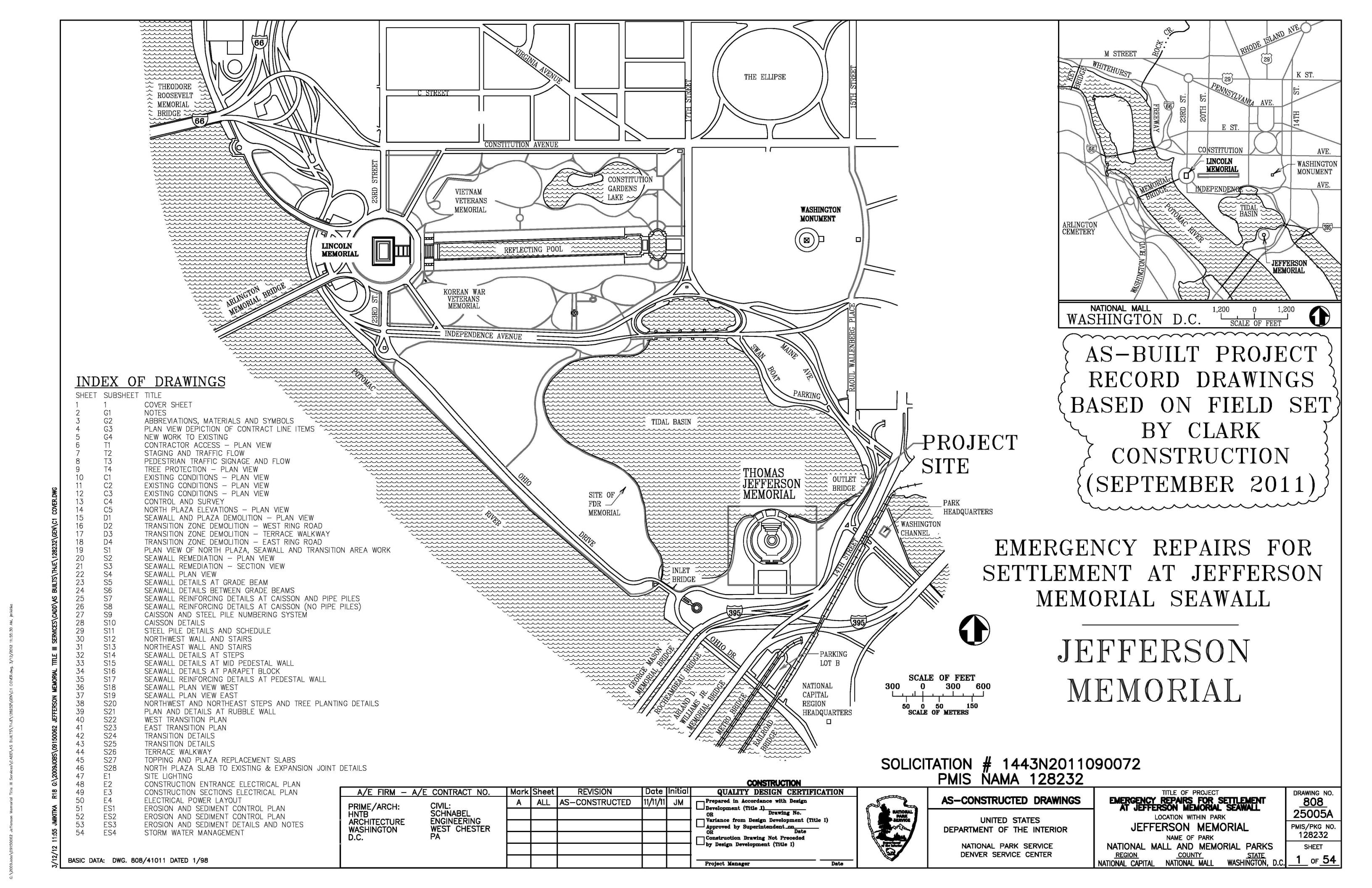
This document is made available through the declassification efforts and research of John Greenewald, Jr., creator of:

# The Black Vault



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- 1) THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING CODES AND SPECIFICATIONS. IN THE EVENT OF A CONFLICT WITH THE CONTRACT DOCUMENTS, THE CONTRACT DOCUMENTS SHALL GOVERN
- ACI BUILDING CODE 301–2005 SPECIFICATIONS FOR STRUCTURAL CONCRETE.
- ACI BUILDING CODE 315—1999. DETAILS AND DETAILING OF CONCRETE REINFORCING.
- ACI BUILDING CODE 318-2008. BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
- ASTM A 615. STANDARD SPECIFICATION FOR DEFORMED AND PLAIN CARBON-STEEL BARS FOR CONCRETE REINFORCEMENT. • FHWA-IF-99-025. DRILLED SHAFTS: CONSTRUCTION PROCEDURES
- FOR CARBON STRUCTURAL STEEL.
- IBC 2006.

#### **REGULATORY REQUIREMENTS:**

1) WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH US ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT (NWP) NUMBER 3. AS PUBLISHED IN THE MARCH 12, 2007 FEDERAL REGISTER, FINAL NOTICE OF ISSUANCE, REISSUANCE, AND MODIFICATION OF NWPS (72 FR 11090) AND ALL APPLICABLE CONDITIONS AND MANAGEMENT PRACTICES. IN THE EVENT OF A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND NWP #3, NOTIFY THE CONTRACTING OFFICER IMMEDIATELY AND PRIOR TO PERFORMANCE OF THE WORK IN QUESTION.

2) WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE DISTRICT DEPARTMENT OF THE ENVIRONMENT NPDES PERMIT FOR THIS PROJECT. IN THE EVENT OF A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND THE NPDES

PERMIT REQUIREMENTS FOR THIS PROJECT, NOTIFY THE CONTRACTING OFFICER IMMEDIATELY AND PRIOR TO PERFORMANCE OF THE WORK IN QUESTION.

3) WORK SHALL BE PERFORMED IN ADHERENCE TO ALL APPLICABLE REGULATORY TIME-OF-YEAR RESTRICTIONS, AS SPECIFIED BELOW. IN THE EVENT THAT ANY REGULATORY TIME-OF-YEAR RESTRICTIONS WHICH ARE NOT SPECIFIED BELOW OR WHICH ARE NOT SPECIFIED ELSEWHERE IN THE CONTRACT

DOCUMENTS ARE IMPOSED ON PROJECT WORK, NOTIFY THE CONTRACTING OFFICER IMMEDIATELY AND PRIOR TO PERFORMANCE OF THE WORK IN QUESTION.

- 4) TIME-OF-YEAR RESTRICTIONS ON WORK BETWEEN MARCH 1ST AND JUNE 30TH DUE TO ANADROMOUS FISH MIGRATION AND SPAWNING SEASON: ALL WORK IN THE TIDAL BASIN BETWEEN THESE DATES SHALL BE PERFORMED WITHIN A PROPER TURBIDITY CURTAIN INSTALLED IN ACCORDANCE WITH ALL APPLICABLE REGULATORY, SWPPP, AND CONTRACT DOCUMENT REQUIREMENTS. CONTRACTOR IS RESPONSIBLE TO SCHEDULE THE WORK ACCORDINGLY AND TO ENSURE COMPLIANCE WITH ALL REGULATORY REQUIREMENTS.
- 5) WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE DISTRICT DEPARTMENT OF THE ENVIRONMENT WATER QUALITY CERTIFICATION FOR THIS PROJECT, WHICH IS DDOE CERTIFICATION #DC-09-002 DATED MARCH 24, 2009. IN THE EVENT OF A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND THE WATER QUALITY CERTIFICATION FOR THIS PROJECT, NOTIFY THE CONTRACTING OFFICER IMMEDIATELY AND PRIOR TO PERFORMANCE OF THE WORK IN QUESTION. ANY REQUIREMENTS IMPOSED BY THE DDOE, WHICH ARE NOT ARTICULATED IN THE WATER QUALITY CERTIFICATION FOR THIS PROJECT, OR DEPICTED IN THE CONTRACT SPECIFICATIONS OR DRAWINGS, WILL BE ADDRESSED UNDER THE CHANGES CLAUSE OF THIS CONTRACT.
- 6) WORK SHALL BE PREPARED IN ACCORDANCE WITH NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES DATED JANUARY 8, 2009.

#### **RELATED DOCUMENTS:**

- 1) INVESTIGATION OF SETTLEMENT AND UPHEAVAL AT THE JEFFERSON MEMORIAL NATIONAL MALL AND MEMORIAL PARKS, WASHINGTON, D.C., DATED JANUARY 30, 2008.
- 2) CONDITION ASSESSMENT OF THE ASHLAR SEAWALL MEMO, DATED MAY 16, 2008.
- 3) CORE REPORT FOR THE ASHLAR SEAWALL, DATED JULY 22, 2008.
- 4) REPAIR AND CONTROL SETTLEMENT MEMO QUARTERLY MONITORING OF INSTRUMENTATION AND SURVEY POINTS, DATED JULY 10, 2008, REVISED JULY 24, 2008.
- 5) NORTH PLAZA CONE PENETRATION TEST AND SOUNDING REPORT, DATED OCTOBER 6, 2008.

- 6) JEFFERSON MEMORIAL PLAZA INVESTIGATION REPORT, DATED OCTOBER 6, 2008.7) NORTH PLAZA INSTRUMENTATION INSTALLATION REPORT FOR THE JÉFFERSON MEMORIAL, DATED OCTOBER 6, 2008.
- 8) REPAIR AND CONTROL SETTLEMENT MEMO QUARTERLY MONITORING OF INSTRUMENTATION AND SURVEY POINTS, DATED NOVEMBER 11, 2008.

#### **GENERAL NOTES:**

- 1) DELIVERY HOURS ARE 6:00AM TO 5:00PM AND REQUIRE 48 HOURS ADVANCE NOTICE FOR K9 SWEEPS IF ENTERING THE JEFFERSON MEMORIAL SECURED AREA.
- 2) WORKING HOURS ARE WEEKDAYS 6:00AM TO 5:00PM; PREAPPROVE ANY SATURDAY, SUNDAY, HOLIDAY WORK OR ADDITIONAL HOURS WITH CONTRACTING OFFICER.
- 3) ON SITE PARKING IS NOT AVAILABLE FOR CONSTRUCTION WORKERS. OFF-SITE PARKING IS AVAILABLE BY PERMIT IN LOT B ON OHIO DRIVE.
- 4) CONTRACTOR IS RESPONSIBLE FOR, BUT NOT LIMITED TO, RESTORATION AND/OR REPAIR OF AREAS OR SITE FEATURES DISTURBED OR DAMAGED DURING THE CONTRACTOR'S PERFORMANCE OF THE WORK INCLUDING DAMAGE TO PAVING, CURBING, SIDEWALKS, GUTTERS, LAWNS, IRRIGATION SYSTEMS, AND HISTORIC MASONRY.
- 5) THE CONTRACTOR SHALL PRESERVE AND PROTECT HISTORIC MASONRY WORK ADJACENT TO THE PROJECT CONSTRUCTION LIMITS INCLUDING NORTH STEPS AND ASSOCIATED FEATURES.
- 6) THE CONTRACTOR SHALL PREPARE AND SUBMIT A WORK PLATFORM PLAN. THE PLAN SHALL ADDRESS THE MEANS BY WHICH THE CONTRACTOR WILL EXECUTE THE WORK ASSOCIATED WITH THE SEAWALL INCLUDING COFFERDAM AND DRILLED AND DRIVEN ELEMENT INSTALLATION. SUBMIT THE PLAN IN ACCORDANCE WITH SPECIFICATION 01 33 00. THE CONTRACTOR MAY UTILIZE THE EXISTING NORTH PLAZA AS A WORKING PLATFORM. THE LOAD ON THE NORTH PLAZA SHALL NOT EXCEED 250 PSF. THE CONTRACTOR SHALL SUBMIT THE WORK PLATFORM PLAN SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE DISTRICT OF COLUMBIA TO THE CONTRACTING OFFICER FOR APPROVAL. THE SUBMITTAL SHALL INCLUDE, BUT NOT BE LIMITED TO, INFORMATION INDICATING PROPOSED EQUIPMENT TO BE USED DURING CONSTRUCTION, THE ANTICIPATED LOAD SCENARIOS TO RESULT DUE TO CONSTRUCTION OPERATIONS, AND THE PROPOSED PROTECTIVE MEASURES TO BE INSTALLED AT THAT SITE TO PREVENT DAMAGE TO THE HISTORIC FEATURES AT THE SITE INCLUDING TEMPORARY SHORING AND LOAD DISTRIBUTION IMPROVEMENTS.
- 7) THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES BEFORE ANY EXCAVATION OR INSTALLATION OF FOUNDATION ELEMENTS. FOR LOCATION OF SUBGRADE UTILITIES, THE CONTRACTOR IS REFERRED TO THE UTILITY DRAWINGS, THE UTILITY LOCATIONS SHOWN HEREIN WERE PROVIDED BY THE NATIONAL PARK SERVICE. AND ARE ONLY APPROXIMATE. THE CONTRACTOR SHALL NOTIFY MISS UTILITY PRIOR TO START OF WORK TO FIELD VERIFY AND COMPLETE THE UTILITY LOCATIONS. A PRIVATE UTILITY LOCATOR IS REQUIRED TO LOCATE NON-PUBLIC UTILITIES.
- 8) PERMISSION TO USE THE STAGING AREAS SHOWN IN THESE DRAWINGS IS GRANTED WITH THE PROVISO THAT THE CONTRACTOR PRESERVE AND PROTECT ALL NATURAL, CULTURAL AND INFRASTRUCTURE FEATURES TO REMAIN INCLUDING SIDEWALKS. CURBS. TREES, SHRUBS, UTILITIES AND IRRIGATION SYSTEM COMPONENTS AND THAT THE CONTRACTOR REPAIR OR REPLACE ANY AND ALL PORTIONS OF THESE FEATURES DAMAGED DURING THE CONTRACTOR'S PERFORMANCE OF THE WORK.
- 9) THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN A GUARD SHACK AT THE CONTRACTOR ENTRANCE TO THE PROJECT SITE. THIS GUARD SHACK SHALL REMAIN IN PLACE FOR THE FULL DURATION OF THE CONSTRUCTION CONTRACT, ADJACENT TO THIS GUARD SHACK, THE CONTRACTOR SHALL INSTALL A GOVERNMENT FURNISHED PLATE BARRIER AND MAINTAIN IT FOR THE FULL DURATION OF THE CONTRACT.
- 10) INFORMATION PROVIDED ON THESE DRAWINGS RELATED TO EXISTING CONDITIONS IS BASED ON AVAILABLE DOCUMENTS AND FIELD OBSERVATION. CONTRACTOR TO INFORM CONTRACTING OFFICER UPON DISCOVERY OF ANY DISCREPANCY BETWEEN CONTRACT DRAWINGS AND ACTUAL EXISTING CONDITIONS.
- 11) CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF STRUCTURAL COMPONENTS.
- 12) BASED ON HISTORICAL DOCUMENTS PROVIDED BY NATIONAL PARK SERVICE, THE EXISTING NORTH PLAZA GRADE BEAM PILES CONSIST OF 14BP73 WITH AN ALLOWABLE LOAD CAPACITY OF 65 TON. EXISTING NORTHWEST WALKWAY GRADE BEAM PILES CONSIST OF HP 14X89 WITH AN ALLOWABLE LOAD CAPACITY OF 90 TONS.

13) THE CONTRACTOR SHALL BE AWARE OF POSSIBLE DRILLING OR DRIVING OBSTRUCTIONS SUCH AS RIPRAP, EXISTING TIMBER PILES, EXISTING SHEET PILES AND CONCRETE. ALL MEANS AND METHODS MUST BE SELECTED AND IMPLEMENTED TO ASSURE THAT NO DAMAGE IS OCCASIONED TO EXISTING SEAWALL AND NORTH PLAZA STRUCTURES DURING DRILLING OR DRIVING OPERATIONS.

14) PUBLIC ACCESS TO THE JEFFERSON MEMORIAL SHALL BE MAINTAINED AT ALL TIMES.

15) USE OF THE INLET BRIDGE FOR EQUIPMENT AND MATERIAL

TRÂNSPORTATION OR OTHER CONSTRUCTION TRAFFIC IS PROHIBITED.

(RFI 40, 4/13/10 ALL BORINGS TO GEOTECHNICAL INFORMATION: BE DONE IN SPECIFIED LOACTIONS 1) SIX TEST BORINGS, AND SUBSEQUENT ROCK CORINGS, SHALL BE PERFORMED BY THE CONTRACTOR: THREE TEST BORINGS AT CAISSON TIP LOCATIONS, AND THREE TEST BORINGS AT PIPE PILE TIP LOCATIONS. FINAL TEST BORING LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE CONTRACTING OFFICER. TEST BORINGS SHALL BE TREMIE GROUTED UPON COMPLETION TO PREVENT ANY COLLAPSE OF THE BORING HOLE.

2) ALL ROCK CORING (TEST BORINGS) SHALL BE COMPLETED AND SAMPLES DELIVERED TO THE CONTRACTING OFFICER PRIOR TO BEGINNING ANY DRILLED SHAFT CONSTRUCTION.

3) THE INDICATED PILE TIP ELEVATIONS AND ROCK SOCKET LENGTHS ARE APPROXIMATE AND ARE BASED ON AVAILABLE SUBSURFACE EXPLORATION DATA. ACTUAL PILE TIP ELEVATIONS AND ROCK SOCKET LENGTHS SHALL BE DETERMINED BY THE CONTRACTING OFFICER DURING CONSTRUCTION AND SHALL BE BASED ON ACTUAL ROCK TYPES AND CONDITIONS ENCOUNTERED AS IDENTIFIED BY ADDITIONAL TEST BORING ROCK CORE SAMPLES THAT SHALL BE OBTAINED BY THE CONTRACTOR.

#### <u>GRANITE FEATURES:</u>

**NOTES** 

1) ALL FACING, COPING STONES, GRANITE STEPS, PEDESTALS, CURBING AND OTHER GRANITE/STONE FEATURES SHALL BE NUMBERED. INVENTORIED AND CATALOGED PRIOR TO DISASSEMBLY AND REMOVAL. ALL EXISTING STONES SHALL BE CLEANED AND, IF NECESSARY, REPAIRED IN PREPARATION FOR REINSTALLATION. REINSTALLATION OF GRANITE FEATURES SHALL MATCH LAYOUT AND LOCATION OF THE EXISTING CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR REINSTALLING THE GRANITE FEATURES SO AS TO NOT CAUSE ANY DEVIATION OR CHANGE TO CURRENT LAYOUT AND LOCATIONS.

### AGGREGATE TOPPING COURSE:

1) CONTRACTOR SHALL IDENTIFY AND LOG EXISTING SLAB EXPANSION JOINTS AND SCORE PATTERNS IN ACCORDANCE WITH SPECIFICATION 02 21 13.

2) NEW EXPOSED AGGREGATE TOPPING TO MATCH THE EXISTING EXPOSED AGGREGATE TOPPING IN APPEARANCE, TEXTURE, FINISH, AND SCORING PATTERN IN ACCORDANCE WITH SPECIFICATION 03 35 23.

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PILE LOAD TEST OPTIONS

RFI 0045, 5/27/10

#### **DRIVEN PILES:**

1) PIPE PILES WILL WORK PRIMARILY IN COMPRESSION. DESIGN ALLOWABLE LOADS AT THE SEAWALL PILE HEADS ARE: COMPRESSION = 354 KIPS

NEGATIVE SKIN FRICTION = 365 KIPS

TRANSITION ZONES ARE: COMPRESSION = 433 KIPS

2) DRIVEN PILE STEEL SHALL BE FY = 50 KSI.

(5, CONTRACTOR SHALL PERFORM PILE DRIVING ANALYZER TESTING ON ONE SACRIFICIAL TEST PILES AND AT SIX PRODUCTION PILES. RFI 0057, 8/23/10 - REQUIRED PDA TESTING 

4) THE CONTRACTOR SHALL INSTALL THE DRIVEN PILES WITHIN THE SPECIFIED TOLERANCES, DIMENSIONS, ETC., INDICATED IN THE PLANS AND SPECIFICATIONS.

5) HORIZONTAL AND VERTICAL LOCATIONS OF PIPE PILES ALONG THE SEAWALL, ARE SHOWN IN REFERENCE TO THE CAISSONS. LOCATIONS OF PIPE PILES SHALL BE FIELD LOCATED TO THE CENTER OF THE NEW CAISSONS AND SHALL BE SPLAYED AND BATTERED PERPENDICULAR TO THE CURVE OF THE NEW SEAWALL.

(RFI 0061, 9/8/10 -ADDITIONAL PILE TESTING

# CAISSONS:

1) CAISSONS WILL WORK PRIMARILY IN BENDING AND TENSION. ALLOWABLE DESIGN LOADS ARE:

TENSION = 525 KIPSSHEAR = 131 KIPS

MOMENT = 25,600 KIP-IN 2) ROCK SOCKETS FOR CAISSONS SHALL BE TERMINATED IN COMPETENT ROCK ONLY. ROCK SOCKETS FOR CAISSONS SHALL NOT BE TERMINATED IN OVERBURDEN, DISINTEGRATED ROCK, OR OTHER SOIL LIKE MATERIALS.

 THE CONTRACTOR SHALL PERFORM CROSSHOLE SONIC LOGGING(CSL) ON TWO CAISSONS IN THE FIRST CLIN AND ONE CSL AT EACH N AND ONE ADDITIONAL CLIN LOCATION.

RFI 0049, 5/27/10 ADDITIONAL CSL TUBES INSTALLED 

4) THE CONTRACTOR SHALL INSTALL THE CAISSONS WITHIN THE SPECIFIED TOLERANCES, DIMENSIONS, ETC., INDICATED IN THE PLANS AND SPECIFICATIONS.

5) HORIZONTAL AND VERTICAL LOCATIONS OF CAISSONS SHOWN IN PLANS ARE IN REFERENCE TO HISTORICAL INFORMATION OF THE EXISTING GRADE BEAMS. LOCATIONS OF CAISSONS AT GRADE BEAMS SHALL BE FIELD LOCATED TO CENTER LINE OF THE EXISTING GRADE BEAMS, CAISSONS SHOWN AT NON-GRADE BEAM LOCATIONS SHALL BE LOCATED AT THE MID-POINT BETWEEN GRADE BEAM CAISSONS ALONG WORK SHALL BE DONE IN ACCORDANCE WITH SPECIFICATION 02 32 00. AN ARC THAT MATCHES THE CURVE OF THE SEAWALL

#### **EXCAVATION AND BACKFILL:**

1) THE CONTRACTOR SHALL PERFORM THE EXCAVATION OF EARTH MATERIALS AT THE LOCATIONS AND TO THE LINES AND GRADES SHOWN ON THE CONTRACT DRAWINGS, AND STOCKPILE AND/OR DISPOSE ALL MATERIALS AS SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE CONTRACTING OFFICER.

2) BACKFILL BEHIND SEAWALL TO SUPPORT SLAB SHALL CONSIST OF FILL, OR FLOWABLE FILL, BELOW 6" OF #57 CLEAN STONE AGGREGATE BASE COURSE. SEE SPECIFICATION 31 23 23. /RFĬ Ŏ1Ŏ6, 1Ž/Ĭ4/1Ŏ - BAČKFILL

BETWEEN PLAZA GRADE BEAMS ~

# **COFFERDAM:**

1) CONTRACTOR SHALL PROVIDE TEMPORARY SHEET PILE COFFERDAM AND DEWATERING. CONTRACTOR SHALL COORDINATE THE LOCATION AND DEPTH OF THE TEMPORARY SHEET PILE COFFERDAM AS TO NOT INTERFERE WITH THE INSTALLATION OF THE BATTERED PILES. CONTRACTOR TO ADDRESS BRIDGING OF THE DEWATERING ENVELOPE BENEATH THE EXISTING GRADE BEAMS TO ENSURE DEWATERING IS ACHIEVED AND MAINTAINED AS SPECIFIED. DESIGN OF COFFERDAM AND DEWATERING PLAN SHALL BE PROVIDED BY AN ENGINEER REGISTERED IN THE DISTRICT OF COLUMBIA AND SUBMITTED ACCORDING TO SPECIFICATION 01 33 00. TEMPORARY SHEET PILES SHALL BE REMOVED FOLLOWING COMPLETION OF WORK.

2) THE CONTRACTOR SHALL FURNISH AND INSTALL STEEL SHEET PILES AT THE LOCATION AND TO THE LIMITS SHOWN ON THE CONTRACT DRAWINGS OR AS DIRECTED BY THE CONTRACTING OFFICER.

# **CONCRETE:**

DATE:

1) THE CONTRACTOR SHALL PREPARE AND PLACE THE CONCRETE (NEW CONCRETE SEAWALL, CONCRETE BEAMS, AND CONCRETE BLOCKS) AT THE LOCATION AND TO THE LIMITS SHOWN ON THE CONTRACT DRAWINGS. CONCRETE SHALL BE PREPARED AND MIXED TO OBTAIN THE COMPRESSIVE STRENGTH AS IN THE PLANS AND SPECIFICATIONS.

2) CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE.

3) REINFORCING BARS SHALL BE DEFORMED BARS CONFORMING TO ASTM A-615, GRADE 60 (FY=60KSI).

4) ALL REINFORCEMENT SHALL HAVE A MINIMUM COVER OF 3" UNLESS OTHERWISE NOTED.

5) CONCRETE CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE APPLICABLE SECTION OF ACI 301-05 "SPECIFICATIONS FOR STRUCTURAL CONCRETE" AND 318-08 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE."

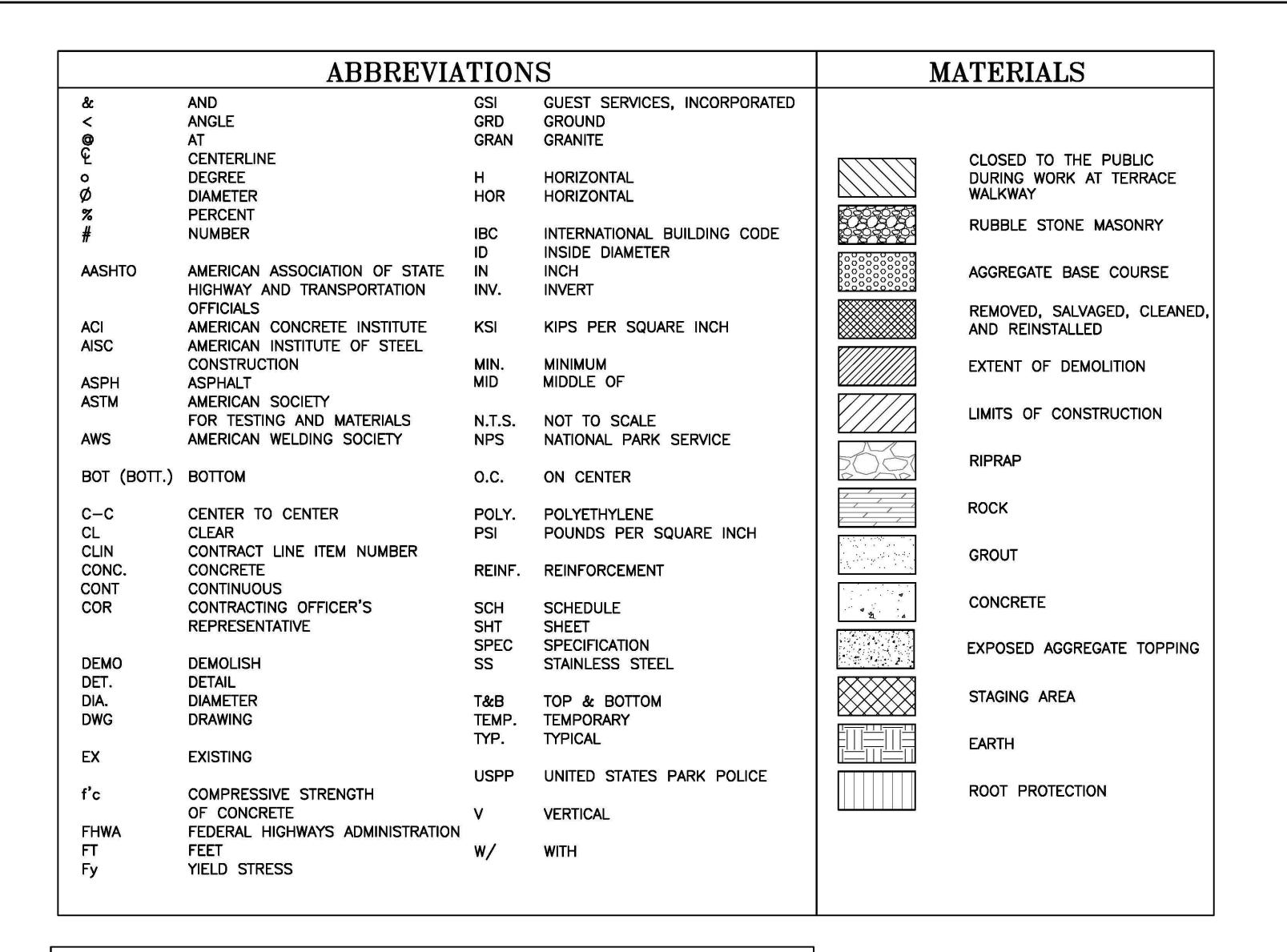
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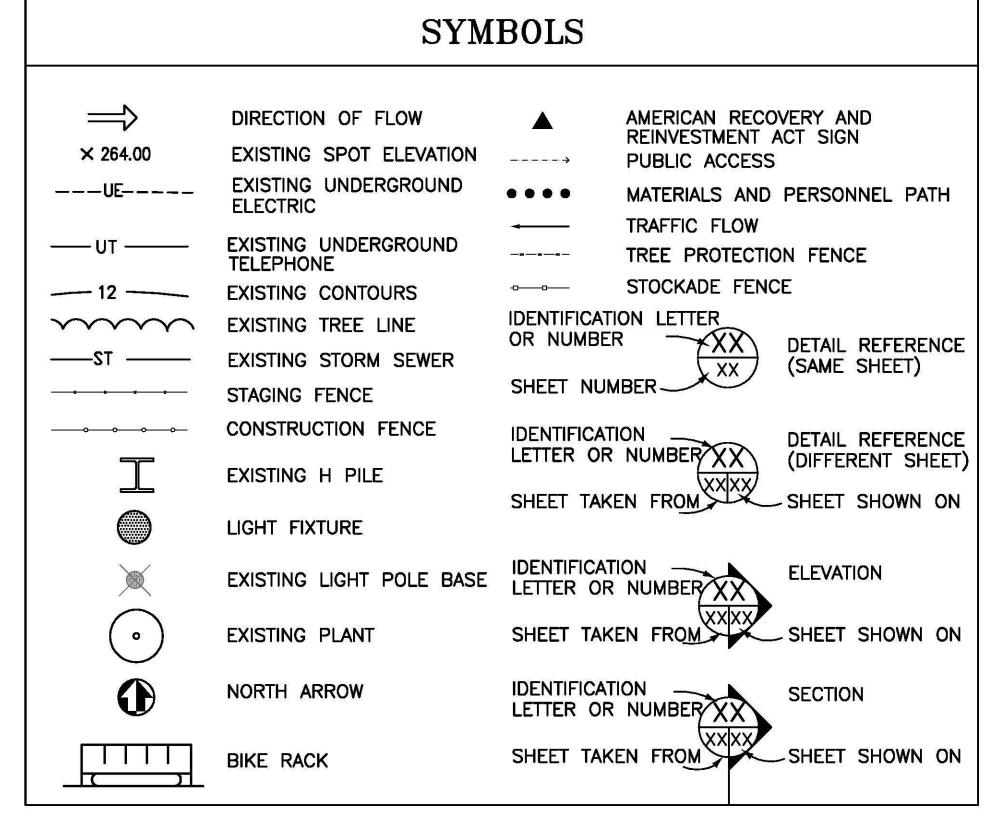
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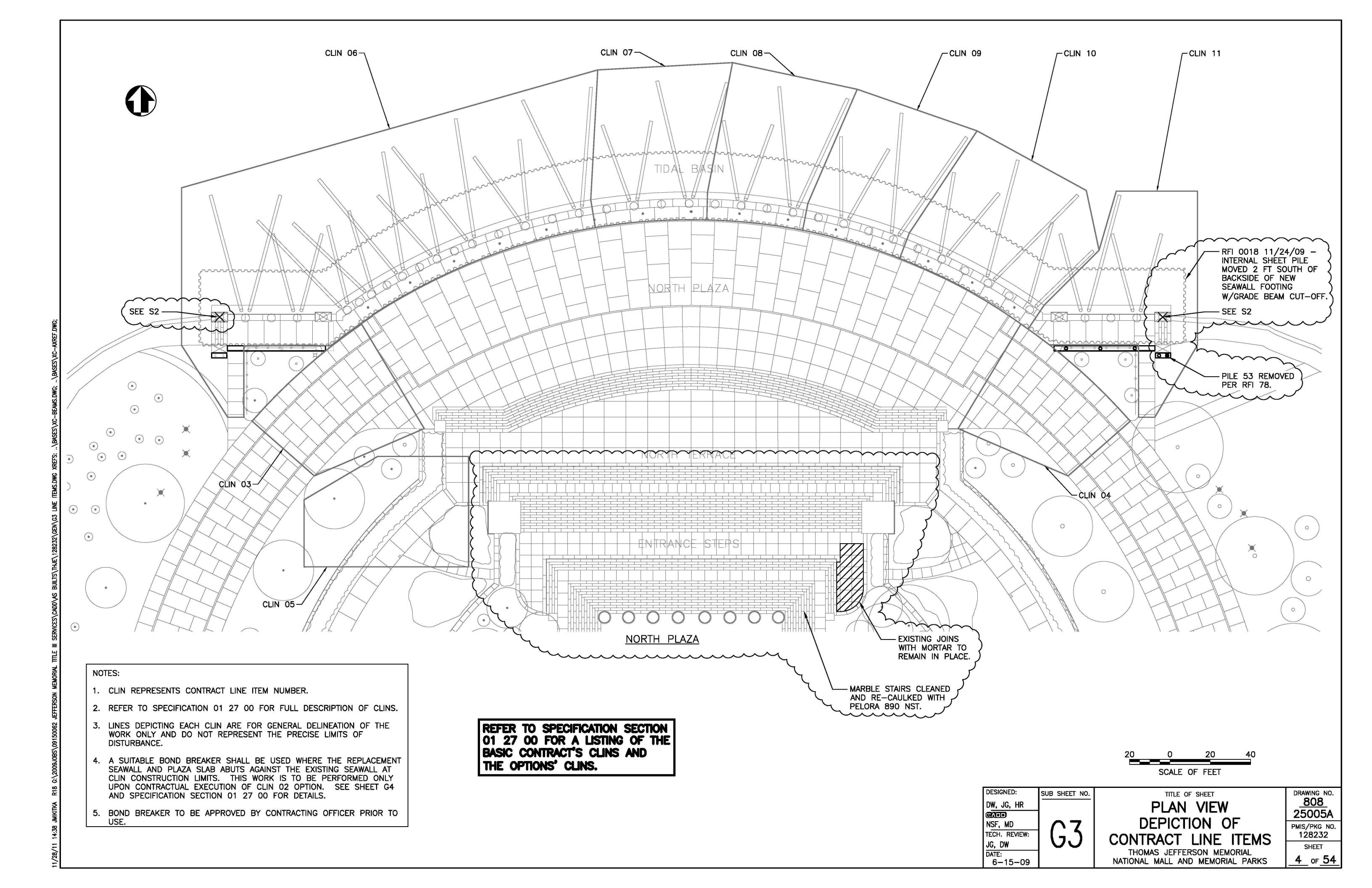


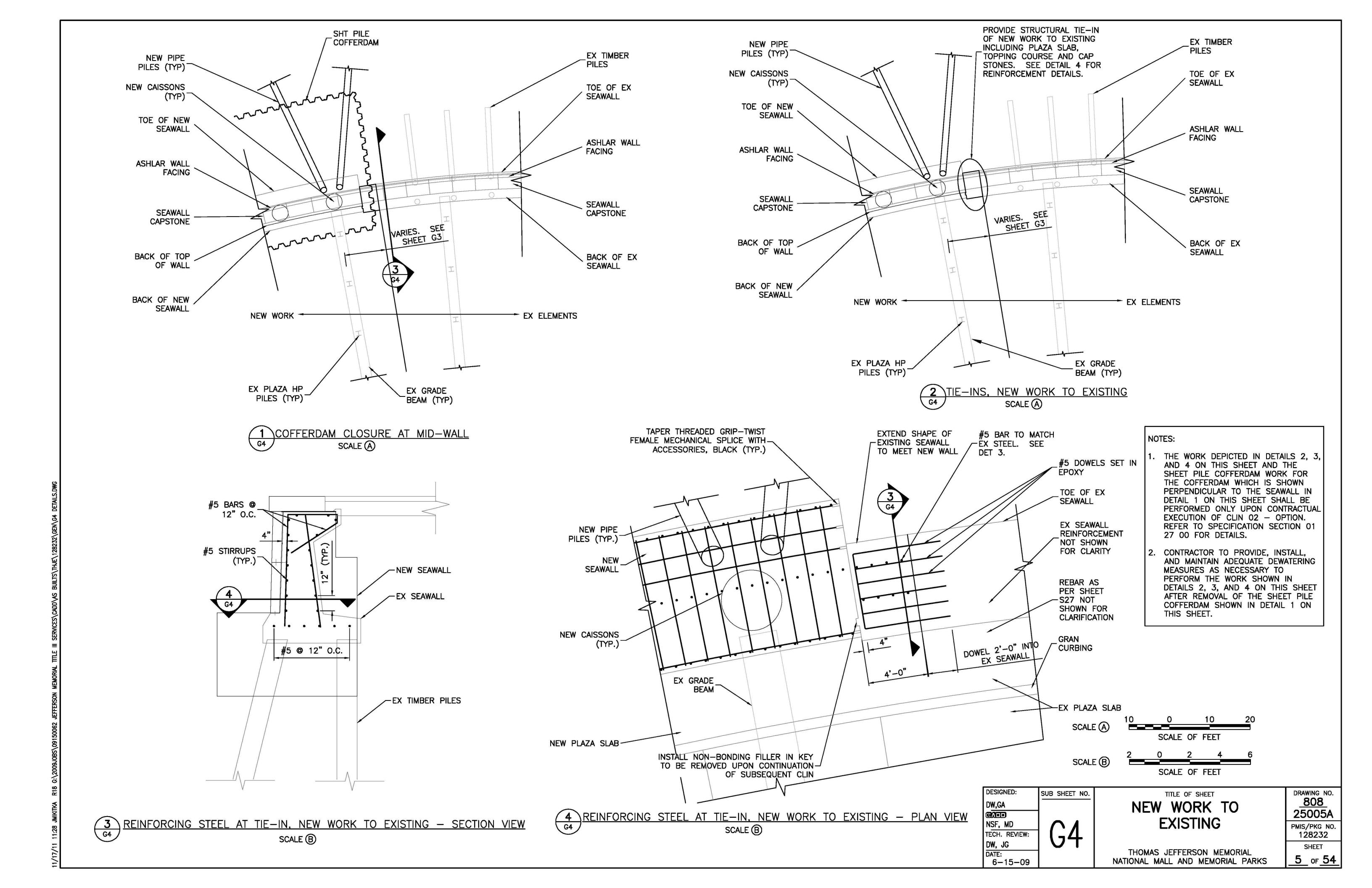


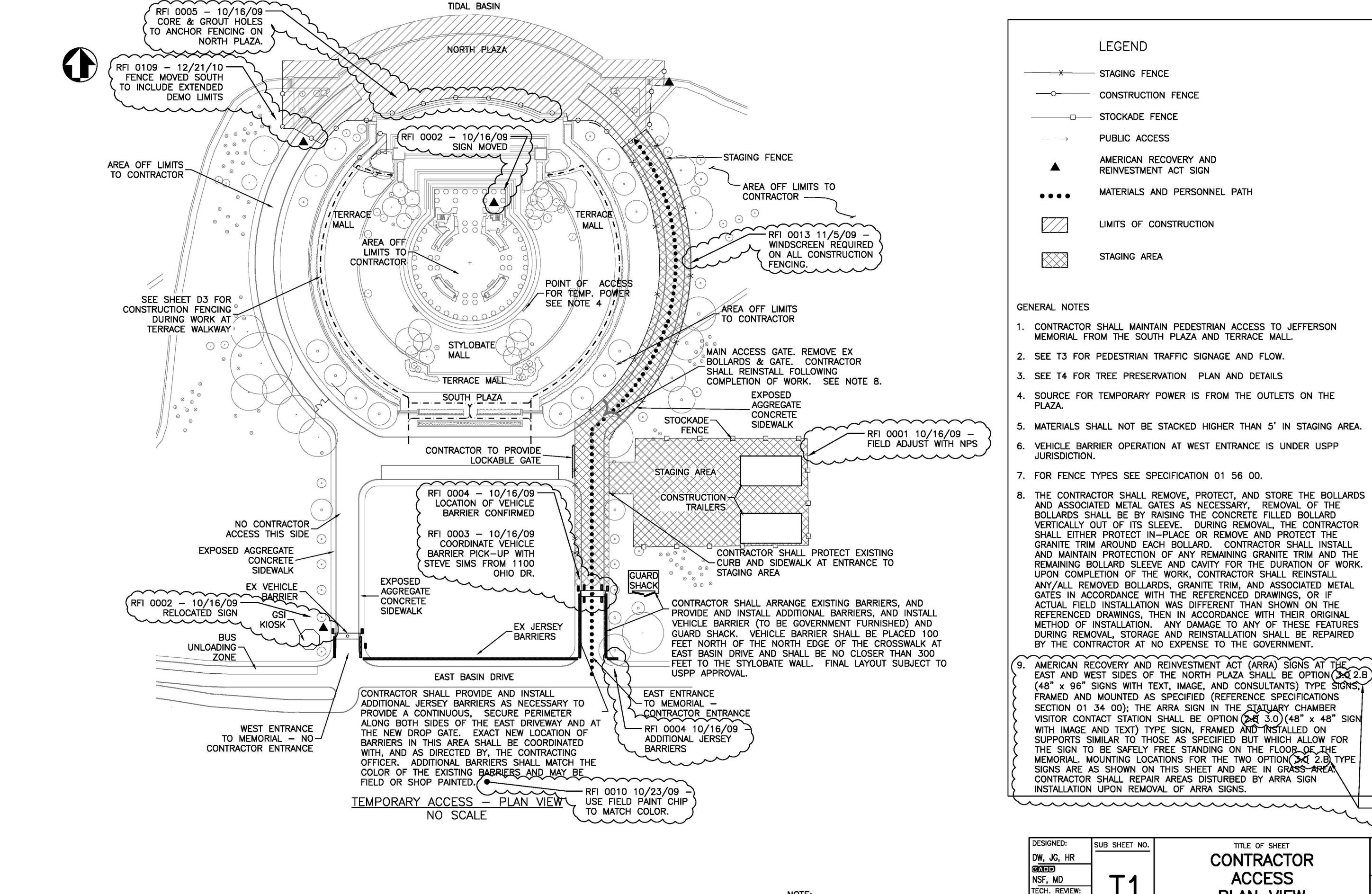
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DATE:

GEOMETRY BASED ON HISTORICAL DOCUMENTS

PROVIDED BY NPS. MUST BE VERIFIED IN FIELD.

PLAN VIEW THOMAS JEFFERSON MEMORIAL NATIONAL MALL AND MEMORIAL PARKS

128232 SHEET 6 of 54

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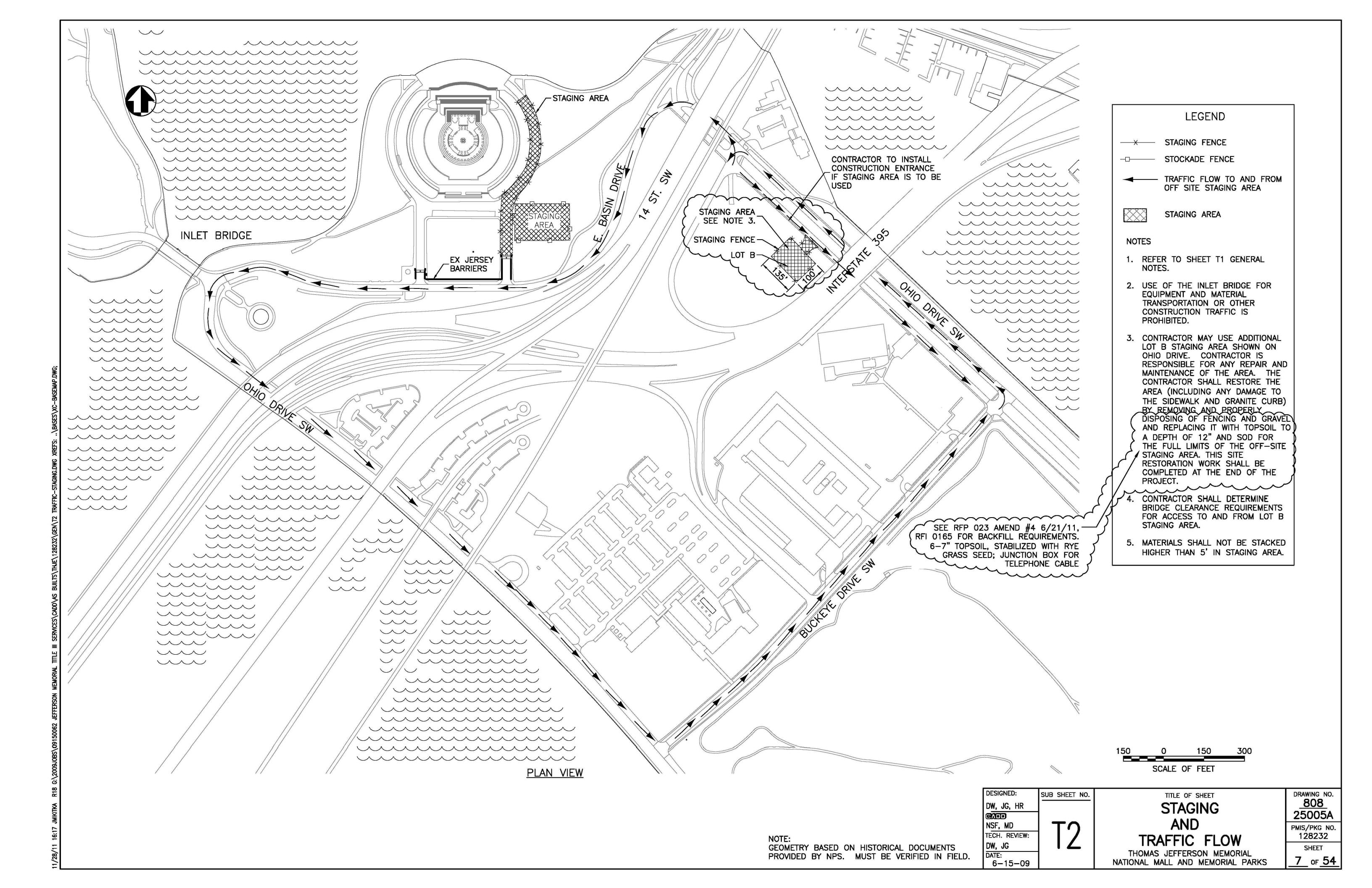
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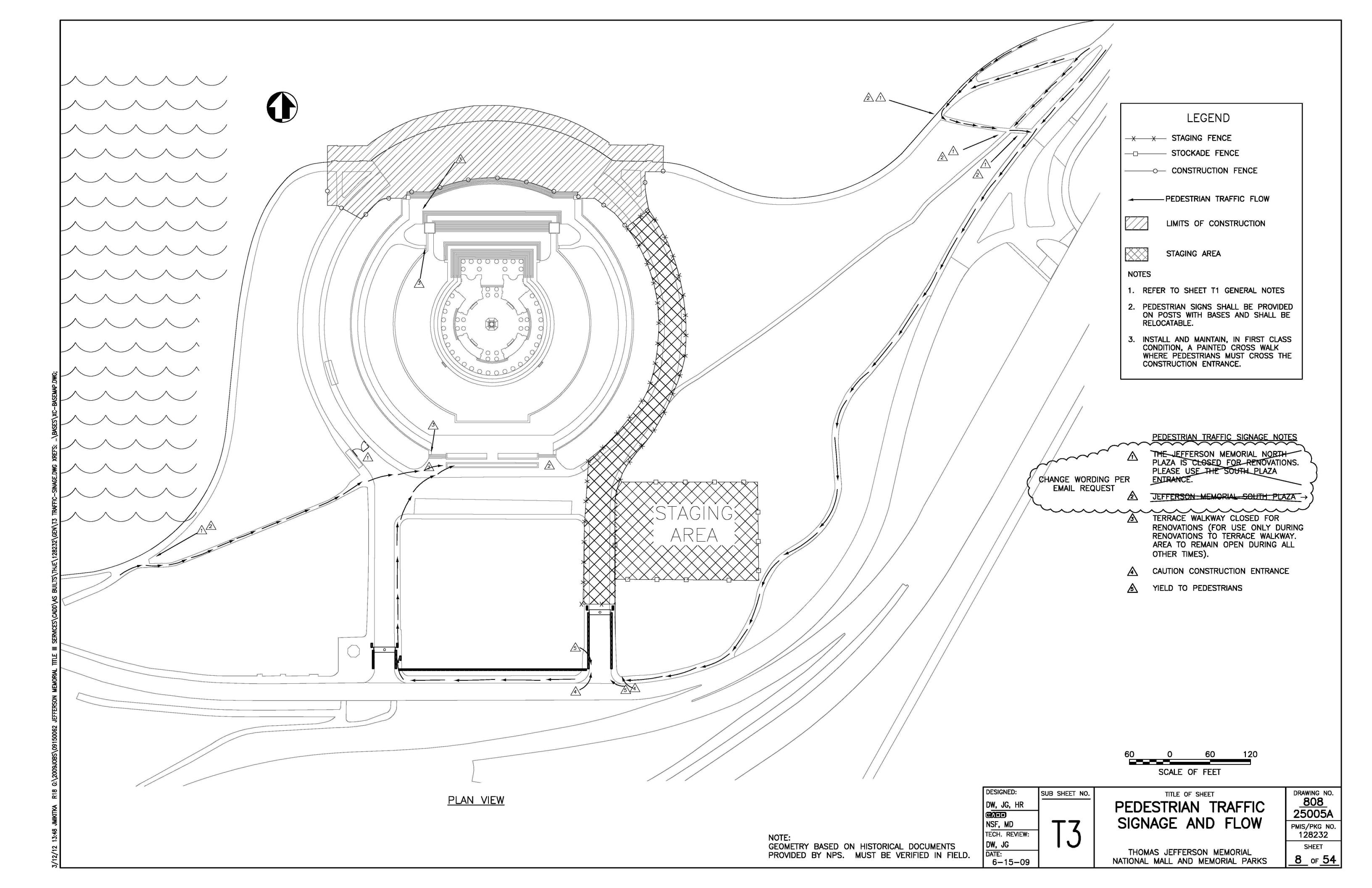
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TREE PROTECTION- PLAN VIEW

SCALE OF FEET

SUB SHEET NO. DW, JG, HR NSF, MD TECH. REVIEW: DW, JG DATE:

DESIGNED:

6-15-09

TITLE OF SHEET TREE

**PROTECTION** PLAN VIEW THOMAS JEFFERSON MEMORIAL NATIONAL MALL AND MEMORIAL PARKS

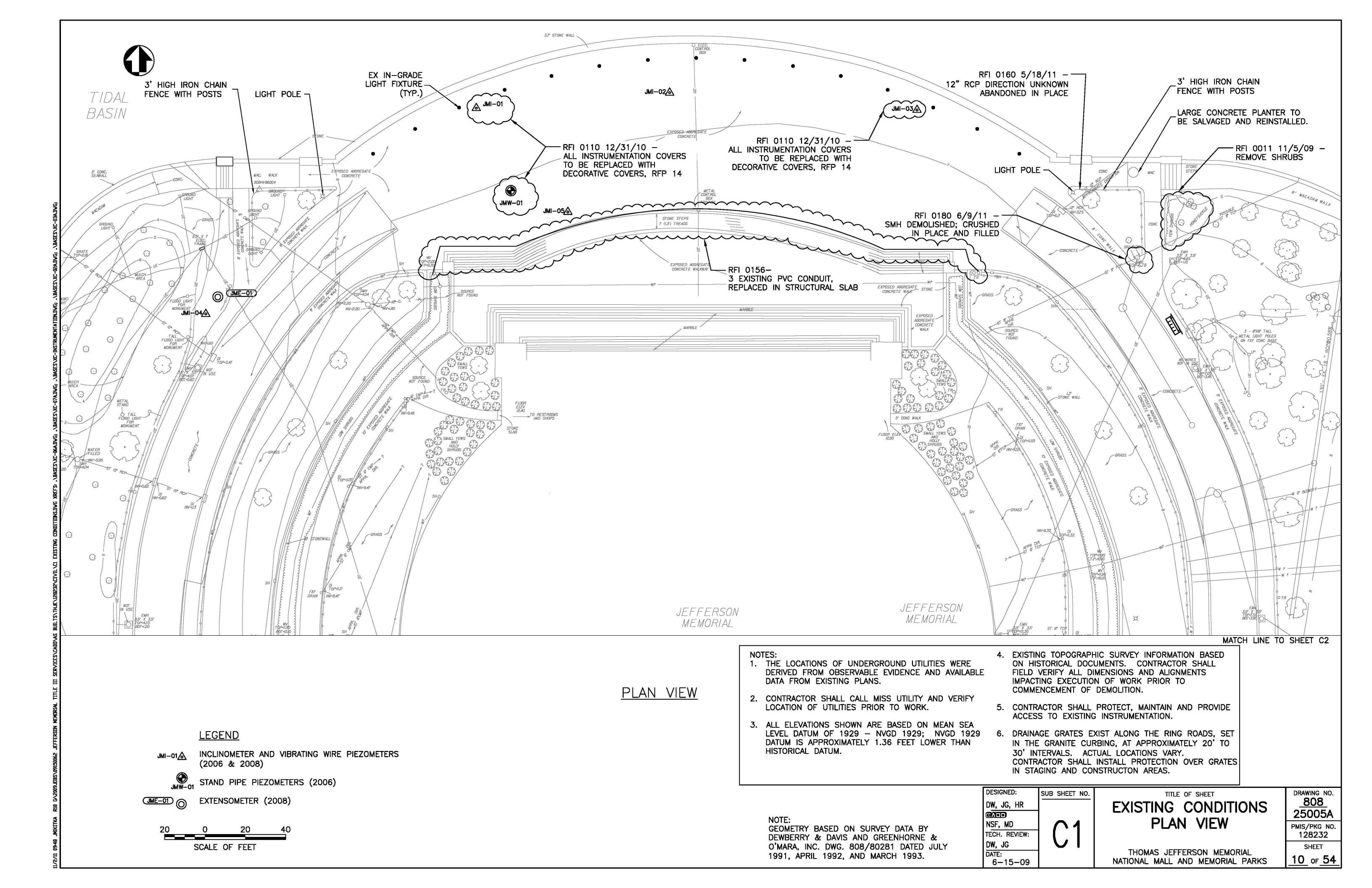
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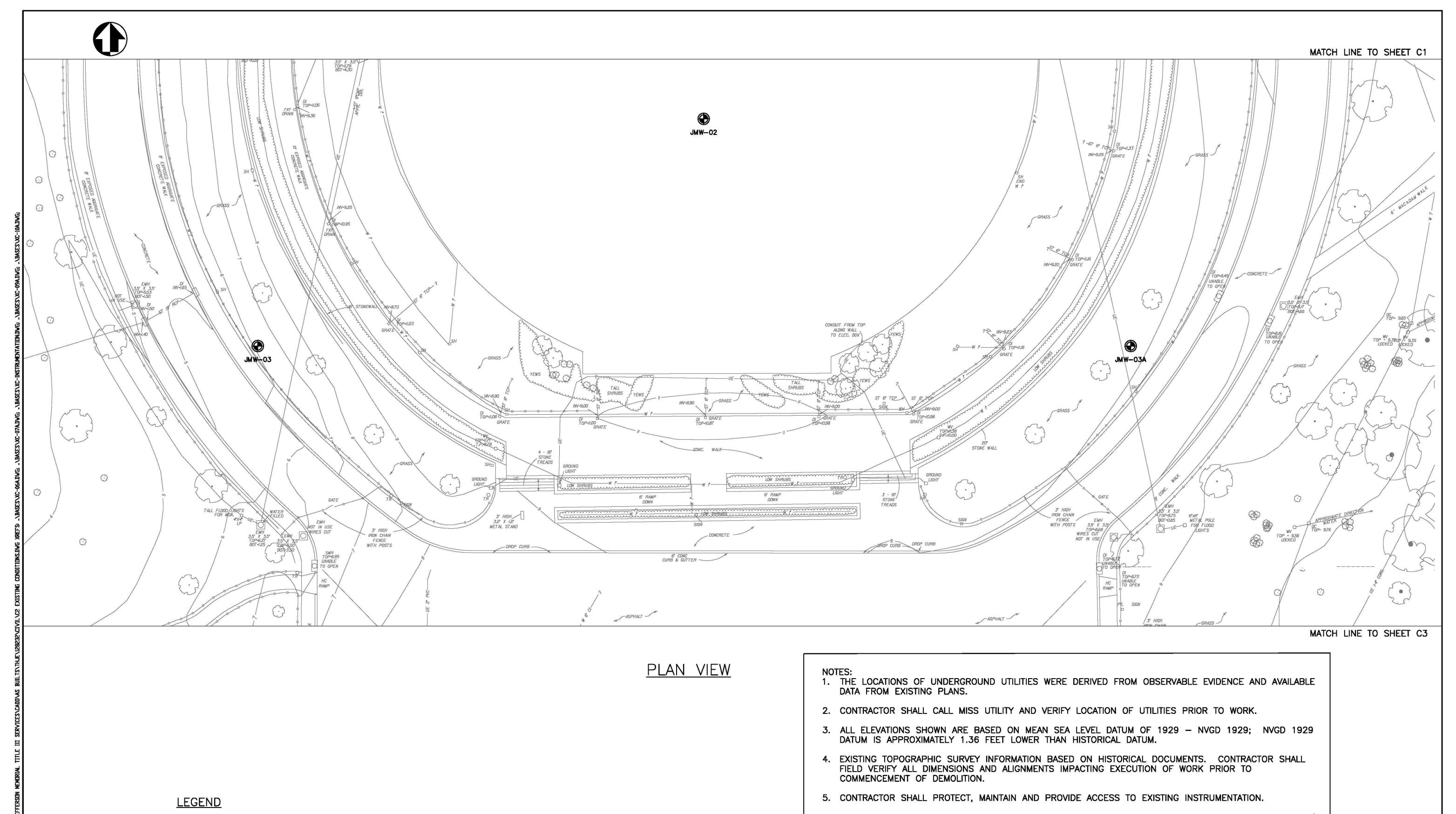
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GEOMETRY BASED ON HISTORICAL DOCUMENTS PROVIDED BY NPS. MUST BE VERIFIED IN FIELD.





JMI-01 INCLINOMETER AND VIBRATING WIRE PIEZOMETERS (2006 & 2008)

STAND PIPE PIEZOMETERS (2006)

20 0 20 40 SCALE OF FEET

JME-01 © EXTENSOMETER (2008)

6. DRAINAGE GRATES EXIST ALONG THE RING ROADS, SET IN THE GRANITE CURBING, AT APPROXIMATELY 20' TO 30' INTERVALS. ACTUAL LOCATIONS VARY. CONTRACTOR SHALL INSTALL PROTECTION OVER GRATES IN STAGING AND CONSTRUCTON AREAS.

NOTE:
GEOMETRY BASED ON SURVEY DATA BY
DEWBERRY & DAVIS AND GREENHORNE &
O'MARA, INC. DWG. 808/80281 DATED JULY
1991, APRIL 1992, AND MARCH 1993.

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EXISTING CONDITIONS
PLAN VIEW
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THOMAS JEFFERSON MEMORIAL

NATIONAL MALL AND MEMORIAL PARKS

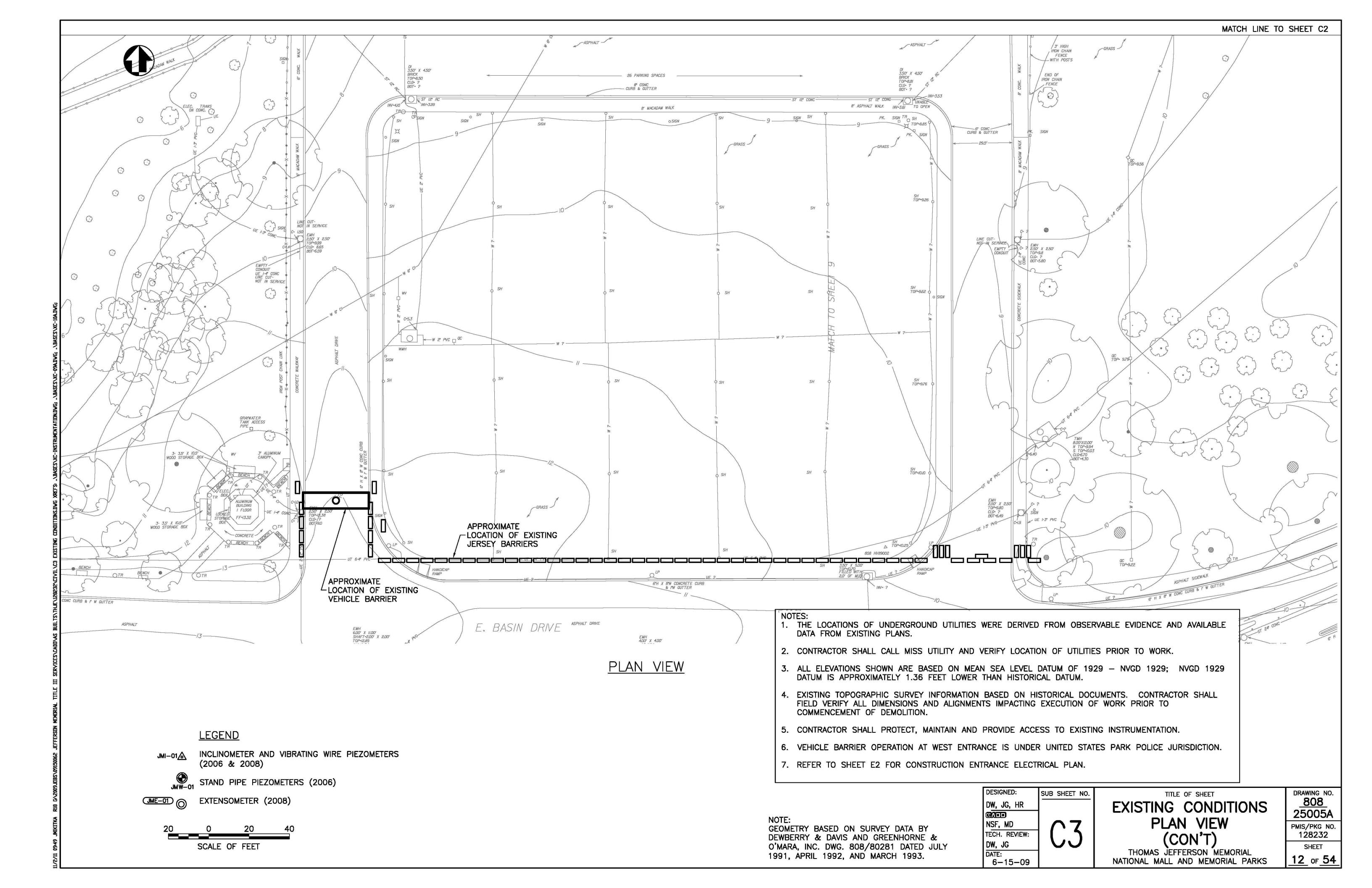
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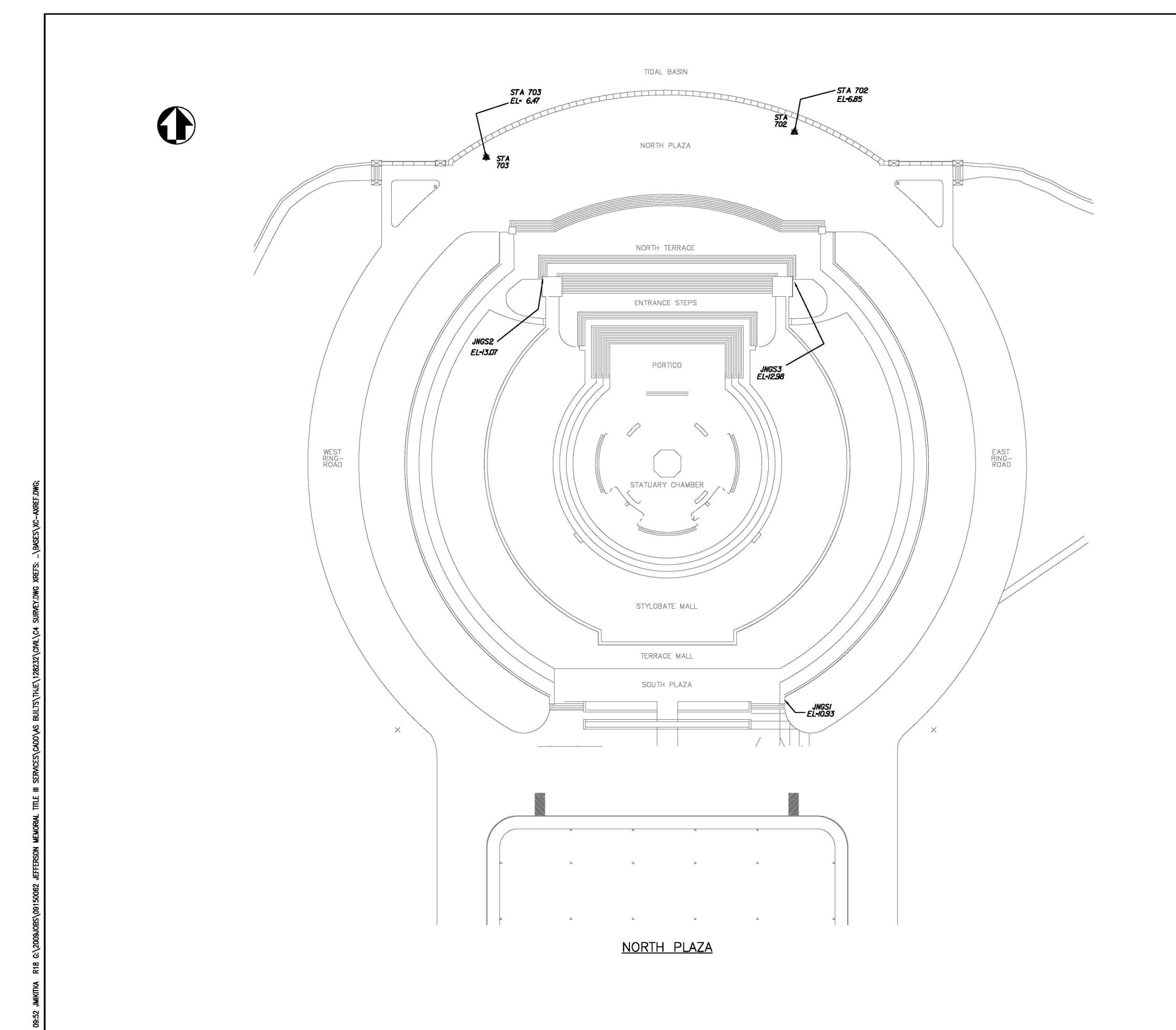
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11 OF 54

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# **NOTES**

- A MAIN VERTICAL CONTROL LOOP AND VERTICAL QUARTER MONITORING LOOPS WERE BASED ON BENCHMARK INFORMATION PROVIDED BY THE NATIONAL PARK SERVICE. THE VERTICAL DATUM IS THE NATIONAL PARK SERVICE MSL 1929 DATUM. THE ELEVATIONS SHOWN HEREIN ARE BASED ON THE ELEVATION OF 10.57 FEET GIVEN FOR NATIONAL PARK SERVICE BENCHMARK 809HV830P1, DATED JULY 1983. THE BENCHMARK IS A NPS ALUMINUM CAP IN CONCRETE, FLUSH WITH THE GROUND, LOCATED NE OF THE WASHINGTON MONUMENT BETWEEN 14TH STREET, 15TH STREET, MADISON DRIVE AND CONSTITUTION AVE. SEE SPECIFICATION 02 21 13.
- 2. STATION 702 AND STATION 703 ARE SCRIBES CUT IN THE CENTER OF A GRANITE CURB.
- 3. JNGS1, JNGS2 AND JNGS3 ARE STAINLESS STEEL PLUGS SCREWED INTO A PIPE THAT IS FLUSH WITH THE VERTICAL WALL. FOR PRECISE LEVELING, THE PLUG IS UNSCREWED AND A SPECIAL STAINLESS STEEL BOLT IS INSERTED IN THE PIPE FOR THE REFERENCE POINT. THE SPECIAL STAINLESS STEEL BOLT CAN BE OBTAINED FROM THE NATIONAL PARK SERVICE.
- 4. CONTRACTOR SHALL PROTECT, MAINTAIN AND PROVIDE ACCESS TO EXISTING SURVEY BENCHMARKS.

40 0 40 80 SCALE OF FEET

DESIGNED:

DW,JG, HR

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TECH. REVIEW:
DW, JG

DATE:
6-15-09

CONTROL
AND
SURVEY

THOMAS JEFFERSON MEMORIAL NATIONAL MALL AND MEMORIAL PARKS

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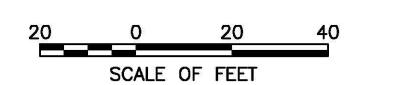
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# **NOTES**

- 1. ELEVATIONS PROVIDED ARE FOR REFERENCE ONLY AND ARE NOT TO BE USED BY CONTRACTOR AS SITE SURVEY REQUIREMENTS.
- 2. CONTRACTOR SHALL, AT A MINIMUM, PROVIDE TO THE CONTRACTING OFFICER ELEVATIONS AT THE POINTS SHOWN ON THIS DRAWING AS PART OF THE PRE AND POST SURVEY IN ACCORDANCE WITH SPECIFICATIONS 02 21 13 AND 02 21 15.

| POINT NUMBER |           | PLAZA ELEVATIONS (FEET) |  |  |
|--------------|-----------|-------------------------|--|--|
| FOINT NOMBER | 12/8/2008 | 4/4/2009                |  |  |
| 214          | 5.210     | -                       |  |  |
| 215          | 5.580     | _                       |  |  |
| 95           | 5.533     | 5.525                   |  |  |
| 99           | 6.133     | 6.129                   |  |  |
| 54           | 6.015     | 6.010                   |  |  |
| 56           | 6.387     | 6.383                   |  |  |
| 24           | 6.420     | 6.413                   |  |  |
| 26           | 6.540     | 6.536                   |  |  |
| 236          | 6.280     | _                       |  |  |
| 235          | 6.330     |                         |  |  |



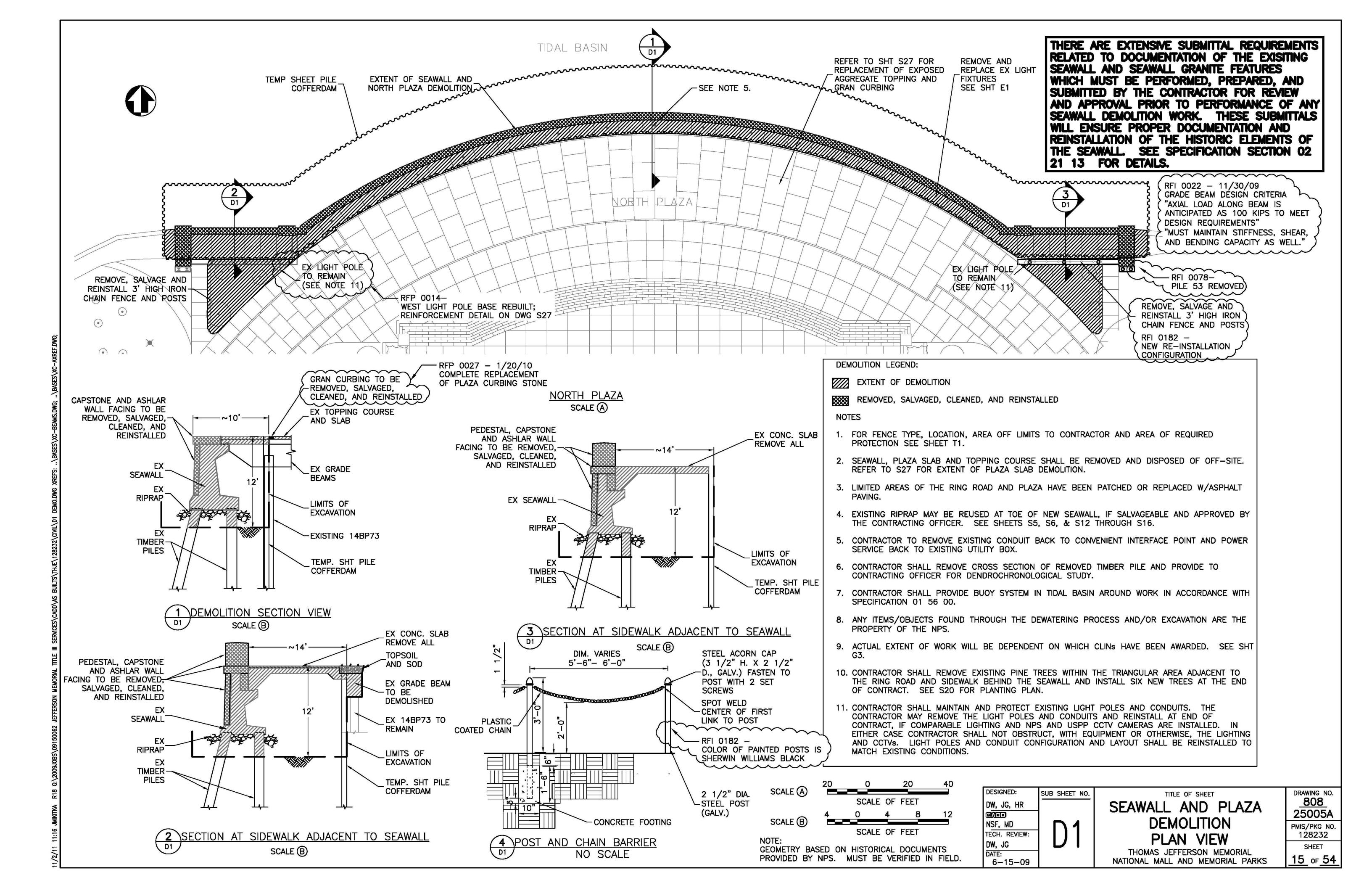
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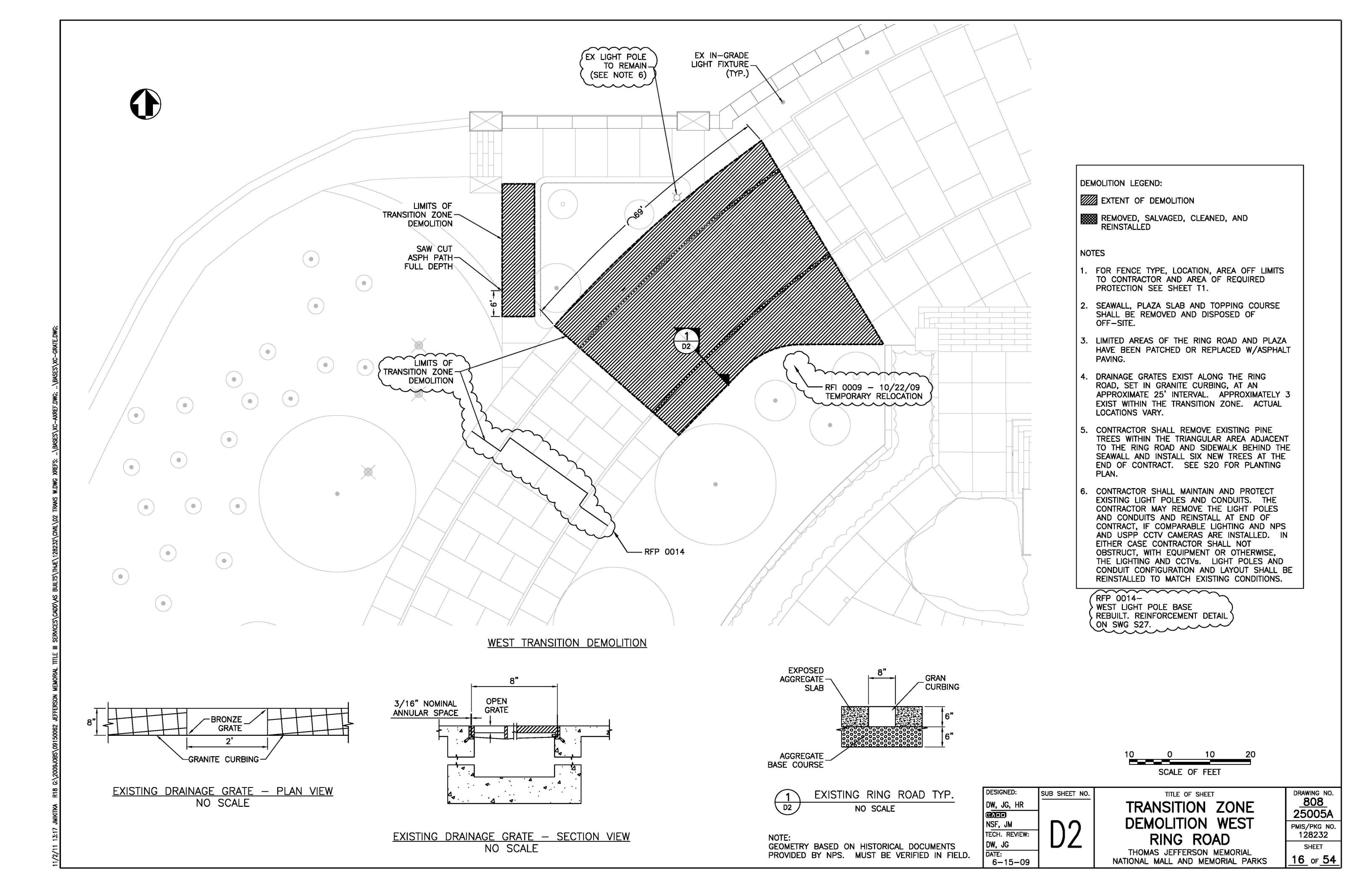
NORTH PLAZA
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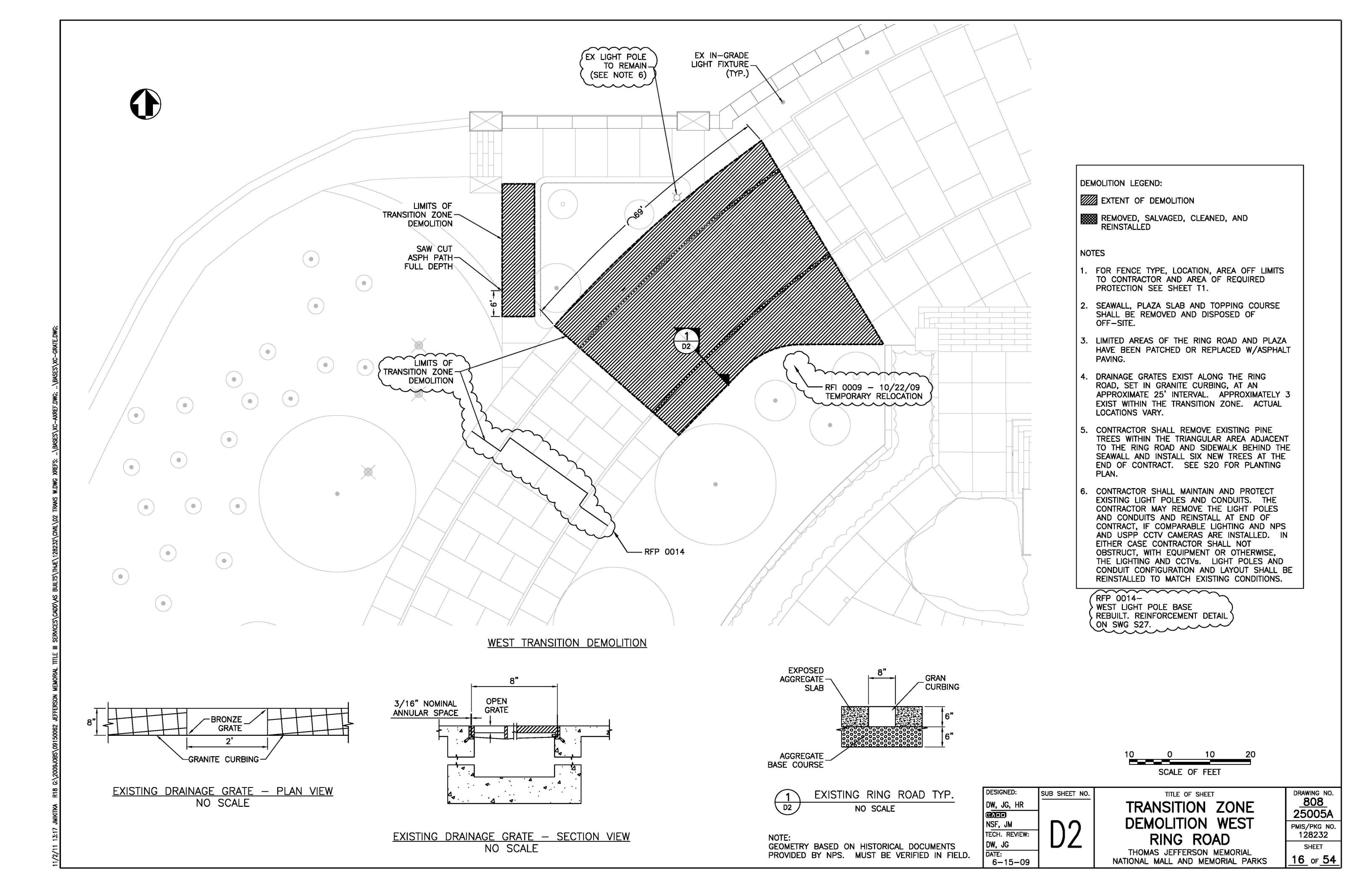
NATIONAL MALL AND MEMORIAL PARKS

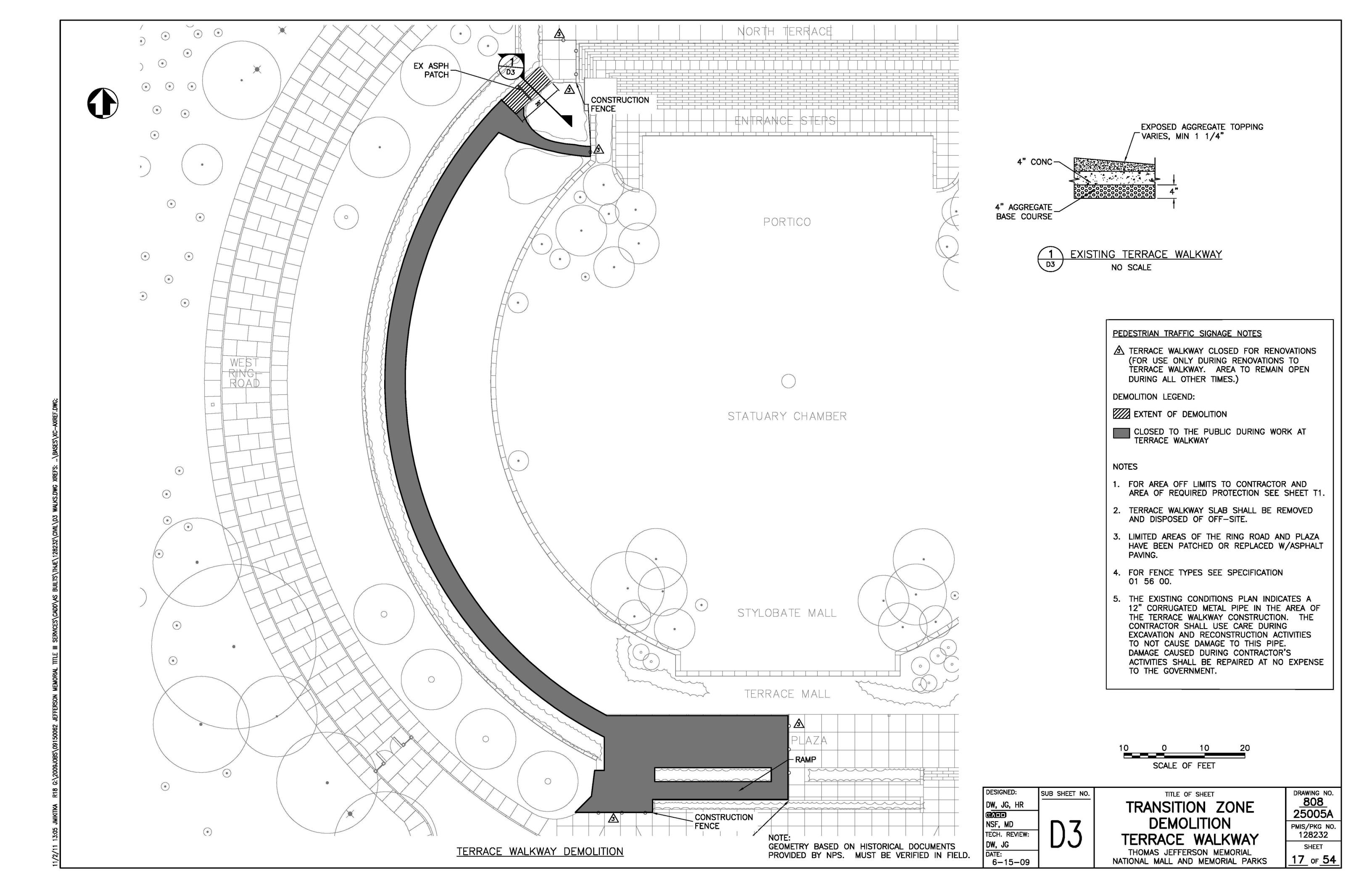
808 25005A PMIS/PKG NO. 128232 SHEET 14 OF 54

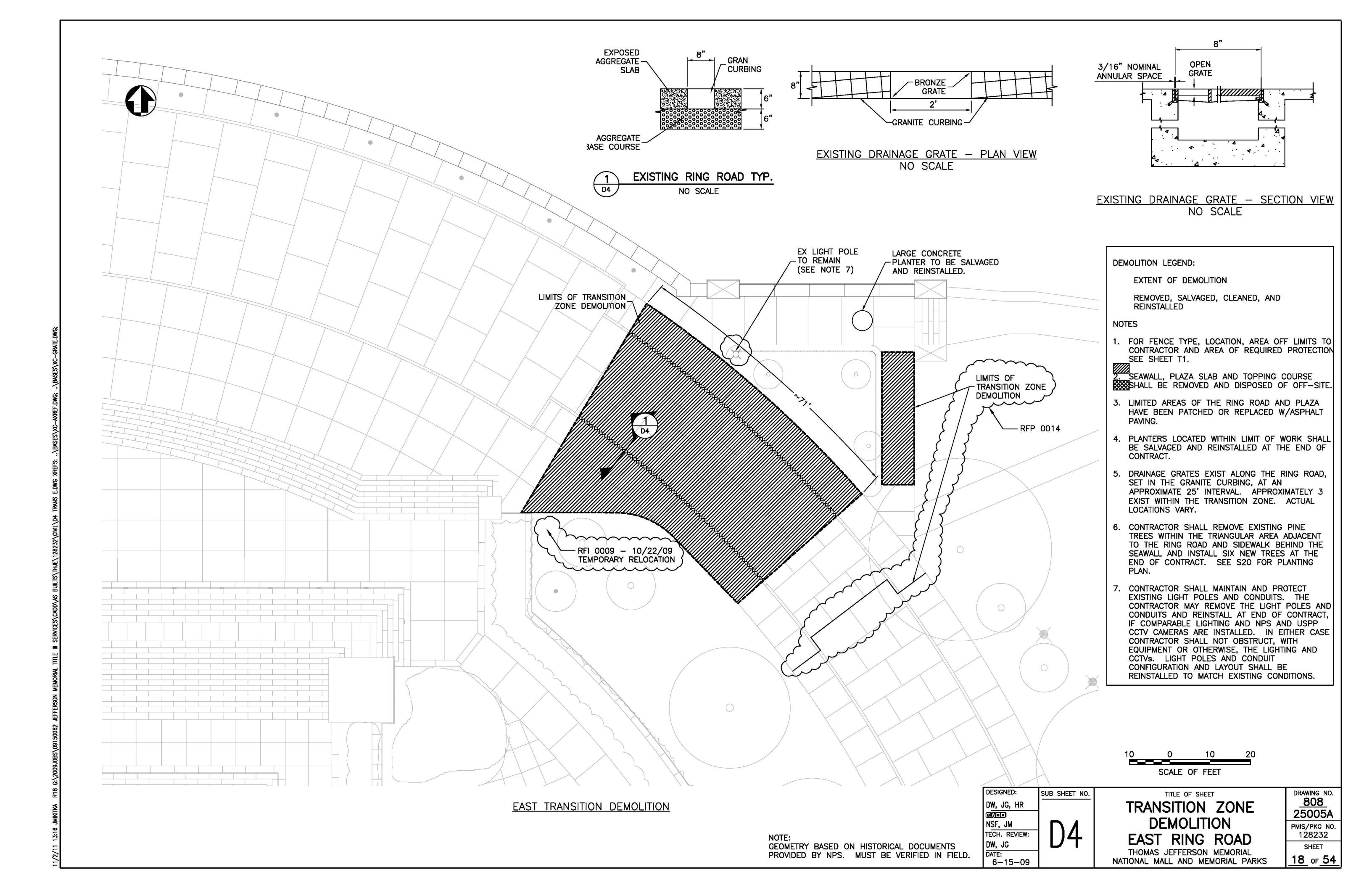
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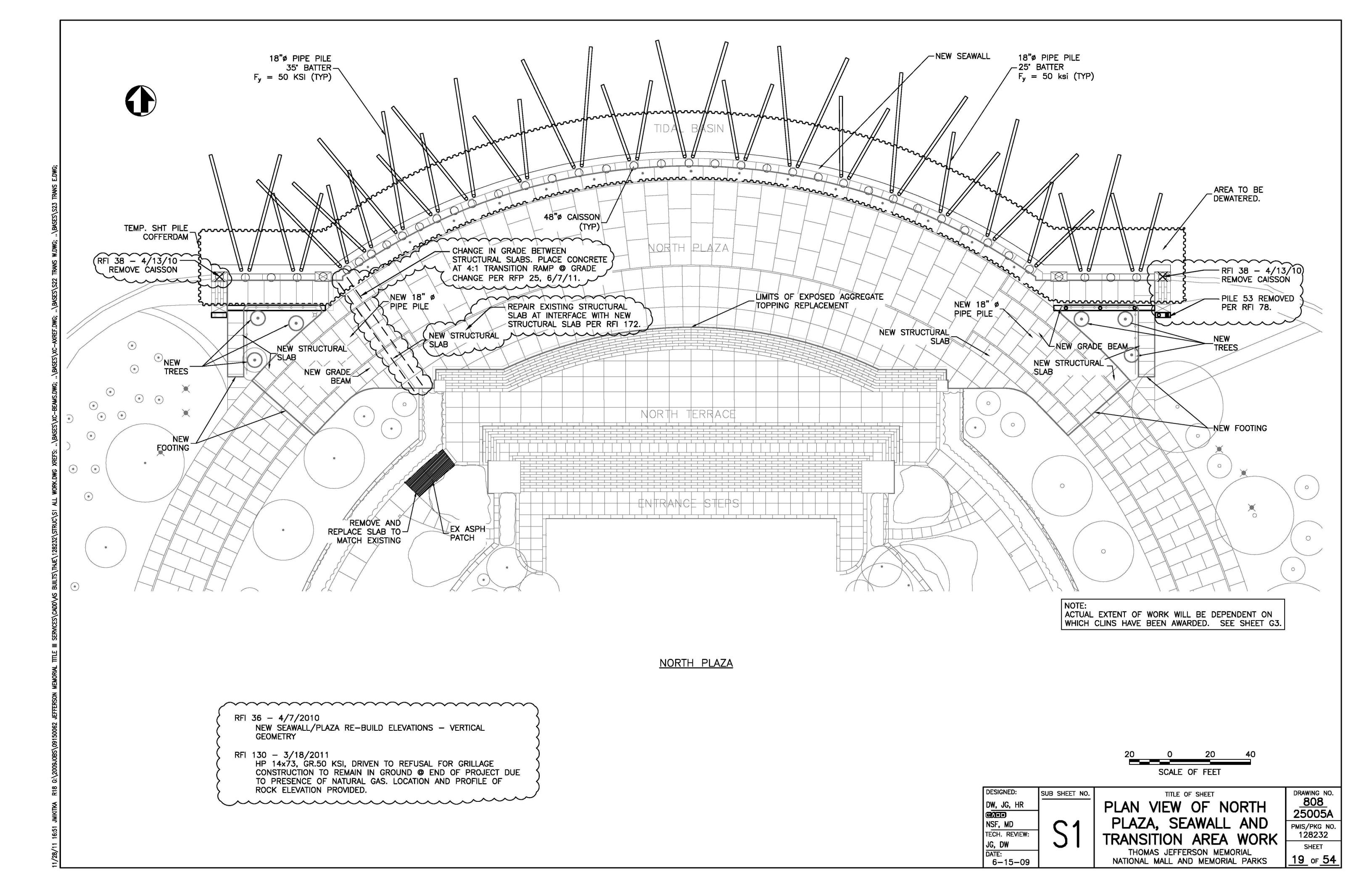


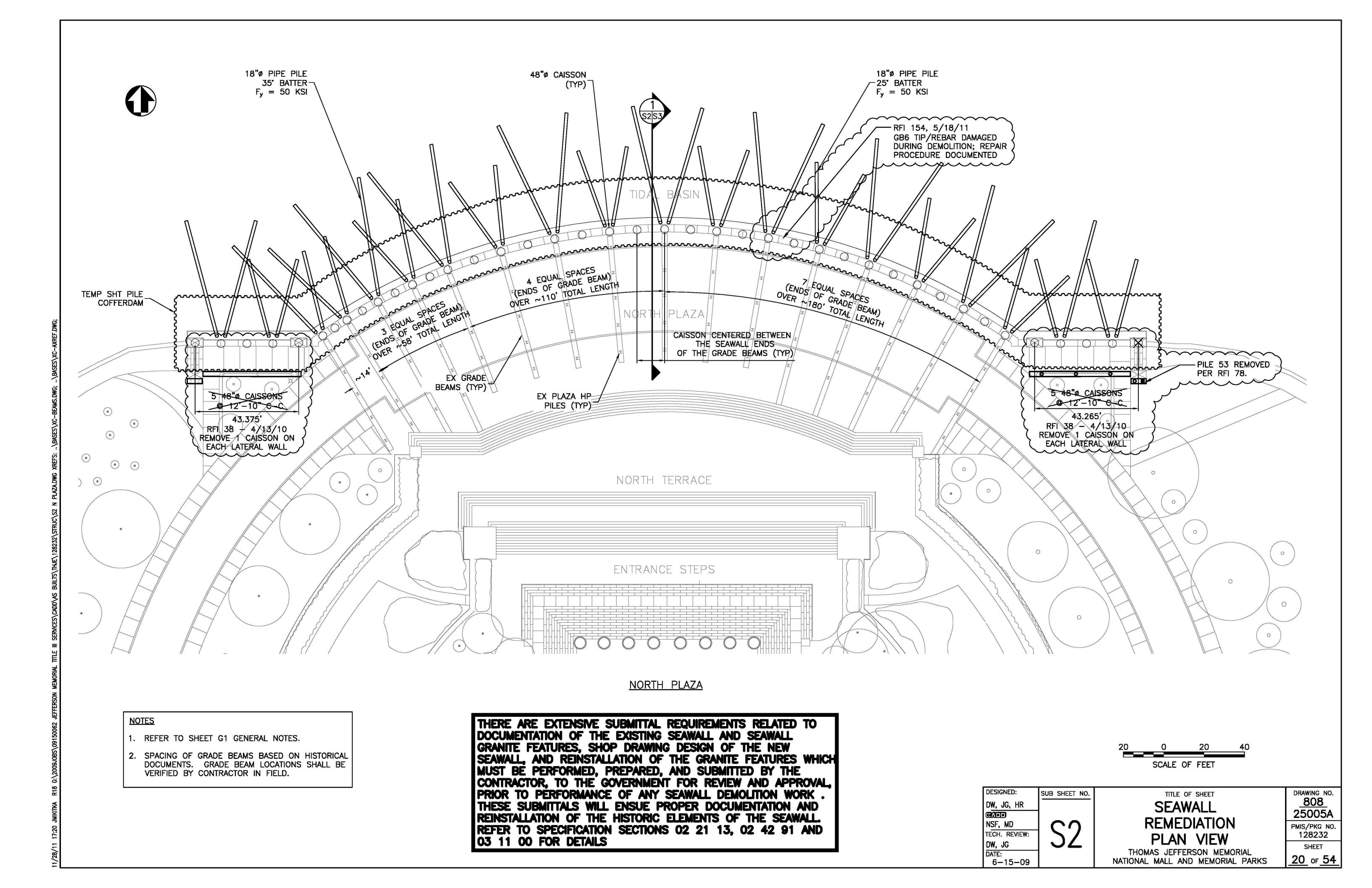


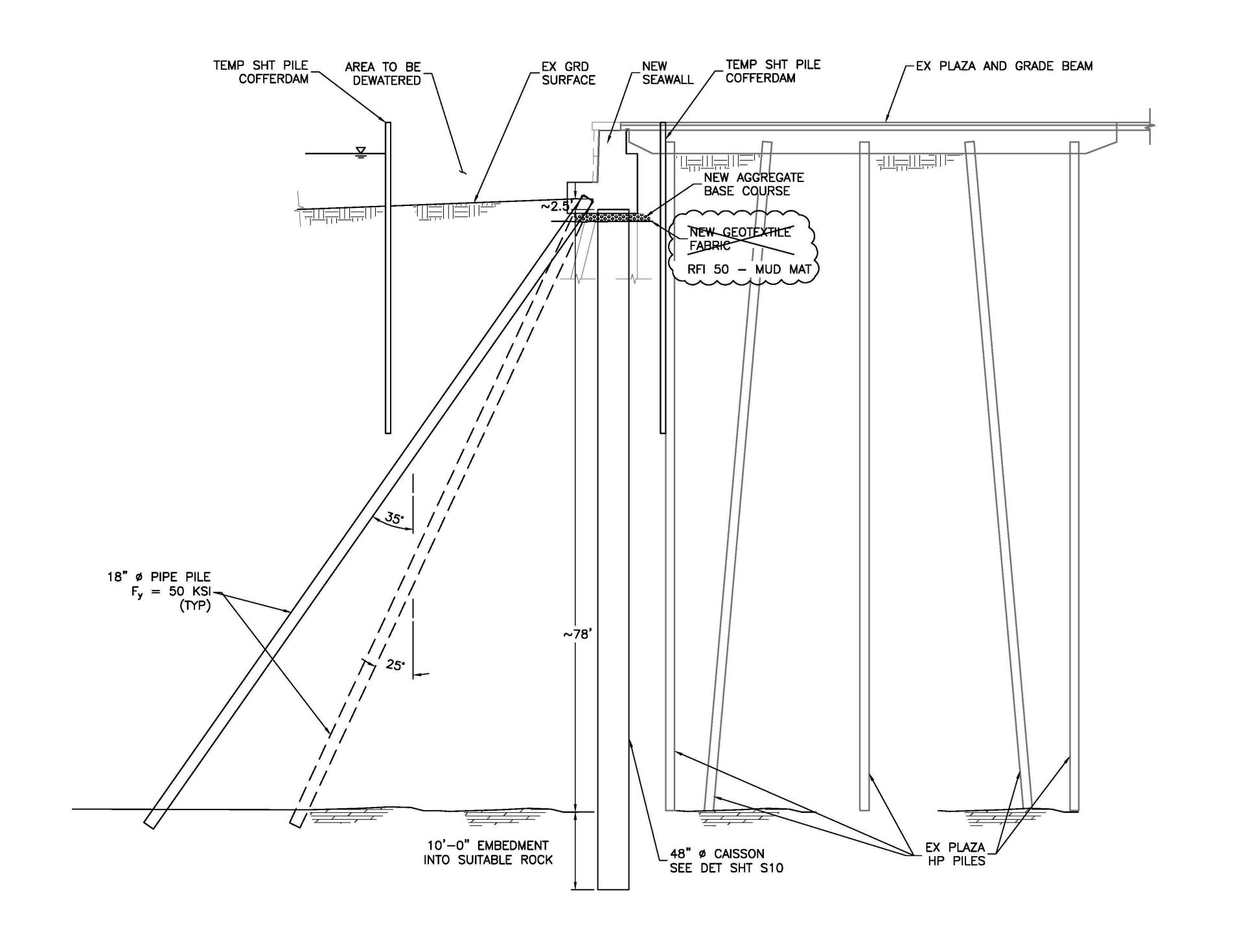












# **NOTES**

- 1. REFER TO SHEET G1 GENERAL NOTES.
- 2. REFER TO PROJECT DOCUMENTATION FOR SUBSURFACE SOIL CONDITIONS

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SCALE OF FEET

1 NORTH PLAZA - SECTION VIEW

S2|S3|

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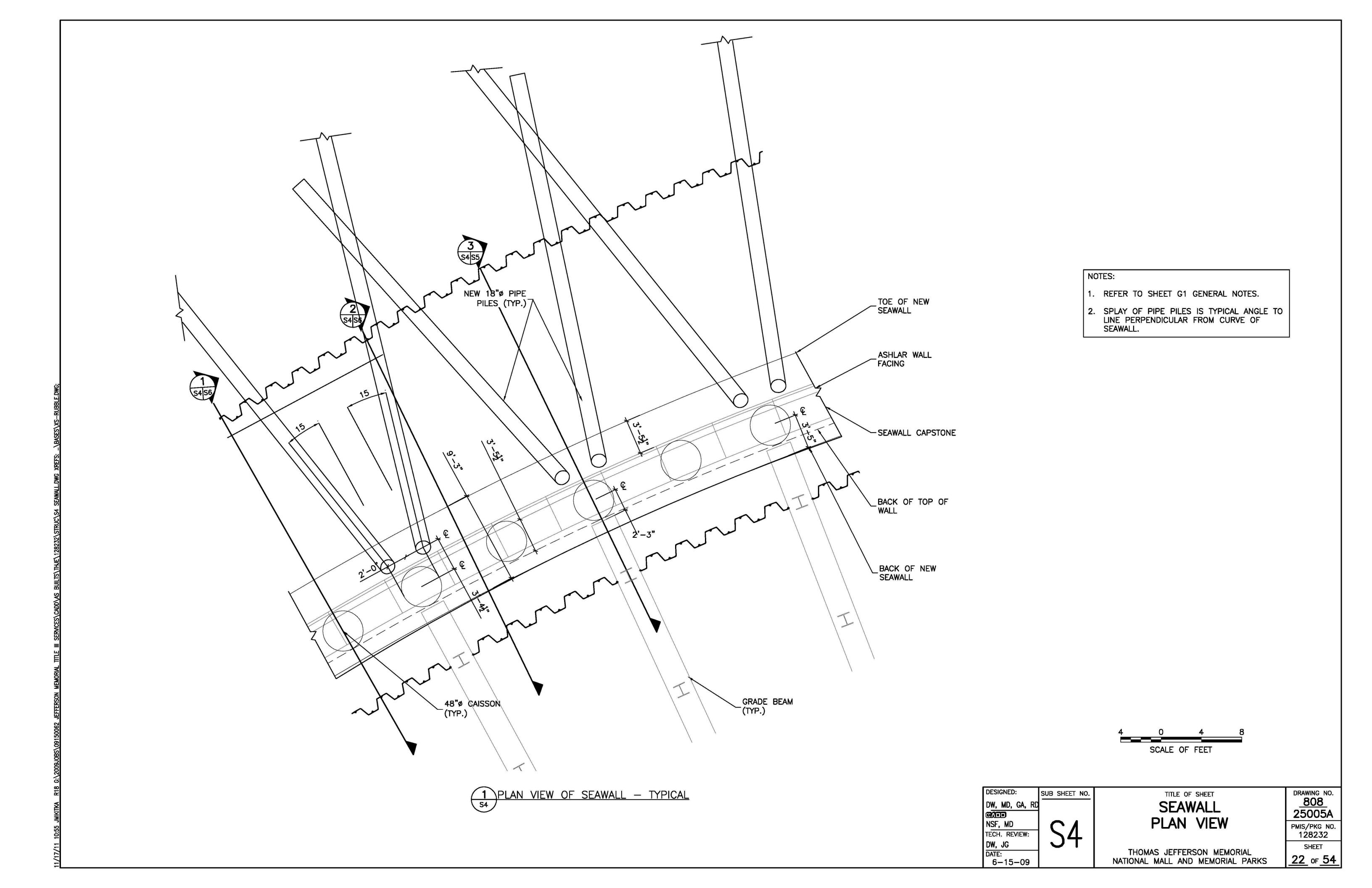
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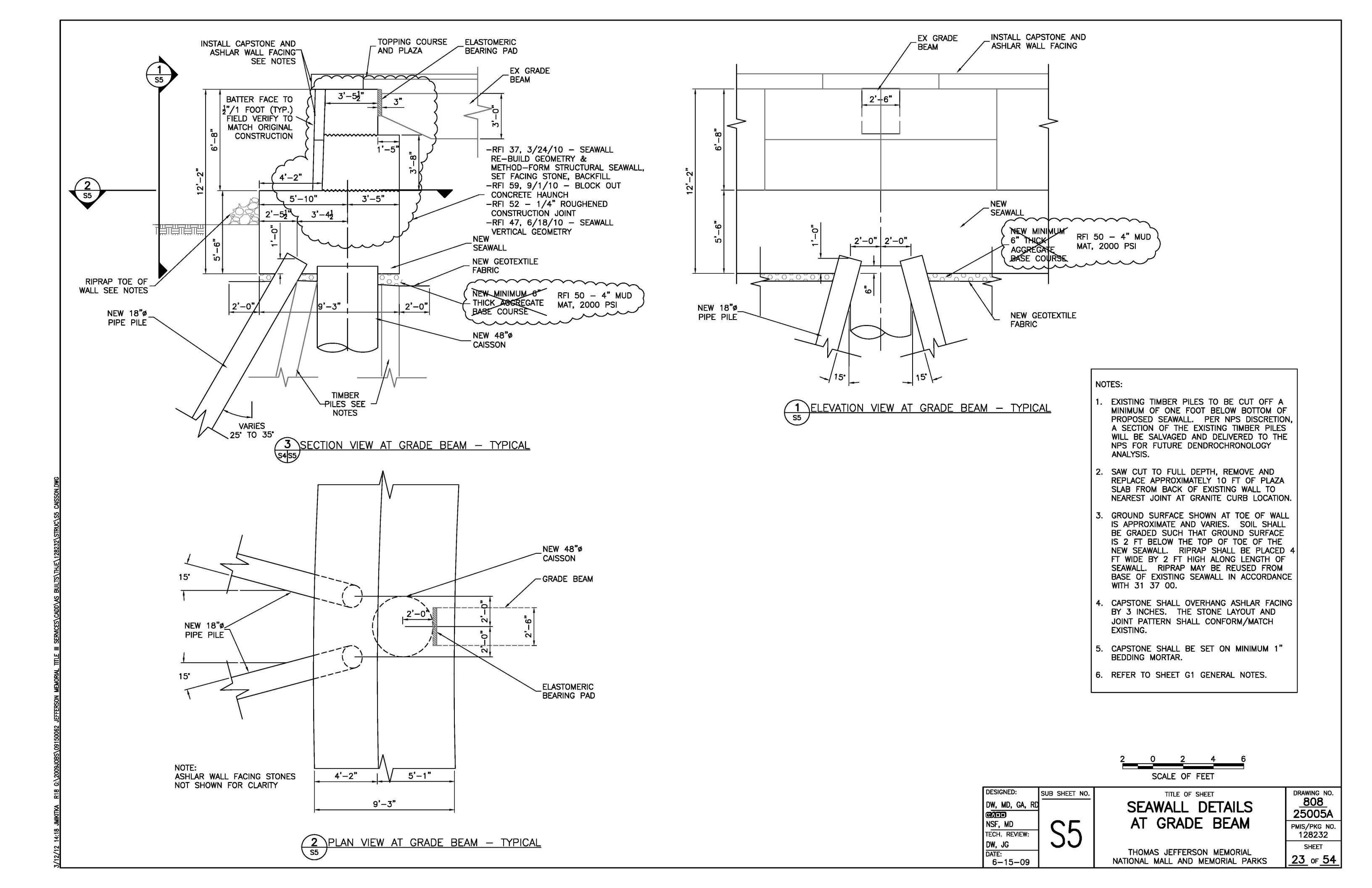
THOMAS JEFFERSON MEMORIAL NATIONAL MALL AND MEMORIAL PARKS

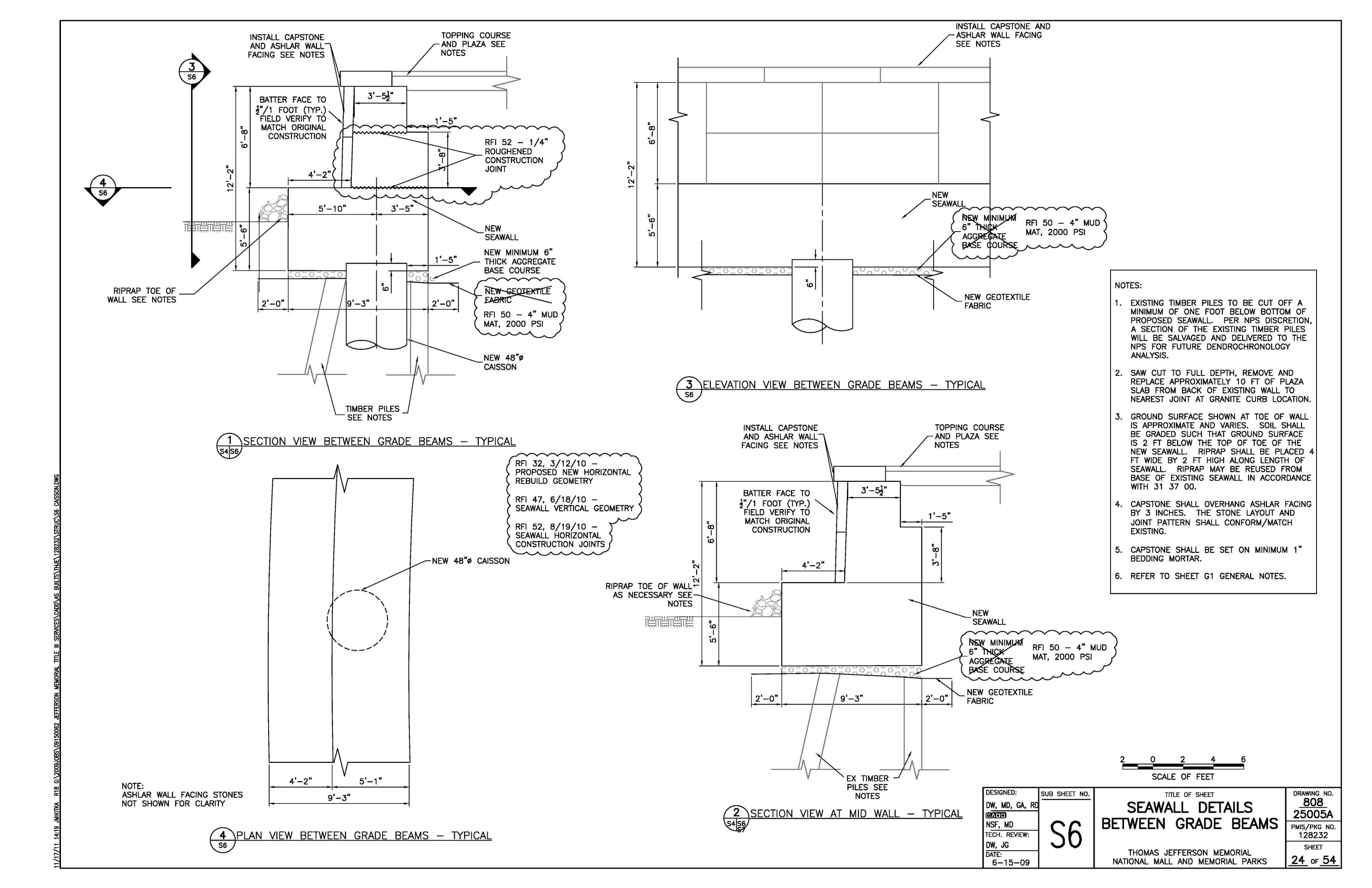
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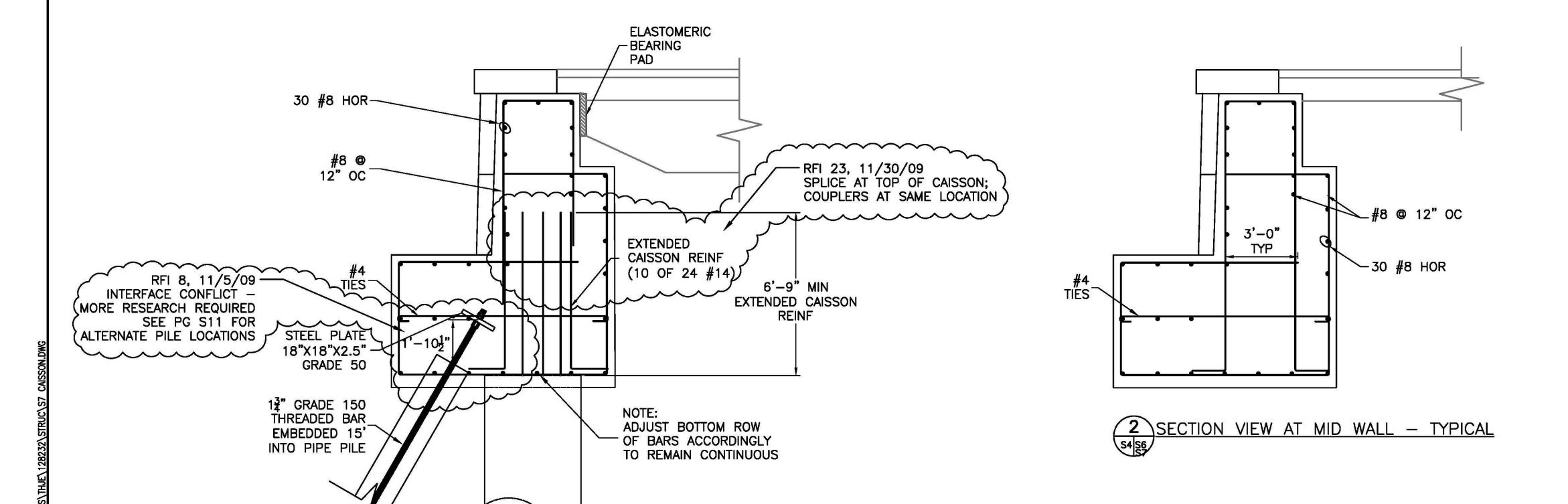
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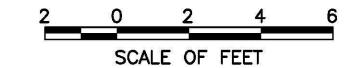




SECTION VIEW AT GRADE BEAM - TYPICAL

### NOTES:

- 1. EXISTING TIMBER PILES TO BE CUT OFF A MINIMUM OF ONE FOOT BELOW BOTTOM OF PROPOSED SEAWALL. PER NPS DISCRETION, A SECTION OF THE EXISTING TIMBER PILES WILL BE SALVAGED AND DELIVERED TO THE NPS FOR FUTURE DENDROCHRONOLOGY ANALYSIS.
- 2. SAW CUT TO FULL DEPTH, REMOVE AND REPLACE APPROXIMATELY 10 FT OF PLAZA SLAB FROM BACK OF EXISTING WALL TO NEAREST JOINT AT GRANITE CURB LOCATION.
- 3. BAR LENGTHS FOR REFERENCE ONLY. ACTUAL BEND RADII AND MINIMUM LENGTH AND SPLICE REQUIREMENTS TO BE DEFINED BY DETAILER.
- 4. CAPSTONE SHALL OVERHANG ASHLAR FACING BY 3 INCHES. THE STONE LAYOUT AND JOINT PATTERN SHALL MATCH/CONFORM EXISTING.
- 5. REFER TO SHEET G1 GENERAL NOTES.



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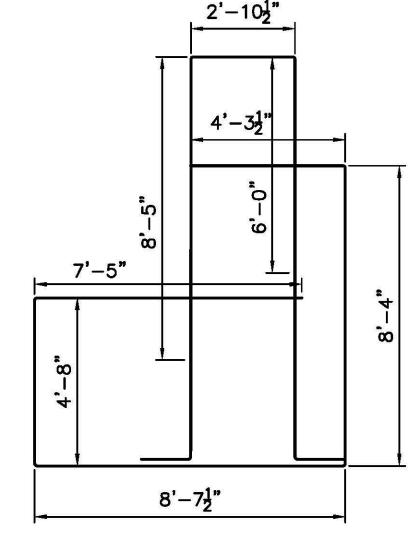
TITLE OF SHEET SEAWALL REINFORCING DETAILS AT CAISSON AND PIPE PILES

NATIONAL MALL AND MEMORIAL PARKS

808 25005A PMIS/PKG NO. 128232 SHEET

DRAWING NO.

25 of 54



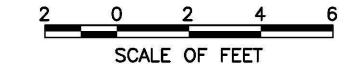
SEAWALL REINFORCEMENT - TYPICAL

2 SECTION VIEW BETWEEN GRADE BEAMS - TYPICAL S8

# NOTES:

- 1. SAW CUT TO FULL DEPTH, REMOVE AND REPLACE APPROXIMATELY 10 FT OF PLAZA SLAB FROM BACK OF EXISTING WALL TO NEAREST JOINT AT GRANITE CURB LOCATION.
- 2. BAR LENGTHS FOR REFERENCE ONLY.
  ACTUAL BEND RADII AND MINIMUM LENGTH
  AND SPLICE REQUIREMENTS TO BE DEFINED
  BY DETAILER.
- 3. REFER TO SHEET G1 GENERAL NOTES.

RFI 0115, 1/15/11
REBAR/FACING STONE CONFLICT AT 77B
(RADIAL TO LATERAL CONNECTION ON
WEST SIDE OF SEAWALL). REBAR TO BE
MODIFIED AS SHOWN IN RFI RESPONSE.



DESIGNED:

DW, MD, GA, RD

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SUB SHEET NO.

DATE:

6-15-09

SEAWALL REINFORCING
DETAILS AT CAISSON
(NO PIPE PILES)
THOMAS JEFFERSON MEMORIAL
NATIONAL MALL AND MEMORIAL PARKS

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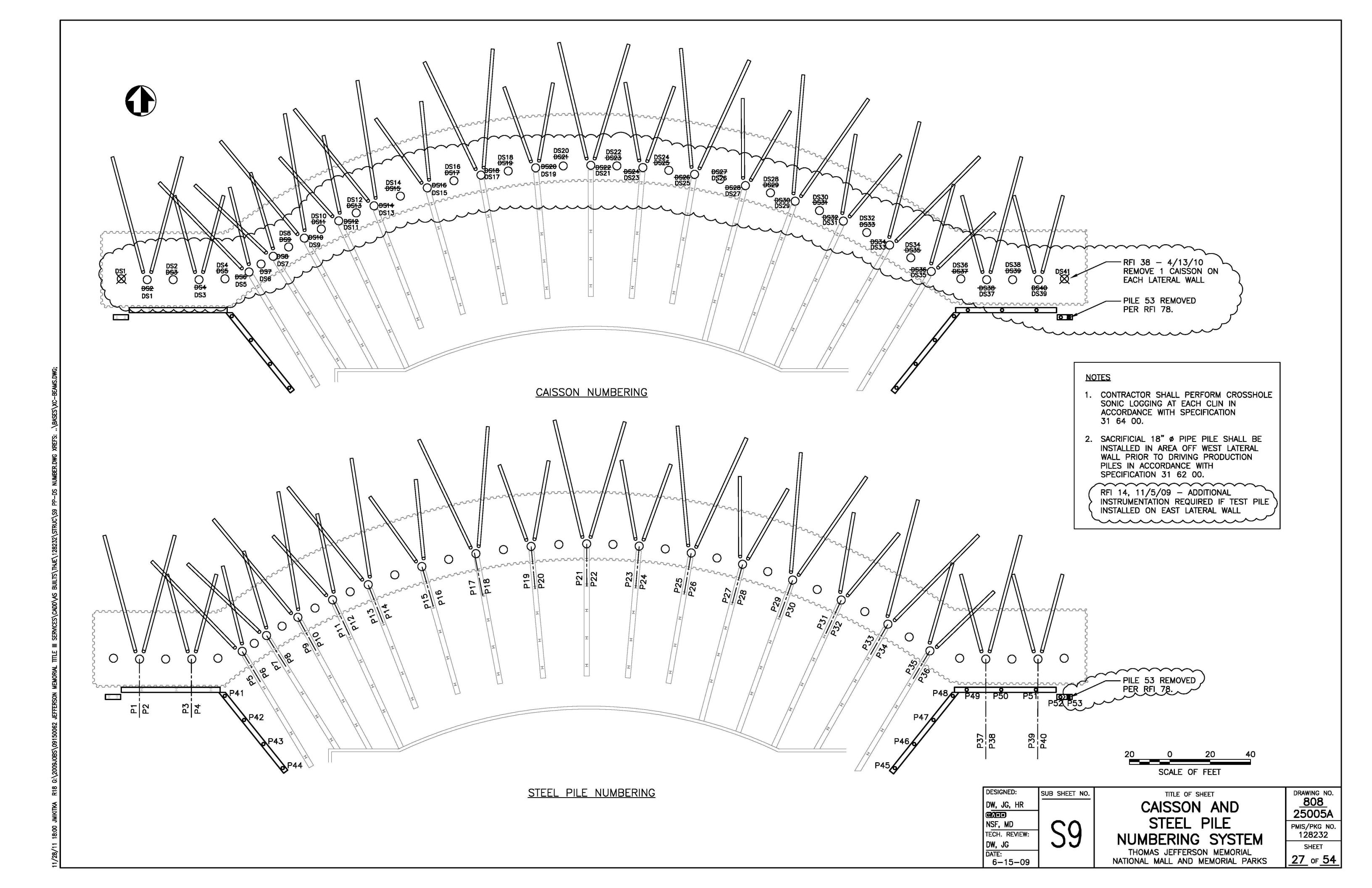
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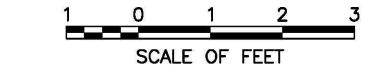
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1 TYPICAL ELEVATION OF CAISSON N.T.S.

1. THE METHOD OF ADVANCING THE HOLE SHALL BE APPROVED BY THE CONTRACTING OFFICER PRIOR TO CAISSON CONSTRUCTION. 2. CONTRACTOR SHALL NOT YIELD OR PERMANENTLY DEFORM REBAR CAGES DURING LIFTING, HANDLING OR PLACEMENT. RFI 21, 12/01/09 SPLICES SHALL BE MADE USING APPROVED RFI 31, 2/26/10 MECHANICAL CONNECTORS IN ACCORDANCE WITH MINIMUM STAGGERED AASHTO DIV. 1, SEC. 8.32 NO LAP SPLICES OR 4- CROSSHOLE WELDED SPLICES WILL BE PERMITTED. STAGGER CLEAR DISTANCE OF 2 FT SONIC LOGGING TUBES, 2" REINFORCEMENT SPLICES A MINIMUM OF 3'. I.D. SCH. 40 STEEL PIPES SEE NOTE 8 SPLICES ON VERTICAL REINFORCEMENT SHALL NOT BE #4 TIES @ 18-24" OC (SEE DET 1) PLACED WITHIN 10 FT OF THE ROCK SOCKET OR IN THE TOP 30 FT OF THE SHAFT. 24 #14 BARS, APPROVED SPACERS SHALL BE USED TO ALIGN GRADE 60 STEEL REINFORCEMENT WITHIN THE CAISSONS. 6. CONCRETE USED IN CAISSONS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 3" CL. 7. VERTICAL BARS TO BE CONTINUOUS WITHIN CAISSON TO SEAWALL CONNECTION. f'c = 4,000 PSICONC RFI 24, 12/10/09 CROSSHOLE SONIC LOGGING TUBES SHALL BE CSL TUPES IN CAISSONS: INSTALLED DURING THE CONSTRUCTION OF TWO DS3 **DS29** CAISSONS IN THE FIRST CLIN AND ONE CAISSON AT DS13 DS33 DS39 EACH ADDITIONAL CLIN LOCATION. SEE SPECIFICATION DS21 31 64 00. RFI 49, 7/14/10 REVISED CSL TUBE CAISSON CONCRETE MUST BE COMPLETED A MINIMUM CAISSON SECTION VIEW - (TYP) OF 14 DAYS PRIOR TO CONSTRUCTION OF SEAWALL. LOCATIONS 10. REFER TO SHEET G1 GENERAL NOTES. RFI 48, 6/11/10 PROPOSED CAISSON TIP ELEVATIONS



DESIGNED:

DW, MD

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DW, JG

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6-15-09

CAISSON NOTES:

TITLE OF SHEET

CAISSON DETAILS

THOMAS JEFFERSON MEMORIAL NATIONAL MALL AND MEMORIAL PARKS

SHEET 28 OF 54

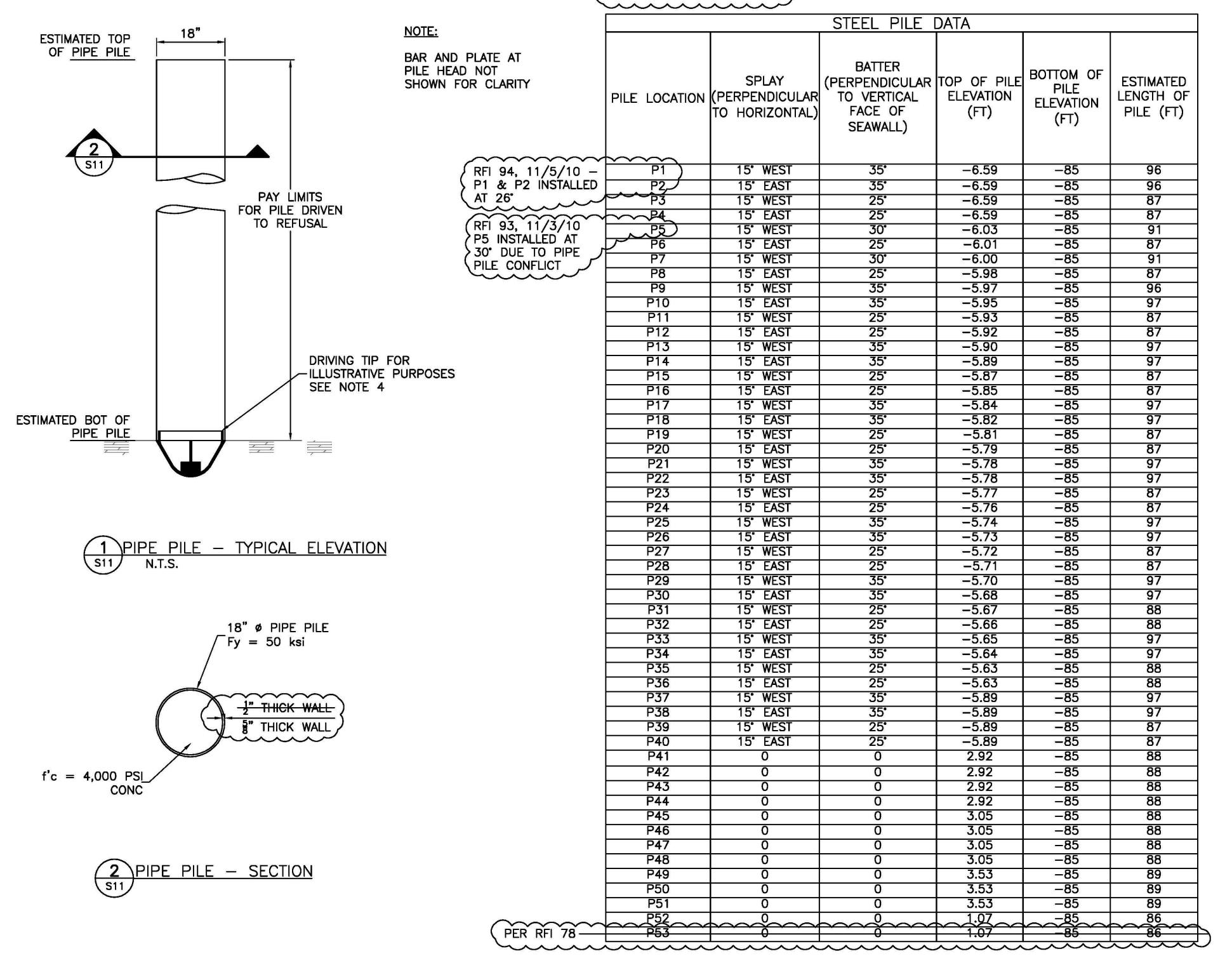
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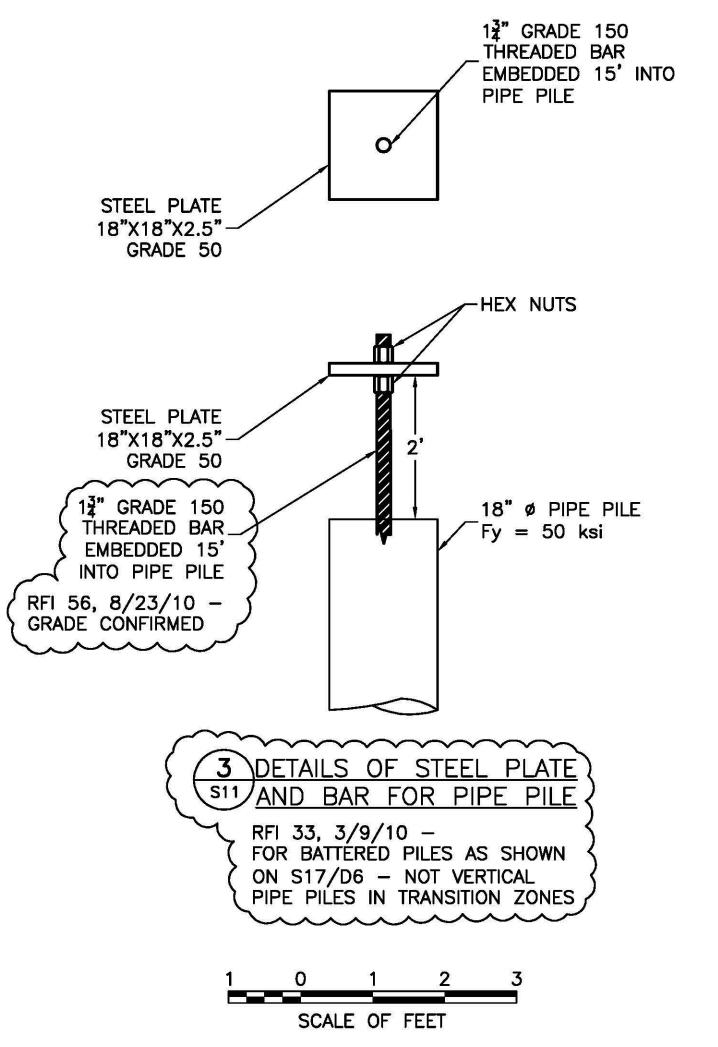
PMIS/PKG NO.

~~~~~~ RFI 0026, 1/20/10 -P4, P5, P7 LOCATION AND DEGREE OF BATTER MODIFIED



# **NOTES:**

- 1. PIPE PILES WILL BE DRIVEN TO REFUSAL BASED ON THE DRIVING CRITERIA ESTABLISHED AS A RESULT OF THE STATIC LOAD TESTING.
- DRIVING CRITERIA SHALL BE ESTABLISHED BY THE CONTRACTOR AND APPROVED BY THE CONTRACTING OFFICER. RFI 82 -DRIVING CRITERIA: 10 BLOWS/INCH FOR 2 CONSECUTIVE INCHES (120 BPF)
- CONCRETE USED IN THE PIPE PILES SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000
- CONTRACTOR SHALL PROVIDE DRIVING TIPS SUITABLE TO ALLOW DRIVING OF THE PILES TO THE DEPTHS AND CAPACITIES INDICATED ON THE PLANS.
- 5. REFER TO SHEET G1 GENERAL NOTES.
- 6. TOP OF PILE ELEVATIONS ARE BASED ON EXISTING NORTH PLAZA ELEVATIONS.
- PILE BAR AND PLATE SHALL BE INSTALLED IMMEDIATELY AFTER CONCRETE PLACEMENT.
- 8. A MINIMUM OF 2 CENTRALIZERS SHALL BE USED ON THE PILE BARS.



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STEEL PILE DETAILS AND SCHEDULE

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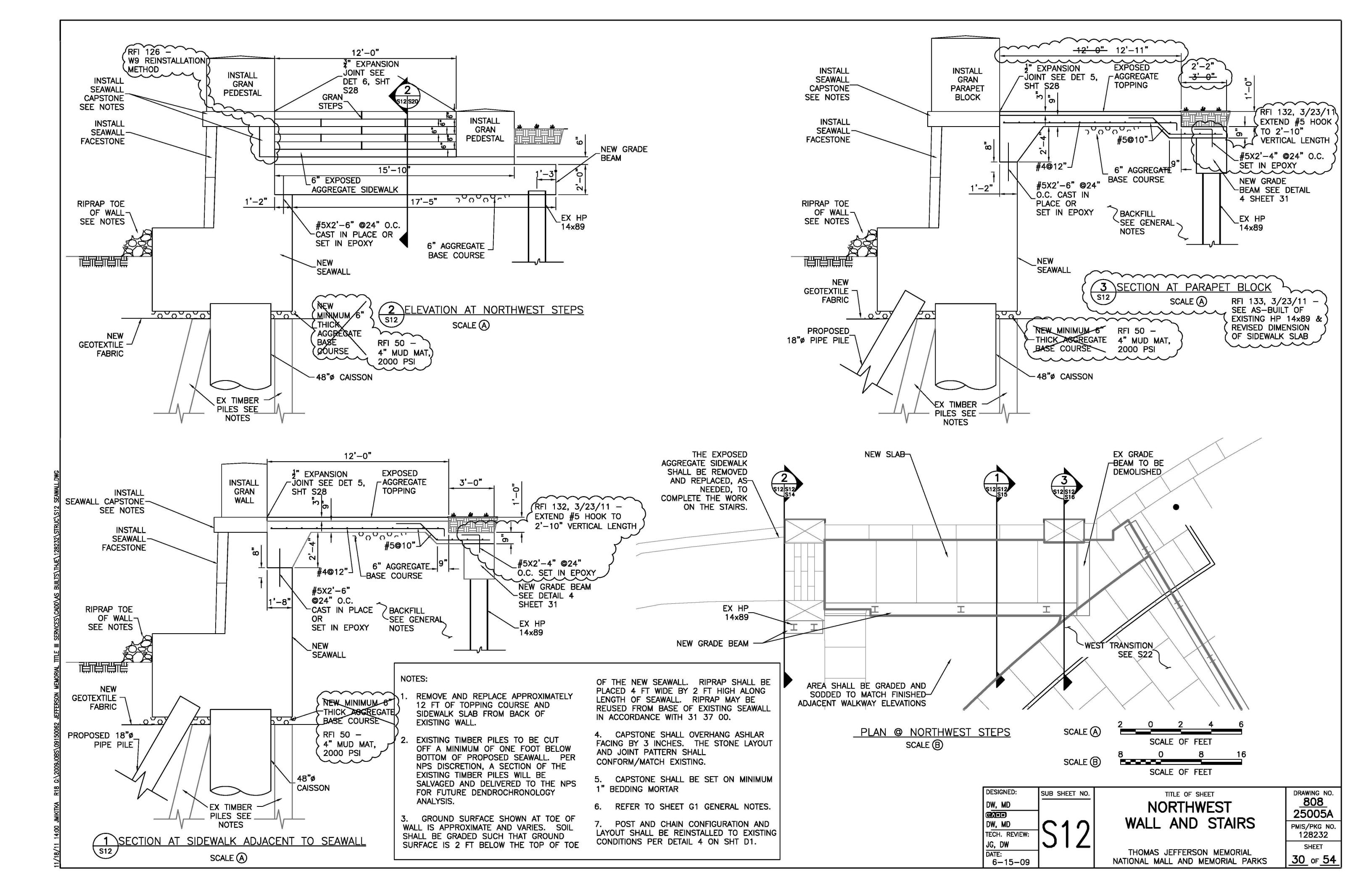
THOMAS JEFFERSON MEMORIAL NATIONAL MALL AND MEMORIAL PARKS

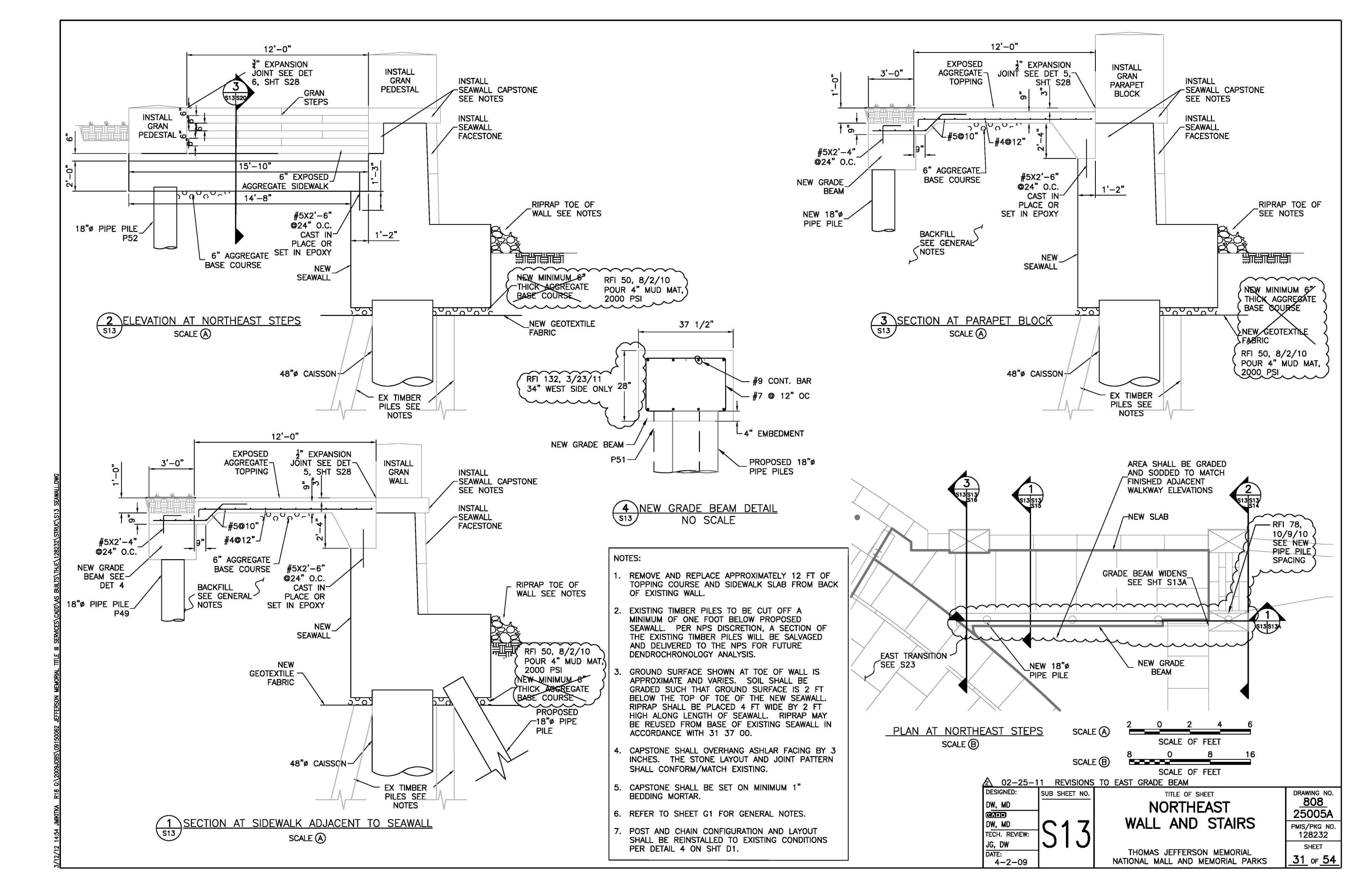
PMIS/PKG NO. 128232 SHEET 29 of 54

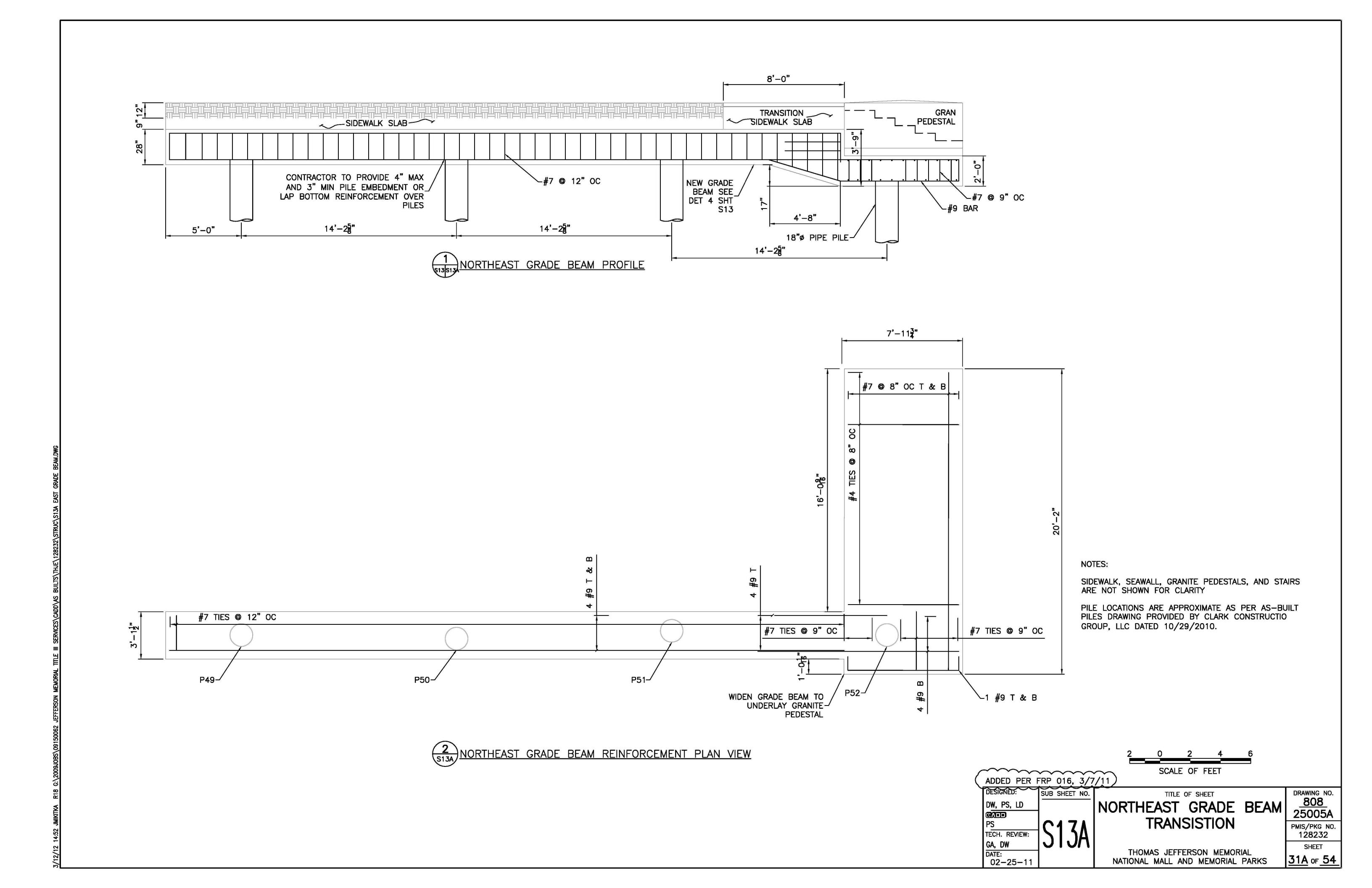
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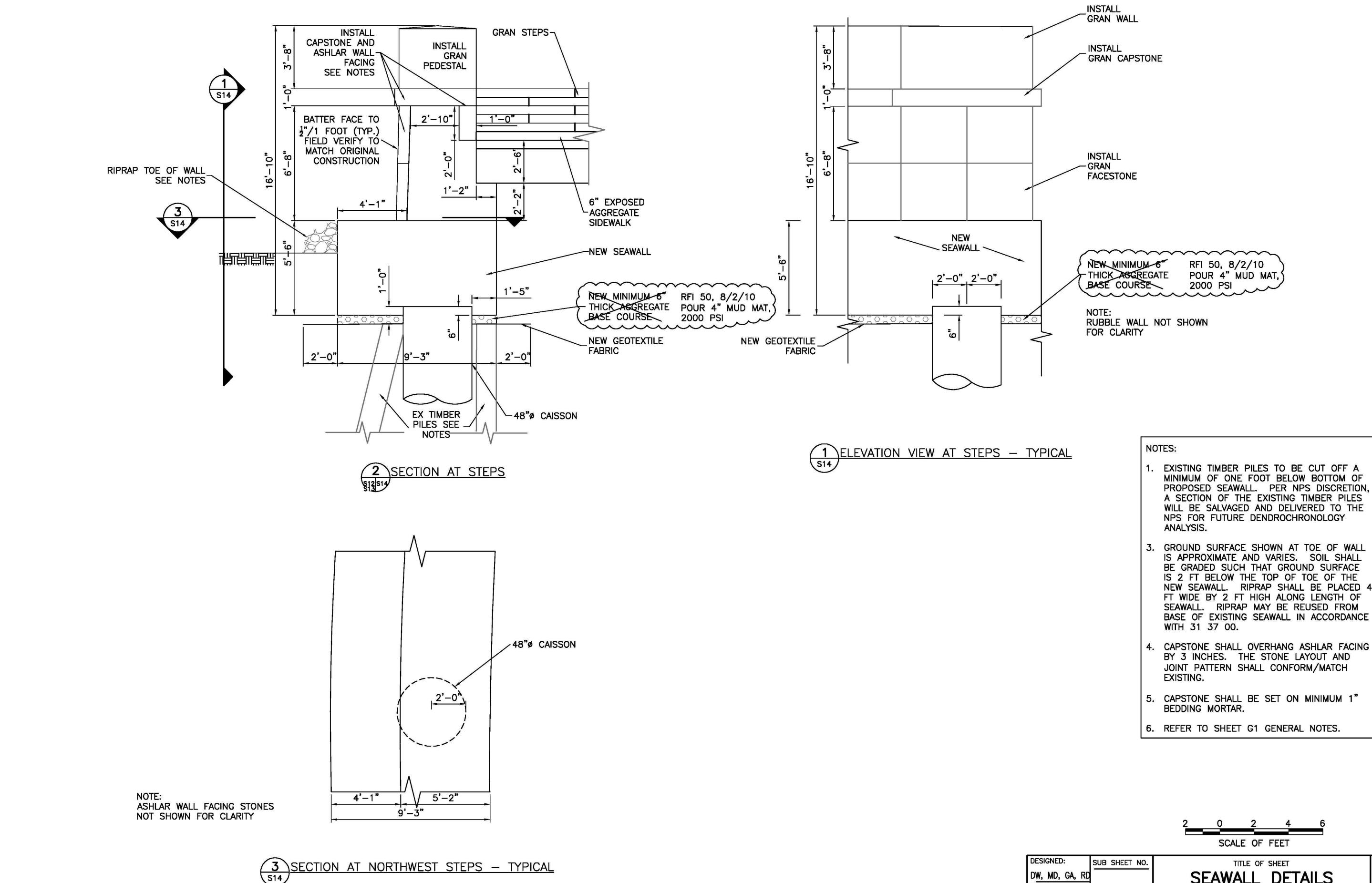
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DRAWING NO. TITLE OF SHEET SEAWALL DETAILS 25005A AT STEPS PMIS/PKG NO. 128232

THOMAS JEFFERSON MEMORIAL NATIONAL MALL AND MEMORIAL PARKS

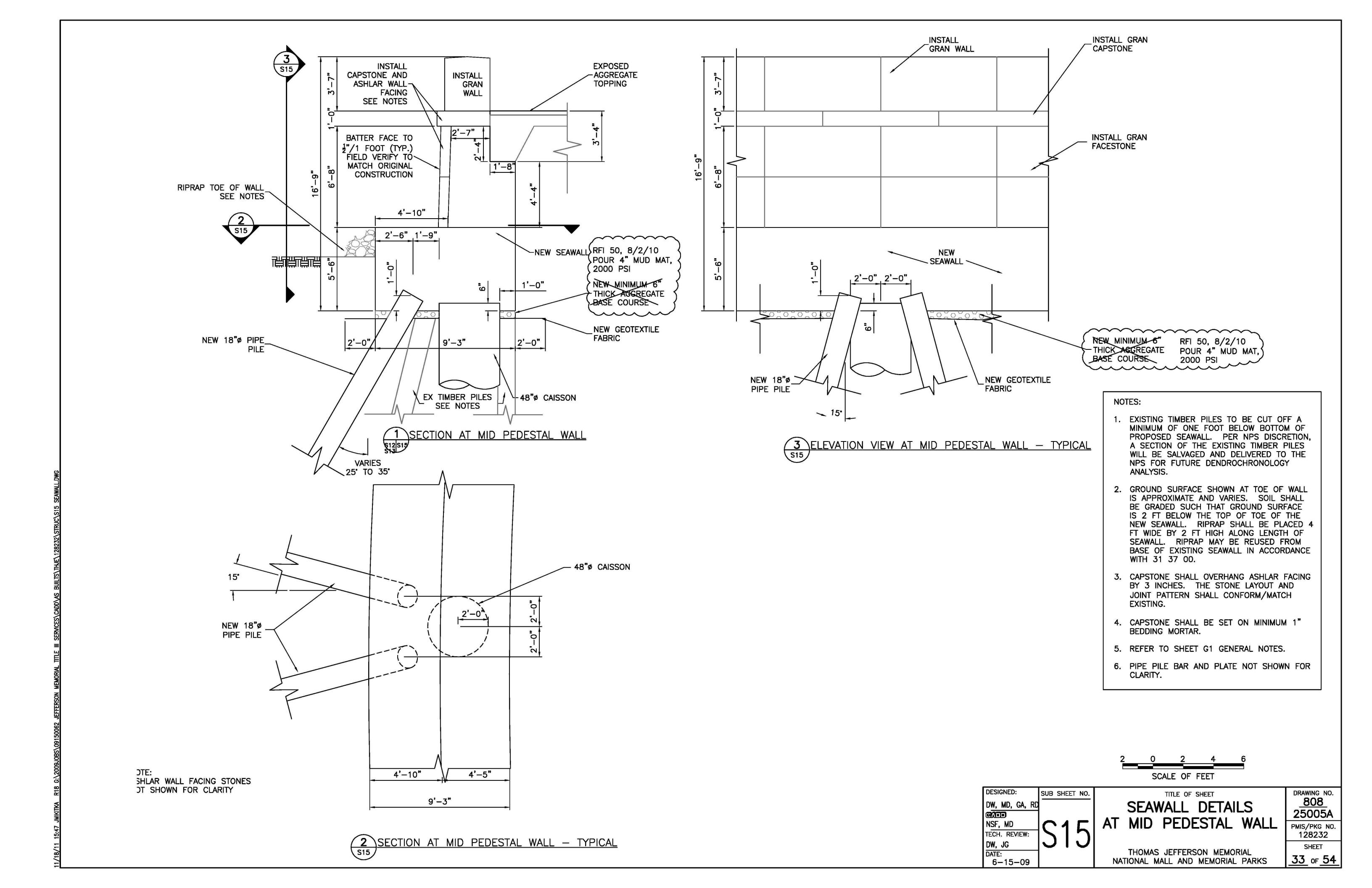
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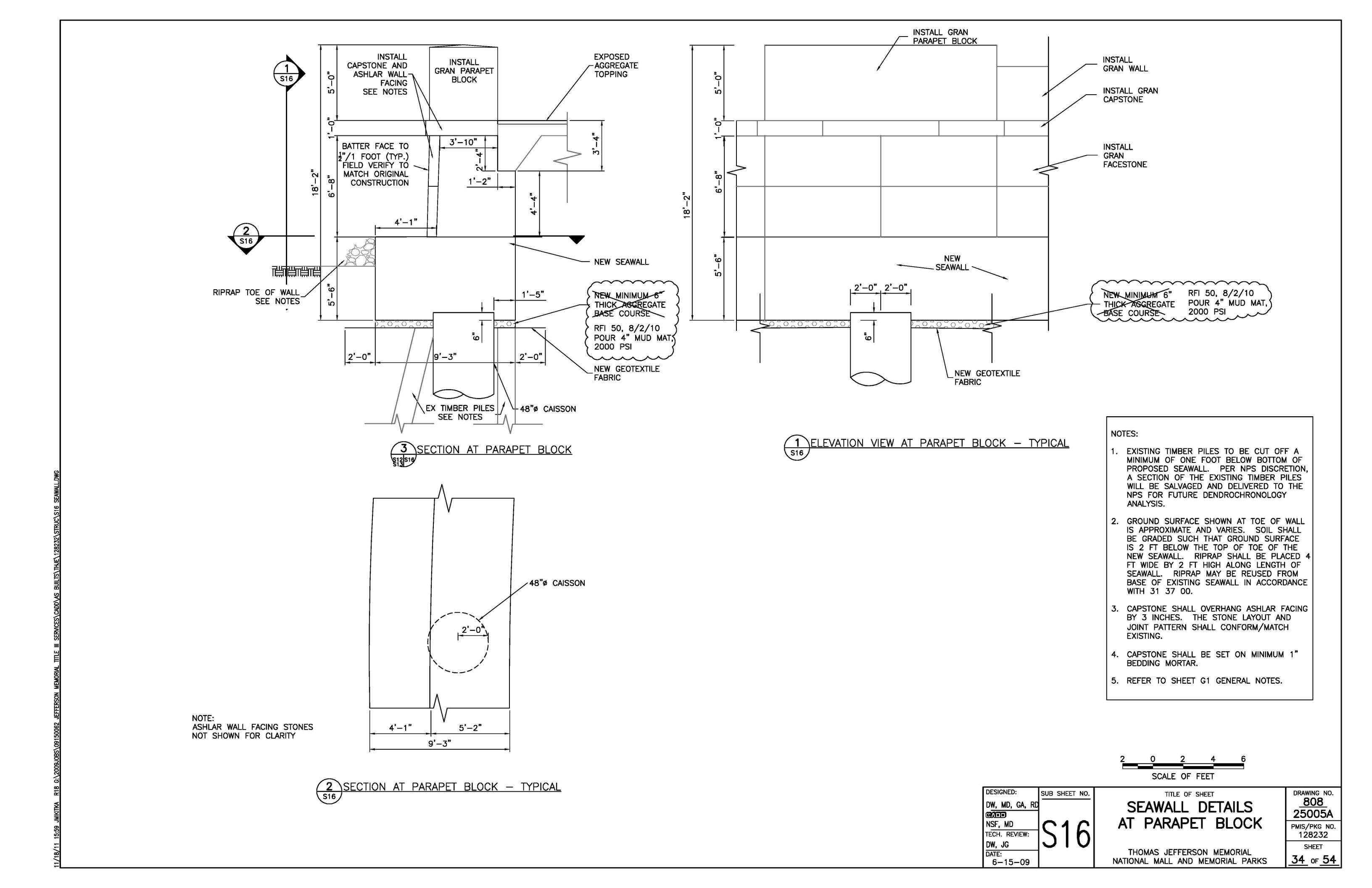
NSF, MD

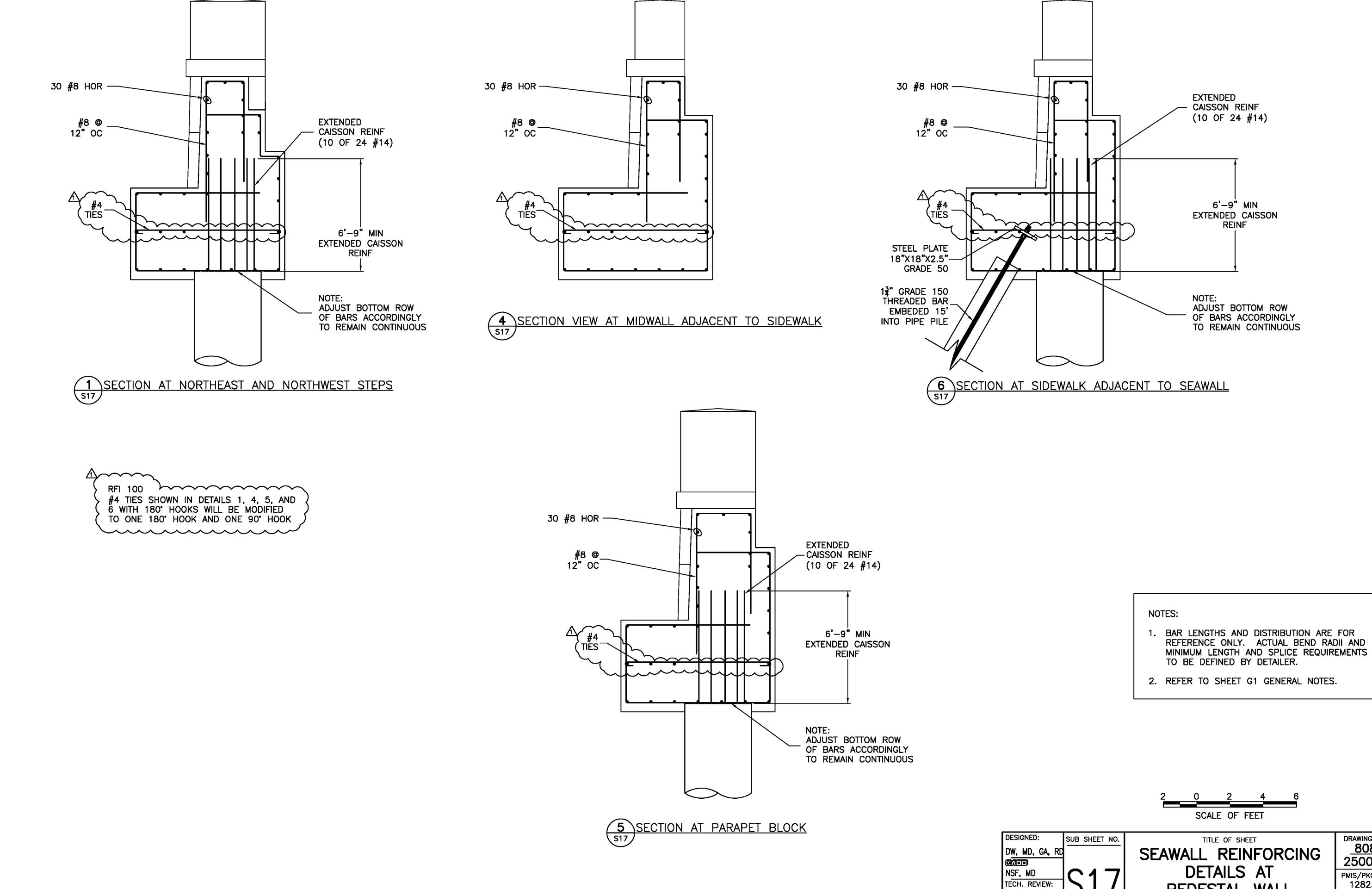
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SHEET 32 of 54







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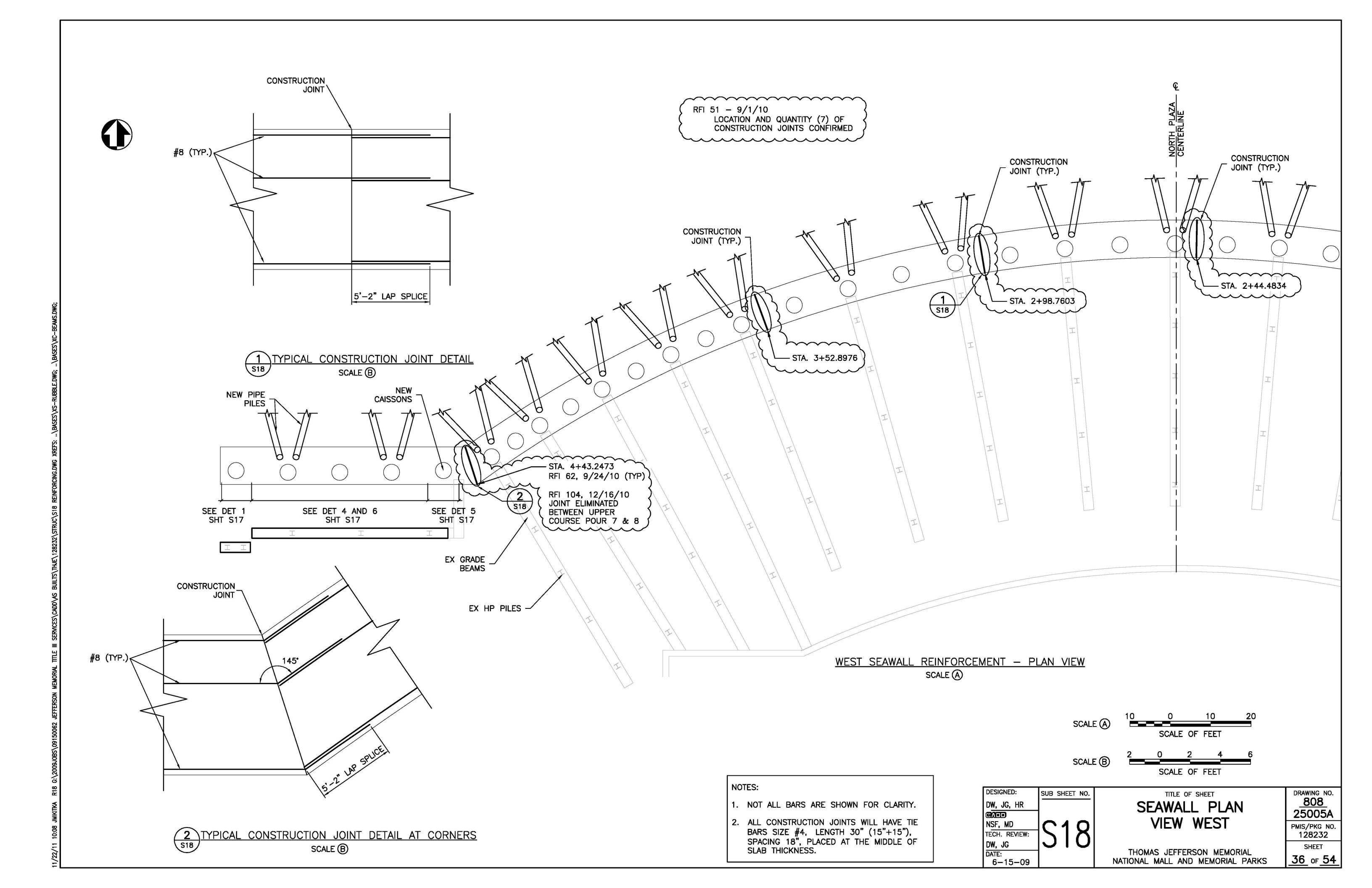
PEDESTAL WALL THOMAS JEFFERSON MEMORIAL

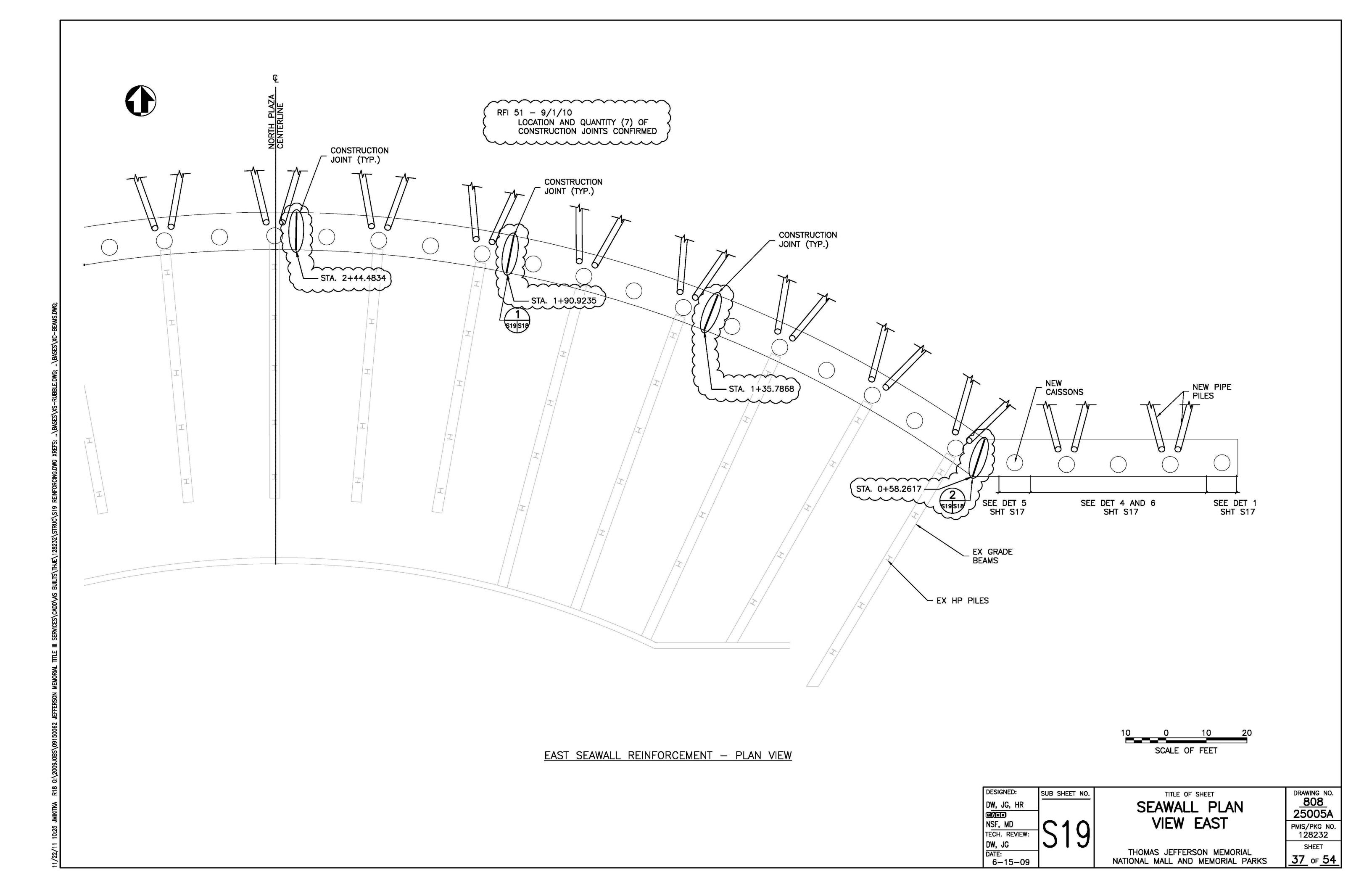
NATIONAL MALL AND MEMORIAL PARKS

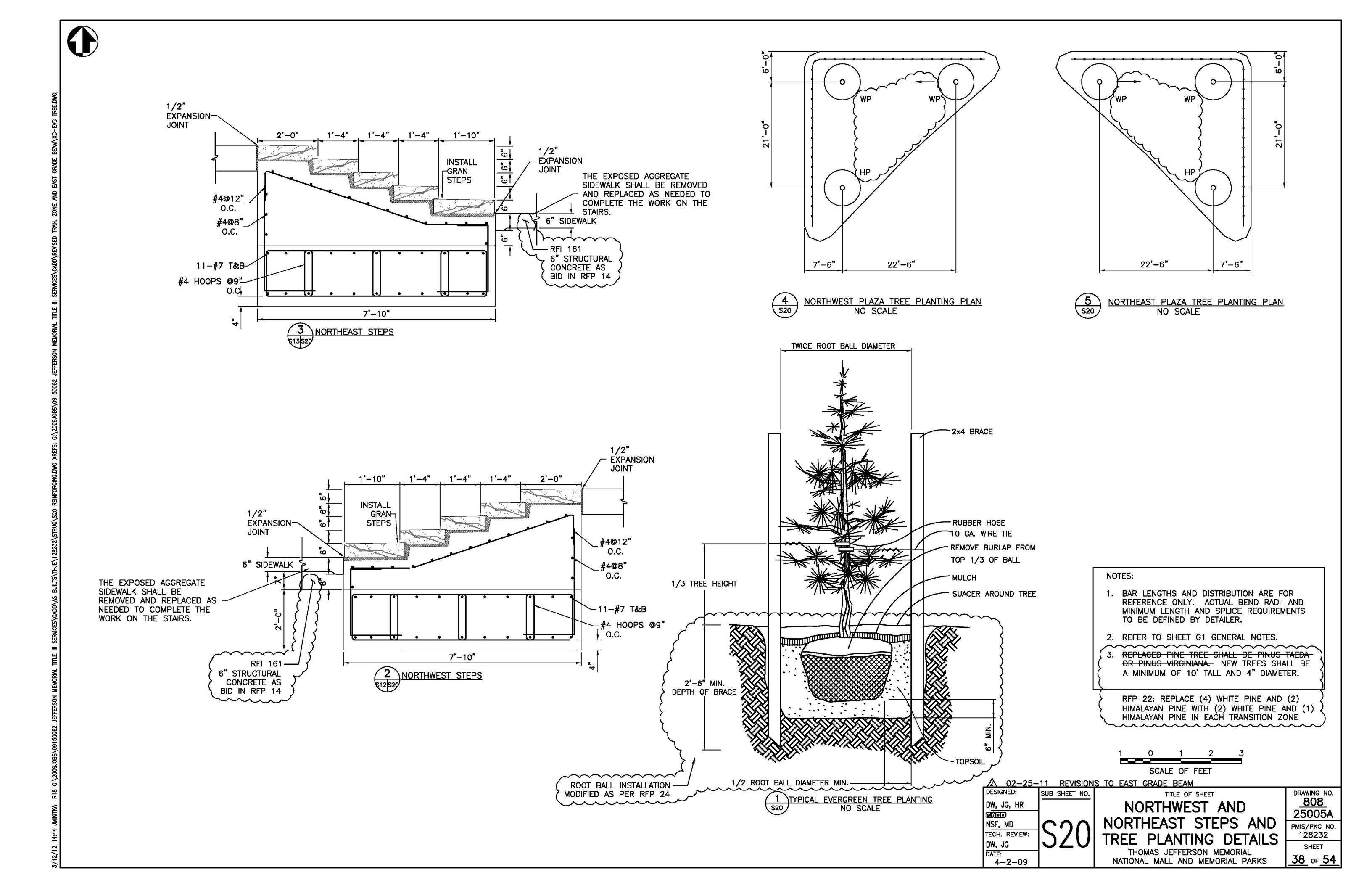
25005A PMIS/PKG NO. 128232 SHEET 35 of 54

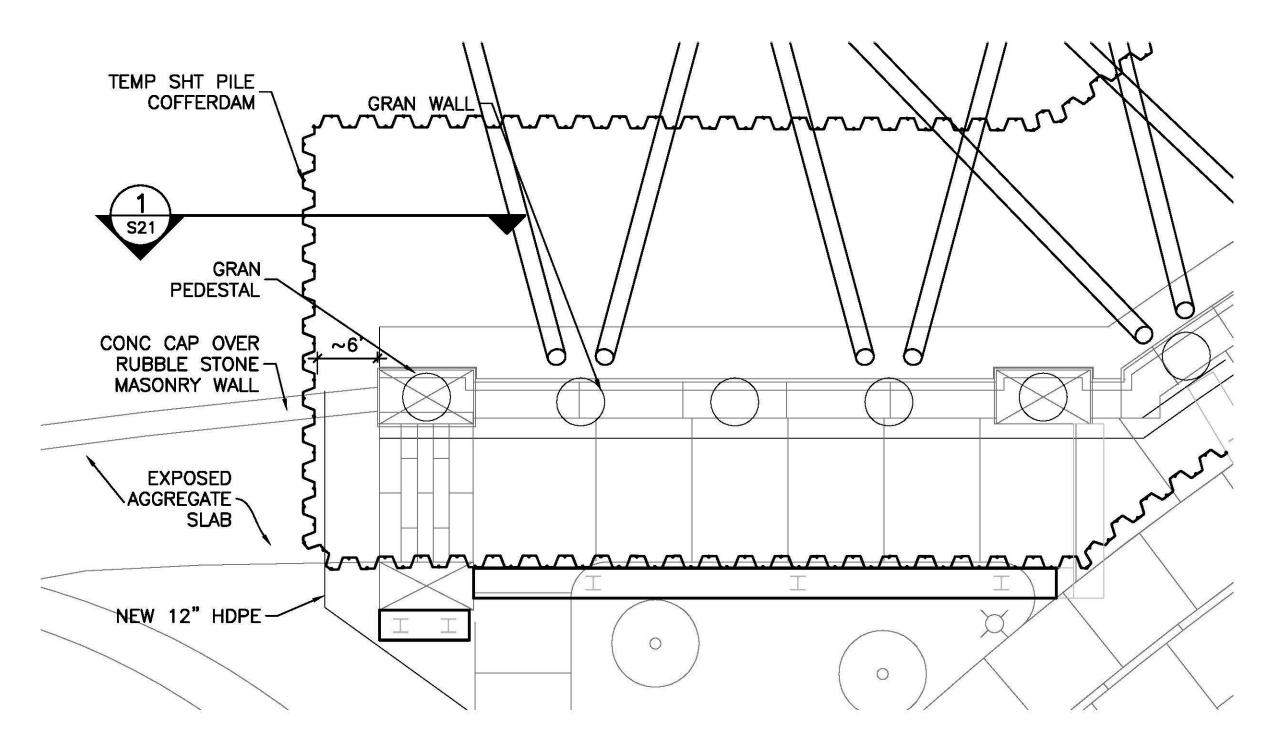
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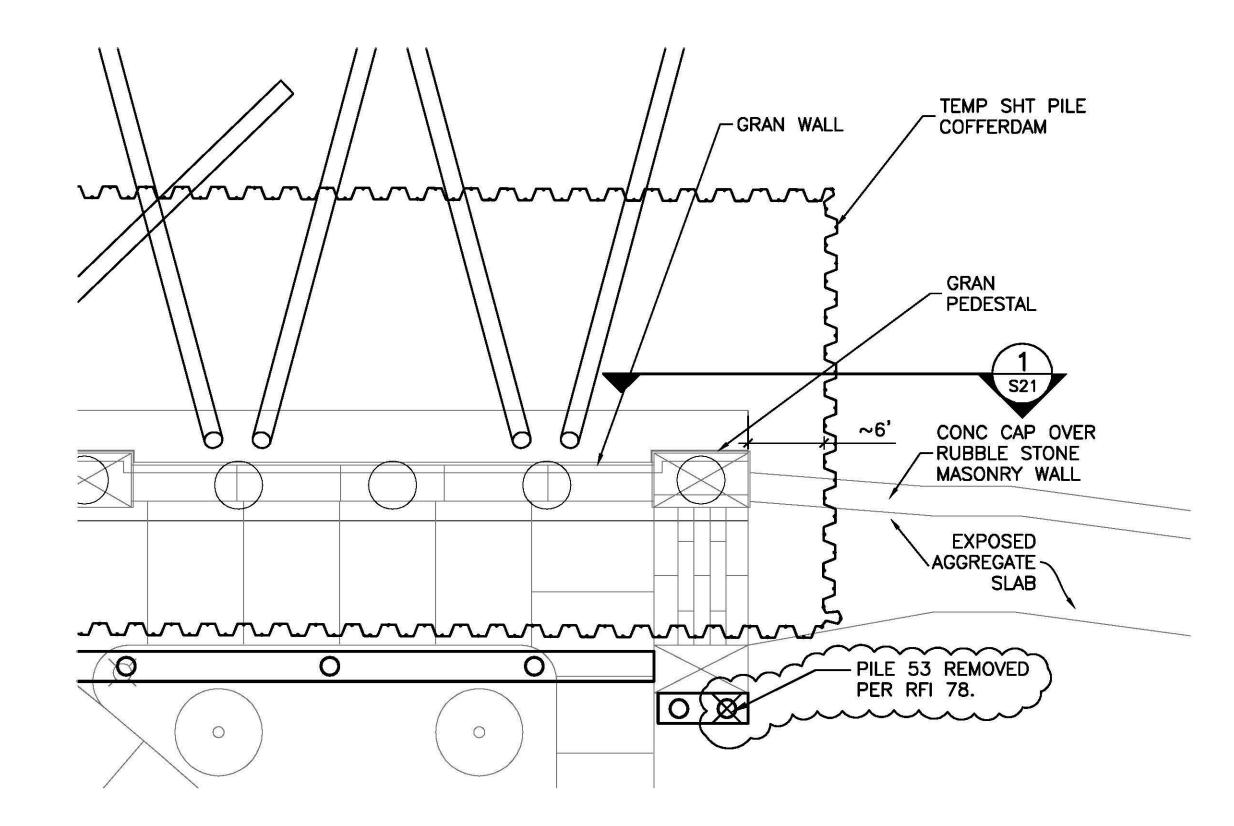








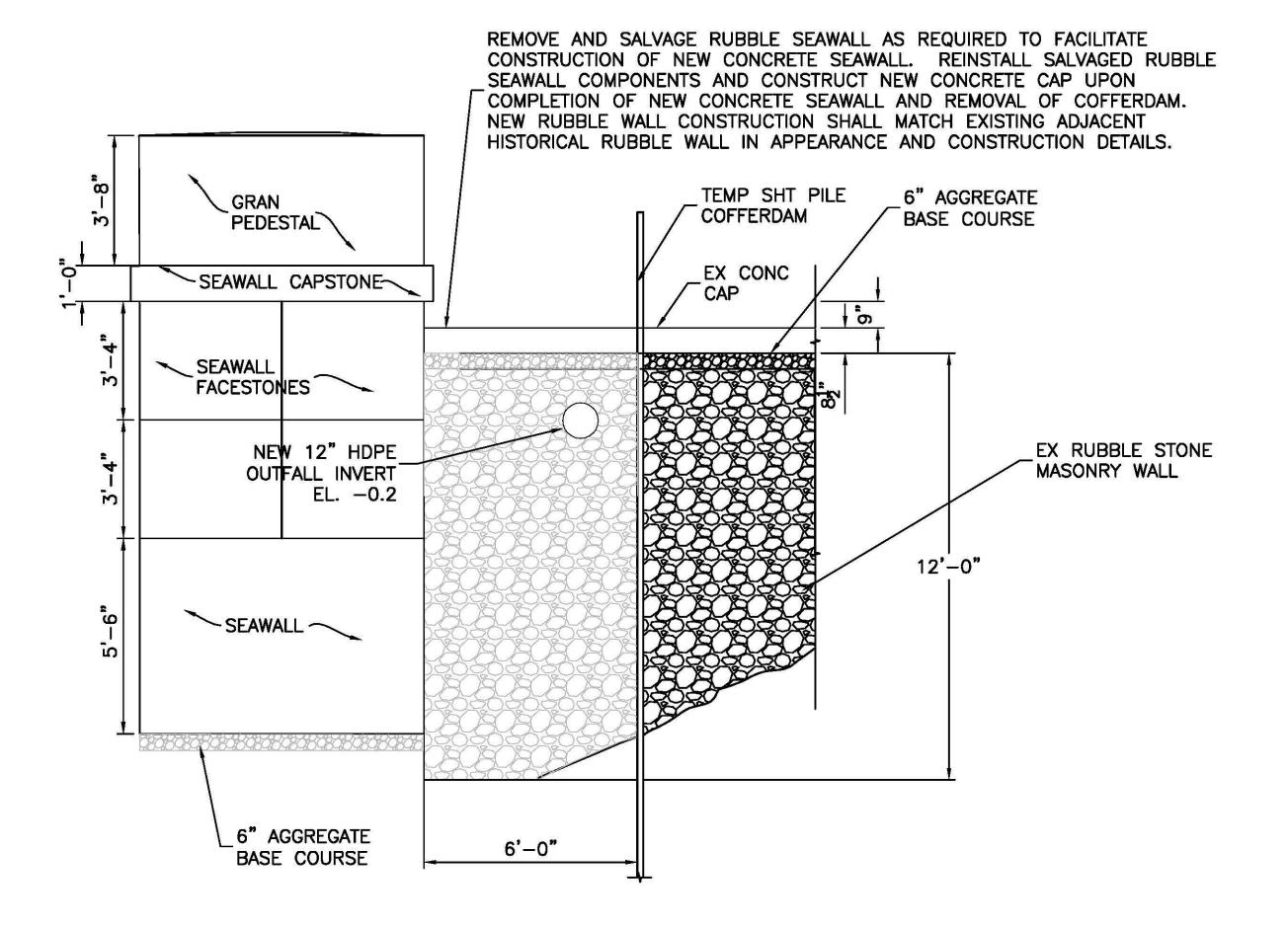
## NORTHWEST STAIR TO RUBBLE WALL DETAIL - PLAN VIEW



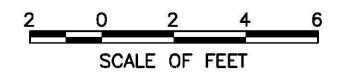
NORTHEAST STAIR TO RUBBLE WALL DETAIL - PLAN VIEW

#### NOTES:

1. RUBBLE WALL MAY CONSIST OF CONCRETE WITH RUBBLE STONE FACING. CONTRACTOR SHALL MAKE PROVISIONS TO REMOVE AND REPLACE CONCRETE IF ENCOUNTERED DURING DEMOLITION.



1 STAIR TO RUBBLE WALL DETAIL



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DW, MD, GA, RD

PARTITION

NSF, MD

TECH. REVIEW:
DW, JG

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6-15-09

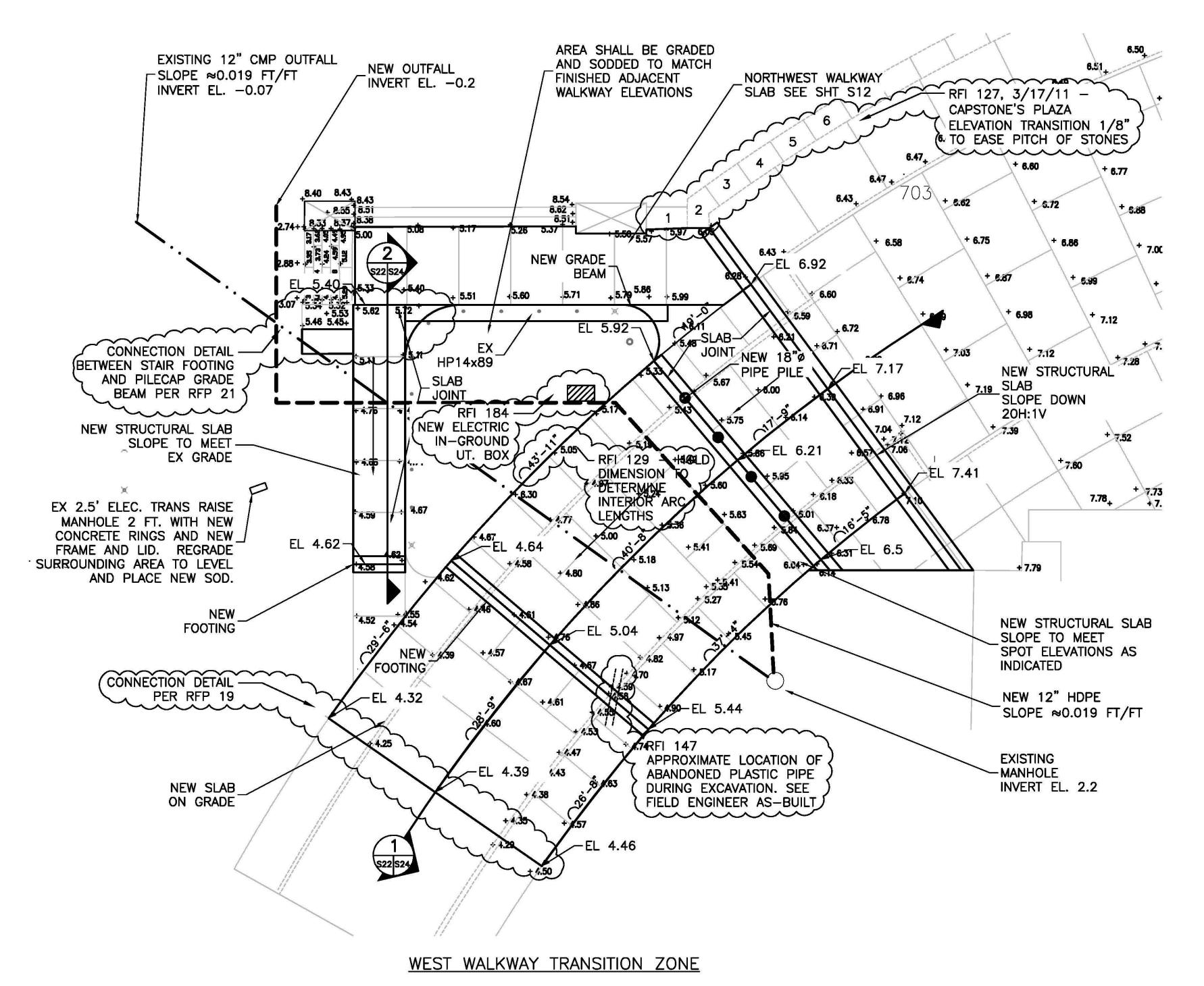
PLAN AND
DETAILS AT
RUBBLE WALL

THOMAS JEFFERSON MEMORIAL

NATIONAL MALL AND MEMORIAL PARKS

808 25005A PMIS/PKG NO. 128232 SHEET 39 OF 54

DRAWING NO.



# NOTES:

- REFER TO SHEET G1 GENERAL NOTES.
- PIPE PILES SHALL BE DRIVEN TO REFUSAL AND TO SIMILAR DEPTHS AS PIPE PILES ALONG SEAWALL.
- FIRST SEGMENT OF TRANSITION ZONE SHALL SLOPE DOWN AT 20H:1V FROM THE EXISTING PLAZA ELEVATION. SECOND SEGMENT SHALL SLOPE TO MEET EXISTING GRADE. ESTIMATED SETTLEMENT OF NEW FOOTING TO REACH 20H:1V SLOPE IS APPROXIMATELY 12 IN.
- WALKWAY FROM STAIRS TO RING ROAD SHALL SLOPE TO MEET EXISTING GRADE.
- CONTRACTOR SHALL PLACE 6" OF AGGREGATE BASE COURSE, UNDERLAIN BY PROPERLY COMPACTED FILL THAT IS FREE OF LOOSE AND/OR DELETERIOUS MATERIAL, BENEATH NEW SLABS. SEE SPECIFICATION 31 23 23.
- DRAINAGE GRATES EXIST ALONG THE RING ROAD, SET IN THE GRANITE CURBING, AT AN APPROXIMATE 25' INTERVAL. APPROXIMATELY 3 EXIST WITHIN THE TRANSITION ZONE. ACTUAL LOCATIONS HAVE NOT BEEN SURVEYED. CONTRACTOR SHALL REINSTALL THE GRATES IN THE SAME LOCATION
- CONTRACTOR SHALL REPLACE 3 PINE TREES REMOVED IN TRIANGULAR AREA. SEE SHEET S20 FOR DETAILS
- THE EXISTING CONDITIONS PLAN INDICATES A 12" CMP STORM SEWER PIPE IN THE AREA OF CONSTRUCTION. THIS RIPE MAY NEED TO BE PORTION OF THE RUBBLE SEAWALL. THE EXISTING 12" CMP SHALL BE ABANDONED AND FILLED WITH FLOWABLE FILL FOLLOWING THE **CONTRACTING OFFICER.**

RFI 148, 5/18/11 GRATES SHALL NOT BE RE-INSTALLED; REPLACE WITH GRANITE CURB STONES; GRATES TO BE PROVIDED TO NAMA

RFP 22 "TREES" 2 WHITE PINE 1 HIMALAYAN PINE

RELOCATED TO AVOID CONFLICTS WITH THE PROPOSED TRANSITION SLAB. TO AVOID CONFLICT, THE PIPE SHALL BE RELOCATED ADJACENT TO THE PROPOSED PILE SUPPORTED GRADE BEAM AND A NEW ONTFALL SHALL BE CONSTRUCTED WITHIN THE DEMOLISHED RELOCATION OF THE NEW PIPE. THE LOCATION OF THE NEW 12" HDRE IS APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD WITH APPROVAL OF THE

SCALE OF FEET

8. The Existing Conditions Plan indicates a 12" CMP Storm Sewer pipe in the area of construction of the new transition slab. To avoid a conflict between this new construction and the existing pipe, a new 12" HDPE pipe shall be installed at the location shown on this drawing adjacent to the proposed pile supported grade beam and a new outfall shall be constructed within the demolished portion of the rubble seawall. The existing 12" CMP shall be removed as required to avoid conflict with new transition slab construction. At locations where conflict with new construction does not occur, the existing 12" CMP shall be abandoned in place and filled with flowable fill following the installation of the new 12" HDPE. The location of the new 12" HDPE is approximate and may be adjusted in the field with the approval of the Contracting Officer.

↑ 01-03-11 REVISIONS TO TRANSITION ZONES

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TITLE OF SHEET WEST TRANSITION **PLAN** 

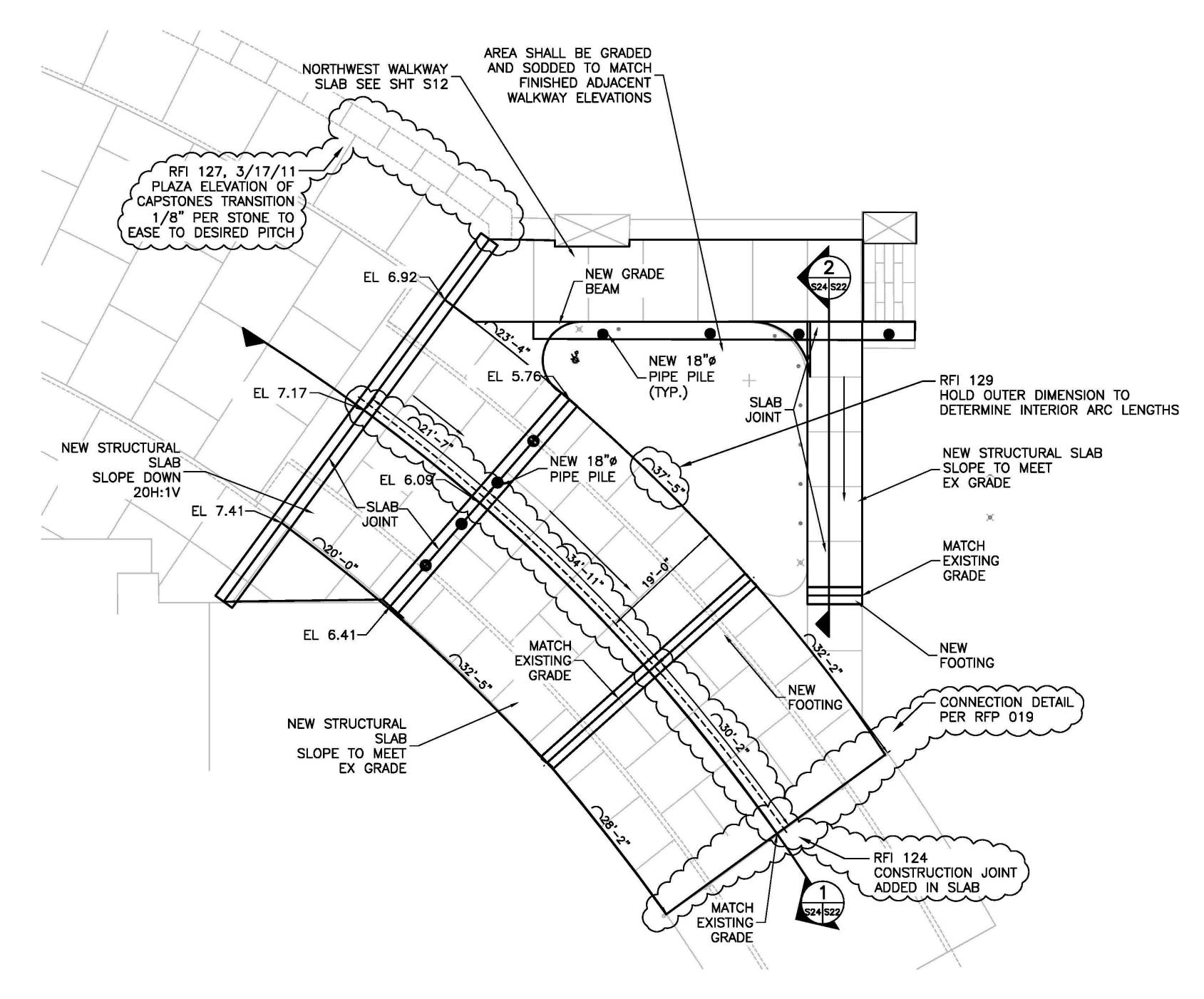
THOMAS JEFFERSON MEMORIAL NATIONAL MALL AND MEMORIAL PARKS

PMIS/PKG NO. 128232 SHEET 40 of 54

DRAWING NO.

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EAST WALKWAY TRANSITION ZONE

#### NOTES:

- 1. REFER TO SHEET G1 GENERAL NOTES.
- 2. PIPE PILES SHALL BE DRIVEN TO REFUSAL AND TO SIMILAR DEPTHS AS PIPE PILES ALONG SEAWALL.
- 3. FIRST SEGMENT OF TRANSITION ZONE
  SHALL SLOPE DOWN AT 20H:1V FROM
  THE EXISTING PLAZA ELEVATION.
  SECOND SEGMENT SHALL SLOPE TO
  MEET EXISTING GRADE. ESTIMATED
  SETTLEMENT OF NEW FOOTING TO
  REACH 20H:1V SLOPE IS
  APPROXIMATELY 12 IN.
- 4. WALKWAY FROM STAIRS TO RING ROAD SHALL SLOPE TO MEET EXISTING GRADE.
- 5. CONTRACTOR SHALL PLACE 6" OF AGGREGATE BASE COURSE, UNDERLAIN BY PROPERLY COMPACTED FILL THAT IS FREE OF LOOSE AND/OR DELETERIOUS MATERIAL, BENEATH NEW SLABS. SEE SPECIFICATION 31 23 23.
- 6. DRAINAGE GRATES EXIST ALONG THE RING ROAD, SET IN THE GRANITE CURBING, AT AN APPROXIMATE 25' INTERVAL. APPROXIMATELY 3 EXIST WITHIN THE TRANSITION ZONE. ACTUAL LOCATIONS HAVE NOT BEEN SURVEYED. CONTRACTOR SHALL REINSTALL THE GRATES IN THE SAME LOCATION.

7. CONTRACTOR SHALL REPLACE 2 PINE TREES REMOVED IN TRIANGULAR AREA. SEE SHEET S20 FOR DETAILS.

RFI 148, 5/18/11
GRATES SHALL NOT BE
RE-INSTALLED; REPLACE
WITH GRANITE CURB
STONES; GRATES TO BE
PROVIDED TO NAMA

RFP 22 "TREES"
2 WHITE PINE
1 HIMALAYAN PINE

RFI 188

BOND BREAKER TO BE PLACED ON

STRUCTURAL SLAB PRIOR TO EXPOSED

AGGREGATE TOPPING COURSE AT RING

ROAD (NOT SIDEWALKS)

10 0 10 20

SCALE OF FEET 1 01-03-11 REVISIONS TO TRANSITION ZONES

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| DATE:         |               |          |
| 06-15-09      |               |          |

EAST TRANSITION
PLAN

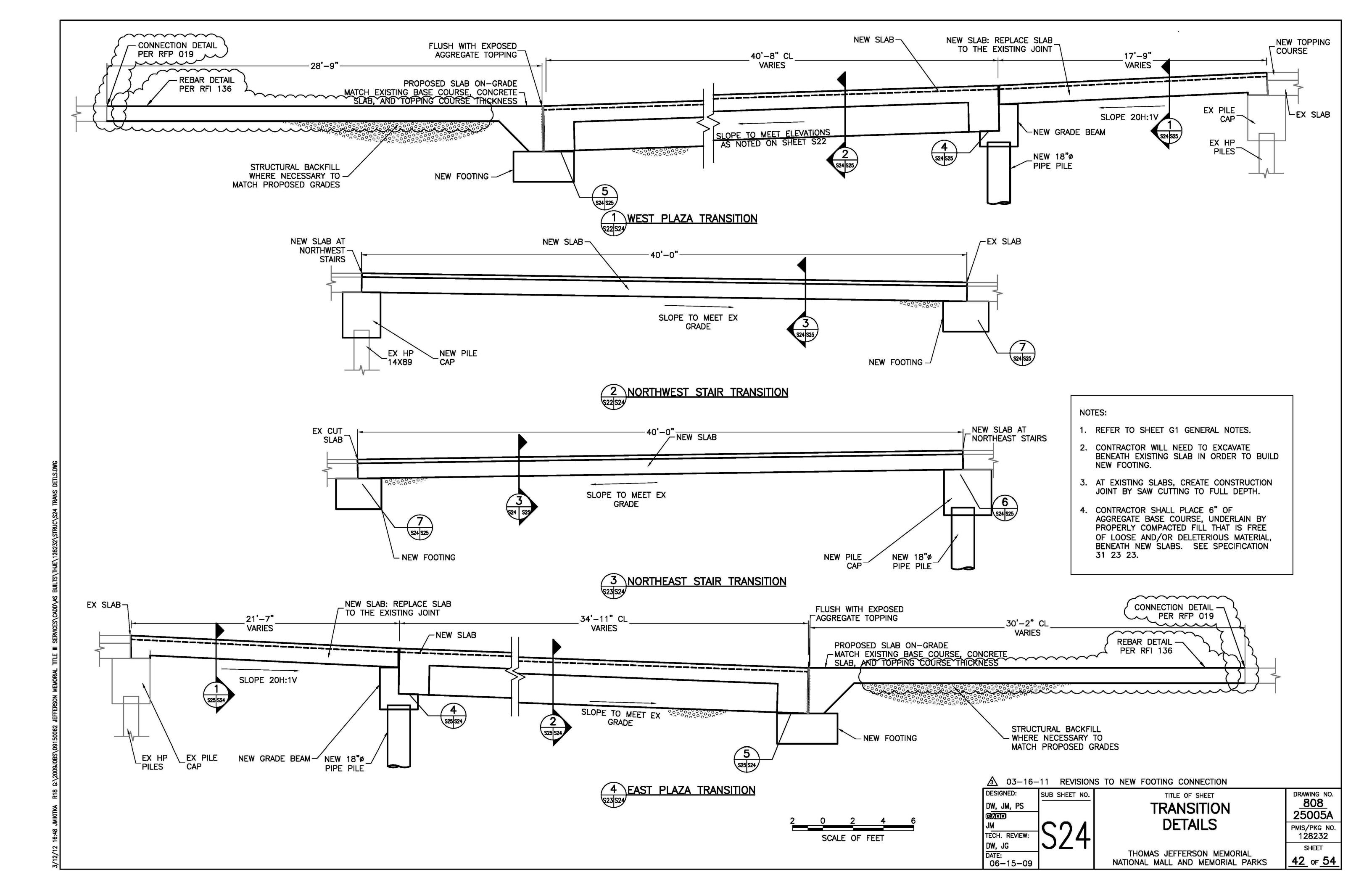
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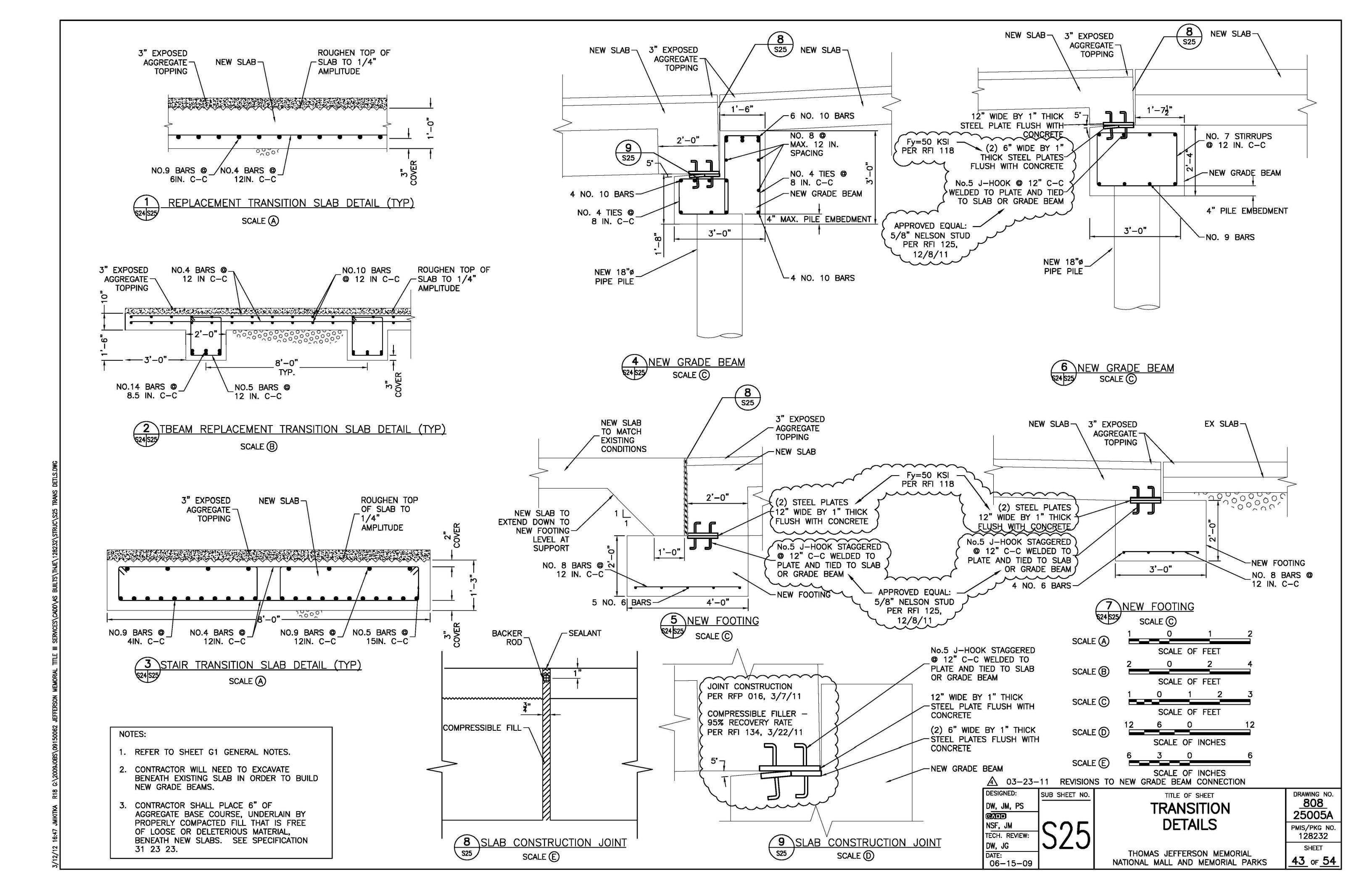
PMIS/PKG NO. 128232 SHEET 41 OF 54

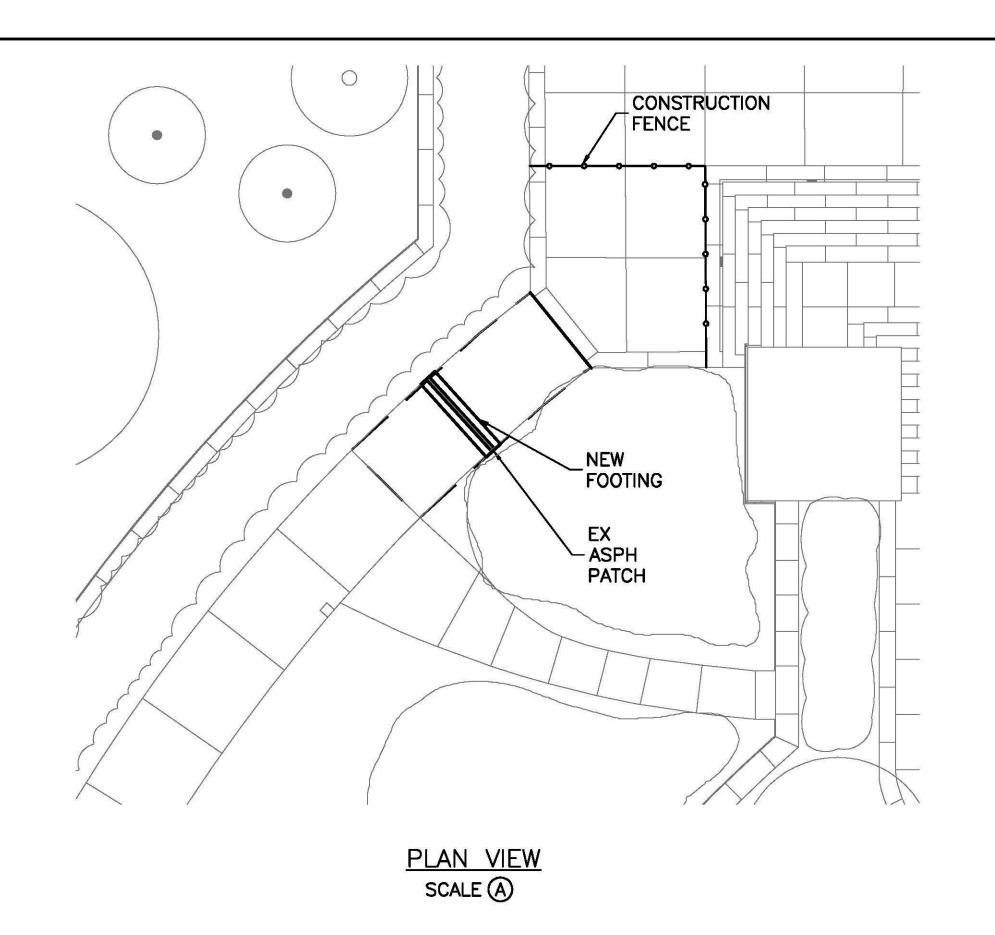
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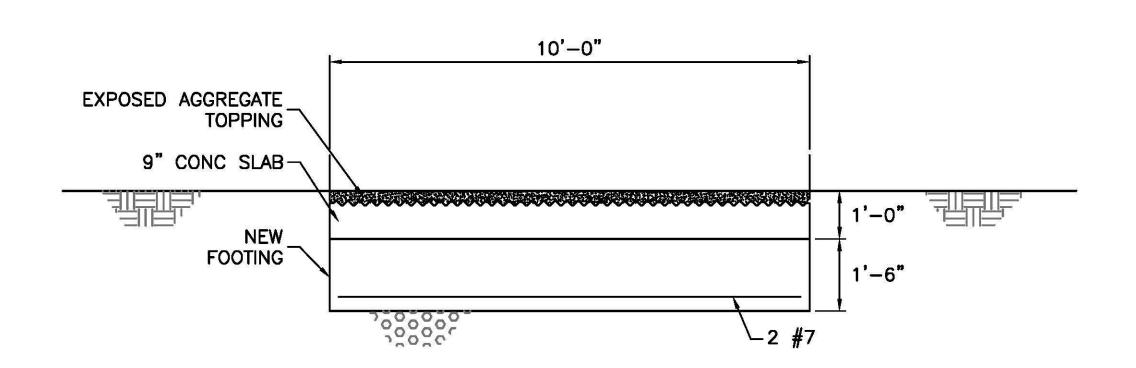
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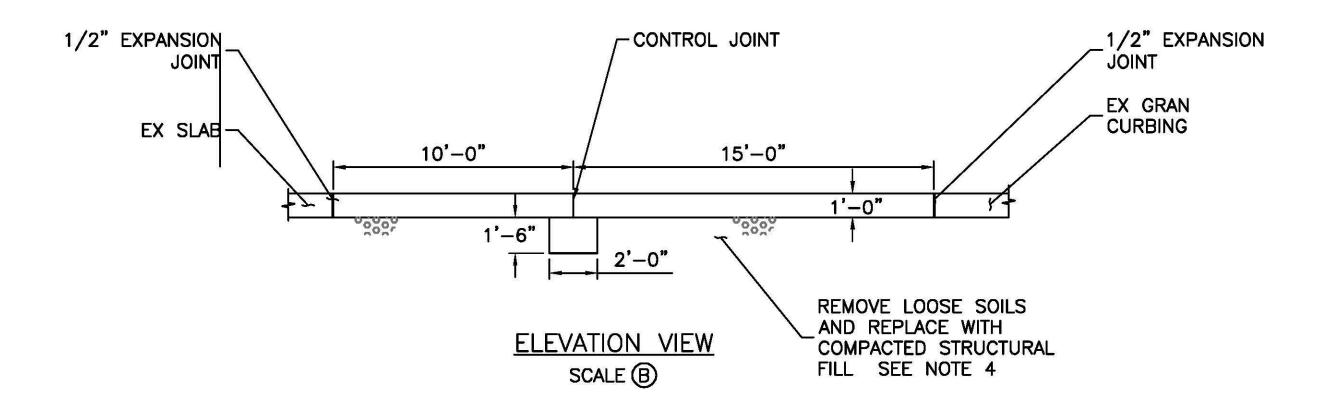


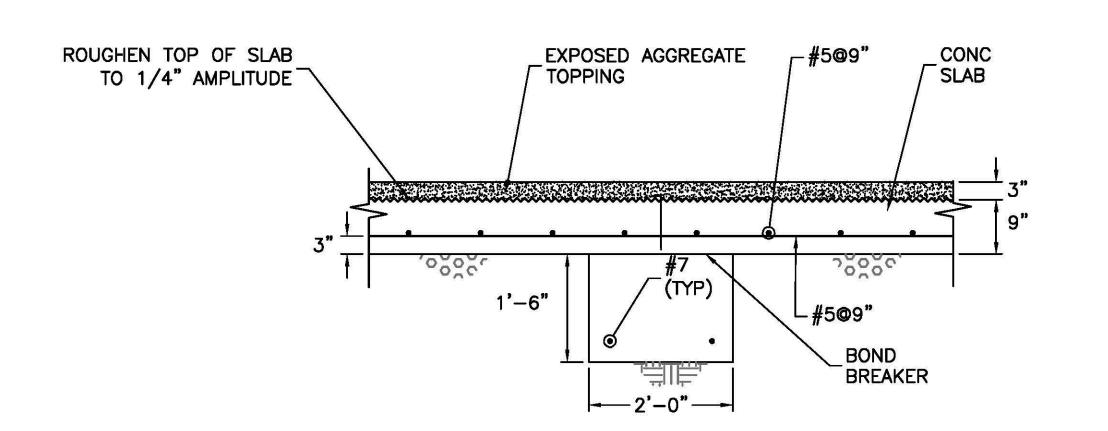






SECTION VIEW SCALE ©





<u>DETAIL</u>

SCALE (D)

NOTES:

- 1. REFER TO SHEET G1 GENERAL NOTES.
- 2. WALKWAY TO BE CLOSED DURING DEMOLITION AND REPLACEMENT OF THE WALKWAY. ONCE THE NEW WALKWAY IS COMPLETE, THE TERRACE WALKWAY SHALL BE REOPENED.
- 3. REFER TO S28 FOR EXPANSION JOINT DETAILS.
- 4. CONTRACTOR SHALL PLACE 6" OF AGGREGATE BASE COURSE, UNDERLAIN BY PROPERLY COMPACTED FILL THAT IS FREE OF LOOSE OR DELETERIOUS MATERIAL, BENEATH NEW SLABS. SEE SPECIFICATION 31 23 23.
- 5. THE EXISTING CONDITIONS PLAN INDICATES A 12" CORRUGATED METAL PIPE IN THE AREA OF THE TERRACE WALKWAY CONSTRUCTION. THE CONTRACTOR SHALL USE CARE DURING EXCAVATION AND RECONSTRUCTION ACTIVITIES TO NOT CAUSE DAMAGE TO THIS PIPE. DAMAGE CAUSED DURING CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

| TERRACE WA | ALKWAY CONSTRUCTION  |
|------------|--|
|            | SEQUENCE   |
| STEP       | DESCRIPTION  |
| 1          | ERECT FENCING AND SIGNAGE                                  |
| 2          | DEMO EXISTING SLABS  |
| 3          | EXCAVATE FOR NEW FOOTING                                   |
| 4          | FORM FOOTING AND PLACE REBAR                               |
| 5          | POUR FOOTING   |
| 6          | PLACE BOND BREAKER AND SLAB<br>REBAR                       |
| 7          | POUR SLAB  |
| 8          | ROUGHEN SURFACE OF SLAB AND POUR EXPOSED AGGREGATE TOPPING |
| 9          | OPEN WALKWAY   |

SCALE (A)

SCALE (B)

SCALE (B)

SCALE (C)

SCALE (C)

SCALE (D)

REFERENCE: BASE DRAWINGS WERE PROVIDED BY NATIONAL PARK SERVICE.

DESIGNED:

DW, PS

NSF
TECH. REVIEW:
JG, DW

DATE:
6-15-09

TERRACE WALKWAY

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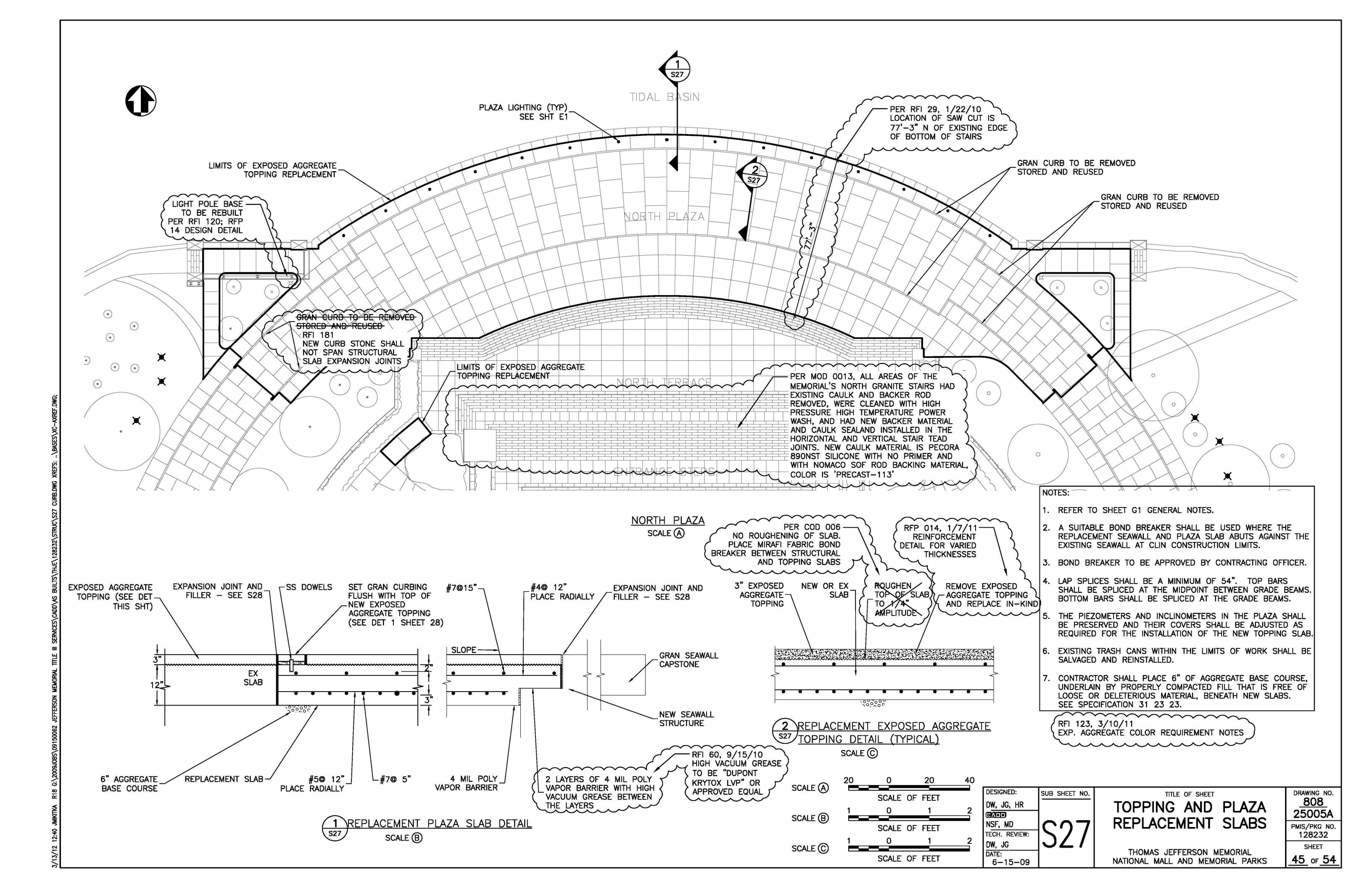
THOMAS JEFFERSON MEMORIAL NATIONAL MALL AND MEMORIAL PARKS

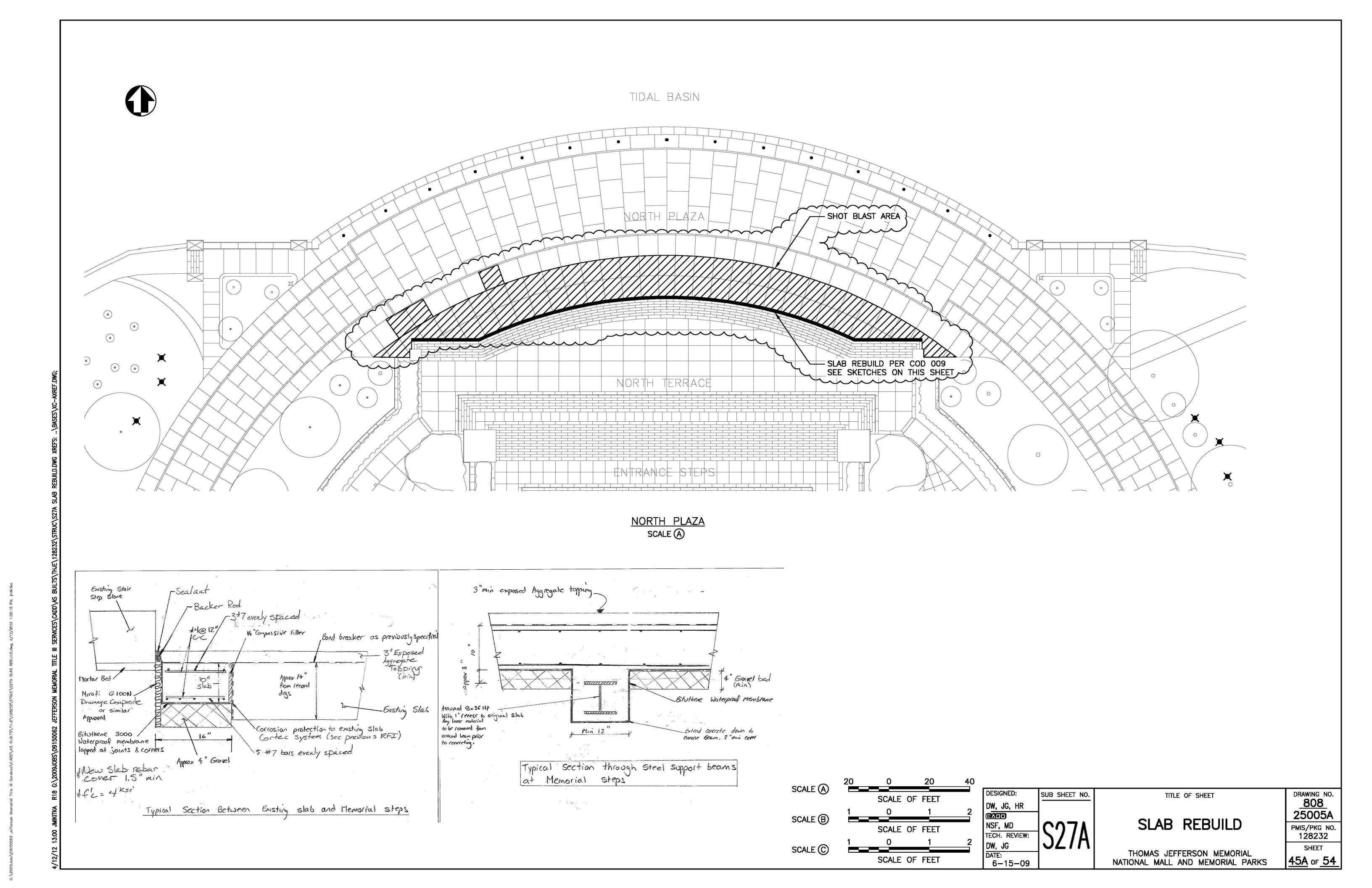
PMIS/PKG NO. 128232 SHEET 44 OF 54

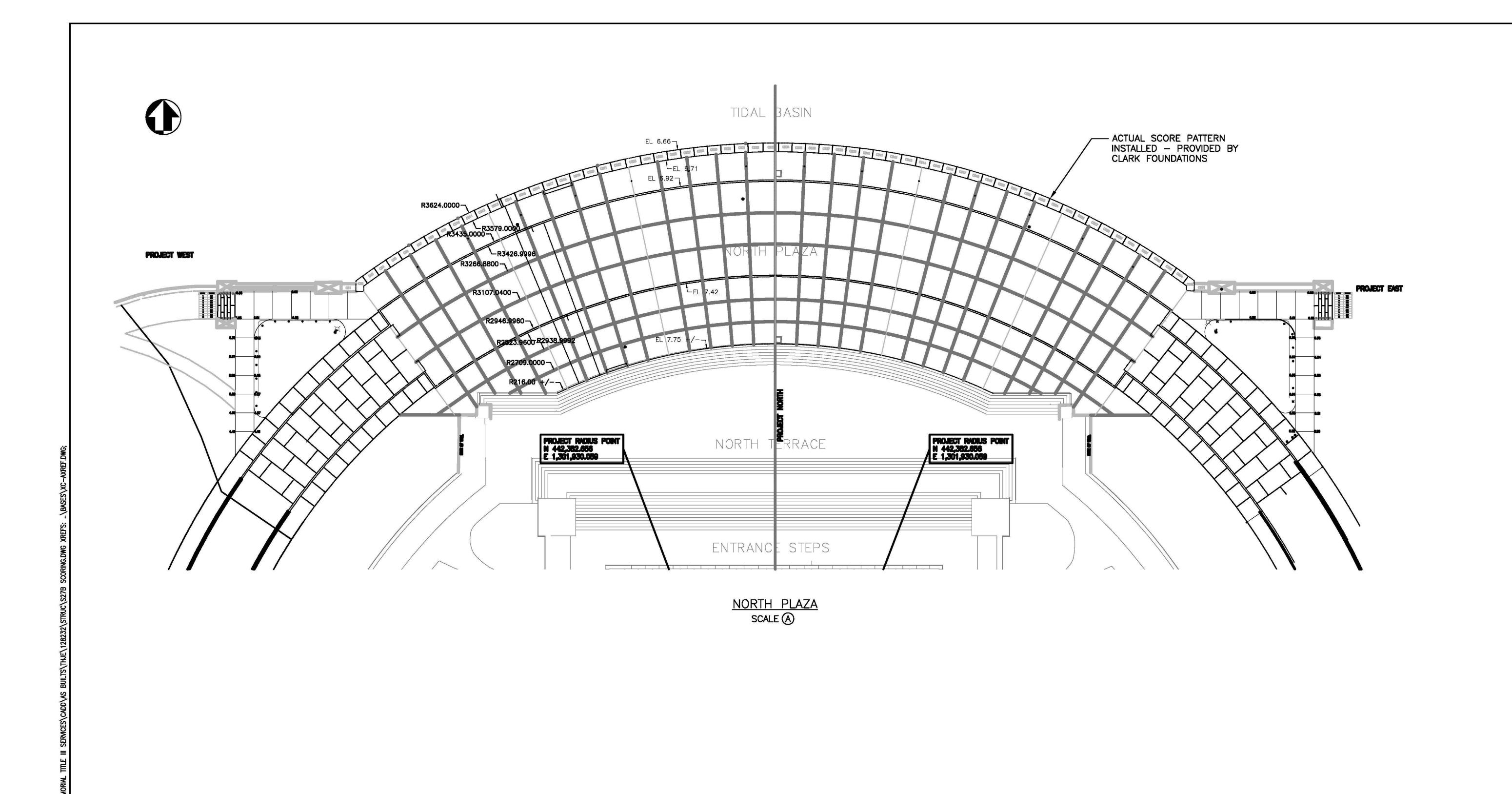
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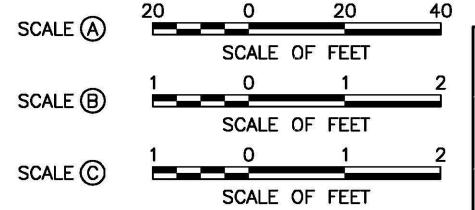
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25005A









DESIGNED:

DW, JG, HR

NSF, MD

TECH. REVIEW:

DW, JG

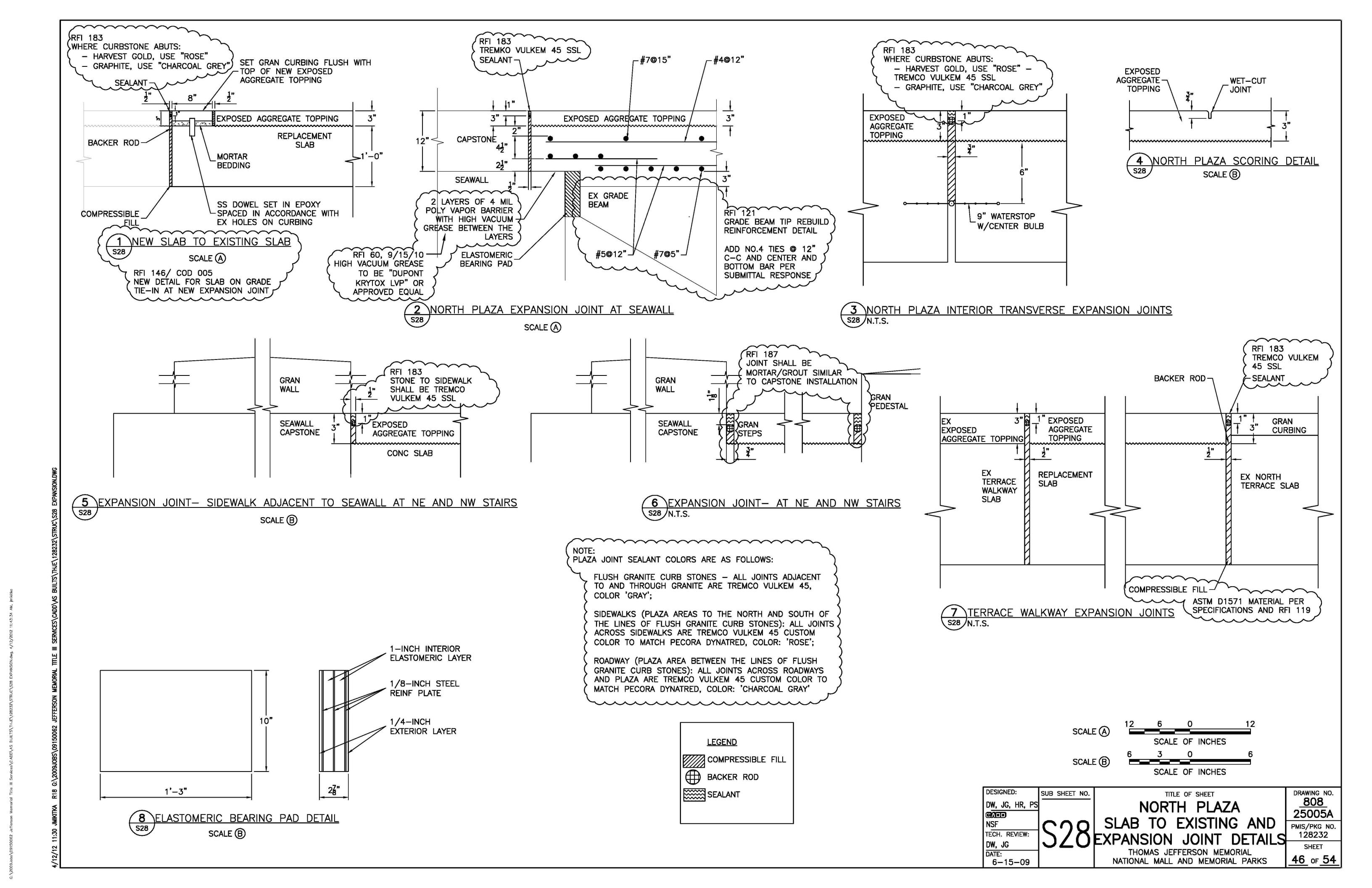
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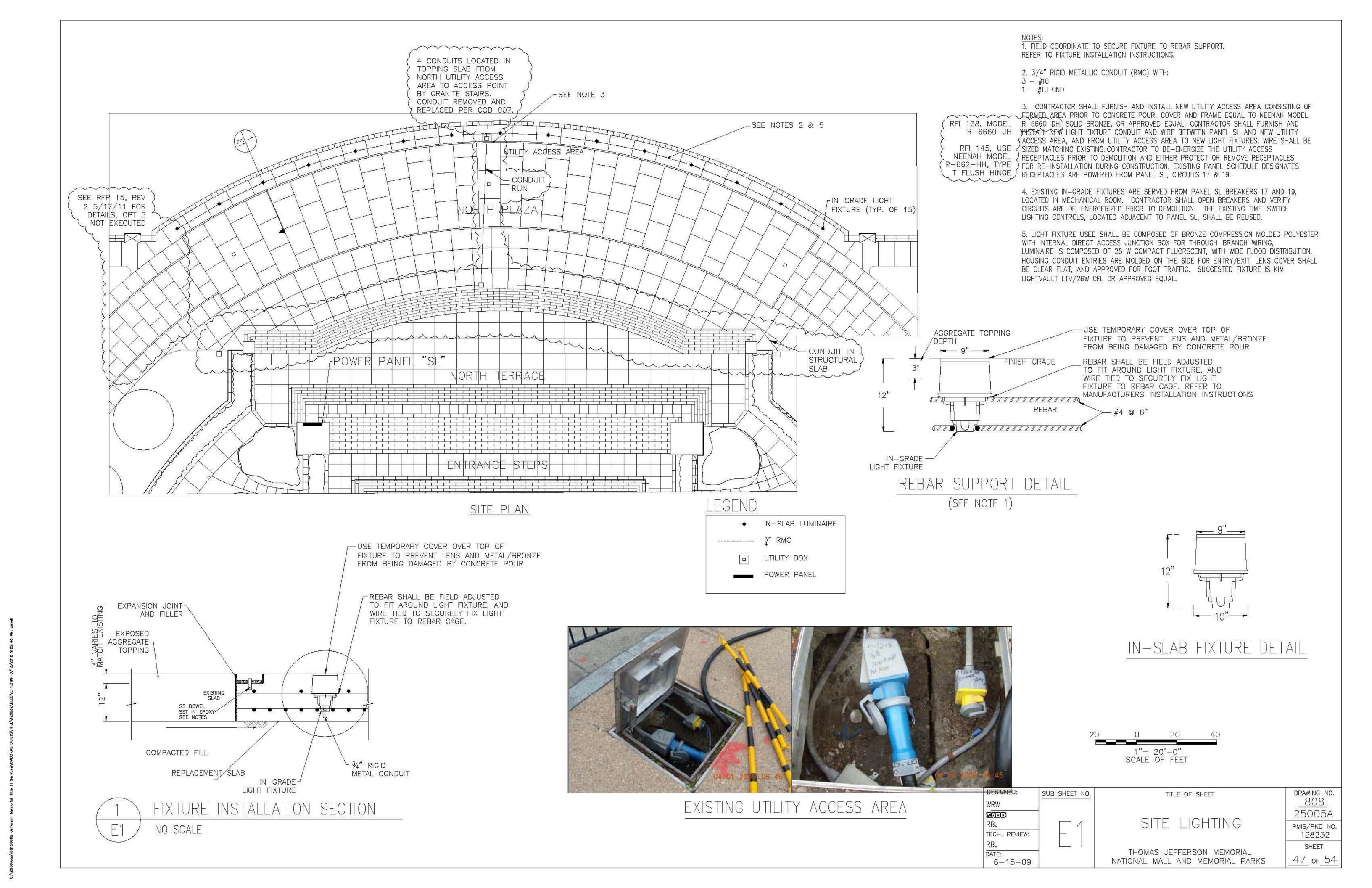
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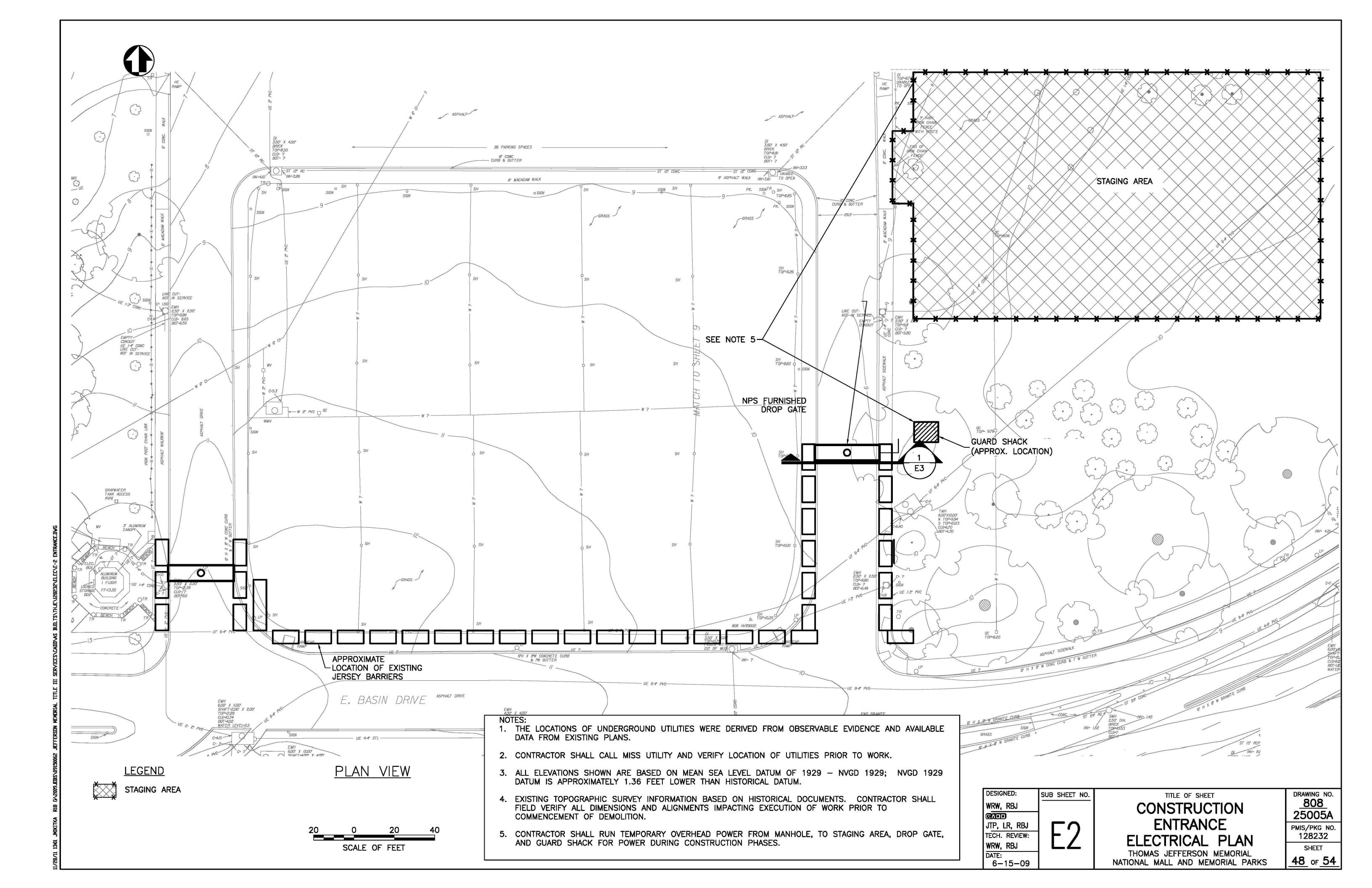
THOMAS JEFFERSON MEMORIAL NATIONAL MALL AND MEMORIAL PARKS

PMIS/PKG NO. 128232 SHEET 45B OF 54

DRAWING NO. 808 25005A

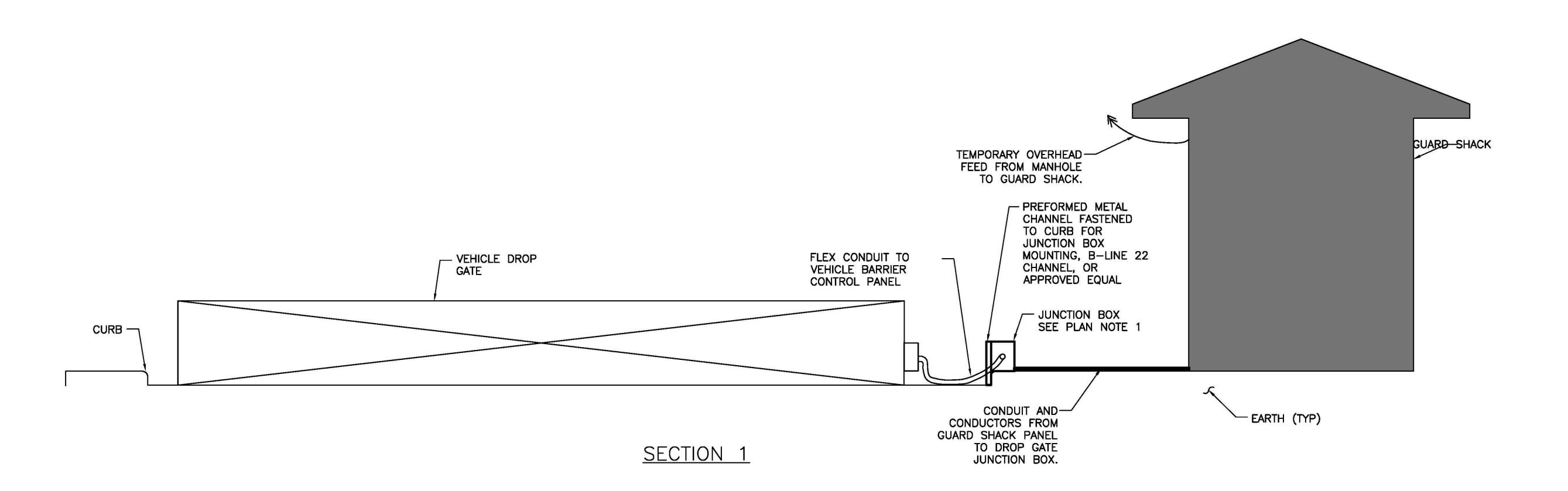






PLAN NOTES:

1. INSTALL JUNCTION BOX, COMPRESSION—MOLDED FIBERGLASS NEMA 4X STANDARD, COVER SHALL FASTENED WITH PADLOCKABLE LATCH, AND PIANO TYPE HINGES, MATERIAL AND INSTALLATION COORDINATION SHALL BE WITH THE NATIONAL PARK SERVICE.



DESIGNED:

DW, JG, HR

OXOD

NSF, MD

TECH. REVIEW:

DW, JG

DATE:

6-15-09

CONSTRUCTION
SECTIONS
FLECTRICAL PLAN

ELECTRICAL PLAN
THOMAS JEFFERSON MEMORIAL
NATIONAL MALL AND MEMORIAL PARKS

DRAWING NO.

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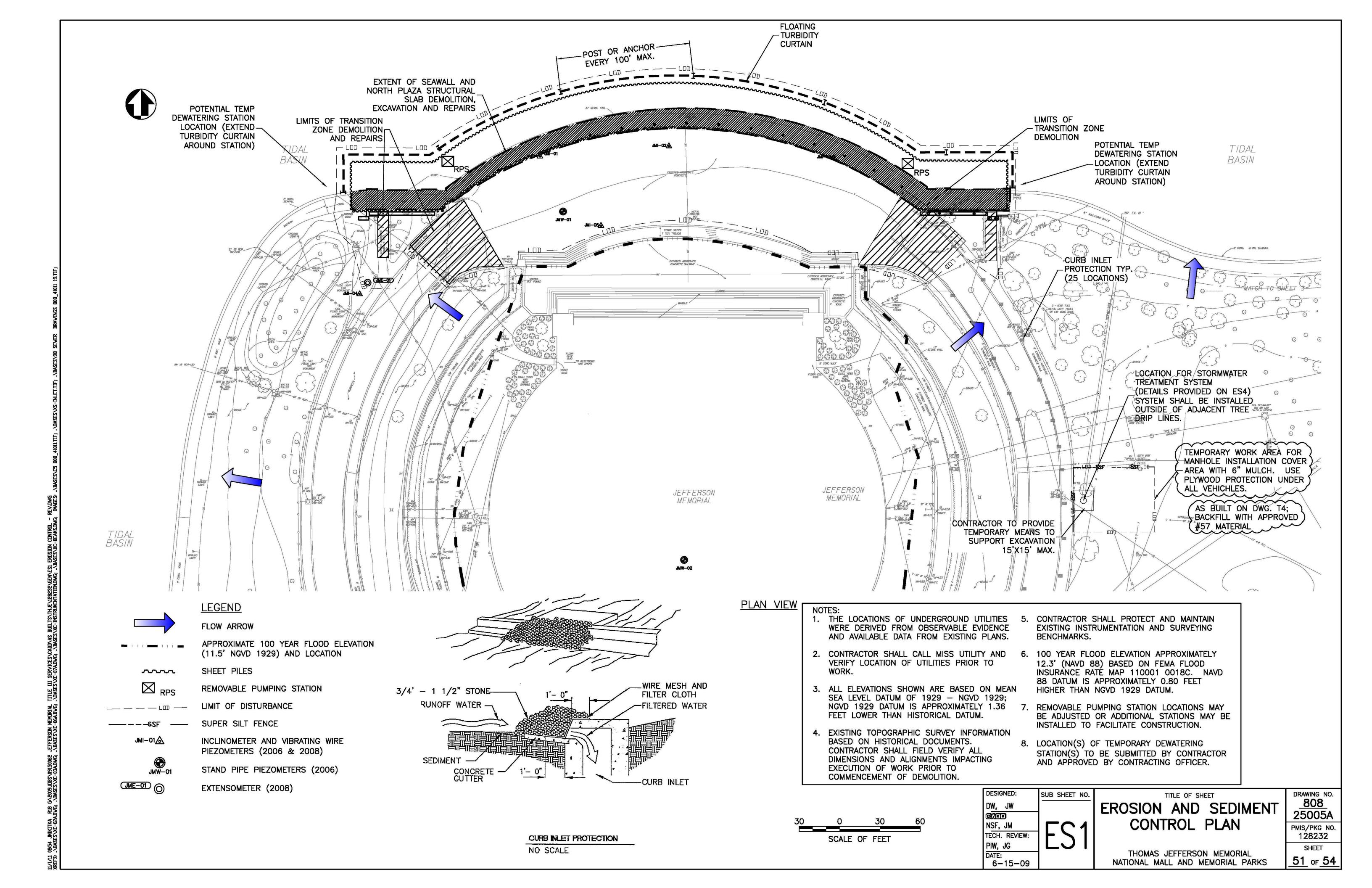
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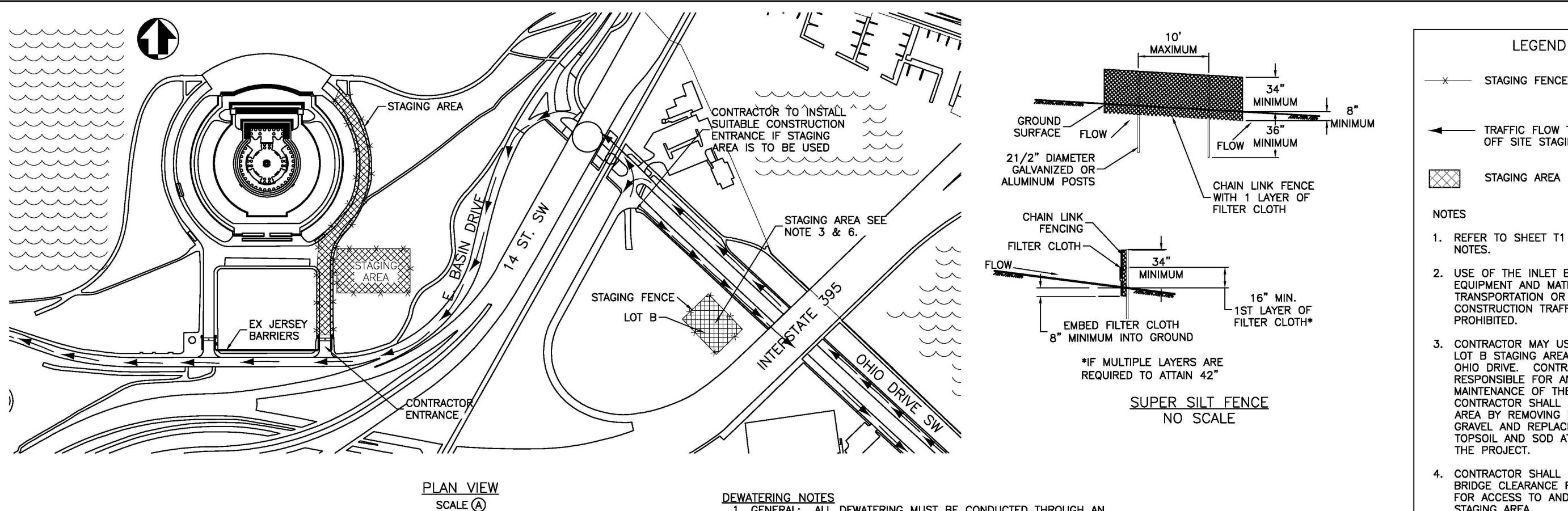
SHEET

49 of 54

1'6" 0 1' 2'
SCALE OF FEET

| (b) (7)(E), (b) (3) |  |  |  |
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1. GENERAL: ALL DEWATERING MUST BE CONDUCTED THROUGH AN APPROVED FILTRATION DEVICE.

2. INITIAL DEWATERING FROM WITHIN THE SHEET PILE SHALL BE FILTERED USING A 75-MICRON BAG FILTER. THE DISCHARGE SHALL BE DIRECTED TO THE TIDAL BASIN BETWEEN THE SHEET PILE WALL AND THE TURBIDITY CURTAIN.

3. THE REMOVABLE PUMPING STATIONS SHALL BE INSTALLED AFTER THE INITIAL DEWATERING. THE REMOVABLE PUMPING STATIONS MAY BE RELOCATED TO FACILITATE CONSTRUCTION ACTIVITIES WITH THE APPROVAL OF THE ENGINEER.

4. ALL MAINTENANCE OR ROUTINE DEWATERING SHALL BE PUMPED FROM THE REMOVABLE PUMP STATIONS. FILTERING THE WATER MAY BE CONDUCTED IN THE SAME MANNER AS THE INITIAL DEWATERING, EXCEPT DISCHARGING TO A TEMPORARY DEWATERING STATION OR MAY BE DISCHARGED INTO AN APPROVED PUMPED WATER FILTER BAG ON AN APPROVED WELL VEGETATED AREA OR TEMPORARY DEWATERING STATION. THE PUMPED WATER FILTER BAG SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.

5. CONTRACTOR SHALL PROVIDE EVIDENCE TO THE CONTRACTING OFFICER FOR APPROVAL THAT THE SEWERS ARE INTACT PRIOR TO DIRECTING FILTERED DISCHARGE WATER TO SEWER. TURBIDITY CURTAIN SHALL BE INSTALLED AROUND THE SEWER OUTLET IN THE TIDAL BASIN AND INLET FILTER BAGS IN THE MANHOLES.

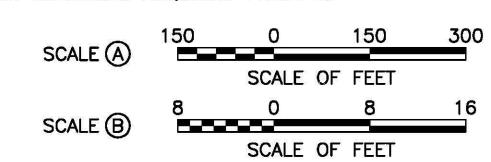
6. INLET FILTER BAGS, IF USED, SHALL MEET THE REQUIREMENTS OF DETAIL 7A IN THE STANDARDS, AND CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.

TEMPORARY SEEDING

- 1. DURING THE DATES OF MARCH 1 TO APRIL 30 AND AUGUST 15 TO NOVEMBER 15. THE TEMPORARY SEED MIX SHALL BE RYE AND APPLIED AT A RATE OF 140 LBS./ACRE. DURING THE DATES OF MAY 1 TO AUGUST 14, THE TEMPORARY SEED MIX SHALL BE MILLET AND APPLIED AT A RATE OF 50 LBS./ACRE. APPLY FERTILIZER (10-10-10) AT A RATE OF 600 LB/ACRE, LIME AT 2 TONS PER ACRE AND MULCH AT 2 TONS PER ACRE.
- 2. TEMPORARY SEED STOCKPILES AND DISTURBED AREAS.

PERMANENT STABILIZATION

1. REFER TO SPECIFICATION 32 92 00 SOIL AND SOD, FOR THE PERMANENT STABILIZATION MEASURES REQUIRED PRIOR TO PROJECT COMPLETION.



GEOMETRY BASED ON HISTORICAL DOCUMENTS PROVIDED BY NPS. MUST BE VERIFIED IN FIELD.

1. FENCING SHALL BE 42" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY DETAILS FOR CHAIN LINK FENCING. THE SPECIFICATION FOR A 6' FENCE SHALL BE USED. SUBSTITUTING 42" FABRIC AND 6' LENGTH POSTS.

SUPER SILT FENCE CONSTRUCTION SPECIFICATIONS

- 2. CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE.
- 3. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
- 4. FILTER CLOTH SHALL BE EMBEDDED A MINIMUM OF 8" INTO THE GROUND.
- 5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
- 6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT BUILDUPS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF FENCE HEIGHT
- 7. FILTER CLOTH SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:

50 LBS/IN (MIN.) TEST: ASTM D-4595 TENSILE STRENGTH 20 LBS/IN (MIN.) TENSILE MODULUS TEST: ASTM D-4595 0.3 GAL/FT /MINUTE (MAX.) FLOW RATE TEST: ASTM D-5141 75% (MIN.) TEST: ASTM D-5141 FILTERING EFFICIENCY DESIGNED: SUB SHEET NO. TITLE OF SHEET

DW, JG, HR NSF, MD, JM TECH. REVIEW: DW, JG DATE:

6-15-09

EROSION AND SEDIMENT CONTROL PLAN

**LEGEND** 

TRAFFIC FLOW TO AND FROM

OFF SITE STAGING AREA

STAGING AREA

REFER TO SHEET T1 GENERAL

2. USE OF THE INLET BRIDGE FOR

TRANSPORTATION OR OTHER

3. CONTRACTOR MAY USE ADDITIONAL

OHIO DRIVE. CONTRACTOR IS

LOT B STAGING AREA SHOWN ON

RESPONSIBLE FOR ANY REPAIR AND MAINTENANCE OF THE AREA. THE

CONTRACTOR SHALL RESTORE THE

AREA BY REMOVING FENCING AND

GRAVEL AND REPLACING IT WITH TOPSOIL AND SOD AT THE END OF

CONTRACTOR SHALL DETERMINE

5. MATERIALS SHALL NOT BE STACKED

INSTALL SILT FENCE IN STAGING

AREAS IN DOWNGRADIENT.

BRIDGE CLEARANCE REQUIREMENTS

FOR ACCESS TO AND FROM LOT B

HIGHER THAN 5' IN STAGING AREA.

CONSTRUCTION TRAFFIC IS

EQUIPMENT AND MATERIAL

NOTES

NOTES.

PROHIBITED.

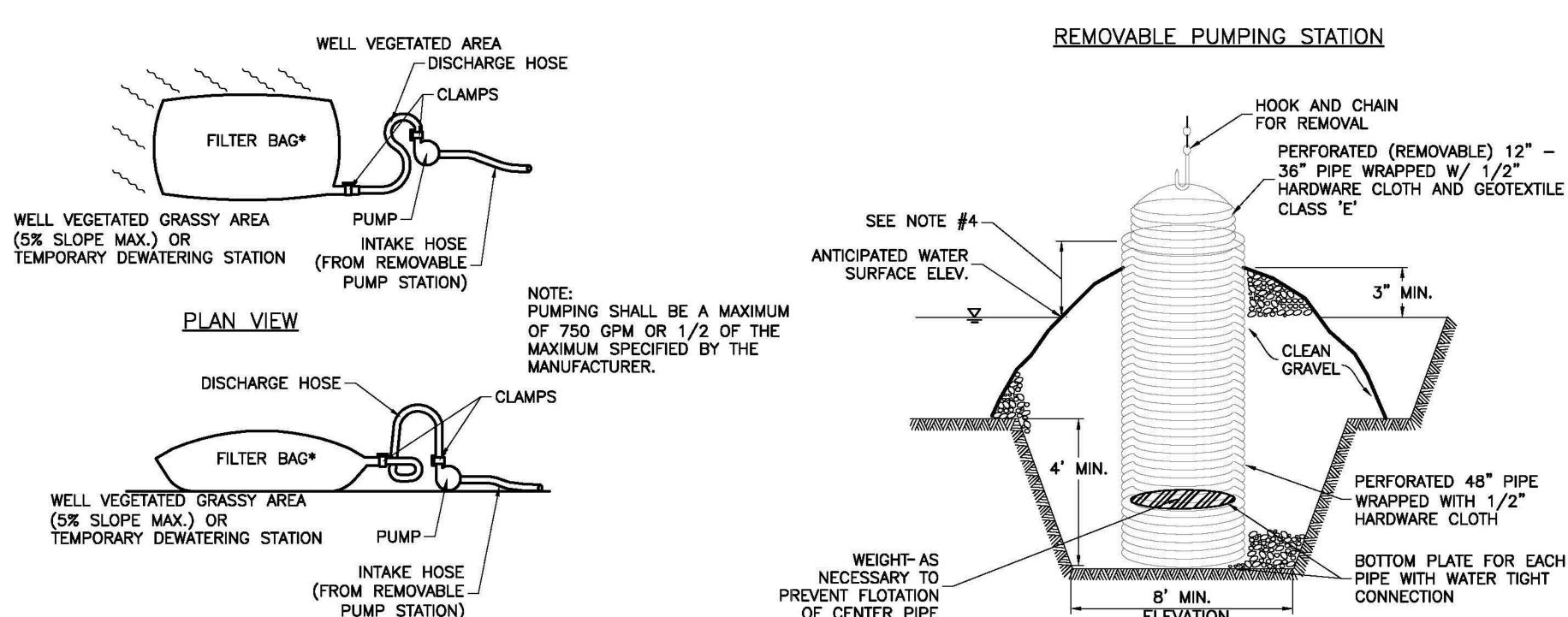
THE PROJECT.

STAGING AREA.

128232 SHEET

DRAWING NO. 808 25005A PMIS/PKG NO. THOMAS JEFFERSON MEMORIAL 52 of 54 NATIONAL MALL AND MEMORIAL PARKS

AREA TO BE DEWATERED EX PLAZA AND **SEAWALL** \_GRADE BEAM TEMP SHT PILE (EL.~7') COFFERDAM  $\sqrt{100}$  YR FLOOD EL =  $\sim 11.5$ TEMP SHT PILE COFFERDAM EX GRD SURFACE\ -|||-|||--~RIPRAP EX PLAZA HP PILES 18" Ø PIPE PILE  $F_y = 50 \text{ KSI}$ (TYP) NORTH PLAZA - SECTION VIEW SCALE (B)



OF CENTER PIPE

PUMPED WATER FILTER BAG

**ELEVATION VIEW** 

PVC SLOT-CONNECTOR

18 (OR 22) OZ, VINYL COVERED NYLON

100 FT. STANDARD LENGTH

STRESS BAND

NOTES:

DEPTH ACCORDING TO NEED

TURBIDITY CURTAIN TYPE II

STRESS PLATE

1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

BOTH SIDES) AT A MAXIMUM OF 100'.

2. TURBIDITY CURTAIN SHALL BE STAKED OR ANCHORED (ON

3. MAINTAIN TURBIDITY CURTAIN 5 TO 10' FROM SHEETPILE OR

AS OTHERWISE APPROVED BY CONTRACTING OFFICER.

GALVANIZED #24 SAFETY HOOK

STRESS PLATE (TO REMOVE PRESSURE FROM FLOATS)

TOP LOAD LINE 5/16 VINYL COATED CABLE

FOLDS EVERY 6 FEET

FLOATATION ---

5/16 IN. CHAIN BALLAST & LOAD LINE

#### CONSTRUCTION SPECIFICATIONS

**ELEVATION** 

- 1. THE OUTER PIPE SHOULD BE 48" DIA. OR SHALL, IN ANY CASE, BE AT LEAST 4" GREATER IN DIAMETER THAN THE CENTER PIPE. THE OUTER PIPE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH TO PREVENT BACKFILL MATERIAL FROM ENTERING THE PERFORATIONS.
- 2. AFTER INSTALLING THE OUTER PIPE, BACKFILL AROUND OUTER PIPE WITH 2" AGGREGATE OR CLEAN GRAVEL.
- 3. THE INSIDE STAND PIPE (CENTER PIPE) SHOULD BE CONSTRUCTED BY PERFORATING A CORRUGATED OR PVC PIPE BETWEEN 12" AND 36" IN DIAMETER. THE PERFORATIONS SHALL BE 1/2" X 6" SLITS OR 1" DIAMETER HOLES 6" ON CENTER. THE CENTER PIPE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH FIRST, THEN WRAPPED AGAIN WITH GEOTEXTILE CLASS E.
- 4. PIPES EXTEND 12" TO 18" ABOVE THE ANTICIPATED WATER SURFACE ELEVATION OR RISER CREST ELEVATION WHEN DEWATERING A BASIN.

PLAN VIEW

## **GENERAL NOTES**

- 1. LIMIT OF DISTURBANCE (LOD) IS APPROXIMATELY 1.3 ACRES. APPROXIMATELY 2,000 CY OF FILL WILL BE PLACED BEHIND NEW SEAWALL.
- 2. THE CONTRACTOR SHALL CALL THE INSPECTION/ENFORCEMENT BRANCH, WATERSHED PROTECTION DIVISION, DISTRICT DEPARTMENT OF THE ENVIRONMENT AT (202) 535-2240 FOR A PRE-CONSTRUCTION MEETING 1 WEEK PRIOR TO THE START OF ANY LAND DISTURBING ACTIVITY.
- 3. A COPY OF THE APPROVED E&S PLAN MUST BE MAINTAINED AT THE CONSTRUCTION SITE THROUGHOUT THE DURATION OF THE PROJECT.
- EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED AND FUNCTIONAL BEFORE DISTURBANCE OCCURS WITHIN THE AREAS OF THOSE CONTROLS.
- AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED AND AFTER FINAL APPROVAL BY DDOE E&S INSPECTOR, TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE CONTROLS MUST BE STABILIZED IMMEDIATELY.
- 6. AT THE END OF EACH WORKING DAY, ANY SEDIMENT TRACKED OR CONVEYED ONTO A PUBLIC ROADWAY WILL BE REMOVED AND REDEPOSITED ONTO THE CONSTRUCTION SITE. REMOVAL CAN BE COMPLETED THROUGH USE OF MECHANICAL OR HAND TOOLS, BUT MUST NEVER BE WASHED OFF THE ROAD BY USE OF WATER.
- 7. SHOULD UNFORESEEN EROSIVE CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT PROPERTIES AS A RESULT OF INCREASED RUNOFF AND/OR SEDIMENT DISPLACEMENT.
- 8. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE DISTRICT OF COLUMBIA MUNICIPAL REGULATIONS, SPECIFICALLY, CHAPTER 5 OF TITLE 21, AND CHAPTER 31 OF TITLE 20, AS WELL AS THE DISTRICT OF COLUMBIA DEPARTMENT OF HEALTH "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (STANDARDS)."
- 9. REFER TO SPECIFICATION 31 25 00 FOR ADDITIONAL E&S REQUIREMENTS.

## **SOILS**

- 1. SOILS ADJACENT TO THE JEFFERSON MEMORIAL ARE LINSIDE LOAM (LD) ACCORDING TO THE NATURAL RESOURCES CONSERVATION SERVICE 1975 SOIL SURVEY. REFER TO THE E&S PLAN FOR ADDITIONAL INFORMATION REGARDING THIS SOIL TYPE.
- 2. SOILS THAT ARE ANTICIPATED TO BE DISTURBED WITHIN THE SHEET PILE WALL ARE FILL SOILS. THESE SOILS ARE GENERALLY SILTS AND CLAYS.

CONSTRUCTION SEQUENCE (FOR EROSION AND SEDIMENT CONTROL PURPOSES)

- 1. GENERAL: ALL ACTIVITIES SHALL BE SEQUENCED TO MINIMIZE THE LENGTH OF TIME ANY AREA REMAINS DENUDED. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF DISTURBING ACTIVITIES.
- 2. INITIAL WATER SAMPLING TO OBTAIN BASELINE TURBIDITY AND TMDL POLLUTANT LEVELS. COLLECT SEDIMENT SAMPLES
- INSTALLATION OF THE TURBIDITY CURTAIN, SILT FENCE AND CURB INLET PROTECTION.
- 4. DEMOLITION OF PORTIONS OF THE SEAWALL, SIDEWALK AND NORTH PLAZA. REMOVE AND STORE FACING STONES AND GRANITE.
- INSTALLATION OF THE TEMPORARY SHEET PILE WALL.
- SECOND WATER SAMPLING TO DETERMINE EFFECTIVENESS OF TURBIDITY CURTAIN.
- INITIAL DEWATERING OF THE WORK AREA INSIDE THE SHEET PILE WALL.
- 8. INSTALLATION OF PUMPED WATER FILTER BAG, REMOVABLE PUMPING STATIONS, AND TEMPORARY DEWATERING
- THIRD WATER SAMPLING TO DETERMINE EFFECTIVENESS OF TURBIDITY CURTAIN.
- 10. COMPLETE DEMOLITION OF THE SEAWALL AND EXCAVATE AND DISPOSE SOILS. 11. INSTALL CAISSONS AND PIPE PILES, CAST CONCRETE SEAWALL, BACKFILL BEHIND SEAWALL, CAST SLABS, SIDEWALKS AND STAIRS, COMPLETE NORTH PLAZA, AND REPLACE FACING STONES; DEWATERING WORK AREA AS
- NECESSARY THROUGH APPROVED FILTER DEVICE. 12. INSTALL THE STORM WATER TREATMENT SYSTEM (MANHOLE AND INTERNAL COMPONENTS).
- 13. AFTER THE WORK IS COMPLETE, ALLOW AREA INSIDE SHEET PILE WALL TO FILL WITH WATER IN A CONTROLLED
- MANNER THAT WILL MINIMIZE DISTURBANCE OF SOILS. 14. REMOVAL OF SHEET PILE WALL. COLLECT SEDIMENT SAMPLES.
- 15. WATER SAMPLING TO DETERMINE EFFECTIVENESS OF TURBIDITY CURTAIN.
- 16. SEED DISTURBED AREAS AS NECESSARY.
- 17. REMOVE TURBIDITY CURTAIN (A MINIMUM OF 12 HOURS AFTER LAST DISTURBANCE).
- 18. DEMOBILIZATION OF TEMPORARY CONSTRUCTION FACILITIES AND RESTORATION OF THOSE AREAS.
- 19. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AFTER VEGETATION STABILIZATION.
- 20. FINAL WATER SAMPLING.

**ELEVATION VIEW** 

#### TEMPORARY DEWATERING STATION TIDAL BASIN-**TURBIDITY** -SHEET PILE CURTAIN SHEET PILE -FILTER BAG PUMPED WORK AREA-WATER FILTER BAG NO. 57 STONE OR SAND BAGS ᠬ᠘ᢇ᠘᠇᠘᠇᠘᠇᠘᠇᠘᠇᠘ᡊ᠘᠇᠘᠇᠘ᡂᢡᢆᢡᡤ<u>ᠻ</u> NO. 57 STONE —~20'—<del>~</del> OR SAND BAGS GEOTEXTILE -

## NOTES:

- 1. LOCATION(S) OF TEMPORARY DEWATERING STATION(S) TO BE SUBMITTED BY CONTRACTOR AND APPROVED BY CONTRACTING OFFICER.
- 2. ALL SEDIMENT AND STONE OR SANDBAGS SHALL BE REMOVED AT THE END OF WORK.
- 3. INSTALL PERFORATIONS IN SHEET PILES AT THE TOP OF STONE OR SANDBAGS TO THE LOW WATER ELEVATION TO ACCOMMODATE ANTICIPATED FLOWS.
- 4. NO. 57 STONE OR SANDBAGS SHALL BE INSTALLED TO A HEIGHT ABOVE THE AVERAGE HIGH WATER ELEVATION.

DESIGNED: SUB SHEET NO NSF, JM TECH. REVIEW PIW, JG THOMAS JEFFERSON MEMORIAL DATE:

TITLE OF SHEET EROSION AND SEDIMENT DETAILS AND **NOTES** 

NATIONAL MALL AND MEMORIAL PARKS

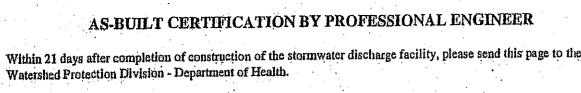
25005A PMIS/PKG NO. 128232 SHEET 53 of 54

DRAWING NO.

800

DW. JW

6-15-09



Stormwater discharge facility information Tefferson Memorial Source Location: Street: 900 Ohio Drive SW city: Washington DC 20242 DCRA Permit No.: B1001834 Pate Issued: 12/09/09

I hereby certify that stormwater discharge facility has been built substantially in accordance with the approved plans and specifications, and that any substantial deviations (noted below) will not prevent the system from functioning in compliance with the requirements of Section 526 through 535 of DCMR-21, Chapter 5 when properly maintained and operated. These determinations have been based upon on-site observation of construction, scheduled and conducted by me or by a project representative under my direct supervision. I have enclosed one set of as-built engineering drawings.

Signature of Engineer PE901827

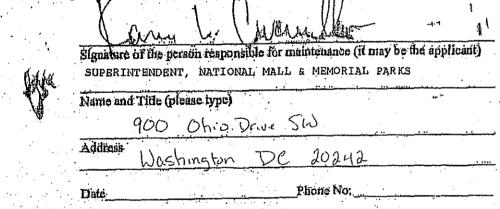
Schnabel Engineering Company Name 1380 Wilmington Pike Company Address West Chester PA 19382 Date: 11/3/11 Phone No. 610 - 896-6066

Substantial deviations from the approved plans and specifications (attach additional sheets if required).

Manhole backfilled with #57 stone

# STATEMENT BY PERSON RESPONSIBLE FOR MAINTENANCE

The undersigned agrees to maintain and operate the discharge facilities in such a manner as to comply with the provisions of Section 526 through 535 of DCMR-21; Chapter 5: Responsibility for maintenance and operation may be transferred to another entity upon written notice to the Watershed Protection Division of the Department of Health from the undersigned and the entity assuming responsibility, certifying that the transfer of responsibility for maintenance and operation in compliance with Section 526 through 535 of DCMR-21; Chapter 5 has been accepted.

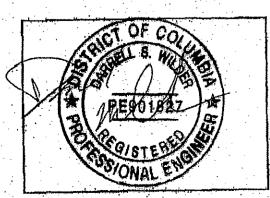


### STATEMENT BY PROFESSIONAL ENGINEER REGISTERED IN THE DISTRICT OF COLUMBIA

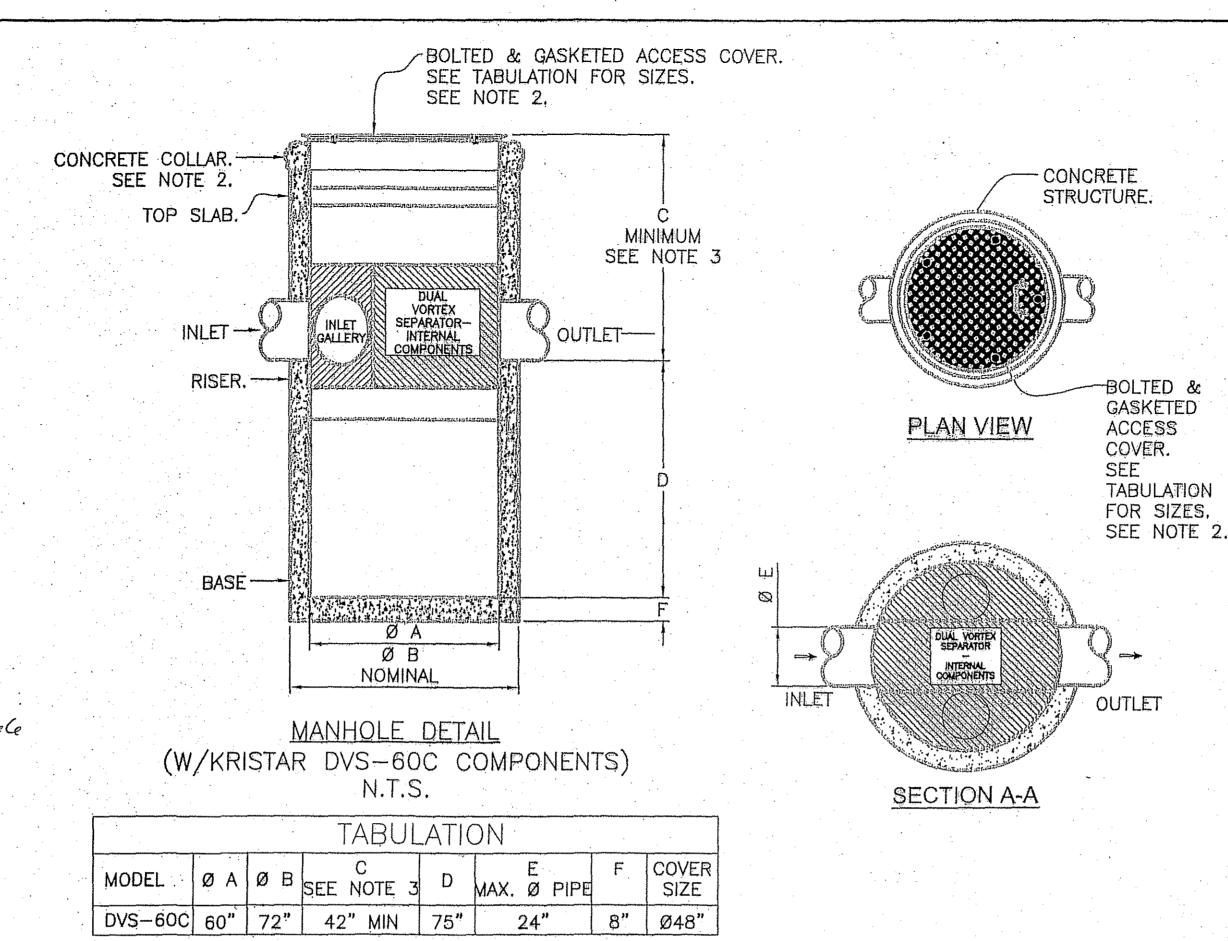
This is to terrify that the engineering features of this stormwater discharge facility have been designed / examined by rise and fortait to be in conformity with modern engineering principles applicable to the treatment and disposal of atomissister politicairs. I further certify that the facility has been designed in accordance with the specification required under Section 326 through 335 of DCMR-21, Chapter 5. It is also stated that the undersigned has furnished the applicant with a set of instructions for the maintenance and operation of the stormwater discharge facility,

| Nume and Titl |         | EAST GAY STREET  |              |  |
|---------------|---------|------------------|--------------|--|
| Address       | йеs     | T CHESTER, PA 19 | 3.6.0        |  |
| Date          | 4-24-09 | Phone No:        | 610-696-6066 |  |

DARRELL S. WILDER



Affix Scal



## NOTES:

- 1. INTERNAL COMPONENTS MODEL DVS-60C BY KRISTAR ENTERPRISES INC. INTERNAL COMPONENTS SHALL BE REMOVABLE TO FACILITATE MAINTENANCE.
- 2. BOLTED & GASKETED MANHOLE ACCESS COVER ELEVATION SHALL BE ADJUSTED TO GRADE. FIELD POUR CONCRETE COLLAR TO SECURE COVER TO SEPARATOR. CONCRETE COLLAR SHALL BE 12" MIN. FROM TOP SLAB. ONLY THE MANHOLE COVER SHALL BE VISIBLE ABOVE GRADE.
- 3. 42" MIN. ADJUST HEIGHT TO GRADE.
- . CONCRETE COMPONENTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM DESIGNATION C478. 5. CONTRACTOR SHALL CONFIRM INLET AND OUTLET PIPE INVERTS, DIAMETERS AND ORIENTATION PRIOR TO ORDERING MANHOLE AND KRISTAR COMPONENTS
- 6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF THE MANHOLE. A KRISTAR REPRESENTATIVE WILL INSTALL INTERNAL COMPONENTS.
- 7. PROTECT THE EXISTING ADJACENT SIDEWALK FROM DAMAGE DURING EXCAVATION AND INSTALLATION.
- 8. DISPOSE OF ANY SURPLUS SOILS. 9. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REQUIRED EXCAVATION SUPPORT. REFER TO SPECIFICATION 31 52
- 10. ALL BACKFILL SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR.
- 11. CONTRACTOR SHALL MAKE SEWER CONNECTIONS TO THE MANHOLE WATER TIGHT. BY USING NON-SHRINK GROUT OR OTHER APPROVED MATERIALS.
- 12. DEWATER EXCAVATION PER SPECIFICATION 31 23 19.
- 13. SOD DISTURBED AREAS IN ACCORDANCE WITH SPECIFICATION 32 92 00.

TEMPORARY EXCAVATION SUPPORT

1. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT FOR MANHOLE INSTALLATION. DESIGN OF TEMPORARY SUPPORT SHALL BE PROVIDED BY AN ENGINEER REGISTERED IN THE DISTRICT OF COLUMBIA AND SUBMITTED ACCORDING TO SPECIFICATION 01 33 00. TEMPORARY SUPPORT SHALL BE REMOVED FOLLOWING COMPLETION OF

CONSTRUCTION AND INSPECTION SCHEDULE:

- 1. NO CONSTRUCTION OF THE MANHOLE AND ASSOCIATED COMPONENTS SHALL BE PERFORMED WITHOUT THE DEPARTMENT OF HEALTH (DOH) INSPECTOR AND THE CONTRACTING OFFICER RESPONSIBLE FOR CERTIFYING THE AS-BUILT DRAWINGS.
- 2. CONTRACTOR SHALL NOTIFY THE DOH 24 HOURS IN ADVANCE OF INSTALLATION OF THE MANHOLE.
- 3. A FINAL INSPECTION OF THE MANHOLE AND COMPONENTS SHALL BE CONDUCTED BY THE DOH AFTER THE INSTALLATION IS COMPLETE.
- 4. INSPECT THE AREA AFTER INITIAL EXCAVATION.
- 5. INSPECT DURING INSTALLATION OF THE MANHOLE AND ASSOCIATED COMPONENTS.
- 6. INSPECT DURING SEWER CONNECTIONS.
- 7. INSPECT DURING BACKFILLING AROUND THE STRUCTURE.
- 8. INSPECT FINAL GRADING AND PERMANENT STABILIZATION.

## POST-CONSTRUCTION MAINTENANCE SCHEDULE

- 1. INSPECT EVERY 6 MONTHS, REMOVE FLOATING MATERIAL. MAINTAIN RECORDS OF ALL
- POST-CONSTRUCTION MAINTENANCE.
- 2. REMOVE SEDIMENT EVERY 6 MONTHS WITH A VACUUM TRUCK, FREQUENCY MAY BE REDUCED AFTER THE FIRST YEAR BASED ON SITE CONDITIONS. SUBMIT RECORDS AND WASTE MANIFESTS TO THE DOH.
- 3. CLEAN MANHOLE AND COMPONENTS EVERY 2 YEARS, OR AS OTHERWISE REQUIRED.

SCALE OF FEET

TIME OF CONCENTRATION

SHEFT FLOW MANNINGS N = 0.15; FLOW LENGTH (L) = 50 FT; 2-YR RAINFALL (P2) = 2.17 I NCHES; SLOPE (S) = 0.01 FT/FT

 $TT = .007(NL)^{.8}/(P2^{0.5*S^{0.4}}) = 0.15 HR$ 

SHALLOW CONCENTRATED FLOW

SURFACE = UNPAVED; L = 290 FT; S = 0.012 FT/FT; AVG VELOCITY (V) = 1.77 FP TT = L/(3600V) = 0.05 HR

PIPE FLOW L = 214 FT; S = 0.5%; DIAMETER (D) = 1.5 FT;  $V^{**} = 4 \text{ FPS}$ 

TT = L\*V = 0.01 HR

TC = 0.21 HR

\*REF: PROCEDURE FROM SCS TR-55, URBAN HYDROLOGY FOR SMALL WATERSHEDS (JUNE 1986) FOR SHEET AND SHALLOW FLOW \*\*THE AVERAGE PIPE VELOCITY WAS ASSUMED

Q2 AND Q15

Q = CIA. WHERE:

Q = FLOW RATE (CFS); C = RUNOFF COEFFICIENT; I = RAINFALL INTENSITY (IN/HR);

A = DRAINAGE AREA (ACRES)

|              | NORTH PLAZA (DISTURBED AREA) |                |                  |               |
|--------------|------------------------------|----------------|------------------|---------------|
|              | PRE 2-YR                     | POST 2-YR      | PRE 15-YR        | POST 15-YR    |
| C*           | 0.35                         | 0.9            | 0.35             | 0.9           |
| l ** (in/hr) | 4.1                          | 4.1            | 5.9              | 5.9           |
| A (acres)    | 1.3                          | 1.3            | 1,3              | 1,3           |
| Q (cfs)      | 1.9                          | 4.8            | 2.7              | 6.9           |
|              | SOUTHERN AREA                | OF THE MEMORIA | L (EQUIVALENT TR | EATMENT AREA) |
|              | PRE 2-YR                     | POST 2-YR      | PRE 15-YR        | POST 15-YR    |
| C*           | 0.35                         | 0.60           | 0.35             | 0,60          |
| l ** (in/hr) | 4.1                          | 4.1            | 5.9              | 5.9           |
| A (acres)    | 2.6                          | 2.6            | 2.6              | 2.6           |
| Q (cfs)      | 3.7                          | 6.4            | 5.4              | 9.3           |

\*C IS ASSUMED TO BE GRASS FOR PRE-CONSTRUCTION EVALUATION AND IS WEIGHTED BASED ON SITE CONDITIONS FOR POST-CONSTRUCTION.

\*\*I IS BASED ON THE CALCULATED TO DURATION (~12 MINUTES FOR

POST-CONSTRUCTION CONDITIONS) AND AN INTERPOLATED INTENSITY FROM TABLE A2 IN THE GUIDEBOOK.

FIRST FLUSH TREATMENT VOLUME

VW = R \* IA \* (1/12) WHERE:

VW = WATER QUALITY TO BE TREATED (FT3); R = RUNOFF DEPTH TO BE TREATED (IN), FROM TABLE 2.2 IN THE GUIDEBOOK;

IA = IMPERVIOUS AREA (FT2); 12 = CONVERSION FACTOR

|          | LOD AREA | EQVLNT AREA |
|----------|----------|-------------|
| R (IN)*  | 0.3      | 0,4         |
| IA (FT2) | 57,000   | 114,000     |
| VW (FT3) | 1,425    | 3,800       |

\*ASSUMES RUNOFF WILL BE 0.5" AND 0.3" FOR IMPERVIOUS & VEGETATED AREAS. RESPECTIVELY.

PEAK DISCHARGE FOR WATER QUALITY STORM FOR HYDRODYNAMIC SEPARATOR WEIGHTED VOLUMETRIC RUNOFF COEFFICIENT (RV) IS:

RV = 0.05 + 0.009(1): I = 1.3/2.7 ACRES = 0.48 (48%)

RV = 0.05 + 0.009(48%) = 0.48

RUNOFF, QA = P X RV = 1.0" X 0.48 = 0.48 WATERSHED INCHES

CN FOR WATER QUALITY STORM IS

 $CN = 1000 / [10 + 5(1.0") + 10(0.48) - 10XSQRT(0.48^2 + 1.25X0.48X1.0)] = 93.5$ 

PEAK DISCHARGE QP (CFS)

USING: TC = 12 MINUTES. IA = (200/CN)-2 = 0.14

A/P = 0.14/1.0 = 0.14.

QU = 750 CSM/IN (FROM TR-55 EXHIBIT 4-II)

QP = QU\*A\*QA = 750 CSM/IN. X 0.0042 SQ. MI.X 0.48"

QP = 1.5 CFS. WHICH IS ACCEPTABLE FOR THE KRISTAR DVS-60 HYDRODYNAMIC SE

| <br>MODEL | ID   | DEPTH BLW<br>INVERT | TREATED Q<br>(110µm) | PEAK Q | TOTAL Q | SEDIMENT<br>STORAGE |
|-----------|------|---------------------|----------------------|--------|---------|---------------------|
|           | (ft) | (ft)                | (cfs)                | (cfs)  | (cfs)   | (cy)                |
| DVS-60    | 5.0  | 63                  | 1 3                  | 2.5    | 16.0    | 1 3                 |

| DESIGNED:     | SUB SHEET NO. |                                       |
|---------------|---------------|---------------------------------------|
| DW, JW        |               | ST                                    |
| <b>9/100</b>  |               | 1                                     |
| NSF           |               | · · · · · · · · · · · · · · · · · · · |
| TECH: REVIEW: |               |                                       |
| PIW, JG       |               |                                       |
| DATE:         |               | THOMAS                                |
| 6-15-09       |               | NATIONAL M                            |

TITLE OF SHEET

TORM WATER **MANAGEMENT** PMIS/PKG NO.

AS JEFFERSON MEMORIAL NATIONAL MALL AND MEMORIAL PARKS

SHEET 54 of 54

DRAWING NO.

25005

128232