.
 - Backfill and Drainage:** The backfill consists of reinforced backfill (labeled 2) and retained backfill (labeled 3). A geotextile for drainage filtration is placed between the backfill and the aggregate drain (labeled 8). A WWF 6 x 6 W2.1 x W2.1 pipe is used for drainage, with a 6" minimum cover and a 4" minimum cover at the top. A drain (labeled 1) is shown connecting the backfill to the MSE wall.
 - MSE Wall and Layout:** The MSE wall and layout line are shown. A weep hole is located at 10' maximum spacing. A leveling pad is shown at the base of the wall. The MSE wall horizontal layout control point (labeled 8) is indicated.
 - Base and Excavation:** The base of the wall is shown with a 1'-0" minimum dimension. The limits of structure excavation are marked. The minimum base width required is labeled as B req.
 - Soil and Reinforcement:** The soil reinforcement is shown at the base of the wall. The limits of retained backfill and aggregate drainage layer are also indicated.
 - Right Side:** The top of the wall elevation and wall coping are shown. The wall height varies, as indicated by the vertical dimension line on the right.
- Key dimensions and labels include:
- 12"
 - 4" Concrete Slope Protection
 - 5/8" Exp. Jt. Material
 - 6" min.
 - Top of Wall Elevation
 - Wall Coping
 - 4" min. Cover
 - WWF 6 x 6 W2.1 x W2.1
 - Reinforced Backfill
 - Limits of Retained Backfill
 - Aggregate drainage layer
 - Geotextile for drainage filtration
 - ⑧ Aggregate Drain
 - ⑦
 - ②
 - ③ Place pipe connecting drains @ 20' Max.
 - Drain ①
 - MSE Wall & Layout Line
 - Weep hole @ 10' Max.
 - Leveling Pad
 - Finished Ground Line
 - 1'-0"
 - 1'-0"
 - 1'-0" min.
 - 3'-0"
 - Min. Base Width Required = B req.
 - 2'-0"
 - ⑧ MSE Wall Horizontal Layout Control Point
 - ⑧ Unsuitable soil to be removed and replaced with stone as directed by the RCE.
 - Wall Height Varies

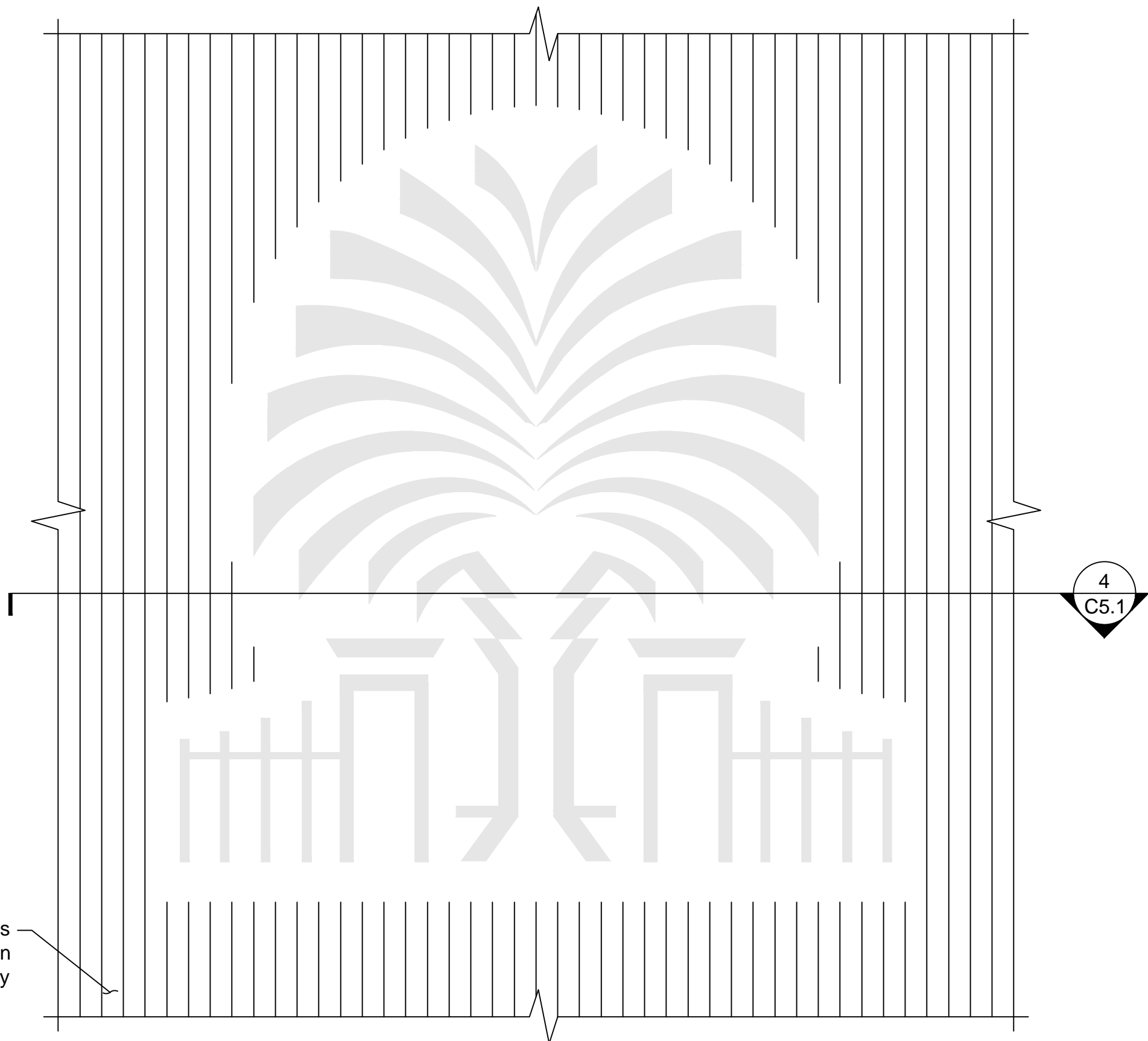
Typical Section
N.T.S.



ALTERNATE # 2

1 - Elevation Palmetto Tree

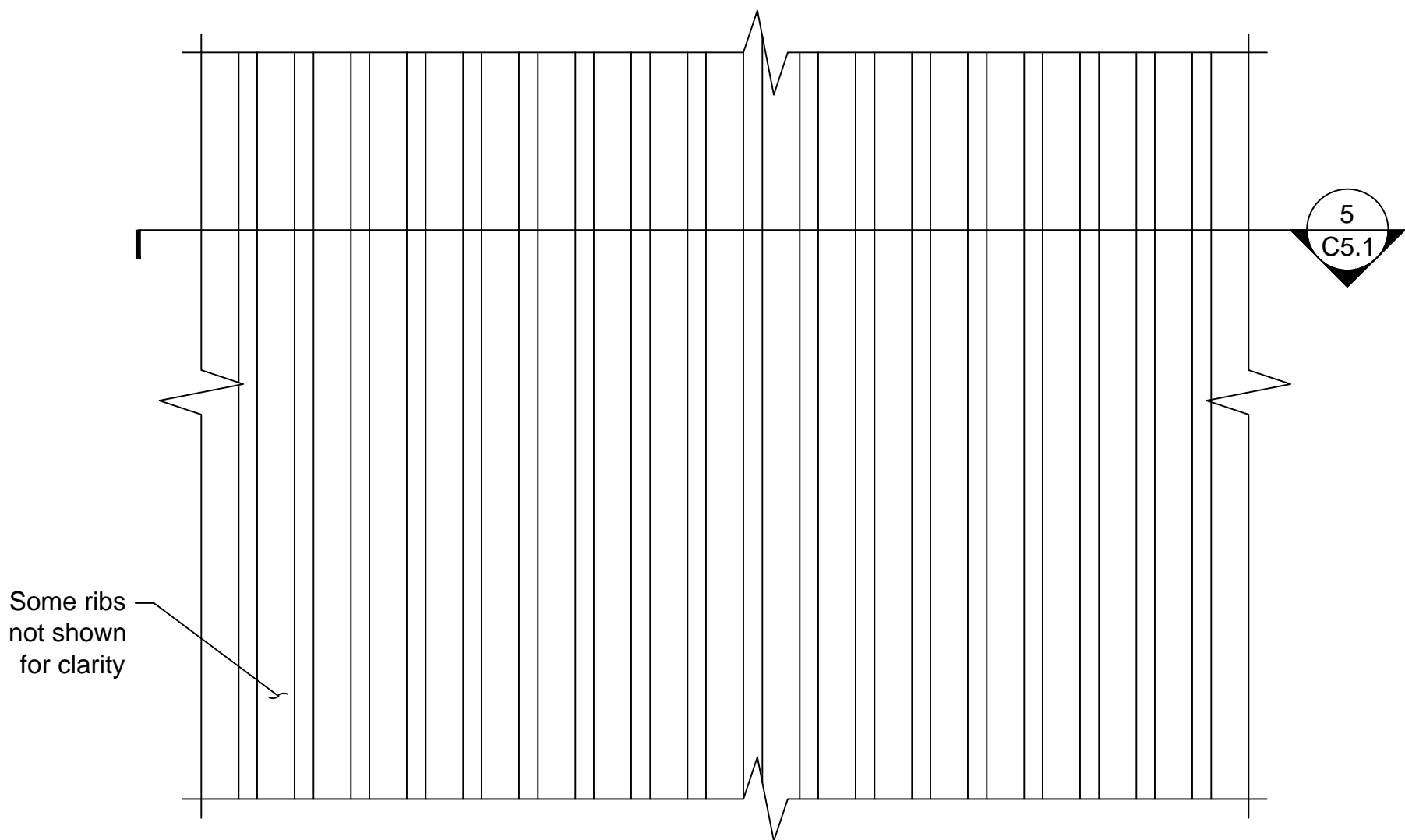
Scale: NTS



ALTERNATE # 2

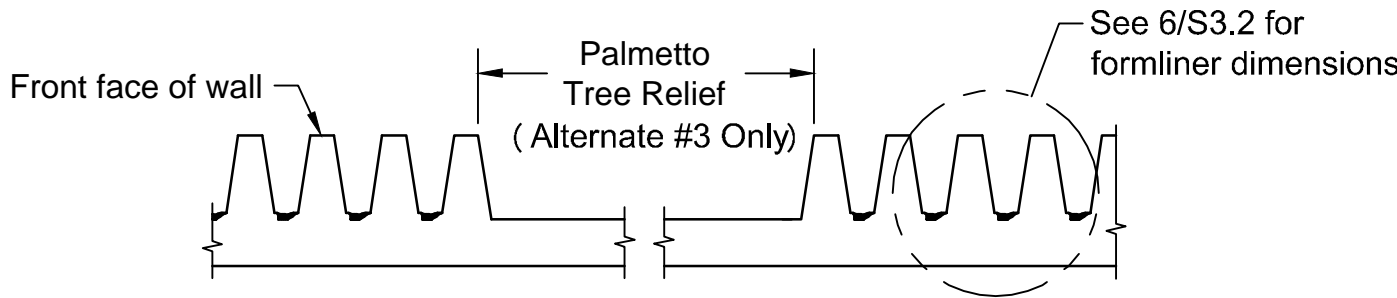
2 - Typical Palmetto Tree Relief

Scale: NTS



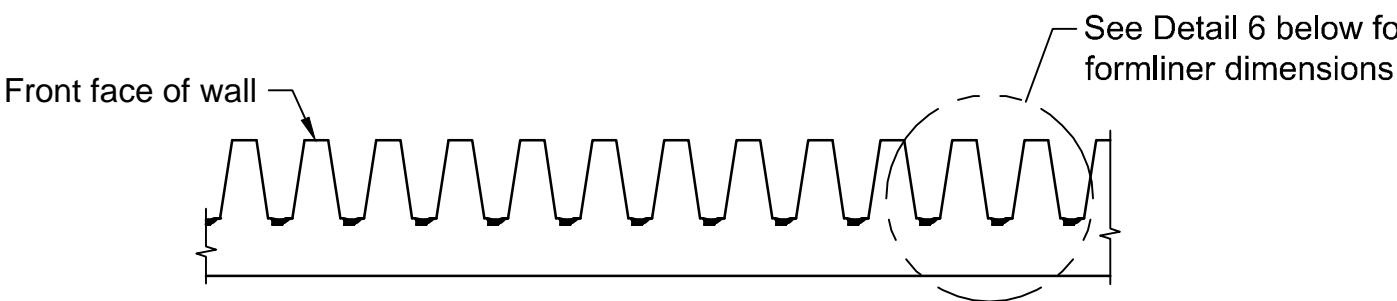
3 - Typical Fracture Ribs

Scale: NTS



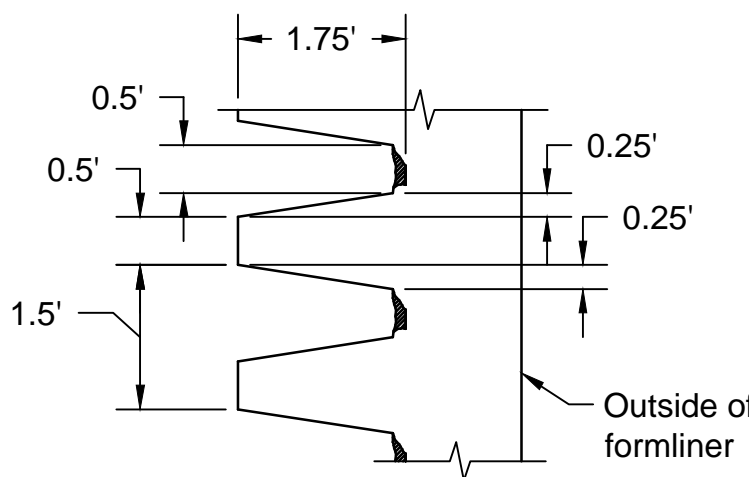
4 - Section

Scale: NTS



5 - Section

Scale: NTS



6 - Fractured Rib Concrete Formliner

Scale: NTS

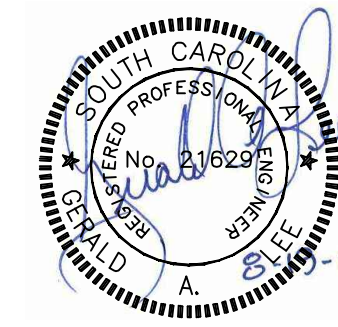
Notes:

1. Graphic scale should not exceed 75% of the above grade structure height. Install all graphics above finished grade. Apply contrasting textures when using graphics, generally smooth finish and fractured finish.
2. When graphics must extend into adjacent panels, a minimum of 25% of the graphics should be contained in each of the adjacent panels.
3. Raise or recess graphic below adjacent background as indicated in plans. When graphic is adjacent to formliner texture, graphic is "recessed" below texture surface. When graphic is adjacent to smooth surface, graphic is "recessed" below smooth surface. Raise graphic when graphic, formliner texture and smooth texture are all present and graphic is adjacent to smooth area.
4. Use only formliner systems that are compatible with SCDOT concrete class and construction methods specified for the structure.
5. Provide a copy of the formliner manufacturer's installation instructions to resident engineer before fabrication of the structure. Provide copies of material safety data sheets for all materials needed to complete the installation.
6. Follow formliner manufacturer's specifications for installation and removal of formliner to produce an architectural finish that appropriately fills the form and is free of voids, pits or other defects.
7. Follow manufacturer's finishing procedures to treat seam overlaps that form concealed joints.
8. Formliners may be reused within manufacturer's specifications as long as the texture can be achieved without surface defects.
9. Color to be selected by Project Architect.
10. Provide a copy of the manufacturer's paint installation instructions to the Project Architect before commencing painting. Provide copies of material safety data sheets for all materials needed to complete the application.
11. See Standard Specifications for painting applications.
12. Contractor's bid to include cost of labor, material and equipment of architectural treatment and painting.



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ib all and Palmetto ree elie Detail

USCA Pedestrian Bridge
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

Drawn: MAB Checked:

Revised: 1-16-14 Changed alternate notes

Project No.: 391402B

File: 391402C.dwg

C5.1

Sheet Number
October 9, 2012
Date

Drawing File: 391402C.dwg Plotter: Jan 21, 2014 - 10:42am

STANDARD NOTES

1. If necessary, slopes, which exceed eight (8) vertical feet should be stabilized with synthetic or vegetative mats, in addition to hydroseeding. It may be necessary to install temporary slope drains during construction. Temporary berms may be needed until the slope is brought to grade.
2. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than fourteen (14) days after work has ceased, except as stated below.
 - Where stabilization by the 14th day is precluded by snow cover or frozen ground conditions stabilization measures must be initiated as soon as practicable.
 - Where construction activity on a portion of the Site is temporarily ceased, and earth-disturbing activities will be resumed within 14 days, temporary stabilization measures do not have to be initiated on that portion of the Site.
3. All sediment and erosion control devices shall be inspected every seven (7) days. If site inspections identify BMPs that are damaged or are not operating effectively, maintenance must be performed as soon as practical or as reasonably possible and before the next storm event whenever practicable.
4. Provide silt fence and/or other control devices, as may be required, to control soil erosion during utility construction. All disturbed areas shall be cleaned, graded, and stabilized with grassing immediately after the utility installation. Fill, cover, and temporary seeding at the end of each day are recommended. If water is encountered while trenching, the water should be filtered to remove any sediments before being pumped back into any waters of the State.
5. All erosion control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been stabilized. Additional control devices may be required during construction in order to control erosion and/or offsite sedimentation. All temporary control devices shall be removed once construction is complete and the site is stabilized.
6. The contractor must take necessary action to minimize the tracking of mud onto paved roadway(s) from construction areas and the generation of dust. The contractor shall daily remove mud/soil from pavement, as may be required.
7. Residential subdivisions require erosion control features for infrastructure as well as for individual lot construction. Individual property owners shall follow these plans during construction or obtain approval of an individual plan in accordance with S.C Reg. 72-300 et seq. and SCR100000.
8. Temporary diversion berms and/or ditches will be provided as needed during construction to protect work areas from upslope runoff and/or to divert sediment-laden water to appropriate traps or stable outlets.
9. All waters of the State (WoS), including wetlands, are to be flagged or otherwise clearly marked in the field. A double row of silt fence is to be installed in all areas where a 50-foot buffer can't be maintained between the disturbed area and all WoS. A 10-foot buffer should be maintained between the last row of silt fence and all WoS.
10. Litter, construction debris, oils, fuels, and building products with significant potential for impact (such as stockpiles of freshly treated lumber) and construction chemicals that could be exposed to storm water must be prevented from becoming a pollutant source in storm water discharges.

Seeding Schedule:

Actual types and application rates may vary depending on soil type. Contractor should consult with the local conservation district office for specific recommendations.

The following rates are per 1000 S.F.

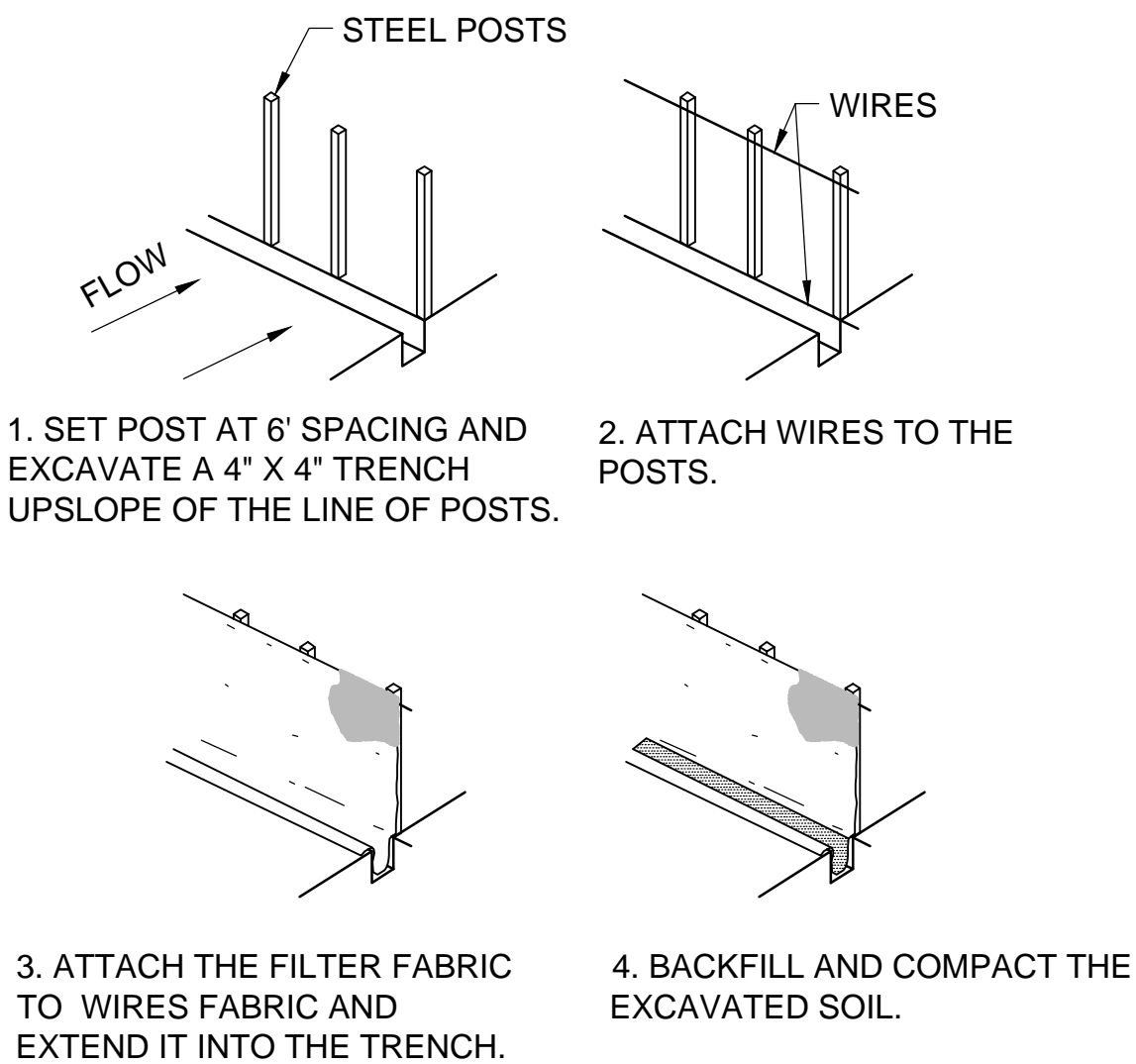
MAY 1. - AUG. 31	SEPT. 1 - APR. 30
1 Pound Browntopmillet	2 Pounds Annual Rye Grass
2 Pounds Hulled Bermuda	0.5 Pound Hulled Bermuda
25 Pounds 10-10-10 Fertilizer	1.5 Pounds Unhulled Bermuda
75 Pounds Limestone	25 Pounds 10-10-10 Fertilizer
	75 Pounds Limestone
Or	Or
1 Pound Browntopmillet	2 Pounds Annual Rye Grass
1 Pound Hulled Bermuda	0.5 Pound Hulled Bermuda
*2 Pounds Bahia Grass	1 Pound Unhulled Bermuda
25 Pounds 10-10-10 Fertilizer	*2 Pounds Bahia Grass
75 Pounds Limestone	25 Pounds 10-10-10 Fertilizer
	75 Pounds Limestone
Or	Or
DEEP SANDY SOILS	1 Pound Annual Rye Grass
2 Pounds Browntopmillet	**3 Pounds Fescue Grass
*3 Pounds Bahia Grass	25 Pounds 10-10-10 Fertilizer
25 Pounds 10-10-10 Fertilizer	75 Pounds Limestone
75 Pounds Limestone	Or
	DEEP SANDY SOILS
	1 Pound Unhulled Bermuda
	2 Pounds Rye Grass or 2 lbs Grain Rye
	*2 Pounds Bahai Grass
	25 Pounds 10-10-10 Fertilizer
	75 Pounds Limestone

* Bahia grass is a good erosion control grass; however, it produces many seed heads which scatter to other areas. Bahia Grass is hard to mow, but it does not require the care that many other grasses require. Around office buildings and within subdivisions, use 4 to 6 ounces of Centipede Grass on lieu of Bahia Grass or in combination with Bermuda Grass.

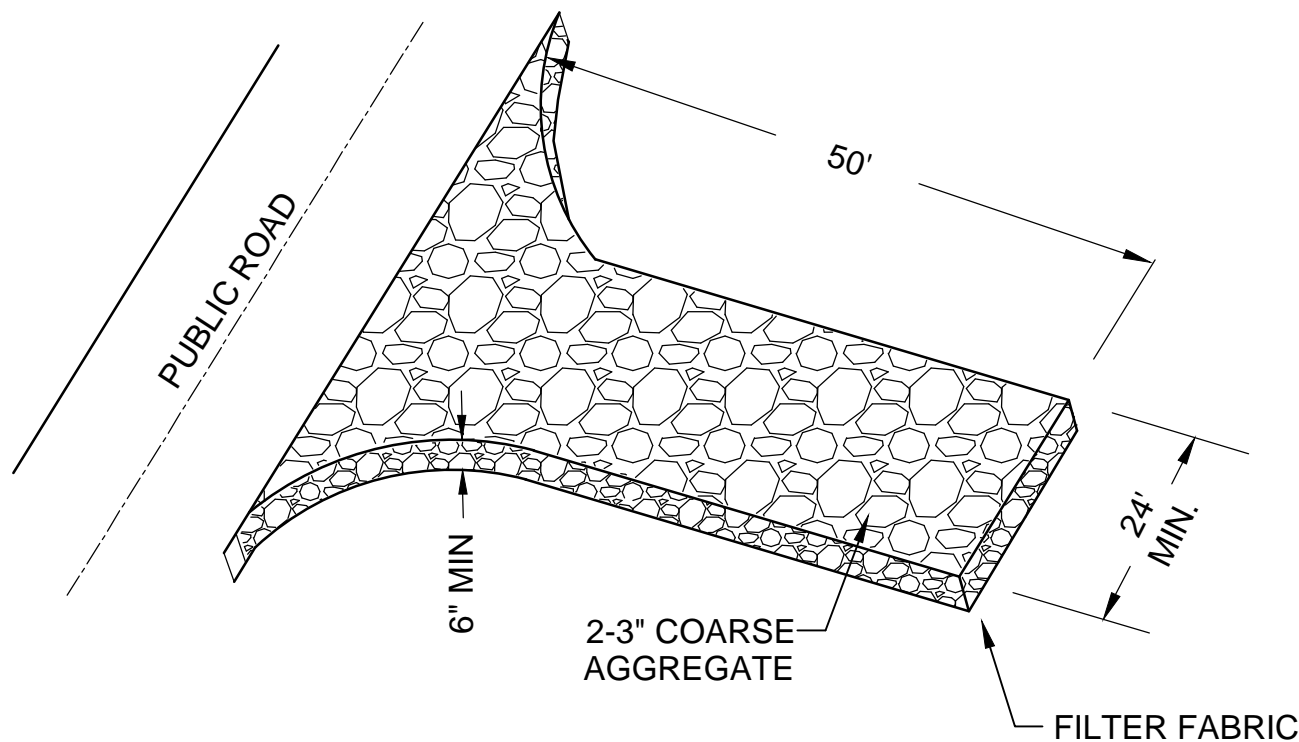
** For soils with clay subsoil. Do not plant in sandy soils.

NOTES:

- On all vegetated swales or ditches with side slopes (cut or fill) steeper than 2:1, add 4 to 6 ounces per 1,000 square feet of Weeping Love Grass Seed to any of the above mixtures.
- Swale and ditch bottoms should be double seeded.
- All slopes steeper than 2:1 shall be hydroseeded.
- Growth of Rye Grass in the early spring must be suppressed to prevent Rye from choking out perement grass such as Bermuda, Bahia or Fescue.

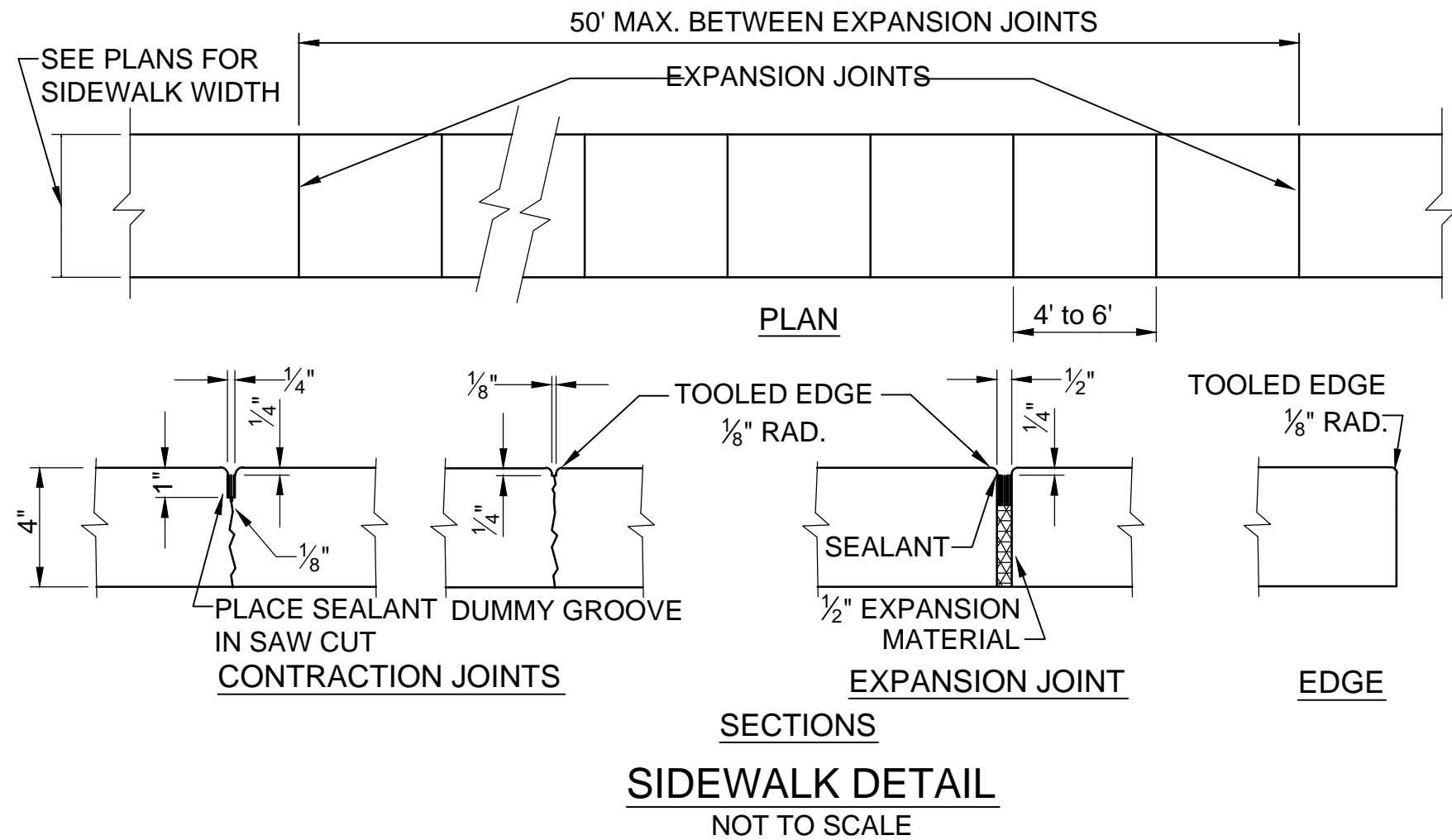


SILT FENCE CONSTRUCTION
NOT TO SCALE

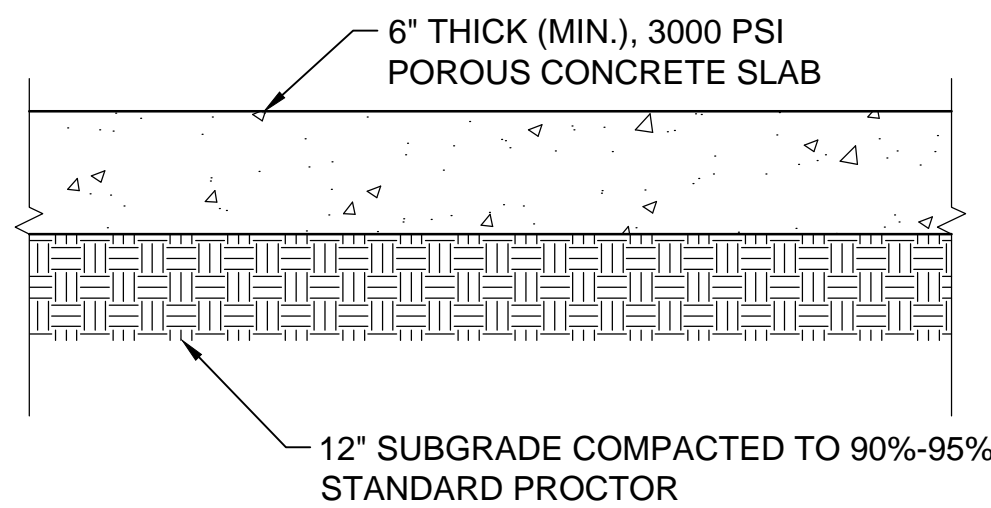


NOTE:
GRAVEL MAT SHALL BE INSTALLED AT ALL CONSTRUCTION TRAFFIC ACCESS POINTS

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT
NOT TO SCALE



SIDEWALK DETAIL
NOT TO SCALE



NOTE:

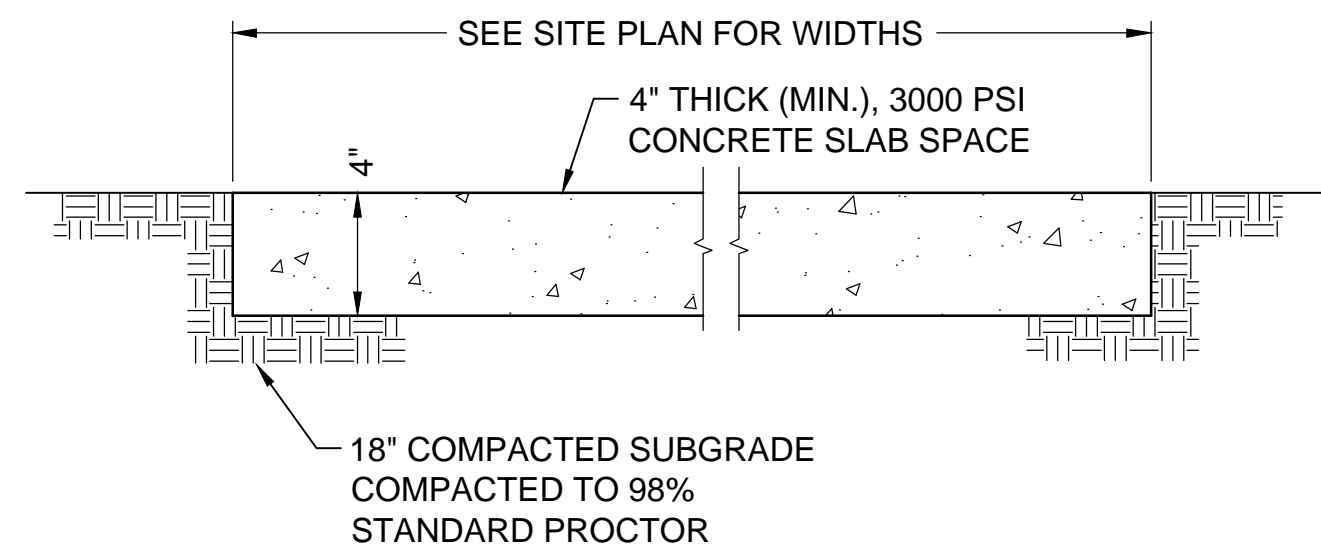
MANUFACTUREE'S INSTALLATION:

1. FORMWORK MATERIALS ARE PERMITTED TO BE OF WOOD OR STEEL AND SHALL BE THE FULL DEPTH OF THE PAVEMENT.
2. PERVIOUS CONCRETE SHALL BE MANUFACTURED AND DELIVERED IN ACCORDANCE WITH ASTM C 94.
3. THE BASE SHALL BE IN A DAMP OR SEMI-FLOODED CONDITION AT TIME OF PLACEMENT.
4. PLACING, FINISHING, AND TOOLED JOINTING MUST BE COMPLETED WITHIN 20 MINUTES FROM THE TIME THE PERVIOUS CONCRETE IS DISCHARGED FROM THE TRUCK.
5. THE PERVIOUS CONCRETE PAVEMENT SHALL BE COMPACTED TO THE REQUIRED CROSS-SECTION.
6. CURING PROCEDURES SHALL BEGIN IMMEDIATELY BUT NO LATER THAN 20 MINUTES FROM THE TIME THE PERVIOUS CONCRETE IS DISCHARGED FROM THE TRUCK.

MAINTENANCE SPECIFICATIONS

1. THE PAVEMENT SURFACE SHOULD BE VACUUMED BIANNUALLY WITH A COMMERCIAL CLEANING UNIT.
2. PLANTED AREAS ADJACENT TO POROUS PAVEMENT SHALL BE WELL MAINTAINED TO PREVENT SOIL WASHOUT ONTO THE PAVEMENT AND SHALL BE INSPECTED ON A SEMI-ANNUAL BASIS.
3. ALL TRASH AND OTHER LITTER THAT IS OBSERVED DURING THESE INSPECTIONS SHOULD BE REMOVED.
4. ALL CONSTRUCTION OR HAZARDOUS MATERIALS CARRIERS SHOULD BE PROHIBITED FROM ENTERING A POROUS PAVEMENT LOT IN ORDER TO PREVENT FROM TRACKING OR SPILLING DIRT ONTO THE PAVEMENT.

TYPICAL PERVIOUS CONCRETE PAVEMENT SECTION
NOT TO SCALE



TYPICAL CONCRETE SIDEWALK SECTION
NOT TO SCALE

GENERAL NOTE:
CONCRETE TESTING WILL BE PERFORMED BY USC AIKEN 3rd PARTY CONTRACTOR

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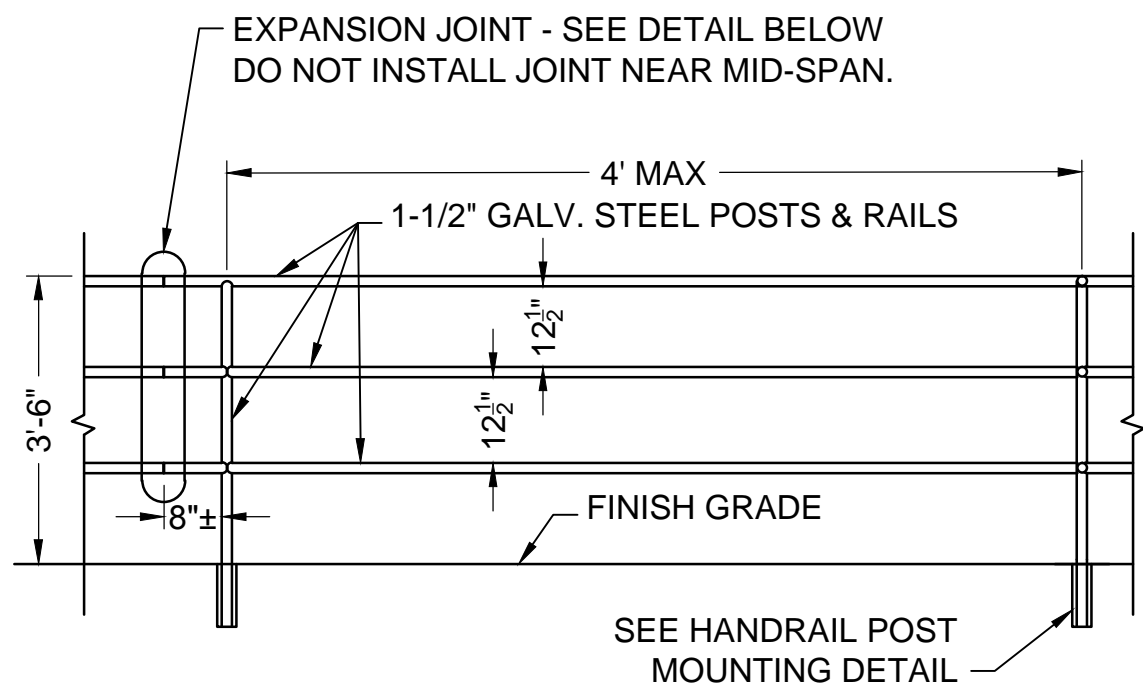


Miscellaneous Details

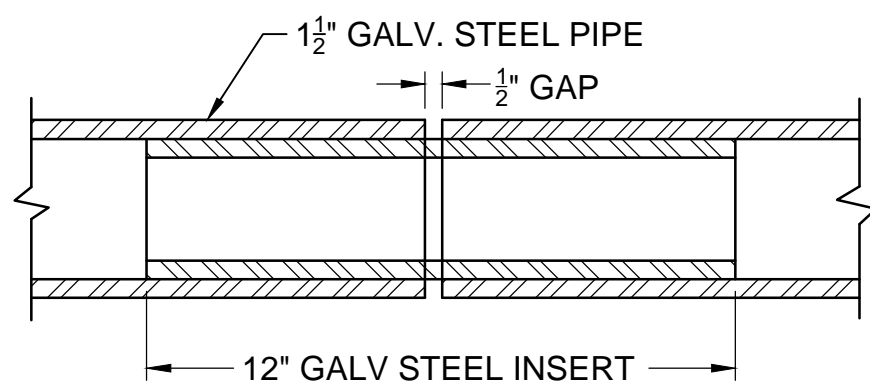
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State Project No. H29-9545-PG
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Aiken County, SC

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Project No.: 391402B	File: 391402C.dwg

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Sheet Number
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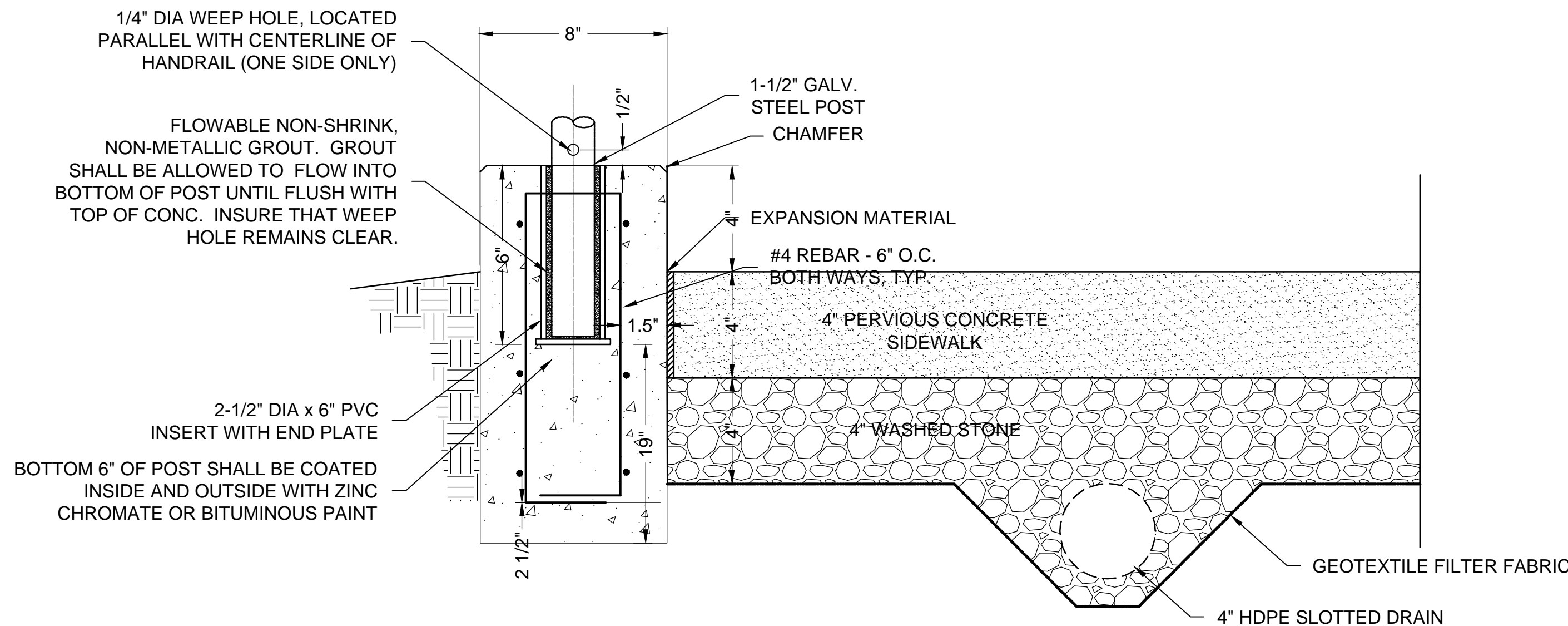


HANDRAIL SIDE VIEW

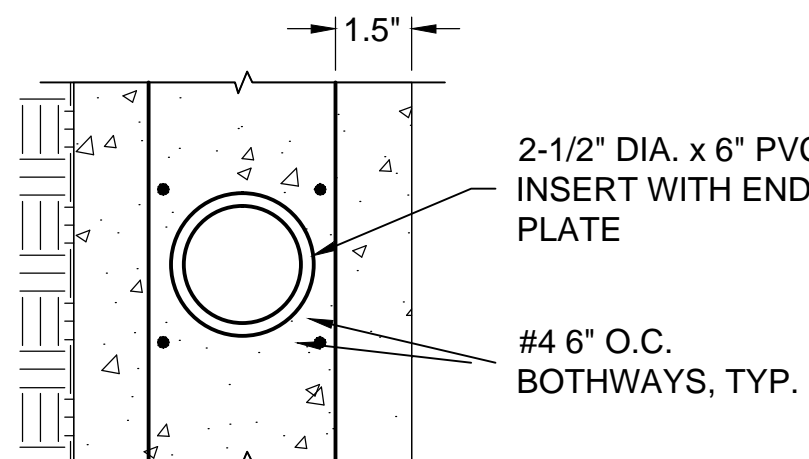


EXPANSION JOINT

NOTE:
PROVIDE THREE SETS OF EXPANSION JOINTS. ONE AT EACH END (ONE SPAN FROM CORNERS), AND ONE MIDPOINT ALONG LENGTH OF GUARD RAIL. FASTEN ONE SIDE TO RAIL AND ALLOW THE OTHER SIDE TO SLIDE DURING EXPANSION & CONTRACTION.



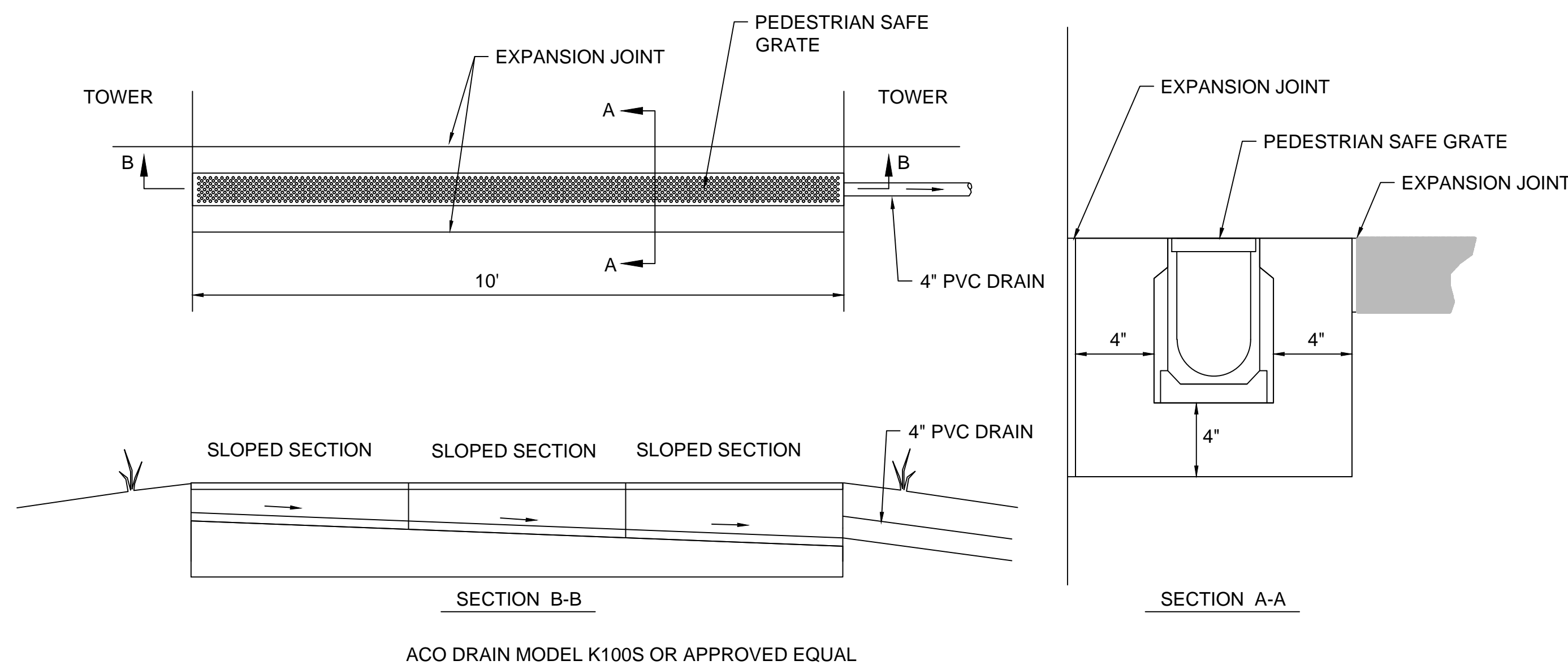
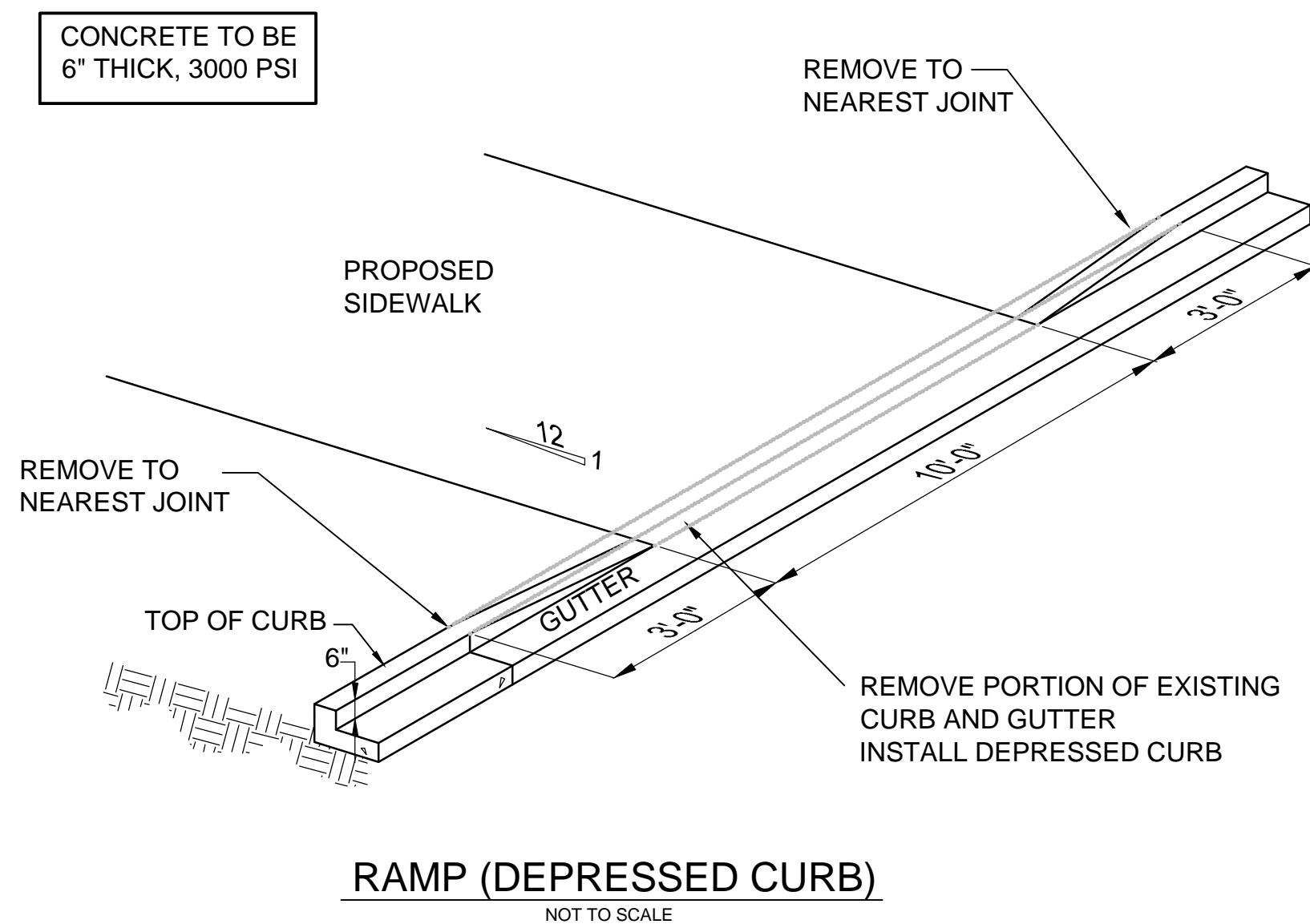
SIDE VIEW



PLAN VIEW

HANDRAIL POST MOUNTING

RAMPED SIDEWALK DETAIL
NOT TO SCALE



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Miscellaneous Details
USCA Pedestrian Bridge
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

Drawn: TKS Checked: LEE

Revised:

File: 391402C.dwg Project No.: 391402B

C6.1
Sheet Number
October 9, 2012
Date

Drawing File: 391402C.dwg Plotted: Jan 21, 2014 - 9:04am

MATERIAL & WORKMANSHIP

Provide all material and workmanship in accordance with the South Carolina Department of Transportation 2007 Standard Specifications for Highway Construction, unless otherwise specified on the Plans or in the Special Provisions.

PAYMENT

This project is a lump sum bid including the installation of the piles. Bidder shall include all anticipated costs in his/her bid.

COORDINATION OF PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS

Generally, in case of discrepancy, this General Notes sheet governs over the Standard Specifications but the remainder of the plans govern over notes on this sheet and Special Provisions govern over all. See Subsection 105.4 of the Standard Specifications.

REINFORCING STEEL

Fabricate reinforcing bars in accordance with the current C.R.S.I. Manual of Standard Practice except for ties, stirrups, and welded hoops.

Provide all ties and stirrups with 135° hooks that have extensions no less than the larger of ten bar diameters or six inches. This 135° hook requirement does not apply to stirrups extending from prestressed concrete beams.

The fabrication tolerance for out-to-out dimension of welded hoop diameter is ±1/2 inch.

Do not use lap splices in column and shaft reinforcing steel.

CONCRETE

Provide the class of concrete as noted in the contract documents. For cast-in-place structural elements, use Class 4000 concrete where the class of concrete is not specified in the contract documents.

When holes are cast in beams to accommodate falsework, fill the holes with a non-shrink structural grout suitable for overhead repairs after falsework is removed.

After erection of the beams and prior to the erection of the deck slab falsework, measure beam cambers. Compare the measured beam cambers to the values shown on the Plans to aid in determining if field adjustments are needed. Submit beam camber measurements and any proposed field adjustments to the RCE for approval. All cost of performing this work is considered incidental to the Contract and no additional compensation is allowed for the performance of this work.

Payment for concrete in slab is based on theoretical plan quantity. No adjustment is made for variation in camber.

Chamfer all exposed edges 3/4" unless otherwise noted.

The minimum acceptable concrete cover for reinforcing steel is 1/2" less than the plan dimensions when required by reinforcing bar fabrication tolerances.

DECK COATING

Deck coating by PSI or approved equal. Surface preparation shall be strictly in accordance with manufacture's requirement. Deck coating shall have 1 layer of Enviro-Grip-MP (Metal primer), 1 layer of P-Tuff Classic (base course), 1 layer Top Shield 5600 (top coat). Reinforcement tape shall also be utilized and embedded in base course layer at crack, control joint, construction joint locations. The thickness of each layer and installation shall comply with manufacture's specifications.

GRINDING & TEXTURING CONCRETE DECKS

For bridge stage construction projects, grind and texture the bridge decks as necessary near the stage longitudinal construction joints in order to meet the longitudinal and transverse rideability and rolling straightedge requirements of the Contract.

Prior to casting any closure pour, grinding, or texturing, make profile line surveys (2 to 6 as determined by the RCE) of each stage of the bridge decks. Make one of these profile line surveys for each stage along the edge of the deck adjacent to the closure pour. Compare the surveys within each stage and compare the surveys of each stage to surveys of the adjacent stage to aid in determining the amount of grinding and texturing needed to meet the rideability and rolling straightedge requirements. Submit all grinding and texturing procedures, plotted survey profiles, and proposed grinding depths to the RCE for approval. Maintain a final cover of 2" minimum over the bridge deck reinforcing steel.

Follow the above procedures for all stages of the work. For all surveys performed on the same bridge, use identical stations for survey shots in order to facilitate survey comparisons. All costs for performing, evaluating, and submitting the surveys are considered incidental to the Contract and no additional compensation is allowed for the performance of this work.

ALLOWANCE FOR DEAD LOAD DEFLECTION & SETTLEMENT

In setting forms for structural steel or prestressed concrete beam spans, apply an allowance to the design finished grade to compensate for computed dead load deflections.

Prior to making deck pours on any stage construction work, and bridge widening projects, consider and make adjustments as necessary for partially loaded beams adjacent to closure pour areas. Verify that any proposed adjustment on partially loaded beams does not create a change in the deck thickness or a reduction in the concrete cover over the reinforcing steel. Welded studs on steel beams and reinforcing steel extending up out of prestressed beams shall meet the requirements for a composite section (extend up into the deck past the bottom mat of reinforcing steel) regardless of any adjustments.

In setting falsework for reinforced concrete spans, make an allowance for the deflection of the falsework, for any settlement of the falsework, for the instantaneous dead load deflection of the span, and for the long-time dead load deflection of the span such that on removal of the falsework the top of the structure shall conform to theoretical finished grade plus the allowance for long-time deflection.

For instantaneous and long-time dead load deflection, use a camber of 1/8" for concrete flat slab spans 22 feet in length, 3/16" for concrete flat slab spans 30 feet in length, and 3/8" for concrete flat slab spans 40 feet in length, unless otherwise directed by the RCE. Adjust these cambers as necessary to allow for falsework deflection, falsework settlement, and vertical curve ordinates.

DRIVEN PILE FOUNDATIONS

Where piles occur in fill, place fill before driving piles.

STRUCTURAL AND MISCELLANEOUS STEEL

All structural and miscellaneous steel shall conform to the Thirteenth Edition of the AISC "Specification for the Design, Fabrication & Erection of Structural steel for Buildings" and all its supplements, and to the AISC "Code of Standard Practice for Steel Buildings and Bridges".

All structural steel shall conform to ASTM A-36, FY=36,000 PSI unless otherwise noted.

Steel W-Shapes shall conform to ASTM A992, FY=50,000 PSI. All rectangular or square steel HSS-Shapes shall conform to ASTM A500 grade B, FY=48,000 PSI. All round steel HSS-Shapes shall conform to ATSM A500 grade B, FY=42,000 PSI.

All steel pipes shall conform to A-53 grade B, FY=35,000 PSI. All welded connections shall be done with E70XX electrodes with 1/4" min. material, unless otherwise noted.

All bolts shall be A325 bolts, unless otherwise noted. Fabrication and assembly of bolted connections shall comply with applicable sections of AISC "Specification for Structural Joints using ASTM A325 or A490 bolts."

No openings in beams shall be permitted without the written permission of the engineer.

The use of a gas-cutting torch in the field for cutting holes or for correcting fabrication errors will not be permitted on structural framing members except w/ the written approval of the Engineer for each specification.

An independent inspection agency shall be employed by the contractor and approved by the engineer to inspect the structural steel in the field and verify that it conforms to the requirements of the contract documents.

All anchor bolts shall be ASTM F1554 Grade 36, unless noted otherwise.

All steel plates in moment connection shall be ASTM A572 Grade 50. All bolts in moment connection shall be fully tensioned A325-X bearing bolts.

All moment connected members shall be fabricated, erected, inspected and approved in compliance with FEMA-353, "Recommended Specifications and Quality Assurance Guidelines for Steel Moment Frame Construction for Seismic Applications."

Generally, holes for 3/4" dia. bolts shall be 13/16" dia. However, oversize holes, 3/16" larger than bolt dia., may be used in diaphragms and/or crossframes and their connection plates provided hardened washers are installed over oversize holes in the outer ply of the material gripped. Hardened washers are required under DTIs on oversized holes. In every case install a hardened washer under the element turned for each bolt of a bolted connection. Indicate on the Shop Plans which holes are to be oversize and where hardened washers are required. No additional payment is made for the costs associated with the use of oversize holes and furnishing additional hardened washers as necessary.

PAINT FOR STRUCTURAL STEEL

Paint structural steel in accordance with Section 710 of the Standard Specifications.

BEARING AND ANCHOR BOLT ASSEMBLIES

Galvanize bearing and anchor bolt assemblies in accordance with AASHTO M 111, AASHTO M 232, or ASTM F 2329 as applicable.

After the required field welding of galvanized bearing assemblies, field repair the weld areas and/or damaged areas of the galvanized coating in accordance with ASTM A 780.

ORIENTATION IN RELATION TO STATIONING

Left and right sides, where referred to in these plans, are in relation to direction of stationing.

SPECIFICATIONS

AASHTO 2010 LRFD Bridge Design Specifications, 5th Edition, with Interim Revisions through 2010.

AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges

ANSI/AASHTO/AWS D1.5 Bridge Welding Code (Latest Edition) with additions and revisions as stated in the Standard Specifications.

DESIGN DATA

- 1: Dead Loads: The weight of all materials of construction
- 2: Uniform live loads: Pedestrian: 90 psf
- 3: Truck Load: H-10

Seismic design is in accordance with the 2008 SCDOT "Seismic Design Specifications for Highway Bridges", Version 2.0 with the following parameters:

Seismic Design Category: B
Analysis method: No detailed analysis
Operational Classification: II
Site Class: D
Design Acceleration Coefficients:
PGA (FFE): 0.15g
Sds (FFE): 0.26g
Sd1 (FFE): 0.13g
PGA (SEE): 0.33g
Sds (SEE): 0.60g
Sd1 (SEE): 0.33g

Values determined from the Three-Point Method

FINAL FINISH OF EXPOSED CONCRETE SURFACES
Apply the final surface finish on the bridge(s) only to the following checked and designated bridge areas:

- ☐ A) Entire surface of all barrier rails, parapet walls, approach slab curbs, concrete utility supports, and wing walls; outside vertical edge of bridge deck slabs and sidewalks.
- ☐ B) Outside face of exterior prestressed girders.
- ☐ C) Entire surface of designated substructure units, except top of bent caps and piers.

☐ All Units ☐ Designated Units:
- ☒ D) No final surface finish required.

Where notes specify "Department", this refers to the project owner being the University of South Carolina Aiken.

Where notes specify "RCE", this refers to the project Engineer being Chao & Associates, Inc.



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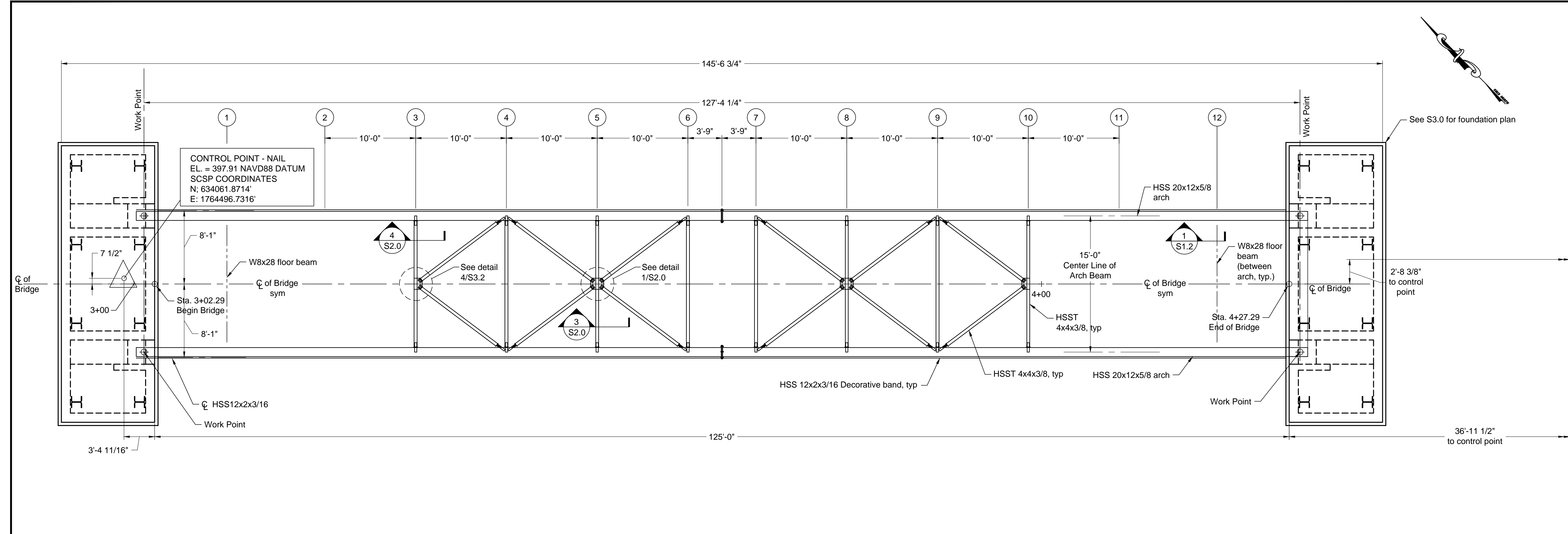


☐ **General Notes**
USCA Pedestrian Bridge
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

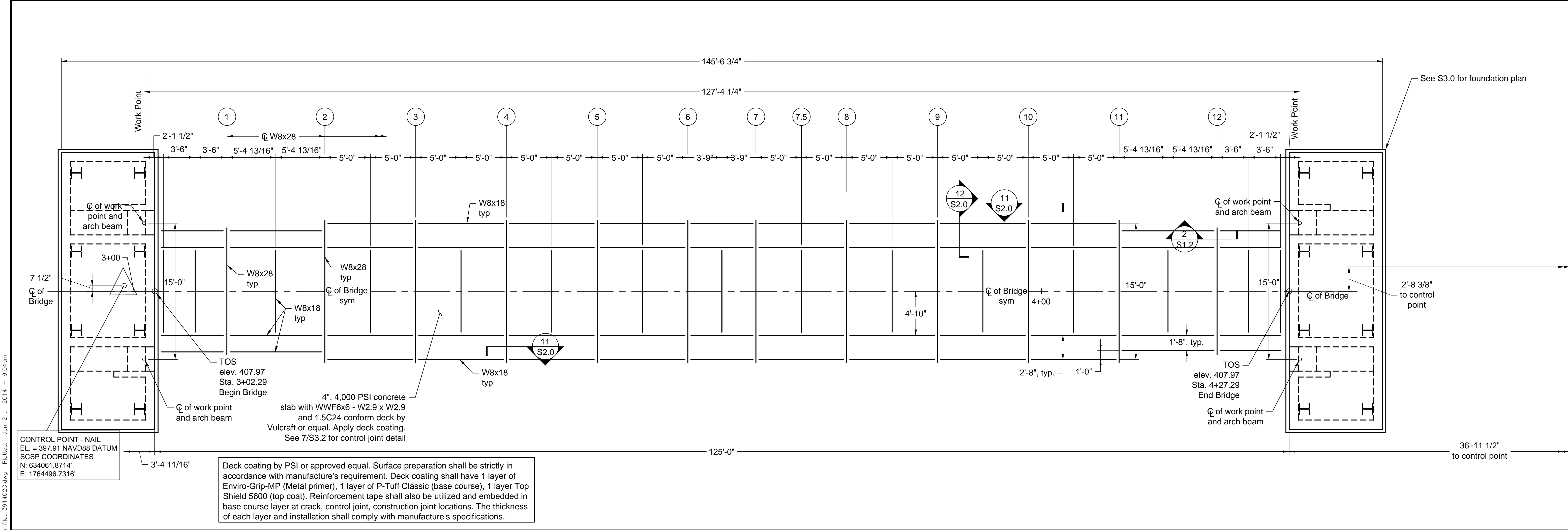
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Revised: 1-16-14 Added note	
Project No.: 391402B	File: 391402C.dwg

S0.0
Sheet Number
October 9, 2012
Date

Drawing File: 391402C.dwg, Plotted: Jan 21, 2014 - 9:04am



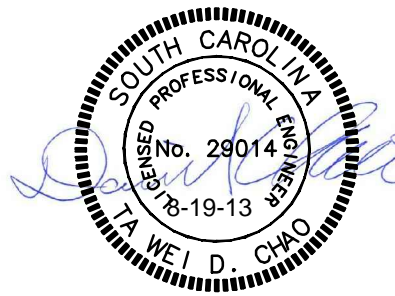
1 - Arch Structure Scale: 3/16" = 1'-0"



2 - Walkway Structure Scale: 3/16" = 1'-0"



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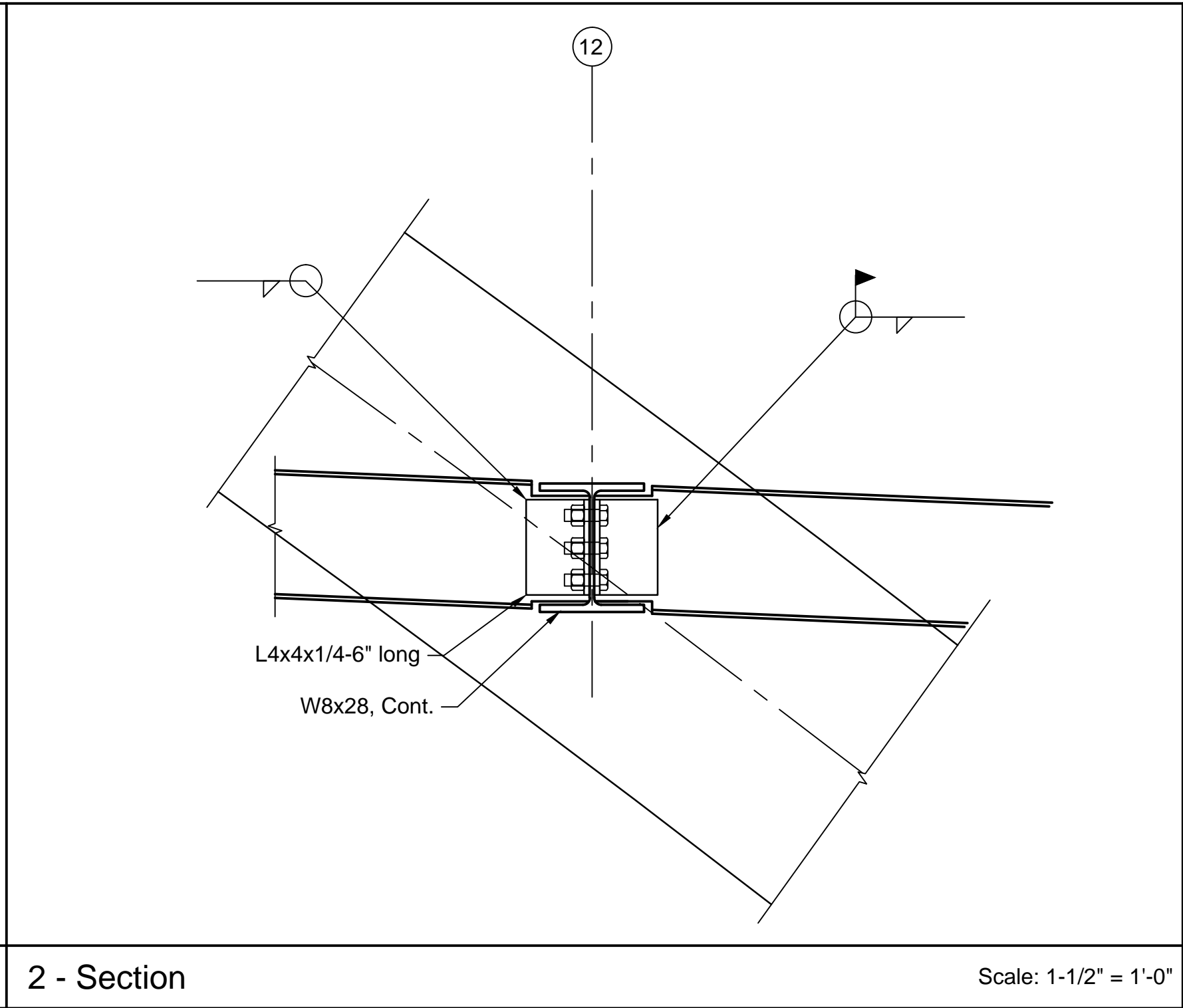
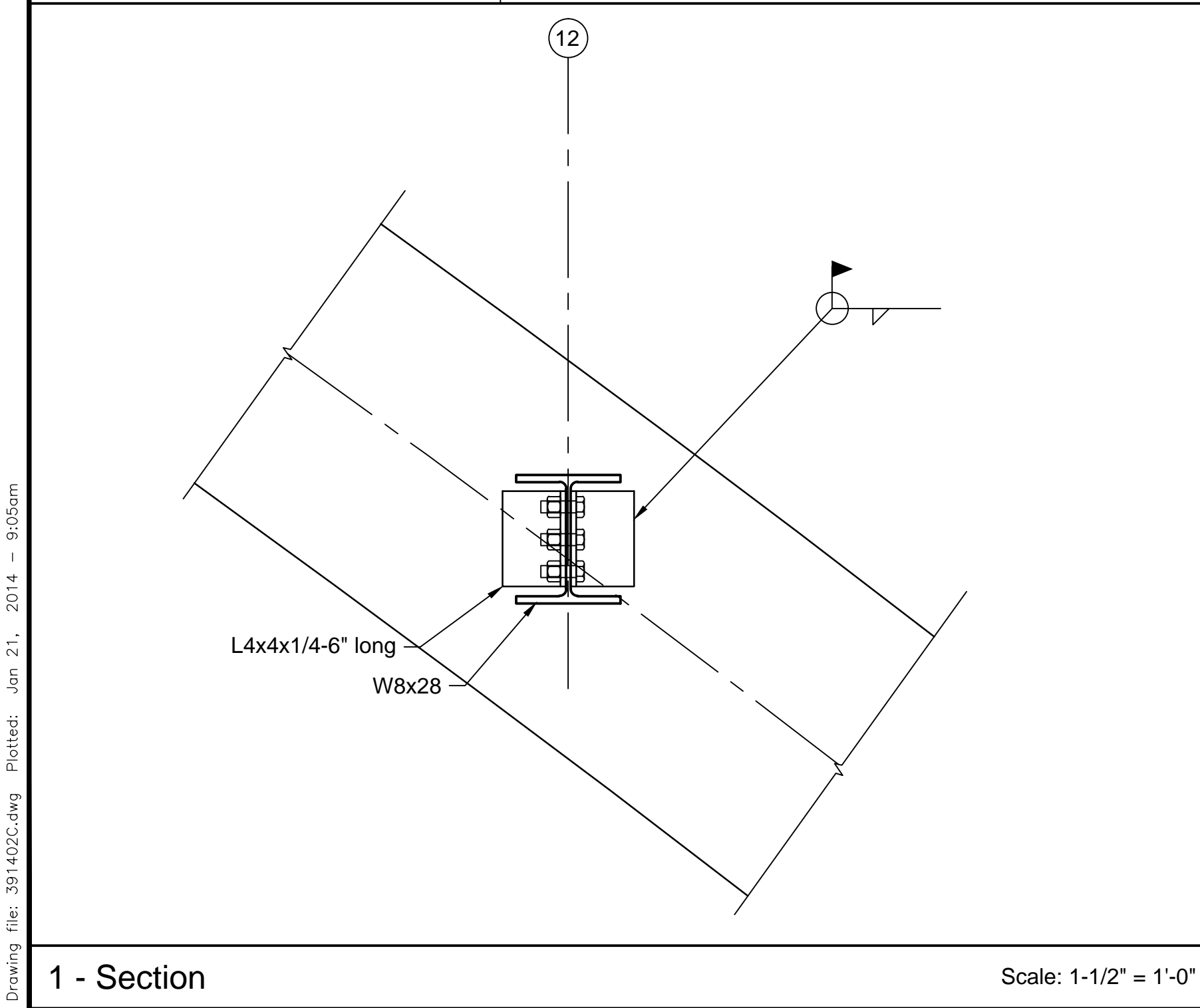
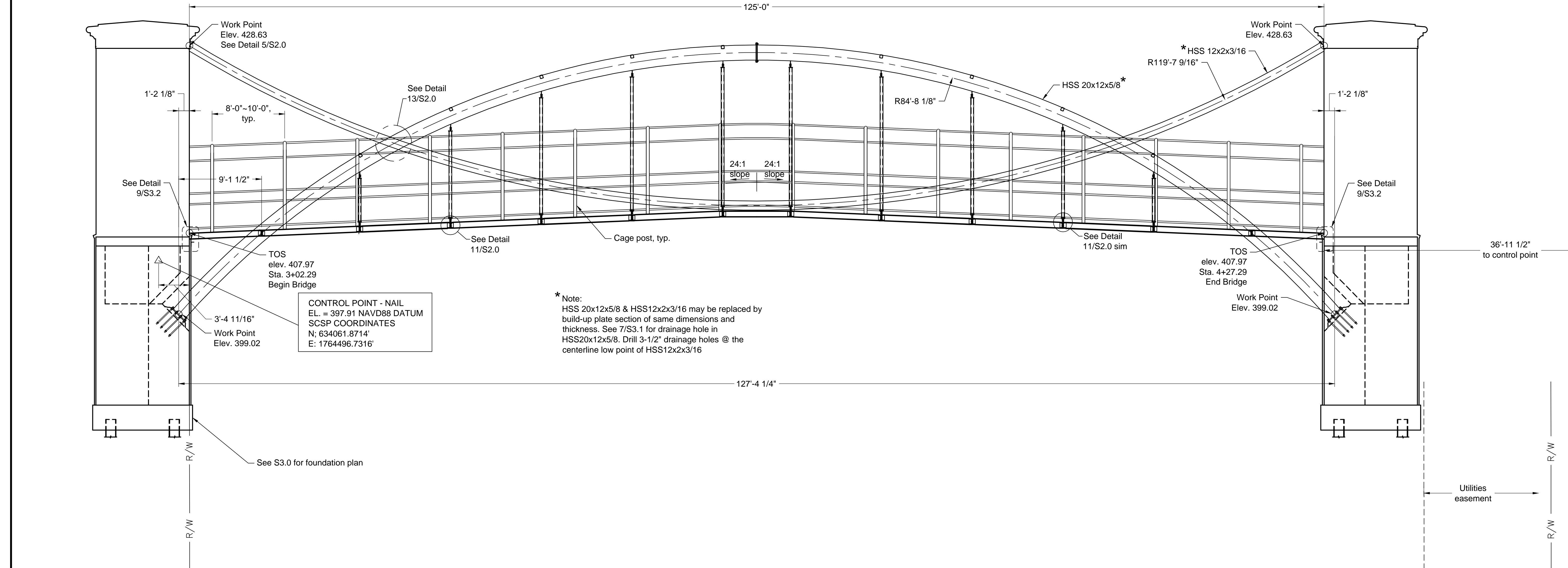


Physical Plans
USCA Pedestrian Bridge
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

Drawn: MAB Checked: DC
Revised: 1-16-14 Removed sign
Project No.: 391402B
File: 391402C.dwg

S1.1
Sheet Number
October 09, 2012
Date

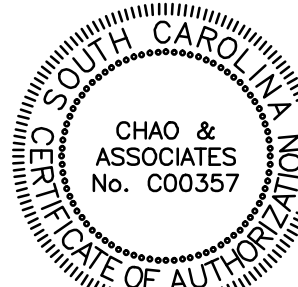
Drawing file: 391402C.dwg, Plotted: Jan 21, 2014 - 9:05am



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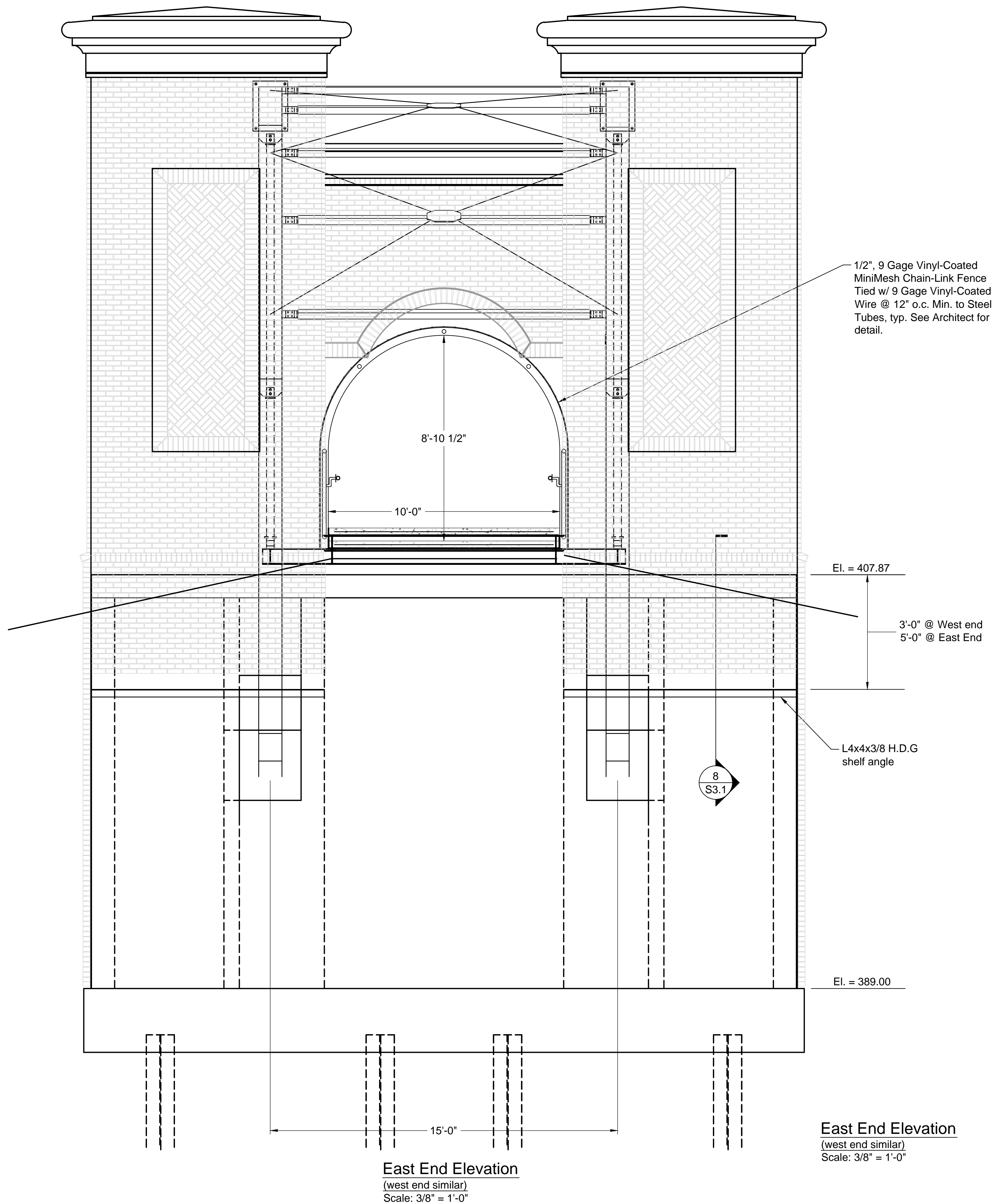


Elevation ☐ ie ☐
USCA Pedestrian Bridge
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

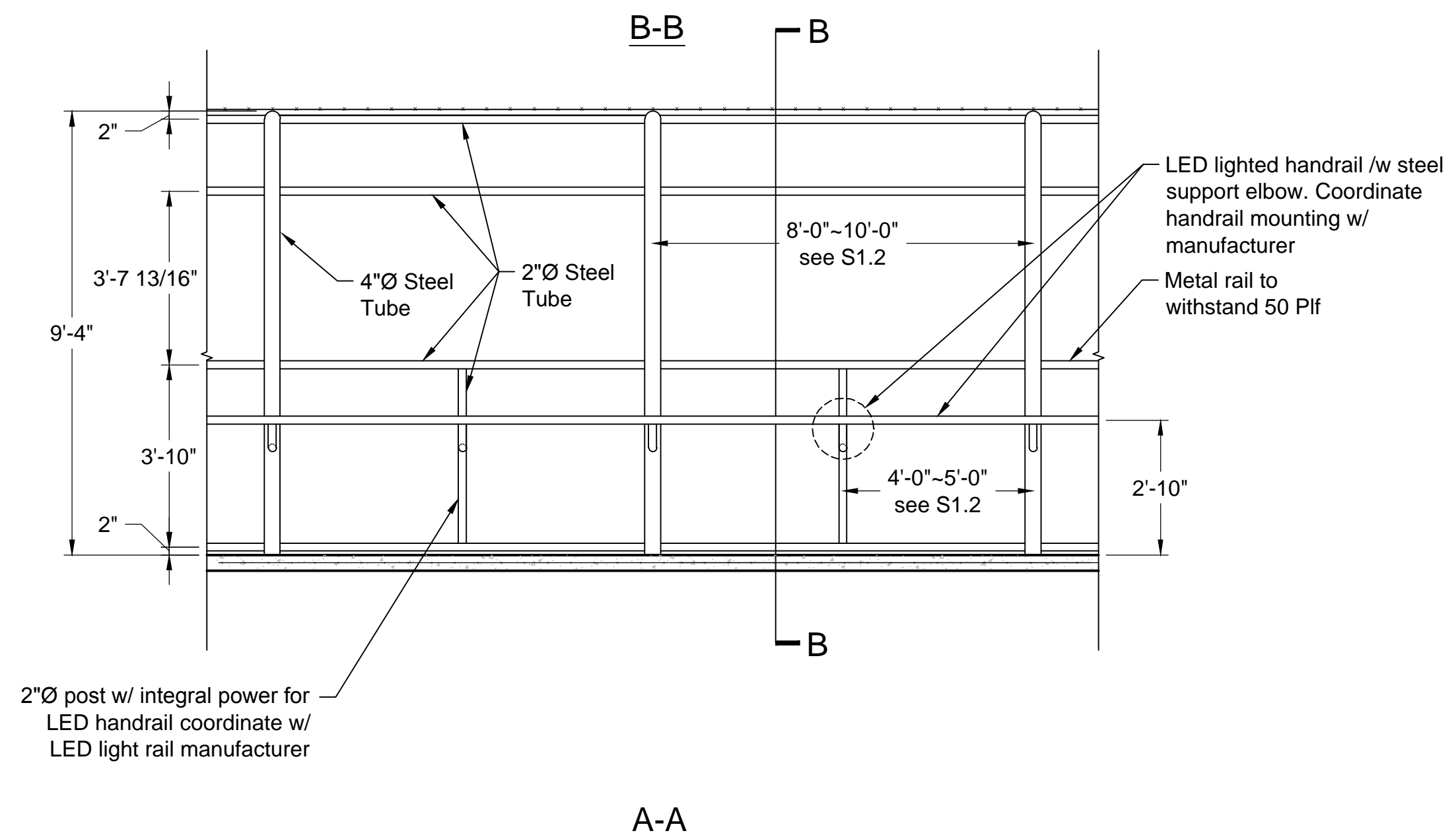
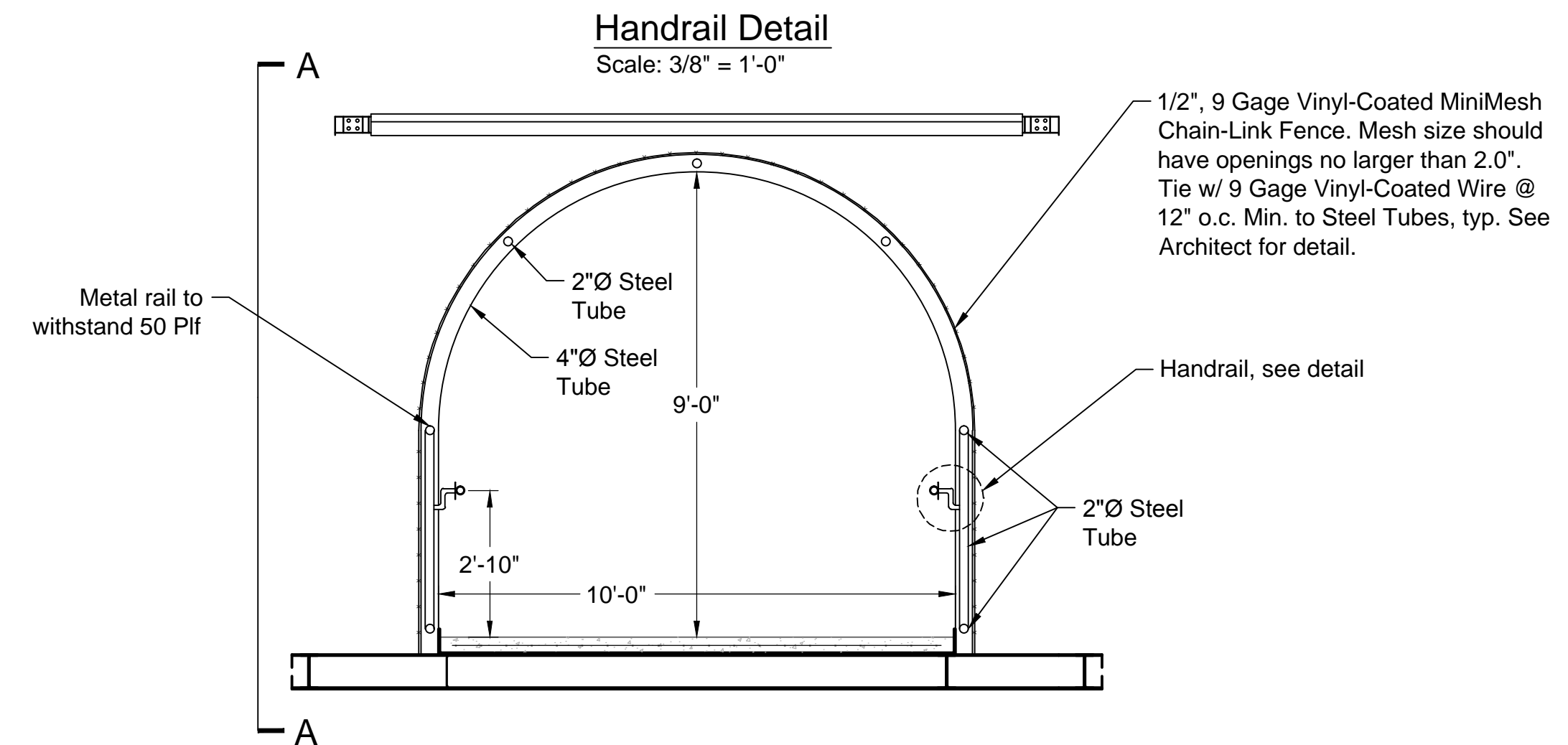
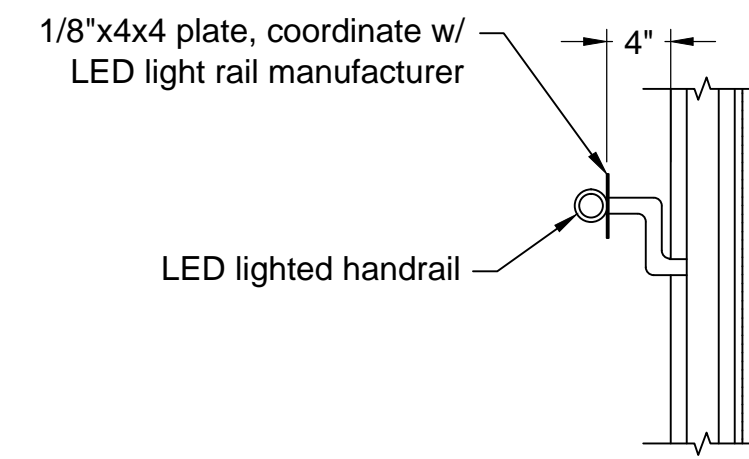
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Revised: 1-16-14 Removed sign	
File: 391402C.dwg	Project No.: 391402B

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Sheet Number
October 9, 2012
Date

Drawing file: 391402C.dwg Plotted: Jan 21, 2014 - 9:05am

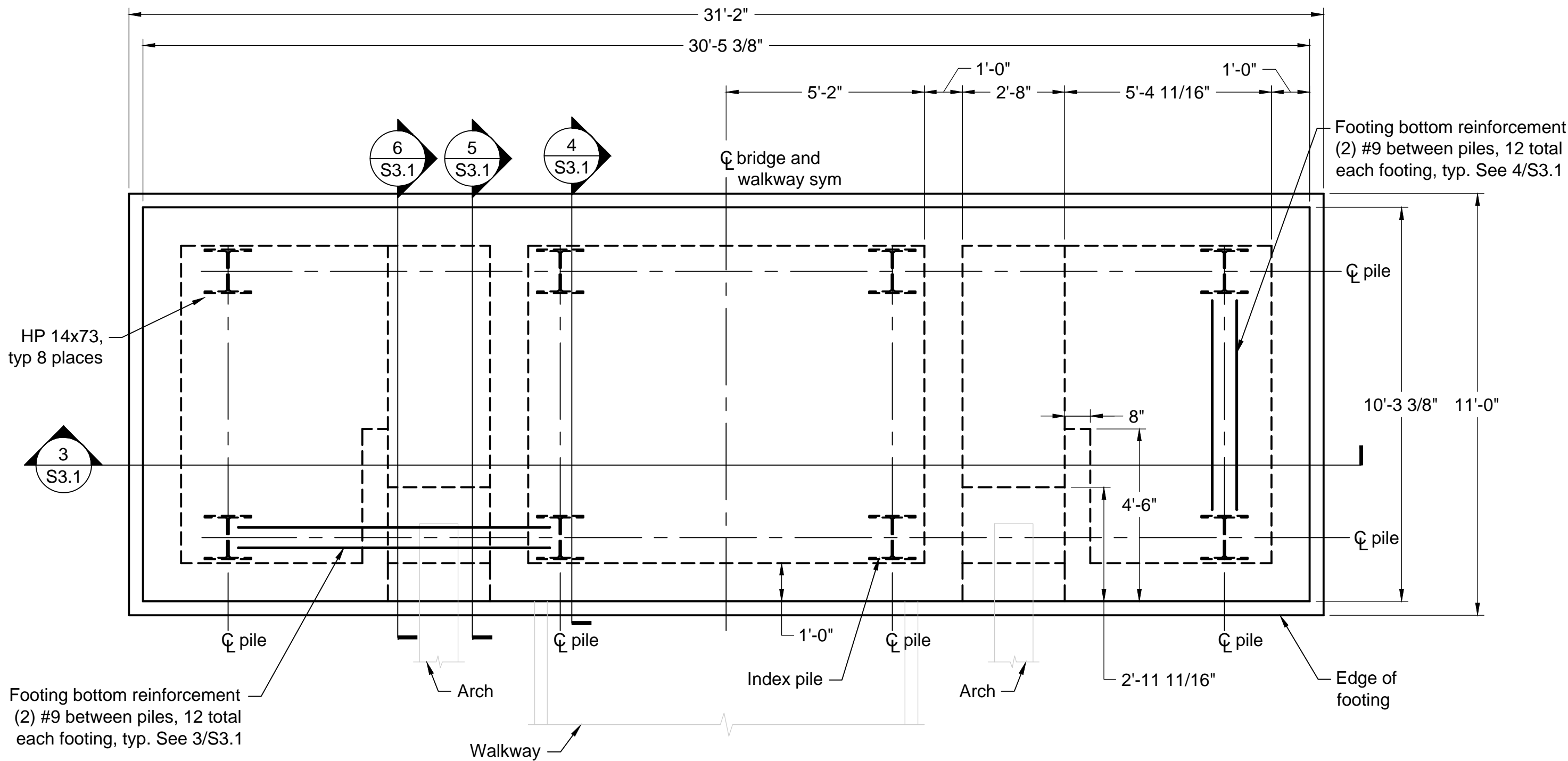


East End Elevation
(west end similar)
Scale: 3/8" = 1'-0"



Cage Detail
Scale: 3/8" = 1'-0"

Drawing file: 391402C.dwg, Plotted: Jan 21, 2014 - 9:05am



The installation of the driven piles shall be conducted in accordance with Section 711 Driven Pile Foundations section of the SCDOT Standard Specifications for Highway Construction, 2007 edition.

Method of controlling installation of piles and verifying their capacity: Capacity will be verified by Pile Driving Analyzer (PDA) and CAPWAP analysis on Index piles. A pile Installation chart developed from the analysis will be used to verify the capacity of production piles. The following parameters should be used for performing drivability analysis for the bents:

Pile Bearing (one pile)	
	End Bents
Factored Design Load	80 tons
Geotechnical Resistance Factor	0.6500
Nominal Resistance	123 tons
Est. Loss Due to Scour	0 tons
Est. Loss Due to Downdrag	0 tons ⁽¹⁾
Required Driving Resistance	123 tons
Estimated Pile Tip Elevation (ft, MSL)	349 ft
Minimum Pile Tip Elevation for Lateral Stability (ft, MSL)	371 ft ⁽²⁾
(1) Consolidation downdrag (2) Minimum that must be achieved	

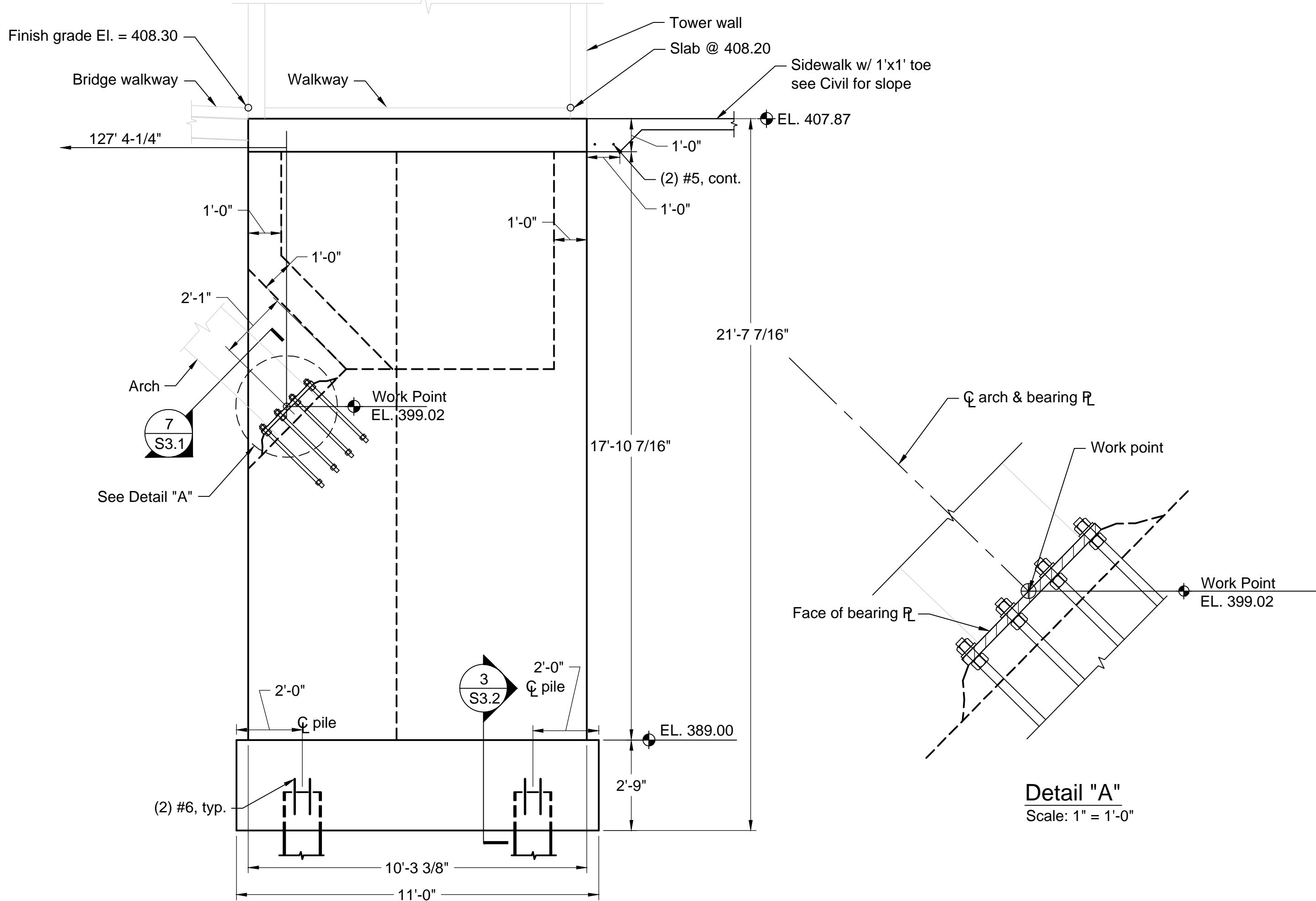
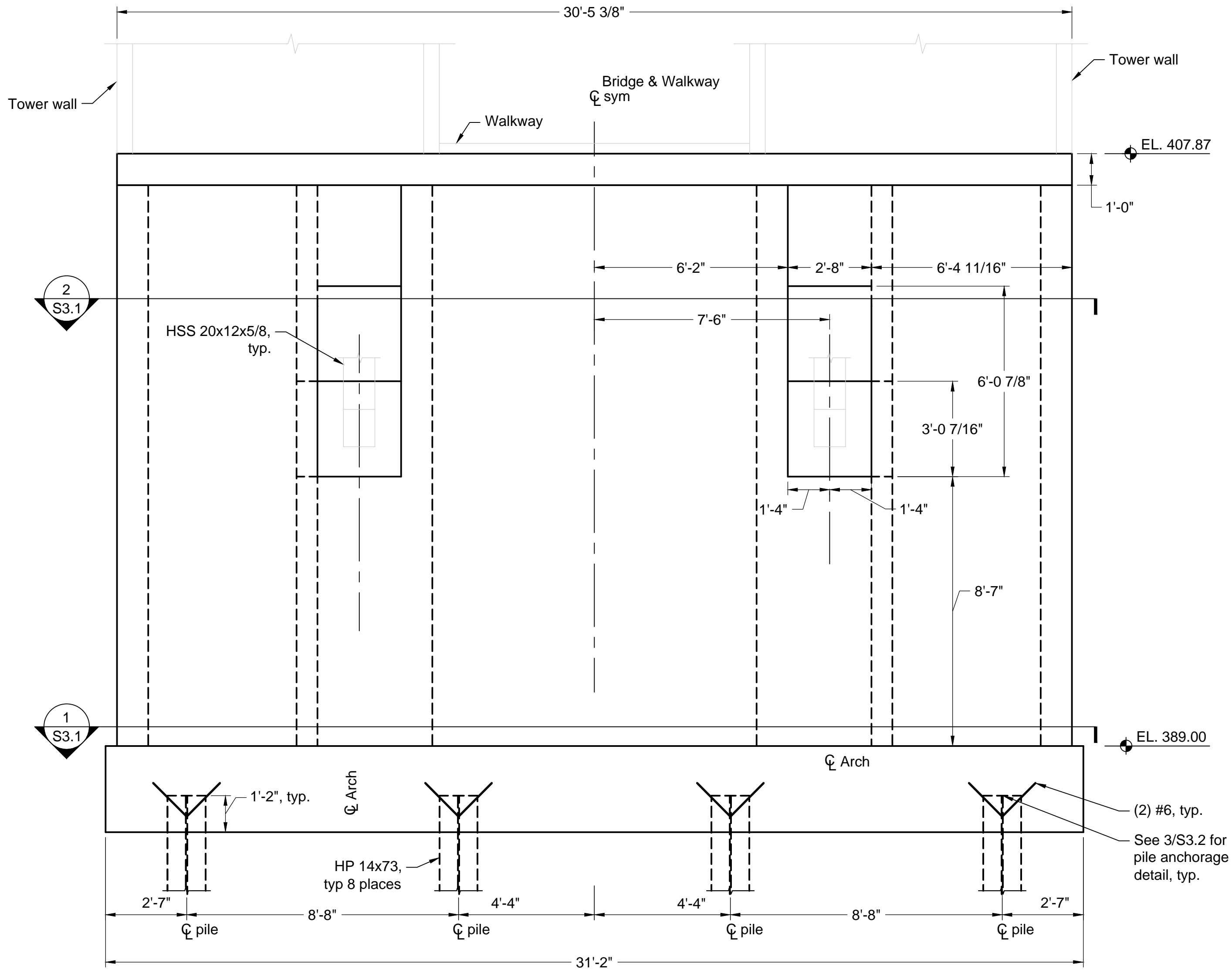
Perform pile driving analyzer (PDA) testing on the index piles. Index piles should be lengthened an additional 5 feet in order to accommodate the PDA testing. Drive index pile to grade or practical refusal, whichever occurs first. If a CAPWAP analysis determines that capacity has not been achieved, restrike the index pile. Perform PDA testing during the restrike. Contact the bridge construction office to determine the time between initial driving and restrike.

Each pile is to be installed in one continuous operation. Include details of any anticipated temporary driving discontinuities including anticipated time intervals during the pile installation plan.

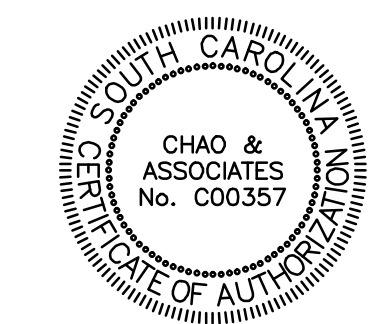
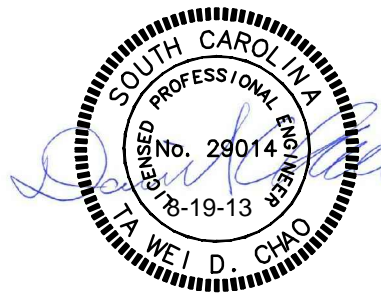
A pile hammer having the rated energy indicated is considered suitable for driven pile installation. However final hammer acceptance is based on a wave equation analysis that accurately reflects the contractor's proposed driving system.

This project is a lump sum bid including the installation of the piles. Bidder shall include all anticipated costs in his/her bid.

Drivability Analysis	
	End Bents
Pile Type	Hp 14 x 73 Steel Pile
Skin Quake	0.10
Toe Quake	0.10
Skin Damping	0.05
Toe Damping	0.15
% Skin Friction	N/A
% End Bearing	N/A
Distribution Shape No.	Variable Resistance Distribution ⁽¹⁾
Bearing Graph	Constant End Bearing ⁽²⁾
Pile Penetration	100%
Hammer Rated Energy Range	20 to 40 ft-kips ⁽³⁾
Notes:	
1. Variable Unit Skin Distribution: at 5 feet depth = 0; at 27 feet depth = 1.9 ksf; and at 40 feet depth = 2.4 ksf. Variable Unit toe Resistance: at 5 feet depth = 0; at 23 feet depth = 22.0 ksf; at 40 feet depth = 22.0 ksf.	
2. Constant End Bearing = 22 kips	
3. Hammer rated energy is based on GRLWEAP maximum rated energy database for diesel hammers	



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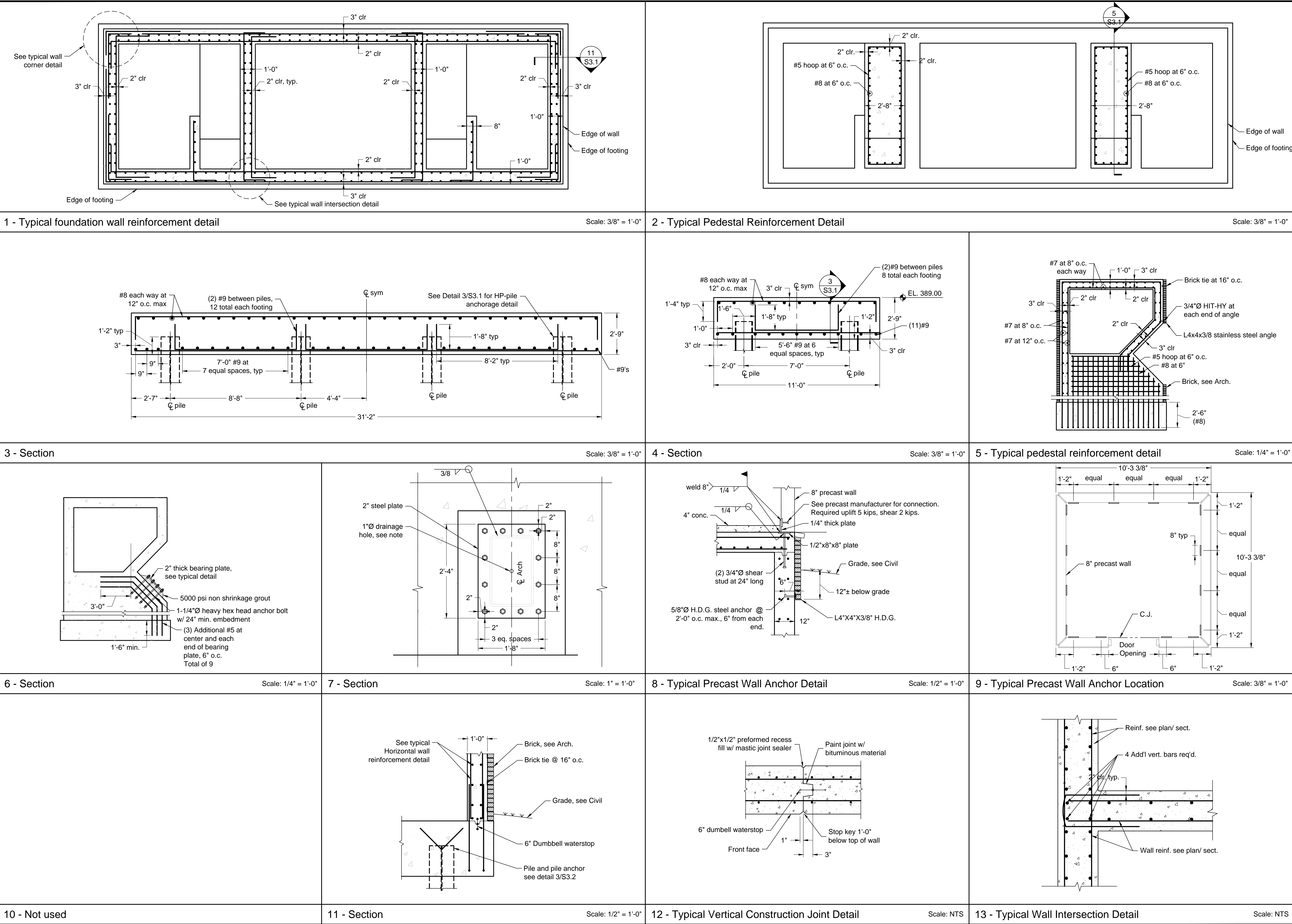


Foundation Plans
USCA Pedestrian Bridge
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

Drawn: MAB Checked: DC
Revised: 1-16-14 Added note
Project No.: 391402B
File: 391402C.dwg

S3.0
Sheet Number
October 9, 2012
Date

Drawing file: 391402C.dwg, Plotted: Jan 21, 2014 - 9:05am



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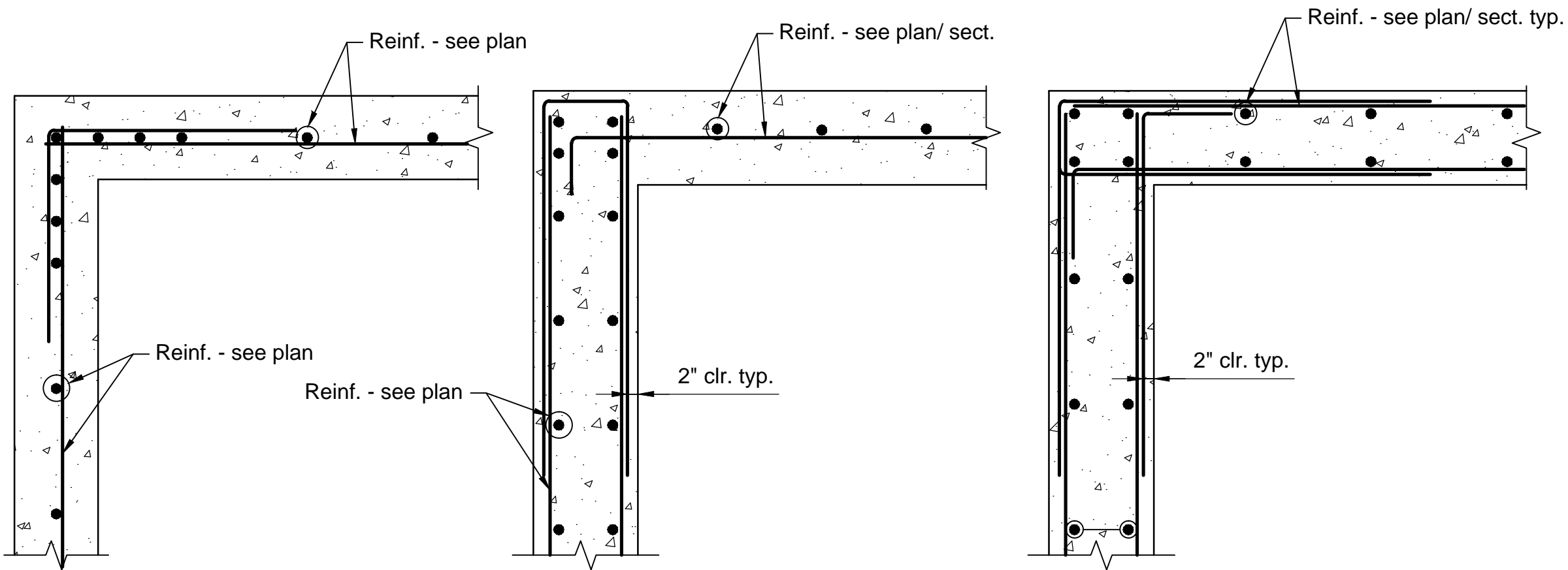


Foundation Sections and Details
USCA Pedestrian Bridge
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

Drawn: MAB
Revised:
Checked: DC
Project No.: 391402B
File: 391402C.dwg

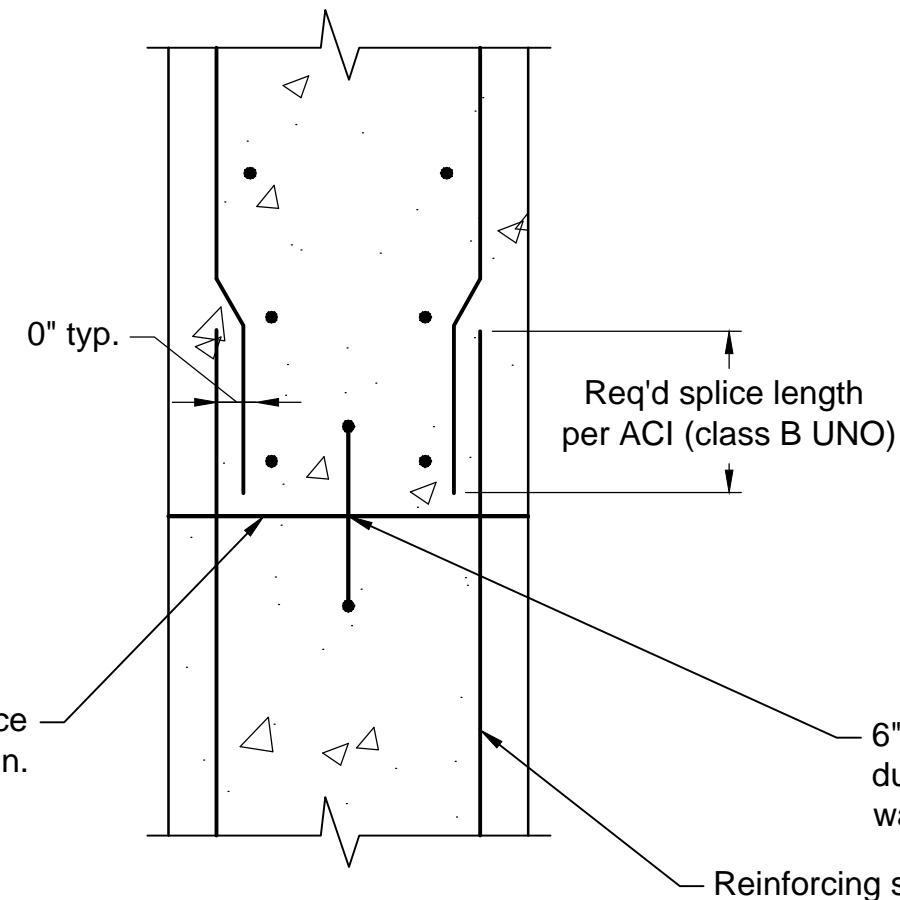
S3.1
Sheet Number
October 9, 2012
Date

Drawing file: 391402C.dwg, Plotted: Jan 21, 2014 - 9:05am



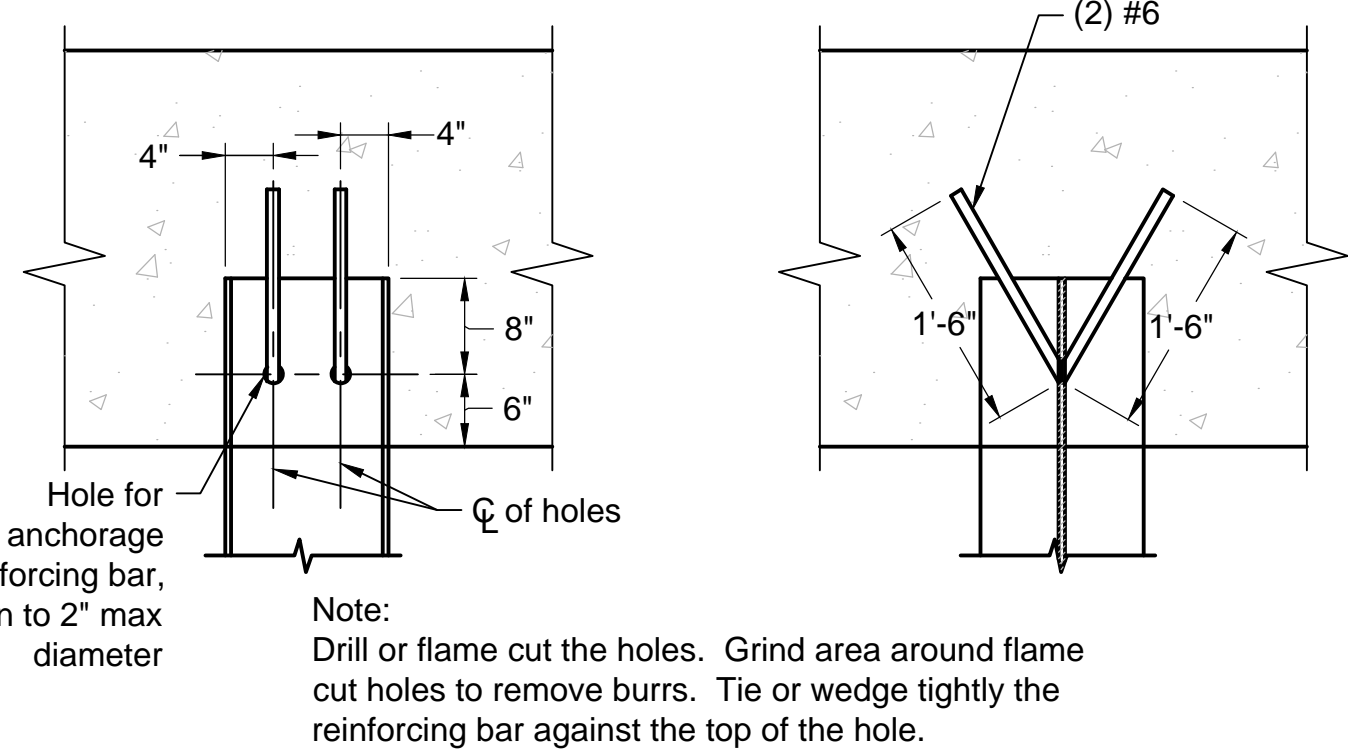
1 - Typical Wall Corner Detail

Scale: = NTS



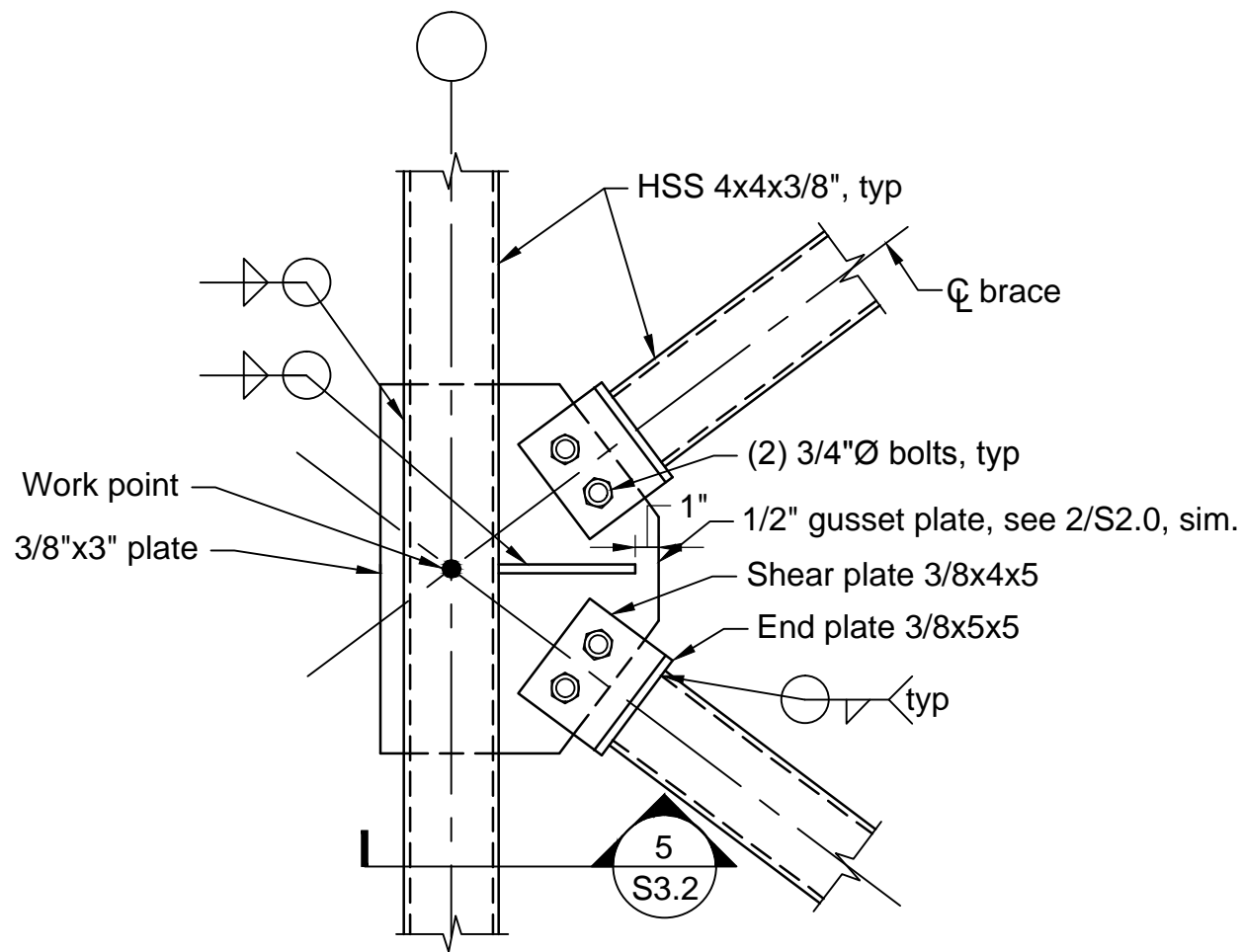
2 - Typical Horizontal Wall Construction Joint Detail

Scale: = NTS



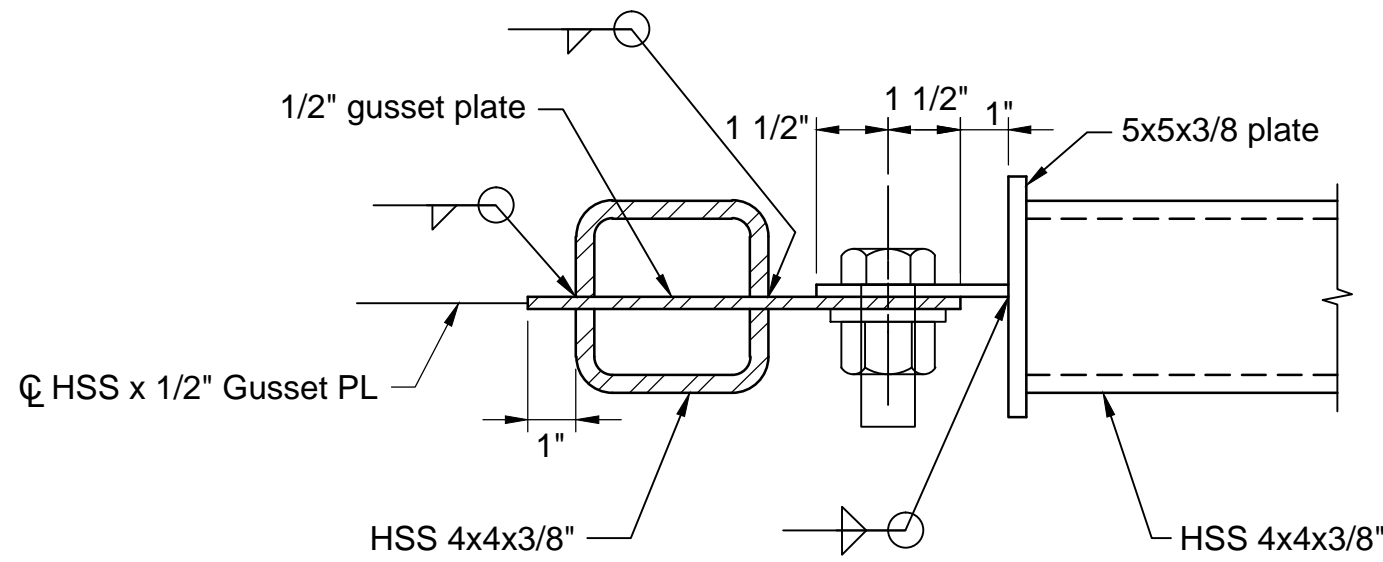
3 - Typical Pile Anchorage Detail

Scale: 3/4"=1'-0"



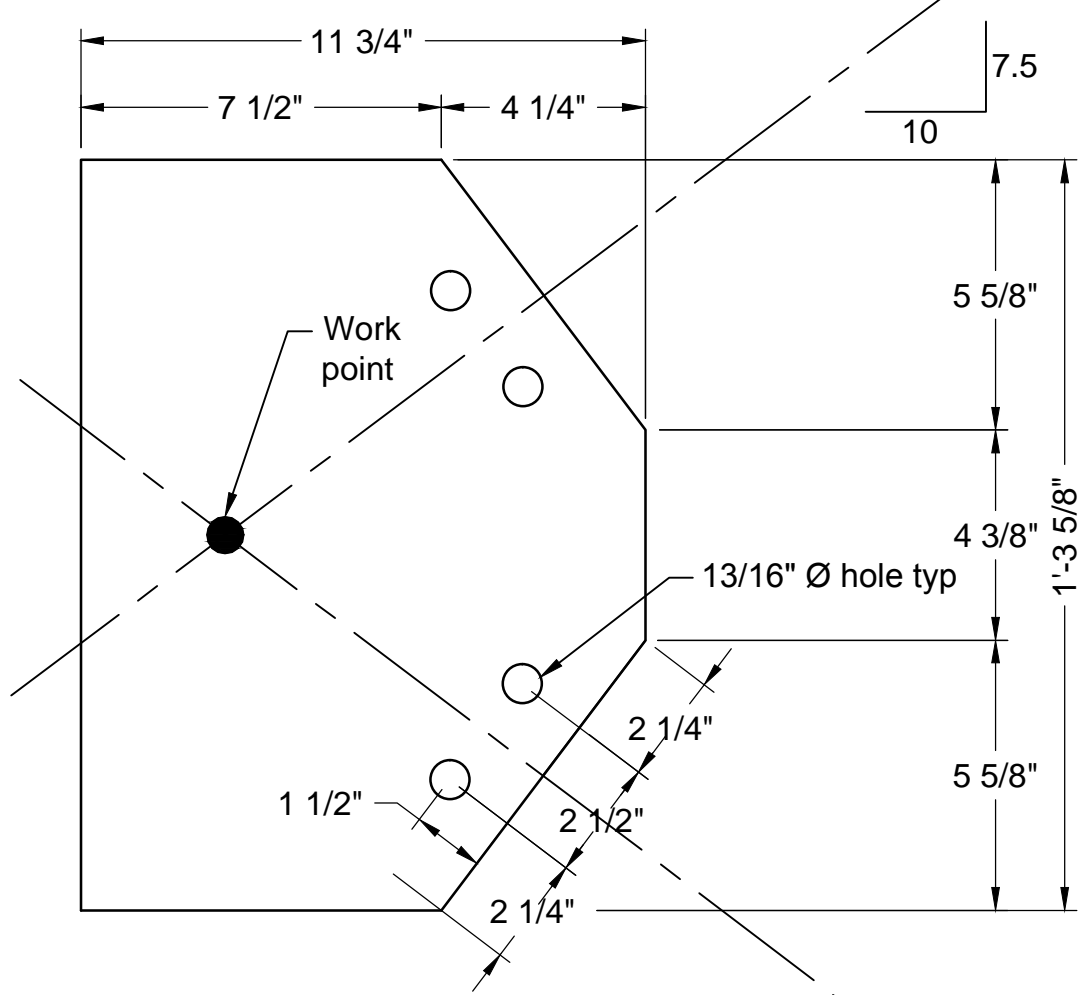
4 - Section

Scale: 1-1/2" = 1'-0"



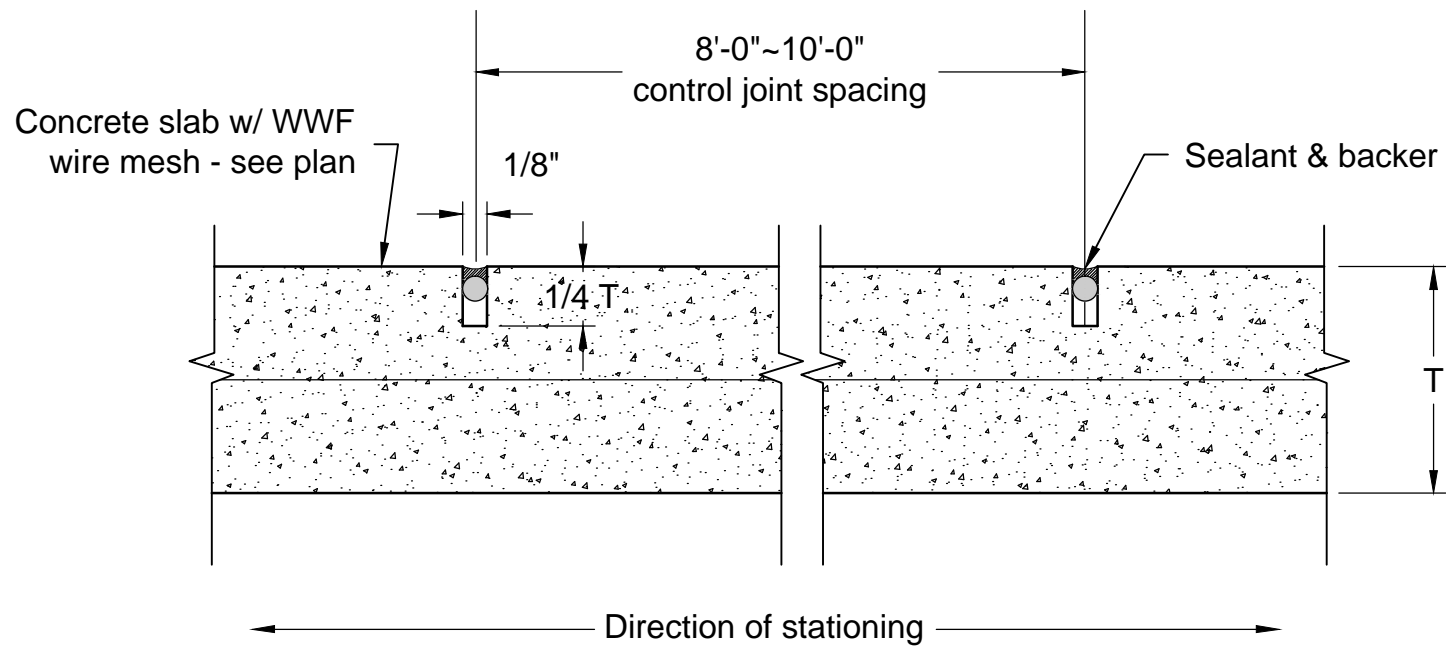
5 - Section

Scale: 3" = 1'-0"



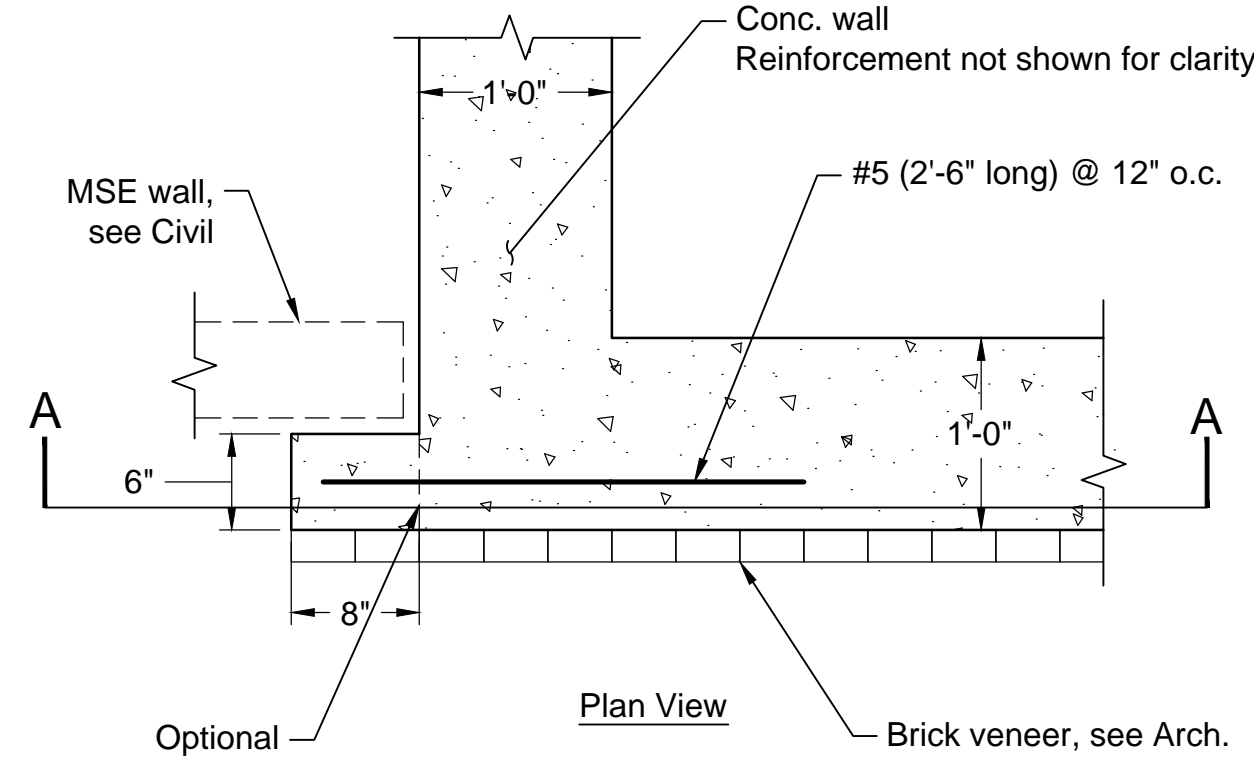
6 - Section

Scale: 3" = 1'-0"



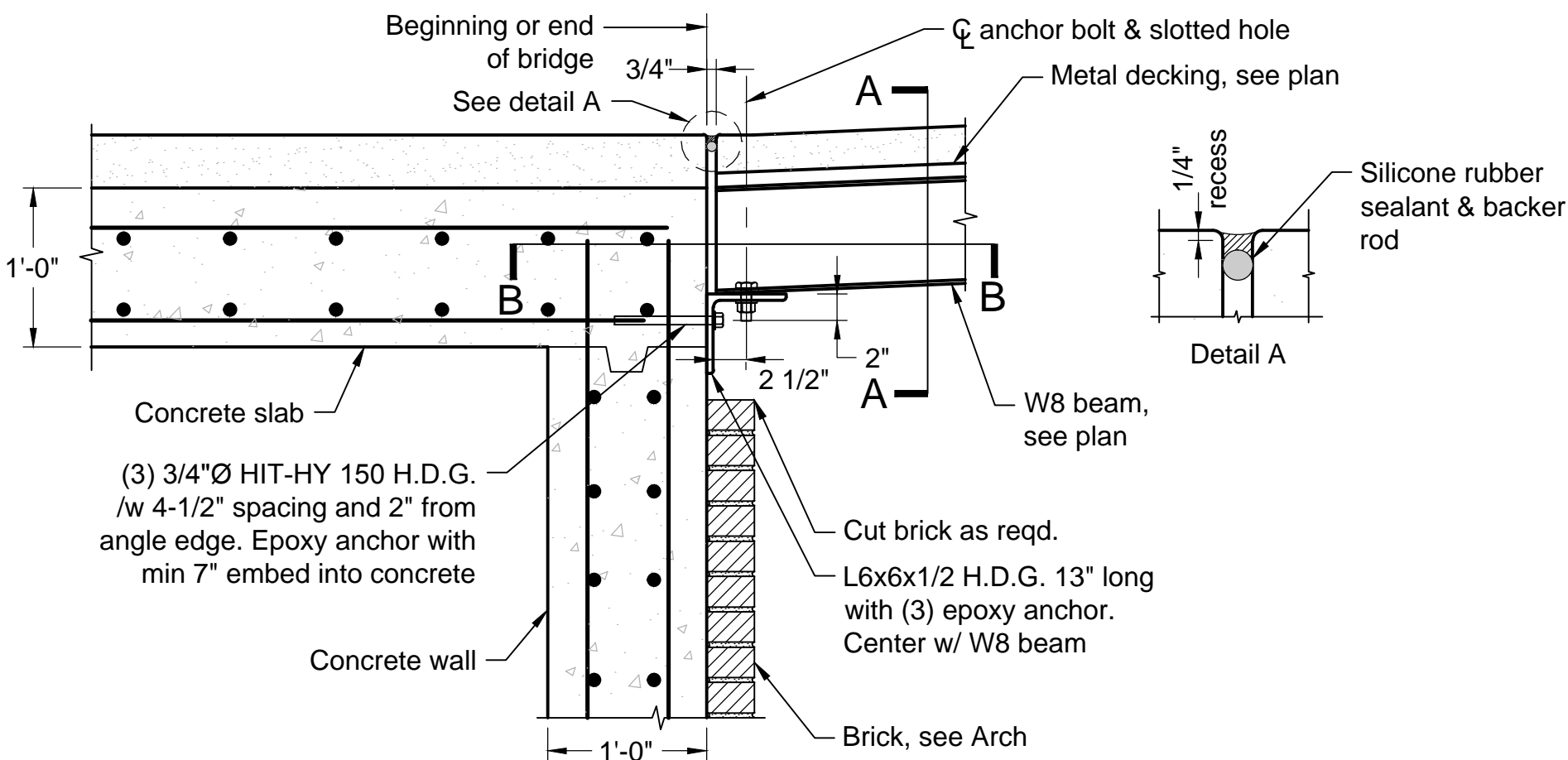
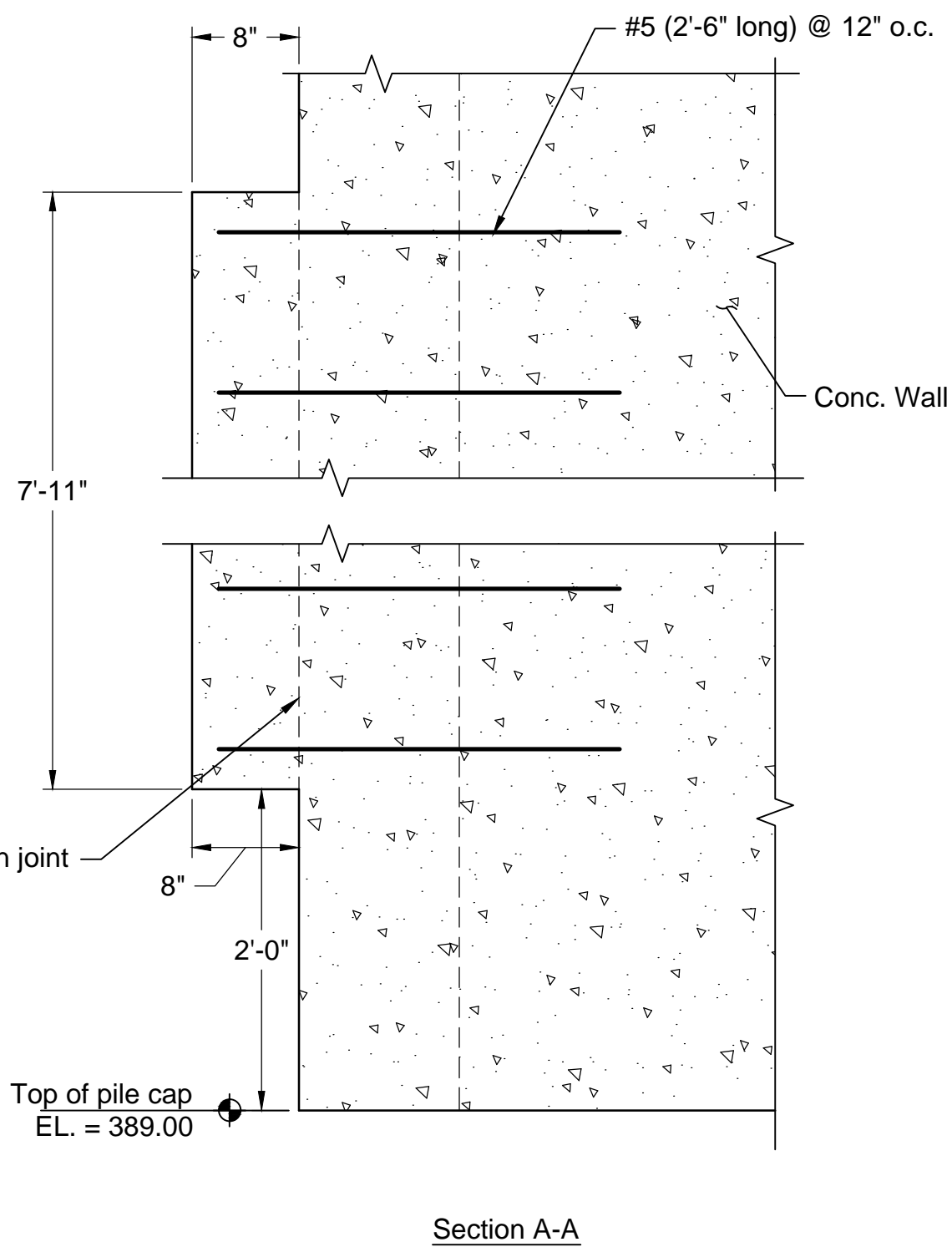
7 - Typical Control Joint

Scale: NTS



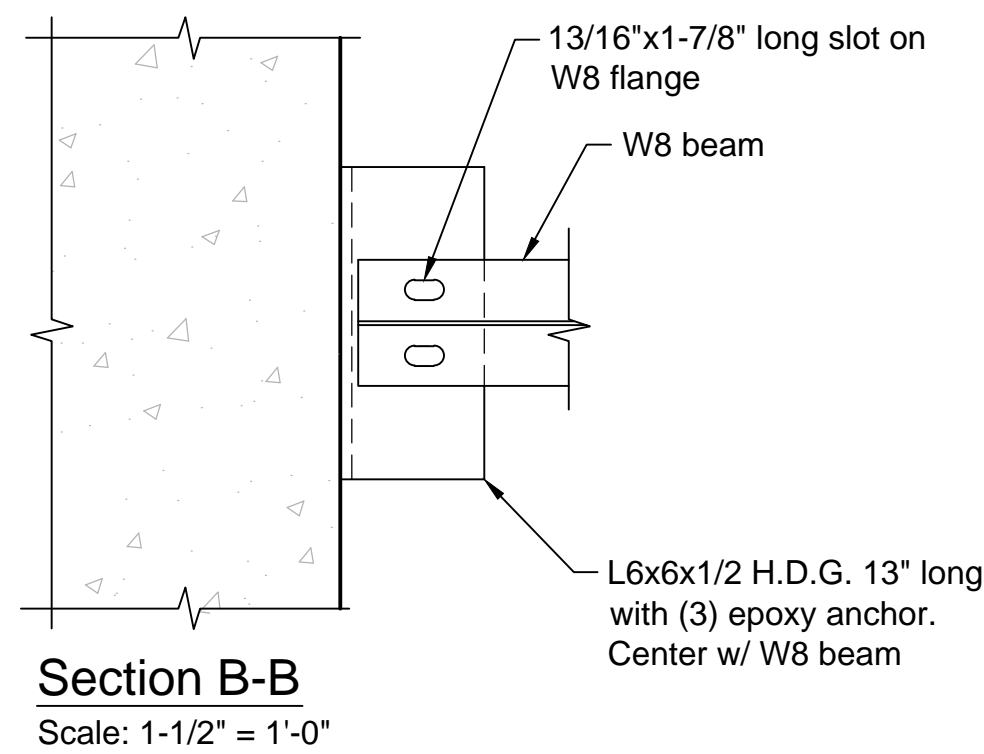
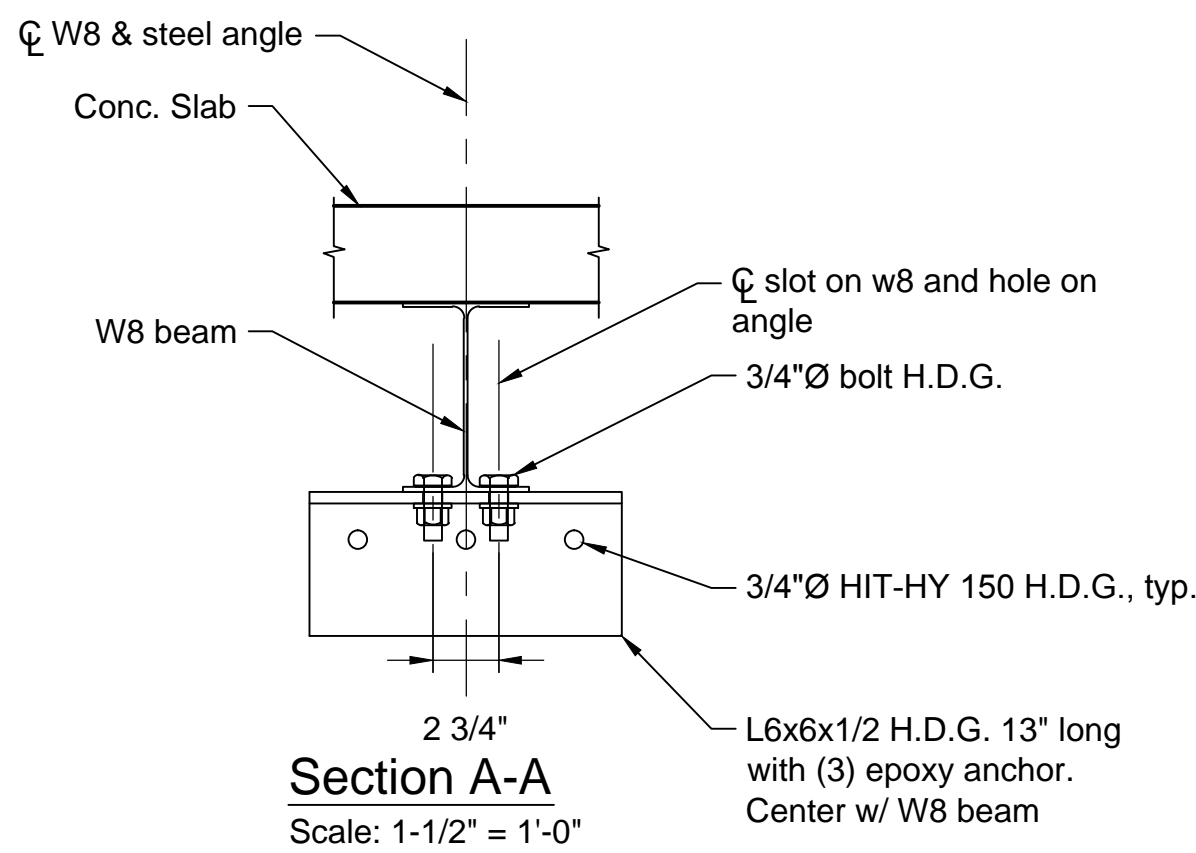
8 - MSE Wall Interface Detail (North End Only)

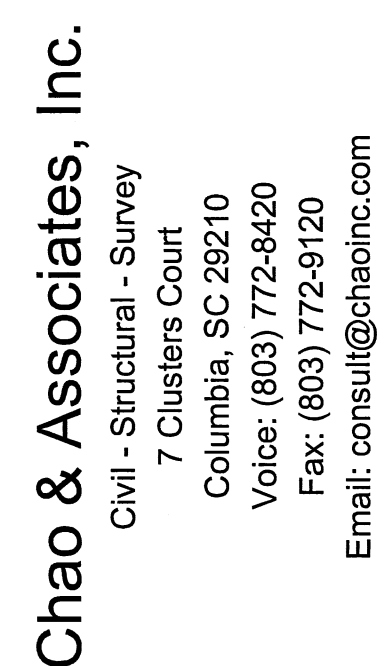
Scale: 1" = 1'-0"



9 - Section


Scale: 1" = 1'-0"



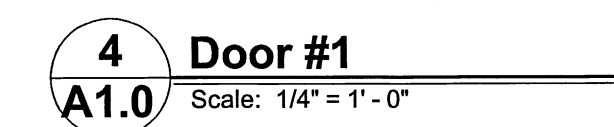
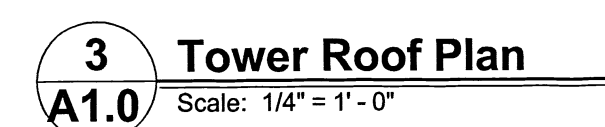
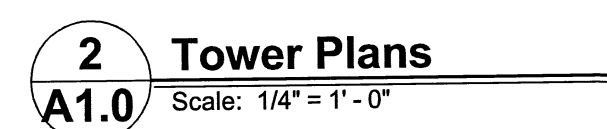
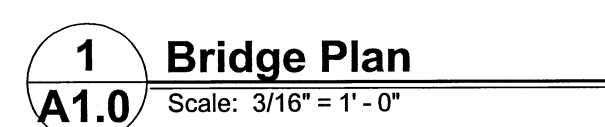


Bridge & Tower Plans
USCA Pedestrian Bridge
State Project No. H29-9545-PG
University of South Carolina
Aiken County, SC

Drawn: D

File:  Project No: 391402B

A1.0
Sheet Number
October 9, 2012
Date



SECURITY CHAIN LINK FENCE FABRIC

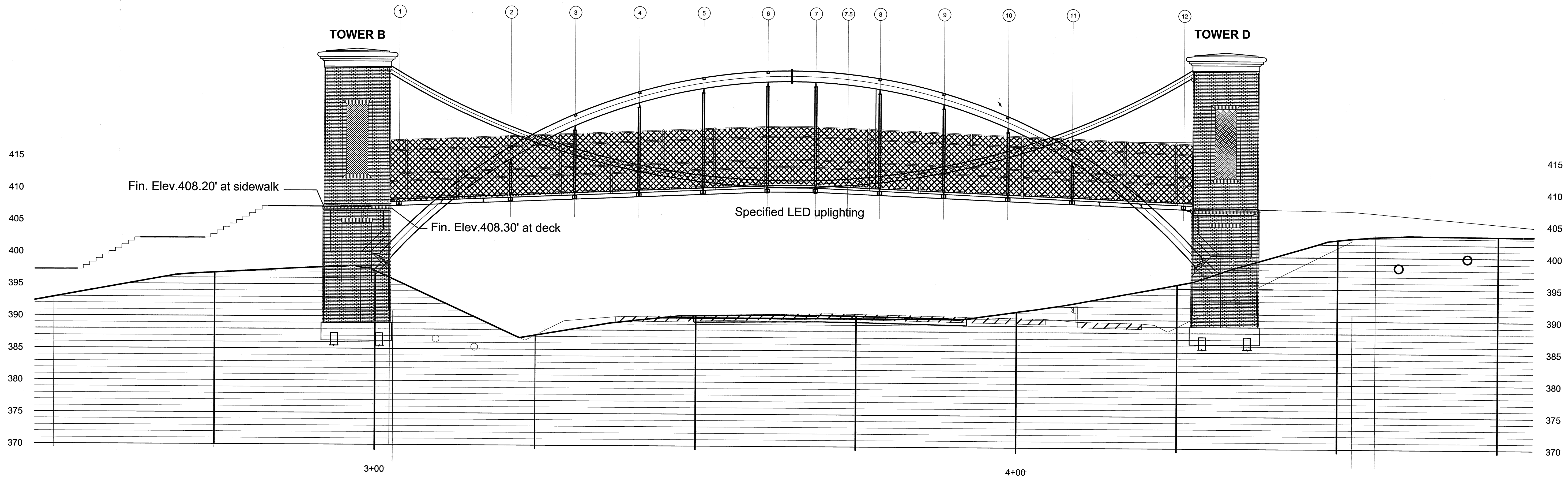
Engineering design of chain-link fence by Contractor. Refer to general specifications for chain link fence.

Materials and workmanship shall carry a 15 year warranty.

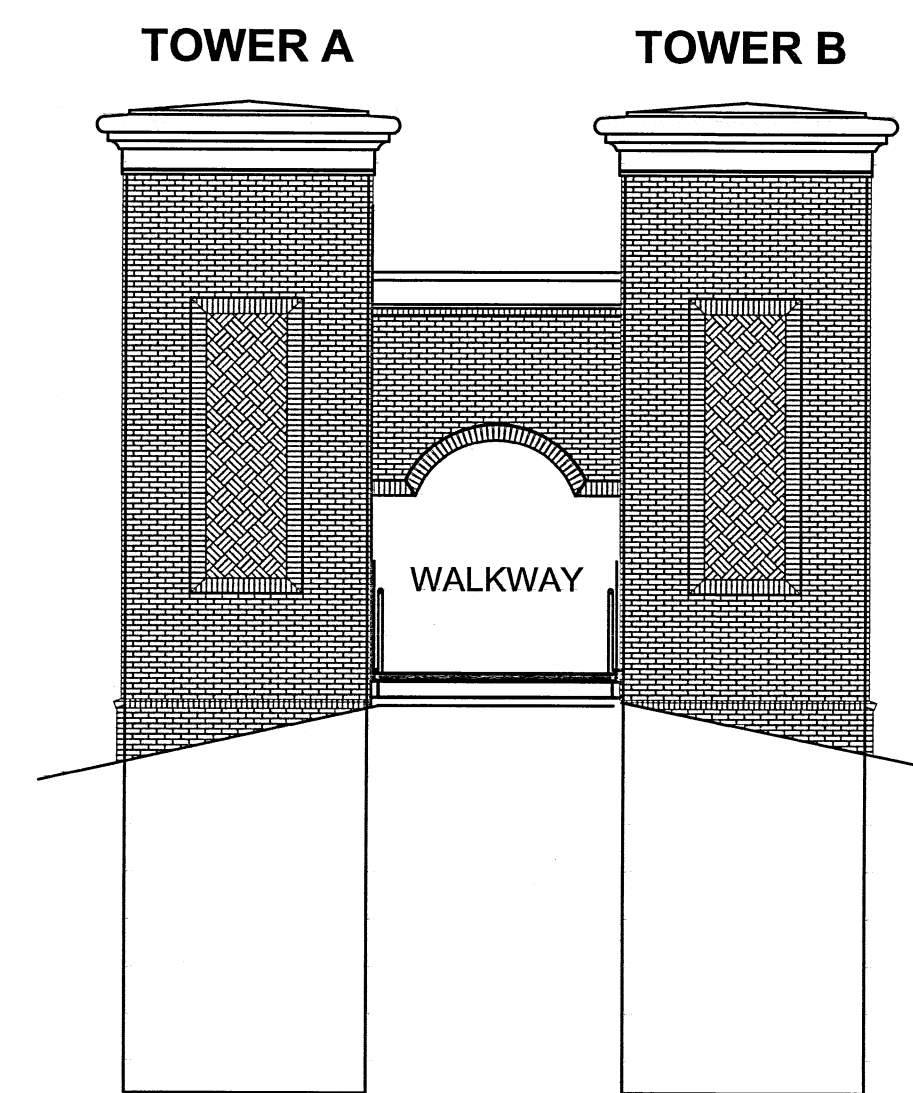
Fence fabric: Steel wire mesh sized ½" of 9 ga. wire with polymer coating, black color or as selected from manufacturer's standard colors.

Posts and Rails: Heavy industrial strength; round shape, as noted on structural drawings (sheet S1.3). Polymer coated to match fabric mesh.

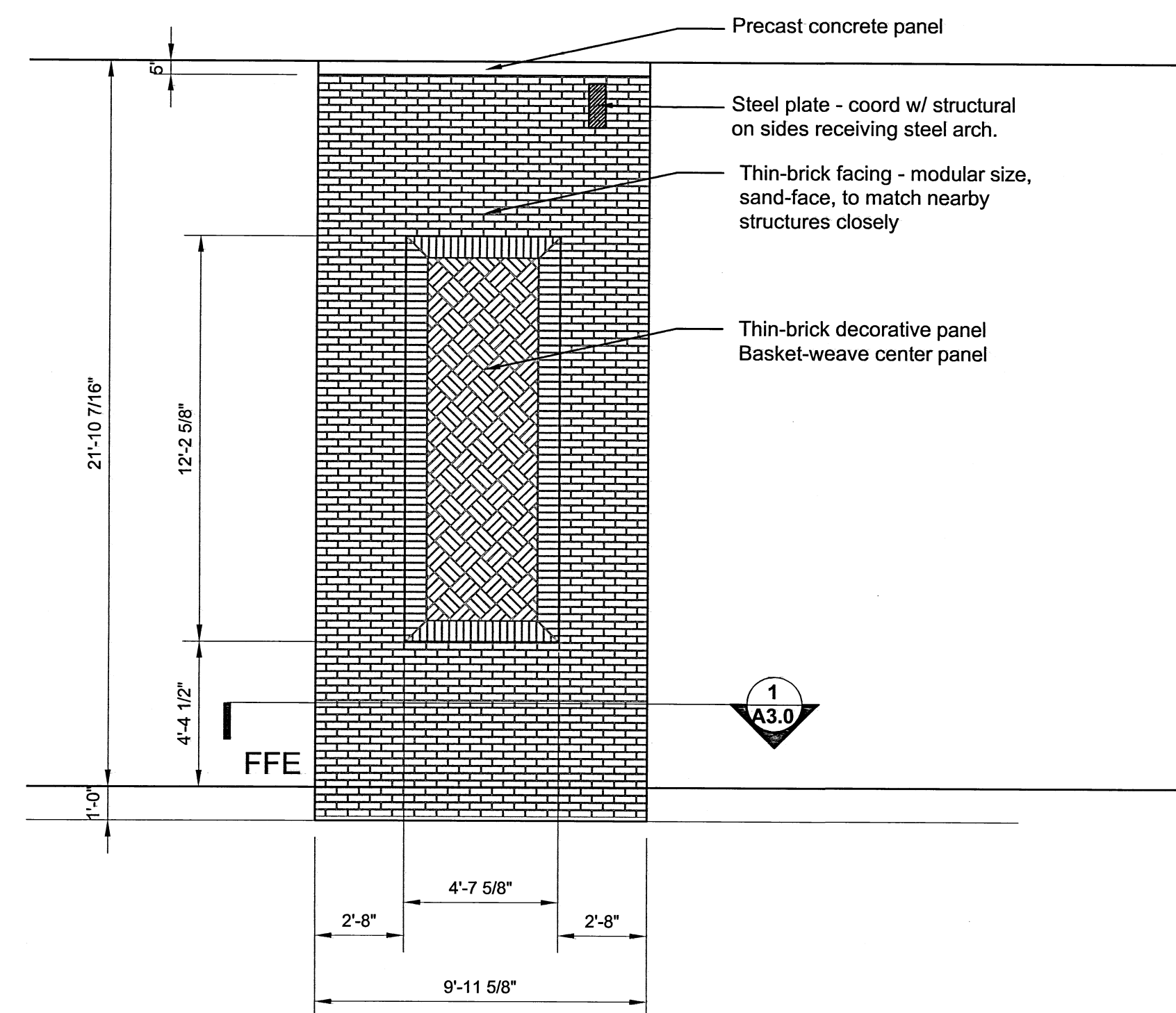
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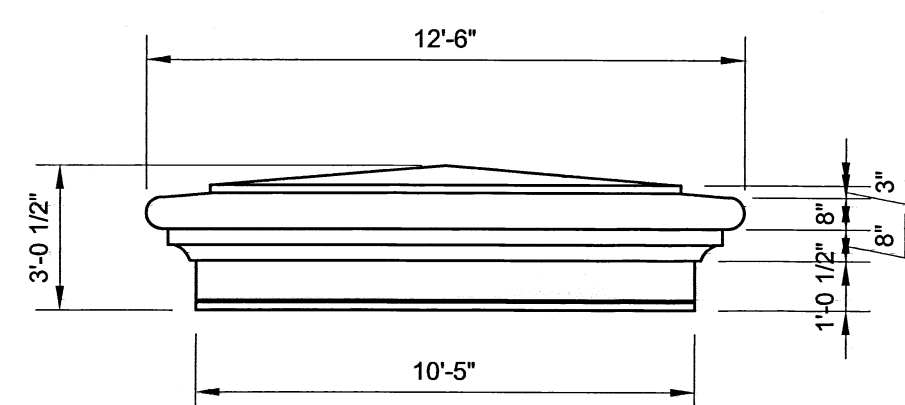
1 Bridge Side Elevation
A2.0 Scale: 1/8" = 1' - 0"



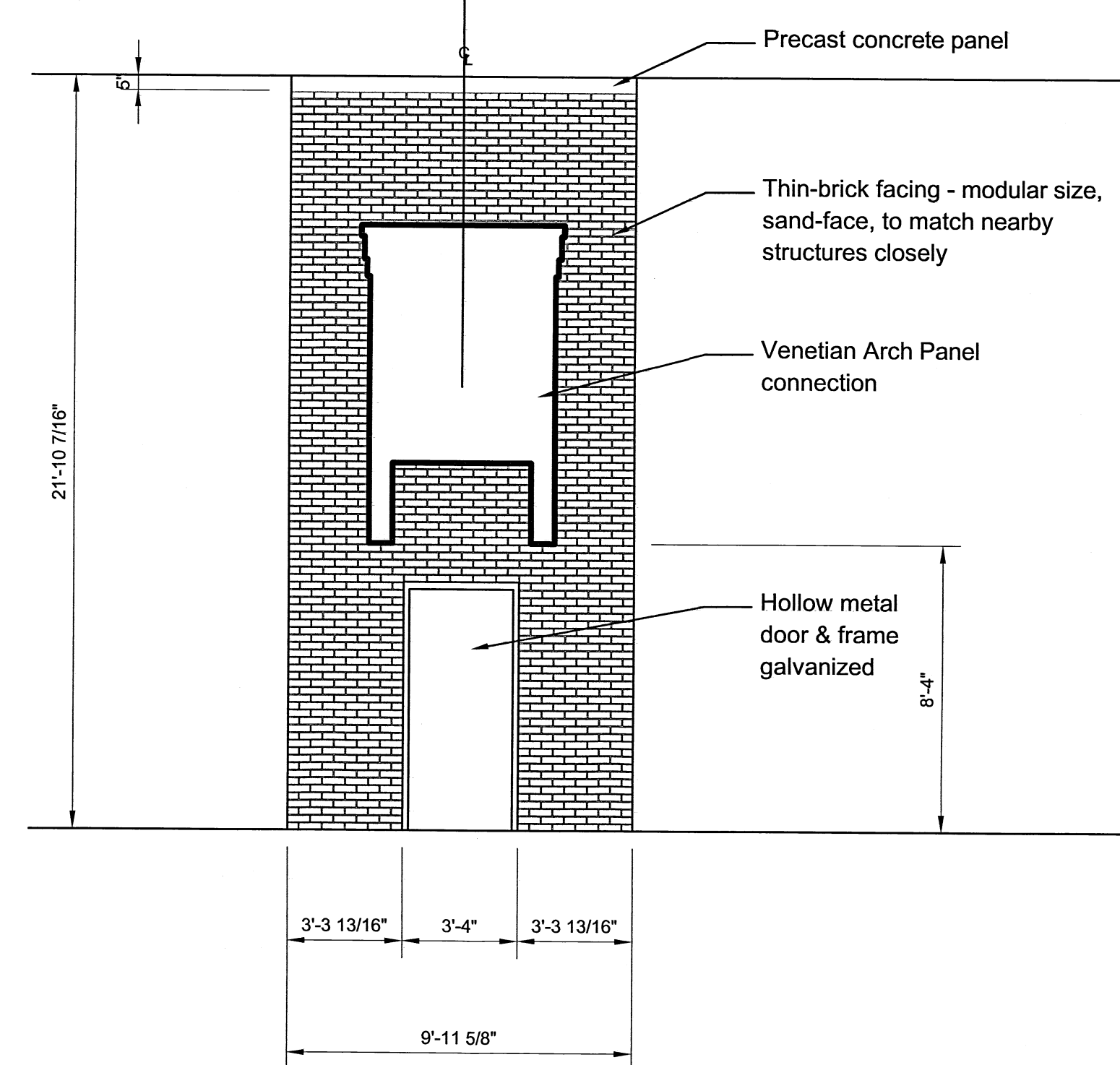
2 Entry End Elevation
A2.0 Scale: 1/8" = 1' - 0"



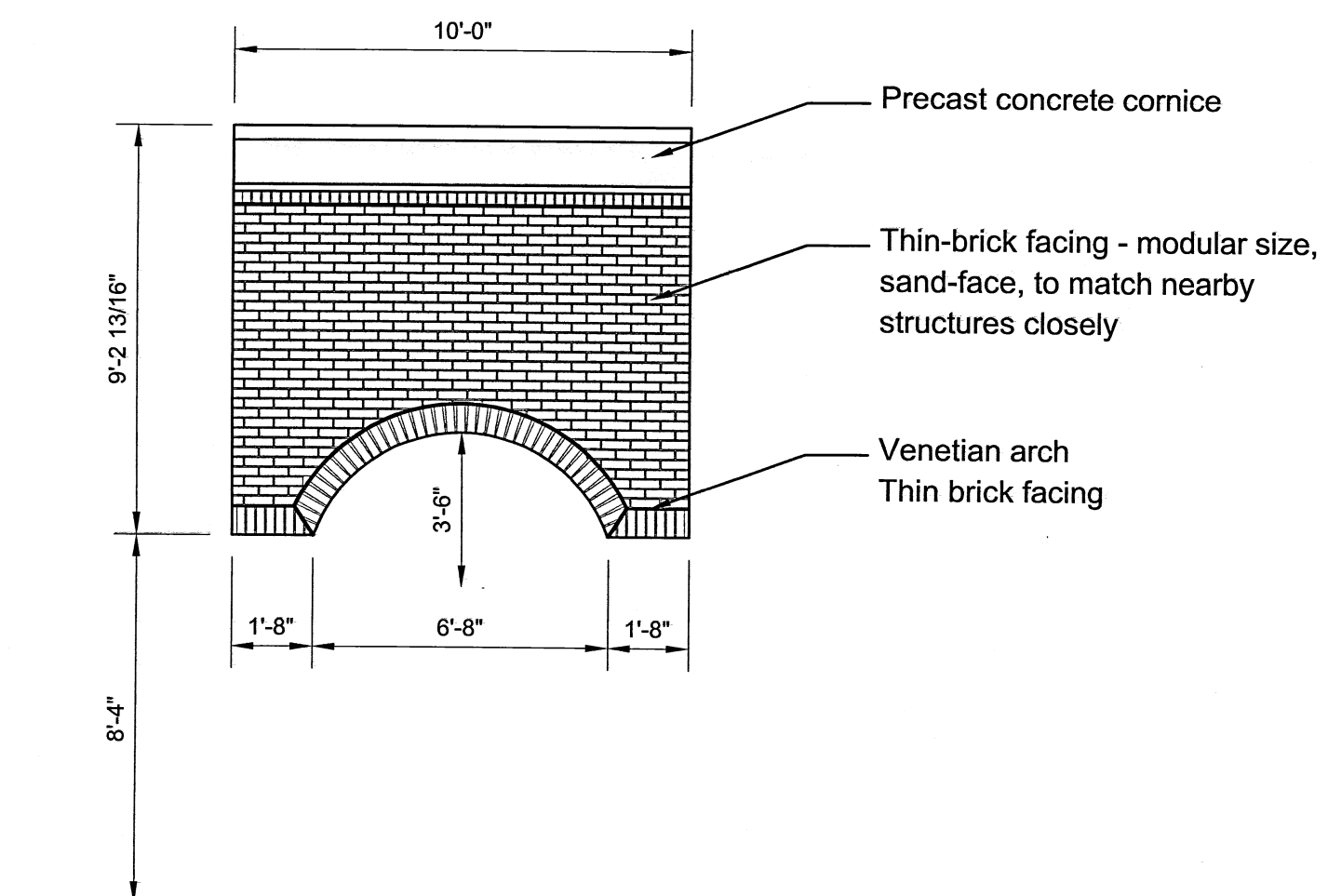
3 Typical Tower Panel
A2.0 Scale: 1/4" = 1' - 0"



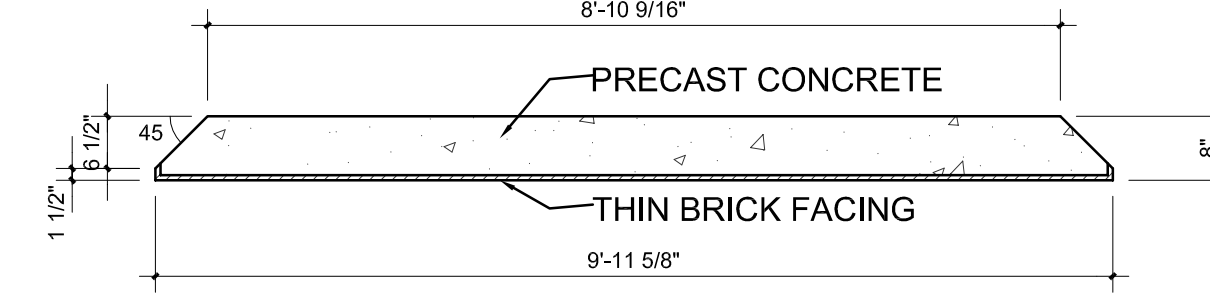
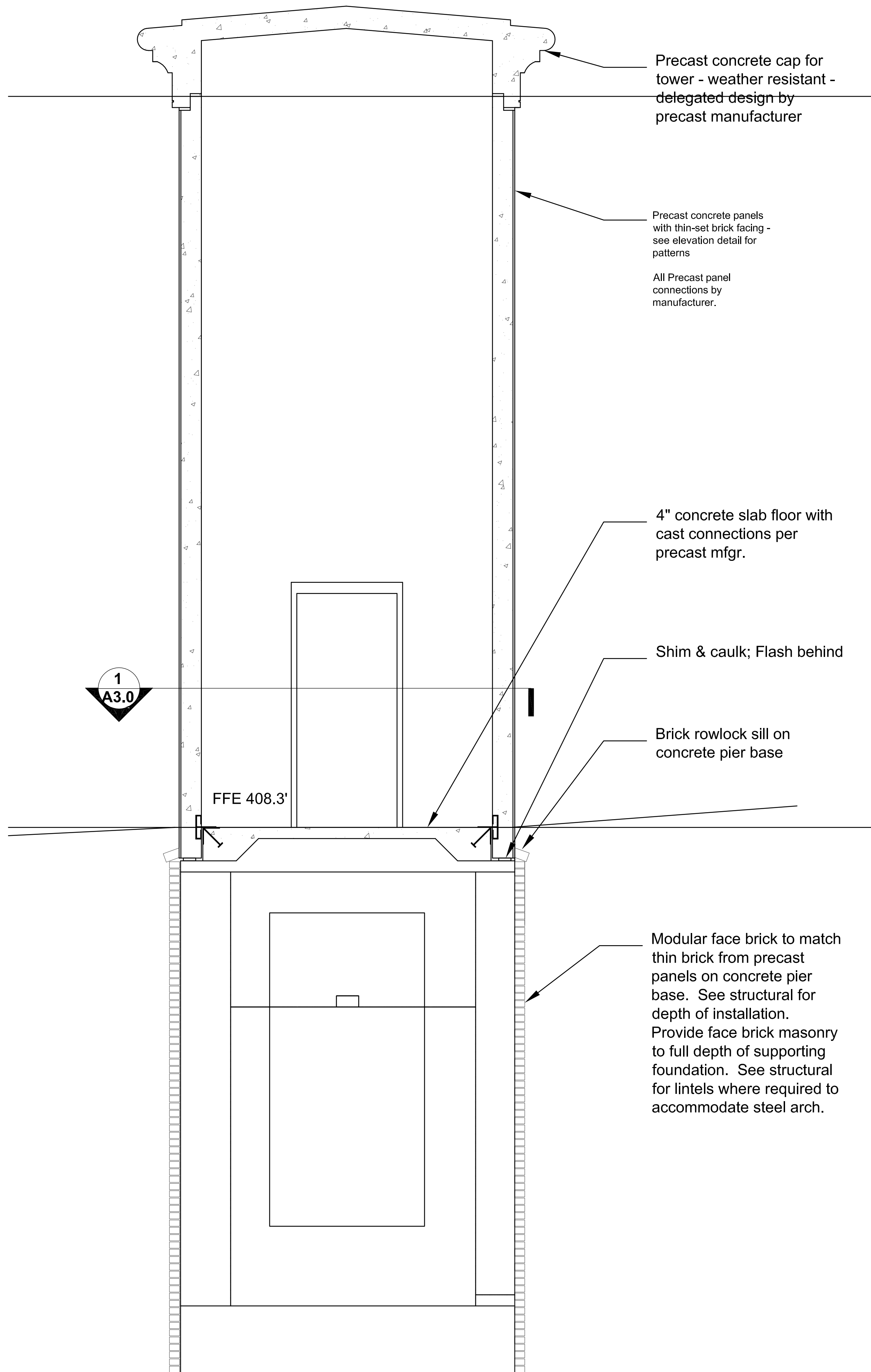
6 Typical Roof Cap Profile
A2.0 Scale: 1/4" = 1' - 0"



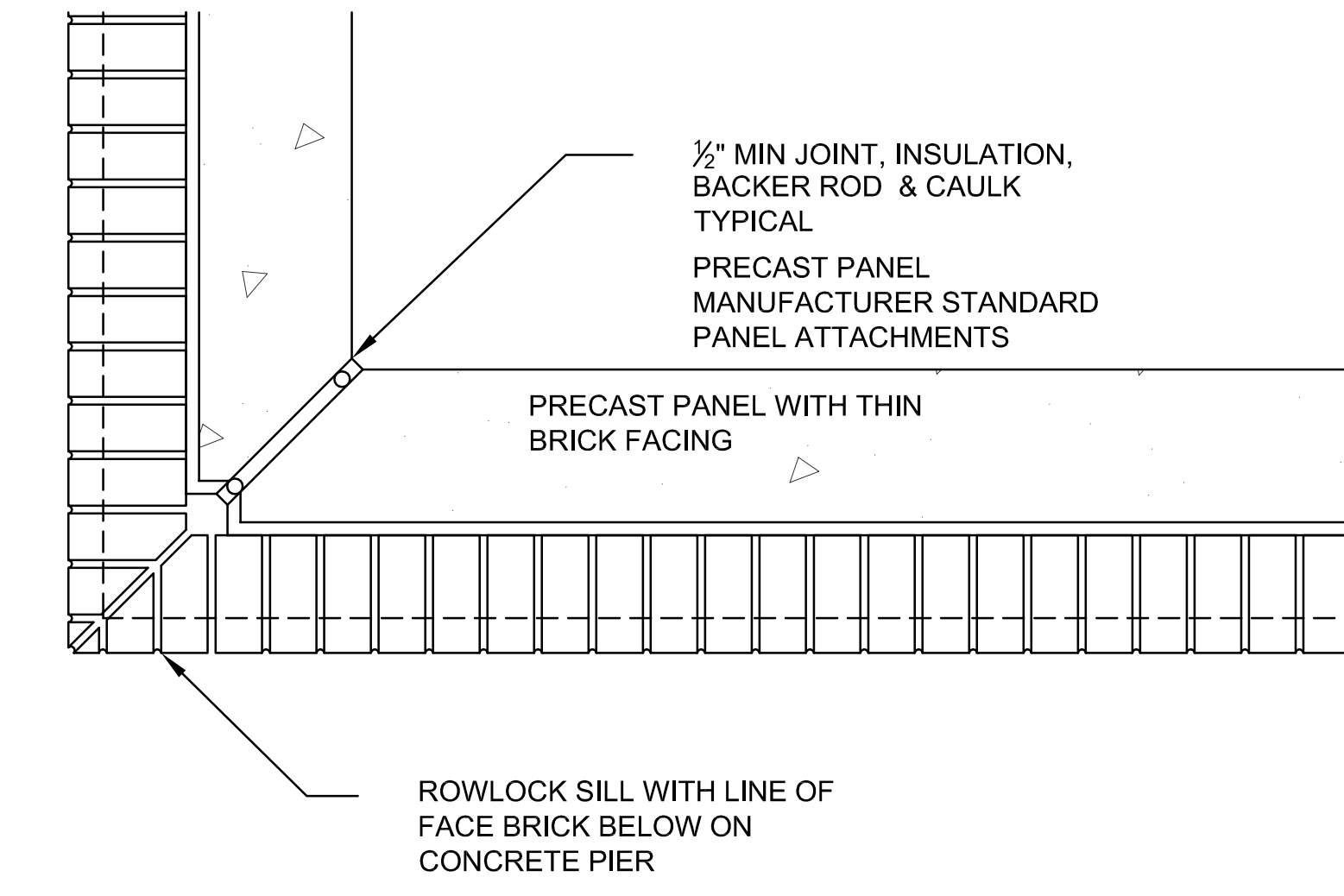
4 Arch/Door Side Tower Panel
A2.0 Scale: 1/4" = 1' - 0"



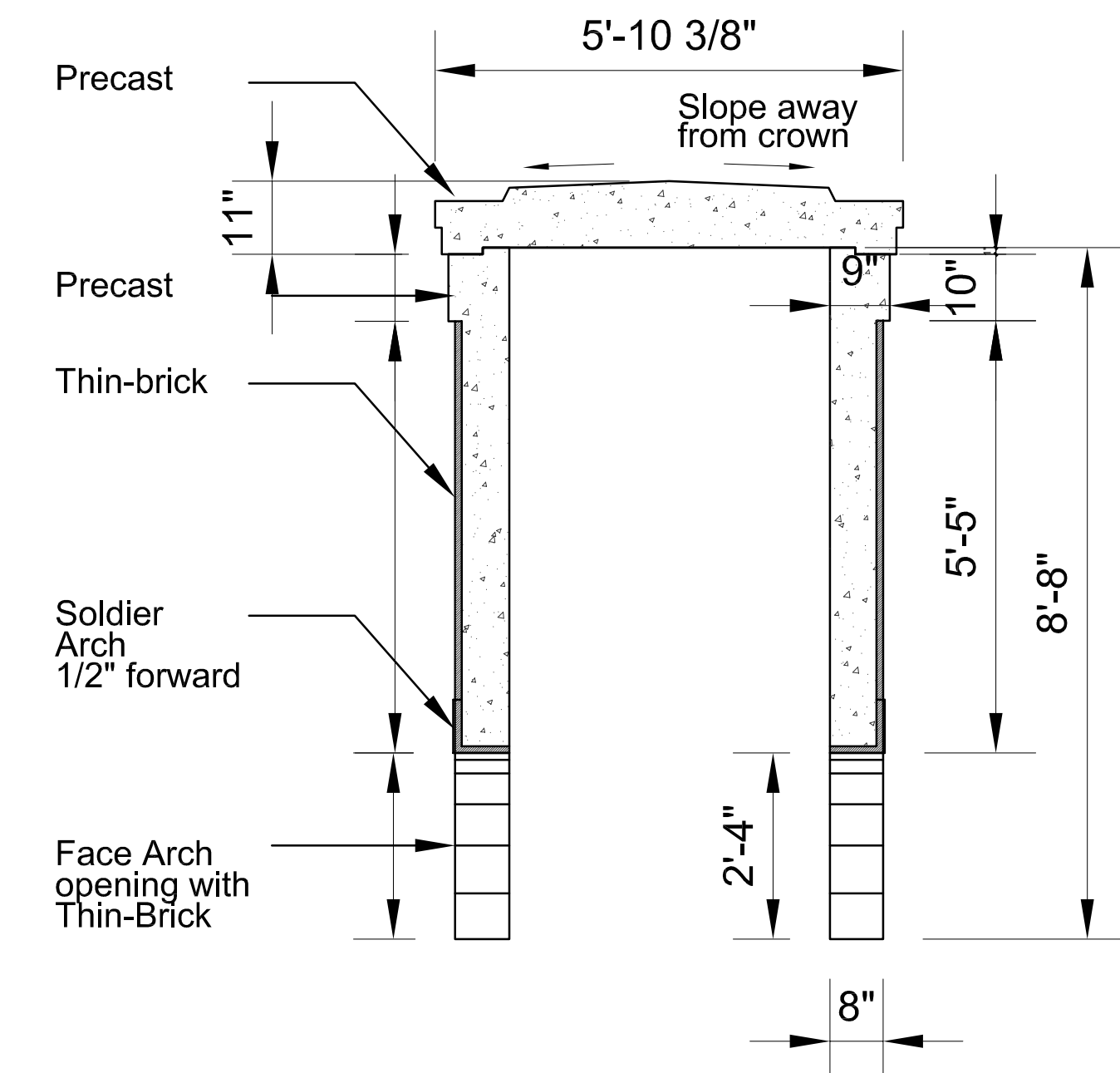
5 Venetian Arch Panel
A2.0 Scale: 1/4" = 1' - 0"



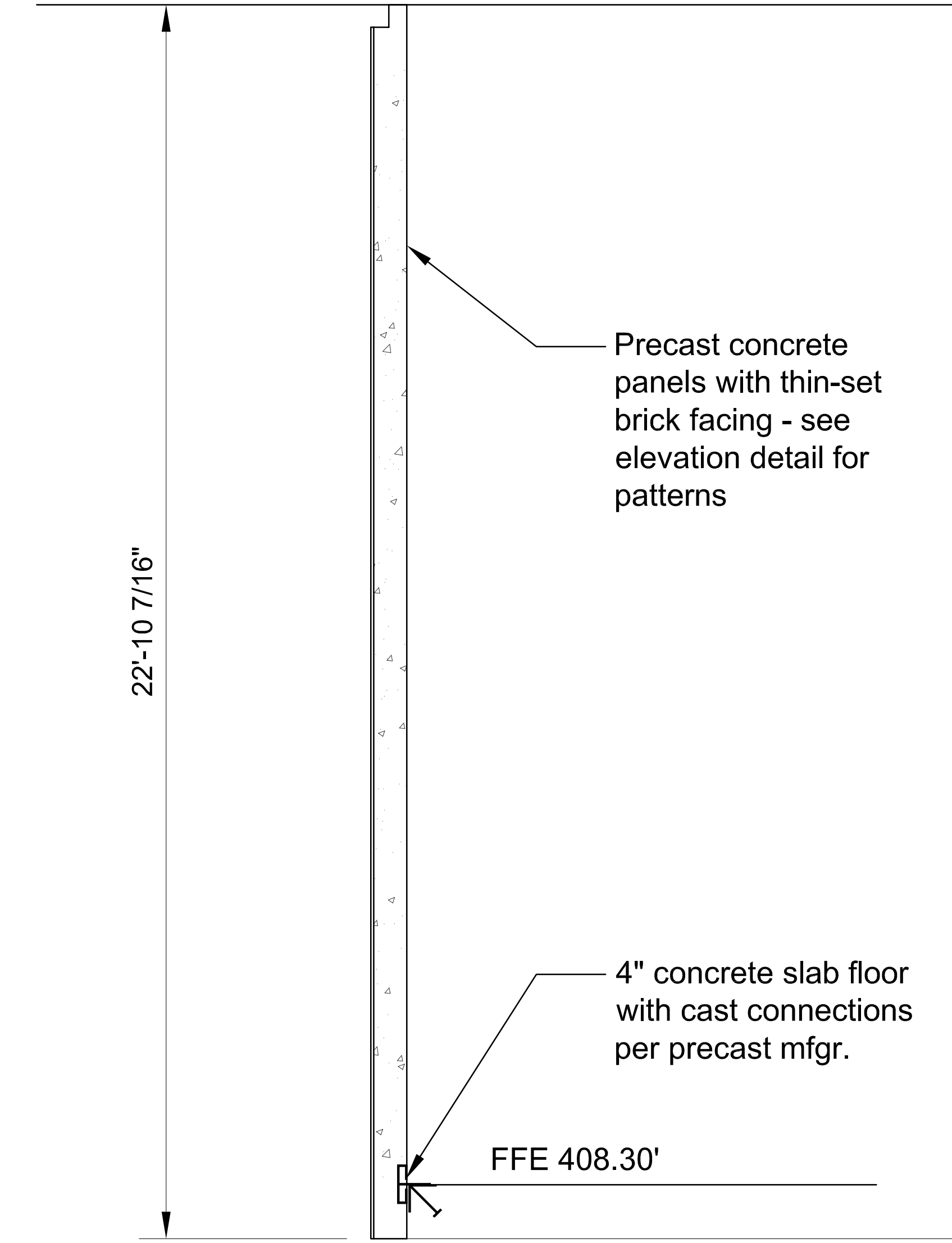
3 Precast Concrete Panel Section
A3.0 Scale: 1/2" = 1' - 0"



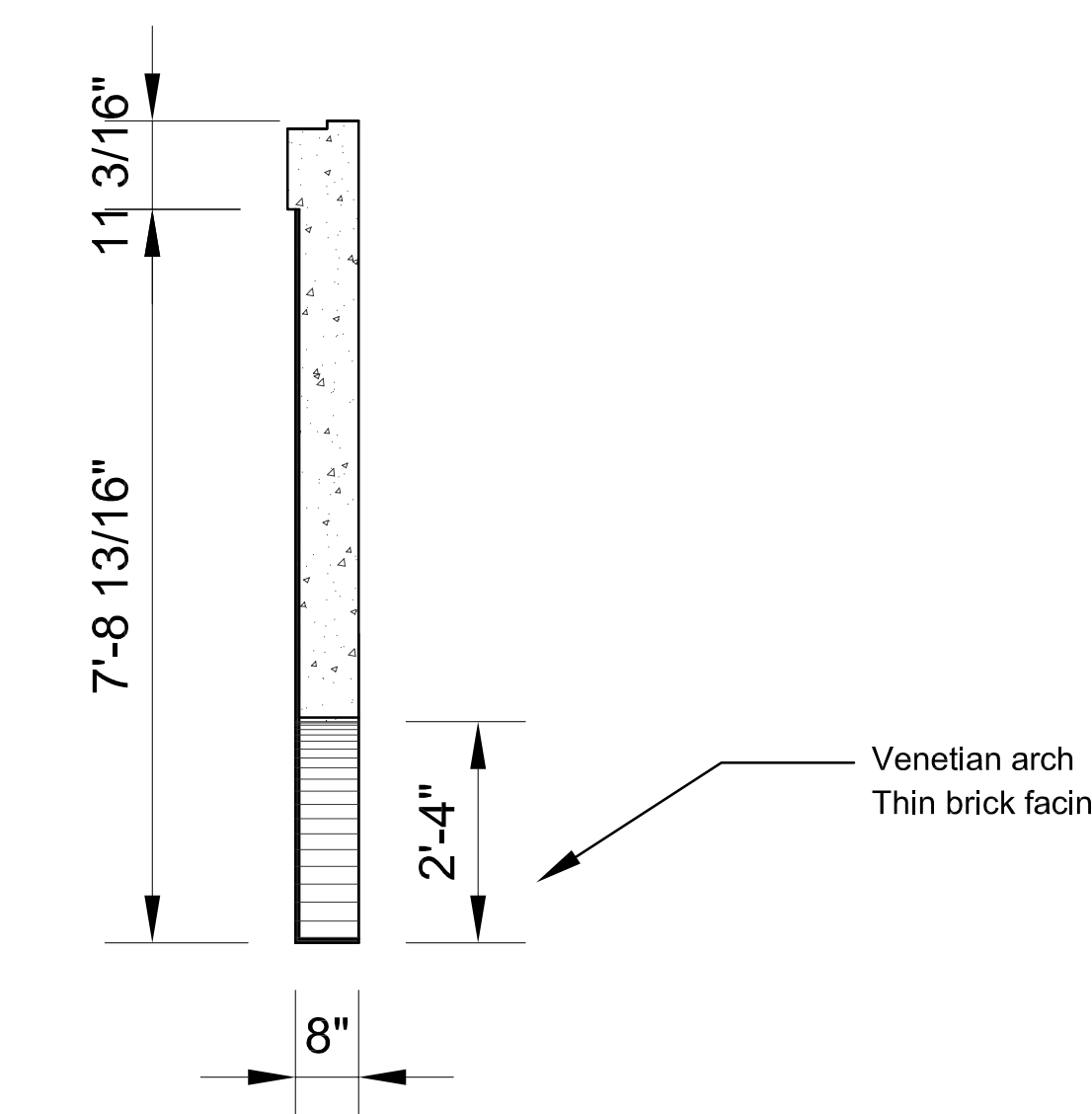
4 Precast Concrete Panel Joint - Typical
A3.0 Scale: 1 1/2" = 1' - 0"



2 Arch Section
A3.0 Scale: 1/4" = 1' - 0"



5 Precast Concrete Panel - Typical
A3.0 Scale: 1 1/2" = 1' - 0"



6 Precast Concrete Panel - Arch
A3.0 Scale: 1 1/2" = 1' - 0"

1 Tower Section
A3.0 Scale: 1/2" = 1' - 0"

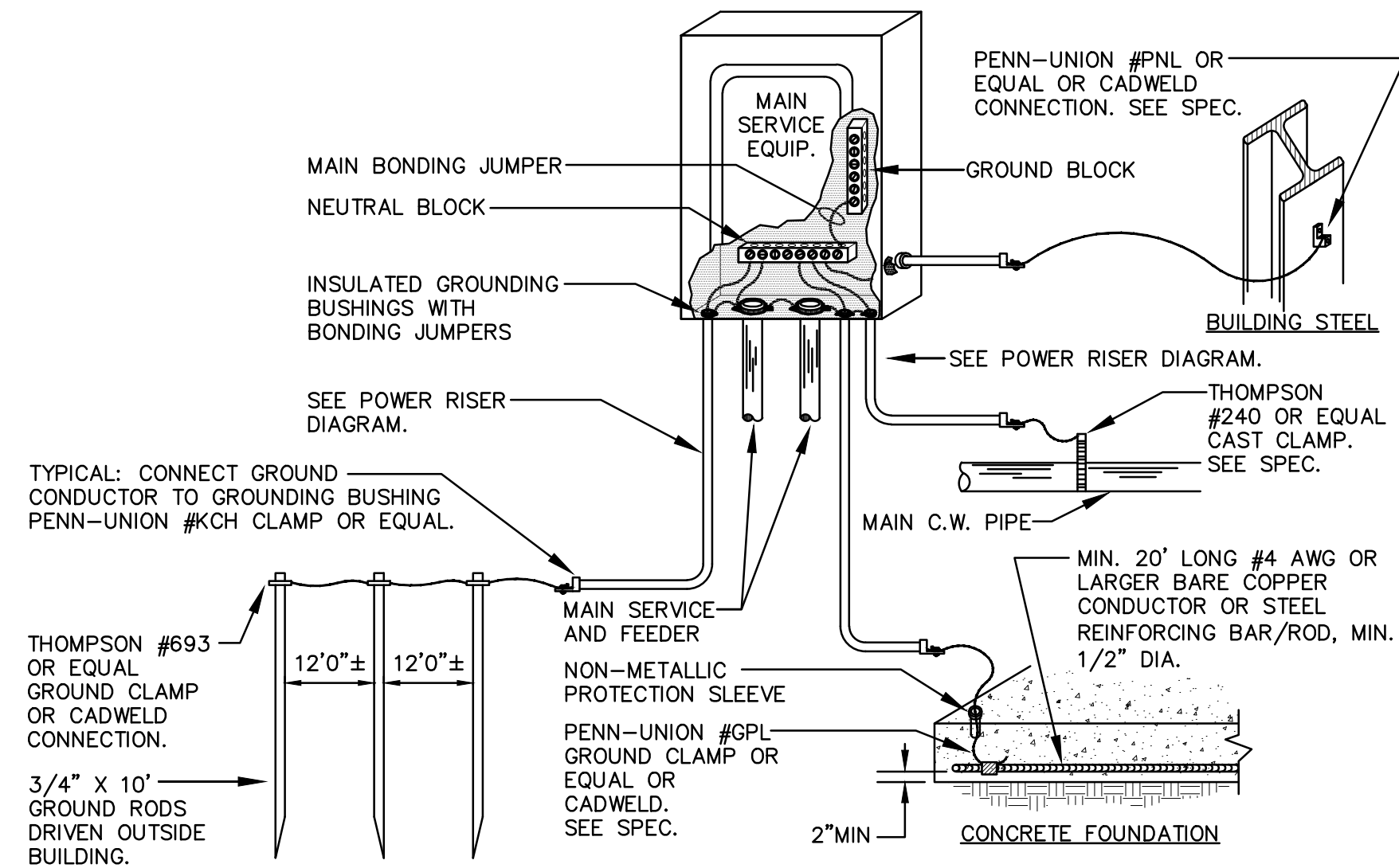
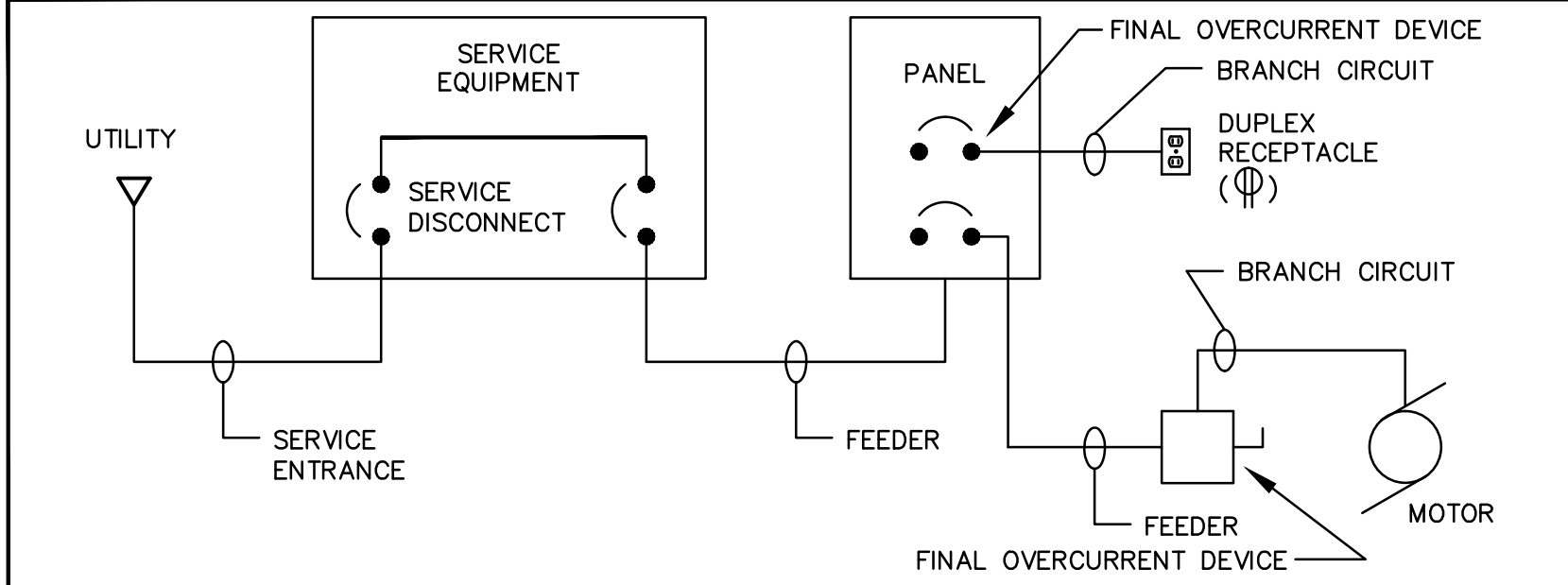
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RACEWAY MATERIAL USE TABLE

APPLICATION		RACEWAY MATERIAL						
CONTRACTOR MAY USE ANY MATERIAL MARKED (●) FOR APPLICATION LISTED. IF MATERIAL IS NOT MARKED FOR AN APPLICATION, IT SHALL NOT BE USED FOR THAT APPLICATION.		EMT	IMC	GRS	40 PVC	ENT	AC/MC CABLE	MFD. WIRING
BRANCH CIRCUITS	CONCEALED ABOVE CEILING	●	●	●				
	CONCEALED IN WALLS	●	●	●				
	EXPOSED FROM FLOOR TO 7'-0" A.F.F. (INTERIOR)		●	●				
	EXPOSED FROM 7'-0" A.F.F. AND ABOVE (INTERIOR)	●				NOT PERMITTED	NOT PERMITTED	NOT PERMITTED
	IN OR UNDER CONCRETE FLOORS		(1)	(1)	●			
	OUTDOORS - BELOW GRADE		(1)	(1)	●	NOT PERMITTED	NOT PERMITTED	NOT PERMITTED
	OUTDOORS - EXPOSED		●	●				
	STUB-UPS BELOW PANELS & ENCLOSURES		●	●	(2)			
FEEDER CONDUITS			●	●	(3)			
SERVICE ENTRANCE			●	●	(3)			

- (1) WITH BITUMINOUS COATING. SEE SPEC.
(2) WITH PANEL "SKIRT" ONLY.

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GROUNDING OF MAIN SERVICE

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NO SCALE

LIGHTING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLTAGE	LAMPS*	BALLASTS*	FIXTURE WATTAGE	NOTES
SA	LED HANDRAIL ASSEMBLY	INTENSE LIGHTING COLE	IVR2 SERIES (CUSTOM) STAINLESS STEEL-WALL MOUNT. HO LED-30" AYM-35 EQUAL	120V	LED	N/A	550W	LED ILLUMINATED HANDRAIL SYSTEM WITH ALTERNATING WALL MOUNT BRACKETS AND POST MOUNT POWERED BALUSTERS. SEE ARCHITECTURAL PLANS FOR MOUNTING. AT CONTRACTORS OPTION, REMOTE POWER SUPPLIES MAY BE UTILIZED IN LIEU OF POWER BALUSTER.
SB	LINEAR LED SIGN UPLIGHT	LUMENPULSE COLOR KINETICS	LOGHRO-*--48-35K-* --*-UMAS-*--NO-ETE EQUAL	120V	LED	N/A	125W	SURFACE MOUNT AT BOTTOM OF SIGNAGE, AIM TO EVENLY ILLUMINATE SIGN. MOUNT AS CONTINUOUS ROW, LENGTH OF FIXTURES TO SUIT. FINISH AS DIRECTED BY ARCHITECT. PROVIDE OPTICAL DISTRIBUTION TO SUIT. FINAL SIGN LAYOUT AND FIXTURE MOUNTING OFFSET.
SC	CAMPUS STANDARD LED POST TOP	STERNBERG	6ARC45TS 508 PEC1 4212-FP5 (POLE)	120V	LED	N/A	110W	MOUNT TO CONCRETE BASE. PROVIDE POLE EPA RATED 90MPH (1.3 GUST FACTOR). PROVIDE FINISH TO MATCH EXISTING CAMPUS STANDARD. INTEGRAL PHOTOCELL.
SD	LED DOWN-LIGHT	LITHONIA H.E. WILLIAMS	DOM8 LED 35K EQUAL	120V	LED	N/A	27.5W	RECESSED - WET LOCATION TYPE.
A	4' UTILITY STRIP (2 LAMP)	LITHONIA H.E. WILLIAMS	UN-232-2GCUN EQUAL	120V	2-F032/835XP/ ECO (OCTRON T8)	OSI #QT-2x32T8/ISL (0.77 BALLAST FACTOR)	51W	SURFACE-CEILING. PROVIDE WITH WIREGUARD. COORDINATE LOCATION WITH EQUIPMENT LAYOUTS FOR UNIFORM LIGHTING LEVELS.

NOTES TO LIGHTING FIXTURE SCHEDULE

- L1. LOCATE ALL FIXTURES IN STRICT ACCORDANCE WITH ARCHITECTURAL AND LANDSCAPE PLANS.

ABBREVIATIONS

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THE FOLLOWING STANDARD ABBREVIATIONS ARE USED IN THESE PLANS AND SPECIFICATIONS. CONTRACTOR IS CAUTIONED THAT ALL ABBREVIATIONS LISTED MAY NOT BE USED; CONSULT PLANS AND SPECIFICATIONS FOR ABBREVIATIONS APPLICABLE TO THIS PROJECT.

A.F.F. ABOVE FINISHED FLOOR
B.F.F. BELOW FINISHED FLOOR
A.F.G. ABOVE FINISHED GRADE
B.F.G. BELOW FINISHED GRADE
U.N.O. UNLESS NOTED OTHERWISE
C.K.T. CIRCUIT
E.C. EMPTY CONDUIT
FLX. FLEXIBLE CONDUIT
WFLX WEATHERPROOF FLEXIBLE CONDUIT

BRANCH CIRCUIT WIRING - HASHMARK CODE

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NO SCALE

BRANCH CIRCUITS SHOWN ON THESE DRAWINGS MAY INCLUDE HASHMARKS WHICH INDICATE THE NUMBER OF WIRES TO BE PROVIDED IN A CONDUIT RUN BETWEEN OUTLETS OR JUNCTION BOXES. WIRE SIZES SHALL BE AS TABULATED IN PANELBOARD SCHEDULES UNLESS OTHERWISE INDICATED ON PLAN. SEE SYMBOL SCHEDULE FOR CONDUIT ROUTING NOTATION. HASHMARK CODE IS AS FOLLOWS:

EACH PHASE AND NEUTRAL WIRE IN A CONDUIT RUN IS REPRESENTED BY A HASHMARK. FOR EXAMPLE -

→ TWO WIRES (NO HASHMARKS)
→ THREE WIRES (3 HASHMARKS)
→ FOUR WIRES (4 HASHMARKS)
→ FIVE WIRES (5 HASHMARKS)
... AND SO FORTH.

NOTE: GROUND WIRES ARE NOT GENERALLY SHOWN. EXAMINE SPECIFICATIONS AND GENERAL NOTES TO DETERMINE REQUIREMENTS FOR GROUND WIRES AND WHERE SPECIFIED, PROVIDE IN ADDITION TO THE NUMBER OF WIRES INDICATED BY HASHMARK CODE.

EMPTY CONDUITS ARE NOTED BY "EC" WITH TRADE SIZE.

STEEL OR MALLEABLE IRON COMPRESSION E.M.T. FITTING RAIN TIGHT & CONCRETE TIGHT. EFCOR #761 FOR 3/4" E.M.T. (OTHER FITTINGS EFCOR: #771B 90° CONNECTOR; #751B STRAIGHT CONNECTOR). EQUALS BY REGAL, T&B, STEEL CITY.

COMPRESSION TYPE CONDUIT FITTING

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NO SCALE

GENERAL NOTES

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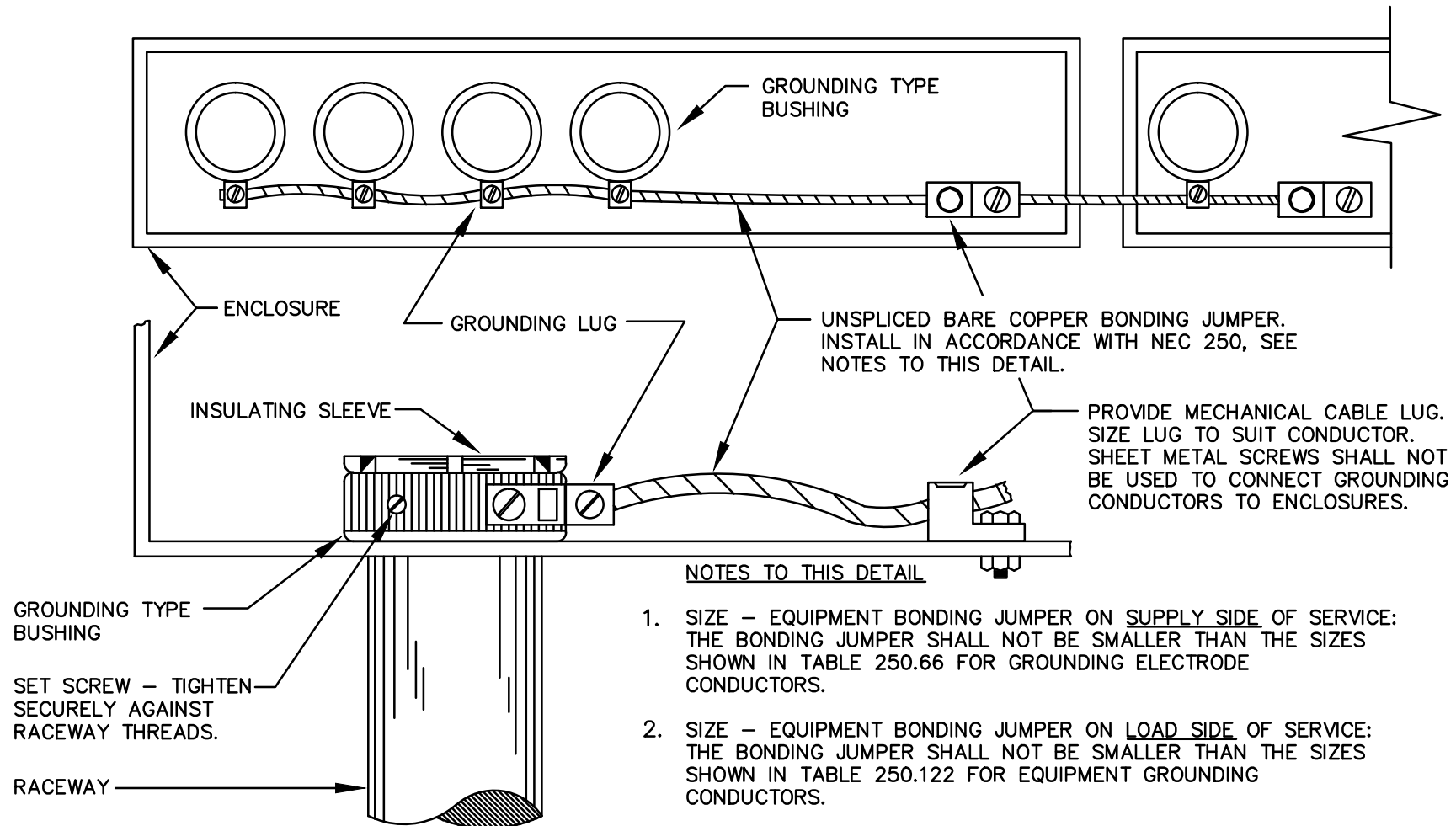
- DO NOT SCALE DRAWINGS UNLESS DIMENSIONS ARE SHOWN. LOCATE OUTLETS AND EQUIPMENT AS OBVIOUSLY INDICATED AND COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS.
- MINIMUM SIZE CONDUCTOR FOR POWER SHALL BE NO. 12 AWG.
- ALL FUSES SHALL BE DUAL-ELEMENT TYPE, "FUSETRON" BY BUSSMAN, OR "ECON" BY ECONOMY.
- BRANCH CIRCUIT SIZES ARE AWG 12-1/2". UNLESS OTHERWISE NOTED IN PANELBOARD SCHEDULES.
- ALL BRANCH CIRCUIT LOADS SHALL BE BALANCED ACROSS PANELBOARD BUSSES TO OBTAIN MINIMUM NEUTRAL CURRENT.
- ALL FLEXIBLE CONDUIT SHALL CONTAIN A GREEN WIRE BONDED TO RIGID RACEWAY, BOX OR FIXTURE AT EACH END OF FLEX. SIZE GROUND WIRE PER N.E.C. TABLE 250-122.
- PROVIDE PULL CORD IN ALL EMPTY RACEWAYS.
- DO NOT MOUNT FLUSH JUNCTION BOXES BACK TO BACK. STAGGER JUNCTION BOXES TO REDUCE SOUND TRANSMISSION BETWEEN ROOMS.
- CONTRACTOR SHALL MINIMIZE REMOVAL OF STRUCTURAL STEEL FIREPROOFING FOR INSTALLATION OF CONDUIT AND EQUIPMENT HANGERS. OBTAIN APPROVAL OF GENERAL CONTRACTOR PRIOR TO REMOVAL.
- COORDINATE WITH OTHER TRADES TO CONCEAL ELECTRICAL WORK AND PROVIDE OUTLETS IN CORRECT LOCATIONS FOR EACH PIECE OF MECHANICAL OR ELECTRICAL EQUIPMENT CONNECTED.
- CONCEAL OUTLETS FOR ALL EQUIPMENT IN FINISHED AREAS. OBTAIN ROUGHING DIAGRAMS FOR ALL EQUIPMENT AND INSTALL ELECTRICAL WORK ACCORDING TO DIAGRAMS.
- MOUNT BRACKET TYPE LIGHTING FIXTURES AT HEIGHTS SHOWN OR SCHEDULED ON DRAWINGS OR AS DIRECTED ON JOB BY ARCHITECT, U.N.O.

ELECTRICAL SYMBOLS

●	OUTDOOR LIGHTING STANDARD & FIXTURE	○	CONDUIT STUB
○	DOWNLIGHT FIXTURE	□	PHOTOCELL, 1800VA U.N.O., AIM NORTH.
□	TRANSFORMER	□	TIME SWITCH
■	PANELBOARD	◆	MOTION SENSOR SWITCH
①	FLUSH JUNCTION BOX CEILING (①-WALL)	↗	BRANCH CIRCUIT RACEWAY - CONCEALED IN WALL OR CEILING
②	PULL BOX OR JUNCTION BOX IN FLOOR	↘	BRANCH CIRCUIT RACEWAY - CONCEALED IN FLOOR OR UNDERGROUND
⊕	DUPLEX RECEPTACLE (⊕-HIGH MOUNT)	↖	BRANCH CIRCUIT RACEWAY - EXPOSED
⊕⊕	WEATHERPROOF DUPLEX RECEPTACLE. 16" UP		
⊕GFI	GROUND FAULT INTERRUPTER RECEPTACLE		

NOTE: ALL DEVICES SHOWN ON THIS SCHEDULE ARE SYMBOLIC ONLY. SEE ELECTRICAL SPECIFICATIONS FOR EXACT DEVICE REQUIREMENTS AND PERFORMANCE CHARACTERISTICS.

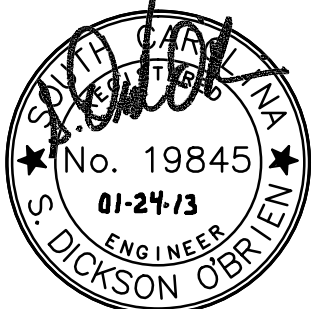
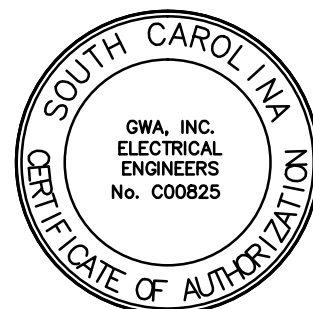
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GROUNDING OF CONDUITS 1" C. AND LARGER

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NO SCALE



GWA-12-2743

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Electrical Symbols, Schedules and Details

USCA Pedestrian Bridge

State Project No. H29-9545-PG

University of South Carolina

Aiken County, SC

Drawn: CJA Checked: SDO

Revised:

Project No.: 391402B

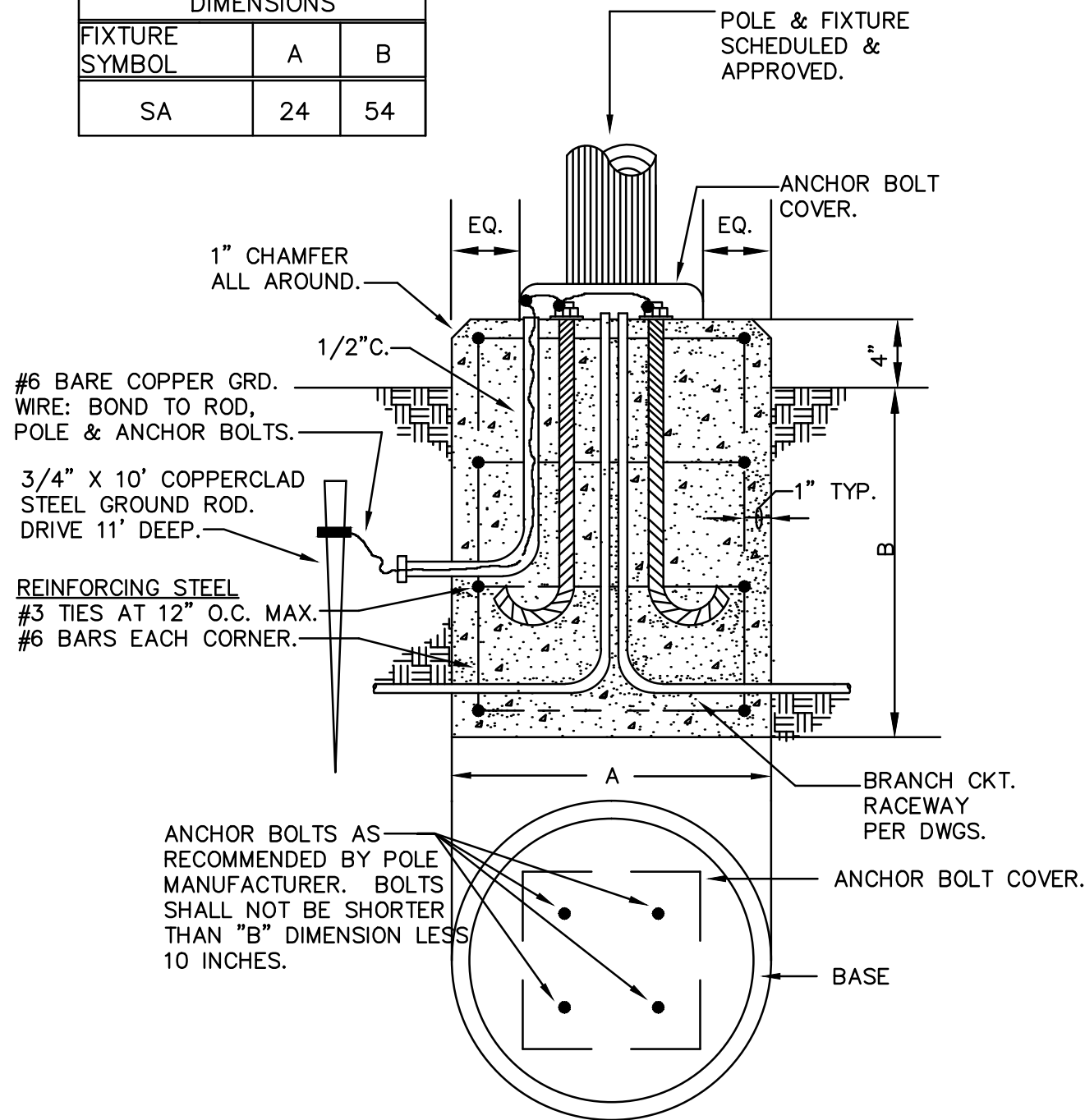
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E001

Sheet Number
October 9, 2012

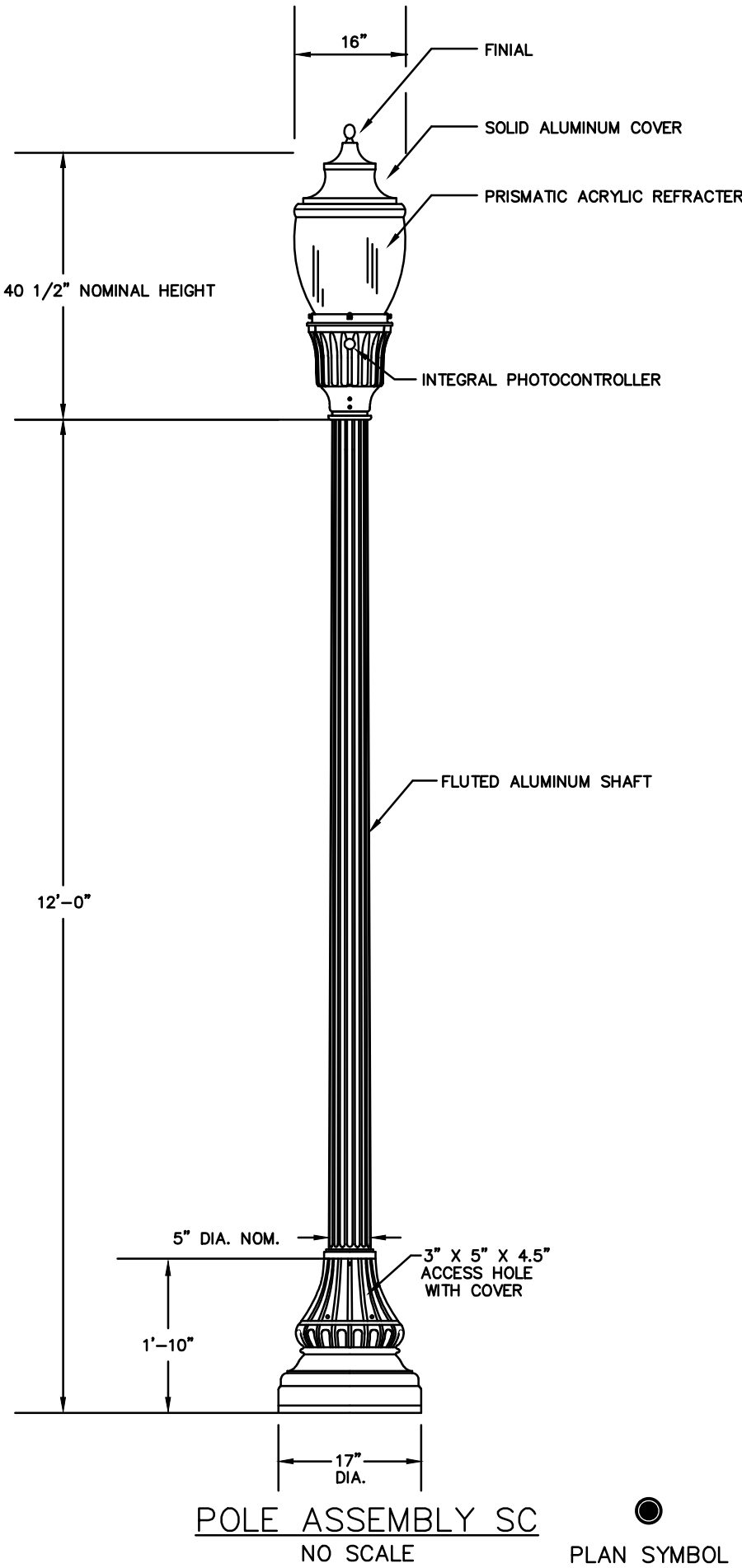
Date

DIMENSIONS		
FIXTURE SYMBOL	A	B
SA	24	54



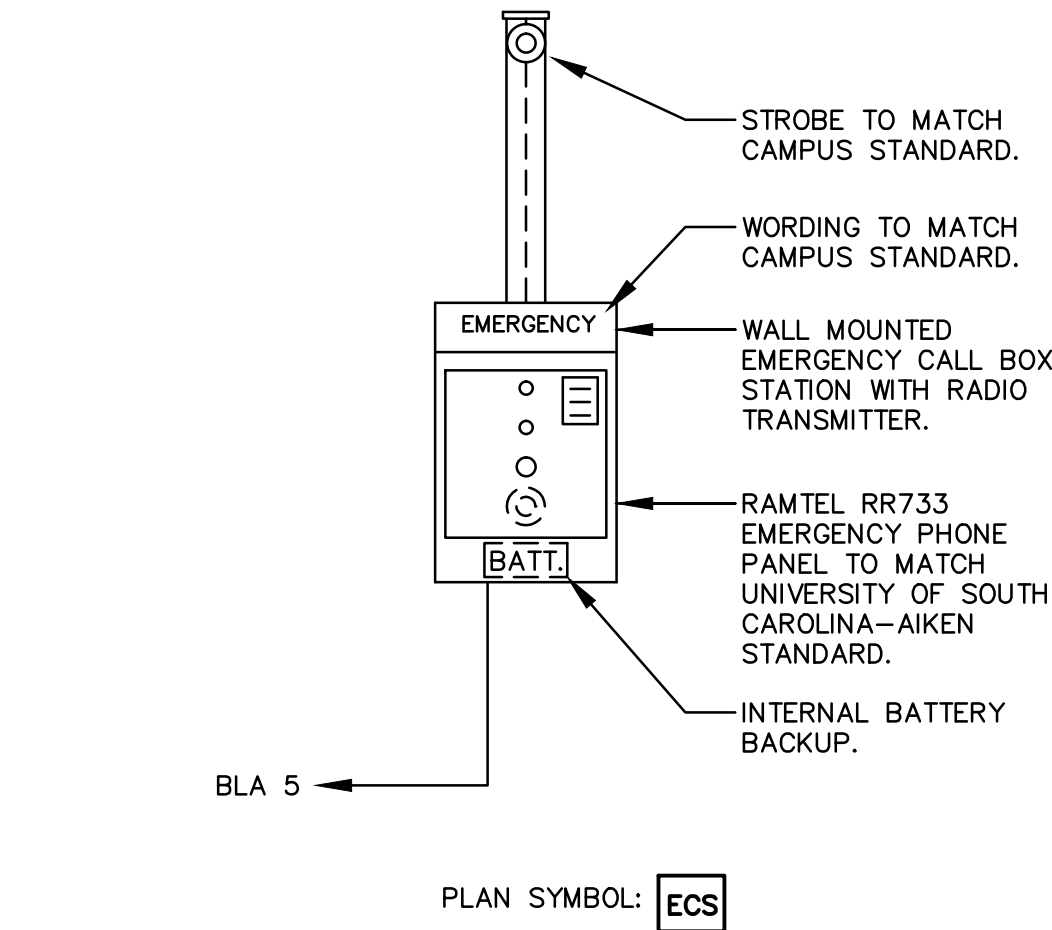
BASE: CONCRETE, 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.

OUTDOOR LIGHTING FIXTURE 'SA' FOUNDATION
NOT TO SCALE



POLE ASSEMBLY SC
NO SCALE

PLAN SYMBOL

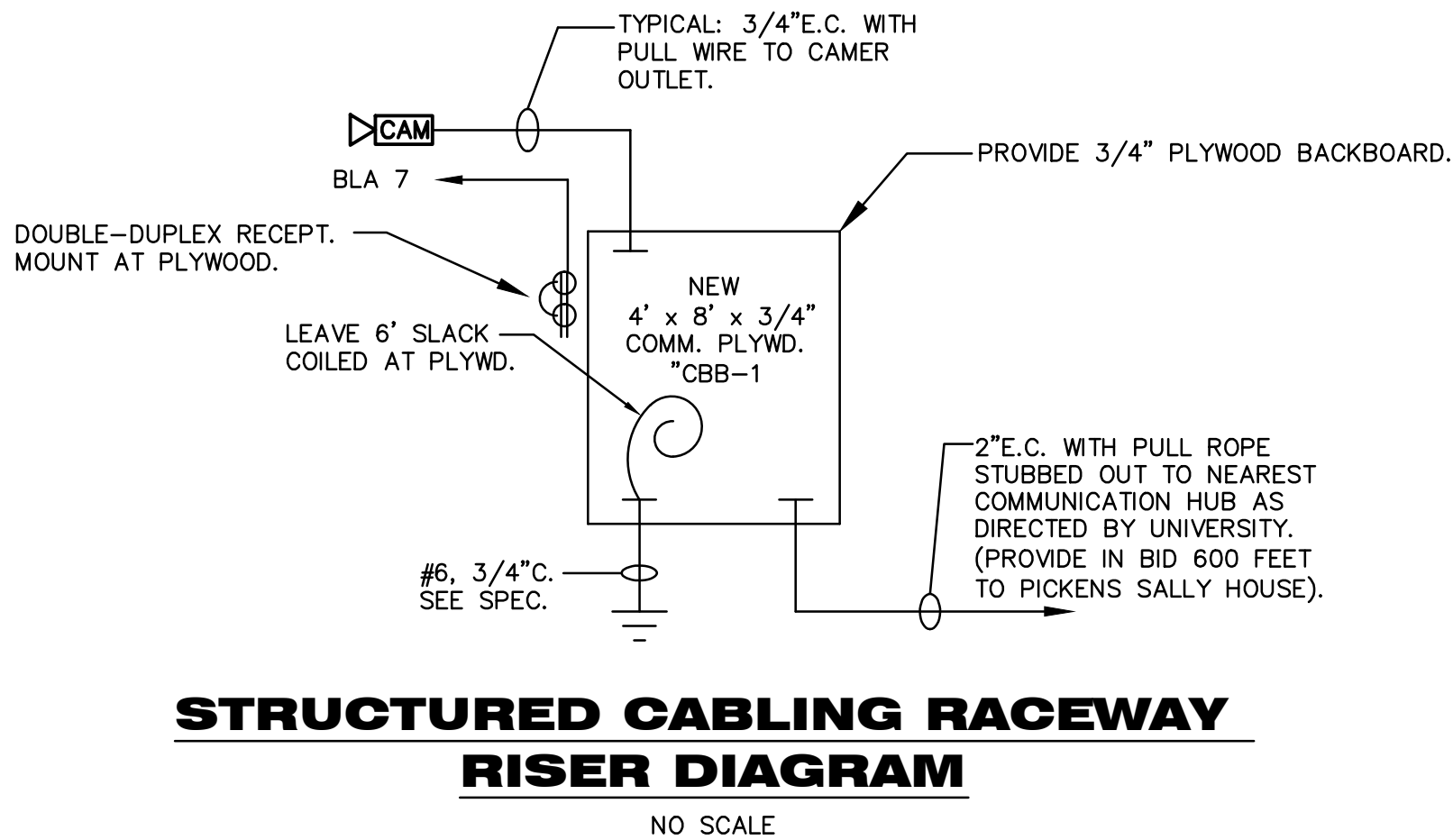


EMERGENCY PHONE RISER DIAGRAM
NO SCALE

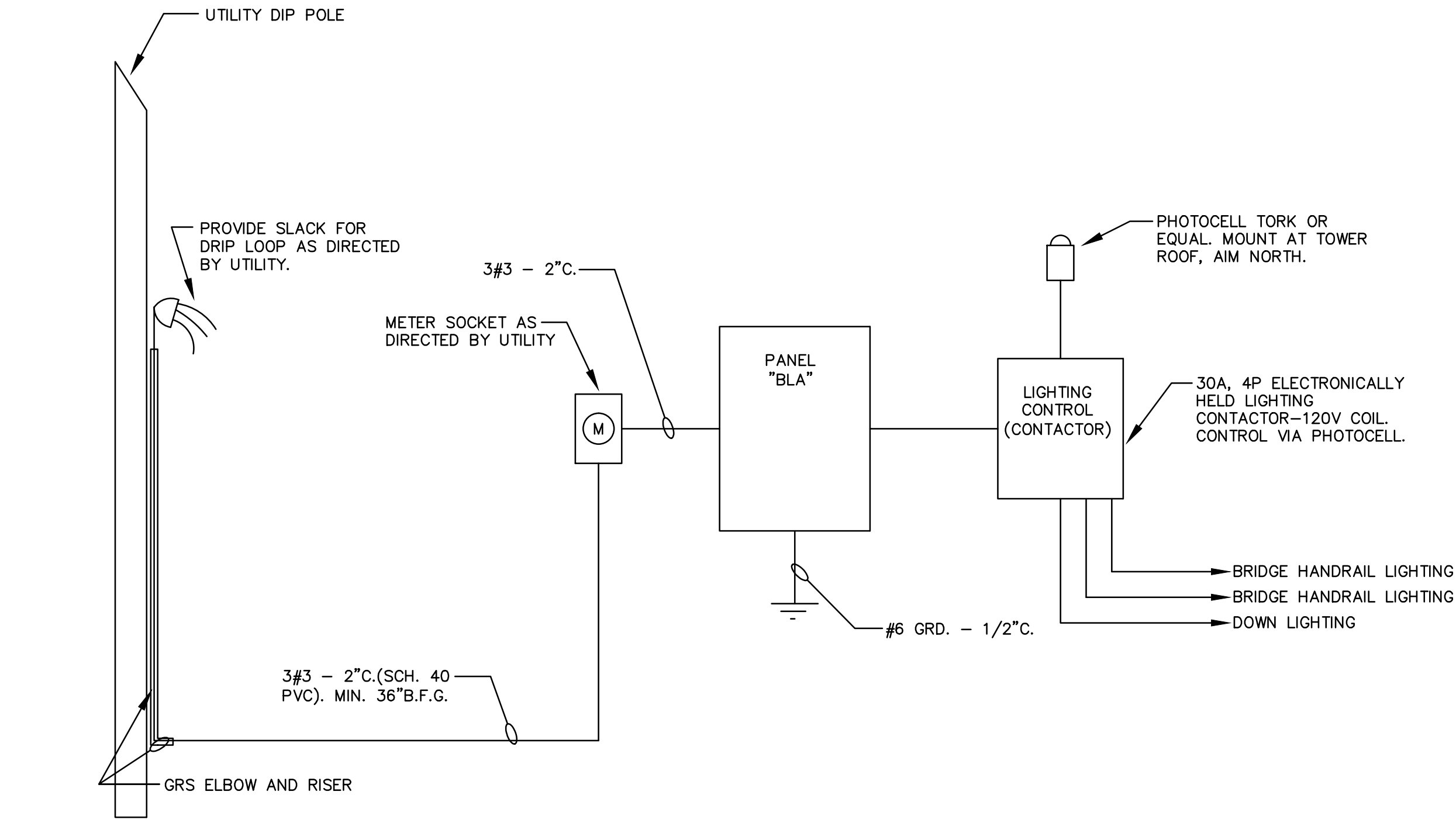
NEW PANEL

SCHEDULE - PANELBOARD.BLA										TYPE: <input checked="" type="checkbox"/> QO <input type="checkbox"/> I-LINE VOLTAGE <input checked="" type="checkbox"/> 240/120V, 1Ø, 3W <input type="checkbox"/> 208/120V, 1Ø, 3W										MOUNTING: <input type="checkbox"/> FLUSH <input checked="" type="checkbox"/> SURFACE AIC RATING 22K									
100 AMP <input type="checkbox"/> MLO <input checked="" type="checkbox"/> MCB																				ACCESSORY: <input type="checkbox"/> FEED-THRU LUGS TOTAL SPACES 42									
NO.	LOAD DESCRIPTION		REMARK	BRKR	AMP	WIRE	COND	LOAD KVA	BUSSING	LOAD KVA	CIRCUIT	BRKR	AMP	WIRE	COND	LOAD DESCRIPTION	NO.												
1	POST TOP LIGHTING			20	1	10	3/4	0.6	A	0.8	3/4	10	1	20		HANDRAIL LIGHTING	2												
3	DOWN LIGHTING					10	3/4		C	0.8	3/4	10	1	20		HANDRAIL LIGHTING	4												
5	EMERGENCY PHONE					10	3/4	0.4		1.0	3/4	10	1	20		N. LOWER LIGHTING	6												
7	COMM. PLYWOOD					12	1/2			1.0	1	8	1	20		S. LOWER LIGHTING	8												
9	SPARE															SPACE ONLY	10												
11																	12												
13																	14												
15																	16												
17																	18												
19																	20												
CONNECTED LOAD, KVA:										A 1.0 C 1.6	CONNECTED LOAD, KVA:																		
KVA, THIS SECTION:										A 2.8 C 3.4																			
										REMARK ABBREVIATION LEGEND:																			
										STB = SHUNT TRIP BRKR. GFI = GFI BRKR.																			
										SFB = SUB-FEED BRKR. VFY = VERIFY LOAD																			

SERVICE ENTRANCE RATED



STRUCTURED CABLING RACEWAY
RISER DIAGRAM
NO SCALE

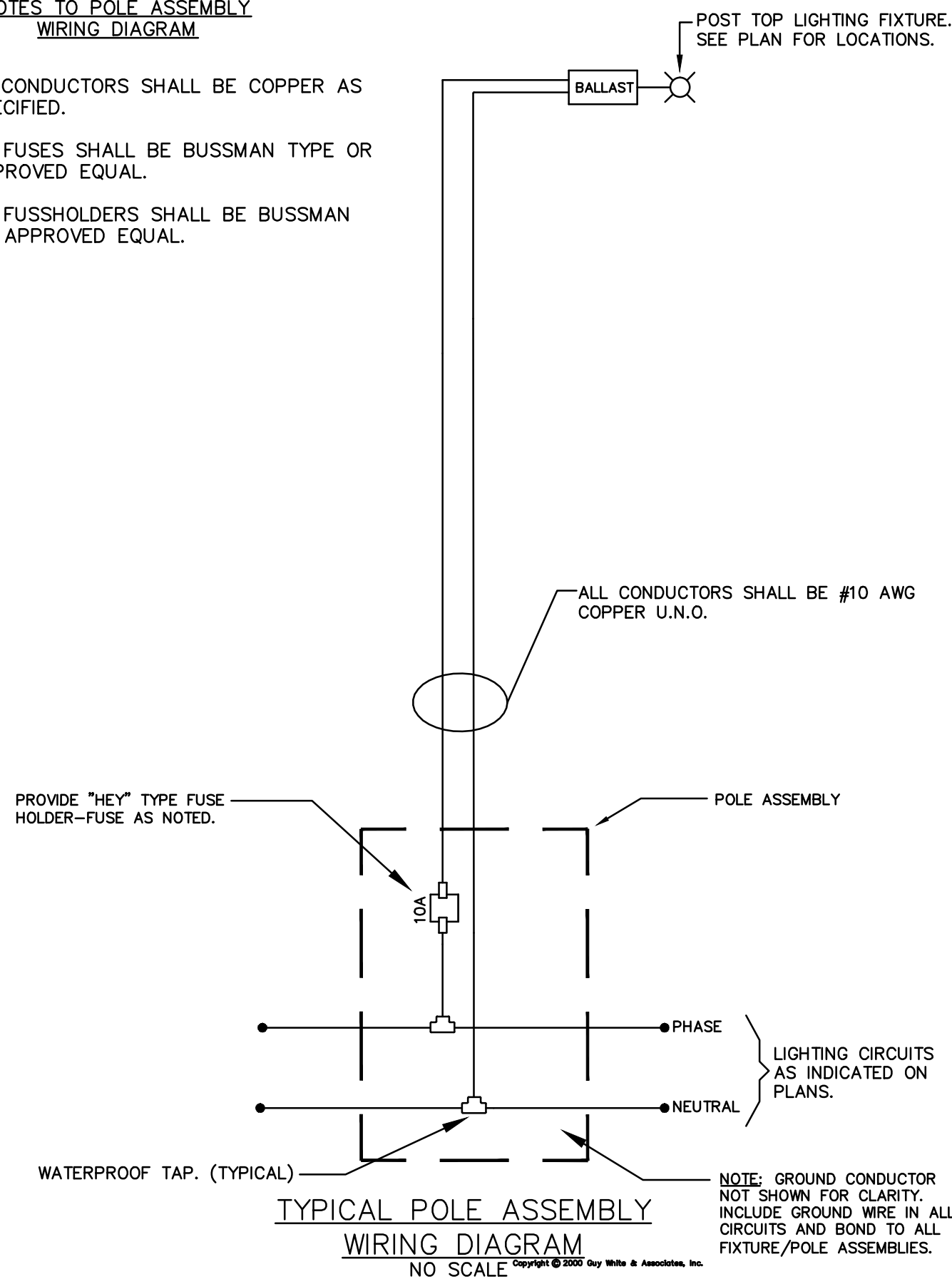


NOTE: CONTRACTOR SHALL COORDINATE WITH POWER SUPPLIER AND COMPLY WITH ALL REQUIREMENTS FOR SERVICE AND METERING.

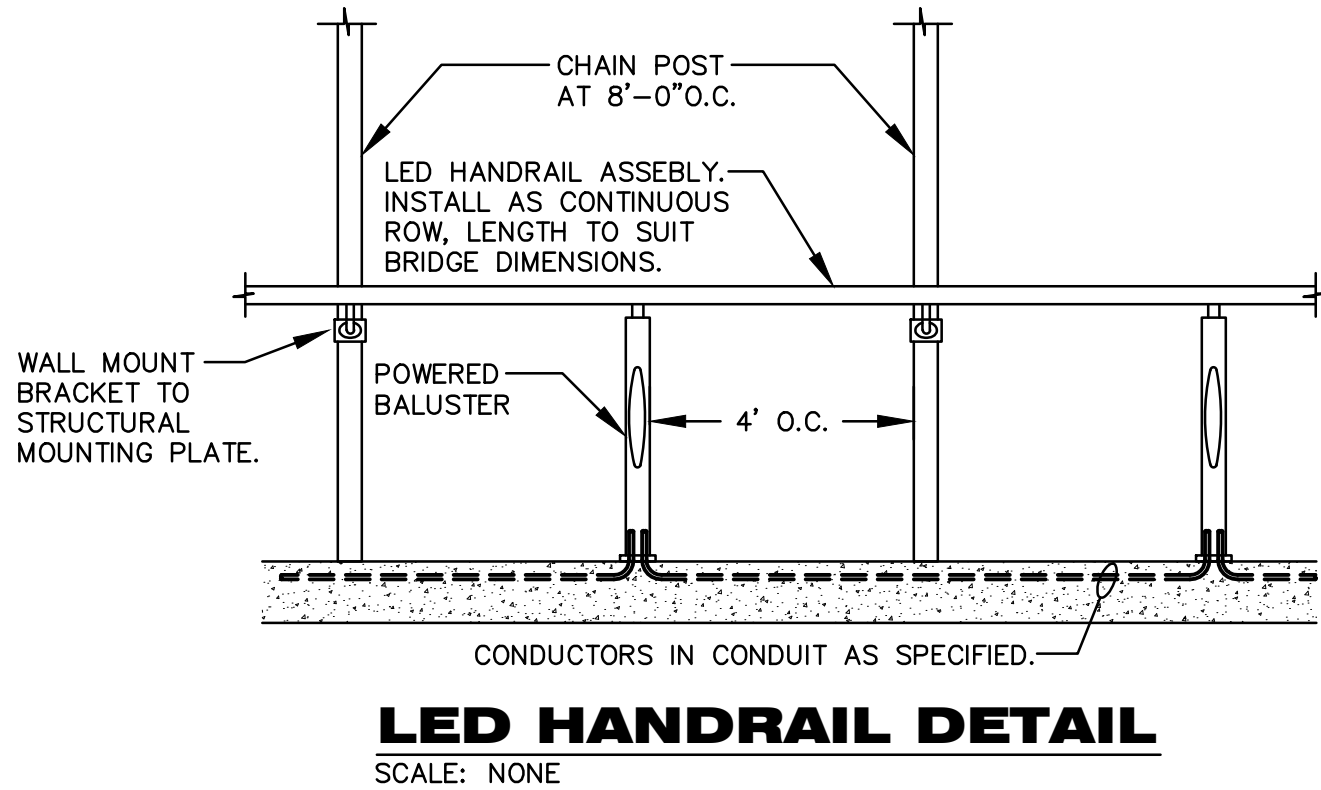
POWER RISER DIAGRAM
NO SCALE

NOTES TO POLE ASSEMBLY WIRING DIAGRAM

- ALL CONDUCTORS SHALL BE COPPER AS SPECIFIED.
- ALL FUSES SHALL BE BUSSMAN TYPE OR APPROVED EQUAL.
- ALL FUSSHOLDERS SHALL BE BUSSMAN OR APPROVED EQUAL.



TYPICAL POLE ASSEMBLY
WIRING DIAGRAM
NO SCALE



LED HANDRAIL DETAIL
SCALE: NONE

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