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- 15. 24" PVC DOWNCOMER EMBED

2.9-MG SALTSTONE STORAGE TANKS 2A & 2B

PROJECT:

AREA Z SALTSTONE STORAGE TANKS

AIKEN, SOUTH CAROLINA

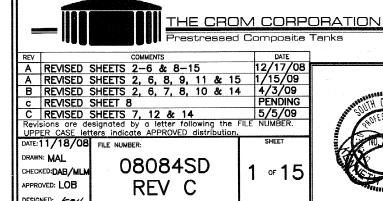
OWNER:

DEPARTMENT OF ENERGY SAVANNAH RIVER SITE AIKEN, SOUTH CAROLINA

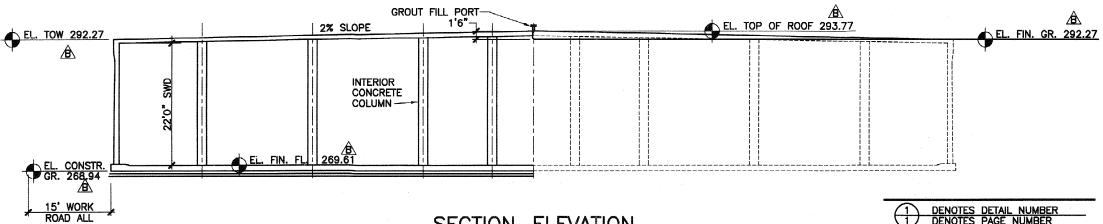
CONSULTING ENGINEER:

BECHTEL SAVANNAH RIVER, INC. AIKEN, SOUTH CAROLINA

THE CROM CORPORATION NO. CODESC



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SECTION-ELEVATION

NOTES

WHERE DETAIL APPEARS

DENOTES SECTION LETTER DENOTES PAGE NUMBER WHERE SECTION APPEARS

Materials & Services Furnished by SRS: (REF: C-SPP-Z-0006 R1 SECTION 13210 PARA 2.2 B1~B5

1. Concrete: Type V Cement

AROUND TANK

A. 5000 psi pump mix with 3/4" aggregate for upper mud mat floor, roof, columns, precast wall panels and floor wall joint curb.

2. Material Testing: A. Concrete:

Slump: ASTM C 143/C 143M Air Content: C 231 Density and Yield: ASTM C 138/C 138M

Compression Tests: ASTM C 39/C 38M A set of test cylinders consists of ten (10) cylinders. For pours less than 100 cubic yards test the first truck A and the last truck.
For pours greater than 100 cubic yards test the first

truck, last truck and every 100 cubic yards.

Materials & Services Furnished by MDM:

- 1. Clearing of the site, excavation, fill, and compaction to an elevation 8" below top of floor slab on a 186' diameter circle including two 4" thick concrete mud mats under the tank and a temporary 3"—thick stone, 15'—wide, work road all around the tank over plywood.

 2. Dewatering of the 186' diameter work area if required.
- 3. Furnish adequate working and open storage space for construction equipment and materials.
- 4. Water and electricity for construction.
- 5. Interior coating.
 6. Drain water collection system. (REF: C-CH-Z-00014) 🛕
- 7. Final backfill and landscaping.
- 8. Concrete: Type II Cement
- A. 2000 psi pump mix with 3/4" aggregate 9. Material Testing:

 - - Slump: ASTM C 143/C 143M
 - Air Content: C 231
 - 3. Density and Yield: ASTM C 138/C 138M 4. Compression Tests: ASTM C 39/C 38M
 - i. A set of concrete cylinders consists of three cylinders for normal and the cylinders consists of three cylinders for normal and the cylinders cylinders for normal and the cylinders cyl cylinders for normal conditions or four cylinders for cold concreting conditions taken from the first delivery truck and from one set from each 100 cubic yards of the concrete placed thereafter.
 - ii. Maintain the cylinders on-site for twenty-four (24) hours and then transport to the laboratory for curing in accordance with ASTM C 31/ C 31M.
 - One additional test cylinder shall be taken during cold weather concreting, cured on the job site under the same conditions as the concrete it represents and tested at 28 days.

- Test concrete compressive strength in accordance with ASTM C 39/C 39M.
 - a. Test one (1) cylinder from each set at seven
 - (7) days.
 b. Test one (1) cylinder from each set at twenty—eight (28) days.
 c. Hold remaining cylinder/s in reserve and test only at the direction of BSRI STR.
- 10. Interior visual liquid level indicator using epoxy coating
 11. Exterior Roof Coating (REF: C-SPP-Z-0006 R1 SECTION 13210 PARA 3.3K)

Materials & Services Furnished by CROM:

A. Design Criteria: 1. Geotechnical:

Uplift: Tank is not designed to resist loads due to hydrostatic uplift.

Allowable Bearing Capacity: 3500 psf

2. Wind load:

- Basic Wind Speed: 150 MPH Importance factor: 1.15
- iii. Exposure Category: C
- Seismic load:
 - Spectral response Accelerations:
 - b. S1: .200
- Occupancy Category: III Importance Factor: 1.5
- Site Classification: D
- 4. Live Loads:
- i. Dome Live Load: 30 psf Saltstone drain water load:
- i. Wall: 82 lbs/ft³
- 1. Shotcrete Mixes: Use Type II Cement 1st coat on steel shell & prestress wire: 1:3 mix
- All other shotcrete: 1:4 mix
 Strength: fg = 4000 psi, fgi = 2000 psi
 Shotcrete material testing. Take 5 cylinders,
 shoot one panel and shoot five baskets every day that shotcrete is placed.
- C. Curing: (7 days minimum)
 1. Continuously water cure floor and wall during tank construction.
- 2. Water cure roof 7 days.
- D. Reinforcing Steel:
 1. ASTM A615 grade 60, lap splices 48 bar diameters
- E. Prestressing Wire: Meets ASTM A821 05 Type B
 1. Diameter: 0.162 in (8 gauge)
 2. Area: 0.0206 sq-in.

- Ultimate Strength: 231,000 psi Initial Stress: 145,600 psi
- Working Stress: 115.000 psi
- F. Steel Shell Diaphragm: Meets ASTM A1008-05b, 26 gauge

G. Accessories (each tank except as noted): (Shop prime all exposed steel) Floor embedments:

- Thermowell floor embed plate (4 req.)
- Wall Mounting Plates per Detail 3 of DWG C-CH-Z-00014 embedments (see LEGEND sheet 4 and 5):
 - 6" diameter thermowell roof penetrations (4 req.)
 Thermowell junction box embed plate (4 req.)
 36" diameter camera port (3 req.)
 Camera junction box embed plate (3 req.)
 3" diameter grout fill port

 - Grout fill support embed plates (8 req.)
 Conduit support embed plates (38 req. for tank 2A,
 - 36 req. for tank 2B))
 - 12" diameter ventilation port (3 req.)
 - diameter sample port 3" diameter inspection port (58 req.)
 3" diameter drain vent (2 req.)
- Temporary roof access opening
- 26" ID 36" OD embedment for 24" PVC downcomer
- H. Material Testing: 1. Shotcrete:
 - Compression Tests: ASTM C 39/C 39M, C 109/C 109M (a) Four cylinders (or cores) per set (for each set, test one at 7 days, two at 28 days, and hold one)
 - 2 sets for outside core wall ii. 2 sets for cover coat
- I. Tolerances: Columns:
 - Plumb: ± 1 inch Location: ± 1 inch
 - Thickness: + 1/2 inch
 - Digmeter: + 1.5 inches Thichness: + 1/2 inch
 - Thickness: + 1/2 inch





SOUTH CAROLINA

CONSULTING ENGINEER:

BECHTEL SAVANNAH RIVER, INC.

THE CROM CORPORATION GAINESVILLE, FLORIDA

DEPT OF ENERGY

SAVANNAH RIVER SITE

CROM

SOUTH CAROLINA

ANK DESCRIPTION 2.9-MG SALTSTONE STORAGE TANKS

ANK DIMENSIONS:

150'0" ID x 22'0" SWD DATE: 11/18/08

RAWN: MAL

CHECKED: DAB/MLM APPROVED: LOB

DESIGNED: ACRAF DESCRIPTION REV.

A REVISED NOTES.

12/16/08

A REVISED NOTES. 1/15/09

REVISED TANK ELEVATIONS. REVISED NOTES.

3/27/09

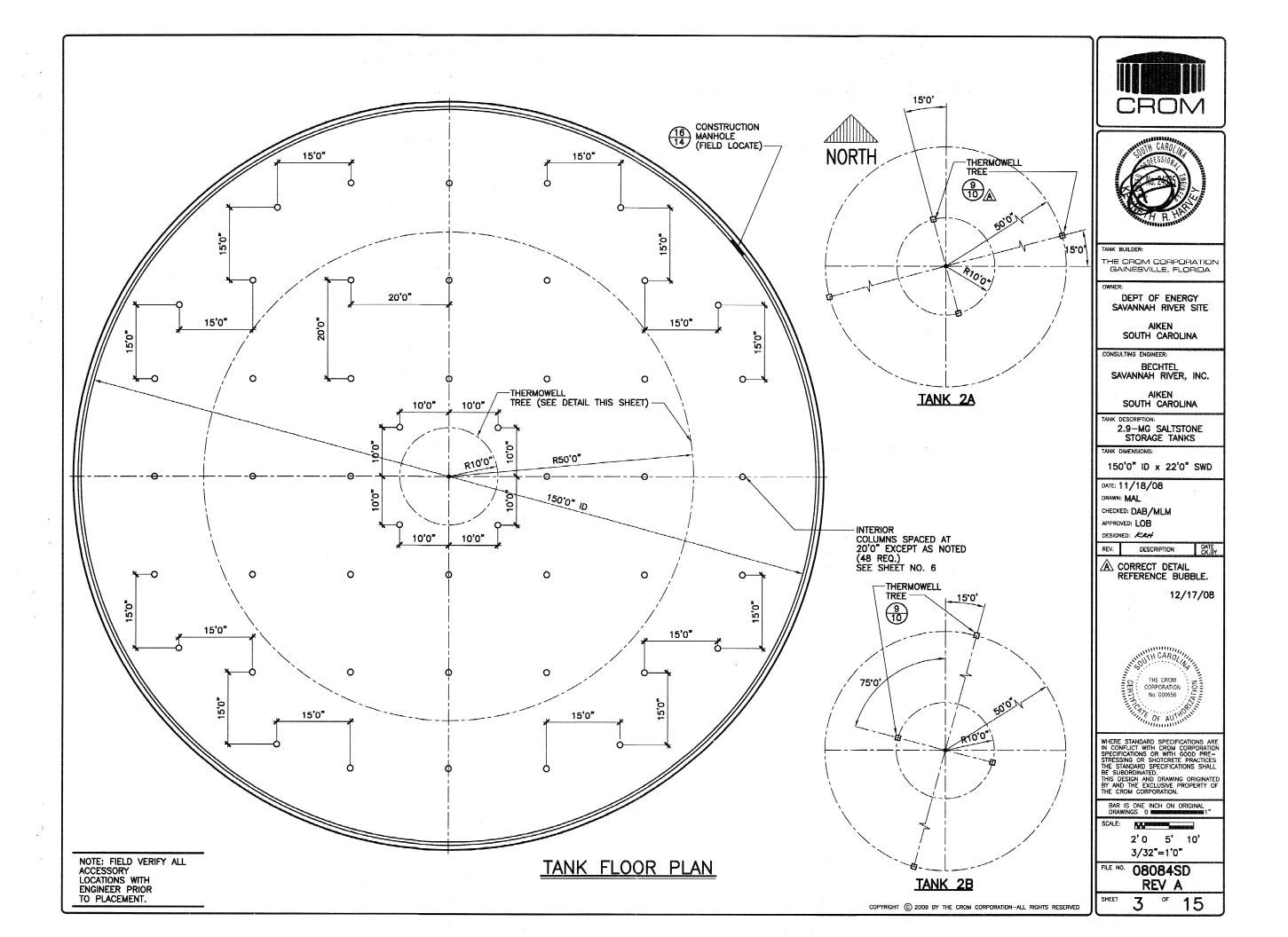
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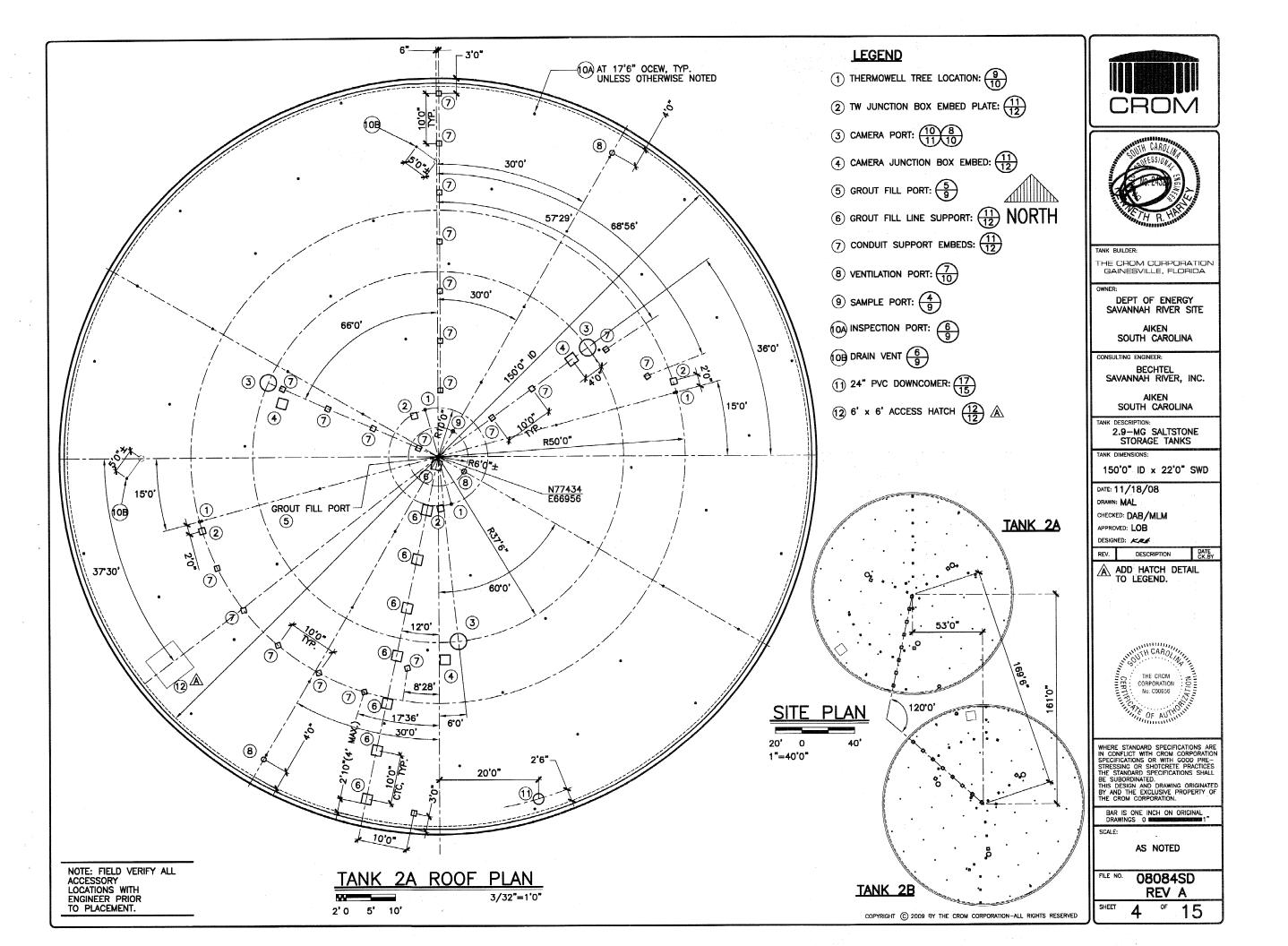
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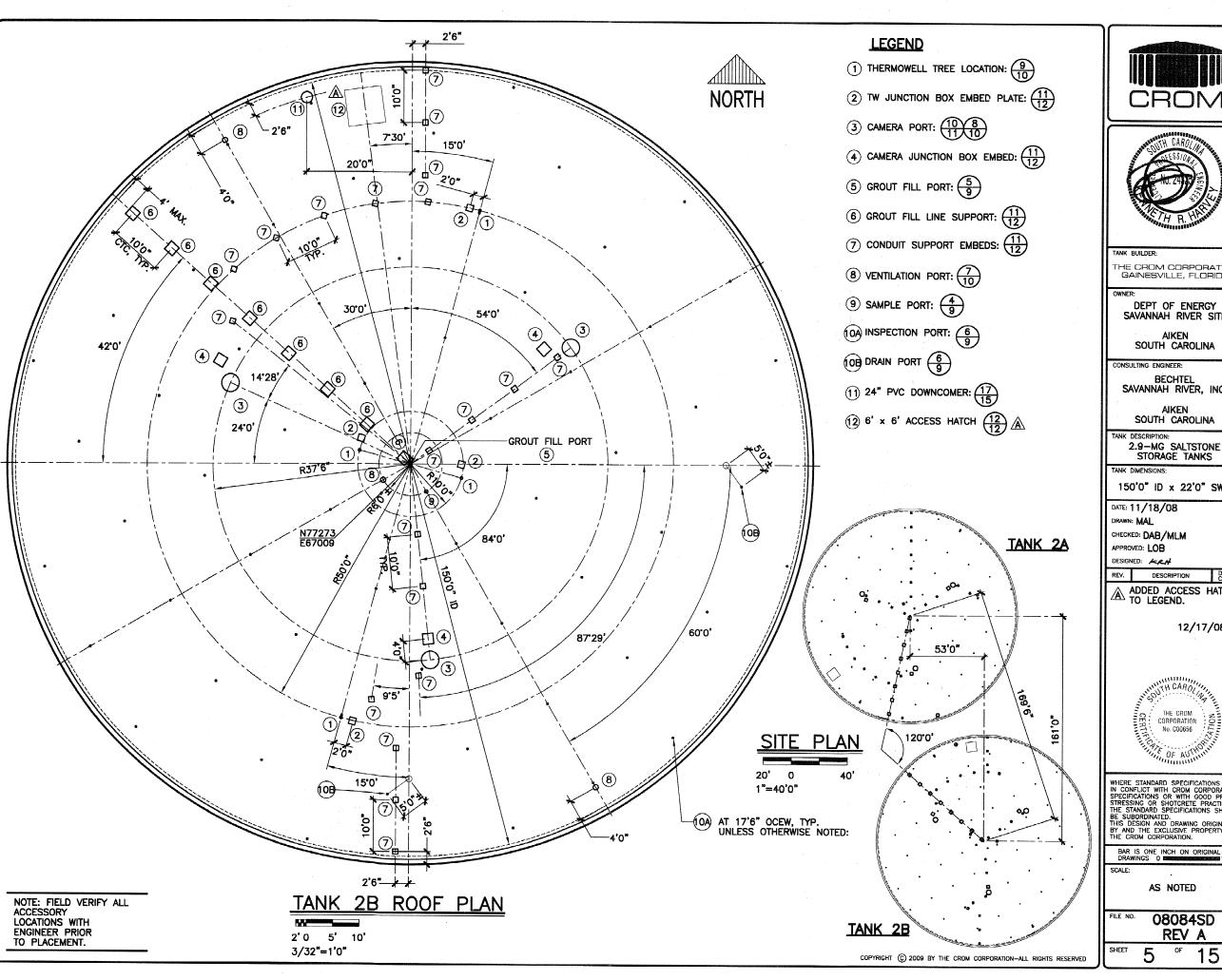
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HE CROM CORPORATION GAINESVILLE, FLORIDA

DEPT OF ENERGY SAVANNAH RIVER SITE

AIKEN SOUTH CAROLINA

BECHTEL SAVANNAH RIVER, INC.

AIKEN SOUTH CAROLINA

2.9-MG SALTSTONE STORAGE TANKS

150'0" ID x 22'0" SWD

DATE: 11/18/08

CHECKED: DAB/MLM

DESCRIPTION ADDED ACCESS HATCH TO LEGEND.

12/17/08

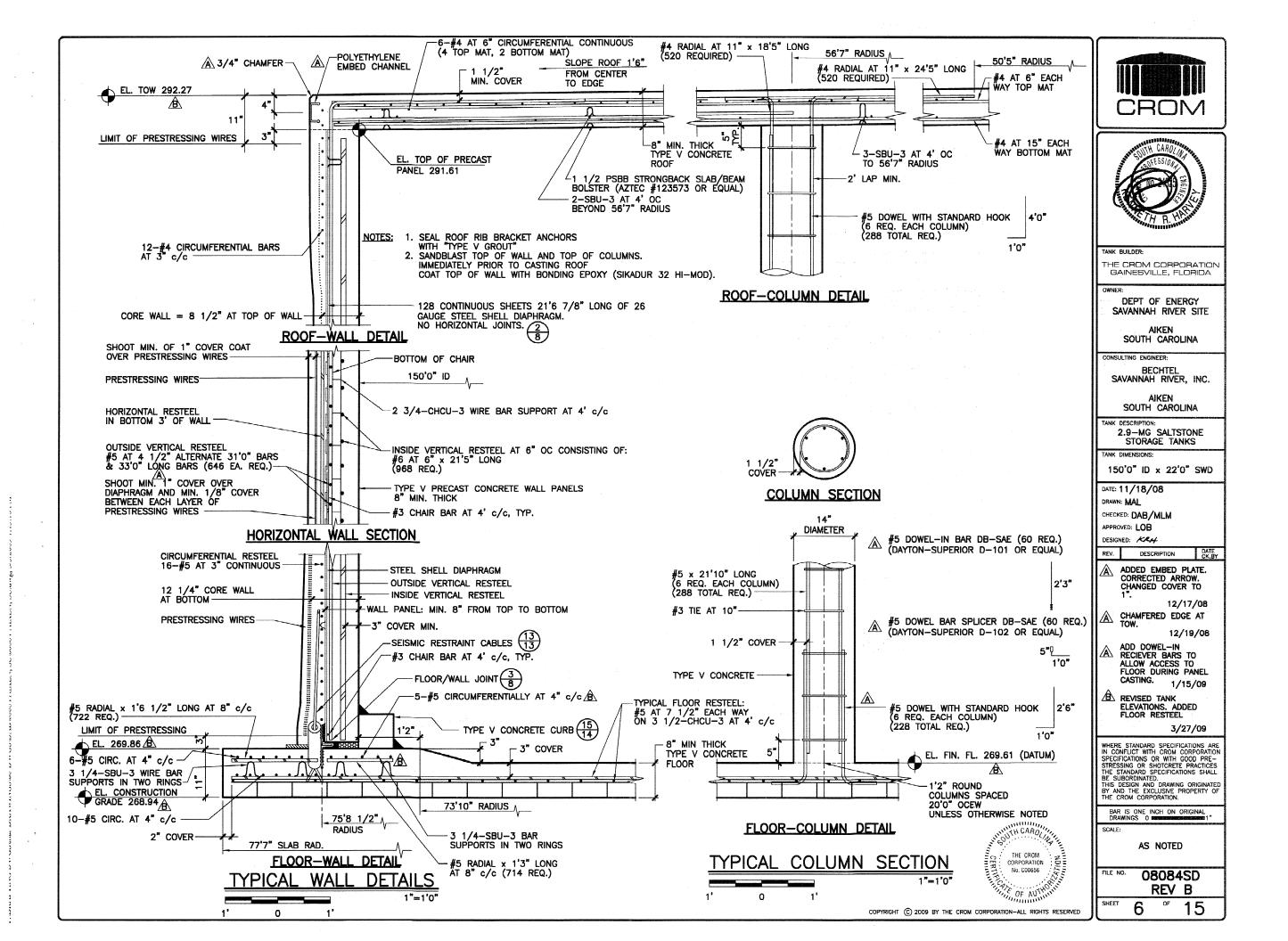


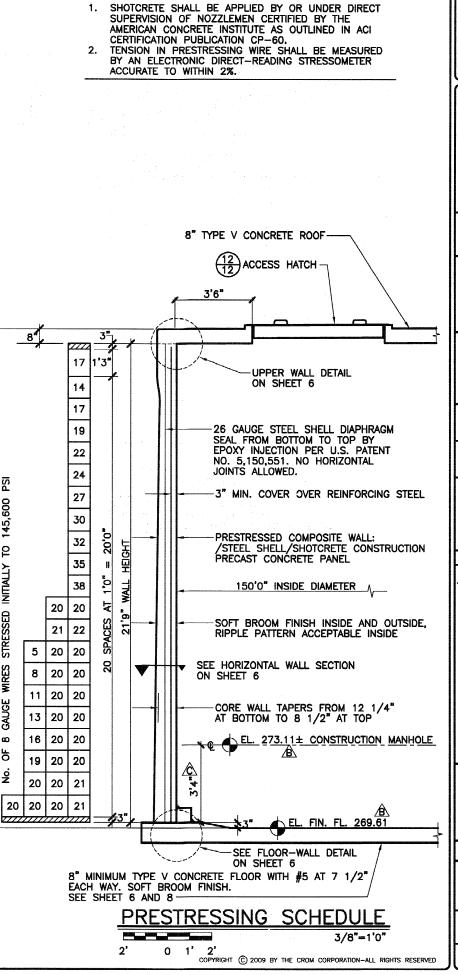
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AS NOTED

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183,000

243,000

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THE CROM CORPORATION GAINESVILLE, FLORIDA

DEPT OF ENERGY SAVANNAH RIVER SITE

SOUTH CAROLINA

BECHTEL SAVANNAH RIVER, INC.

SOUTH CAROLINA

2.9-MG SALTSTONE STORAGE TANKS

TANK DIMENSIONS:

150'0" ID x 22'0" SWD

DATE: 11/18/08 DRAWN: MAL

CHECKED: DAB/MLM APPROVED: LOB

DESIGNED: KRA

DESCRIPTION

REVISED TANK ELEVATIONS.

3/27/09

À DIM. WAS 3'6" 5/5/09

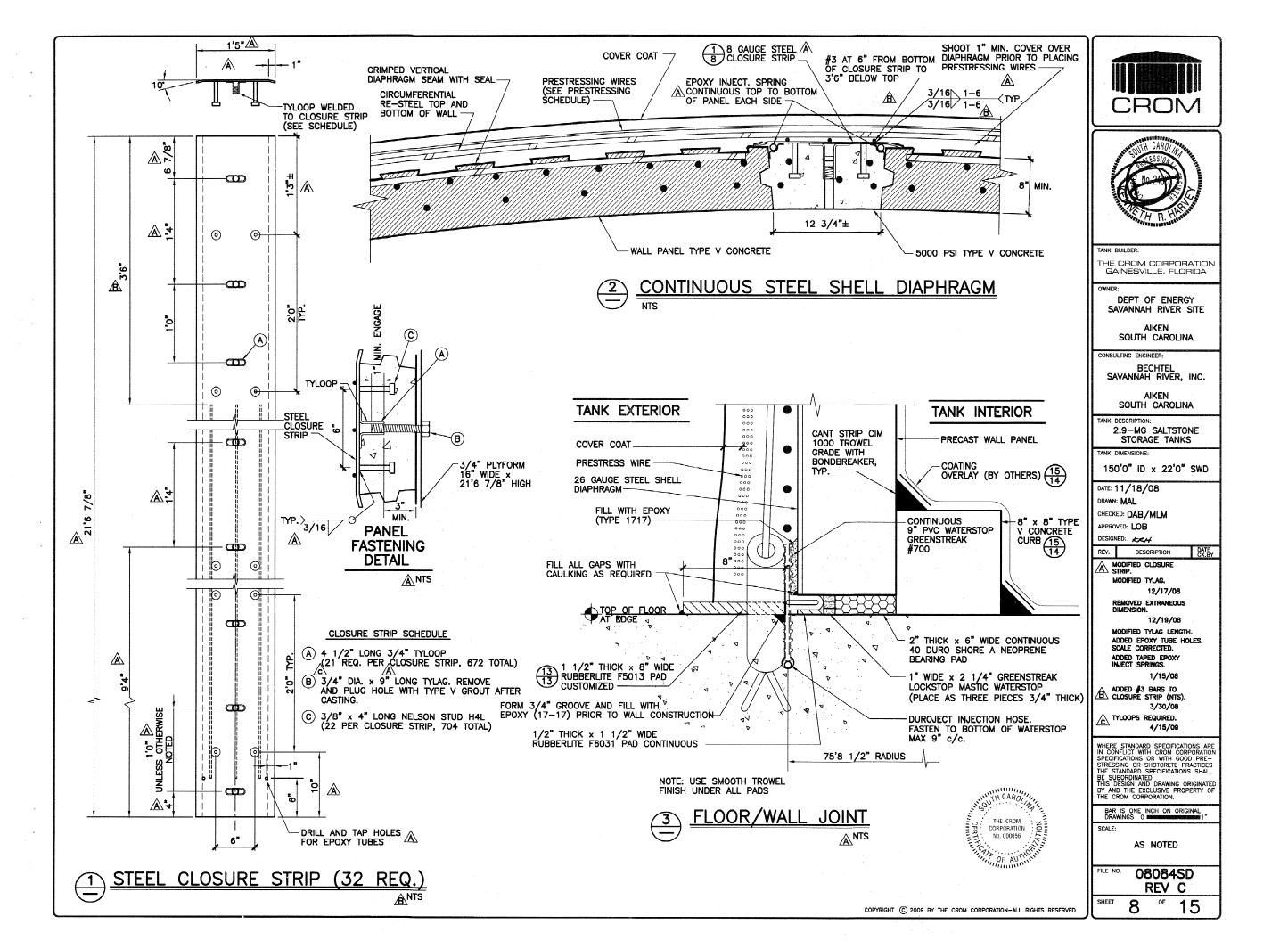


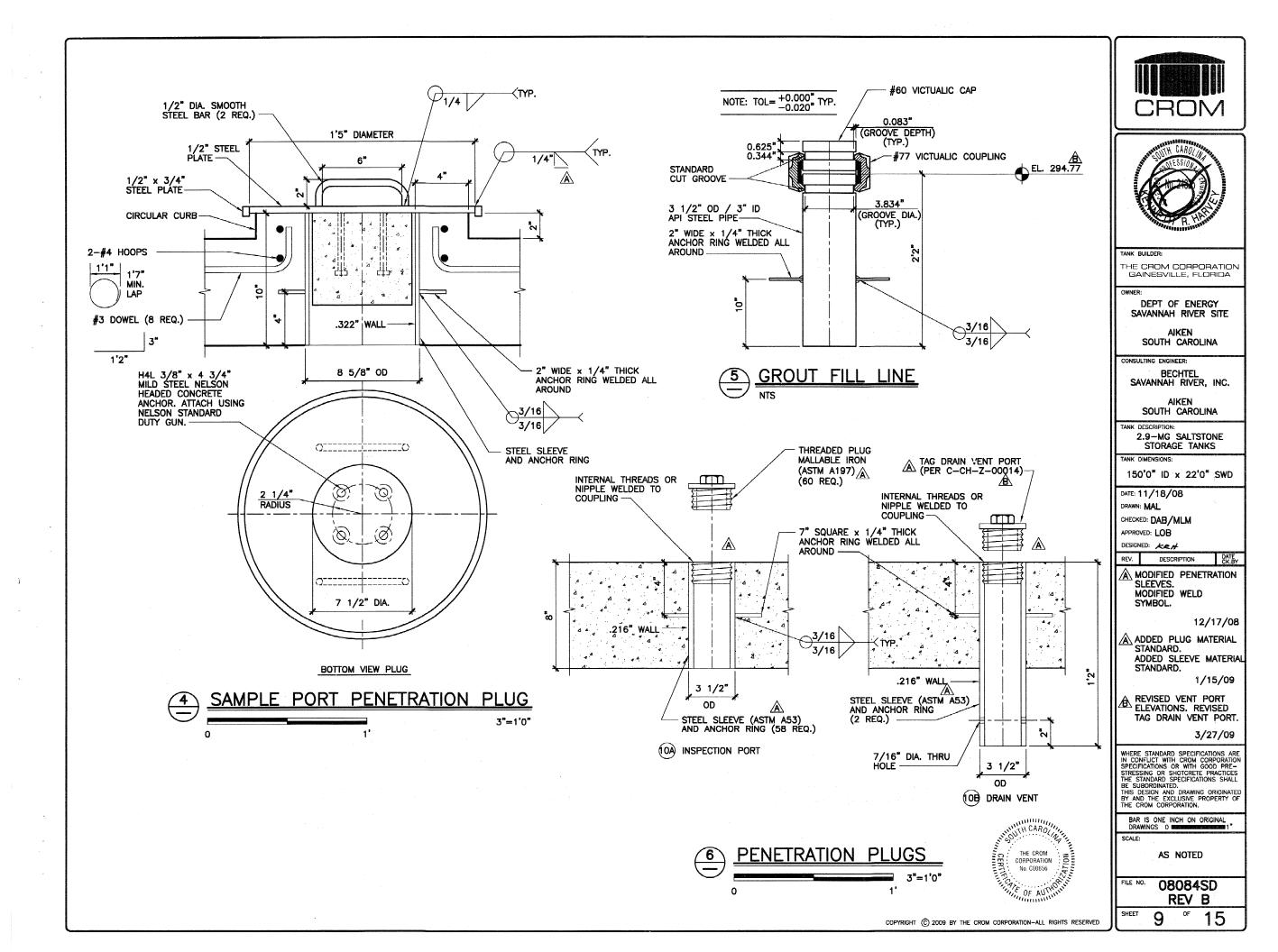
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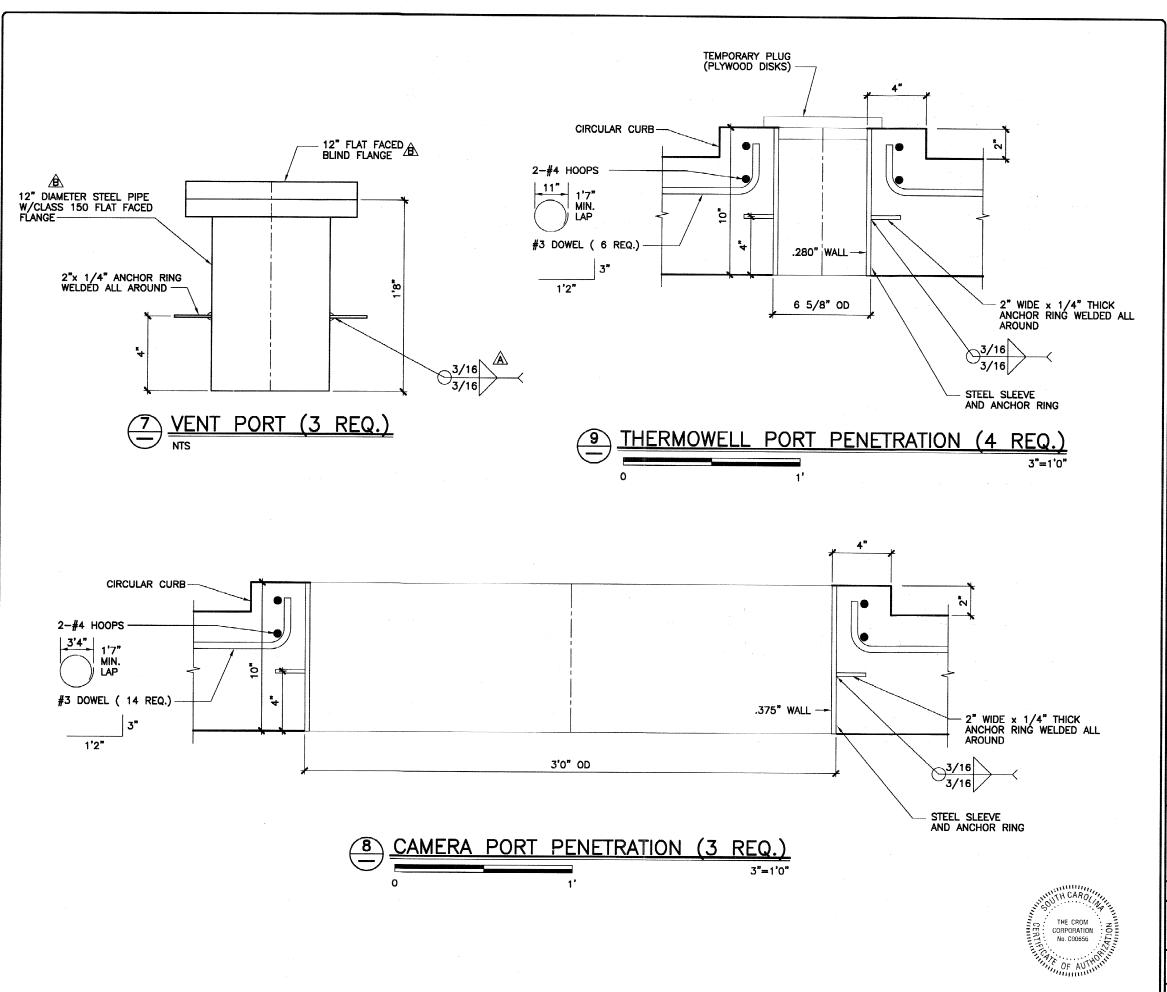
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08084SD REV C











TANK BUILDER:

THE CROM CORPORATION GAINESVILLE, FLORIDA

OWNER:

DEPT OF ENERGY SAVANNAH RIVER SITE

> AIKEN SOUTH CAROLINA

CONSULTING ENGINEER

BECHTEL SAVANNAH RIVER, INC.

> AIKEN SOUTH CAROLINA

TANK DESCRIPTION:
2.9-MG SALTSTONE
STORAGE TANKS

TANK DIMENSIONS:

150'0" ID x 22'0" SWD

DATE: 11/18/08

DRAWN: MAL
CHECKED: DAB/MLM

APPROVED: LOB
DESIGNED: KKKH

REV. DESCRIPTION

MODIFIED WELD SYMBOL.

MODIFIED FLANGE CALLOUTS

UTS 4/9/09

12/17/08

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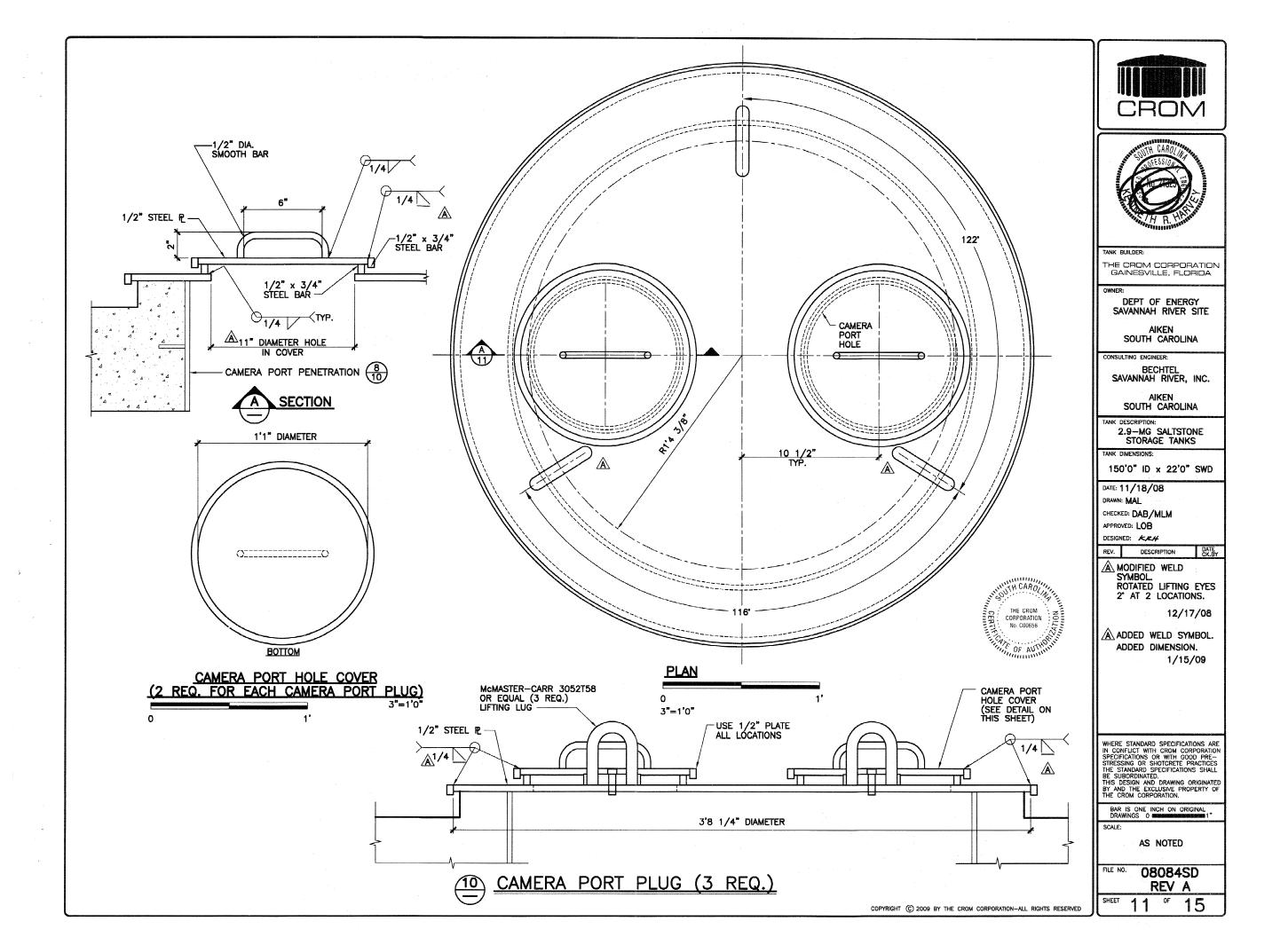
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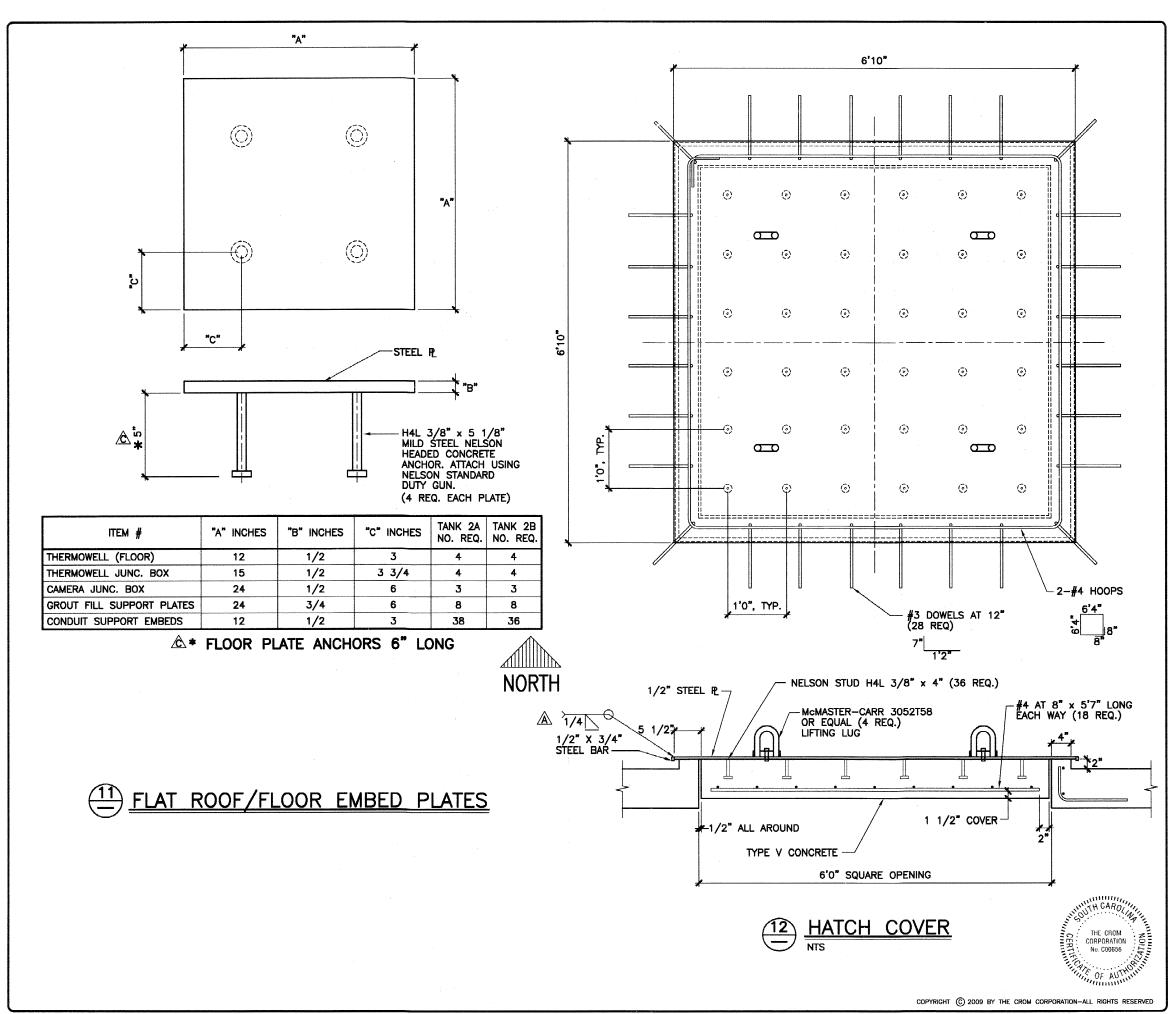
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ANK BUILDER:

THE CROM CORPORATION GAINESVILLE, FLORIDA

OWNER

DEPT OF ENERGY SAVANNAH RIVER SITE

AIKEN SOUTH CAROLINA

CONSULTING E

BECHTEL SAVANNAH RIVER, INC.

> AIKEN SOUTH CAROLINA

NK DESCRIPTION:

2.9-MG SALTSTONE

STORAGE TANKS

DI CIUTOL

150'0" ID x 22'0" SWD

DATE: 11/18/08 DRAWN: MAL

CHECKED: DAB/MLM

APPROVED: LOB

DESIGNED: KRA-

EV. DESCRIPTION

MODIFIED WELD SYMBOL.

12/17/08

ADDED NOTE, REVISED DIMENSION

5/5/09

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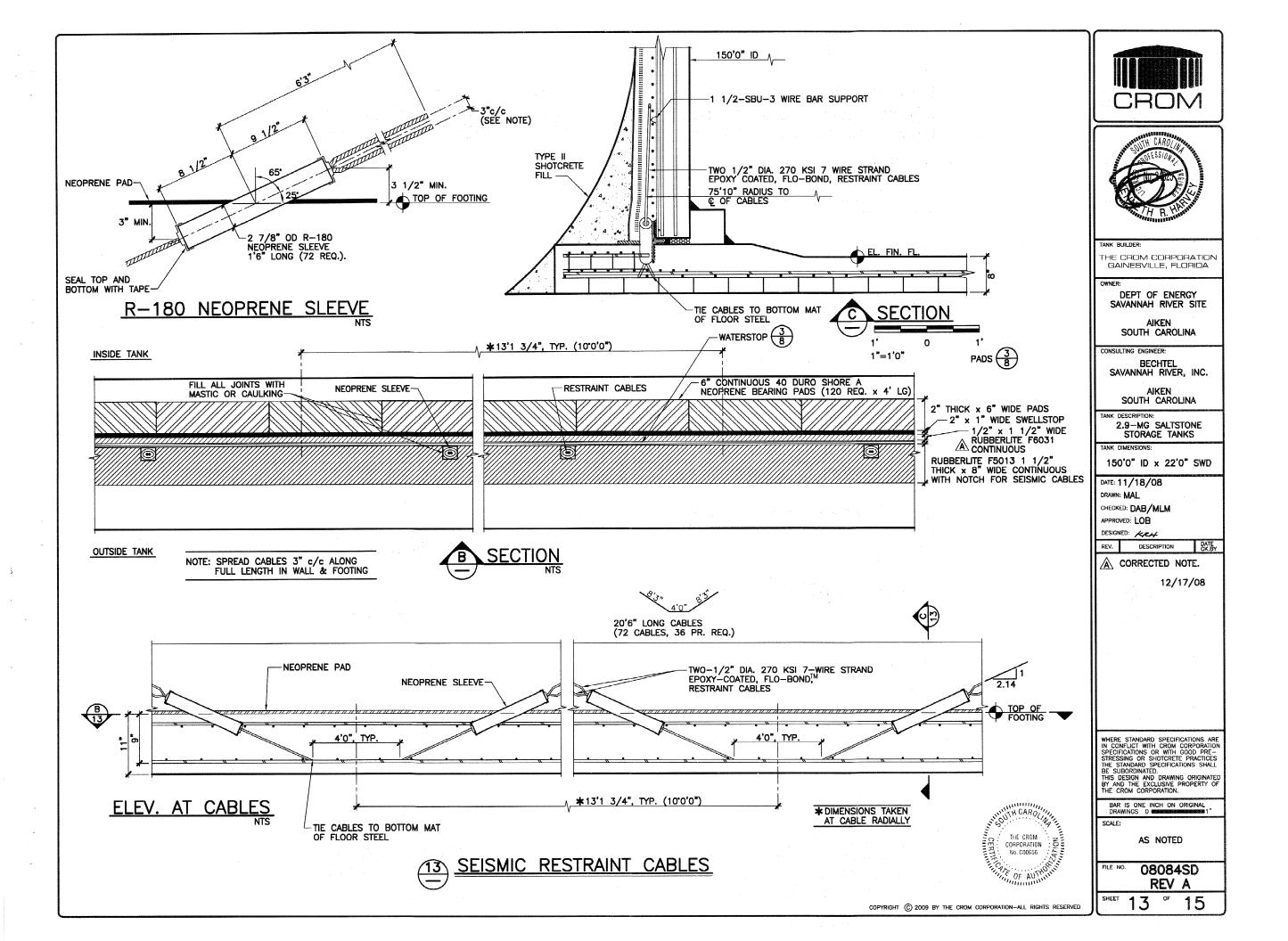
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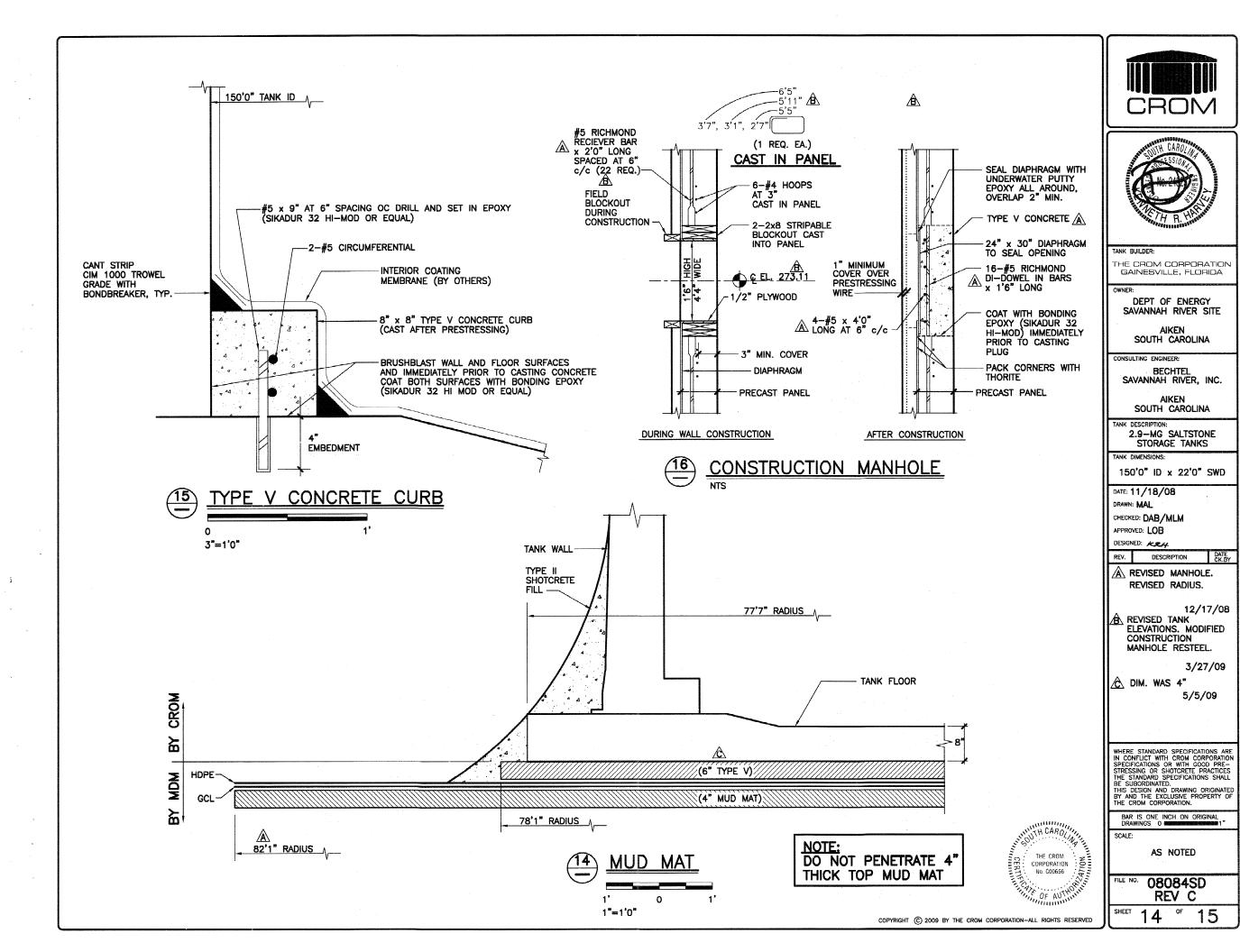
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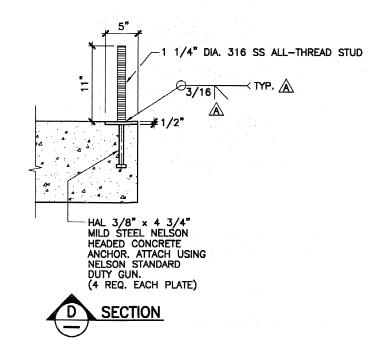
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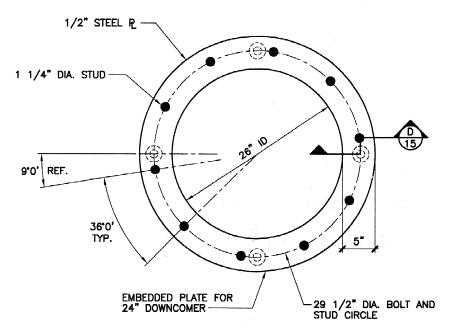
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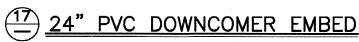
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A NOTE:

SEE DWG C-CH-Z-00014 DETAIL 3 FOR 24"
DIAMETER DOWNCOMER SUPPORT H-1 WALL
MOUNTING PLATES









THE CROM CORPORATION GAINESVILLE, FLORIDA

DEPT OF ENERGY SAVANNAH RIVER SITE

AIKEN SOUTH CAROLINA

CONSULTING ENGINEER:

BECHTEL . SAVANNAH RIVER, INC.

AIKEN SOUTH CAROLINA

TANK DESCRIPTION: 2.9-MG SALTSTONE STORAGE TANKS

TANK DIMENSIONS:

150'0" ID x 22'0" SWD

DATE: 11/18/08 DRAWN: MAL CHECKED: DAB/MLM APPROVED: LOB DESIGNED: KEN

REV. DESCRIPTION

ADDED NOTE.
REVISED WELD SYMBOL.

12/17/08

REVISED WELD TYPE. 12/17/08

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