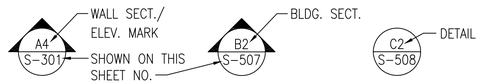
GENERAL NOTES

MATERIALS AND CONSTRUCTION

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF f'c = 4,000 psi AT 28 DAYS AND SHALL HAVE A MINIMUM DENSITY OF 145 PCF.
2. ALL REINFORCING BARS SHALL CONFORM TO THE SPECIFICATION FOR DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT, ASTM A615, GRADE 60
3. CONCRETE AGGREGATE SHALL HAVE A MAXIMUM SIZE OF 1 INCH.
4. ALL REINFORCING BARS SHALL BE CONTINUOUS IN ANY ONE DIRECTION EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS. PROVIDE CLEAR COVER IF NOT SHOWN PER ACI 318 RECOMMENDATIONS.
5. EXCEPT AS NOTED, ALL CONCRETE CONSTRUCTION AND DETAILING SHALL CONFORM TO THE LATEST STANDARDS OF THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315), AND BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318).
6. EXCEPT FOR WELDED WIRE FABRIC, NO WELDING OF REINFORCING BARS SHALL BE PERMITTED UNLESS INDICATED ON DRAWINGS.
7. STRUCTURAL STEEL SHAPES SHALL CONFORM TO THE STANDARD SPECIFICATION FOR STRUCTURAL STEEL SHAPES, ASTM A-992.
8. ALL STRUCTURAL STEEL PLATES AND BARS SHALL CONFORM TO THE STANDARD SPECIFICATION FOR CARBON STRUCTURAL STEEL ASTM A36.
9. METAL ROOFING AND SIDING SHALL CONFORM TO THE NORTH AMAERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI), LATEST EDITION.
10. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS BY THE AMERICAN INSTITUTE OF STEEL CONSTUCTION (AISC), LATEST EDITION.
11. WELDING FOR STRUCTURAL STEEL SHALL CONFORM TO THE STRUCTURAL WELDING CODE, AWS D1.1, LATEST EDITION.
12. BOLTS, NUTS, AND WASHERS SHALL CONFORM TO THE STANDARD SPECIFICATION FOR CARBON STEEL BOLTS AND STUDS, ASTM A307, GRADE A, AND HIGH STRENGTH BOLTS FOR STRUCTURAL STEEL JOINTS, ASTM A325. ALL BOLTS SHALL HAVE THREADS EXCLUDED FROM THE SHEAR PLANE.
13. ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH THE COATING AND PAINTING SPECIFICATIONS.
14. TOP 12 INCHES OF SUBGRADE SHALL BE COMPACTED TO 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM STANDARD D1557
15. UNLESS NOTED ON DRAWINGS, SPLICE LENGTH OF REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318 (LATEST EDITION) FOR CLASS B SPLICES.
16. FOR FILLET WELD SIZES NOT SHOWN ON DRAWINGS, PROVIDE MINIMUM SIZE FILLET WELDS IN ACCORDANCE WITH WELDING CODE AWS D1.1, LATEST EDITION.
17. UNLESS SHOWN OTHERWISE, ALL REINFORCING BAR HOOKS SHALL BE STANDARD HOOKS IN ACCORDANCE WITH BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI 318, LATEST EDITION.
18. 

ELECTRICAL BONDING

1. ALL STEEL DOORS AND FRAMES SHALL BE ELECTRICALLY BONDED TO THE MAGAZINE REINFORCING CAGE.
2. ALL STRUCTURAL AND MISCELLANEOUS ITEMS EMBEDDED IN CONCRETE SHALL BE ELECTRICALLY BONDED TO THE REINFORCING CAGE BY WIRE TIES.
3. THE REINFORCING CAGE SHALL BE MADE ELECTRICALLY CONTINUOUS BY WIRE TIES AT A MINUMUM OF 4'-0" ON CENTERS IN ANY DIRECTION.
4. ALL WALL AND CONSTRUCTION JOINTS SHALL BE ELECTRICALLY BONDED. SEE THE ELECTRICAL DRAWINGS FOR DETAILS.

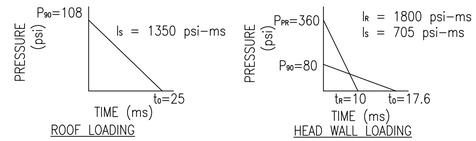
DESIGN LOADS

1. STATIC LOADS:
   - A. ROOF DEAD LOAD (1 ½ FT. EARTH FILL +6" GRAVEL) = 200 PSF
   - B. FLOOR LOADS
     - a) UNIFORM STORAGE LIVE LOAD = 2000 PSF
     - b) FORKLIFT WHEEL LOAD:
       - BASED ON DREXEL MODEL NO. SL-88-ESS = 8000 LB MAX LOAD
       - MAXIMUM WHEEL LOAD = 26,000 LBS
       - WHEEL CONTACT AREA = 65 SQ. IN.
   - C. ROOF LIVE LOAD = 100 PSF
   - D. PLATFORM AND RAMP LIVE LOAD = 1,000 PSF
2. SEISMIC DESIGN DATA:
   - A. OCCUPANCY CATEGORY --------- III
   - B. IMPORTANCE FACTOR ---------- 1.25
   - C. SEISMIC DESIGN CATEGORY ----- "D"
   - D. SITE SEISMICITY ------------ S_s = 1.95g; S_1 = 0.75g
   - E. SITE CLASS ----------------- "D"
3. WIND DESIGN DATA:
   - A. DESIGN WIND SPEED --------- 132 MPH
   - B. EXPOSURE ------------------ "C"
   - C. OCCUPANCY CATEGORY -------- III
   - D. IMPORTANCE FACTOR ---------- 1.15
4. BLAST LOADS:

ORIGINAL BLAST DESIGN BASED ON INTERMAGAZINE SEPARATION DISTANCES FOR NET EQUIVALENT WEIGHT EXPLOSIVE EQUAL TO 350,000 LBS (W) AS FOLLOWS:

A. ROOF DESIGN: DONOR MAGAZINE AT 141' (2 X $W^{1/3}$) TO THE REAR OF THE ACCEPTOR MAGAZINE

B. HEADWALL DESIGN: DONOR MAGAZINE AT 141' (2 X $W^{1/3}$) TO THE FRONT OF THE ACCEPTOR MAGAZINE.



DESIGN SOIL DATA

A. DESIGN SOIL BEARING PRESSURE	–	4,000 PSF
B. DESIIGN DYNAMIC RESPONSE FACTOR (SOIL BEARING)	–	2.5
C. DESIGN LATERAL SOIL PRESSURE COEF. :		
1. MAGAZINE WALLS	–	0.5
2. WING WALLS	–	0.3
D. DESIGN COEF. OF FRICTION (CONC. ON SOIL)	–	0.50
e. MODULUS OF SUBGRADE REACTION	–	150 PCI TO 250 PCI

DEFLECTION CRITERIA

MAXIMUM SUPPORT ROTATIONS OR DUCTILITY RATIO:

- A. ROOF SLAB = 8°
- B. HEAD WALL = 6°
- C. HEADER BEAM = 2°
- D. PILASTERS X_M/X_E = 3.0
- E. BLAST DOORS = 12°

NOTES TO DESIGNER – REMOVE THESE NOTES WHEN PREPARING CONSTRUCTION DRAWINGS FOR SITE ADAPTATION OF THIS DESIGN

1. FOUNDATIONS SHALL BE REVISED TO REFLECT SPECIFIC SITE SOIL CONDITIONS.
   - A. IF THE DEPTH OF FOOTINGS (SIDEWALLS, BACKWALL, COLUMNS, PILASTERS AND GRADE BEAMS) HAVE TO BE INCREASED EITHER BECAUSE OF THE DEPTH OF FROST OR TO OBTAIN SUITABLE SOIL BEARING CAPACITY AS SPECIFIED, THE VOLUME OF SOIL BETWEEN THE DEPTH OF THE FOOTING SHOWN ON THE DRAWING AND THE DEPTH REQUIRED SHALL BE REPLACED WITH CONCRETE.
   - A. RETAINING WALLS WHOSE FOOTING DEPTHS MUST BE INCREASED FOR FROST SHALL BE REDESIGNED. IF THE SOIL BEARING CAPACITY IS LESS THAN THAT SPECIFIED THEN THE RETAINING WALL FOOTINGS MUST BE REDESIGNED.
2. THE FLOOR SLAB AND TRENCH COVER MUST BE REDESIGNED IF WHEEL LOADING WILL BE SIGNIFICANTLY HIGHER THAN THE DESIGN LOADING. MUST BE VERIFIED AT LOCATIONS UTILIZING A SIDE LOADING LIFT TRUCK.
3. DESIGN CONSIDERATIONS (TO BE COORDINATED WITH CONTRACTING OFFICER):
   - A.) HIGH SECURITY LOCKING DEVICE – STANDARD OR ILD (INTERNAL LOCKING DEVICE).
   - B.) LOADING PLATFORM OR CONCRETE PAD.
   - C.) HEAT TRACING REQUIREMENT (SEE NOTES TO DESIGNER ON SHEET E-001 & E-801).
   - D.) HAZARDOUS ELECTRICAL EQUIPMENT REQUIREMENT (SEE NOTES TO DESIGNER ON SHEET E-001).
   - E.) TEST WELL LOCATIONS (SEE NOTES TO DESIGNER ON SHEET E-103.)
4. SHEETS S-513 & S-513(ALT) IDENTIFY DIFFERENT LOCKING SYSTEMS. THE EOR SHALL VERIFY THE CORRECT LOCKING SYSTEM REQUIRED AND REMOVE THE REDUNDANT SHEET FROM THE CONSTRUCTION CONTRACT DOCUMENTS FOR THE SYSTEM NOT USED (COORDINATE WITH CONTRACTING OFFICER).
5. PROVIDE COATING AND PAINTING SPECIFICATIONS AS PART OF THE CONSTRUCTION CONTRACT DOCUMENTS THAT REQUIRES THE FOLLOWING FOR THE STEEL SLIDING DOORS:
   - A. ALL DUST. DIRT, OIL, GREASE, WELD FLUX RESIDUE, LOOSE DIRT & OTHER FOREIGN MATTER THAT MAY INHIBIT COATING BOND TO STRUCTURAL STEEL SHALL BE REMOVED IN THE SHOP IN ACCORDANCE WITH THE STEEL STRUCTURES PAINTING COUNCIL (SSPC), SPG.
   - B. EXCEPT FOR CONTACT SURFACES OF MOVING PARTS, ALL EXPOSED SURFACES OF STRUCTURAL STEEL SHALL RECEIVE 1.5 MIL (DRY) COAT OF ZINC CHROMATE PRIMER CONFORMING TO FEDERAL SPECIFICATION TT-P-645. UNEXPOSED SURFACES SHALL RECEIVE 1.0 MIL (DRY) COAT OF ASPHALT VARNISH CONFORMING TO FEDERAL SPECIFICATION TT-V-51. ALL PRIMER COATING SHALL BE PERFORMED IN THE SHOP.
   - C. ALL EXPOSED SURFACES OF STRUCTURAL STEEL SHALL RECEIVE TWO FIELD COATS OF COATING WITH A MINIMUM THICKNESS OF 4.0 MIL (DRY) CONFORMING TO FEDERAL SPECIFICATION TT-P-102 OR TT-P-37.

DEPARTMENT OF DEFENSE EXPLOSIVE SAFETY BOARD (DDESB) APPROVAL NOTES

1. THIS STANDARD WAS APPROVED ORIGINALLY BY THE DDESB FOR CONSTRUCTION AS A 7-BAR STRUCTURE FOR EXPLOSIVE WEIGHTS UP TO 350,000 POUNDS OF (NEW) HAZARD DIVISION (HD) 1.1 MATERIAL. SUBSEQUENTLY THE STANDARD WAS APPROVED FOR EXPLOSIVE WEIGHTS UP TO 500,000 POUNDS (NEW).
2. ANY DEVIATION FROM THE STANDARD APPROVED DRAWINGS, EXCEPT FOR FOUNDATION MODIFICATIONS, WITHOUT THE WRITTEN APPROVAL FROM THE DEPARTMENT OF DEFENSE EXPLOSIVE SAFETY BOARD (DDESB) MAY REQUIRE THE MAGAZINE TO BE CONSIDERED AN UNDEFINED MAGAZINE AND MAY SEVERELY RESTRICT THE ALLOWABLE STORAGE CAPACITY.

THESE DRAWINGS ARE AN EXACT REPLICA OF THE DEFINITIVE SET
DESIGNED BY: AMMANN & WHITNEY, CONSULTING ENGINEERS
PROJECT TITLE: STANDARD BOX MAGAZINE TYPE 'D'
NAVFAC DRAWING NUMBER: 6448522 – 6448554 DATE: 17 MAY 1997
NUMBER OF SHEETS: 33

THE STRUCTURAL DESIGN IN THESE UPDATED STANDARD DRAWINGS DOES NOT SUBSTANTIALLY DEVIATE FROM THE ORIGINAL STANDARD. SOME ASPECTS OF THE ELECTRICAL DESIGN HAVE BEEN MODIFIED FROM THE ORIGINAL STANDARD.

APPR	DATE	DESCRIPTION	SYM

NAVFAC

SEAL

A/E INFO

APPROVED
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO
DES | DRW | CHK
PM/DM
BRANCH MANAGER RCK
CHIEF ENG/ARCH EJG
FIRE PROTECTION

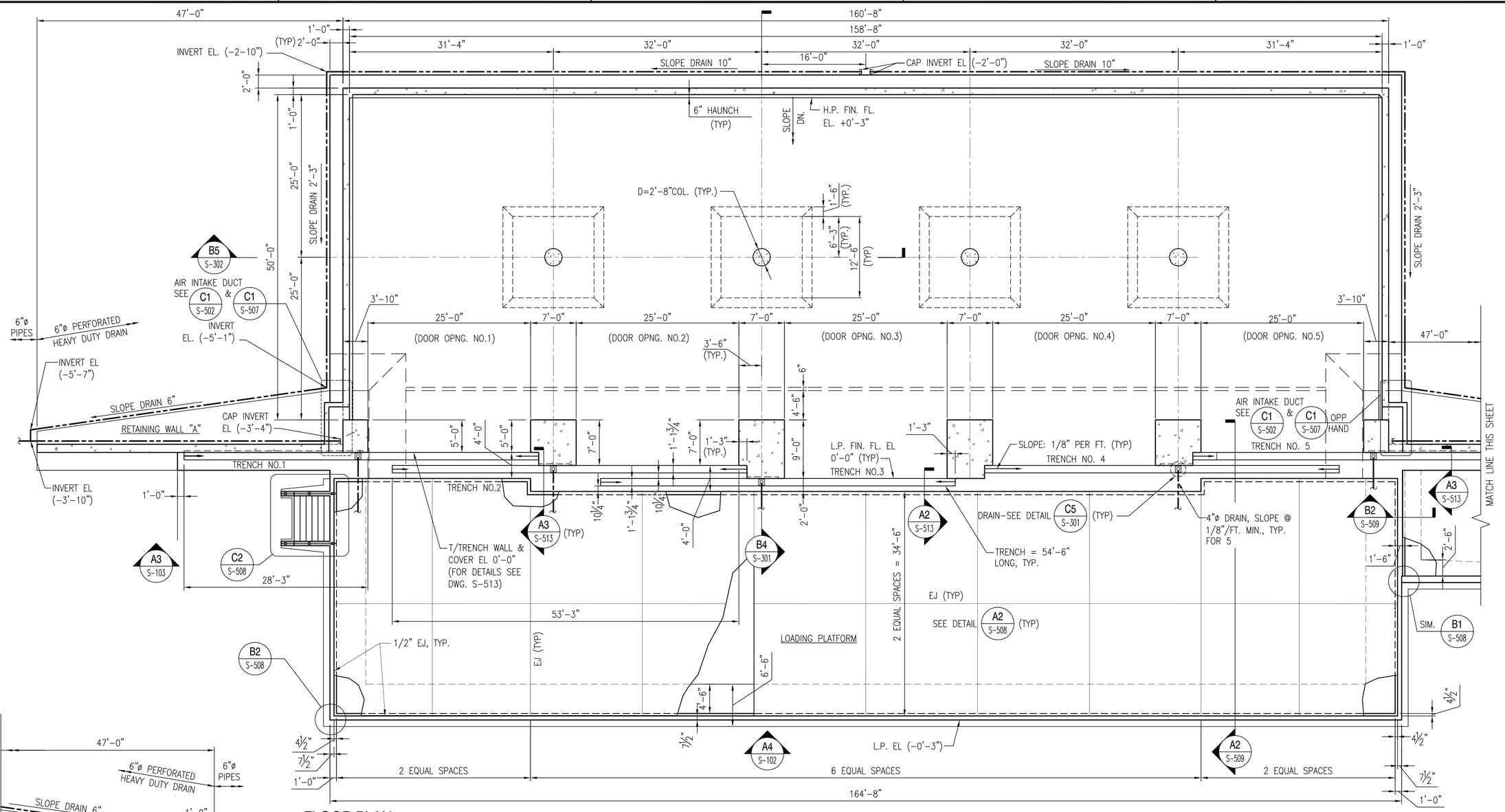
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

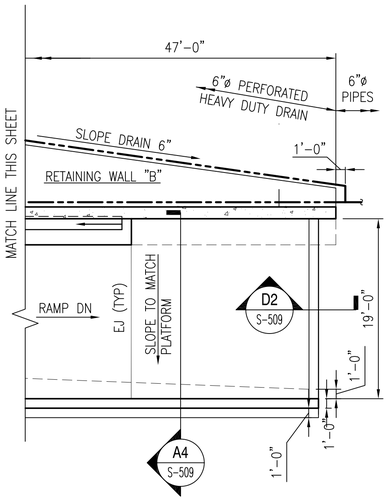
TYPE D BOX MAGAZINE
WITH LOADING PLATFORM

GENERAL NOTES

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
14021406
SHEET 1 OF 38
S-001

DRAWFORM REVISION: 10 MARCH 2009





FLOOR PLAN

SCALE: 1/8" = 1'-0"

PLAN NOTES

1. DATUM ELEVATION 0'-0" TAKEN AS TOP OF WALL AND TOP OF TRENCH COVER. FOR ACTUAL ELEVATION SEE CIVIL DRAWINGS.
2. GROUND COVER SHALL BE DETERMINED BY GENERAL SITE FILL MATERIAL AND CLIMATIC CONDITIONS. (GROUND COVER MUST BE MAINTAINED AT MAXIMUM 6" HEIGHT.)
3. PROVIDE CONSTRUCTION JOINT MID-WAY ALONG THE LEFT AND RIGHT SIDES OF PLATFORM RETAINING WALLS. SEE DETAIL ON DRAWING S-508.

GRAPHIC SCALE:

1/8"=1'-0" 0' 5' 10' 20' 30'

APPR | DATE | DESCRIPTION | SYM

NAVFAC

SEAL

A/E INFO

APPROVED
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/DM
BRANCH MANAGER Rick
CHIEF ENG/ARCH EJG
FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

FLOOR PLAN

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 14021407
SHEET 2 OF 38

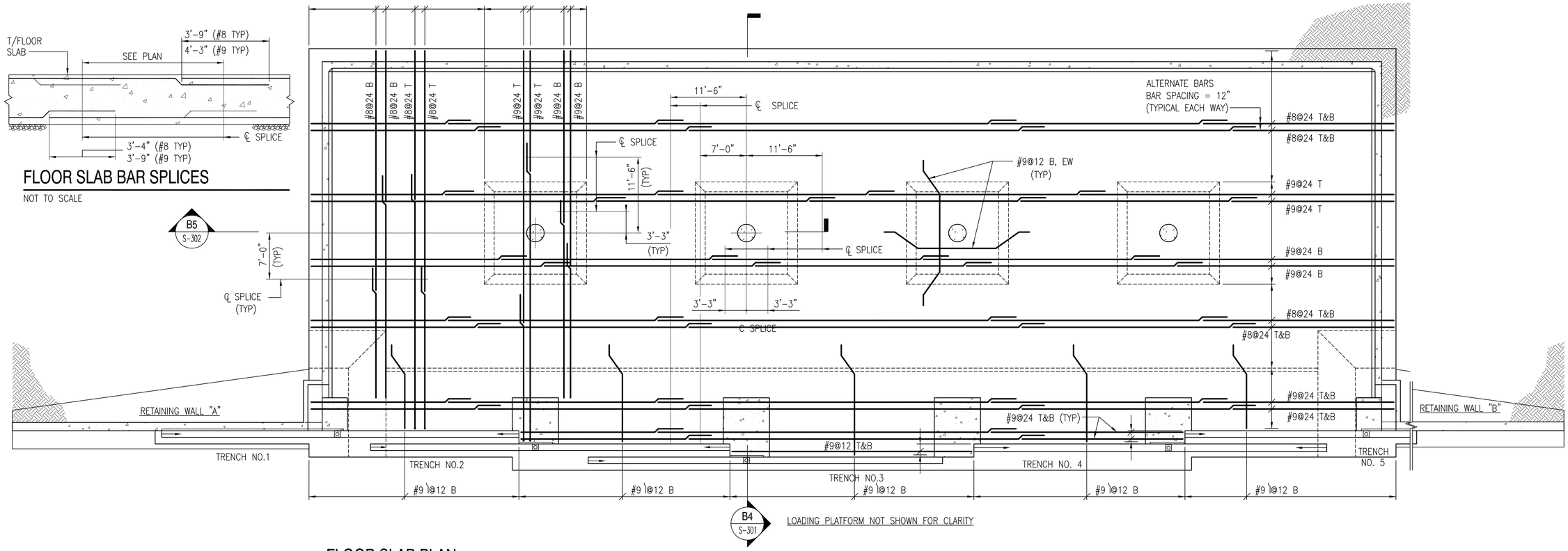
S-101

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-101 PLOTTED: Wednesday, September 26, 2012 - 9:48am

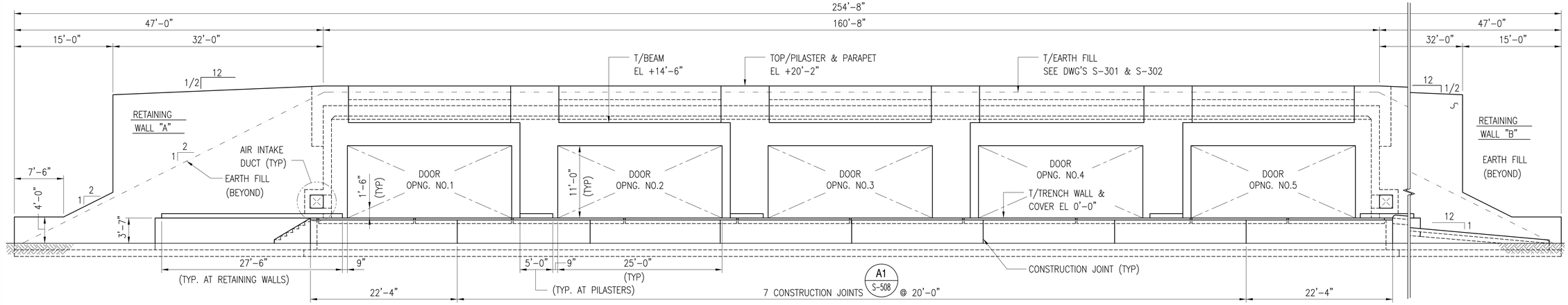
FLOOR SLAB BAR SPLICES

NOT TO SCALE



FLOOR SLAB PLAN

SCALE: 1/8" = 1'-0"



ELEVATION

SCALE: 1/8" = 1'-0"

S-101 A4

NOTES:

1. FOR "RETAINING WALL ELEVATION" SEE DWG. S-103.
2. FOR ADDITIONAL REINFORCING AT DOOR TRENCHES SEE DWG'S S-503 AND S-504.
3. FOR STAGGERED SPLICES:
   BAR SPLICES INDICATED THUS
   STAGGER ALTERNATE BAR SPLICES AS INDICATED ON PLAN
   SEE SECTION "FLOOR SLAB BAR SPLICES" THIS DWG.

GRAPHIC SCALE:

1/8"=1'-0" 0' 5' 10' 20' 30'

APPR | DATE | DESCRIPTION | SYM

NAVFAC

SEAL

A/E INFO

APPROVED
R. x B. F. III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/DM

BRANCH MANAGER Rck

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

SLAB PLAN AND FRONT ELEVATION

SCALE: AS NOTED

EPROJECT NO.:

CONSTR. CONTR. NO.

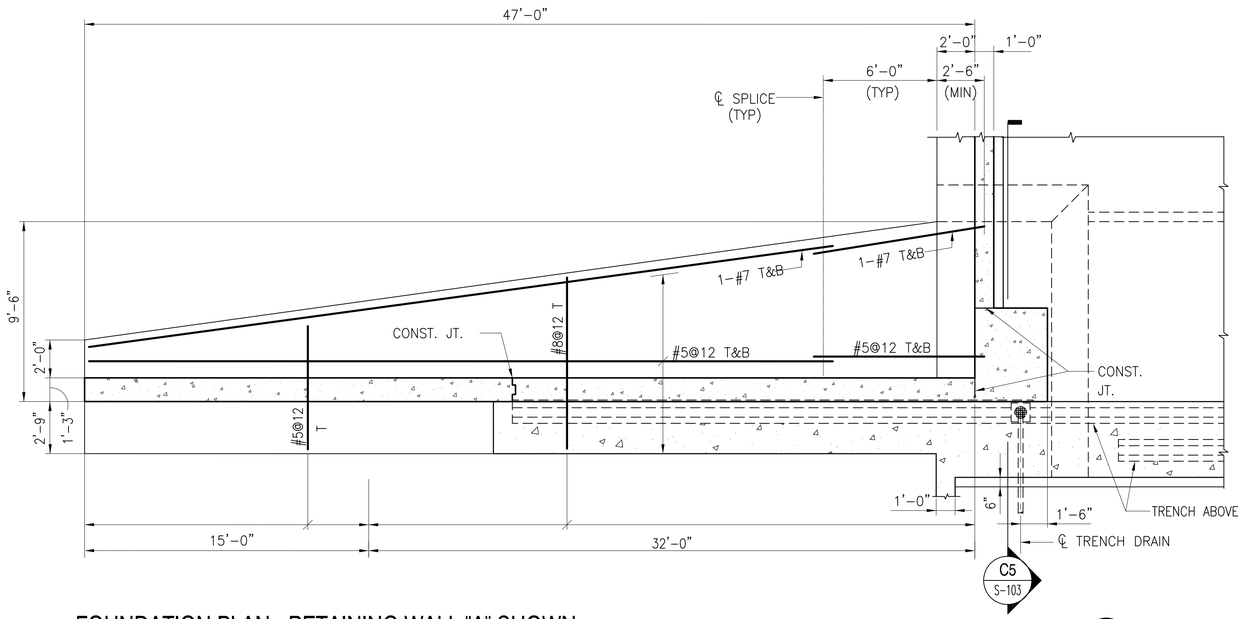
NAVFAC DRAWING NO.
14021408

SHEET 3 OF 38

S-102

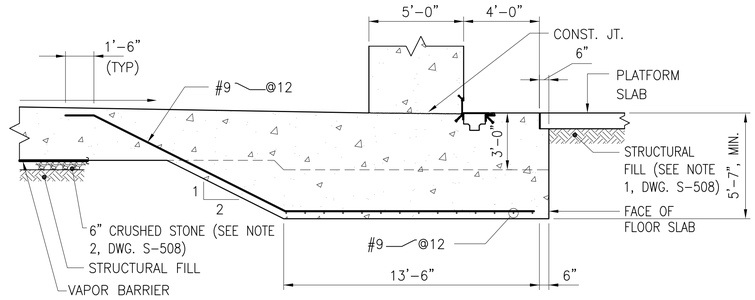
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-102 PLOTTED: Wednesday, September 26, 2012 - 9:54am



FOUNDATION PLAN - RETAINING WALL "A" SHOWN

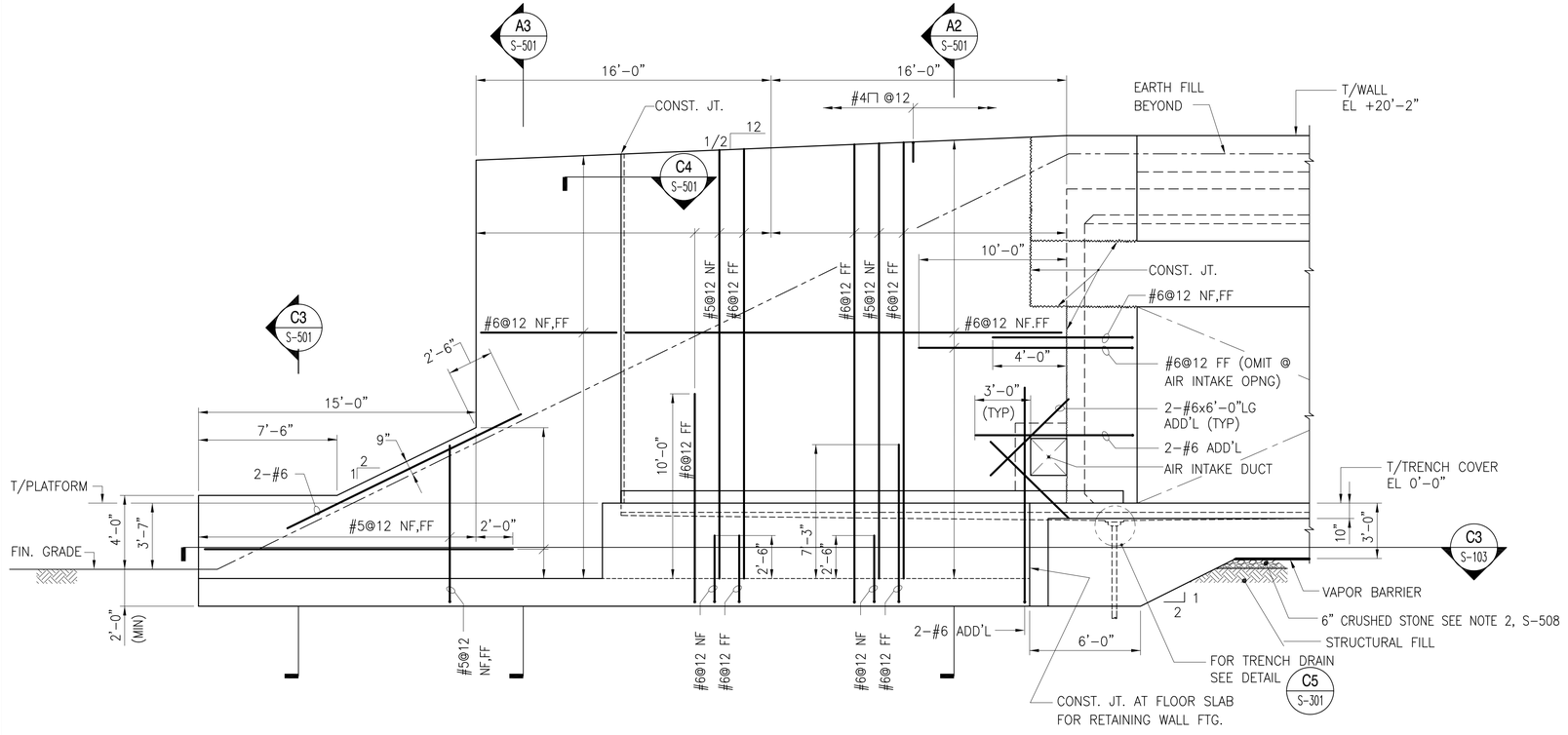
SCALE: 1/4" = 1'-0" RETAINING WALL "B" OPPOSITE HAND LOADING PLATFORM NOT SHOWN FOR CLARITY S-101 C3



NOTE:
FOR REINFORCEMENT NOT SHOWN
SEE DWG'S S-301, S-508 AND S-509.

SECTION

SCALE: 1/4" = 1'-0" S-103 C5



ELEVATION - RETAINING WALL "A" SHOWN

SCALE: 1/4" = 1'-0" RETAINING WALL "B" OPPOSITE HAND, SIMILAR LOADING PLATFORM NOT SHOWN FOR CLARITY S-101 A3

GRAPHIC SCALE:

1/4"=1'-0" 1' 0' 1' 5' 10' 15'

APPR | DATE | DESCRIPTION | SYM

NAVFAC

A/E INFO

APPROVED
R. B. [illegible] III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK
PM/DM		
BRANCH MANAGER	RCK	
CHIEF ENG/ARCH	EJG	
FIRE PROTECTION		

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA
LANT CAPITAL IMPROVEMENTS
NAVAL FACILITIES ENGINEERING COMMAND

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

RETAINING WALL PLAN AND ELEVATION

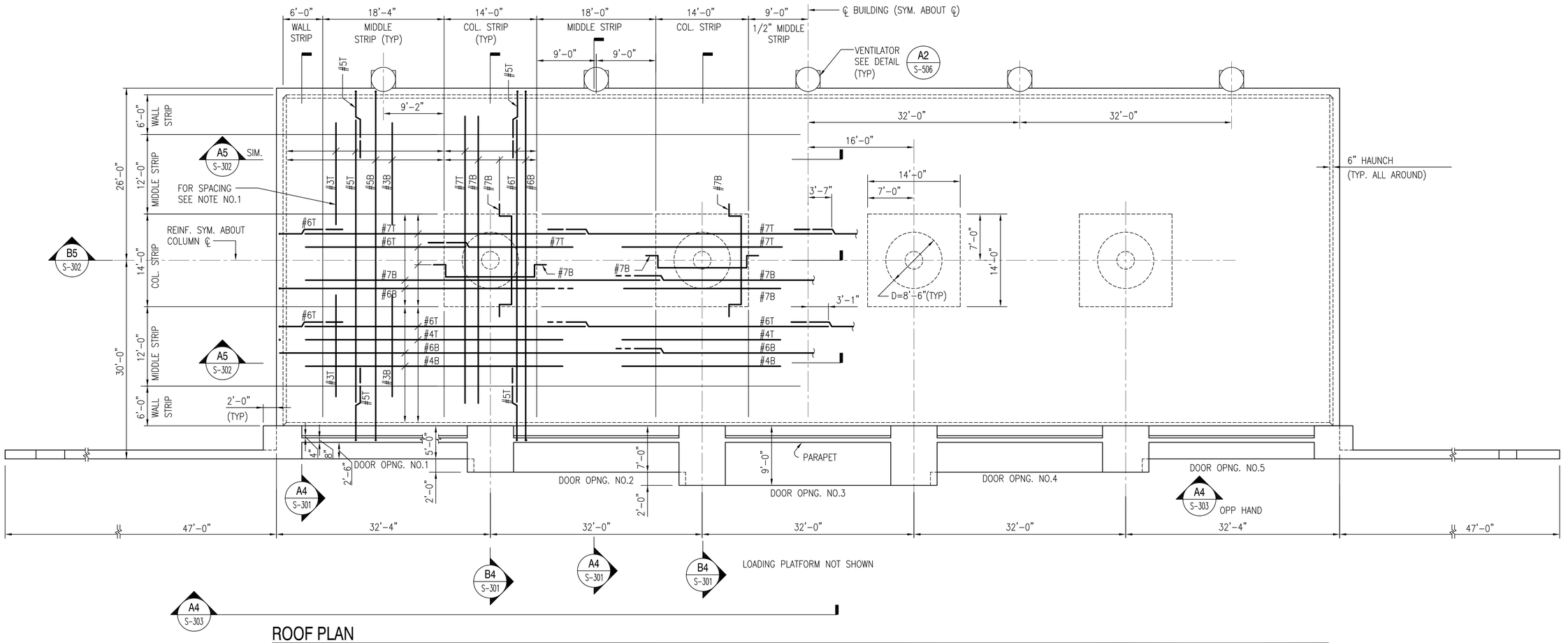
SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
14021409
SHEET 4 OF 38

S-103

DRAWFORM REVISION: 10 MARCH 2009

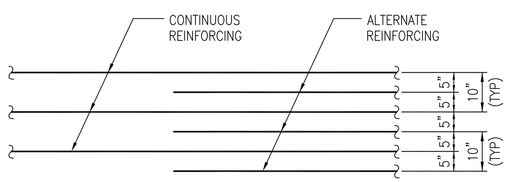
SEAL

FILE NAME: J:\USE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-103 PLOTTED: Wednesday, September 26, 2012 - 9:55am



ROOF PLAN

SCALE: 1/8" = 1'-0"

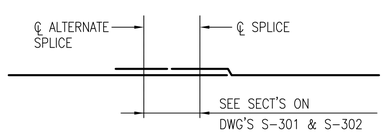


TYPICAL SPACING OF ROOF REINFORCEMENT

NOT TO SCALE

NOTES:

1. ALL REINFORCING BARS SHALL BE SPACED AT 10"O.C. UNLESS NOTED OTHERWISE. SEE "TYPICAL SPACING OF ROOF REINFORCEMENT" THIS DRAWING.
2. STAGGERED SPLICES SHOWN THUS



GRAPHIC SCALE:

1/8"=1'-0" 0' 5' 10' 20' 30'

APPR | DATE | SYM | DESCRIPTION

NAVFAC

A/E INFO

APPROVED
R. B. [illegible] III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES | DRW | CHK

PM/OM

BRANCH MANAGER Rck

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

ROOF PLAN

SCALE: AS NOTED

EPROJECT NO.:

CONSTR. CONTR. NO.

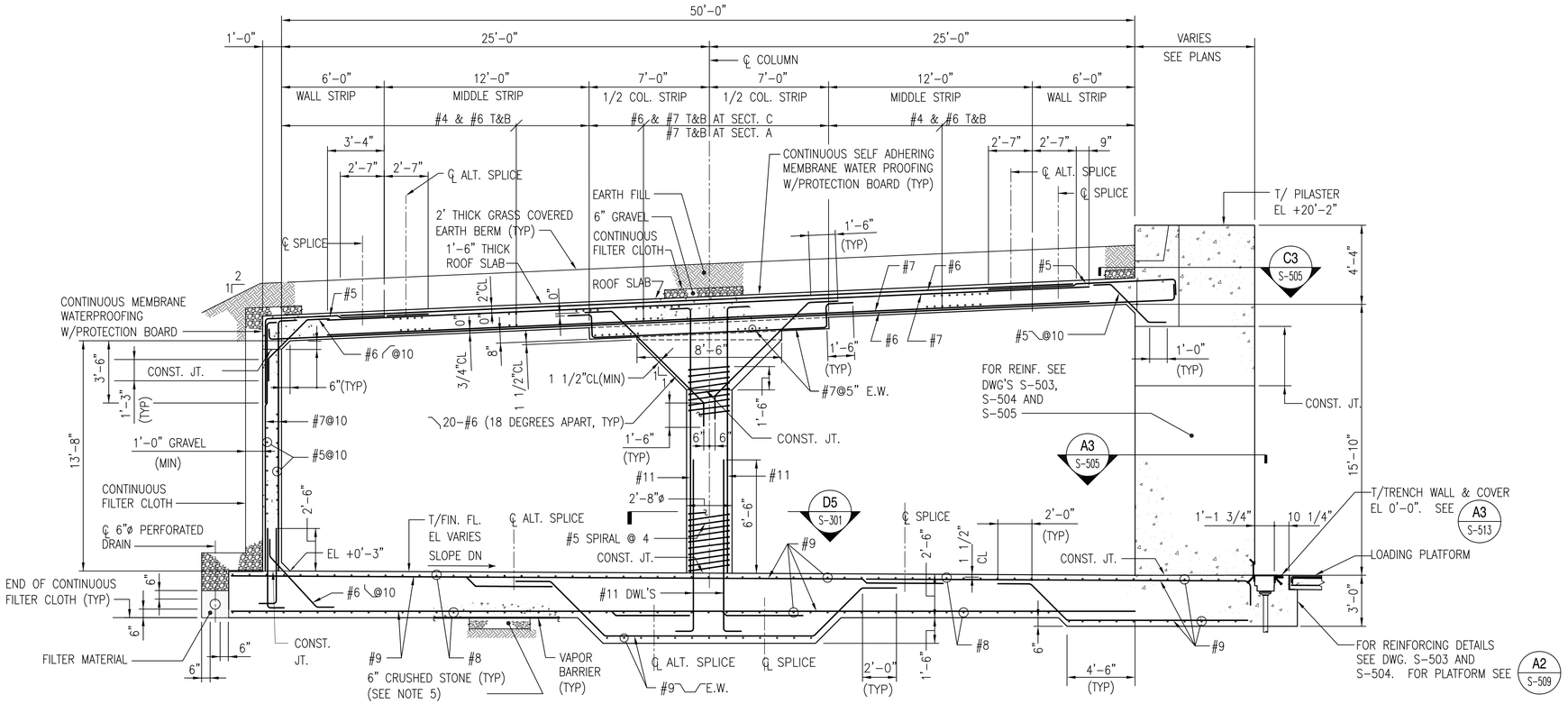
NAVFAC DRAWING NO.
14021410

SHEET 5 OF 38

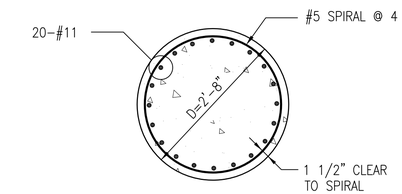
S-104

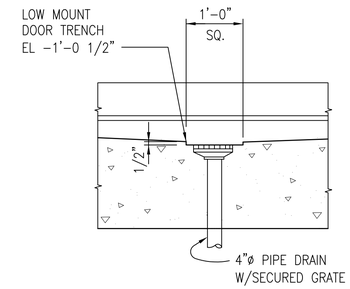
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-104 PLOTTED: Wednesday, September 26, 2012 - 10:00am

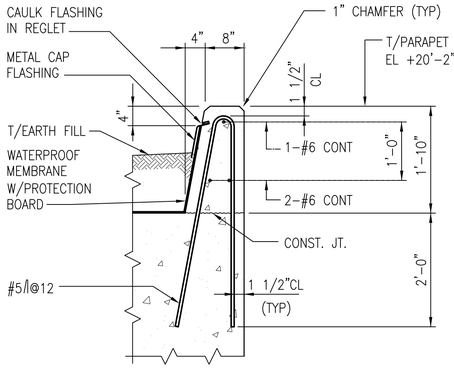


SECTION
SCALE: 3/4"=1'-0" S-301, S-302 D5



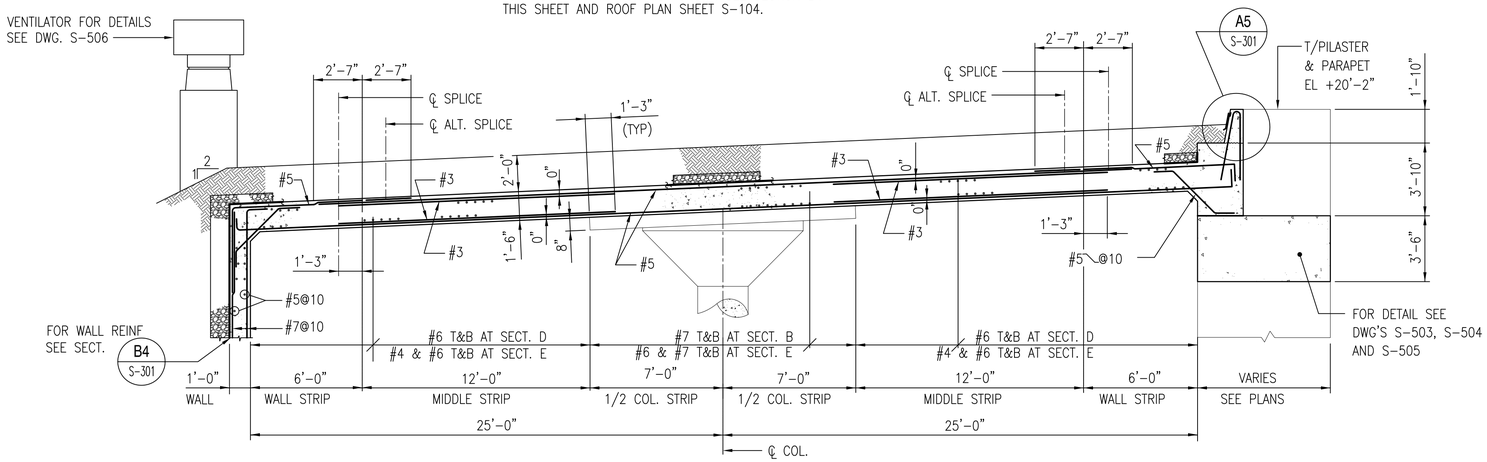


DETAIL
SCALE: 3/4"=1'-0" S-101, S-103, S-304, S-503 C5



DETAIL
SCALE: 3/4"=1'-0" S-301 A5

SECTION (COLUMN STRIP)
SCALE: 1/4"=1'-0" S-101, S-102, S-104, S-301 B4



SECTION (TYPICAL FOR WALL & MIDDLE STRIPS)
SCALE: 1/4"=1'-0" S-104 A4

NOTES:
1. FOR ROOF SLAB REINFORCING SEE DRAWING S-104.
2. FOR FLOOR SLAB REINFORCING SEE DRAWING S-102.
3. FOR ADDITIONAL REINFORCING AT TRENCH SEE DRAWINGS S-503 AND S-504.
4. FOR REQUIRED SPLICING OF WALL REINFORCING SEE DRAWING S-502.
5. DELETE CRUSHED STONE WHEN A MINIMUM OF 2'-0" OF STRUCTURAL FILL IS PROVIDED.
6. FOR ALTERNATE SUBSURFACE DRAINAGE SYSTEM, SEE DRAWING S-502.

GRAPHIC SCALE:

3/4"=1'-0" 1' 6" 0' 1' 2' 3' 4'

1/4"=1'-0" 1' 0' 1' 5' 10' 15'

APPR | DATE | DESCRIPTION | SYM

NAVFAC

SEAL

A/E INFO

APPROVED
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/DM

BRANCH MANAGER RCK

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

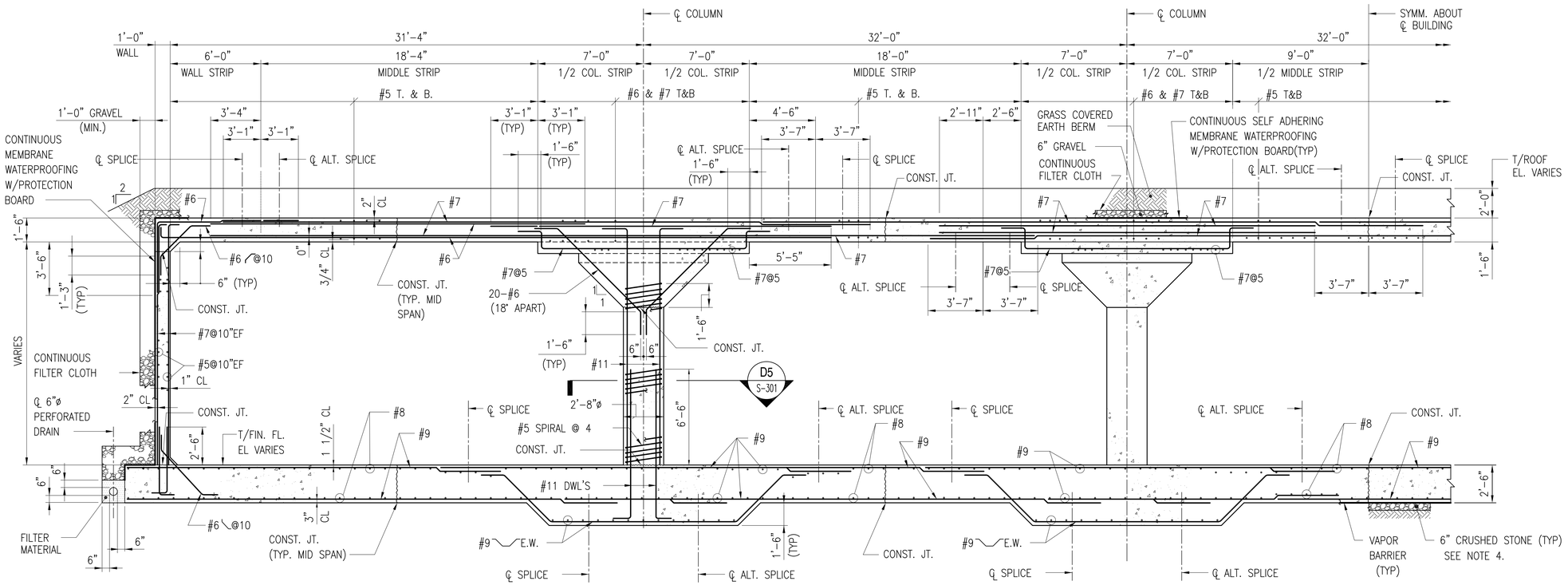
SECTIONS AND DETAILS

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
14021411
SHEET 6 OF 38

S-301

DRAWFORM REVISION: 10 MARCH 2009

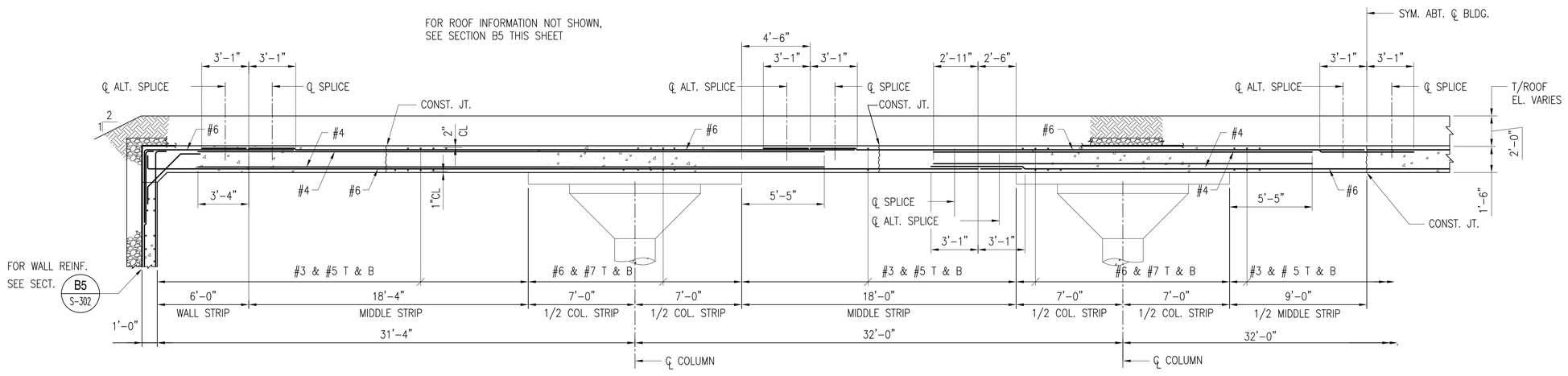
FILE NAME: J:\CISE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-301 PLOTTED: Monday, September 24, 2012 - 3:14pm



SECTION (COLUMN STRIP)

SCALE: 1/4" = 1'-0"

S-101, S-102, S-104, S-302 — B5



SECTION (TYPICAL FOR WALL & MIDDLE STRIPS)

SCALE: 1/4" = 1'-0"

S-104 — A5

NOTES:

1. FOR ROOF SLAB REINFORCING SEE DRAWING S-104.
2. FOR FLOOR SLAB REINFORCING SEE DRAWING S-102.
3. FOR ADDITIONAL REINFORCING AT TRENCH SEE DRAWINGS S-503 AND S-504.
4. FOR WALL REINFORCING SPLICING REQUIREMENTS, SEE DRAWING S-502.
5. DELETE CRUSHED STONE WHEN A MINIMUM OF 2'-0" OF STRUCTURAL FILL IS PROVIDED.
6. FOR ALTERNATE SUBSURFACE DRAINAGE SYSTEM SEE DRAWING S-502.

GRAPHIC SCALE:

1/4"=1'-0" 1' 0' 1' 5' 10' 15'

APPR | DATE | DESCRIPTION | SYM

NAVFAC

SEAL

A/E INFO

APPROVED
R. B. F. III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK
PM/DM		
BRANCH MANAGER	R.C.K.	
CHIEF ENG/ARCH	EJG	
FIRE PROTECTION		

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

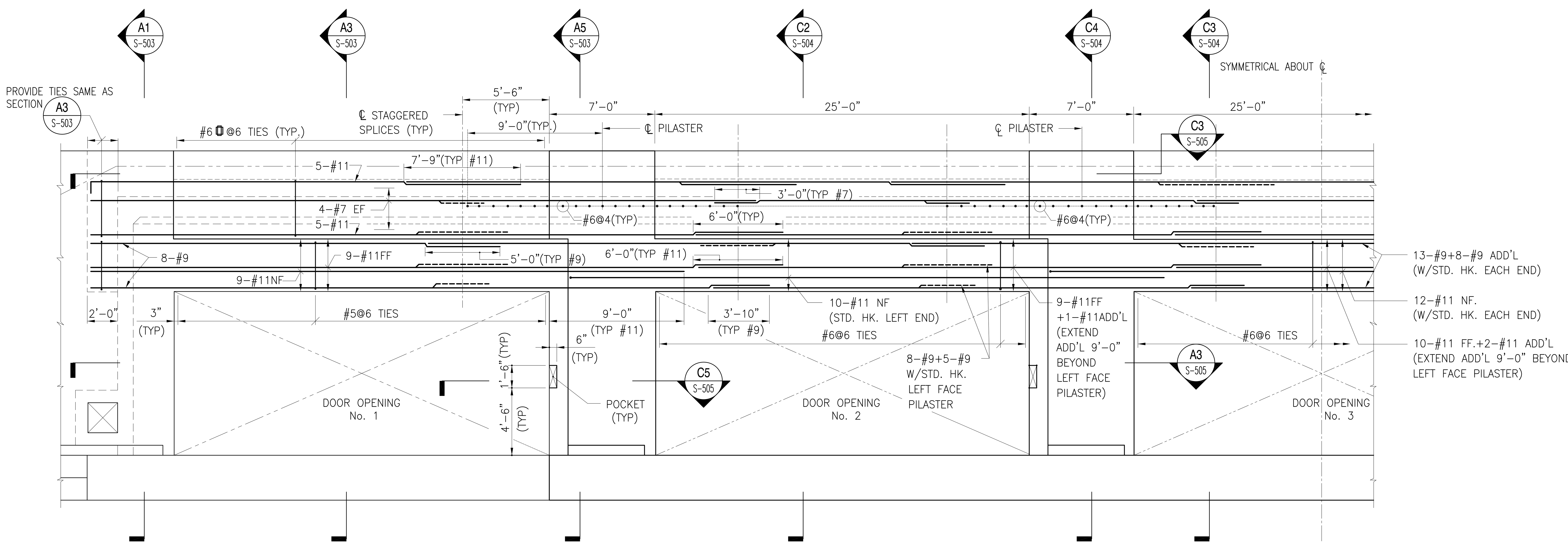
SECTIONS

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 14021412
SHEET 7 OF 38

S-302

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CSE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-302 PLOTTED: Wednesday, September 26, 2012 - 10:02am



PARTIAL HEAD WALL ELEVATION

SCALE: 1/4" = 1'-0"

A4 S-104, S-503

NOTES:

1. FOR RETAINING WALL REINFORCEMENT SEE RETAINING WALL ELEVATION AND SECTION DRAWINGS.
2. FOR STAGGERED SPLICES:
   BAR SPLICE INDICATED THUS
   ALTERNATE BAR SPLICE INDICATED THUS
3. ALL PILASTERS SHALL BE PLUMB, ALLOWABLE DEVIATION FROM THE VERTICAL SHALL NOT EXCEED 1/4" PER 10'-0" VERTICAL HEIGHT.

GRAPHIC SCALE:

1/4"=1'-0" 1' 0' 1' 5' 10' 15'

NAVFAC

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FOR COMMANDER NAVFAC 9/28/12

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
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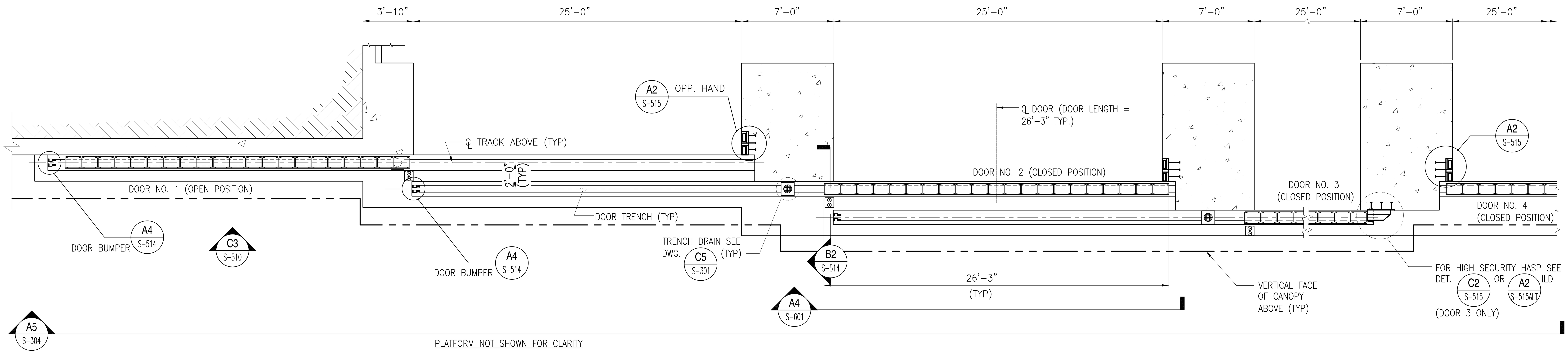
NORFOLK, VIRGINIA
LANT CAPITAL IMPROVEMENTS

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

HEADWALL/DOOR ELEVATION

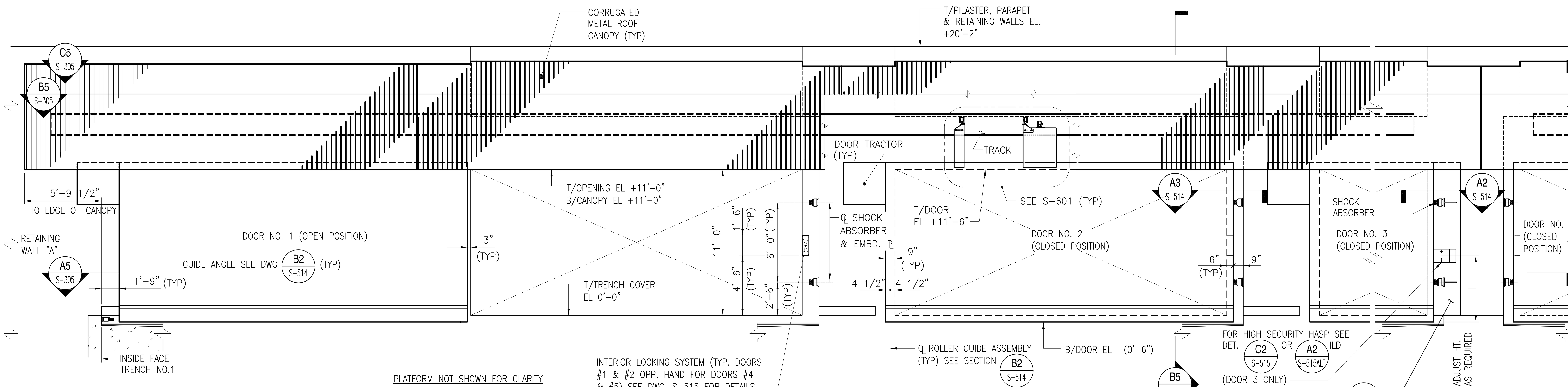
BRANCH MANAGER RCK
CHIEF ENG/ARCH EJG

SCALE: AS NOTED
NAVFAC DRAWING NO. 14021413
SHEET 8 OF 38
S-303



PARTIAL PLAN OF SLIDING DOORS

SCALE: 1/4" = 1'-0"



PARTIAL FRONT WALL ELEVATION

SCALE: 1/4" = 1'-0"

A5 S-304

NOTES:

1. DOOR #4 AND DOOR #5 ARE OPPOSITE HAND. SEE DWG. S-101 FOR ORIENTATION.
2. ANGLES AROUND OPENINGS OMITTED FOR CLARITY.
3. FOR DOOR DETAILS SEE DWG. S-510.
4. FOR DOOR TRACTOR ASSEMBLY SEE DWG'S S-601, S-602 AND S-603.
5. FOR DOOR SHOCK ABSORBERS OPERATING REQUIREMENTS SEE DWG. S-514.
6. FOR BRUSH WEATHERSTRIP AROUND DOOR OPENING SEE DETAIL A5 S-512 AND SECTION B2 S-512

NOTES TO DESIGNER – REMOVE NOTES REFERING TO LOCK MECHANISM C2 OR A2 ON DOOR 3 WHEN PREPARING CONSTRUCTION DRAWINGS FOR SITE ADAPTATION OF THIS DESIGN

1. SHEETS S-515 & S-515(ALT) IDENTIFY DIFFERENT LOCKING SYSTEMS. THE EOR SHALL VERIFY THE CORRECT LOCKING SYSTEM REQUIRED AND REMOVE THE REDUNDANT SHEET FROM THE CONSTRUCTION CONTRACT DOCUMENTS FOR THE SYSTEM NOT USED (COORDINATE WITH CONTRACTING OFFICER).

GRAPHIC SCALE:

1/4"=1'-0" 1' 0' 1' 5' 10' 15'

NAVFAC

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NORFOLK, VIRGINIA
LANT CAPITAL IMPROVEMENTS

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

EXTERIOR HEADWALL PLAN AND ELEVATION

APPROVED FOR COMMANDER NAVFAC 9/28/12

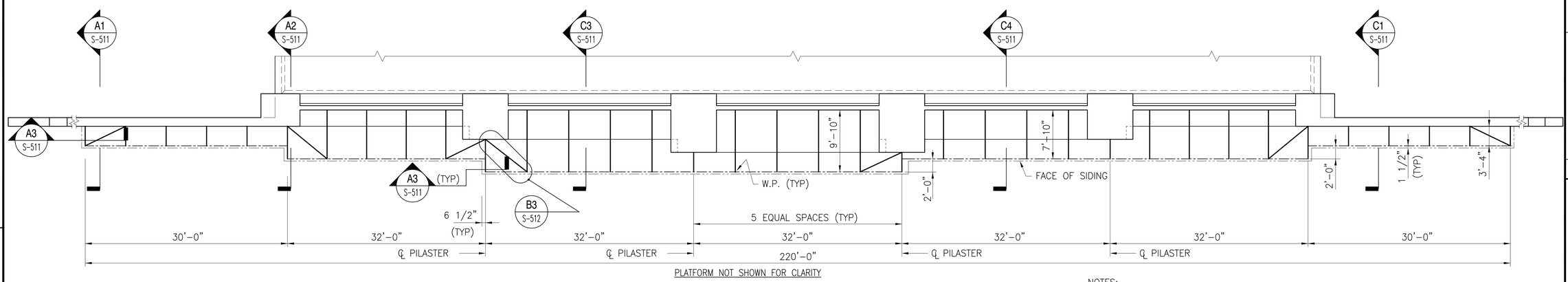
BRANCH MANAGER RCK
CHIEF ENG/ARCH EJG

SCALE: AS NOTED

NAVFAC DRAWING NO. 14021414

SHEET 9 OF 38

S-304



PLATFORM NOT SHOWN FOR CLARITY

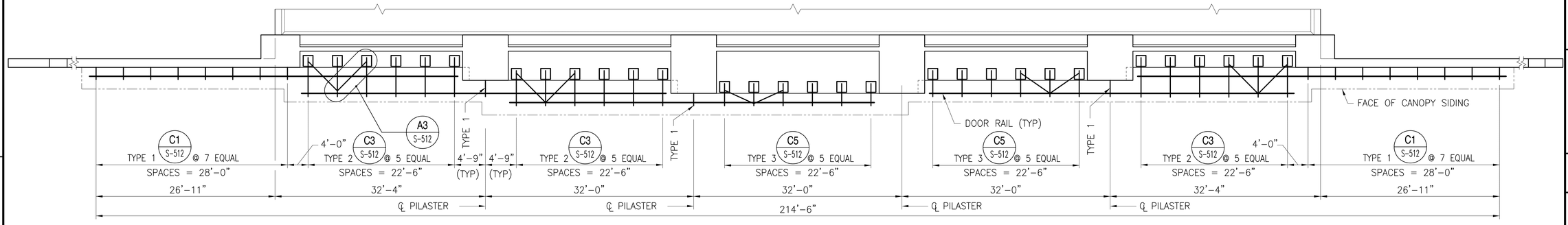
PLAN SECTION - CANOPY SUPPORT FRAMES

SCALE: 1/8" = 1'-0"

NOTES:

1. FOR CANOPY SUPPORT FRAMES SEE DWG. S-511.

S-304 C5



PLATFORM NOT SHOWN FOR CLARITY

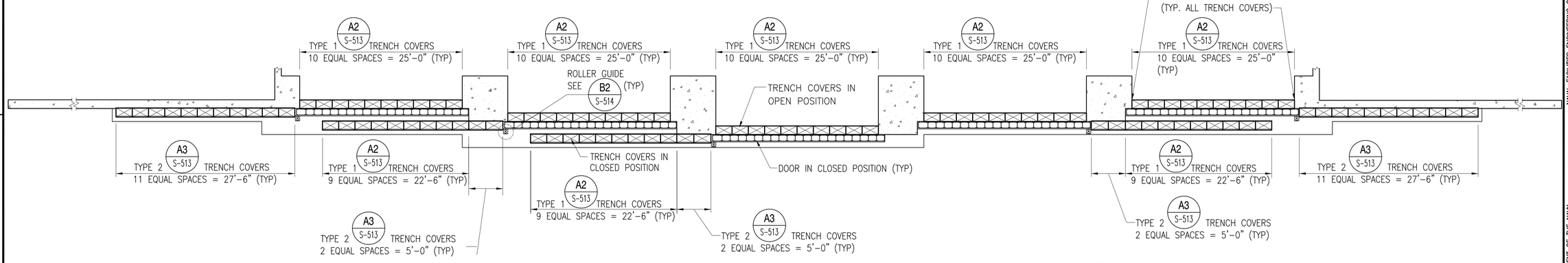
PLAN SECTION - DOOR RAIL SUPPORT BEAMS

SCALE: 1/8" = 1'-0"

NOTES:

1. FOR DOOR RAIL SUPPORT BEAMS SEE DWG. S-512.

S-304 B5



PLATFORM NOT SHOWN FOR CLARITY

PLAN SECTION - DOOR TRENCH COVERS

SCALE: 1/8" = 1'-0"

NOTES:

1. FOR TRENCH COVER AND ROLLER GUIDE SEE DWG. S-513 AND S-514.

S-304 A5

GRAPHIC SCALE:

1/8"=1'-0" 0' 5' 10' 20' 30'

APPR	DATE	DESCRIPTION	SYM

NAVFAC

SEAL

A/E INFO

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FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/OM

BRANCH MANAGER RCK

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

PLAN SECTIONS, CANOPY, RAIL SUPPORTS, TRENCH COVERS

SCALE: AS NOTED

EPROJECT NO.:

CONSTR. CONTR. NO.

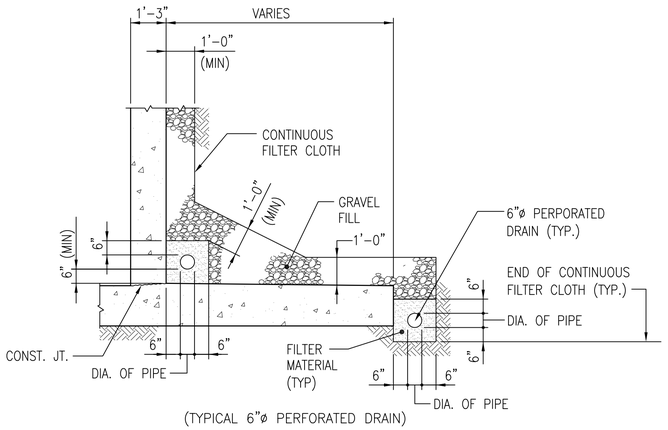
NAVFAC DRAWING NO.
14021415

SHEET 10 OF 38

S-305

DRAWFORM REVISION: 10 MARCH 2009

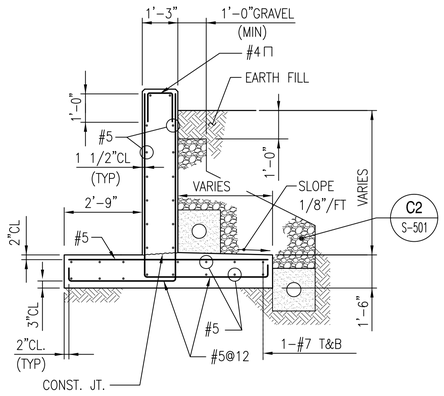
FILE NAME: J:\CIGE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-305 PLOTTED: Wednesday, September 26, 2012 - 10:07am



(TYPICAL 6"ø PERFORATED DRAIN)

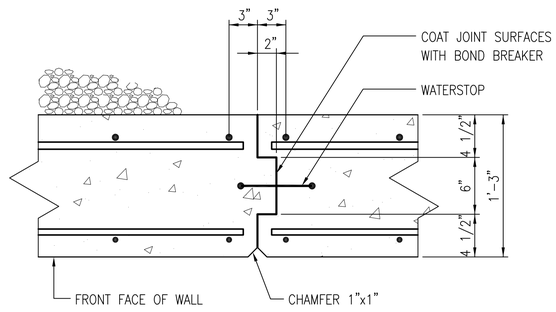
DETAIL (TYPICAL 6" ø PERFORATED DRAIN) C2

SCALE: 3/8" = 1'-0" S-501



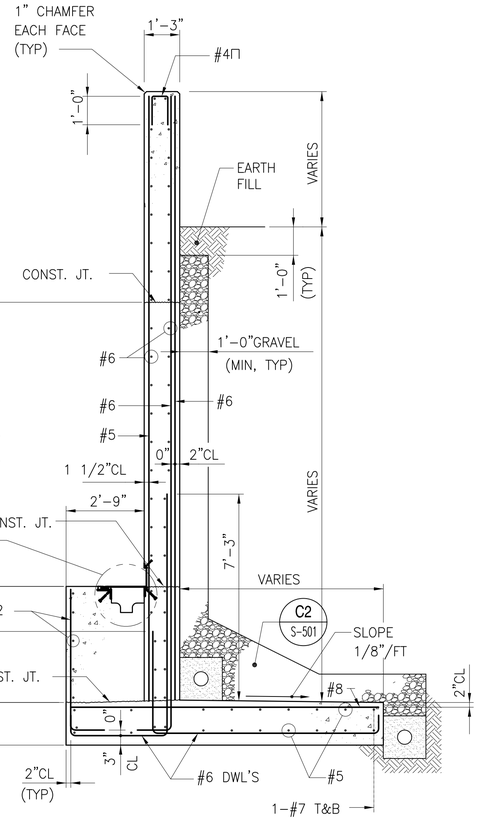
SECTION C3

SCALE: 3/8" = 1'-0" S-103



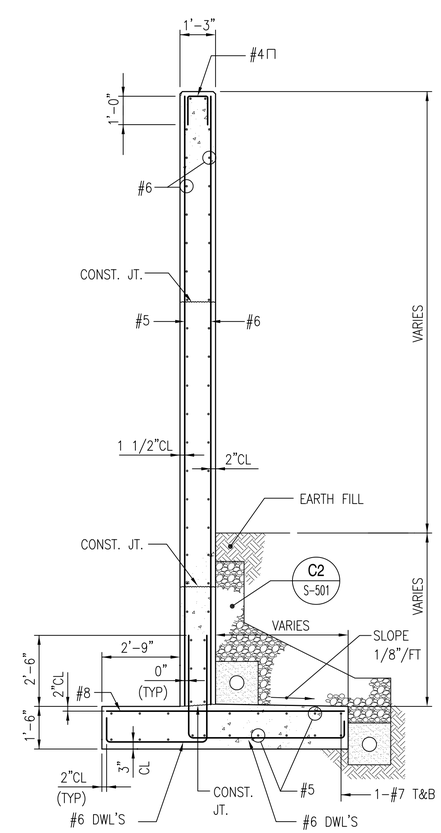
SECTION C4

SCALE: 1 1/2" = 1'-0" S-103



SECTION A2

SCALE: 3/8" = 1'-0" S-103



SECTION A3

SCALE: 3/8" = 1'-0" S-103

NOTES:
FOR ALL ALTERNATE EARTH FILL DRAINAGE SYSTEM
SEE DWG. S-502.

GRAPHIC SCALE:

3/8"=1'-0" 1' 0 1' 5' 10'

1-1/2"=1'-0" 1' 9" 6" 3" 0' 1' 2'

NO.	DESCRIPTION	DATE	APPR

NAVFAC

A/E INFO

APPROVED
R. B. [illegible] III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK
PM/DM		
BRANCH MANAGER	Rck	
CHIEF ENG/ARCH	EJG	
FIRE PROTECTION		

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

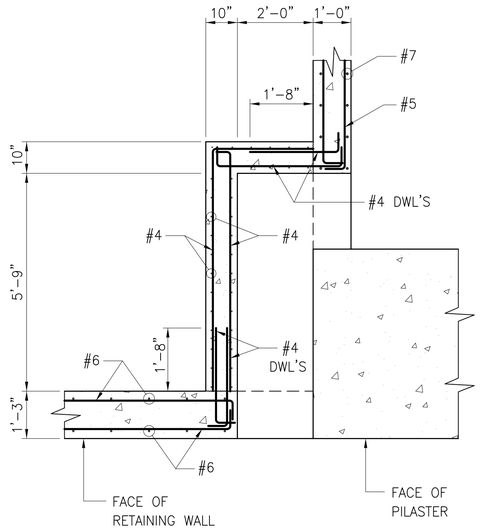
RETAINING WALL DETAILS

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
14021416
SHEET 11 OF 38

S-501

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-501 PLOTTED: Wednesday, September 26, 2012 - 10:09am



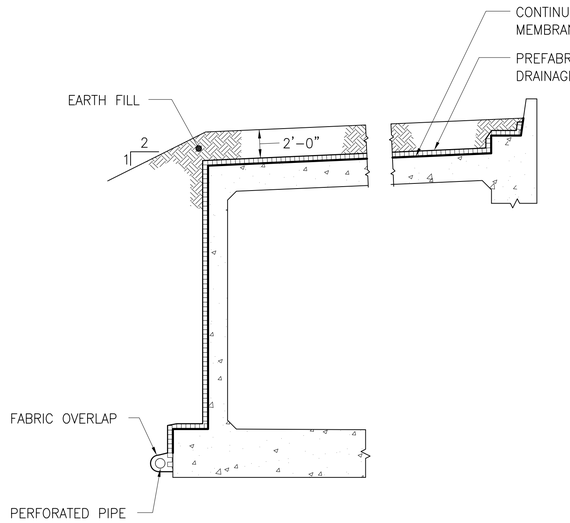
NOTE: FOR LOUVER & SECURITY GRILLE DETAILS SEE DWG. S-507.

PARTIAL PLAN - AIR INTAKE

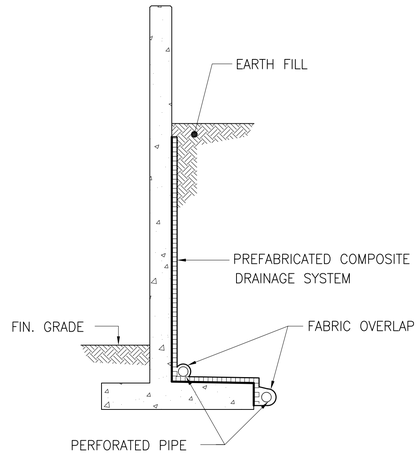
SCALE: 1/2" = 1'-0" S-101, S-507 C1

IN LIEU OF SUBSERFACE DRAINAGE SYSTEM (GRANULAR FILL, FILTER FABRIC, PERFORATED DRAIN) AND THE PROTECTION BOARD FOR THE CONTINUOUS MEMBRANE WATERPROOFING INDICATED, THE CONTRACTOR MAY PROVIDE THE OPTIONAL SUBDRAINAGE SYSTEM CONSISTING OF PERFORATED DRAIN AND GRANULAR FILL, WATERPROOFING MEMBRANE, PREFABRICATED DRAINAGE BOARD OR MAT, AND FILTER FABRIC. PROTECTION BOARD IS ACCEPTABLE OVER THE WATERPROOFING MEMBRANE IF REQUIRED BY THE MEMBRANE MANUFACTURER AT THE MAGAZINE WALLS AND TOP OR/AND AT THE RETAINING WALLS FOR THE MAGAZINE AS DETAILED BELOW. THE LOCATION, GRADES, AND MATERIALS SHOWN FOR DOWNSLOPE PIPING (DRAINAGE AND FILTER FABRIC/FILL MATERIAL) INTO WHICH THE PREFABRICATED DRAINAGE SYSTEM CONNECTS SHALL NOT VARY FROM THAT INDICATED. THE OPTIONAL PREFABRICATED DRAINAGE SYSTEMS LISTED BELOW ARE ACCEPTABLE FOR USE. A COMPLETE SET OF SHOP DRAWINGS, ALONG WITH THE MANUFACTURER'S PRODUCT LITERATURE, THICKNESS CALCULATIONS, AND INSTALLATION INSTRUCTIONS SHALL BE SUBMITTED TO THE CONTRACTING OFFICER FOR APPROVAL:

GEOFAB	BY	MERCANTILE DEVELOPMENT INC.
ENKADRAIN	BY	AMERICAN ENKA CO.
STRIPDRAIN	BY	ARMCO CONSTRUCTION PRODUCTS
MIRADRAIN	BY	MIRAFI INC.
GEOTECH	BY	GEOTECH SYSTEM CORP.



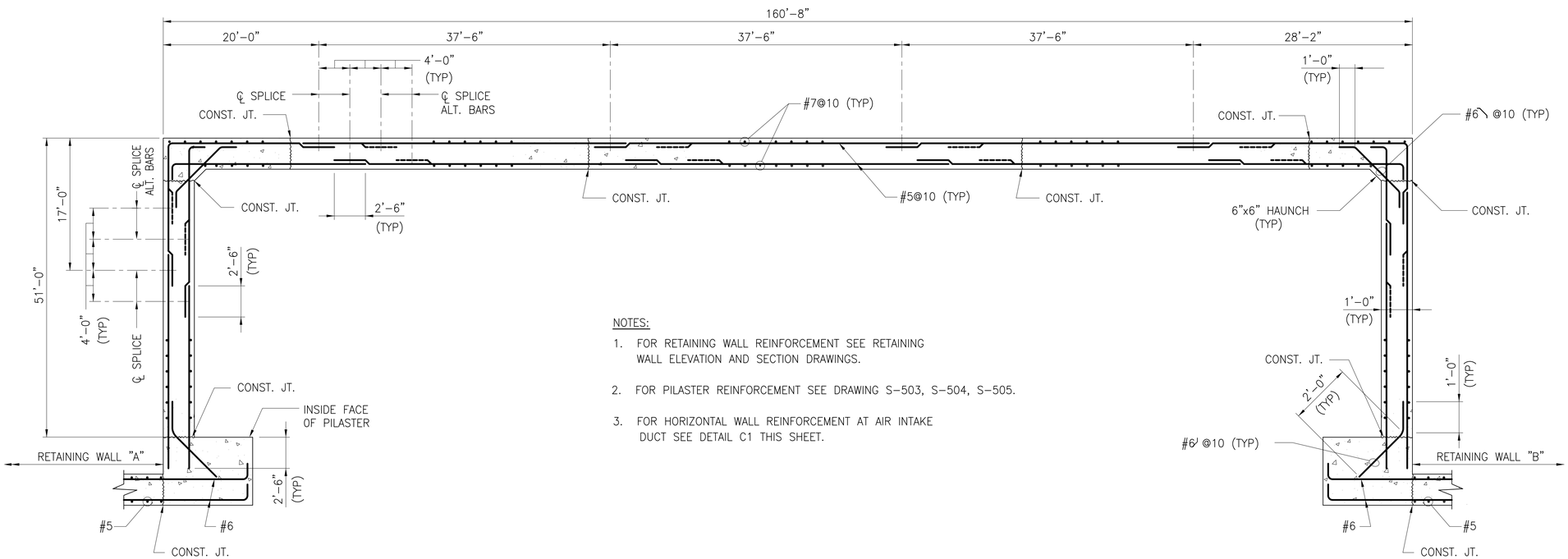
BUILDING ROOF AND WALLS



RETAINING WALLS

ALTERNATE SUBSURFACE DRAINAGE SYSTEM

SCALE: 3/16" = 1'-0" S-301, S-302, S-501 C5



NOTES:

1. FOR RETAINING WALL REINFORCEMENT SEE RETAINING WALL ELEVATION AND SECTION DRAWINGS.
2. FOR PILASTER REINFORCEMENT SEE DRAWING S-503, S-504, S-505.
3. FOR HORIZONTAL WALL REINFORCEMENT AT AIR INTAKE DUCT SEE DETAIL C1 THIS SHEET.

REQUIRED SPLICING OF HORIZONTAL WALL REINFORCEMENT

N.T.S. S-301, S-302 A4

GRAPHIC SCALE:

1/2"=1'-0" 1' 0' 1' 2' 3' 4' 5'

3/16"=1'-0" 0' 5' 10' 20'

APPR	DATE	DESCRIPTION	SYM

SEAL

A/E INFO

APPROVED
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK
PM/DM		
BRANCH MANAGER	Rck	
CHIEF ENG/ARCH	EJG	
FIRE PROTECTION		

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

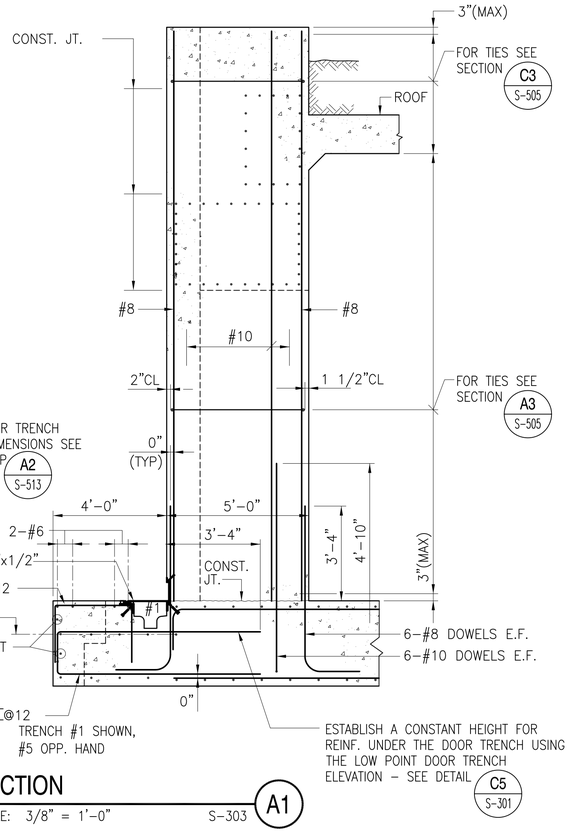
SECTIONS AND DETAILS

SCALE:	AS NOTED
EPROJECT NO.:	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	14021417
SHEET	12 OF 38

S-502

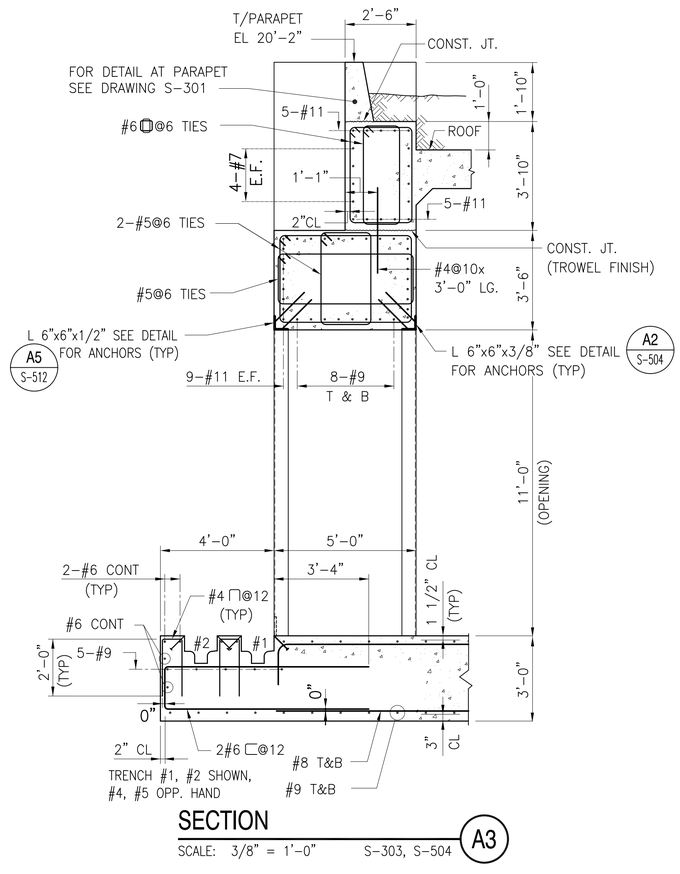
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-502 PLOTTED: Wednesday, September 26, 2012 - 10:10am



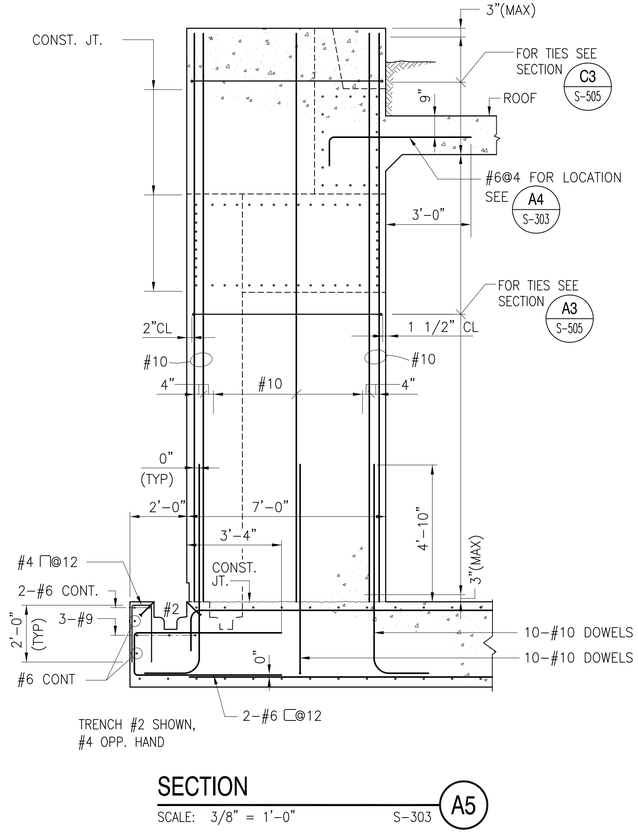
SECTION

SCALE: 3/8" = 1'-0" S-303 A1



SECTION

SCALE: 3/8" = 1'-0" S-303, S-504 A3



SECTION

SCALE: 3/8" = 1'-0" S-303 A5

NOTES:

1. FOR RETAINING WALL REINFORCEMENT SEE RETAINING WALL ELEVATION AND SECTION DRAWINGS ON SHEETS S-103 AND S-501.
2. FOR STAGGERED SPLICES:
   BAR SPLICE INDICATED THUS
   ALTERNATE BAR SPLICE INDICATED THUS
3. ALL PILASTERS SHALL BE PLUMB, ALLOWABLE DEVIATION FROM THE VERTICAL SHALL NOT EXCEED 1" PER 10'-0" VERTICAL HEIGHT.

GRAPHIC SCALE:

3/8"=1'-0" 1' 0 1' 5' 10'

APPR	DATE	DESCRIPTION	SYM

NAVFAC

SEAL

A/E INFO

APPROVED
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/DM

BRANCH MANAGER BCK

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

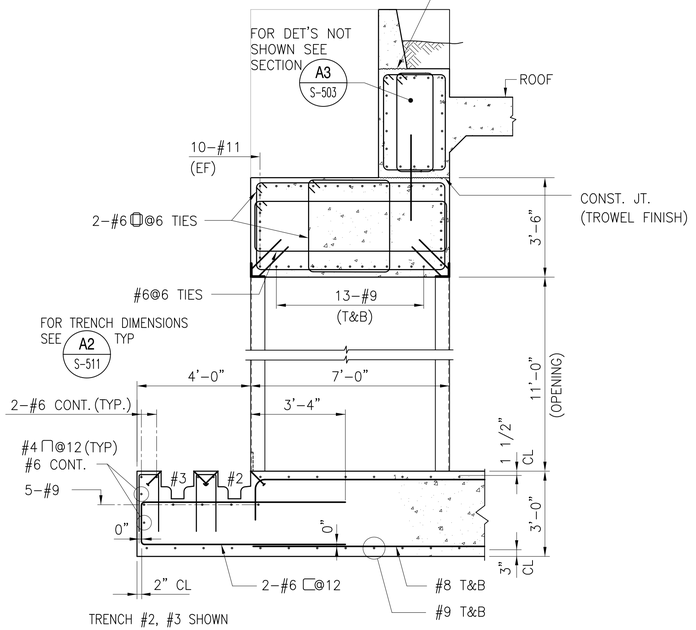
TYPE D BOX MAGAZINE WITH LOADING PLATFORM

HEAD WALL SECTIONS

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
14021418
SHEET 13 OF 38

S-503

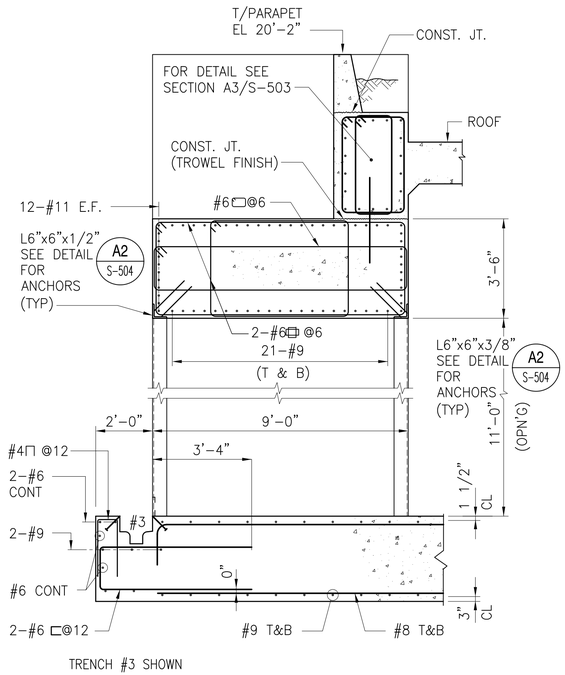
DRAWFORM REVISION: 10 MARCH 2009



TRENCH #2, #3 SHOWN

SECTION

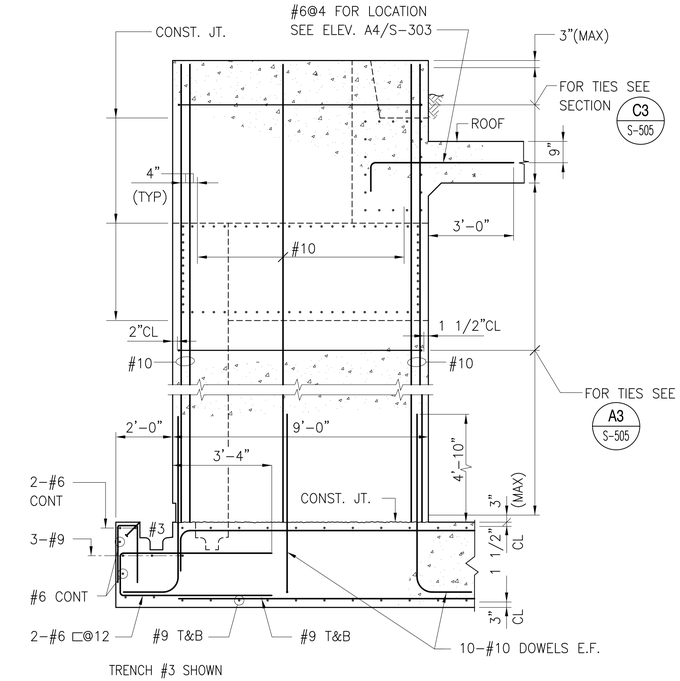
SCALE: 3/8" = 1'-0" S-303 C2



TRENCH #3 SHOWN

SECTION

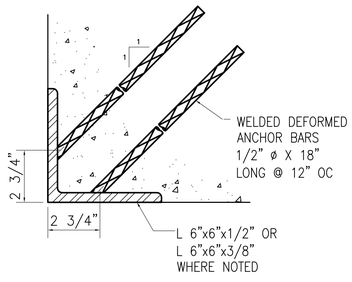
SCALE: 3/8" = 1'-0" S-303 C3



TRENCH #3 SHOWN

SECTION

SCALE: 3/8" = 1'-0" S-303 C4



DETAIL

SCALE: 3" = 1'-0" S-503, S-504, S-505, S-512 A2

GRAPHIC SCALE:

3"=1'-0" 1' 9" 6" 3" 0"

3/8"=1'-0" 1' 0 1' 5' 10'

APPR	DATE	DESCRIPTION	SYM

NAVFAC

SEAL

A/E INFO

APPROVED
R. B. F. III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/DM

BRANCH MANAGER RCK

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
LANT CAPITAL IMPROVEMENTS
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

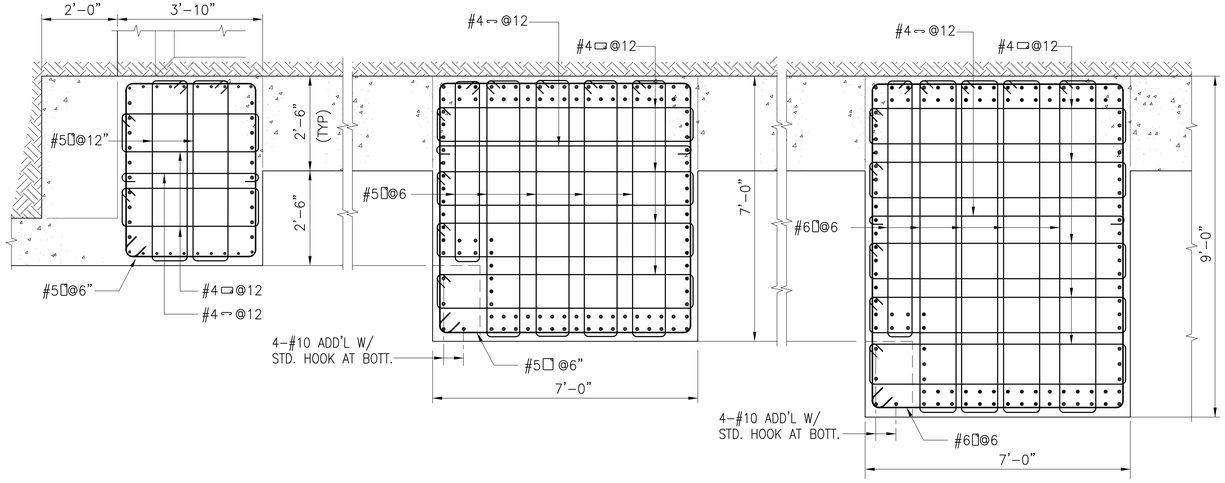
HEAD WALL SECTIONS

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
14021419
SHEET 14 OF 38

S-504

DRAWFORM REVISION: 10 MARCH 2009

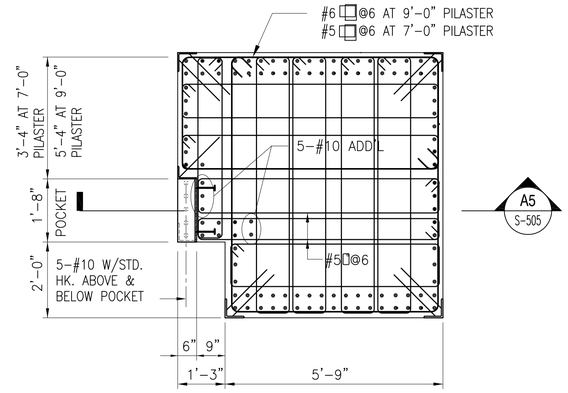
FILE NAME: J:\USE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-504 PLOTTED: Wednesday, September 26, 2012 - 10:13am



SECTION

SCALE: 1/2" = 1'–0"

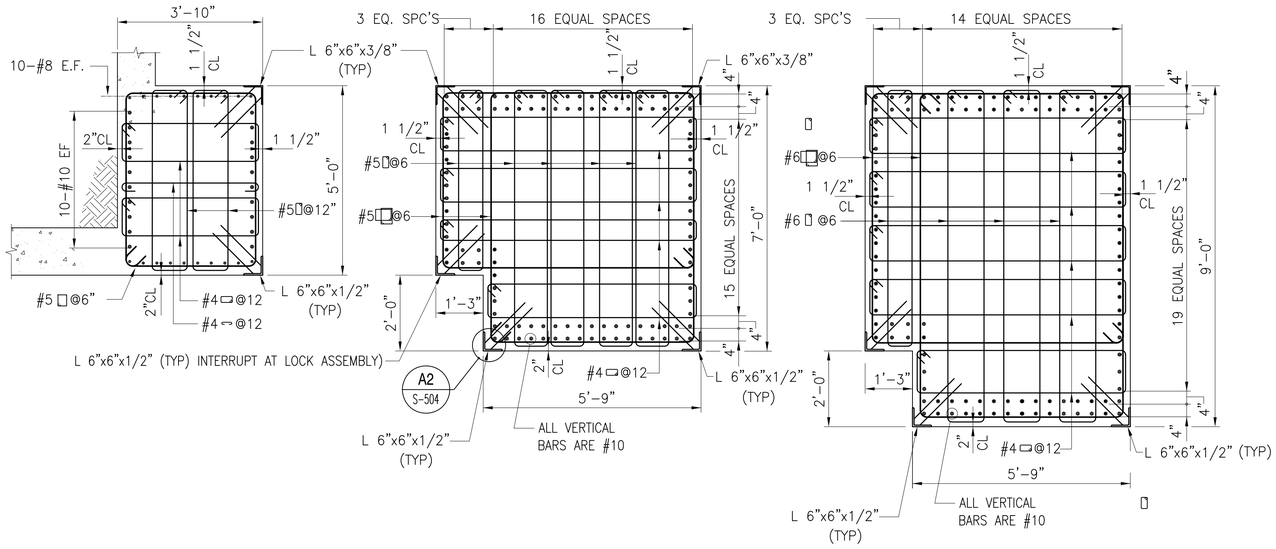
S–303, S–503, S–504 C3



SECTION

SCALE: 1/2" = 1'–0"

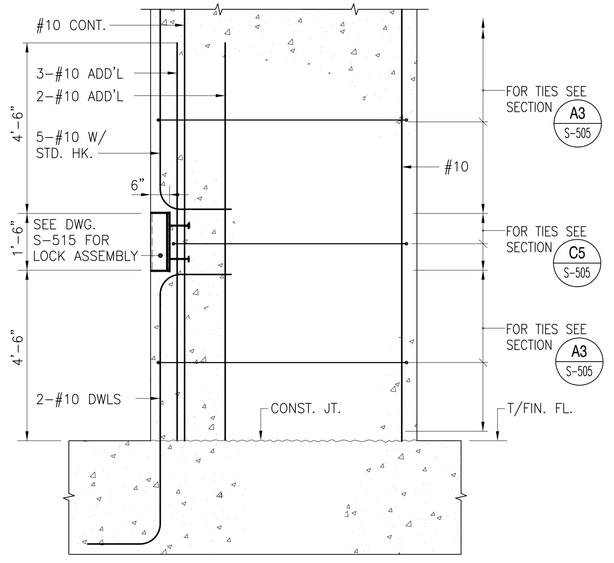
S–303 C5



SECTION

SCALE: 1/2" = 1'–0"

S–303, S–503, S–504, S–505 A3



SECTION

SCALE: 1/2" = 1'–0"

S–505 A5

GRAPHIC SCALE:

1/2"=1'–0" 1' 0' 1' 2' 3' 4' 5'

NO.	DESCRIPTION	DATE	APPR

A/E INFO

APPROVED
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/DM
BRANCH MANAGER RCK
CHIEF ENG/ARCH EJG
FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

HEAD WALL DETAILS

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 14021420
SHEET 15 OF 38

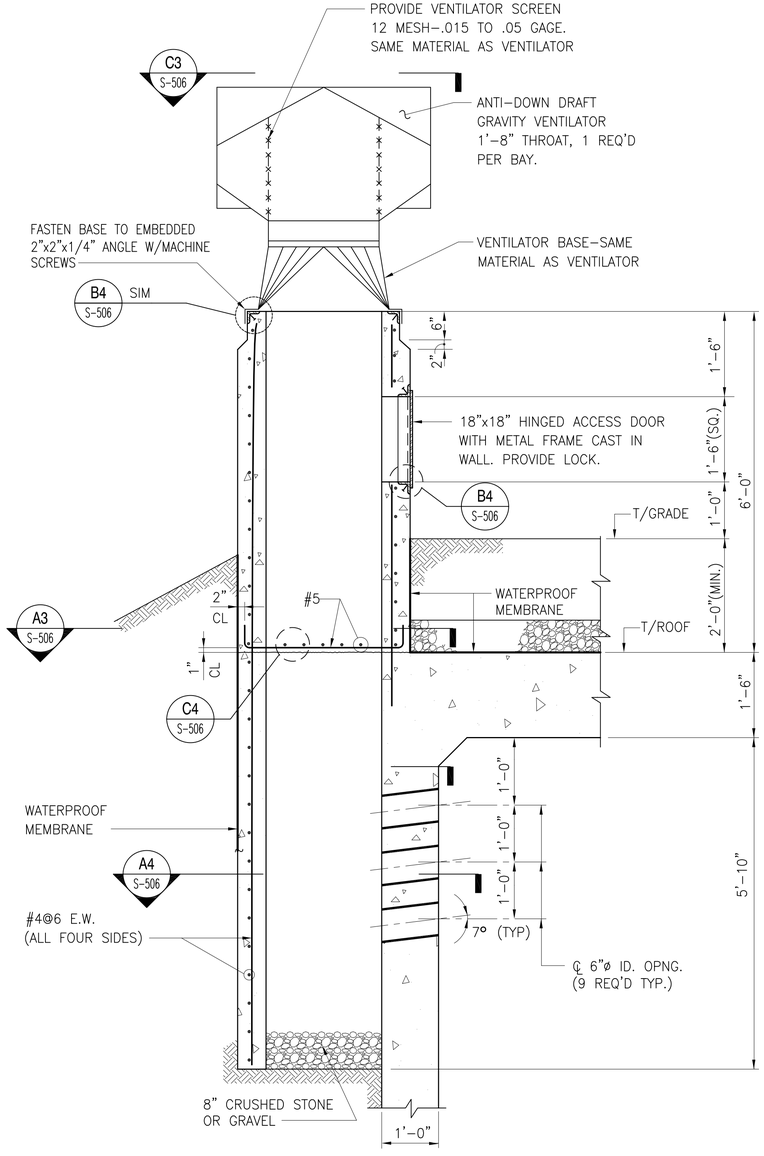
S-505

DRAWFORM REVISION: 10 MARCH 2009

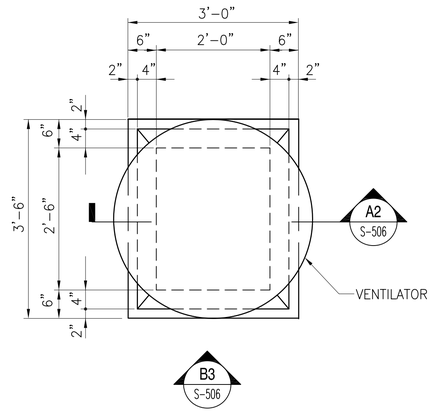
FILE NAME: J:\OSE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-505 PLOTTED: Wednesday, September 26, 2012 - 9:36am

NOTES

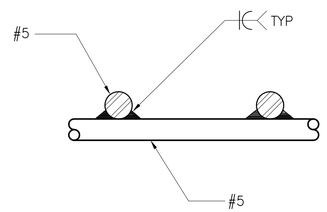
1. VENTILATOR SHALL BE DESIGNED BY THE CONTRACTOR FOR A SUSTAINED WIND SPEED OF 132 M.P.H.
2. REFER TO ELECTRICAL DRAWINGS FOR LIGHTNING ROD LOCATION ON VENTILATOR.
3. ALL MOVING PARTS SHALL BE NON-SPARKING TYPE.
4. GRAVITY VENTILATOR SHALL BE INTRINSICALLY SAFE.



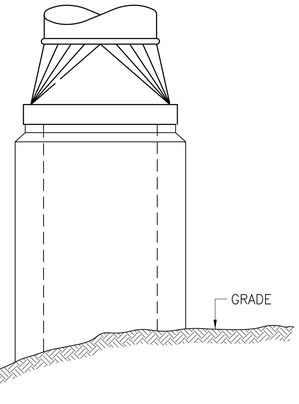
SECTION SCALE: 3/4" = 1'-0" S-104, S-301, S-506 **A2**



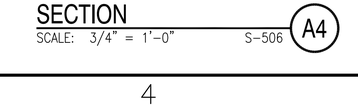
DETAIL SCALE: 3/4" = 1'-0" S-506 **C3**



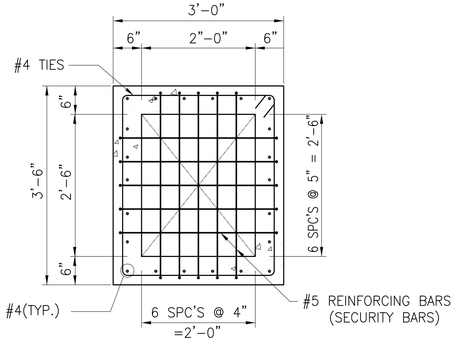
DETAIL SCALE: 6" = 1'-0" S-506 **C4**



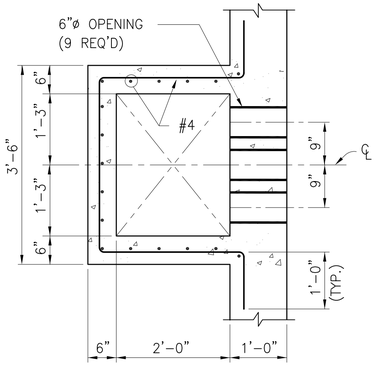
ELEVATION SCALE: 3/4" = 1'-0" S-506 **B3**



DETAIL SCALE: 3" = 1'-0" S-506 **B4**



SECTION SCALE: 3/4" = 1'-0" S-506 **A3**



SECTION SCALE: 3/4" = 1'-0" S-506 **A4**

GRAPHIC SCALE:

6"=1'-0" 6" 5" 4" 3" 2" 1" 0'

3"=1'-0" 1' 9" 6" 3" 0"

3/4"=1'-0" 1' 6" 0' 1' 2' 3' 4'

NO.	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

A/E INFO

APPROVED
R. B. [illegible] III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK
PM/DM		
BRANCH MANAGER	RCK	
CHIEF ENG/ARCH	EJG	
FIRE PROTECTION		

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

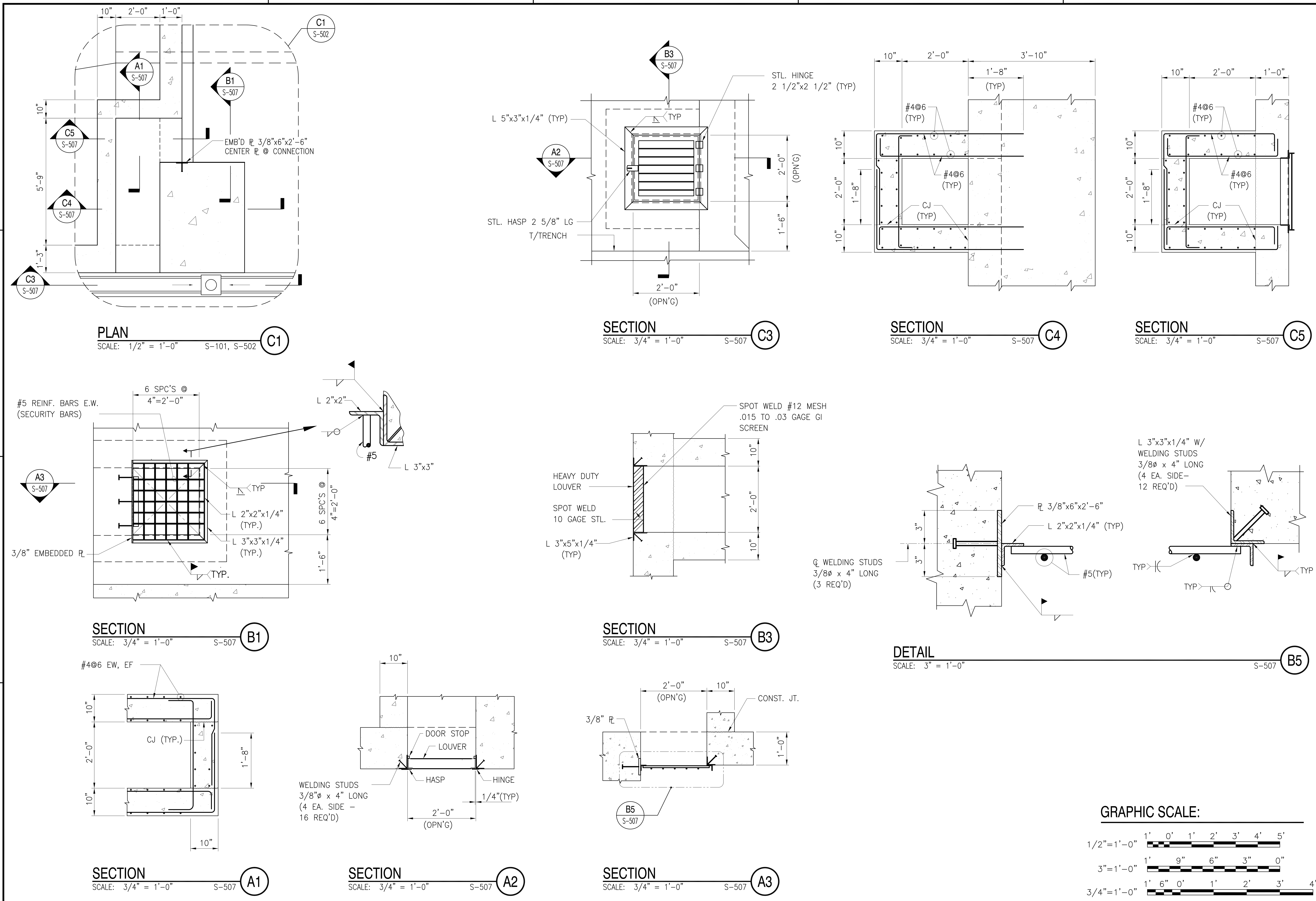
VENTILATOR DETAILS, SECTIONS AND ELEVATIONS

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
14021421
SHEET 16 OF 38

S-506

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-506 PLOTTED: Wednesday, September 26, 2012 - 10:15am



NAVFAC

APPROVED
FOR COMMANDER NAVFAC 9/28/12
ACTIVITY
SATISFACTORY TO
DES | DRW | CHK
PM/DM
BRANCH MANAGER RCK
CHIEF ENG/ARCH EJG
FIRE PROTECTION

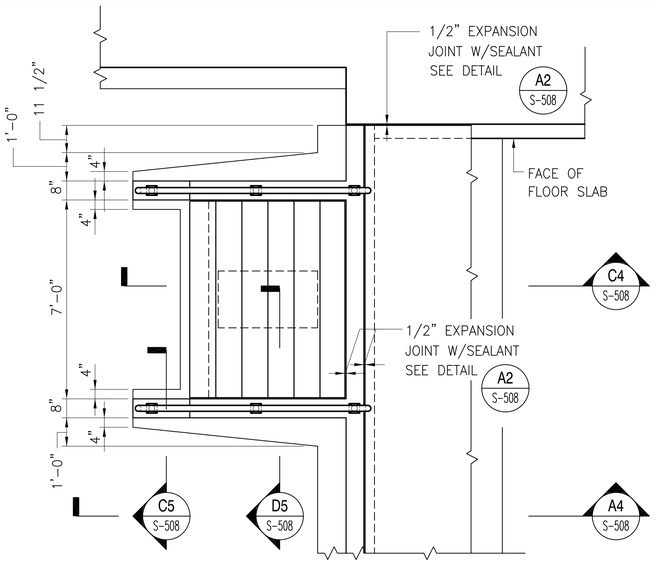
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA
LANT CAPITAL IMPROVEMENTS

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

AIR INTAKE SECTIONS AND DETAILS

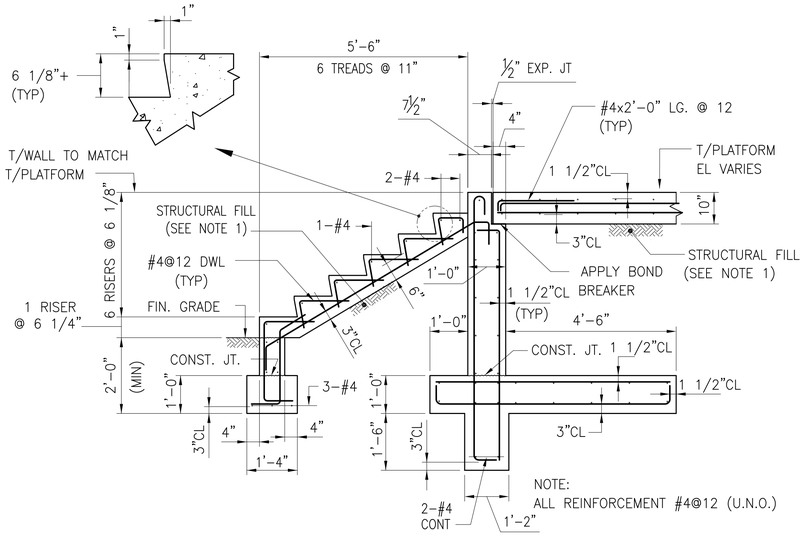
SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 14021422
SHEET 17 OF 38
S-507
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES – Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-507 PLOTTED: Wednesday, September 26, 2012 – 10:17am



PARTIAL PLAN - LOADING PLATFORM STAIRS

SCALE: 1/2" = 1'-0" S-101 C2

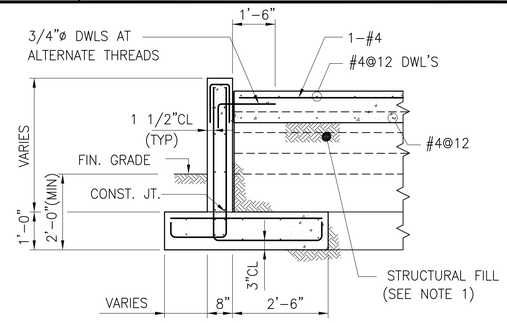


SECTION

SCALE: 1/2" = 1'-0" S-508 C4

NOTES:

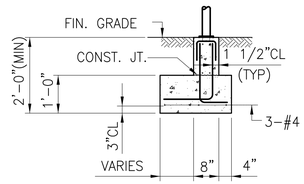
1. PROVIDE 6" CRUSHED STONE UNDER SLAB IF LESS THAN 2'-0" (MIN.) OF STRUCTURAL FILL IS PROVIDED.
2. DELETE CRUSHED STONE WHEN A MINIMUM OF 2'-0" OF OF STRUCTURAL FILL IS PROVIDED.



NOTE:
ALL REINFORCEMENT #4@12 (U.N.O.)

SECTION

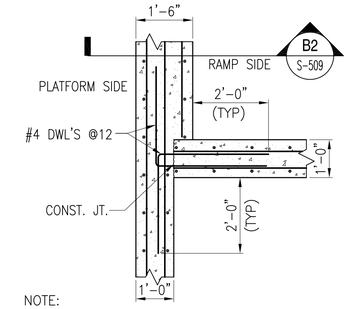
SCALE: 1/2" = 1'-0" S-508 D5



NOTE:
ALL REINFORCEMENT #4@12 (U.N.O.)

SECTION

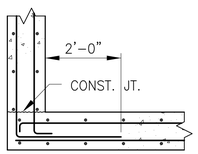
SCALE: 1/2" = 1'-0" S-508 C5



NOTE:
ALL REINFORCEMENT #4@12 (U.N.O.)

DETAIL

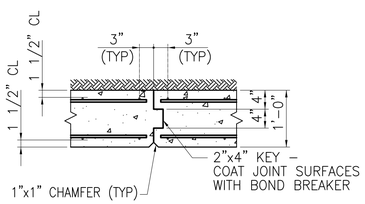
SCALE: 1/2" = 1'-0" S-101 B1



NOTE:
ALL REINFORCEMENT #4@12 (U.N.O.)

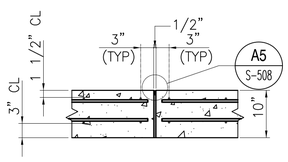
DETAIL

SCALE: 1/2" = 1'-0" S-101 B2



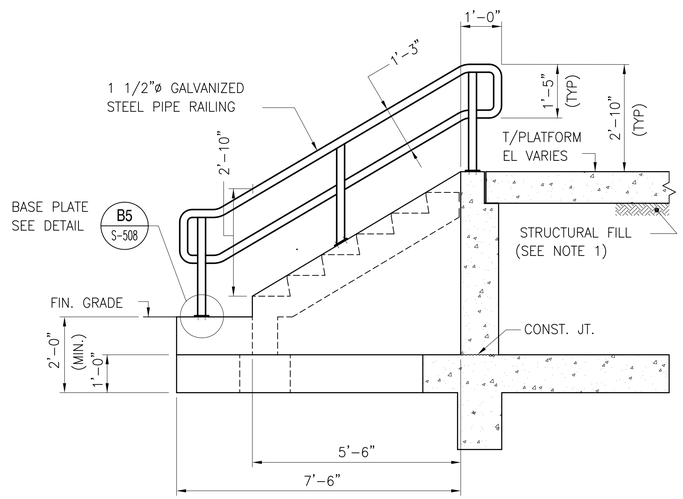
DETAIL

SCALE: 3/4" = 1'-0" S-101 A1



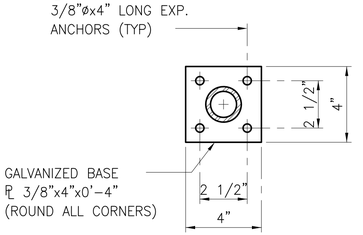
DETAIL

SCALE: 3/4" = 1'-0" S-101, S-508 A2



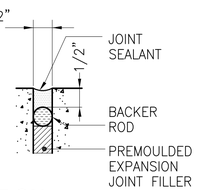
SECTION

SCALE: 1/2" = 1'-0" S-508 A4



DETAIL

SCALE: 3" = 1'-0" S-508 B5



SECTION

SCALE: 6" = 1'-0" S-508 A5

GRAPHIC SCALE:

6"=1'-0" 6" 5" 4" 3" 2" 1" 0'

3"=1'-0" 1' 9" 6" 3" 0"

1/2"=1'-0" 1' 0' 1' 2' 3' 4' 5'

3/4"=1'-0" 1' 6" 0' 1' 2' 3' 4'

APPR | DATE | DESCRIPTION | SYM

SEAL

A/E INFO

APPROVED
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/DM

BRANCH MANAGER RCK

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

LOADING PLATFORM DETAILS

SCALE: AS NOTED

EPROJECT NO.:

CONSTR. CONTR. NO.

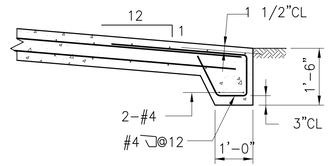
NAVFAC DRAWING NO.
14021423

SHEET 18 OF 38

S-508

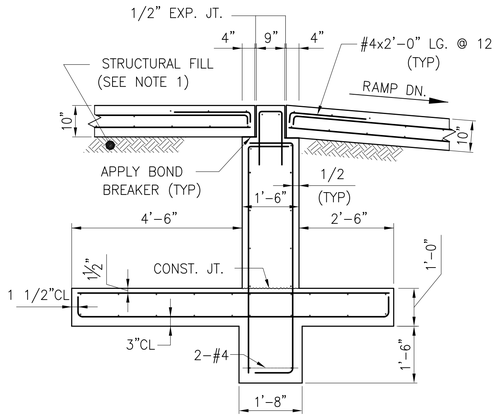
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-508 PLOTTED: Wednesday, September 26, 2012 - 10:20am



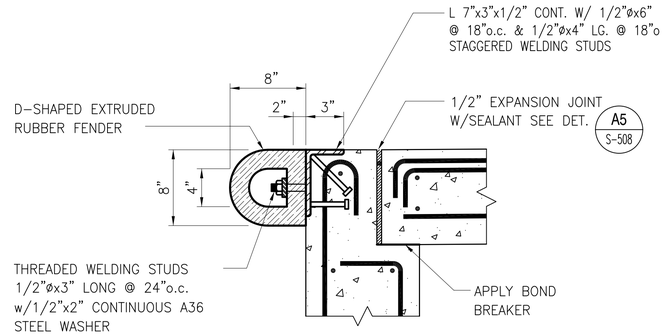
NOTE:
ALL REINFORCEMENT #4@12 (U.N.O.)

SECTION
SCALE: 1/2" = 1'-0" S-101 D2

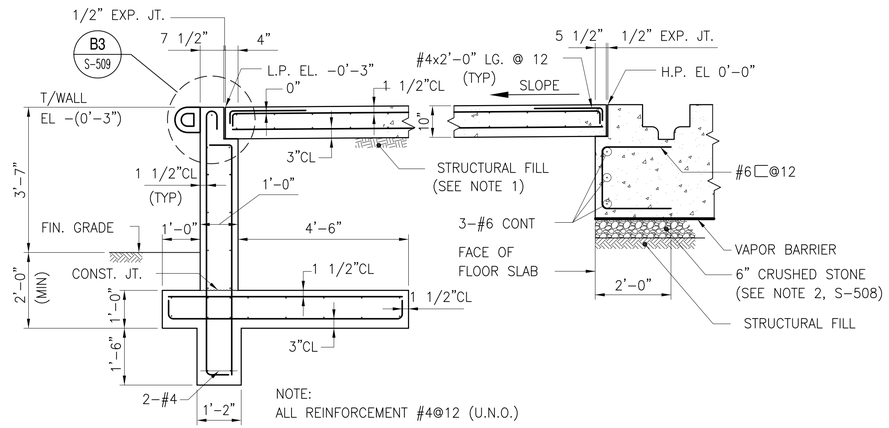


NOTE:
ALL REINFORCEMENT #4@12 (U.N.O.)

SECTION
SCALE: 1/2" = 1'-0" S-101 B2

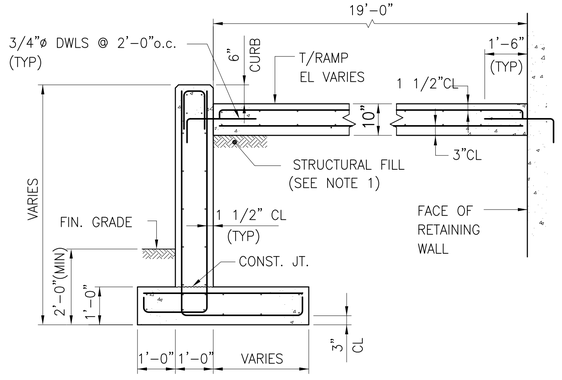


DETAIL
SCALE: 1 1/2" = 1'-0" S-509 B3



NOTE:
ALL REINFORCEMENT #4@12 (U.N.O.)

SECTION
SCALE: 1/2" = 1'-0" S-101 A2



NOTE:
ALL REINFORCEMENT #4@12 (U.N.O.)

SECTION
SCALE: 1/2" = 1'-0" S-101 A4

NOTES:
1. PROVIDE 6" CRUSHED STONE UNDER SLAB IF LESS THAN 2'-0" (MIN.) OF STRUCTURAL FILL IS PROVIDED.
2. DELETE CRUSHED STONE WHEN A MINIMUM OF 2'-0" OF OF STRUCTURAL FILL IS PROVIDED.

GRAPHIC SCALE:

1/2"=1'-0" 1' 0' 1' 2' 3' 4' 5'

1-1/2"=1'-0" 1' 9" 6" 3" 0' 1' 2'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

A/E INFO

APPROVED
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/DM

BRANCH MANAGER P.C.K.

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

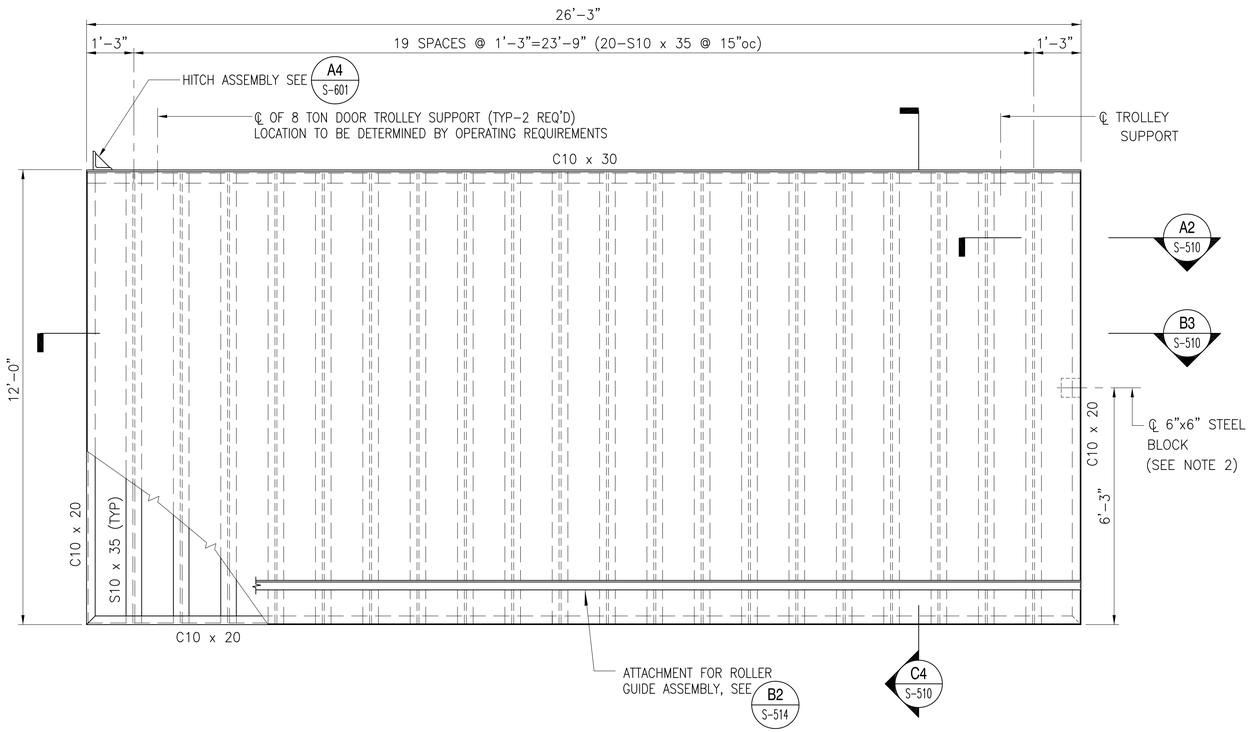
TYPE D BOX MAGAZINE WITH LOADING PLATFORM

LOADING PLATFORM DETAILS

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 14021424
SHEET 19 OF 38

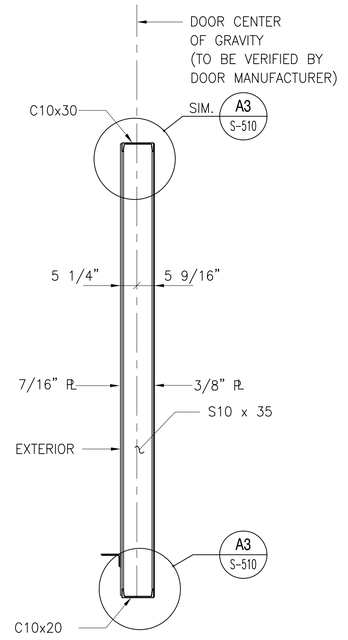
S-509

DRAWFORM REVISION: 10 MARCH 2009



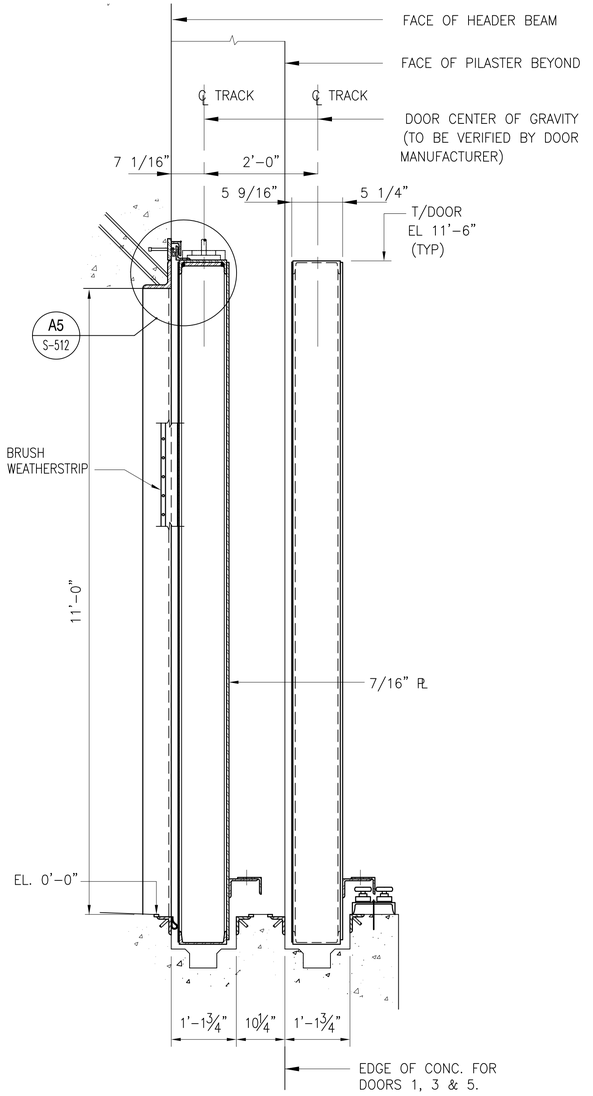
SLIDING DOOR ELEVATION

SCALE: 1/2" = 1'-0" — S-304 — C3



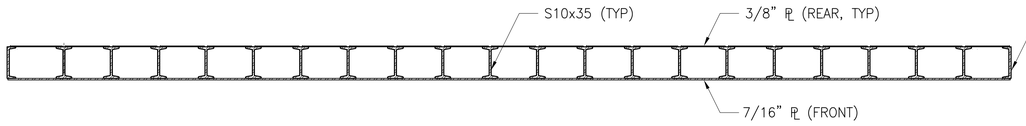
DOOR SECTION

SCALE: 1/2" = 1'-0" — S-510 — C4



SECTION

SCALE: 3/4" = 1'-0" — S-304 — B5

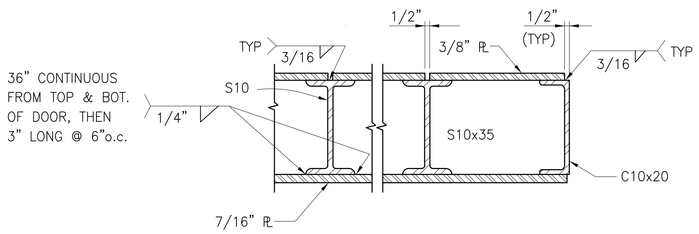


SLIDING DOOR SECTION

SCALE: 1/2" = 1'-0" — S-510 — B3

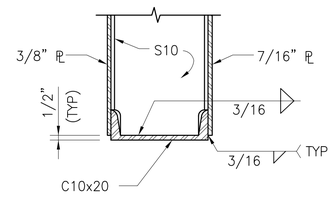
NOTES:

1. DOOR NO'S 1, 2 AND 3 AS SHOWN. DOOR NO'S 4 AND 5 OPPOSITE HAND.
2. PROVIDE 6"x6"x10" STEEL BLOCK AT LEADING EDGE OF DOOR NO'S 1, 2, 4 AND 5 FOR INTERNAL LOCK ASSEMBLY. SEE DETAIL A2 S-515



SECTION

SCALE: 1 1/2" = 1'-0" — S-510 — A2



SECTION

SCALE: 1 1/2" = 1'-0" — S-510 — A3

GRAPHIC SCALE:

1/2"=1'-0" 1' 0' 1' 2' 3' 4' 5'

3/4"=1'-0" 1' 6" 0' 1' 2' 3' 4'

1-1/2"=1'-0" 1' 9" 6" 3" 0' 1' 2'

APPR | DATE | DESCRIPTION | SYM

NAVFAC

SEAL

A/E INFO

APPROVED
R. B. F. III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/DM

BRANCH MANAGER Rck

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

SLIDING DOOR SECTION DETAILS AND ELEVATION

SCALE: AS NOTED

EPROJECT NO.:

CONSTR. CONTR. NO.

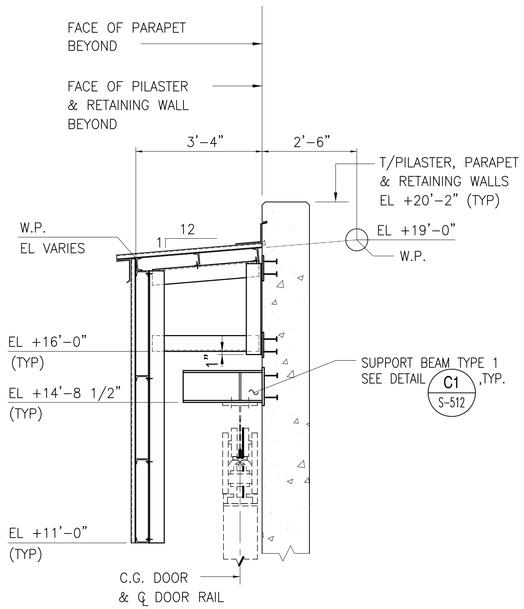
NAVFAC DRAWING NO.
14021425

SHEET 20 OF 38

S-510

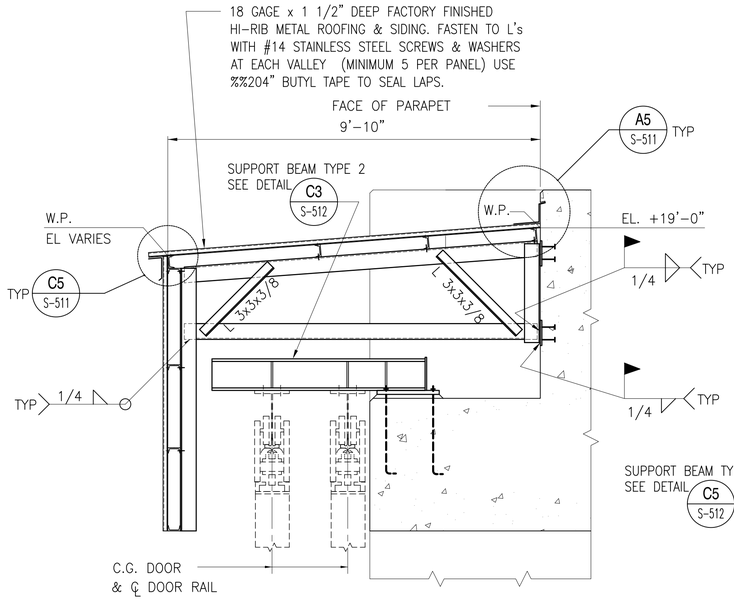
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CIGE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-510 PLOTTED: Wednesday, September 26, 2012 - 10:25am



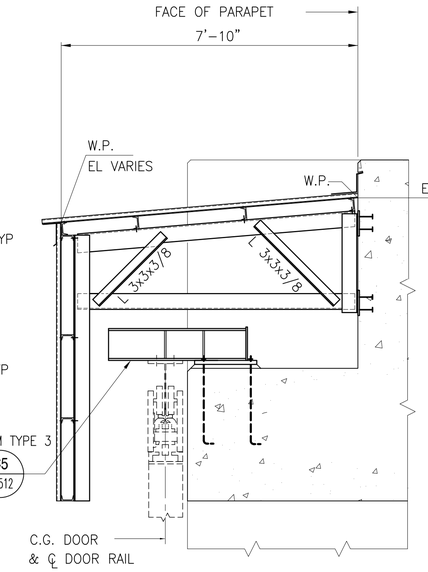
SECTION

SCALE: 1/2" = 1'-0" S-305 C1



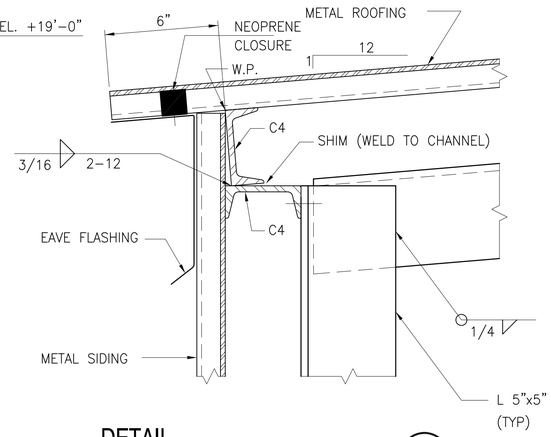
SECTION

SCALE: 1/2" = 1'-0" S-305 C3



SECTION

SCALE: 1/2" = 1'-0" S-305 C4

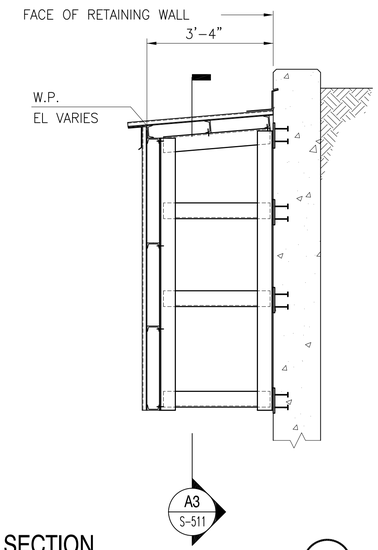


DETAIL

SCALE: 3" = 1'-0" S-511 C5

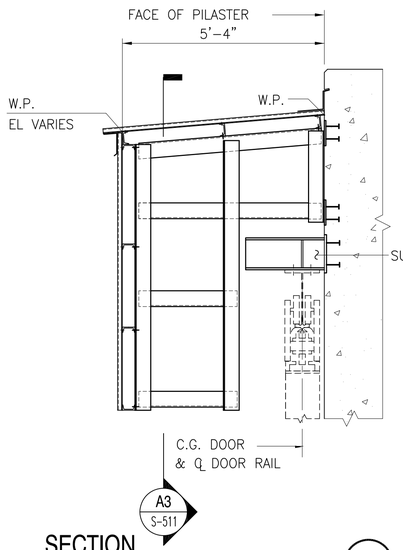
NOTES:

1. ALL ANGLES TO BE 5"x5"x3/8" UNLESS NOTED OTHERWISE.
2. ALL PURLINS AND GIRTS TO BE C4x7.25, FASTENED TO ANGLES WITH TWO 5/8"ø A325 BOLTS (TYP).
3. FOR SUPPORT BRACKET DETAILS, SEE DWG. S-512.



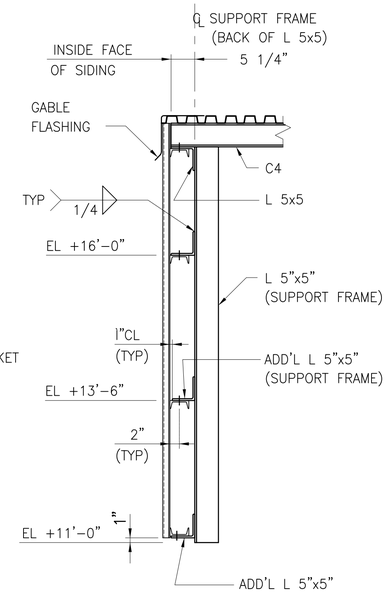
SECTION

SCALE: 1/2" = 1'-0" S-305 A1



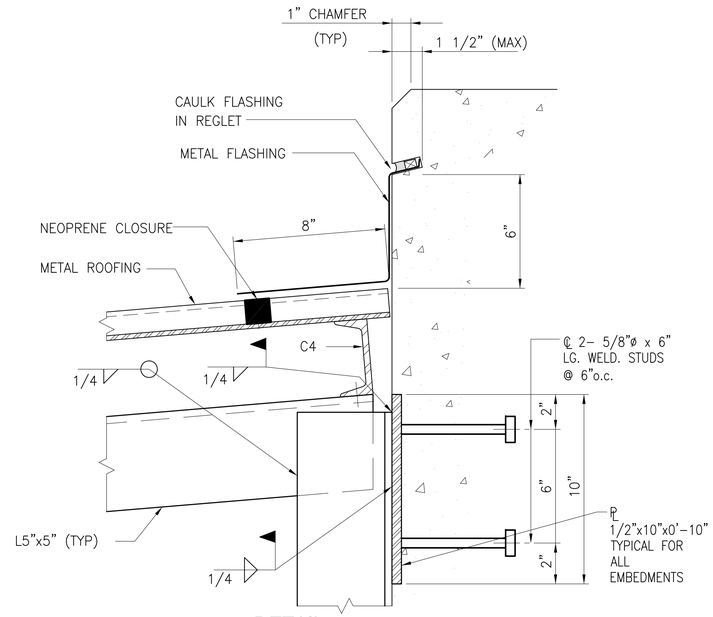
SECTION

SCALE: 1/2" = 1'-0" S-305 A2



SECTION

SCALE: 1/2" = 1'-0" S-305 A3



DETAIL

SCALE: 3" = 1'-0" S-511 A5

GRAPHIC SCALE:

3"=1'-0" 1' 9" 6" 3" 0"

1/2"=1'-0" 1' 0' 1' 2' 3' 4' 5'

APPR | DATE | DESCRIPTION | SYM

SEAL

A/E INFO

APPROVED
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK
PM/DM		
BRANCH MANAGER RCK		
CHIEF ENG/ARCH EJG		
FIRE PROTECTION		

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

CANOPY DETAILS

SCALE: AS NOTED

EPROJECT NO.:

CONSTR. CONTR. NO.

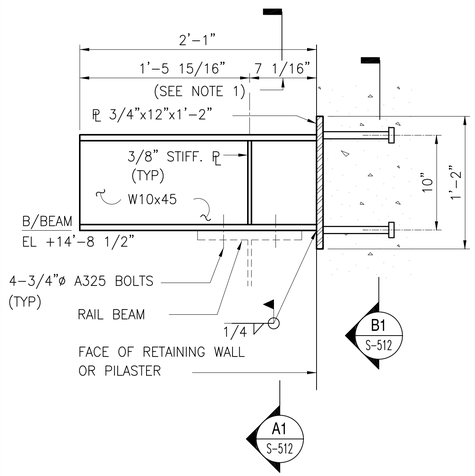
NAVFAC DRAWING NO.
14021426

SHEET 21 OF 38

S-511

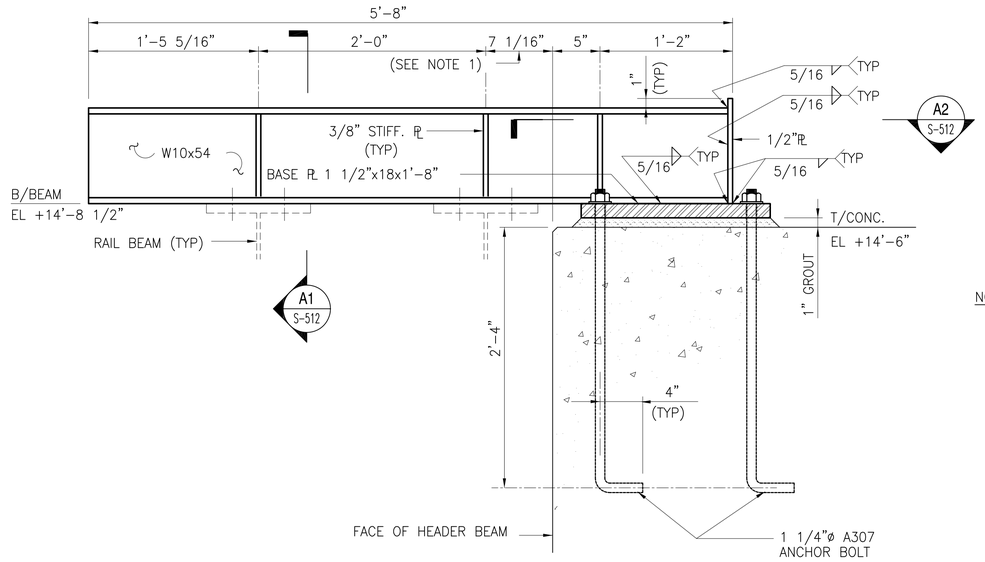
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\#Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-511 PLOTTED: Wednesday, September 26, 2012 - 10:26am



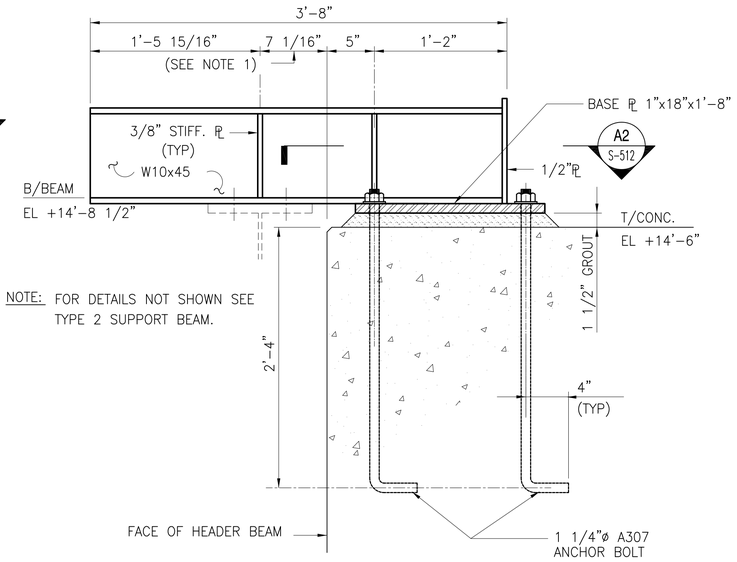
TYPE 1 SUPPORT BEAM

SCALE: 1 1/2" = 1'-0" S-305, S-511 C1



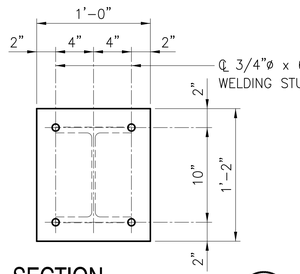
TYPE 2 SUPPORT BEAM

SCALE: 1 1/2" = 1'-0" S-305, S-511 C3



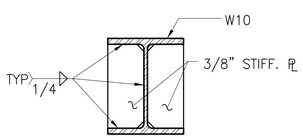
TYPE 3 SUPPORT BEAM

SCALE: 1 1/2" = 1'-0" S-305, S-511 C5



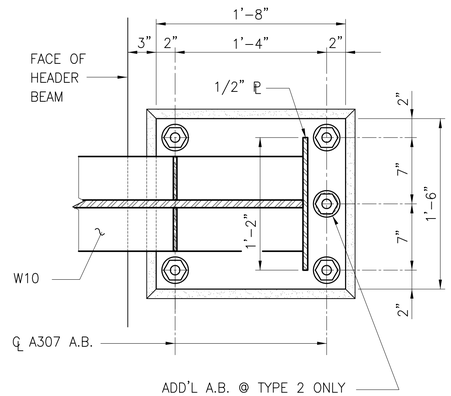
SECTION

SCALE: 1 1/2" = 1'-0" S-512 B1



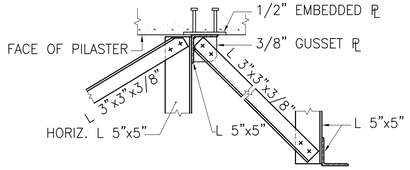
SECTION

SCALE: 1 1/2" = 1'-0" S-512 A1



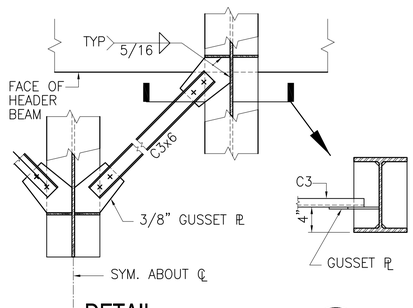
SECTION

SCALE: 1 1/2" = 1'-0" S-512 A2



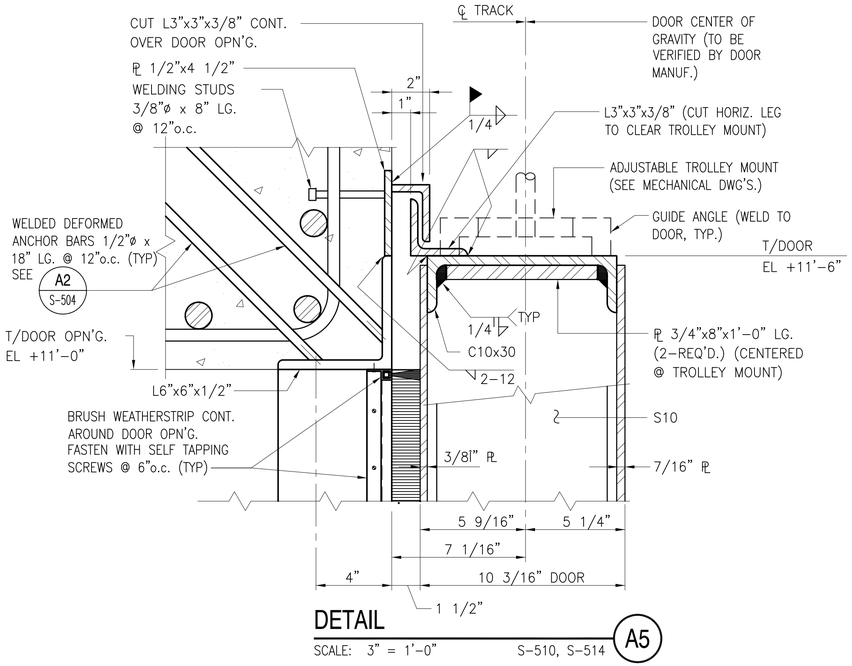
DETAIL

SCALE: 1" = 1'-0" S-305 B3



DETAIL

SCALE: 1" = 1'-0" S-305 A3



DETAIL

SCALE: 3" = 1'-0" S-510, S-514 A5

GRAPHIC SCALE:

3"=1'-0" 1' 9" 6" 3" 0"

1"=1'-0" 1' 6" 0' 1' 2' 3'

1-1/2"=1'-0" 1' 9" 6" 3" 0' 1' 2'

APPR	
DATE	
DESCRIPTION	
SYM	

NAVFAC

SEAL

A/E INFO

APPROVED R. B. [illegible] III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/DM

BRANCH MANAGER R.C.K.

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

RAIL SUPPORT BEAM – DETAILS

SCALE: AS NOTED

EPROJECT NO.:

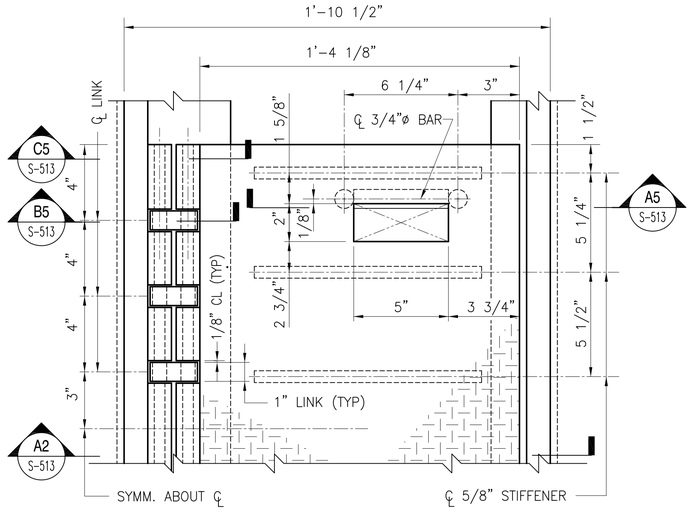
CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 14021427

SHEET 22 OF 38

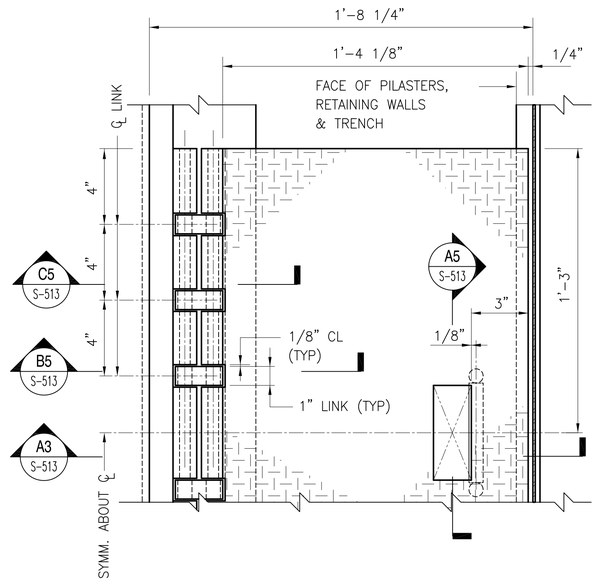
S-512

DRAWFORM REVISION: 10 MARCH 2009



TYPE 1 TRENCH COVER

SCALE: 3" = 1'-0" S-305 C2

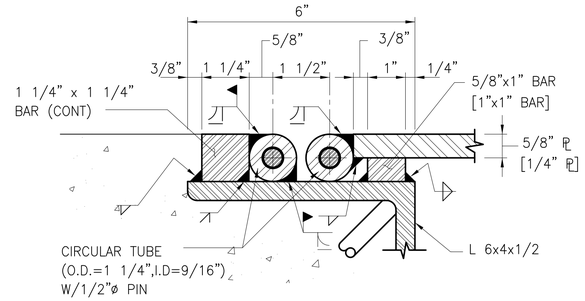


TYPE 2 TRENCH COVER

SCALE: 3" = 1'-0" S-305 C3

NOTES:

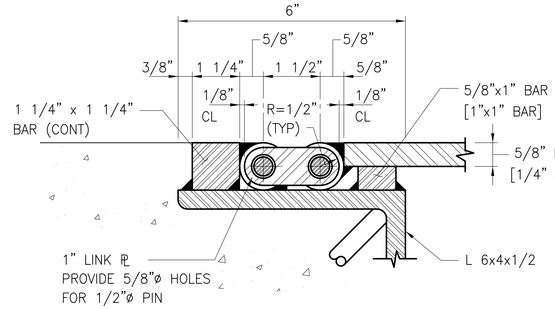
1. TRENCH COVER PLATES SHALL HAVE A MINIMUM f_y = 50 KSI.
2. TRENCH COVER PLATES AND ATTACHMENTS INCLUDING HINGES AND PINS SHALL BE GALVANIZED.



NOTE: [ ] INDICATES DIMENSION FOR TYPE 2 TRENCH COVERS.

SECTION

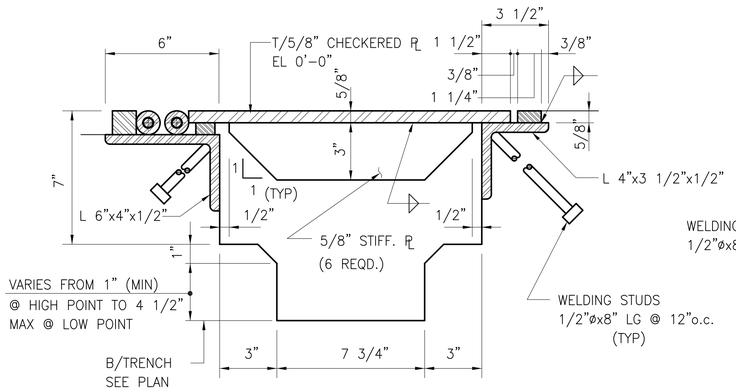
SCALE: 6" = 1'-0" S-513 C5



NOTE: [ ] INDICATES DIMENSION FOR TYPE 2 TRENCH COVERS.

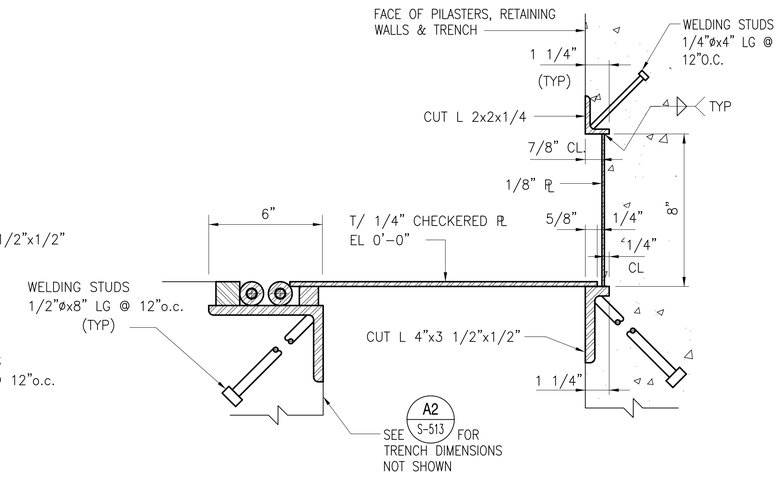
SECTION

SCALE: 6" = 1'-0" S-513 B5



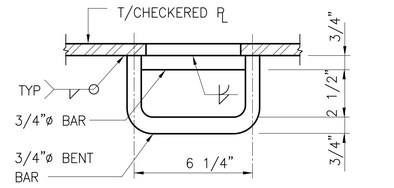
TYPE 1 TRENCH COVER

SCALE: 3" = 1'-0" S-101, S-305, S-503, S-504, S-513 A2



TYPE 2 TRENCH COVER

SCALE: 3" = 1'-0" S-101, S-305, S-513 A3



SECTION

SCALE: 3" = 1'-0" S-513 A5

GRAPHIC SCALE:

6"=1'-0" 6" 5" 4" 3" 2" 1" 0'

3"=1'-0" 1' 9" 6" 3" 0"

APPR | DATE | DESCRIPTION | SYM

NAVFAC

SEAL

A/E INFO

APPROVED
R. B. [illegible] III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK
PM/DM		
BRANCH MANAGER	P.C.K.	
CHIEF ENG/ARCH	EJG	
FIRE PROTECTION		

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

TRENCH COVER DETAILS

SCALE: AS NOTED

EPROJECT NO.:

CONSTR. CONTR. NO.

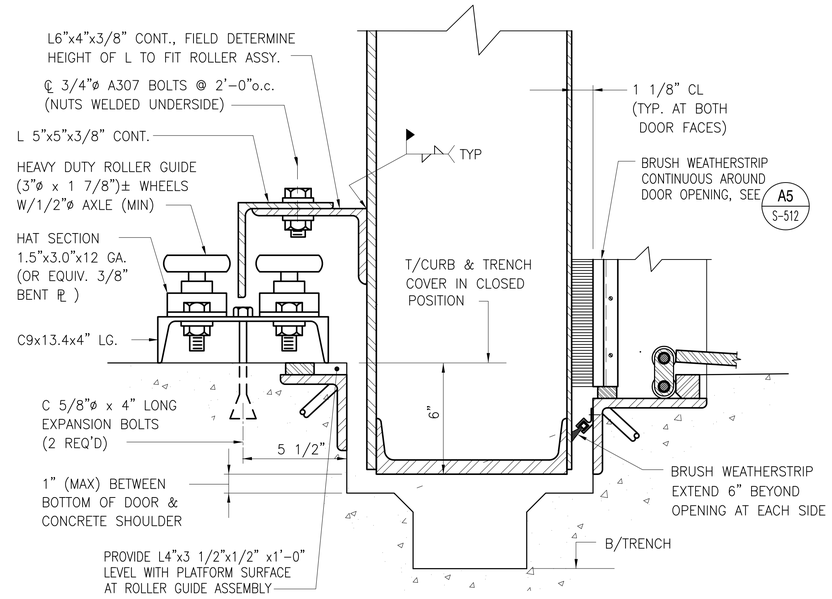
NAVFAC DRAWING NO.
14021428

SHEET 23 OF 38

S-513

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CSE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-513 PLOTTED: Wednesday, September 26, 2012 - 10:28am

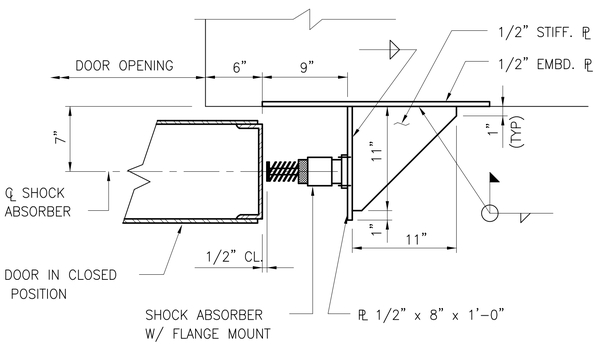


ROLLER GUIDE SECTION

SCALE: 3" = 1'-0" S-304, S-305, S-510 (B2)

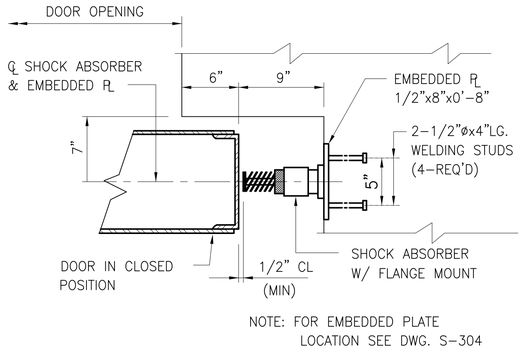
DOOR SHOCK ABSORBERS– OPERATING REQUIREMENTS

1. MAXIMUM DOOR SPEED 12 FT/MIN OPENING/CLOSING.
2. DOOR CLOSING SHOCK ABSORBER:
   AT PILASTER – QUANTITY = 2
   – STOPPING DISTANCE = 1 INCH
   – MAXIMUM FORCE PER SHOCK ABSORBER = 10,000 LBS
   – DUTY CYCLE = 10 DEFLECTIONS/HOUR
3. DOOR OPENINGING SHOCK ABSORBER:
   AT TRENCH – QUANTITY = 2
   – STOPPING DISTANCE = 2 INCHES
   – MAXIMUM FORCE PER SHOCK ABSORBER = 5,000 LBS
   – DUTY CYCLE = 10 DEFLECTIONS/HOUR



SECTION

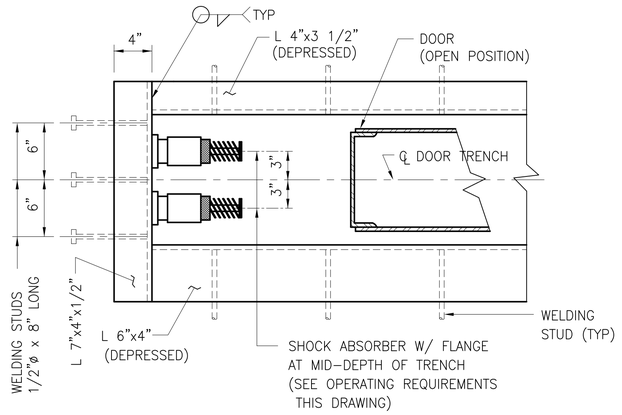
SCALE: 1 1/2" = 1'-0" S-304 (A2)



NOTE: FOR EMBEDDED PLATE LOCATION SEE DWG. S-304

SECTION

SCALE: 1 1/2" = 1'-0" S-304 (A3)



DETAIL

SCALE: 1 1/2" = 1'-0" S-304 (A4)

GRAPHIC SCALE:

3"=1'-0" 1' 9" 6" 3" 0"

1-1/2"=1'-0" 1' 9" 6" 3" 0' 1' 2'

NAVFAC

APPROVED
FOR COMMANDER NAVFAC 9/28/12
ACTIVITY
SATISFACTORY TO
DES | DRW | CHK
PM/DM
BRANCH MANAGER RCK
CHIEF ENG/ARCH EJG
FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

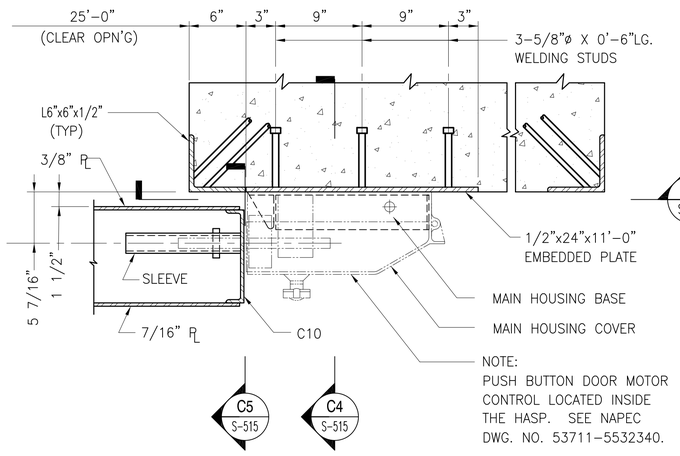
DOOR ROLLER GUIDES AND SHOCK ABSORBER DETAILS

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 14021429
SHEET 24 OF 38

S-514

DRAWFORM REVISION: 10 MARCH 2009

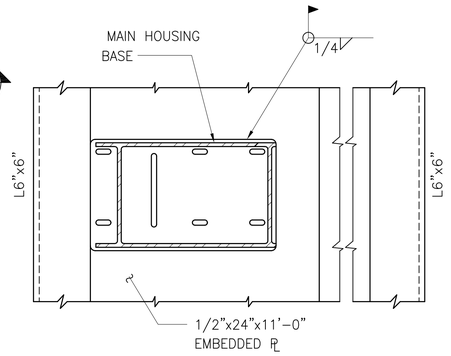
FILE NAME: J:\OSE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-514 PLOTTED: Wednesday, September 26, 2012 - 10:36am



HIGH SECURITY HASP DETAIL

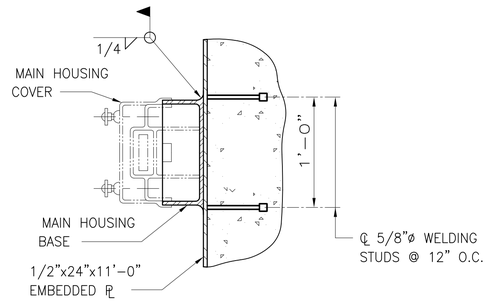
SCALE: 1 1/2" = 1'-0" — S-304 — C2

NOTE: HIGH SECURITY HASP ON DOOR NO.3 SHALL BE NAPEC 1332 UNIVERSAL HASP, GOVERNMENT FURNISHED AND SHALL BE INSTALLED IN ACCORDANCE WITH NAVAMPROENGCEN PUBLICATION "STANDARD PLANS FOR HIGH SECURITY HASPS AND INTRUDER DETECTION SYSTEMS ASHORE" INSTALLATION PROCEDURE FOR THE HASP SHALL FOLLOW STEPS 1 THRU 8 LISTED ON NAPEC STANDARD DWG. 1446.



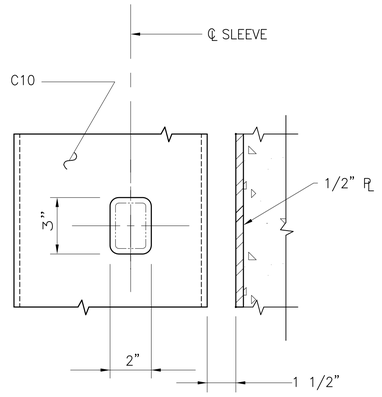
SECTION

SCALE: 1 1/2" = 1'-0" — S-515 — C3



SECTION

SCALE: 1 1/2" = 1'-0" — S-513 — C4

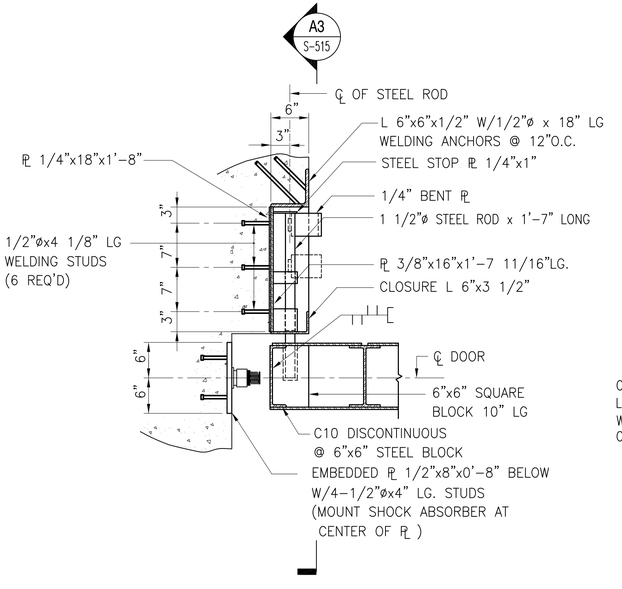


SECTION

SCALE: 3" = 1'-0" — S-515 — C5

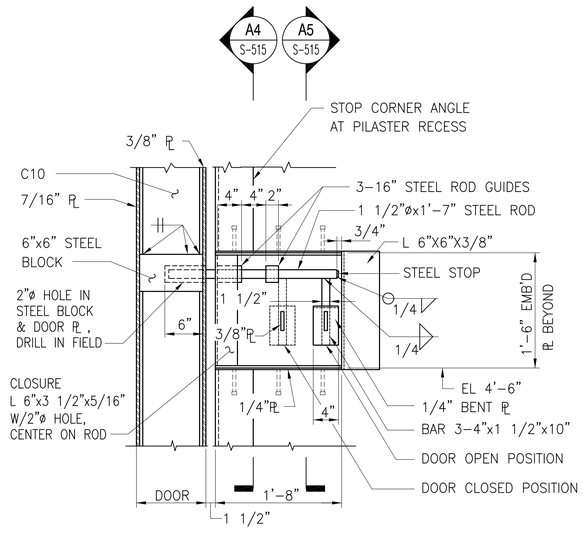
NOTES TO DESIGNER – REMOVE THESE NOTES WHEN PREPARING CONSTRUCTION DRAWINGS FOR SITE ADAPTATION OF THIS DESIGN

1. SHEETS S-515 & S-515(ALT) IDENTIFY DIFFERENT LOCKING SYSTEMS. THE EOR SHALL VERIFY THE CORRECT LOCKING SYSTEM REQUIRED AND REMOVE THE REDUNDANT SHEET FROM THE CONSTRUCTION CONTRACT DOCUMENTS FOR THE SYSTEM NOT USED (COORDINATE WITH CONTRACTING OFFICER).



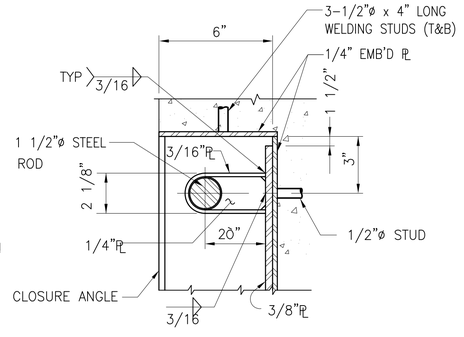
INTERIOR DOOR LOCK ASSEMBLY DETAIL

SCALE: 1" = 1'-0" — S-304 — A2



SECTION

SCALE: 1" = 1'-0" — S-515 — A3



SECTION

SCALE: 3" = 1'-0" — S-515 — A4

SECTION

SCALE: 3" = 1'-0" — S-515 — A5

GRAPHIC SCALE:

3"=1'-0" 1' 9" 6" 3" 0"

1"=1'-0" 1' 6" 0' 1' 2' 3'

1-1/2"=1'-0" 1' 9" 6" 3" 0' 1' 2'

NAVFAC

APPR	DATE	DESCRIPTION	SYM

SEAL

A/E INFO

APPROVED
R. B. F. III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/DM

BRANCH MANAGER Rick

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

LOCK AND HIGH SECURITY HASP DETAILS

SCALE: AS NOTED

EPROJECT NO.:

CONSTR. CONTR. NO.

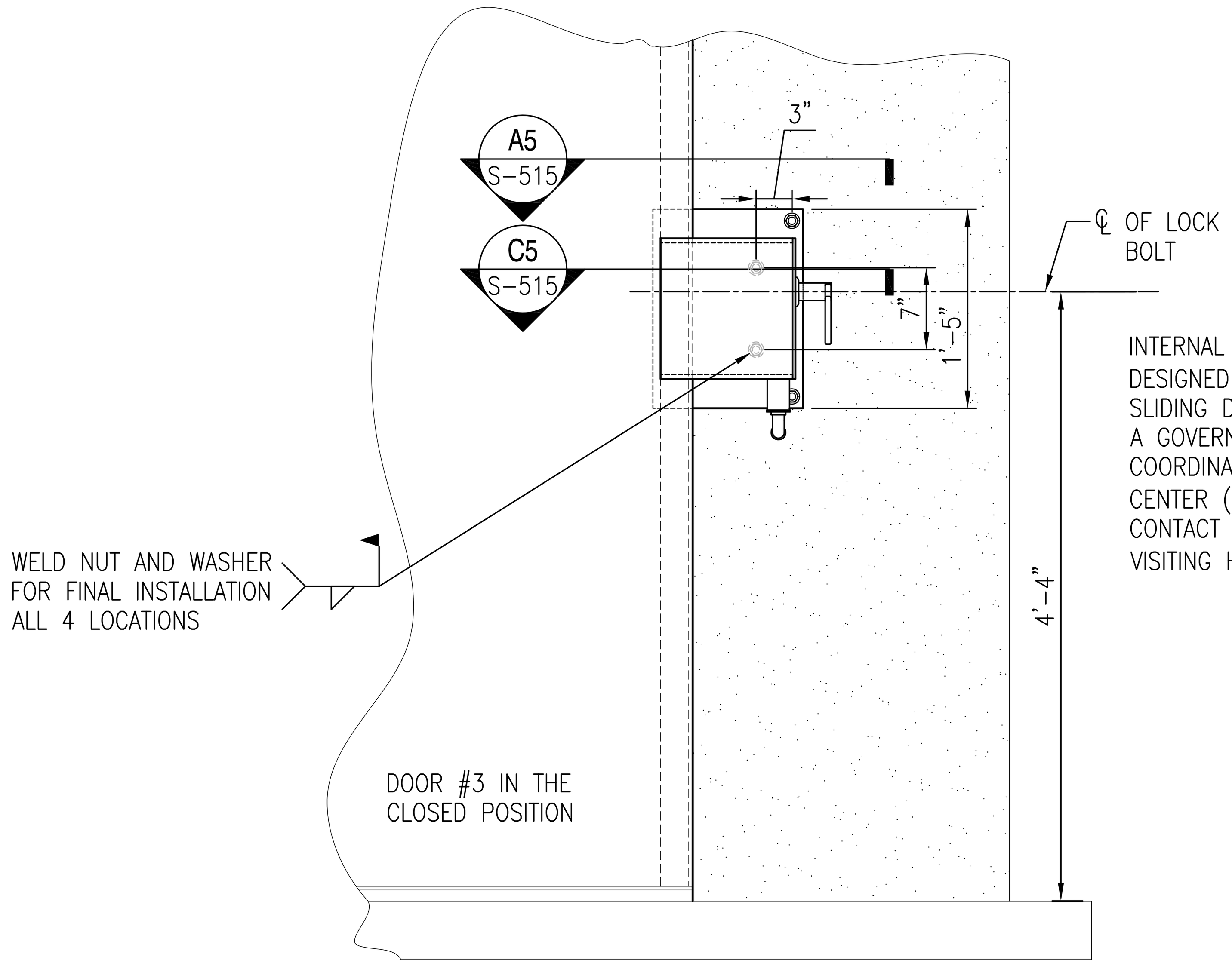
NAVFAC DRAWING NO.
14021430

SHEET 25 OF 38

S-515

DRAWFORM REVISION: 10 MARCH 2009

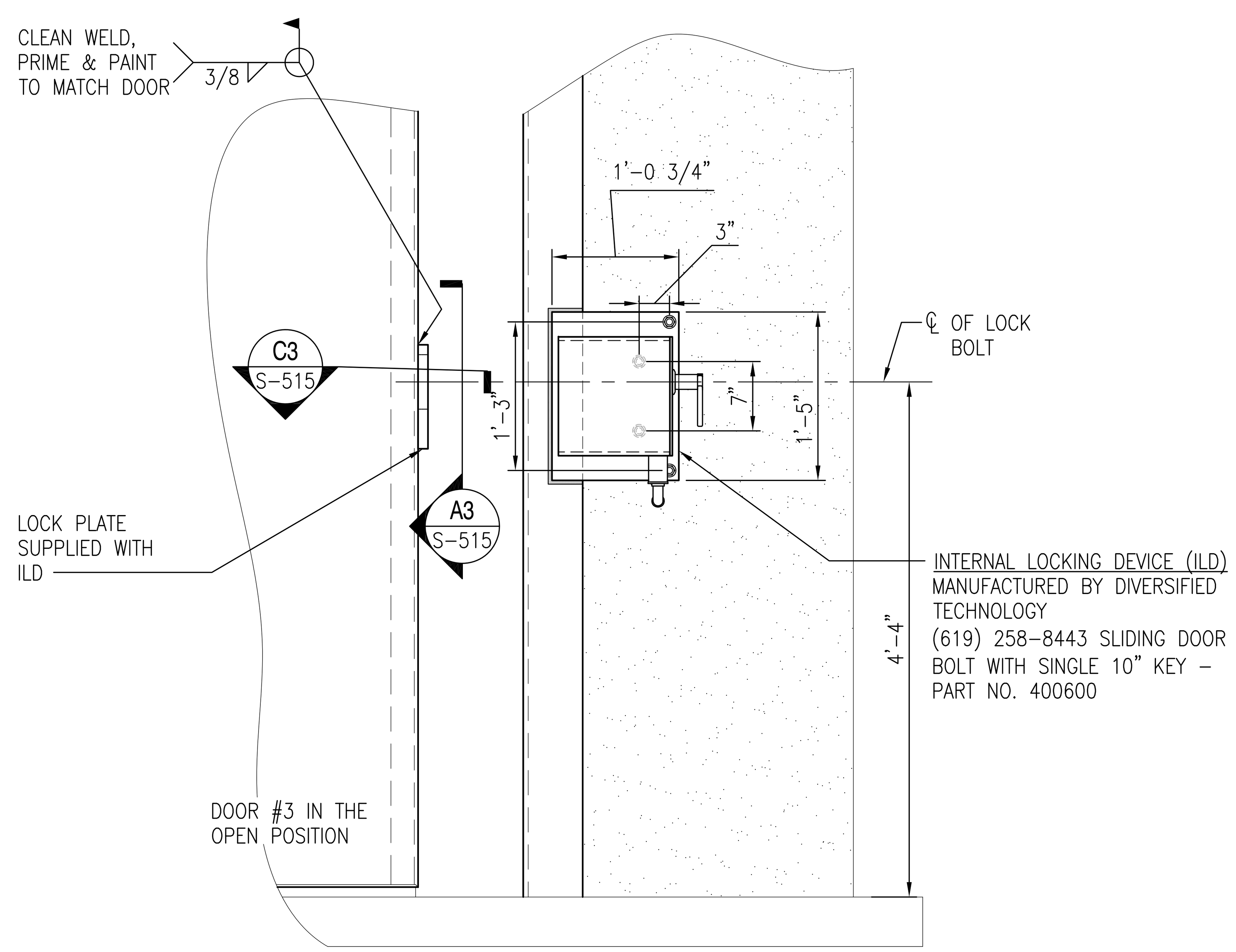
FILE NAME: J:\CISE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-515 PLOTTED: Wednesday, September 26, 2012 - 10:37am



INTERNAL LOCKING DEVICE (ILD) IS A U.S. GOVERNMENT DESIGNED AND PATENTED LOCKING SYSTEM. THE ILD-10" SLIDING DOOR UNIT AND KEYS SHALL BE PURCHASED BY A GOVERNMENT APPROVED ILD MANUFACTURER WITH COORDINATION OF NAVAL FACILITIES ENGINEERING SERVICE CENTER (NAVFAC ESC) SECURITY ENGINEERING DIVISION. CONTACT CAN BE MADE BY CALLING 1-800-290-7607 OR VISITING HTTPS://PORTAL.NAVFAC.NAVY.MIL/GO/LOCKS.

NOTE: SEE MANUFACTURERS INSTALLATION DATA FOR ADDITIONAL INFORMATION

DOOR IN THE CLOSED POSITION

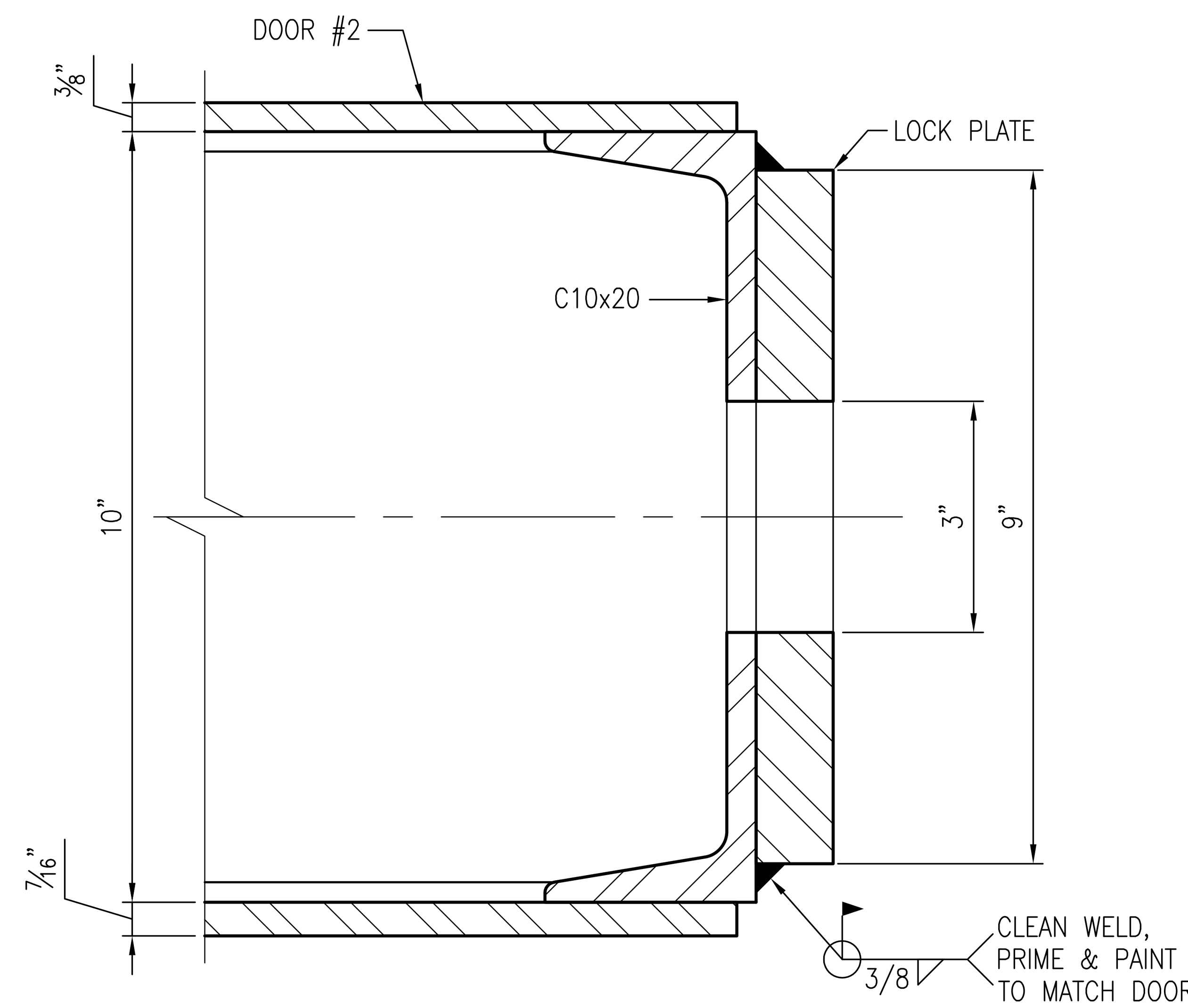


NOTE: SEE MANUFACTURERS INSTALLATION DATA FOR ADDITIONAL INFORMATION

DOOR IN THE OPEN POSITION

ELEVATION - HIGH SECURITY HASP - DOOR #3 (A2)

SCALE: 1" = 1'-0" S-304

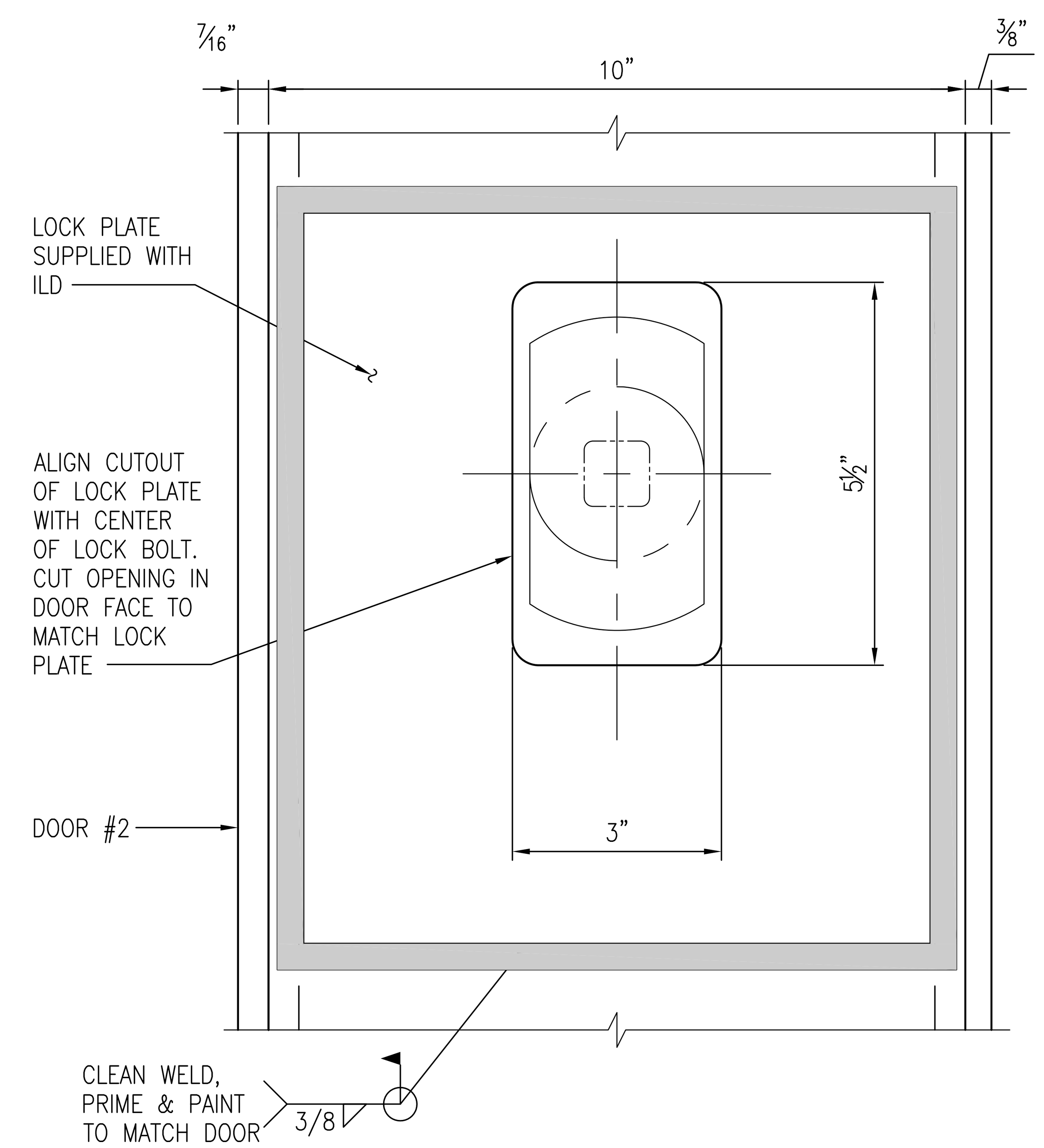


SECTION (C3)

SCALE: 6" = 1'-0" S-515ALT

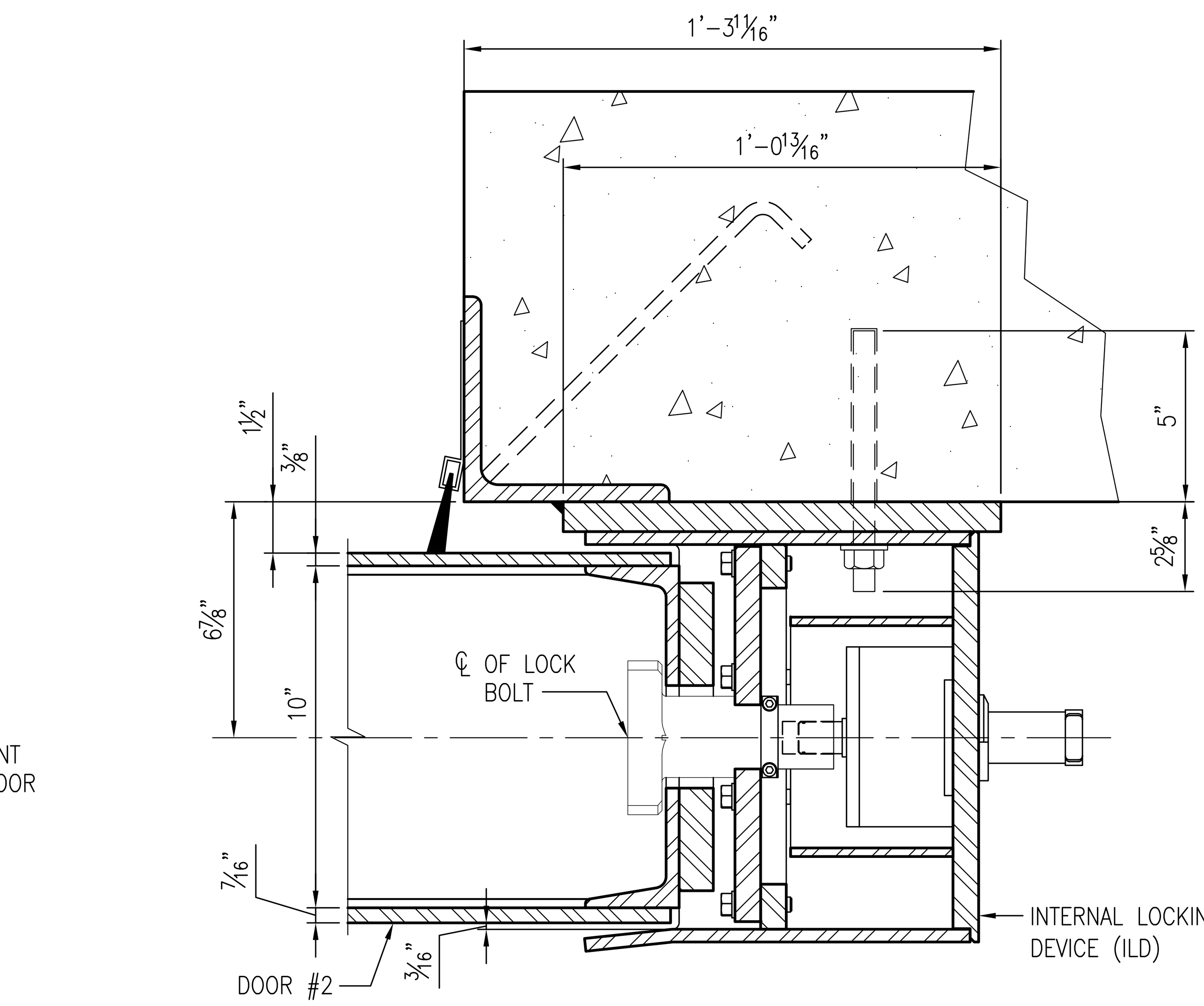
NOTES TO DESIGNER – REMOVE THESE NOTES WHEN PREPARING CONSTRUCTION DRAWINGS FOR SITE ADAPTATION OF THIS DESIGN

1. SHEETS S-515 & S-515(ALT) IDENTIFY DIFFERENT LOCKING SYSTEMS. THE EOR SHALL VERIFY THE CORRECT LOCKING SYSTEM REQUIRED AND REMOVE THE REDUNDANT SHEET FROM THE CONSTRUCTION CONTRACT DOCUMENTS FOR THE SYSTEM NOT USED (COORDINATE WITH CONTRACTING OFFICER).



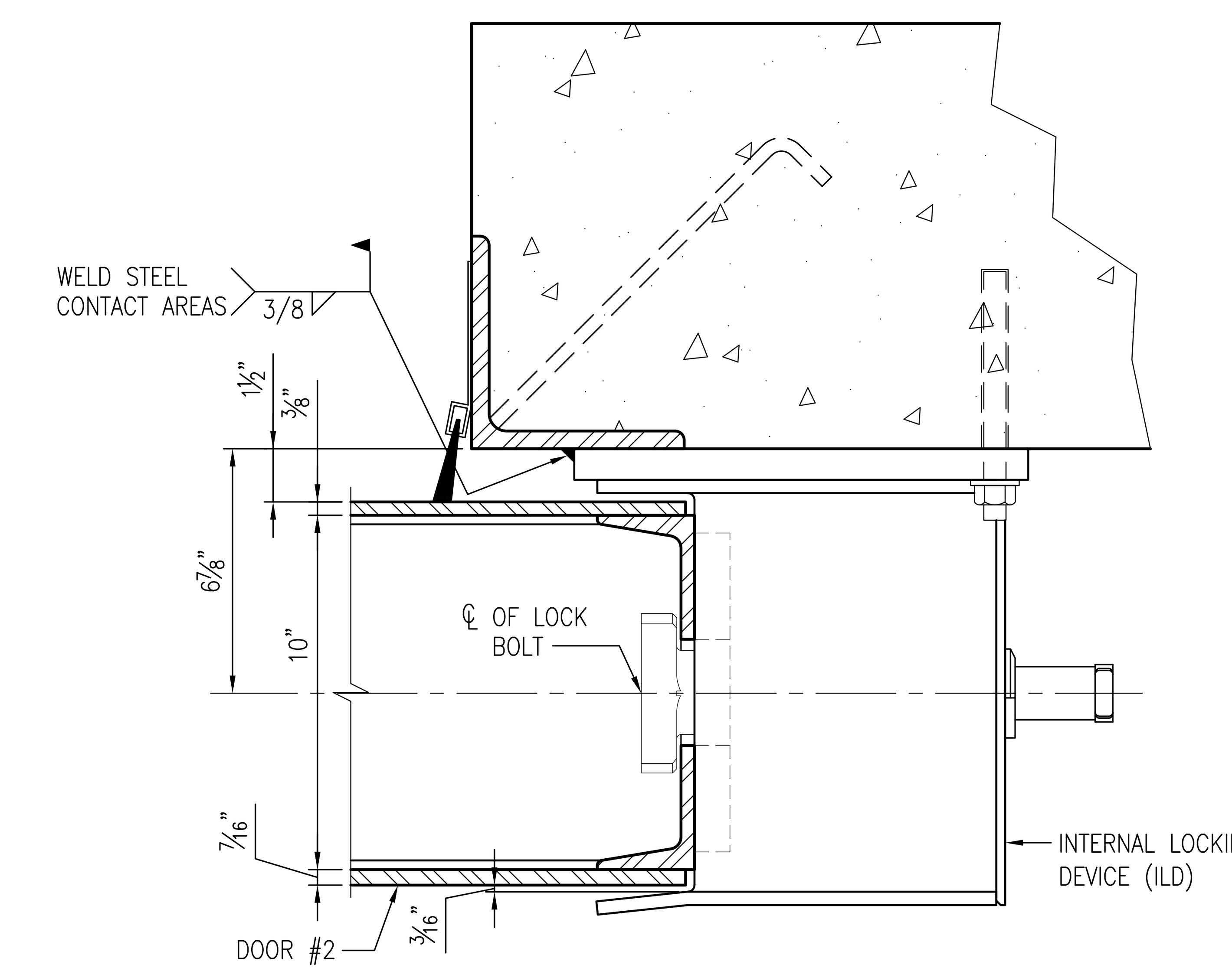
SECTION (A3)

SCALE: 6" = 1'-0" S-515ALT



SECTION AT LOCKING ASSEMBLY CLOSED (C5)

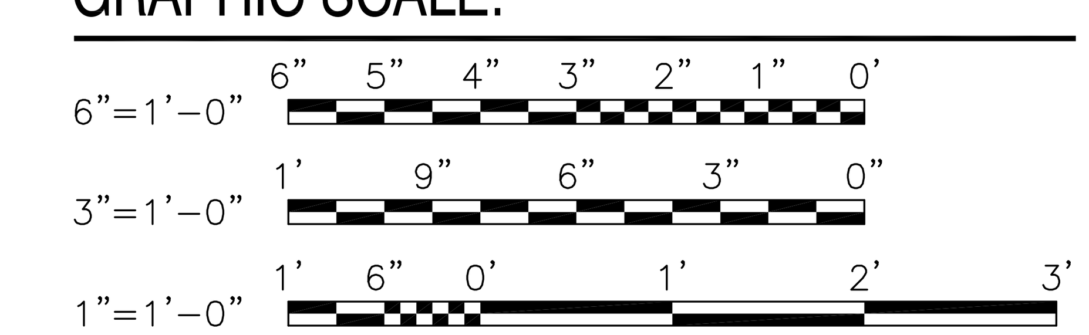
SCALE: 3" = 1'-0" S-515ALT



SECTION ABOVE LOCKING ASSEMBLY (A5)

SCALE: 3" = 1'-0" S-515ALT

GRAPHIC SCALE:



SYM / DESCRIPTION / DATE / APPR	
NAVFAC	
SEAL	
APPROVED	FOR COMMANDER NAVFAC 9/28/12
ACTIVITY	
SATISFACTORY TO	
DES / DRW / CHK	
PM/DM	
BRANCH MANAGER	RCK
CHIEF ENG/ARCH	EJG
FIRE PROTECTION	

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA
LANT CAPITAL IMPROVEMENTS

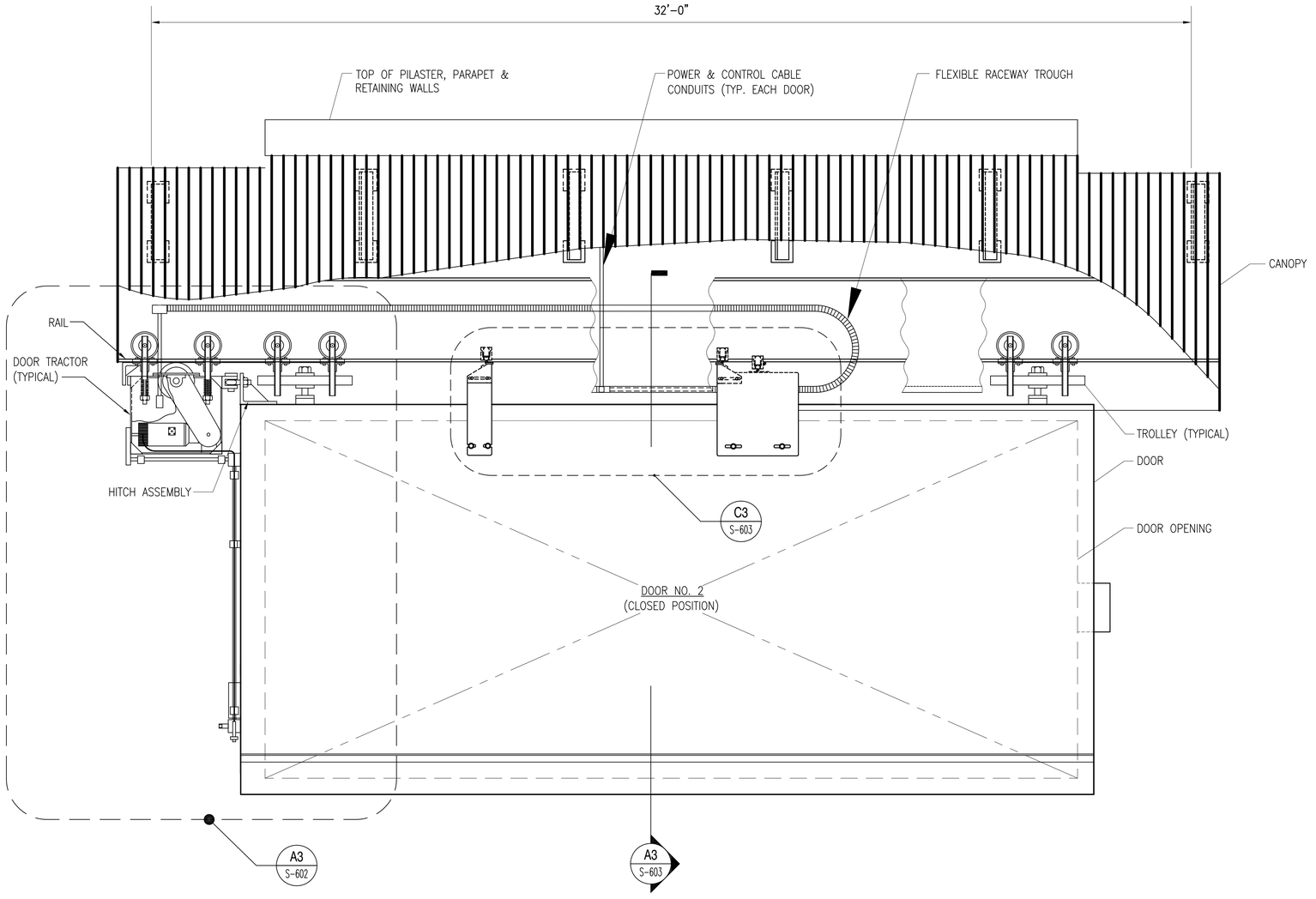
TYPE D BOX MAGAZINE WITH LOADING PLATFORM

ALTERNATE HIGH SECURITY HASP – ILD DETAILS

SCALE:	AS NOTED
EPROJECT NO.:	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	14021431
SHEET	25 OF 38
	S-515ALT

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES – Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: S-515 ALT PLOTTED: Wednesday, September 26, 2012 – 10:38pm



FRONT ELEVATION - SLIDING DOOR

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

S-304, S-510 (A4)

GRAPHIC SCALE:

1/2"=1'-0" 1' 0' 1' 2' 3' 4' 5'

NO.	DESCRIPTION	DATE	APPR

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ACTIVITY

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DES	DRW	CHK

PM/DM

BRANCH MANAGER Rck

CHIEF ENG/ARCH EJG

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TYPE D BOX MAGAZINE WITH LOADING PLATFORM

ELEVATION - SLIDING DOOR OPERATOR

SCALE: AS NOTED

EPROJECT NO.:

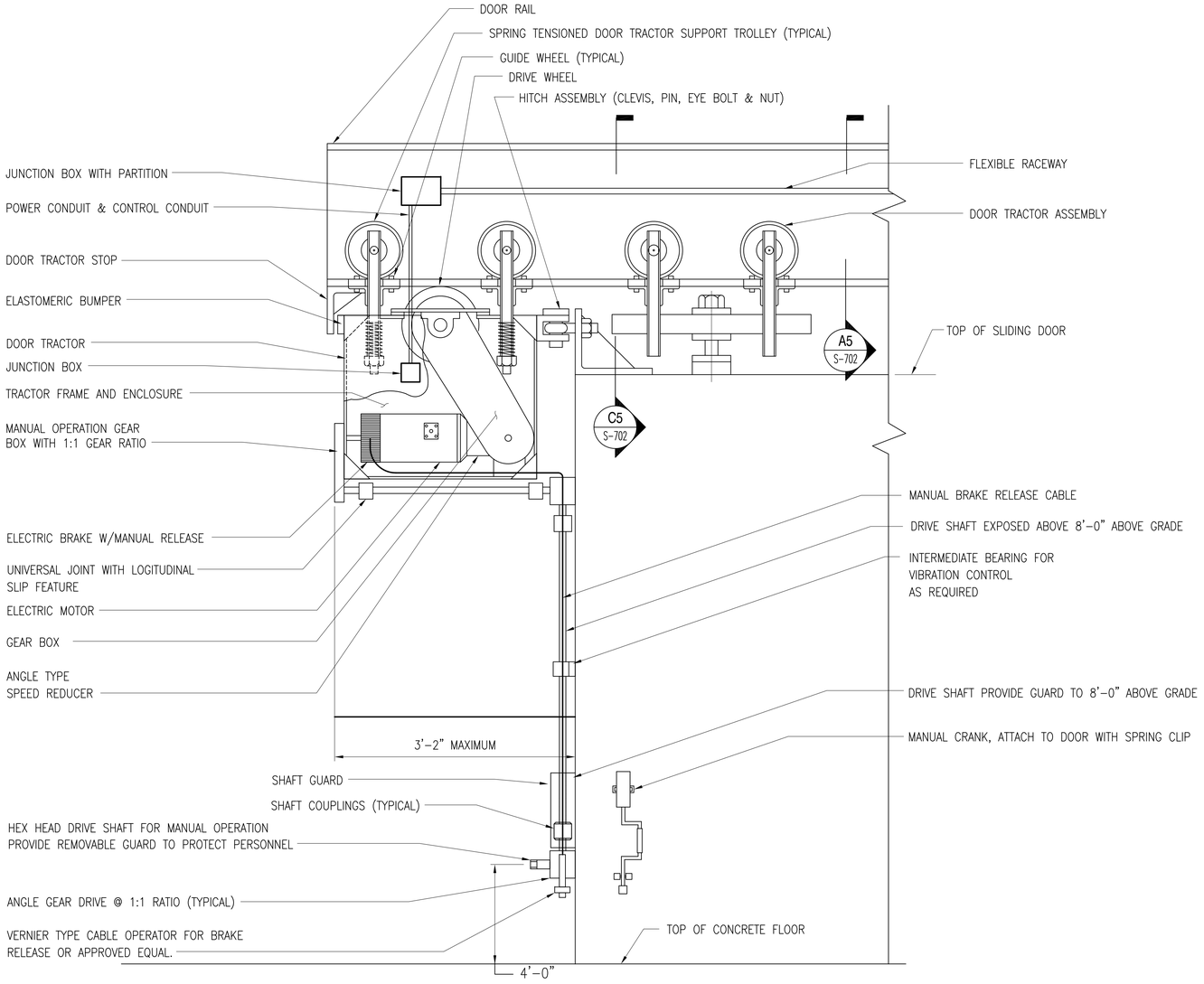
CONSTR. CONTR. NO.

NAVFAC DRAWING NO.
14021432

SHEET 26 OF 38

S-601

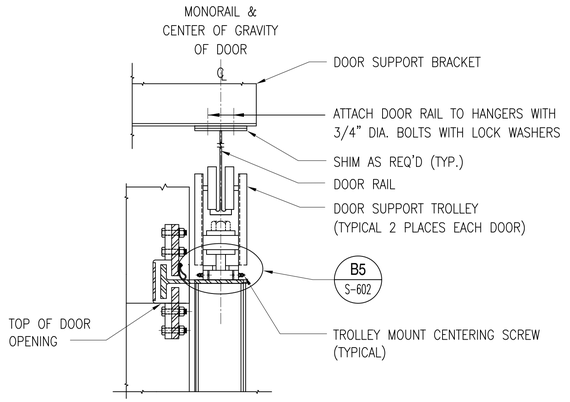
DRAWFORM REVISION: 10 MARCH 2009



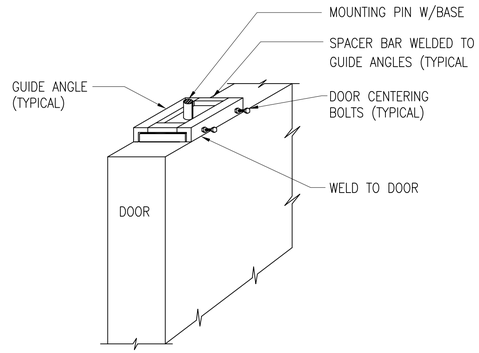
DETAIL
NOT TO SCALE — S-601 — A3

NOTES:

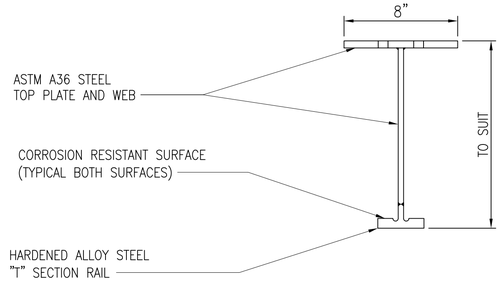
1. USE DOOR CENTERING BOLTS TO POSITION THE TROLLEY PIN & BASE FOR A BALANCED DOOR.
2. WELD TROLLEY MOUNTING BASE TO GUIDE ANGLES AND SPACER BARS AFTER BALANCING DOOR.
3. CONTRACTOR MAY SUBMIT ALTERNATE TROLLEYS & MOUNTS FOR APPROVAL.



SECTION
NOT TO SCALE — S-602 — C5



DETAIL
NOT TO SCALE — S-602 — B5



SECTION
NOT TO SCALE — S-602 — A5

MK	DESCRIPTION	DATE	APPR

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A/E INFO

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ACTIVITY

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DES	DRW	CHK

PM/DM

BRANCH MANAGER R.C.K.

CHIEF ENG/ARCH EJG

FIRE PROTECTION

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NORFOLK, VIRGINIA

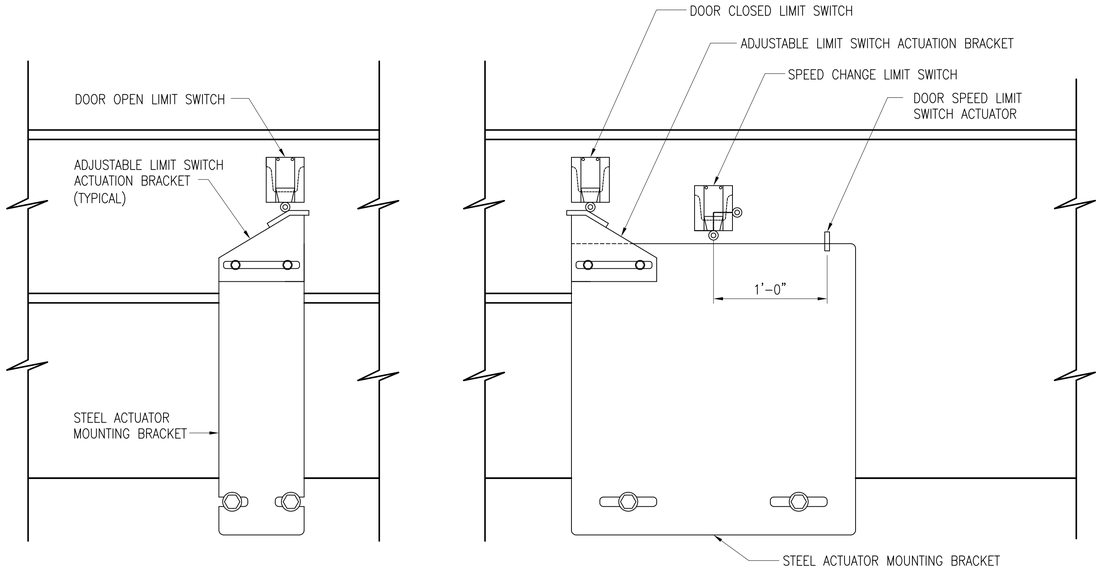
TYPE D BOX MAGAZINE WITH LOADING PLATFORM

SLIDING DOOR DETAILS

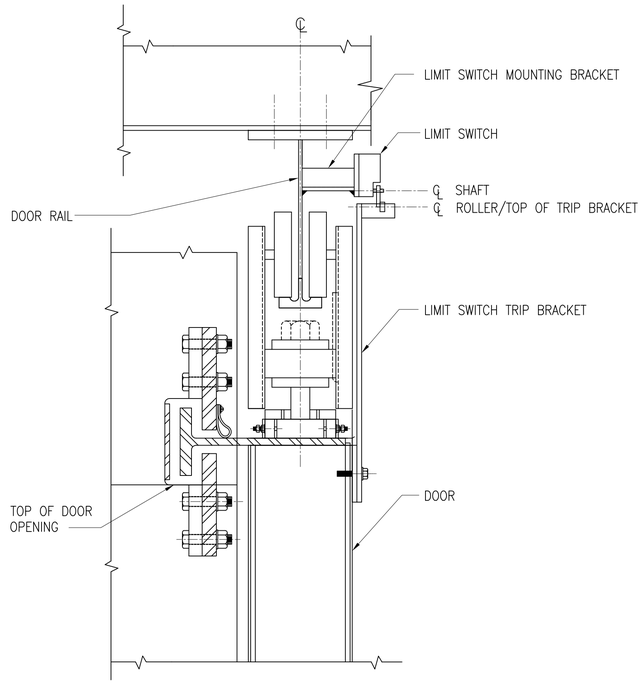
SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
14021433
SHEET 27 OF 38

S-602

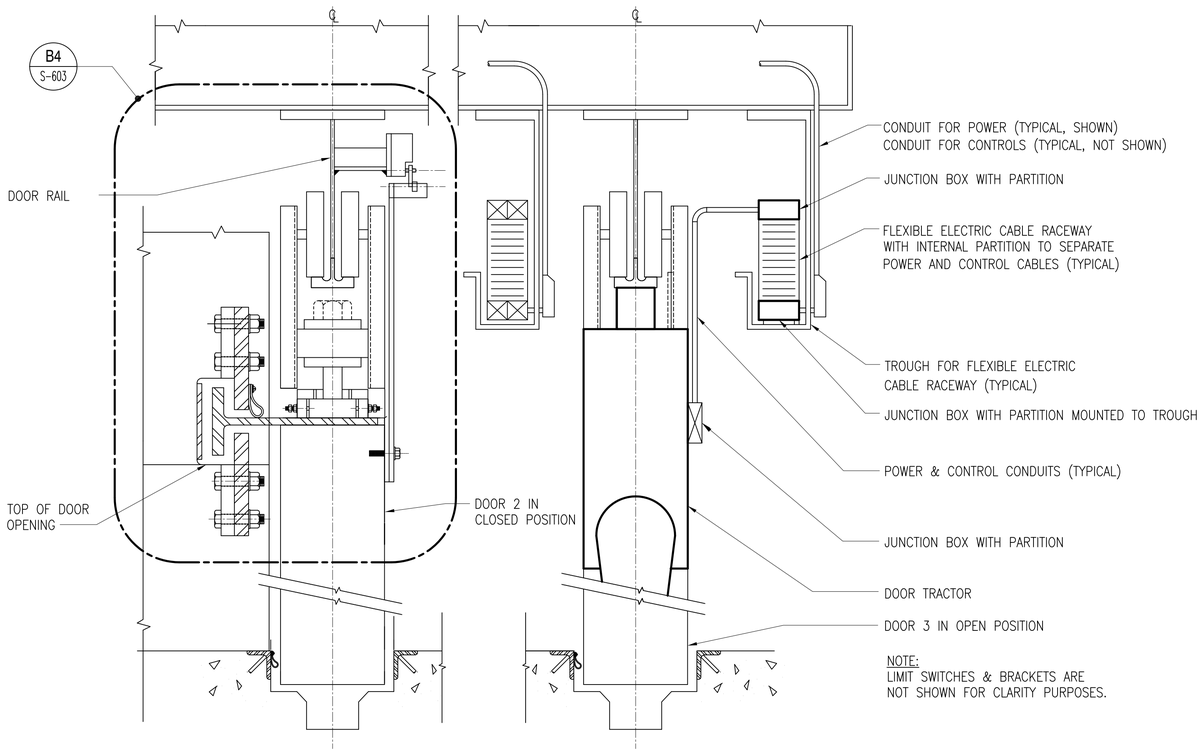
DRAWFORM REVISION: 10 MARCH 2009



DETAIL
NOT TO SCALE — S-601 (C3)



DETAIL
NOT TO SCALE — S-603 (B4)



SECTION
NOT TO SCALE — S-601 (A3)

APPR	DATE	DESCRIPTION	SYM

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NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

SLIDING DOOR DETAILS

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
14021434
SHEET 28 OF 38

S-603

DRAWFORM REVISION: 10 MARCH 2009

INTERIOR ELECTRICAL LEGEND

	HID LIGHTING FIXTURE.
	FLUORESCENT LIGHTING FIXTURE.
A	LIGHTING FIXTURE TYPE. SEE LIGHTING FIXTURE SCHEDULE ON SHEET E–101.
S_a	SINGLE POLE SWITCH. 20A., 120/277V. LOWER CASE LETTER, WHEN USED, INDICATES FIXTURES CONTROLLED.
	DUPLEX CONVENIENCE RECEPTACLE. 20 A., 125 VAC.
GFI WP	WEATHERPROOF DUPLEX CONVENIENCE RECEPTACLE WITH INTERNAL GROUND FAULT PROTECTION AND COVER THAT MAINTAINS WEATHERPROOF RATING WITH PLUG ATTACHED, 20 A., 125 VAC.
J	JUNCTION BOX.
	MAGNETIC MOTOR CONTROLLER IN NEMA 4X ENCLOSURE.
	COMBINATION REVERSING STARTER.
	ELECTRICAL PANELBOARD (120/240 VOLT).
	SINGLE POINT GROUND BAR (SPGB). SEE DETAIL "D4" ON SHEET E–501.
SPD	SURGE PROTECTIVE DEVICE
WHD	WATT–HOUR DEMAND METER.
OR	BRANCH CIRCUIT OR FEEDER WIRING IN RGS CONDUIT UON. NO TICK MARKS INDICATE 2 #12 CONDUCTORS & 1 #12 GND. IN 1/2" RGS CONDUIT UON. TICK MARKS, WHEN SHOWN, INDICATE NUMBER OF #12 CONDUCTORS IF OTHER THAN THREE; (1) INDICATES GROUND. CONDUIT LARGER THAN 1/2" & WIRE LARGER THAN #12 SHALL BE AS INDICATED.
P1–1,3,5	HOMERUNS TO PANEL. PANEL & CIRCUIT DESIGNATIONS AS INDICATED.
	LIGHTNING PROTECTION AIR TERMINAL.
WP	DOOR PUSHBUTTON CONTROL. WP, WHEN USED, INDICATES WEATHERPROOF.
M	DOOR MOTOR OPERATOR, 3/4 HORSEPOWER, 240 VOLT, 1 PHASE.
L	LIMIT SWITCH.
TR	POWER CABLE REEL.
B	BYPASS SWITCH.
C	CONTACTOR.
HS	HEAT SENSOR EMBEDDED IN PAVEMENT.
CS	COLD SENSOR EMBEDDED IN PAVEMENT.
P	HEAT TRACING POWER BOX.
SD	AUTOMATIC SNOW DETECTOR CONTROL PANEL.
TC	TEMPERATURE CONTROL PANEL.
D	DRAIN PIPE HEAT TRACING CABLE.
T	DOOR TRENCH HEAT TRACING CABLE.
	GROUND ELECTRODE CONDUCTOR.
1	WORK NOTE SYMBOL.

EXTERIOR ELECTRICAL LEGEND

	GROUND ROD – 3/4" X 10' COPPER GROUND ROD. GROUND ROD SHALL BE INSTALLED AT A MINIMUM OF 10' IN NATURAL GRADE.
	GROUND TEST WELL. SEE DETAIL "C1" ON SHEET E–501.
	GROUND CONDUCTOR, #2/0 BARE CU WITH EXOTHERMIC WELD OR APPROVED COMPRESSION CONNECTOR.

ABBREVIATIONS

A	AMPERES
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
COND	CONDUIT
CL	CENTERLINE
CU	COPPER
DWG	DRAWING
FA	FIRE ALARM
FT	FOOT
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HID	HIGH INTENSITY DISCHARGE
HT	HEIGHT
IDS	INTRUSION DETECTION SYSTEM
J	JUNCTION BOX
LS	LIMIT SWITCH
MIN	MINIMUM
MTG	MOUNTING
NOSSA	NAVAL ORDNANCE SAFETY AND SECURITY ACTIVITY
NTS	NOT TO SCALE
PNL	PANEL
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SPD	SURGE PROTECTION DEVICE
SPGB	SINGLE POINT GROUND BAR
TEL	TELEPHONE
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
V	VOLTS
VAC	VOLTS ALTERNATING CURRENT
UON	UNLESS OTHERWISE NOTED
W	WIRE
WP	WEATHERPROOF EQUIPMENT

GENERAL NOTES

1. UNLESS OTHERWISE INDICATED, ALL ELECTRICAL WORK AND MATERIAL IS NEW AND SHALL BE PROVIDED BY THE CONTRACTOR.
2. IF HEAT TRACING IS INSTALLED, REFER TO SHEET E–801 FOR THE ADDITIONAL POWER CIRCUITS.
3. PROVIDE SURGE PROTECTION FOR ALL CONDUCTORS (ENTERING AND EXITING THE MAGAZINE) IN ACCORDANCE WITH NFPA 780. CONNECT ALL SURGE PROTECTION GROUNDING CONDUCTORS TO THE SECONDARY GROUND RING.
4. IF THE MAGAZINE SPACE IS DETERMINED TO BE A HAZARDOUS (CLASSIFIED) LOCATION, THEN EXTENSIVE REDESIGN IS REQUIRED TO MEET NFPA 70, ARTICLE 500.
5. ALL CONDUIT ENTERING AND INSIDE OF THE MAGAZINE SHALL BE RGS CONDUIT.

NOTES TO DESIGNER

1. A SIGNIFICANT CHANGE MADE TO THE STANDARD DRAWINGS DURING THIS UPDATE IS THAT "THE REQUIREMENT TO CONSIDER ORDNANCE STORAGE MAGAZINES AS HAZARDOUS ELECTRICAL SPACES HAS BEEN DETERMINED BY NOSSA TO NOT BE REQUIRED FOR GENERAL PURPOSE ORDNANCE FACILITIES". THE ONLY PLACE WHERE HAZARDOUS ELECTRICAL EQUIPMENT IS REQUIRED IS IN LOCATIONS WHERE AN EXPLOSIVE ATMOSPHERE (DUST, GASES, VAPORS, ETC PER NFPA 70, ARTICLE 500) MIGHT BE PRESENT, SUCH AS AT AN EXPLOSIVE PRODUCTION FACILITY. THE ORIGINAL OLDER STANDARD DESIGNS FOR THE BOX MAGAZINES INCLUDED THE REQUIREMENT FOR HAZARDOUS ELECTRICAL FIXTURES UNNECESSARILY.
2. THREE FEET WORKING CLEARANCE MUST BE MAINTAINED FOR THE PANELBOARD PER NFPA 70. WHERE MAXIMUM STORAGE SPACE IN THE MAGAZINE IS CRITICAL, PANELBOARD AND SURGE PROTECTIVE DEVICES/TRANSIENT VOLTAGE SURGE SUPPRESSORS (SPD/TVSS) MAY BE LOCATED EXTERIOR OF MAGAZINE. COORDINATE WITH ACTIVITY, AND MODIFY DRAWINGS AND PANELBOARD ENCLOSURE ACCORDINGLY.
3. SINGLE PHASE SYSTEMS IDENTIFIED WILL BE APPROPRIATE FOR MOST MAGAZINES. IF LARGER DOOR MOTORS ARE USED, DESIGNER SHOULD DETERMINE IF MORE EXPENSIVE, THREE PHASE SYSTEM WOULD BE MORE APPROPRIATE AND MODIFY RISER AND DRAWINGS ACCORDINGLY.
4. IF HEAT TRACING IS INSTALLED, REFER TO SHEET E–801 FOR THE ADDITIONAL POWER CIRCUITS. IF HEAT TRACING IS NOT PROVIDED, REMOVE SYMBOLS RELATED TO HEAT TRACING FROM THE INTERIOR ELECTRICAL LEGEND ON THIS SHEET.

APPR | DATE | DESCRIPTION | SYM

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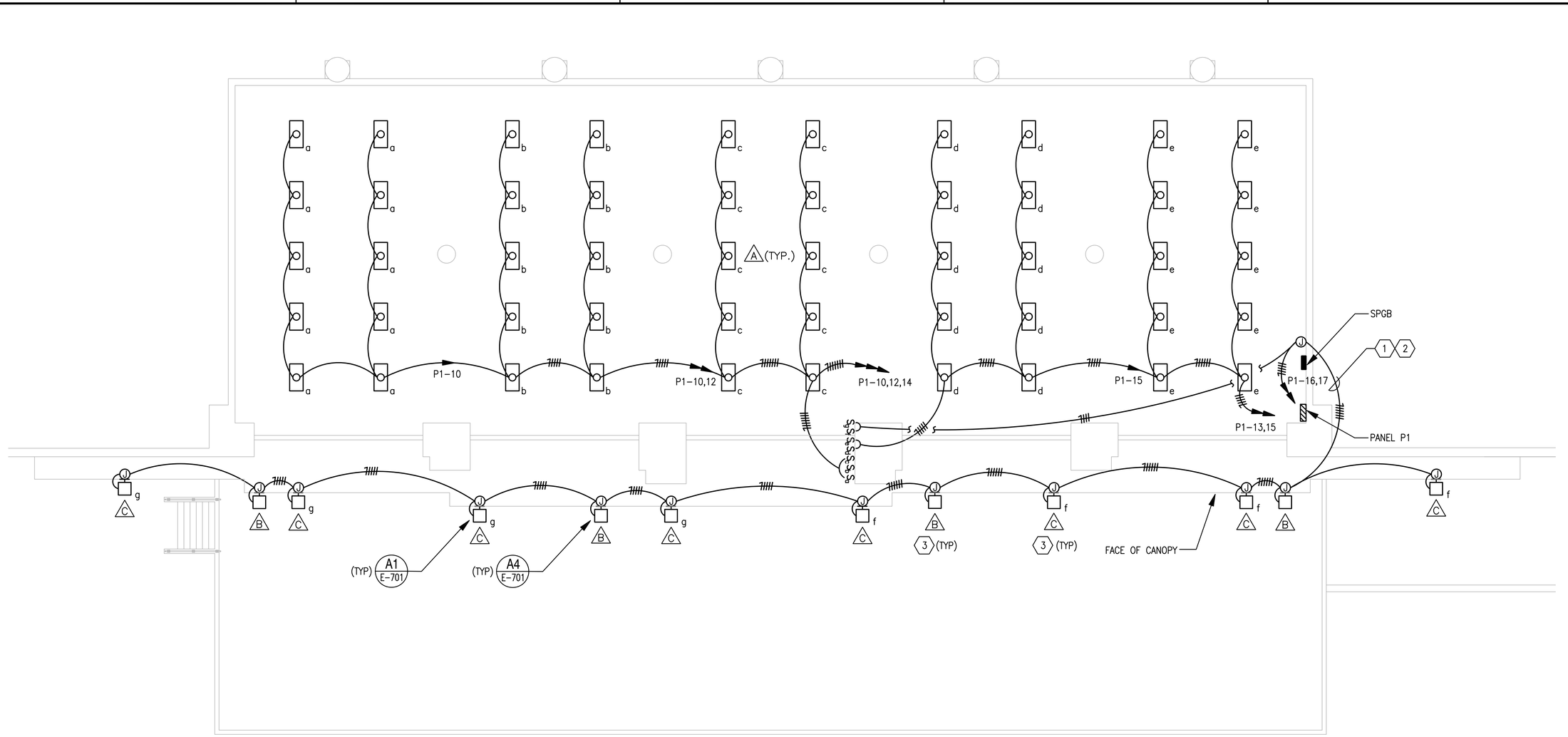
LANT CAPITAL IMPROVEMENTS
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE
WITH LOADING PLATFORM

LEGENDS, ABBREVIATIONS AND GENERAL NOTES

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
14021435
SHEET 29 OF 38
E-001

DRAWFORM REVISION: 10 MARCH 2009



LIGHTING PLAN

SCALE : 1/8" = 1'–0"

LIGHTING FIXTURE SCHEDULE

FIXTURE SYMBOL	SKETCH NO. & TYPE	NUMBER AND TYPE OF LAMPS	VOLTAGE	MOUNTING	NOTES
A	DETAIL "A" SEE SHEET E–701	4–F32/T8	120	SURFACE CEILING MOUNT	1
B	NL–57, TYPE B SEE SHEET E–701	50W METAL HALIDE	120	WALL MOUNTED 14' AFG	2, 3, 4
C	XL–3 SEE SHEET E–701	175W METAL HALIDE	120	WALL MOUNTED 14' AFG	5

LIGHTING FIXTURE SCHEDULE NOTES

1. PROVIDE WITH LOW TEMP BALLAST.
2. PROVIDE WITH INTEGRAL PHOTOCELL CONTROL.
3. PROVIDE FULL CUT–OFF LUMINAIRE WITH FIXTURE.
4. SECURITY LIGHTING.
5. FLOOD LIGHTING.

NOTES

1. CONDUIT MUST ENTER VIA WALL NEAR SINGLE POINT GROUND BAR. AT POINT OF ENTRY INTO THE MAGAZINE, BOND CONDUIT TO SINGLE POINT GROUND BAR WITH #2/0 BARE CU.
2. LIGHTING TYPE "B" FIXTURES SHALL BE FED FROM CIRCUIT P1–16. LIGHTING FIXTURE TYPE "C" FIXTURES SHALL BE FED FROM CIRCUIT P1–17 AND CONTROLLED BY LIGHT SWITCHES "f" AND "g" AS INDICATED.
3. LIGHTING TYPE "B" AND "C" FIXTURES SHALL BE MOUNTED TO THE STRUCTURAL SUPPORT ANGLES LOCATED ON THE FRONT OF THE CANOPY. COORDINATE EXACT LOCATION OF STRUCTURAL SUPPORT ANGLES WITH THE STRUCTURAL DRAWINGS.

GRAPHIC SCALE

1/8"=1'–0" 0' 5' 10' 20' 30'

APPR | DATE | DESCRIPTION | NO.

NAVFAC

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ACTIVITY

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DES	DRW	CHK

PM/DM

BRANCH MANAGER JJP

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
LANT CAPITAL IMPROVEMENTS
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE
WITH LOADING PLATFORM

LIGHTING PLAN

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
14021436
SHEET 30 OF 38

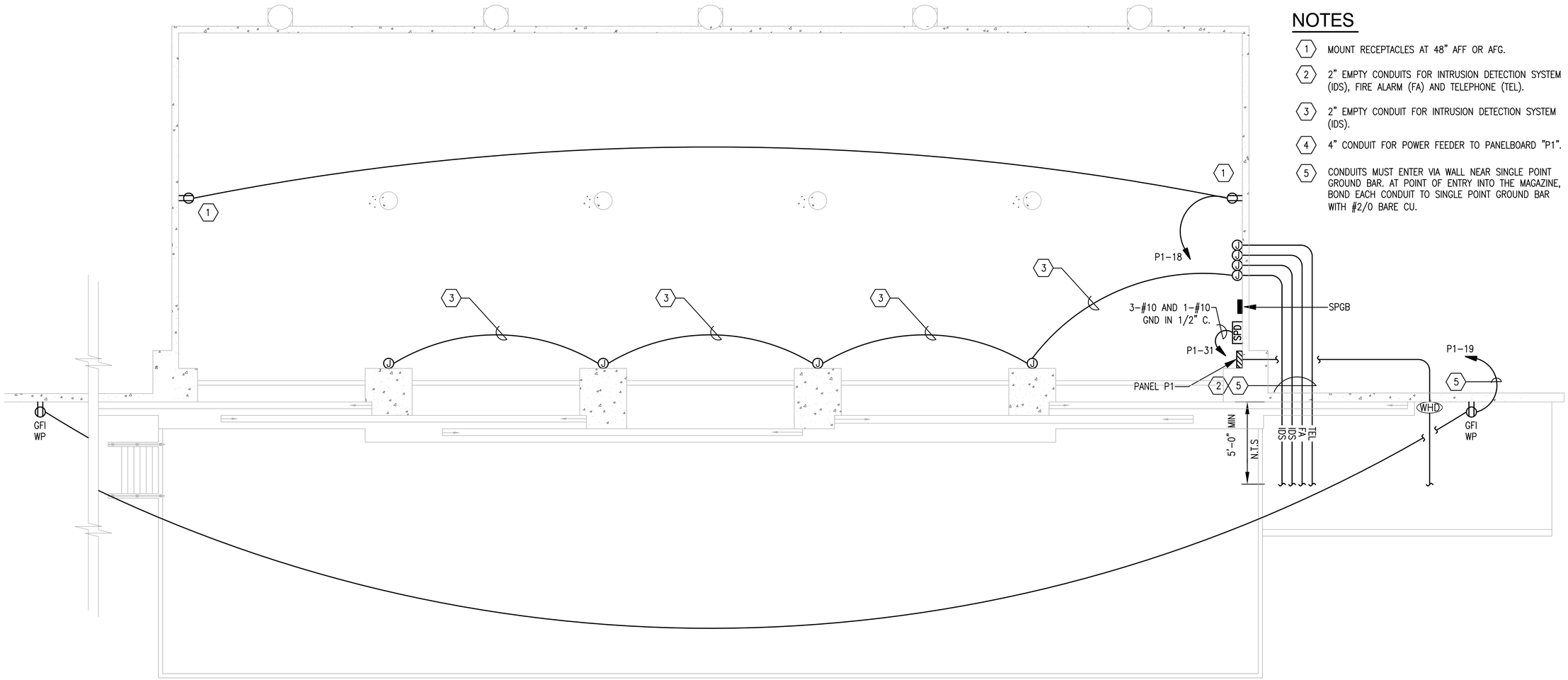
E-101

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES – Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: E-101 PLOTTED: Wednesday, September 26, 2012 – 10:43am

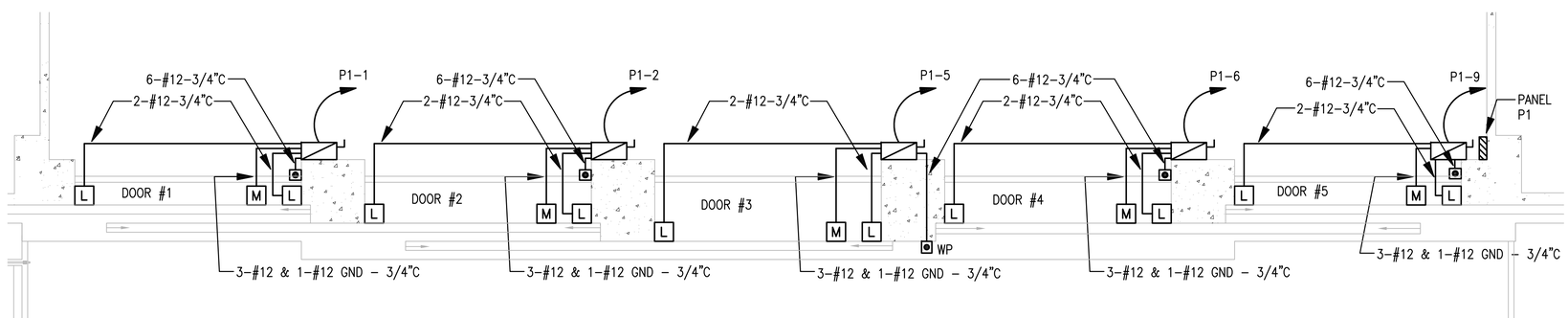
NOTES

1. MOUNT RECEPTACLES AT 48" AFF OR AFG.
2. 2" EMPTY CONDUITS FOR INTRUSION DETECTION SYSTEM (IDS), FIRE ALARM (FA) AND TELEPHONE (TEL).
3. 2" EMPTY CONDUIT FOR INTRUSION DETECTION SYSTEM (IDS).
4. 4" CONDUIT FOR POWER FEEDER TO PANELBOARD "P1".
5. CONDUITS MUST ENTER VIA WALL NEAR SINGLE POINT GROUND BAR. AT POINT OF ENTRY INTO THE MAGAZINE, BOND EACH CONDUIT TO SINGLE POINT GROUND BAR WITH #2/0 BARE CU.



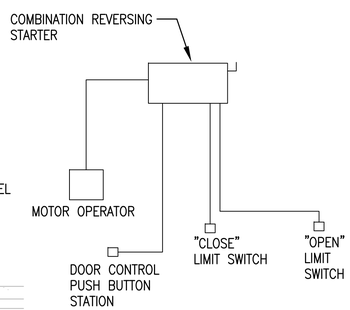
POWER PLAN

SCALE : 1/8" = 1'-0"



PARTIAL POWER PLAN - DOOR CONTROLS

SCALE : 1/8" = 1'-0"



SLIDING DOOR WIRING INSTALLATION DIAGRAM

TYPICAL FOR DOORS 1, 2, 3, 4, AND 5

SLIDING DOOR WIRING INSTALLATION DIAGRAM NOTES

1. DESIGN USES 240V SINGLE PHASE POWER FOR THE MOTOR.
2. INCLUDE OPEN AND CLOSE LIMIT SWITCHES TO TURN OFF MOTOR IN THE MOTOR CONTROL CIRCUIT.
3. DOOR CONTROL PUSHBUTTON STATION SHALL BE MOUNTED 48" ABOVE PLATFORM. ROUTE CIRCUIT CONCEALED OUTSIDE OF THE MAGAZINE BACK TO THE COMBINATION REVERSING STARTER VIA THE SERVICE ENTRANCE PENETRATION.
4. THE EXACT LOCATION OF DOOR OPERATOR AND LIMIT SWITCHES SHALL BE IN ACCORDANCE WITH DOOR MANUFACTURER'S REQUIREMENTS.

GRAPHIC SCALE

1/8"=1'-0" 0' 5' 10' 20' 30'

APPR	DATE	DESCRIPTION	SYM

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TYPE D BOX MAGAZINE WITH LOADING PLATFORM

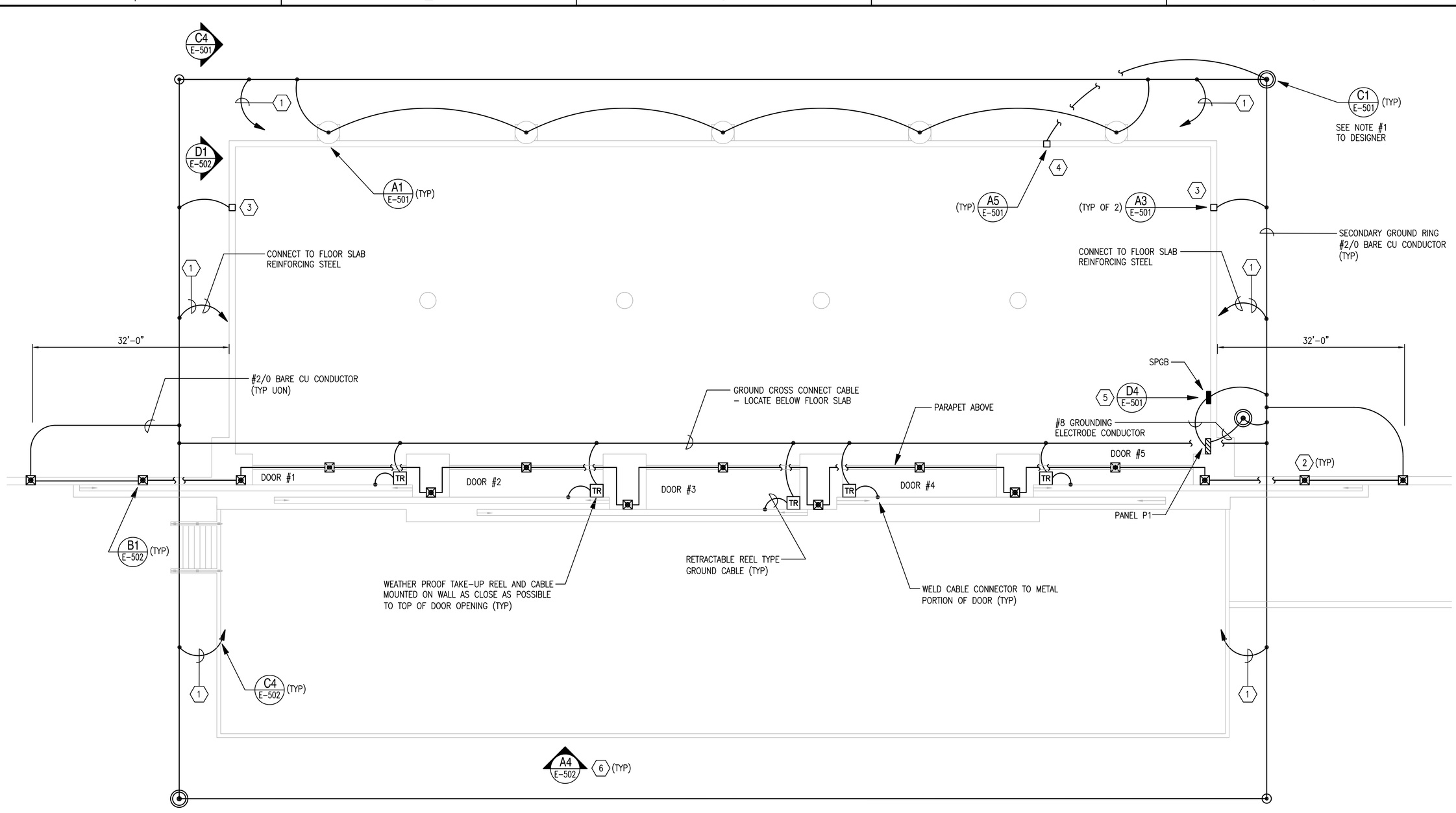
POWER PLANS

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
14021437
SHEET 31 OF 38

E-102

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: E-102 PLOTTED: Wednesday, September 26, 2012 - 12:03pm



GROUNDING PLAN

SCALE : 1/8" = 1'-0"

NOTES

1. ALL REINFORCING STEEL IN BUILDING SHALL BE BONDED WITH #2/0 BARE COPPER CONDUCTORS TO EARTH ELECTRODE SYSTEM (SECONDARY GROUND RING). SEE DETAILS ON SHEET E-502.
2. LIGHTNING PROTECTION POINTS SHALL BE LOCATED AS SHOWN ON THE PLAN. THE MAXIMUM SPACING SHALL BE 16'-0".
3. PROVIDE STATIC GROUND INSERT, NAMPLATE AND REMOVABLE TAG ON EACH SIDE OF THE MAGAZINE AS INDICATED.
4. PROVIDE ORDNANCE GROUND INSERT WITH #2/0 BARE CU CONDUCTOR IN 3/4" PVC CONDUIT TO GROUND TEST WELL AS INDICATED. PROVIDE A NAMEPLATE AND REMOVABLE TAG.
5. PROVIDE A GROUND BAR NEXT TO THE SERVICE ENTRANCE PENETRATIONS AND USE AS THE SINGLE POINT GROUND LOCATION FOR INCOMING SERVICES.
6. PROVIDE BONDING CONNECTIONS ACROSS CONSTRUCTION JOINTS WHEN THEY ARE USED.

NOTES TO DESIGNER

1. DETERMINE THE PRECISE TEST WELL LOCATIONS DURING THE PROJECT DESIGN AND CONSIDER PERIODIC ACCESS TO THE TEST WELLS GIVEN THE INSTALLATION LOCATION.

GRAPHIC SCALE

1/8"=1'-0" 0' 5' 10' 20' 30'

APPR | DATE | DESCRIPTION | SYM

NAVFAC

SEAL

A/E INFO

APPROVED
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK
PM/DM		
BRANCH MANAGER	JJP	
CHIEF ENG/ARCH	EJG	
FIRE PROTECTION		

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND

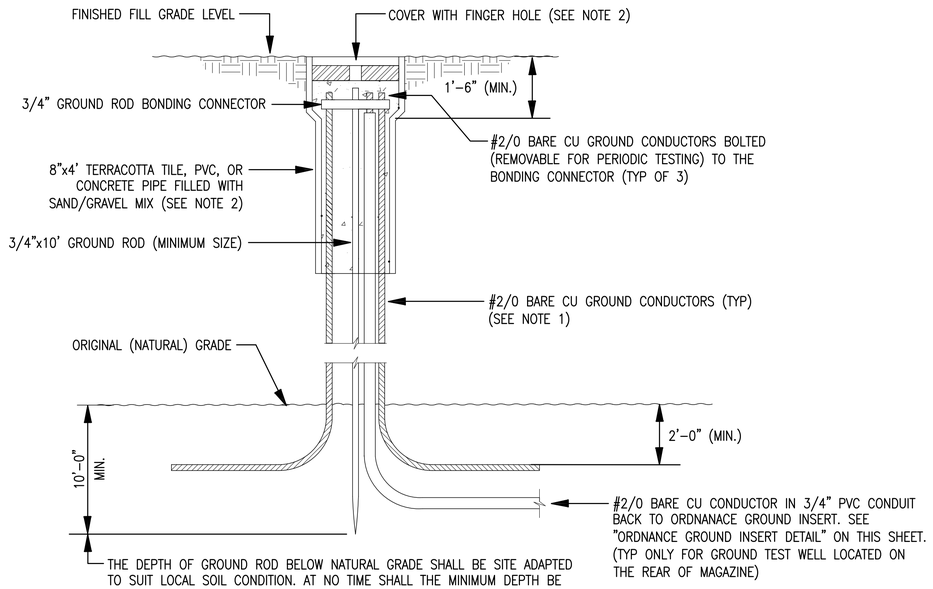
TYPE D BOX MAGAZINE WITH LOADING PLATFORM

GROUNDING PLAN

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 14021438
SHEET 32 OF 38

E-103

DRAWFORM REVISION: 10 MARCH 2009

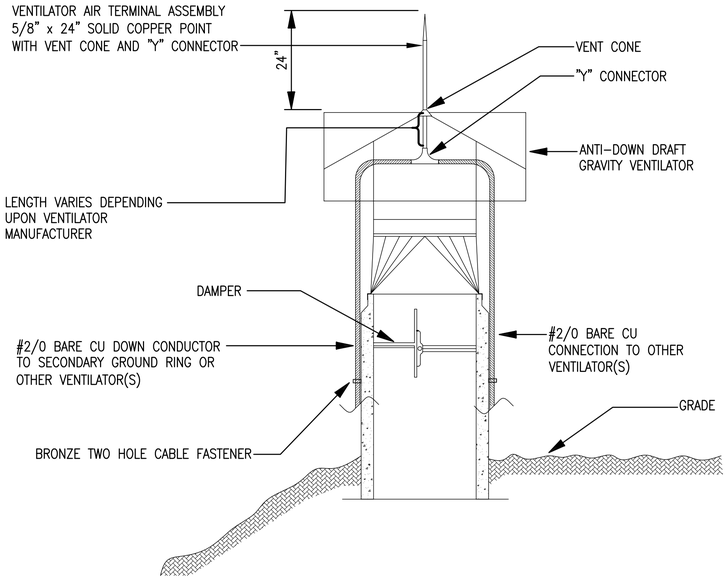


GROUND TEST WELL INSTALLATION IN EARTH FILL C1

N.T.S E-103

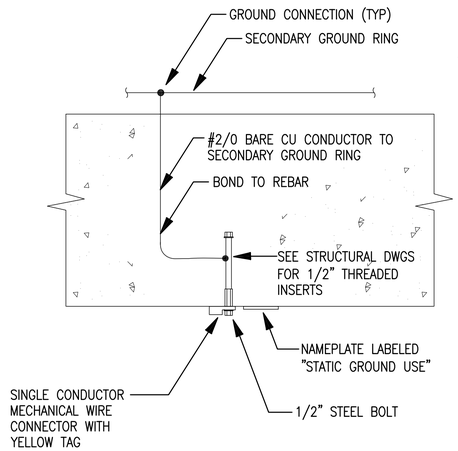
NOTE 1: MAINTAIN THE GROUND CONDUCTORS ISOLATED FROM THE GROUND ROD UNTIL THE BOND CONNECTION AT THE TOP.

NOTE 2: PROVIDE "TRAFFIC RATED" TEST WELL AND COVER FOR PAVED AREAS.



TYPICAL VENTILATOR DETAIL A1

N.T.S E-103



STATIC GROUND INSERT DETAIL A3

N.T.S E-103

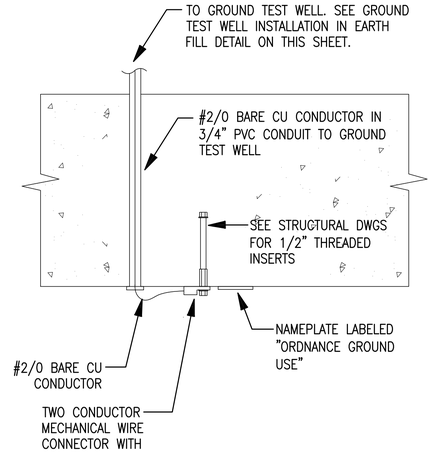
STATIC GROUND INSERT DETAIL NOTES:

1. PROVIDE A REMOVABLE YELLOW MELAMINE PLASTIC TAG THAT ATTACHES TO THE STATIC GROUND INSERT. THE TAG SHALL INCLUDE THE FOLLOWING INFORMATION:

"NOT IN SERVICE. NO MAINTENANCE REQUIRED.

INSTALLATION MEETS STATIC/FACILITY GROUND REQUIREMENT PER NAVSEA OP-5. ACTIVITY SHALL PERFORM TESTING PER NAVSEA OP-5 AND ENACT MAINTENANCE SCHEDULE WHEN THE STATIC/FACILITY GROUND INSERT IS PLACED IN SERVICE.

RETAIN THIS TAG TO REATTACH WHEN REMOVED FROM SERVICE."



ORDNANCE GROUND INSERT DETAIL A5

N.T.S E-103

ORDNANCE GROUND INSERT DETAIL NOTES:

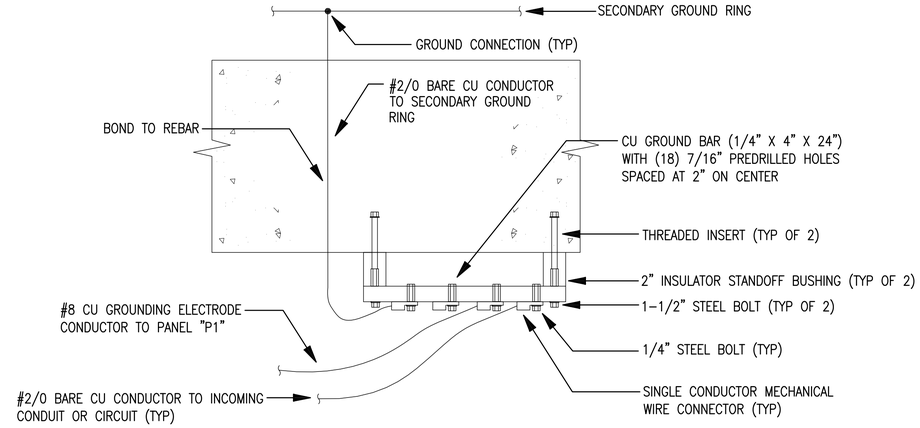
1. PROVIDE A REMOVABLE RED MELAMINE PLASTIC TAG THAT ATTACHES TO THE ORDNANCE GROUND INSERT. THE TAG SHALL INCLUDE THE FOLLOWING INFORMATION:

"NOT IN SERVICE. NO MAINTENANCE REQUIRED.

INSTALLATION MEETS ORDNANCE GROUND REQUIREMENT PER NAVSEA OP-5. ACTIVITY SHALL PERFORM TESTING PER NAVSEA OP-5 AND ENACT MAINTENANCE SCHEDULE WHEN THE ORDNANCE GROUND INSERT IS PLACED IN SERVICE.

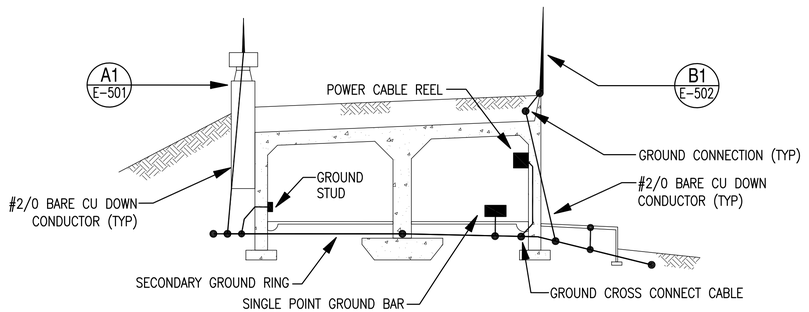
RETAIN THIS TAG TO REATTACH WHEN REMOVED FROM SERVICE."

2. MAINTAIN THREADED INSERT ISOLATION. DO NOT ALLOW THE THREADED INSERT TO TOUCH REBAR OR OTHER METALLIC OBJECTS IN THE WALL.



SINGLE POINT GROUND BAR DETAIL D4

N.T.S E-103



GROUNDING SECTION DETAIL C4

N.T.S E-103

APPR | DATE | DESCRIPTION | SYM

NAVFAC

SEAL

A/E INFO

APPROVED
R. x B. F. III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES | DRW | CHK

PM/DM

BRANCH MANAGER JJP

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

DETAILS

SCALE: AS NOTED

EPROJECT NO.:

CONSTR. CONTR. NO.

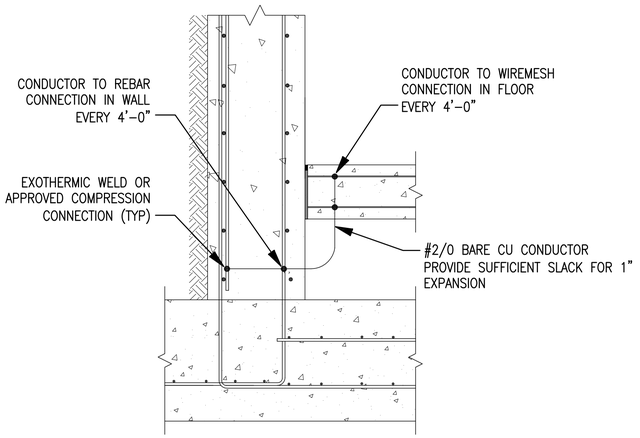
NAVFAC DRAWING NO.
14021439

SHEET 33 OF 38

E-501

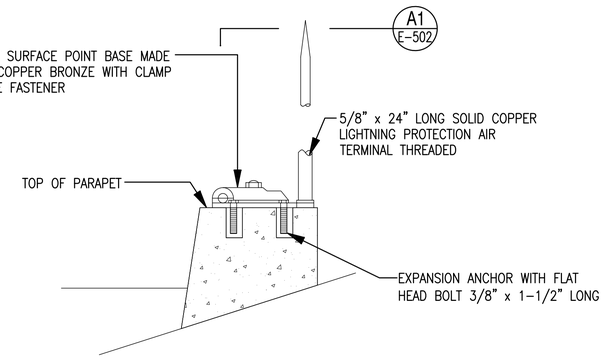
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: E-501 PLOTTED: Wednesday, September 26, 2012 - 10:46am



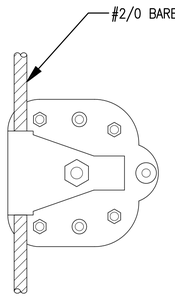
FLOOR TO WALL CONNECTION D1

N.T.S E–103



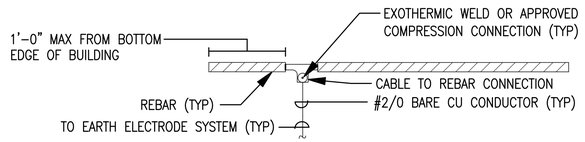
MOUNTING DETAIL B1

N.T.S E–103



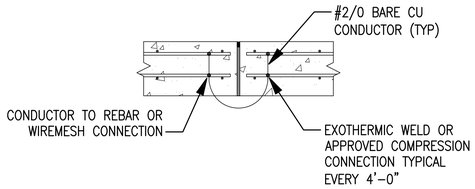
CABLE CONNECTION DETAIL A1

N.T.S E–502



GROUNDING REINFORCING STEEL C4

N.T.S E–103



TYPICAL BOND CONNECTION AT EACH CONSTRUCTION JOINT A4

N.T.S E–103

APPR | DATE | DESCRIPTION | SYM

NAVFAC

SEAL

A/E INFO

APPROVED
FOR COMMANDER NAVFAC 9/28/12
ACTIVITY
SATISFACTORY TO
DES | DRW | CHK
PM/DM
BRANCH MANAGER JJP
CHIEF ENG/ARCH EJG
FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

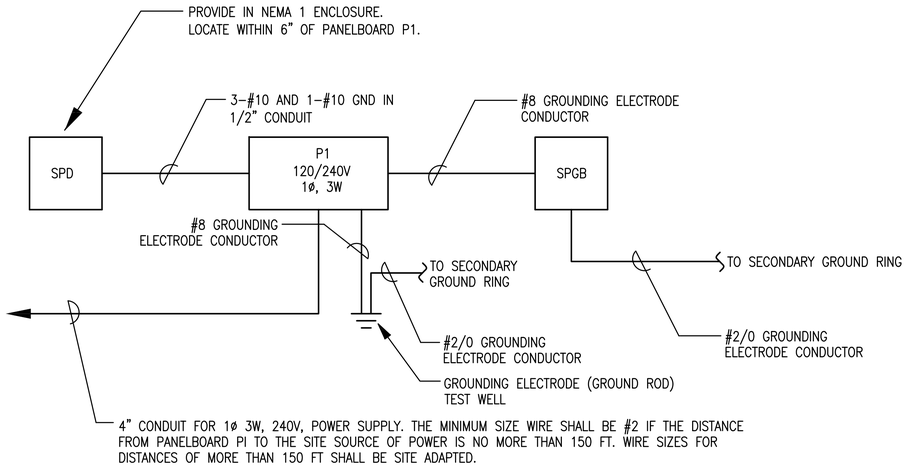
DETAILS

SCALE: AS NOTED
EPROJECT NO.:
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
14021440
SHEET 34 OF 38

E-502

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\#Box MAGAZINES – Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: E-502 PLOTTED: Wednesday, September 26, 2012 – 10:47am



POWER RISER DIAGRAM

PANELBOARD "P1" SCHEDULE

150A. 120/240 V., 1 PHASE, 3 WIRE, 10 KAIC MINIMUM, SURFACE MOUNT

	LOAD SERVED	LOAD (AMPS) A	LOAD (AMPS) B	BKR TRIP	WIRE SIZE	CKT. NO.	PHASE A B	CKT. NO.	WIRE SIZE	BKR TRIP	LOAD (AMPS) A	LOAD (AMPS) B	LOAD SERVED	
	DOOR #1	3		20	12	1		2	12	20	3		DOOR #2	
			3									3		
	DOOR #3	3		20	12	5		6	12	20	3		DOOR #4	
			3									3		
	DOOR #5	3		20	12	9		10	12	20	11		MAGAZINE LIGHTING	
			3					12	12	20		11	MAGAZINE LIGHTING	
	MAGAZINE LIGHTING	11		20	12	13		14	12	20	11		MAGAZINE LIGHTING	
	MAGAZINE LIGHTING		11	20	12	15		16	12	20		2	SECURITY LIGHTING	
	FLOOD LIGHTING		11	20	12	17		18	12	20		1	RECEPTACLES	
	RECEPTACLES	1		20	12	19		20	12	20	10		DOOR #4 HEAT TRACING	*
*	DOOR #1 HEAT TRACING	10		20	12	21		22	12	20		10	DOOR #5 HEAT TRACING	*
*	DOOR #2 HEAT TRACING		10	20	12	23		24	12	20	8		DRAIN PIPE HEAT TRACING	*
*	DOOR #3 HEAT TRACING	10		20	12	25		26	12	20		8	DRAIN PIPE HEAT TRACING	*
*	DRAIN PIPE HEAT TRACING	8		20	12	27		28	12	20		8	DRAIN PIPE HEAT TRACING	*
*	DRAIN PIPE HEAT TRACING		8	20	12	29		30		20			SPARE	
	SPD	0		30	10	31		32		20			SPARE	
	TOTAL	49	49								46	46	TOTAL	

TOTAL CONNECTED AMPS A: 95 B: 95

NOTES

1. PROVIDE POWER FROM A DEDICATED SINGLE PHASE TRANSFORMER RATED FOR 120/240V SECONDARY.
2. PROVIDE LIGHTNING ARRESTERS IN THE SINGLE PHASE TRANSFORMER.
3. THE DOOR AND DRAIN PIPE HEAT TRACING CIRCUITS ONLY APPLY IF HEAT TRACING IS INSTALLED. SEE SHEET E-801.
4. ASTERISK INDICATES THAT THE BREAKERS ARE SPARE IF HEAT TRACING IS NOT PROVIDED.

APPR | DATE | DESCRIPTION | SYM

NAVFAC

SEAL

A/E INFO

APPROVED
R. B. F. III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES | DRW | CHK

PM/DM

BRANCH MANAGER JJP

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE
WITH LOADING PLATFORM

POWER RISER DIAGRAM AND PANELBOARD SCHEDULE

SCALE: AS NOTED

EPROJECT NO.:

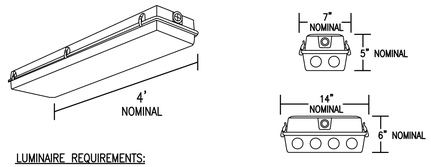
CONSTR. CONTR. NO.

NAVFAC DRAWING NO.
14021441

SHEET 35 OF 38

E-601

DRAWFORM REVISION: 10 MARCH 2009



LUMINAIRE REQUIREMENTS:

1. HOUSING – ONE–PIECE, IMPACT–RESISTANT, FIBERGLASS REINFORCED POLYESTER WITH ENCLOSED COLD–ROLLED STEEL WIREWAY.
2. FINISH – STEEL REFLECTOR WITH MULTI–STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
3. LENS – 100% CLEAR ACRYLIC/DR OPTICAL DIFFUSER. STIPPLED INTERIOR SURFACES AND SMOOTH EXTERIOR. CLOSED CELL NEOPRENE GASKET WITH STAINLESS STEEL CAM ACTION LATCHES TO SECURE LENS TO HOUSING.
4. LAMPS – LINEAR FLUORESCENT T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
5. BALLAST – CLASS P, THERMALLY–PROTECTED, HIGH POWER FACTOR (≥.95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
6. CERTIFICATION – UL LISTED AND LABELED. SUITABLE FOR DAMP OR WET LOCATION AS DESIGNATED IN LIGHTING FIXTURE SCHEDULE.
7. PHOTOMETRICS – MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80–50–20:

2 LAMP (F32/T8)

RCR	CU
1	78
2	67
3	58
4	51

EFFICIENCY – 76%

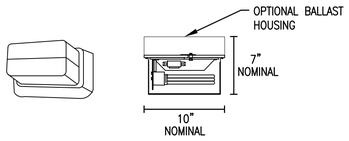
4 LAMP (F32/T8)

RCR	CU
1	88
2	76
3	67
4	59

EFFICIENCY – 85%

FIBERGLASS HOUSING DAMP/WET LOCATION FLUORESCENT

REVISED: DECEMBER 2009 | LIGHTING PLATE: DETAIL "A"



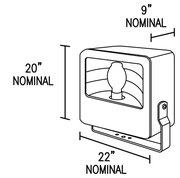
LUMINAIRE REQUIREMENTS:

1. HOUSING/BACKPLATE – ONE–PIECE, DIE–CAST ALUMINUM WITH BAKED–ON POLYESTER POWDER COAT FINISH IN DARK BRONZE.
2. DIFFUSER – CLEAR PRISMATIC, UV–STABILIZED, INJECTION–MOLDED ACRYLIC LENS PROVIDED WITH SILICON GASKET TO CREATE WEATHERPROOF ENCLOSURE. STAINLESS STEEL SCREWS FASTEN LENS TO HOUSING. POLISHED INTERNAL ALUMINUM SHROUD OVER TOP HALF OF SIDES AND FRONT ALONG WITH TOP OF FIXTURE PROVIDE LOW PROJECTION OF LIGHT OUTPUT.
3. LAMP SOCKET – INTEGRAL, PRE–WIRED PORCELAIN LAMP SOCKET WITH NICKEL–PLATED SCREW AND CENTER CONTACT (HID OPTION). 4–PIN THERMOPLASTIC (COMPACT FLUORESCENT OPTION).
4. BALLAST – CLASS P, HIGH POWER FACTOR (≥.95), PROGRAMMED RAPID START ELECTRONIC TYPE WITH ≤10% TOTAL HARMONIC DISTORTION FOR COMPACT FLUORESCENT LAMPS, OR

   PREWIRED, ENCASED AND POTTED (ENCAPSULATED), CONSTANT–WATTAGE AUTOTRANSFORMER, HIGH POWER FACTOR (≥.90), CORE AND COIL TYPE FOR USE WITH HID LAMP OPTION.
5. LAMPS – COMPACT FLUORESCENT WITH 4–PIN BASE OR METAL HALIDE, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
6. CERTIFICATION – UL LISTED AND LABELED FOR WET LOCATIONS.
7. OPTIONS – LENS OPTIONS INCLUDE FULL FACE SHIELD WITH UP OR DOWN LIGHTING OR FULL FACE SHIELD WITH SIDES CLEAR. PHOTOCELL ALSO OPTIONAL.
8. OTHER – LOW–WATTAGE COMPACT FLUORESCENT FIXTURES DO NOT REQUIRE BALLAST HOUSING AS SHOWN.

WALL–MOUNTED HALF–SHIELDED CUTOFF FIXTURE

REVISED: AUGUST 2004 | LIGHTING PLATE: NL–57

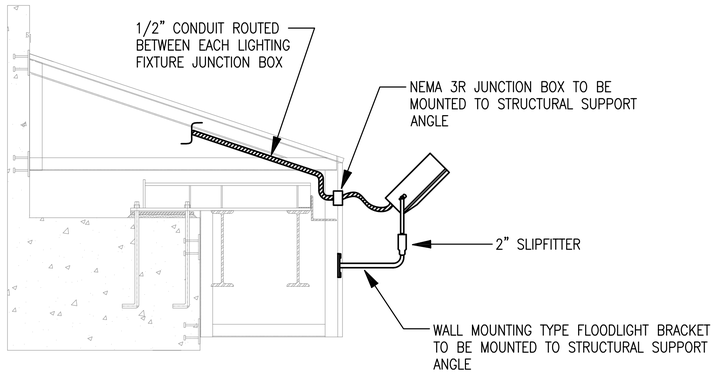


LUMINAIRE REQUIREMENTS:

1. HOUSING – ONE–PIECE DIE–CAST ALUMINUM WITH HINGED, DIE–CAST ALUMINUM DOOR. PROVIDE CONTINUOUS, ONE–PIECE SILICONE GASKET TO SEAL DOOR FRAME TO HOUSING.
2. FINISH – MULTI–STAGE PRE–TREATMENT, FINISHED WITH BAKED–ON POLYESTER POWDER COAT. FIXTURE SHALL PASS 2500 HOUR SALT SPRAY TEST FOR CORROSION RESISTANCE. DARK BRONZE OR BLACK STANDARD FINISHES. OTHER FINISHES AVAILABLE.
3. REFLECTOR – DIE–FORMED, ANODIZED, SPECULAR ALUMINUM. NEMA/IES BEAM SPREAD PATTERN SHALL BE AS INDICATED.
4. LAMP SOCKET – INTEGRAL, PRE–WIRED PORCELAIN LAMP SOCKET WITH NICKEL–PLATED SCREW AND CENTER CONTACT. HORIZONTAL OR VERTICAL AS INDICATED.
5. LENS – CLEAR, TEMPERED GLASS WITH CONTINUOUS ONE–PIECE SILICONE GASKET.
6. LAMPS – METAL HALIDE OR HIGH PRESSURE SODIUM WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
7. BALLAST – PREWIRED, ENCASED AND POTTED (ENCAPSULATED), CONSTANT–WATTAGE AUTOTRANSFORMER, HIGH POWER FACTOR (≥.90), CORE AND COIL TYPE. PROVIDE PULSE–START TYPE FOR USE WITH MH LAMPS.
8. CERTIFICATION – UL LISTED AND CERTIFIED FOR WET LOCATIONS.
9. MOUNTING – TRUNNION, TENON SLIPFITTER, OR FLAT SURFACE KNUCKLE AS INDICATED. PROVIDE 16/3, PRE–WIRED, WEATHERPROOF SO CORD FOR MOUNTING OTHER THAN TENON. SPECIFY LENGTH OF CORD NEEDED.
10. OPTIONS – UPPER OR FULL VISOR, PHOTOCELL AND RECEPTACLE, QUARTZ RESTRIKE WITH OR WITHOUT TIME DELAY, CUSTOM COLOR AS INDICATED, AND FUSING.

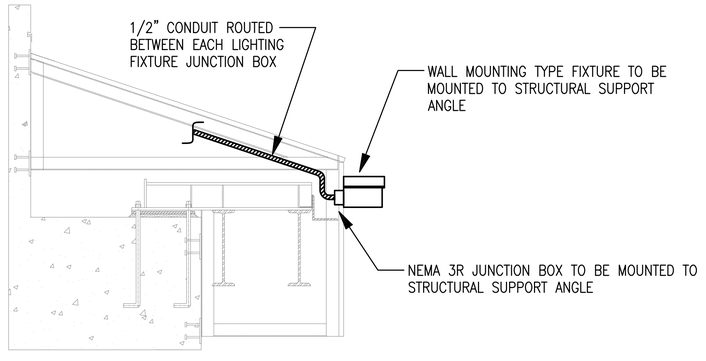
AREA FLOOD LIGHT

REVISED: AUGUST 2004 | LIGHTING PLATE: XL–3



FLOOD LIGHTING MOUNTING DETAIL (A1)

N.T.S E–101



SECURITY LIGHTING MOUNTING DETAIL (A4)

N.T.S E–101

APPR	DATE	DESCRIPTION	SYM

NAVFAC

SEAL

A/E INFO

APPROVED
Roy B. Fox III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/DM

BRANCH MANAGER JJP

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

LIGHTING DETAILS

SCALE: AS NOTED

EPROJECT NO.:

CONSTR. CONTR. NO.

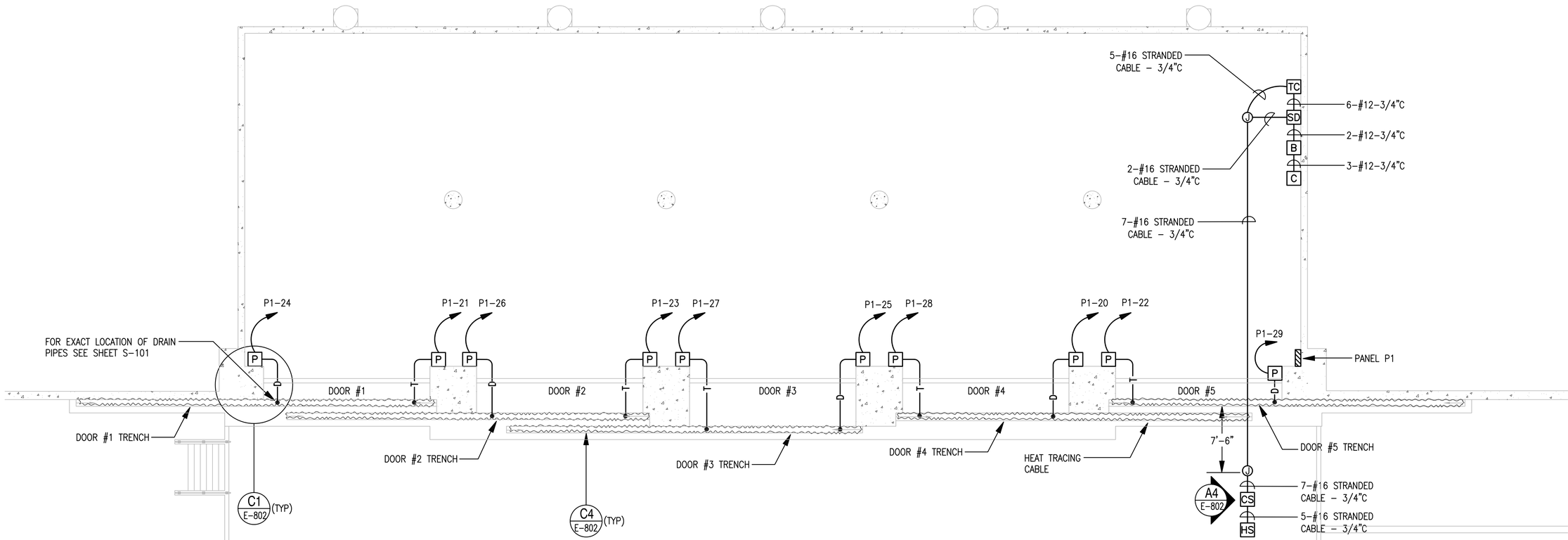
NAVFAC DRAWING NO.
14021442

SHEET 36 OF 38

E-701

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES – Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: E-701 PLOTTED: Wednesday, September 26, 2012 – 10:48am



HEAT TRACE PLAN

SCALE : 1/8" = 1'-0"

NOTES TO DESIGNER

1. THE BASIS FOR DESIGN FOR THE SNOW MELTING SYSTEM ON THIS DRAWING IS A HEAT DENSITY OF 60W/FT^2 AS PER ASHRAE. ALL A/E'S SITE ADAPTING EACH BUILDING WHERE SNOW MELTING IS TO BE INSTALLED SHALL USE THE PROPER HEAT DENSITY FOR THAT PARTICULAR GEOGRAPHIC AREA AS PER THE ASHRAE SYSTEMS HANDBOOK CHAPTER "SNOW MELTING", CLASS III.

2. HEAT TRACE CIRCUITS (ALL UNDERGROUND OUTSIDE OF FACILITY) DO NOT NEED TO BE BONDED TO THE SINGLE POINT GROUND BAR (SPGB).

GRAPHIC SCALE

1/8"=1'-0" 0' 5' 10' 20' 30'

APPR	DATE	DESCRIPTION	SYM

NAVFAC

SEAL

A/E INFO

APPROVED
R. x B. F. III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/DM

BRANCH MANAGER JJP

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA
LANT CAPITAL IMPROVEMENTS

NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

HEAT TRACE PLAN

SCALE: AS NOTED

EPROJECT NO.:

CONSTR. CONTR. NO.

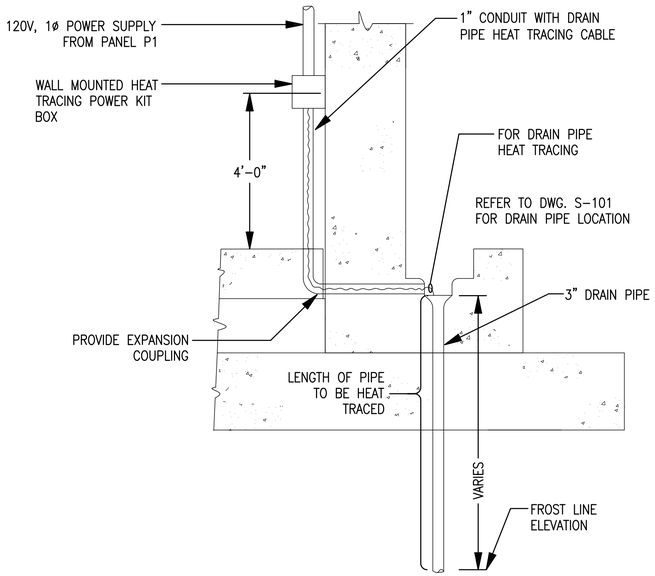
NAVFAC DRAWING NO.
14021443

SHEET 37 OF 38

E-801

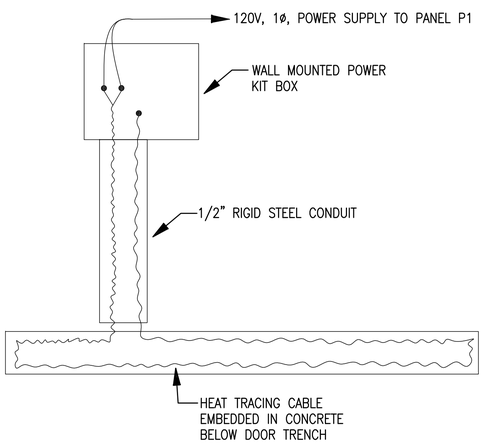
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: E-801 PLOTTED: Wednesday, September 26, 2012 - 10:49am



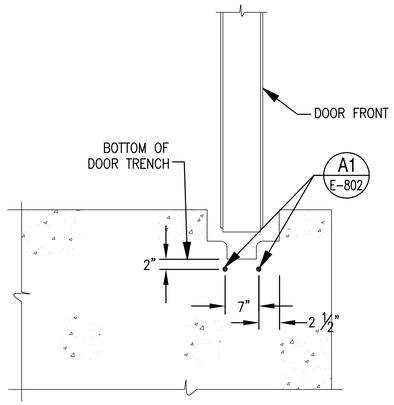
DRAIN PIPE HEAT TRACING DETAIL C1

N.T.S E-801



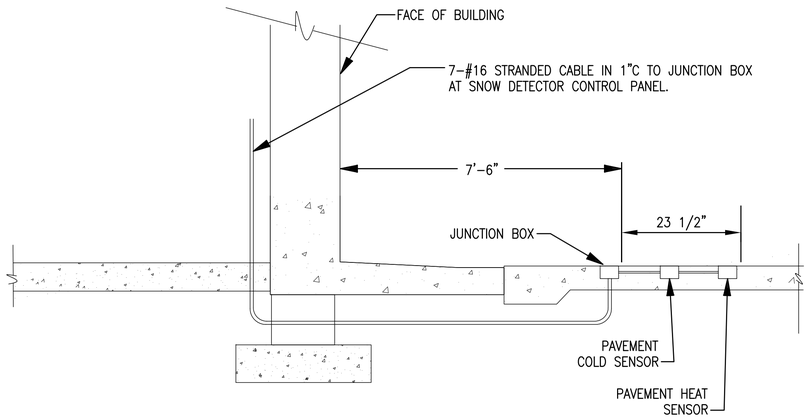
TYPICAL DOOR TRENCH HEAT TRACING WIRING DIAGRAM A1

N.T.S E-802



HEAT TRACING CABLE DETAIL C4

N.T.S E-801



SNOW DETECTOR LOCATION DETAIL A4

N.T.S E-801

APPR | DATE | DESCRIPTION | SYM

NAVFAC

SEAL

A/E INFO

APPROVED
R. B. F. III
FOR COMMANDER NAVFAC 9/28/12

ACTIVITY

SATISFACTORY TO

DES	DRW	CHK

PM/DM

BRANCH MANAGER JJP

CHIEF ENG/ARCH EJG

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA
LANT CAPITAL IMPROVEMENTS

TYPE D BOX MAGAZINE WITH LOADING PLATFORM

HEAT TRACE DETAILS

SCALE: AS NOTED

EPROJECT NO.:

CONSTR. CONTR. NO.

NAVFAC DRAWING NO.
14021444

SHEET 38 OF 38

E-802

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: J:\CISE\Magazines\@Box MAGAZINES - Modified 2011\BOX D FINALS\Final Drawings Box D with Platform\AutoCAD\BOX D WITH PLATFORM.dwg LAYOUT NAME: E-802 PLOTTED: Wednesday, September 26, 2012 - 10:50am