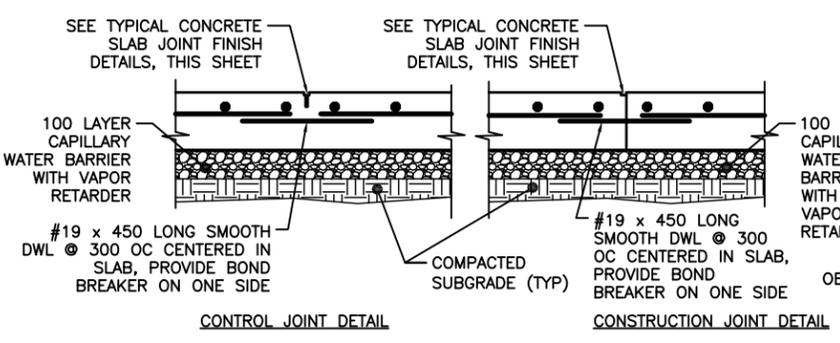
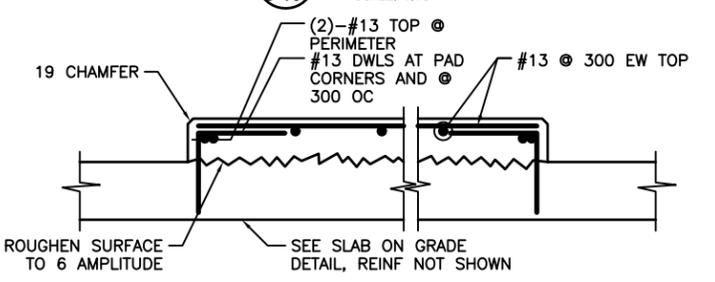


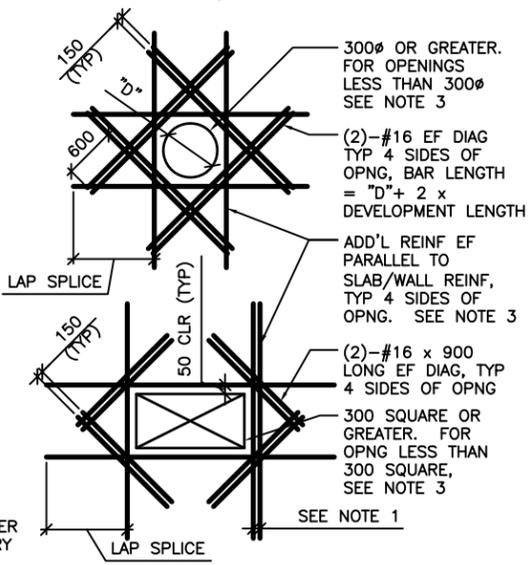
TYPICAL CONCRETE SLAB JOINT FINISH DETAILS
SCALE: NTS



TYPICAL SLAB ON GRADE JOINT DETAIL
SCALE: NTS



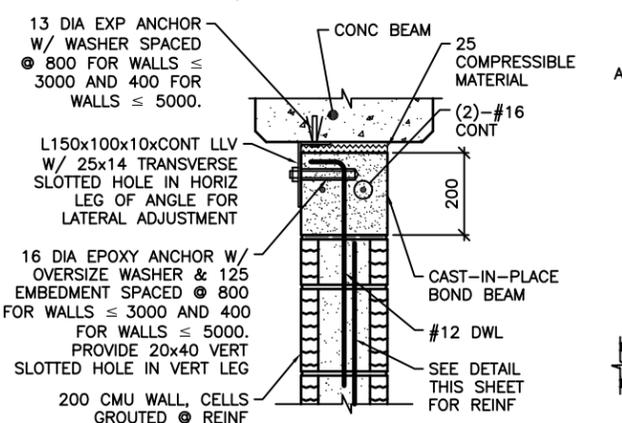
INTERIOR EQUIPMENT PAD DETAIL
SCALE: NTS



DETAIL NOTES:

- WHERE MORE THAN ONE ADDITIONAL BAR IS REQUIRED PARALLEL TO THE EXISTING SLAB/WALL REINFORCING THE ADDITIONAL REINFORCING BARS SHALL BE SPACED AT 100 ON CENTER.
- ADDITIONAL REINFORCING PARALLEL TO THE SLAB/WALL REINFORCING SHALL BE #16 BARS THAT PROVIDE A STEEL AREA ON EACH SIDE OF THE OPENING EQUAL TO 1/2 THE AREA OF THE REINFORCING CUT BY THE OPENING.
- FOR OPENINGS WITH SIDES OR DIAMETERS LESS THAN 300 SPREAD THE SLAB/WALL REINFORCING TO CLEAR THE OPENING.

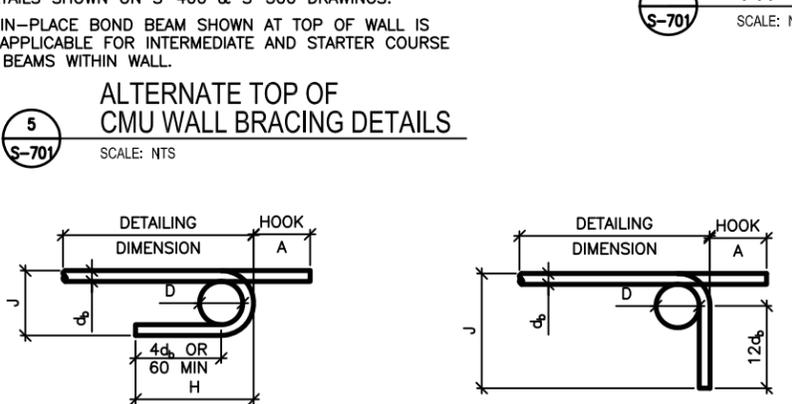
ADD'L CONCRETE REINFORCEMENT DETAILS
SCALE: NTS



NOTES:

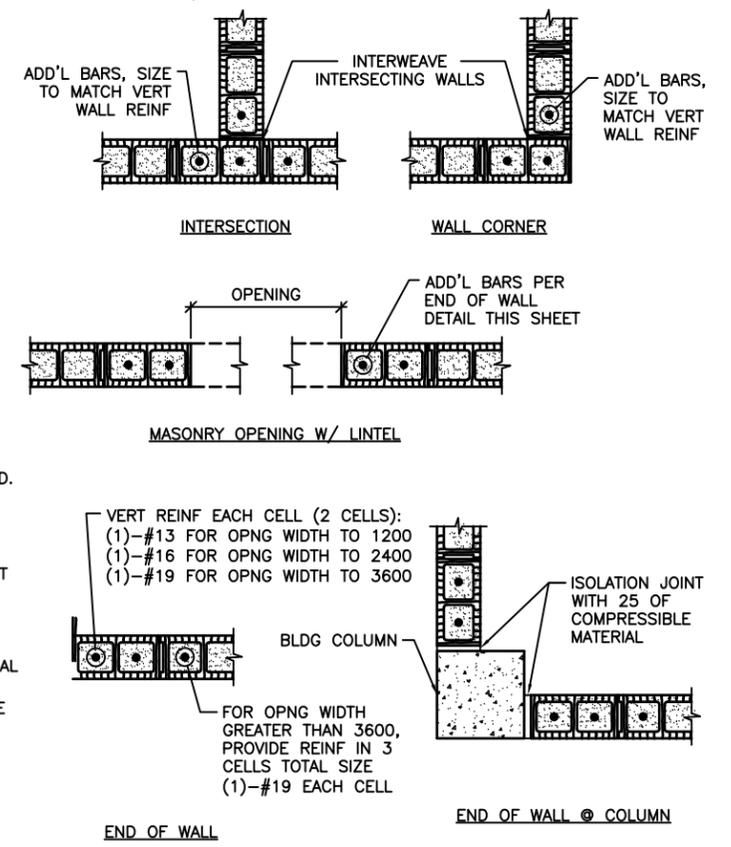
- THIS DETAIL IS AN ALTERNATE TOP OF WALL ANCHORAGE DETAIL TO BE USED AT THE CONTRACTOR'S OPTION IN LIEU OF DETAILS SHOWN ON S-400 & S-500 DRAWINGS.
- CAST-IN-PLACE BOND BEAM SHOWN AT TOP OF WALL IS ALSO APPLICABLE FOR INTERMEDIATE AND STARTER COURSE BOND BEAMS WITHIN WALL.

ALTERNATE TOP OF CMU WALL BRACING DETAILS
SCALE: NTS



SIZES OF 180° HOOK				D = 6d _b FOR #10-#25 D = 6d _b FOR #29-#36 d _b = BAR DIA			SIZES OF 90° HOOK		
BAR SIZE	A	J	APPROX H	BAR SIZE	A	J	BAR SIZE	A	J
#10	130	80	100	#10	140	150	#10	140	150
#13	150	100	110	#13	190	220	#13	190	220
#16	180	130	130	#16	230	270	#16	230	270
#19	200	150	150	#19	270	320	#19	270	320
#22	250	180	180	#22	320	370	#22	320	370
#25	280	200	200	#25	370	430	#25	370	430
#29	380	290	260	#29	420	480	#29	420	480
#32	430	320	290	#32	470	580	#32	470	580
#36	480	360	320	#36	520	610	#36	520	610

TYP REINFORCEMENT BAR BENDING DETAILS
SCALE: NTS



NOTES:

- OPENING WIDTH SHALL NOT EXCEED 3600 FOR THIS TYPE OF JAMB.
- ALL CELLS FULLY GROUTED AT EXTERIOR WALLS. AT INTERIOR WALLS, ONLY GROUT CELLS CONTAINING REINF.

TYP CMU DETAILS
SCALE: NTS

DETAIL NOTES:

- CENTER VERT REINF IN WALL.
- GROUT ALL CMU CELLS IN EXTERIOR WALLS & REINFORCED CELLS IN INTERIOR WALLS.
- REFERENCE ARCH DWGS FOR JOINT INFORMATION
- DOWELS BETWEEN TOP BOND BEAM AND BEAM/SLAB ABOVE (INCLUDING EMBEDDED PIPE SLEEVE) NOT SHOWN FOR CLARITY. SEE SPECIFIC S-500 SERIES DWGS FOR INFO.
- FOR INFORMATION ON ALTERNATE CAST-IN-PLACE WALL BOND BEAMS, REFERENCE ALTERNATE TOP OF CMU WALL BRACING DETAILS THIS SHEET.

TYP CMU WALL REINF DETAIL
SCALE: NTS

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (mm)

US Army Corps of Engineers
AFGHANISTAN ENGINEER DISTRICT

DATE: _____ APPR: _____
DESCRIPTION: _____ MARK: _____

DESIGNED BY: _____ SOLICITATION NO: _____
DRAWN BY: _____ CONTRACT NO: _____
SUBMITTED BY: _____ PLOT SCALE: _____ PLOT DATE: _____ FILE NUMBER: _____
SIZE: 1:2 FILE NAME: ADD20-FRU-ALT-S-701.DWG

U.S. ARMY CORPS OF ENGINEERS
AFGHANISTAN DISTRICT
APO AE 09356

SITE ADAPT DESIGN
FAMILY RESPONSE UNIT OFFICES
AD20-FRU

TYPICAL DETAILS

SHEET IDENTIFICATION
S-701
SHEET 9 OF 31

C:\users\2aenabac\documents\dwgwork\100337405\AD20-FRU-ALT-S-701.dwg, 7/25/2011 8:15:30 PM



ENGINEERING AND CONSTRUCTION DIVISION
 US ARMY ENGINEER DISTRICT, AFGHANISTAN
 APO AE, 09356

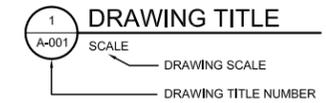
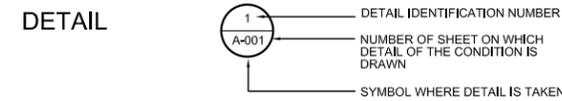
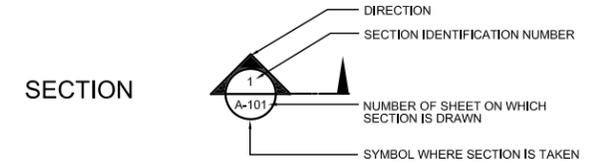
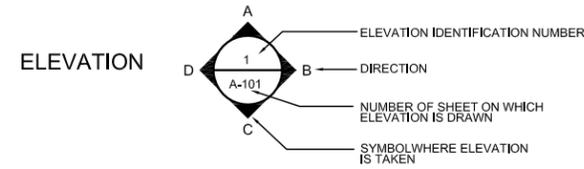
03

SMALL WOMEN'S BARRACK'S

APPENDIX A

VARIOUS LOCATIONS

SECTION/DETAIL CROSS REFERENCING CONVENTIONS



SCHEDULE OF DRAWINGS

SHEET NO	DWG CODE	SHEET REFERENCE NO	DESCRIPTION	REV STATUS	SHEET NO	DWG CODE	SHEET REFERENCE NO	DESCRIPTION	REV STATUS	SHEET NO	DWG CODE	SHEET REFERENCE NO	DESCRIPTION	REV STATUS				
GENERAL																		
		G-001	TITLE SHEET & SCHEDULE OF DRAWINGS															
STRUCTURAL																		
		S-101	FOUNDATION AND ROOF FRAMING PLANS															
		S-501	STRUCTURAL DETAILS															
		S-502	STRUCTURAL DETAILS															
		S-601	STRUCTURAL SCHEDULES															
		S-602	STRUCTURAL MATERIAL SCHEDULES															
ARCHITECTURAL																		
		A-101	FLOOR PLAN, ROOF PLAN															
		A-201	ELEVATIONS, BUILDING SECTION, AND EAVE DETAIL															
		A-601	DOOR & FINISH SCHEDULES AND DETAILS															
ELECTRICAL																		
		E-101	ELECTRICAL PLAN															
PROJECT COORDINATION																		
U.S. ARMY ENGINEER DISTRICT, AFGHANISTAN																		
<table border="0" style="width: 100%;"> <tr> <td style="width: 60%; border-bottom: 1px solid black;">PROJECT MANAGER</td> <td style="width: 40%; border-bottom: 1px solid black;">DATE</td> </tr> <tr> <td style="border-bottom: 1px solid black;">CHIEF, DESIGN BRANCH</td> <td style="border-bottom: 1px solid black;">DATE</td> </tr> </table>															PROJECT MANAGER	DATE	CHIEF, DESIGN BRANCH	DATE
PROJECT MANAGER	DATE																	
CHIEF, DESIGN BRANCH	DATE																	
THIS PROJECT WAS DESIGNED BY AFGHANISTAN ENGINEER DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS OR SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER 1110-1-8152.																		



DATE	APPR	DESCRIPTION

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUBMITTED BY:	DATE:	SOLICITATION NO.:	CONTRACT NO.:
U.S. ARMY CORPS OF ENGINEERS AFGHANISTAN DISTRICT APO AE 09356			FILE NUMBER: B26-G-001.DWG			

SITE ADAPT DESIGN	B26 - SMALL WOMEN'S BARRACKS	TITLE SHEET SCHEDULE OF DRAWINGS
-------------------	------------------------------	-------------------------------------

SHEET IDENTIFICATION G-001 SHEET 1 OF 10

R:\Engineering\Various Projects\B26 - Small Women's Barracks\B26-G-001.dwg, 8/9/2011 2:35:04 PM

STRUCTURAL ABBREVIATIONS:

6	ACI	AMERICAN CONCRETE INSTITUTE
	AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
	ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
	ARCH	ARCHITECTURAL
	B	BOTTOM
	BLDG	BUILDING
	BOTT	BOTTOM
	?	CENTER LINE
	CFMRF	COLD FORM METAL ROOF FRAME
	CFMF	COLD FORM METAL FRAME
5	CFS	COLD FORMED STEEL
	CIP	CAST-IN-PLACE
	CIPL	CAST-IN-PLACE LINTEL
	CJ	CONTROL JOINT
	CLR	CLEAR
	CMU	CONCRETE MASONRY UNIT
	COEFF	COEFFICIENT
	COL	COLUMN
	CONC	CONCRETE
	CONT	CONTINUOUS
	COORD	COORDINATE
	CSJ	CONSTRUCTION JOINT
	CTJ	CONTROL JOINT
	DIA	DIAMETER
	DIAG	DIAGONAL
	DIM	DIMENSION
	DWG	DRAWING
	DWL	DOWEL
4	EA	EACH
	EF	EACH FACE
	ELEC	ELECTRICAL
	ELEV	ELEVATION
	EMBED	EMBEDMENT
	EQUIV	EQUIVALENT
	ETC	ET CETERA
	EW	EACH WAY
	EXP	EXPANSION
	EXT	EXTERIOR
	FTG	FOOTING
	GA	GAUGE
	HORIZ	HORIZONTAL
	HRS	HOURS
	IBC	INTERNATIONAL BUILDING CODE
	INFO	INFORMATION
	INT	INTERIOR
	Kg	KILOGRAM
	Km	KILOMETER
	kPa	KILOPASCAL
3	L#	ANGLE (# INDICATES SIZE)
	LONG	LONGITUDINAL
	LLV	LONG LEG VERTICAL
	M	METER
	MAX	MAXIMUM
	MBM	METAL BUILDING MANUFACTURER
	MECH	MECHANICAL
	MFG	MANUFACTURER
	MID	MIDDLE
	MIN	MINIMUM
	MISC	MISCELLANEOUS
	MM	MILLIMETER
	MPa	MEGAPASCAL
	MTL	METAL
	MWFRS	MAIN WIND FORCE RESISTING SYSTEM
	N	NEWTON
	N	NORTH
2	N/A	NOT APPLICABLE
	#	NUMBER SYMBOL FOR REBAR SIZE
	NTS	NOT TO SCALE
	O.C.	ON CENTER
	OPNG	OPENING
	? or PL	PLATE
	PRE-ENG	PRE-ENGINEERED
	REINF	REINFORCED
	REQ'D	REQUIRED
	SIM	SIMILAR
	SPECS	SPECIFICATIONS
	STD	STANDARD
	STRUCT	STRUCTURAL
	SW	SHEAR WALL
	T	TOP
	T/	TOP OF
	T/ELEV	TOP ELEVATION
	T&B	TOP AND BOTTOM
	THK	THICK
	TYP	TYPICAL
	UFC	UNIFIED FACILITIES CRITERIA
	UON	UNLESS OTHERWISE NOTED
	VERT	VERTICAL
	W	WIDTH
1	W/	WITH

GENERAL NOTES

- 1.0 THIS PROJECT HAS BEEN DESIGNED FOR THE WEIGHTS AND MATERIALS INDICATED ON THE SHEETS AND FOR THE LIVE LOADS INDICATED IN THE DESIGN DATA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE PROPER DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGING, BRACING, SHEETING AND SHORING, ETC.
- 1.1 COORDINATE THESE SHEETS WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND CIVIL SHEETS. ALL DIMENSIONS SHOWN ON THE SHEETS ARE MILLIMETERS UNLESS NOTED OTHERWISE.
- 1.2 THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL FLOOR AND ROOF OPENING SIZES AND LOCATIONS, EQUIPMENT PAD SIZES AND LOCATIONS, ANCHOR BOLT LAYOUTS, ETC WITH EQUIPMENT SELECTED. THE CONTRACTOR SHALL MAKE ANY REQUIRED MODIFICATIONS AT NO ADDITIONAL COST.
- 1.3 THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING SHEETS FOR SLEEVES, CURBS, INSERTS OR OPENINGS, ETC. NOT HEREIN INDICATED.
- 1.4 SLAB OPENINGS SMALLER THAN 250mm DIA TO BE CORE DRILLED IN FIELD UON. SEE MECHANICAL, ELECTRICAL AND PLUMBING SHEETS FOR LOCATIONS OF THESE OPENINGS.
- 1.5 WORK NOT INCLUDED ON THE SHEETS BUT IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES ELSEWHERE ON THE SHEETS SHALL BE REPEATED.
- 1.6 IN CASE OF CONFLICT BETWEEN THE NOTES, DETAILS AND SPECIFICATIONS THE MOST RIGID REQUIREMENTS SHALL GOVERN. SEE ARCHITECTURAL SHEETS FOR LOCATIONS OF MASONRY AND DRYWALL NON-LOAD BEARING PARTITIONS. PROVIDE COMPRESSIBLE FIRESAFING AT TOP OF WALL AS REQUIRED BY ARCHITECTURAL SHEETS.
- 1.8 COORDINATE FINISHED FLOOR DATUM ELEVATION 0.0m WITH THE CIVIL SHEETS.
- 2.0 FOUNDATION NOTES
- 2.1 THE GEOTECHNICAL ANALYSIS FOR THIS PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AWARDED THE WORK. DESIGN VALUES USED IN THE STRUCTURAL ANALYSIS OF THE BUILDINGS HEREIN INDICATED HAVE BEEN ASSUMED AND SHALL BE CONFIRMED AND VERIFIED AS PART OF THE GEOTECHNICAL INVESTIGATION. VALUES WHICH DO NOT MEET THE REQUIREMENTS INDICATED ON THE BASIS OF DESIGN SHEET SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER FOR CONSIDERATION AND DETERMINATION ON THE NEXT APPROPRIATE COURSE OF ACTION.
- 2.2 SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS TO THOSE OUTLINED IN THE GEOTECHNICAL INVESTIGATION FOR EXCAVATION AND PREPARATION OF THE FOUNDATION AND THE SLAB ON GRADE SUBGRADE INCLUDING COMPACTION PROCEDURES.
- 2.3 EXCAVATIONS FOR FOOTINGS SHALL HAVE THE SIDES AND BOTTOMS TEMPORARILY LINED WITH 0.25mm POLYETHYLENE IF PLACEMENT OF CONCRETE DOES NOT OCCUR WITHIN 24 HRS OF THE EXCAVATION OF THE FOOTING.
- 2.4 FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION WHICH DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT SHALL BE REPORTED TO THE GENERAL CONTRACTOR BEFORE FURTHER CONSTRUCTION IS ATTEMPTED. SEE PROJECT SPECIFICATIONS.
- 2.5 NO FOOTINGS OR SLABS SHALL BE POURED INTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST, ICE OR LOOSE MATERIAL. FROST DEPTH ASSUMED TO BE 800MM.
- 2.6 ALL SLAB-ON-GRADE, TRENCH BOTTOMS AND OTHER ON-GRADE INTERIOR HORIZONTAL SURFACES SHALL BE PLACED OVER A 0.25mm VAPOR RETARDER OVER A 100mm #57 STONE WATER BARRIER PLACED ON SUBGRADE PROPERLY PREPARED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. (UON)
- 2.7 SEE PLUMBING, ELECTRICAL & CIVIL SHEETS FOR REQUIRED UNDERSLAB UTILITIES.
- 2.8 SEE ARCHITECTURAL SHEETS FOR ALL WATERPROOFING DETAILS AND MATERIALS.
- 2.9 IF UNDERMINING OF FOOTINGS OCCURS, FILL VOIDS WITH 15MPa CONCRETE. DO NOT ATTEMPT TO REPLACE AND RECOMPACT SOIL.
- 3.0 CONCRETE
- 3.1 CONCRETE SHALL HAVE THE UNIT WEIGHT AND THE MINIMUM COMPRESSIVE STRENGTHS (f'c) AT 28 DAYS AS SHOWN IN THE CONCRETE MATERIALS SCHEDULE ON SHEET S3. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION. ENTRAIN AIR TO PRODUCE TOTAL AIR CONTENT ACCORDING TO THE SPECIFICATIONS FOR CONCRETE EXPOSED TO FREEZING TEMPERATURES (EXTERIOR FOOTINGS, SLAB TURNDOWNS, EXTERIOR SLABS AND SLABS-ON-GRADE, EXTERIOR RETAINING WALLS, AND EXTERIOR GRADE BEAMS.)
- 3.2 NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.
- 3.3 MIXING, TRANSPORTING AND PLACING OF CONCRETE SHALL CONFORM TO ACI 301M-05.
- 3.4 ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTE (ACI) 318M MANUAL (metric), "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", AND REQUIREMENTS OUTLINED IN THE CONTRACT SPECIFICATIONS. WHEN THERE IS A CONFLICT BETWEEN ACI AND THE SPECIFICATIONS, THE MORE STRINGENT SHALL GOVERN.
- 3.5 CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH 20mm x45 DEGREE CHAMFER UON.

- 3.6 CONCRETE REINFORCEMENT BARS SHALL CONFORM TO ASTM A615M-96a, GRADE 420 MPa, REINFORCING BARS SHALL NOT BE TACK WELDED, WELDED, HEATED OR CUT, UNLESS INDICATED ON THE CONTRACT DOCUMENTS. ALL LAP SPLICES SHALL BE CLASS "B" UON.
- 3.7 HORIZONTAL FOOTING AND HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS AND SHALL HAVE 90 DEGREE BENDS AND EXTENSIONS, OR CORNER BARS OF EQUIVALENT SIZE LAPPED WITH A CLASS B TENSION SPLICE AT CORNERS AND INTERSECTIONS. TOP BAR CRITERIA SHALL APPLY IF 300mm OR MORE OF FRESH CONCRETE IS PLACED BELOW BAR.
- 3.8 SLABS-ON-GRADE SHALL HAVE CONSTRUCTION JOINTS OR CRACK CONTROL JOINTS AS SHOWN ON THE DRAWINGS. CONSTRUCTION JOINTS CAN BE USED AT CONTROL JOINT LOCATIONS AT CONTRACTORS OPTION. SEE SLAB PLANS & JOINT DETAILS FOR ADDITIONAL INFORMATION. FOR AREAS NOT SHOWN ON DWGS, THE MAXIMUM SPACING OF CONSTRUCTION/ CRACK CONTROL JOINTS SHALL BE 4800mm
- 3.9 SEE SPECIFICATIONS FOR ALL WATERPROOFING/DAMPPOOFING REQUIREMENT.
- 3.10 ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED, AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318M, AND THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315M, LATEST EDITION.
- 3.11 SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, SPACING AND PLACEMENT, SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION.
- 3.12 ALL DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING, UNLESS NOTED OTHERWISE ON THE SHEETS.
- 3.13 ADDITIONAL BARS SHALL BE PROVIDED AROUND ALL FLOOR AND WALL OPENINGS AS SHOWN ON THE SHEETS.
- 3.14 SEE ARCHITECTURAL SHEETS FOR TYPE AND LOCATION OF ALL FLOOR FINISHES.
- 3.15 THE CONTRACTOR SHALL COORDINATE ADDITIONAL WALL/SLAB OPENINGS NOT SHOWN ON STRUCTURAL SHEETS. SEE MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL SHEETS.
- 3.16 UNLESS NOTED OTHERWISE, ALL CURBS SHALL BE REINFORCED WITH AT LEAST (1)-#13 CONTINUOUS AND #13 AT 300mm O.C. DOWELS TO STRUCTURE BELOW.
- 3.17 THE SUB-CONTRACTOR SHALL VERIFY ALL OPENINGS, PAD SIZES, AND ANCHOR BOLTS WITH EQUIPMENT SELECTED.
- 3.18 FOR ALL WALLS & PIERS, PROVIDE DOWELS INTO FOOTING AT EACH VERT REINF BAR, UON DOWEL SIZE SHALL BE SAME AS VERT REINF.
- 3.19 ALL DEFORMED BAR ANCHORS SHALL BE TRS NELSON DIVISION OR EQUAL 15mm DIA (UON) CONFORMING TO ASTM A-496M WITH A MINIMUM TENSILE STRENGTH OF 550 MPa. INSTALL ANCHORS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS BY AUTOMATIC END WELDING AS INDICATED ON THE DRAWINGS. NO UNAUTHORIZED OR FIELD WELDING SHALL BE MADE WITHOUT AUTHORIZATION FROM THE MANUFACTURER.
- 3.20 ALL REINFORCING INDICATED TO BE WELDED SHALL BE IN ACCORDANCE WITH ASTM A706M. "LOW ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT". ANY INSTALLATIONS USING MANUFACTURER'S EQUIPMENT SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
- 3.21 PROVIDE CONCRETE POUR STOPS OR FORMED AS REQUIRED FOR INSTALLATION OF ALL CONCRETE WORK.
- 3.22 PROVIDE ADDITIONAL (2)-#13 x 600mm REINFORCING BARS IN SLAB-ON GRADE AT ALL RE-ENTRANT CORNERS. PLACE BARS AT MID-DEPTH OF SLAB WITH A CLEARANCE OF 50mm FROM CORNER UON.
- 4.0 CONCRETE MASONRY
- 4.1 MASONRY CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL REQUIREMENTS OF THESE CONTRACT DOCUMENTS AND THE PROJECT SPECIFICATIONS.
- 4.2 THE SPECIFIED ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE MASONRY (f'm) ON THE NET AREA IS A MINIMUM OF 10.4 MPa.
- 4.3 PROVIDE TWO #16 BARS CONTINUOUS IN ALL MASONRY LINTELS UON ON THE SHEETS. BOND BEAM REINFORCING SHALL BE CONTINUOUS AND SPACED AT A MAXIMUM OF 1200mm OC VERTICALLY. ALL BOND BEAMS SHALL BE A MINIMUM OF 200mm IN DEPTH WITH REINFORCING BEING CONTINUOUS AND HAVING STANDARD ACI HOOKS AT EACH END. PROVIDE STANDARD BAR SPLICES AS SPECIFIED.
- 4.4 FOR WALL REINFORCING SEE "MIN CMU WALL REINFORCING" DETAILS ON SHEET S10. PROVIDE STANDARD BAR SPLICES AS SPECIFIED. ALL VERTICAL REINFORCEMENT EXTENDS FULL HEIGHT OF WALL. CMU CELLS THAT REQUIRE VERTICAL REINFORCING BARS AS INDICATED ON THE CONTRACT DRAWINGS AND/OR SPECS SHALL HAVE REINF BARS PLACED IN CENTERS OF CMU CELLS AND CONTINUOUSLY GROUTED UON.
- 4.6 PROVIDE LADDER TYPE JOINT REINFORCEMENT AT 200mm EXTERIOR, & 400mm INTERIOR ON CENTER MAXIMUM, UON MINIMUM ROD SIZE USED SHALL BE 9 GA. DEFORMED WIRE AND CONFORM TO ASTM A82M, UON.

- 4.7 PROVIDE CONTROL JOINTS AS INDICATED ON THE ARCHITECTURAL SHEETS.
- 4.8 GROUT FOR MASONRY SHALL BE NORMAL WEIGHT AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa AT 28 DAYS. GROUT SHALL CONFORM TO ASTM C476M. GROUT LIFTS SHALL NOT EXCEED 1400mm.
- 4.9 USE MORTAR TYPE S CONFORMING TO ASTM C270M, SEE SPECIFICATIONS.
- 4.10 CONCRETE MASONRY UNITS SHALL BE NORMAL WEIGHT AND CONFORM TO ASTM C90M.
- 4.11 ALL CMU CELLS, OPEN CAVITIES, AND AIR SPACES SHALL BE GROUTED TO STOP FRAGMENTS FROM MORTAR BLAST
- 4.12 BOND BEAM REINFORCING SHALL BE DISCONTINUOUS AT CONTROL JOINTS (UON). MAXIMUM CONTROL JOINT SPACING SHALL BE AS INDICATED ON THE ARCHITECTURAL SHEETS.
- 4.13 CONTRACTOR SHALL COORDINATE LOCATION OF ALL OPENINGS SEE ARCH, MECH, ELEC, AND PLUMBING SHEETS FOR SIZE AND LOCATION OF OPENINGS.
- 4.14 MASONRY WALLS SHALL NOT BE BACK FILLED PRIOR TO THE MORTAR AND GROUT ATTAINING THEIR RESPECTIVE MAXIMUM DESIGN STRENGTHS PER SPECIFICATIONS.
- 5.0 CFMRF - COLD FORM METAL ROOF FRAMING SYSTEM
- 5.1 CFMF SHALL BE DESIGNED BY CFMF MANUFACTURER'S ENGINEER FOR ALL LOADING PER CODE AND AS INDICATED ON THE SHEETS. FOR WIND LOADS, SEE THE DESIGN CRITERIA ON SHEET S2.
- 5.2 SUBMIT VENDOR'S PUBLISHED LITERATURE, TEST DATA AND INSTALLATION INSTRUCTIONS FOR METAL STUD ASSEMBLY AND ACCESSORIES INCLUDING OTHER DATA AS MAY BE REQUIRED TO CERTIFY COMPLIANCE WITH PERFORMANCE REQUIREMENTS SPECIFIED HEREIN.
- 5.4 SHOP DRAWINGS AND DESIGN ANALYSIS SHALL BE STAMPED AND APPROVED BY A LICENSED PROFESSIONAL ENGINEER.
- 5.5 CONNECTIONS AND GAUGE SIZES ARE MINIMUM AND SHALL BE INCREASED AS NECESSARY TO PROVIDE A STRUCTURALLY ADEQUATE SYSTEM. KICKERS MAY BE ADDED TO REDUCE THE STUD HEIGHTS WHERE ACCEPTABLE AND COORDINATED WITH THE ARCHITECTURAL DRAWINGS.
- 5.6 CRMRF SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
 STUD/RAFTER/EAVE STRUT/BRACE/BLOCKING:
 Fy = 344 MPa
 GAUGE = 18
 DEPTH = 152.3 mm
 WIDTH = 34.8 mm
 MOMENT OF INERTIA, Ix = 847x10³ mm⁴
 SECTION MODULUS, Sx = 11.2x10³ mm³
 TRACK:
 Fy = 344 MPa
 GAUGE = 16
 DEPTH = 152.3 mm
 WIDTH = 38 mm
 MOMENT OF INERTIA, Ix = 1083x10³ mm⁴
 SECTION MODULUS, Sx = 13.8x10³ mm³
 PURLIN/SUBGIRT:
 Fy = 393 MPa
 GAUGE = 16
 MOMENT OF INERTIA (TOP COMPRESSION), Ixt = 23.7x10³ mm⁴
 MOMENT OF INERTIA (BOTT COMPRESSION), Ixb = 22.7x10³ mm⁴
 SECTION MODULUS (TOP COMPRESSION), Sxt = 1.8x10³ mm³
 SECTION MODULUS (BOTT COMPRESSION), Sxb = 1.7x10³ mm³

STRUCTURAL DESIGN CRITERIA

ALL DESIGNS SHALL CONFORM TO THE PROVISIONS OF THE IBC 2006 AS APPLICABLE

1.0 DESIGN LOADS

1.1 DEAD LOADS

1.1.1 ROOF DEAD LOADS - CONCRETE FRAMING

	MAXIMUM GRAVITY LOAD	MINIMUM GRAVITY LOAD
CONC FLAT SLAB	4.80 KPa	
MECH/ELEC/PLUMBING	0.15 KPa	
MISC	0.05 KPa	
	5.00 KPa	

1.1.2 ROOF DEAD LOADS - CONVENTIONAL LIGHT FRAMING

	MAXIMUM GRAVITY LOAD	MINIMUM GRAVITY LOAD
LIGHT GAUGE FRAMING	0.20 KPa	0.15 KPa
INSULATION	0.10 KPa	0.05 KPa
METAL ROOFING	0.14 KPa	0.05 KPa
	0.44 KPa	0.25 KPa

1.1.3 FLOOR PARTITION ALLOWANCE

0.96 KPa

1.2 LIVE LOADS (PER IBC 2006)

1.2.1 ROOF LIVE LOADS: ALL BUILDINGS

GREATER OF 1.0 KPa MINIMUM OR SNOW LOAD

1.2.2 ELEVATED FLOOR UNIFORM LIVE LOADS

CORRIDOR	4.80 KPa
ALL OTHER	2.40 KPa

1.2.3 SLAB-ON-GRADE LIVE LOADS

ALL BUILDINGS 4.80 KPa

1.3 SNOW LOADS (PER IBC 2006)

1.3.1 DESIGN PARAMETERS

GROUND SNOW LOAD (per UFC 3-310-01)	1.0 KPa
SNOW IMPORTANCE FACTOR	1.0
SNOW EXPOSURE FACTOR	1.0

1.4 SEISMIC LOADS (PER IBC 2006 & UFC 3-310-04)

1.4.1 SEISMIC PARAMETERS - CAST-IN-PLACE CONCRETE STRUCTURES

SEISMIC OCCUPANCY CATEGORY	II
SEISMIC IMPORTANCE FACTOR (I)	1.0
SEISMIC SITE CLASS	D
Ss	1.28
S1	0.51
Sds	0.853
Sd1	0.51
SEISMIC DESIGN CATEGORY	D
SEISMIC RESISTING SYSTEM	DUAL SYSTEM: SPECIAL REINFORCED CONCRETE MOMENT FRAMES SPECIAL REINFORCED MASONRY SHEAR WALLS
RESPONSE MODIFICATION FACTOR (R)	5.5
RESPONSE COEFFICIENT (Cs)	0.16
SEISMIC ANALYTICAL PROCEDURE	EQUIV LATERAL FORCE
SEISMIC BASE SHEAR	2062 kN



DATE	DESCRIPTION	SYMBOL

DESIGNED BY: DATE: 09-30-09
 MMY
 DOWN BY: BAKER
 RCG
 CHK BY: CWV
 FILE NO: ANP50G-B5-TITLE
 Michael Baker Corp.
 A Unit of Michael Baker Corporation
 1000 Independence Park
 Moon Township, PA 15108
 www.mbakcorp.com

AFGHAN NATIONAL POLICE
 STANDARD DESIGN
 BARRACK BUILDING, 2-STORY (862 GSM)
 ELECTRIC HEAT OPTION
 GENERAL NOTES & DESIGN CRITERIA

SHEET REFERENCE NUMBER:
S1

100% SUBMISSION

SYMBOL	DESCRIPTION	DATE

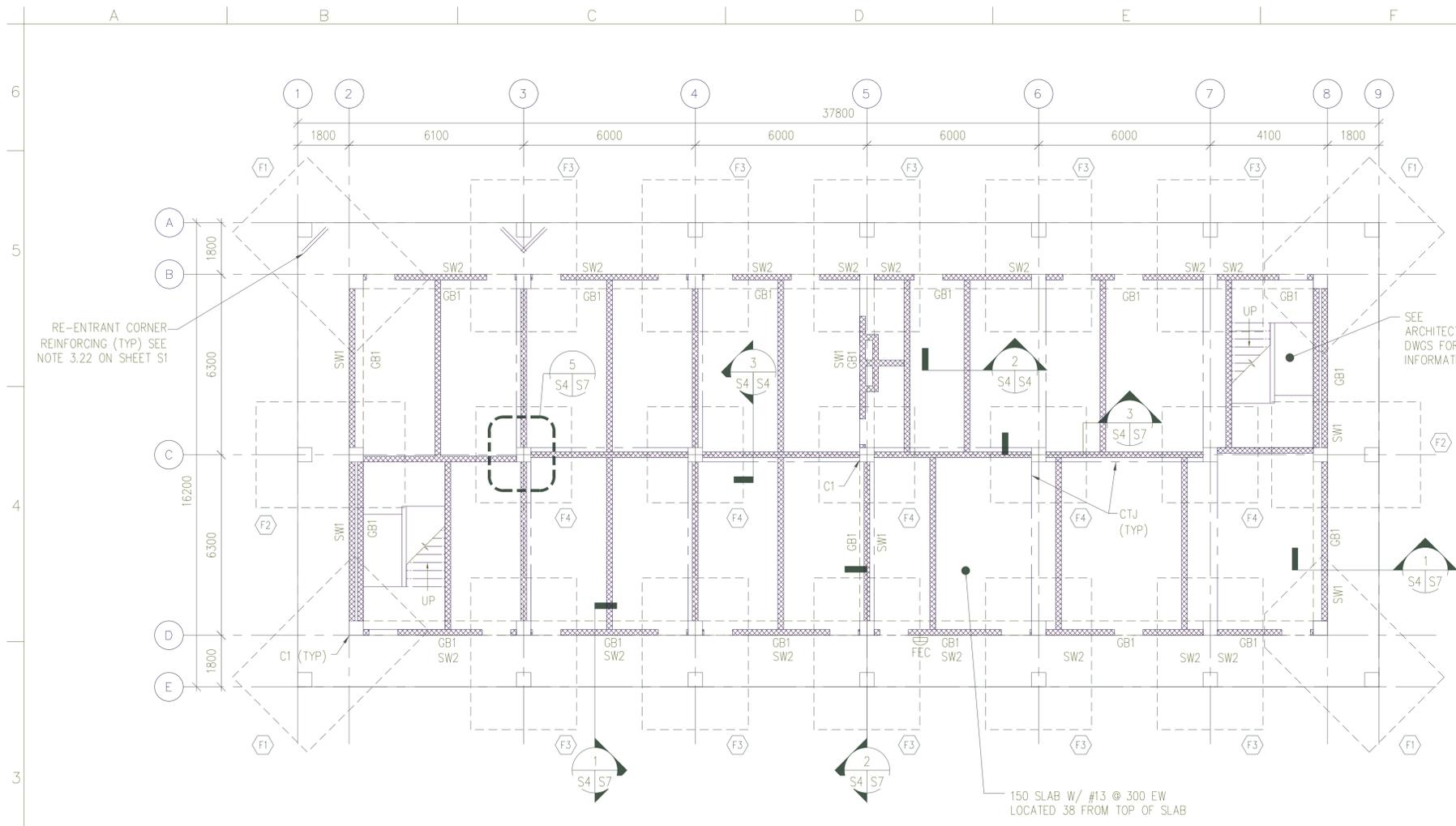
DESIGNED BY: MMY	DATE: 09-30-09
DWN BY: RCG	SUBMITTED BY: BAKER
CHK BY: CWV	FILE NO.: ANPSDG-BS-TITLE

Michael Baker Corp.
A Unit of Michael Baker Corporation
4000 Blytheville Road
100 N. Blytheville Dr.
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
BARRACK BUILDING, 2-STORY (862 GSM)
ELECTRIC HEAT OPTION

SHEET REFERENCE NUMBER:
S4

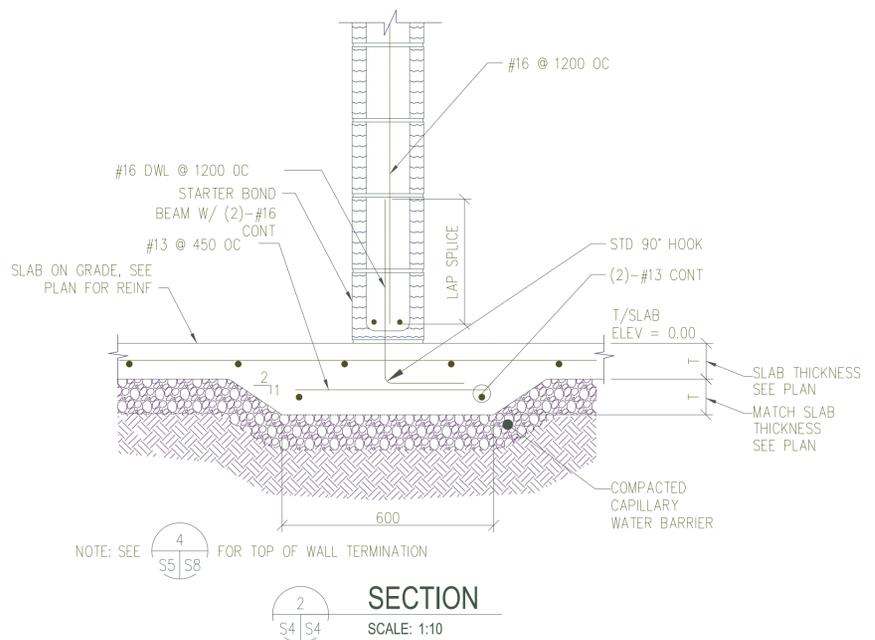
100% SUBMISSION



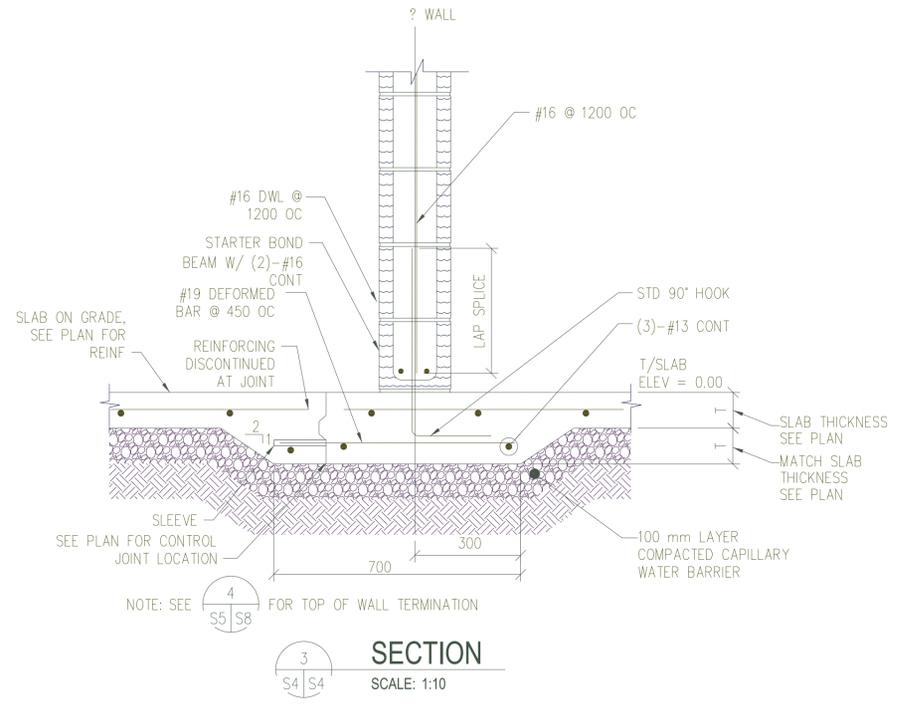
FOUNDATION PLAN
SCALE: 1:100

PLAN NOTES:

1. FINISH FIRST FLOOR ELEVATION SHALL BE (DATUM 0.0) ALL PLUS OR MINUS DIMENSIONS INDICATED ON PLAN OR REFERRED TO IN NOTES RELATE TO FINISH FIRST FLOOR ELEVATION.
2. TOP OF EXTERIOR FOOTINGS SHALL BE -950 UNLESS OTHERWISE INDICATED.
3. TOP OF INTERIOR FOOTING SHALL BE -600 UNLESS OTHERWISE INDICATED.
4. SPREAD FOOTINGS INDICATED THUS F# ON PLAN. REFER TO SPREAD FOOTING SCHEDULE ON SHEET S2.
5. COLUMNS INDICATED THUS C# ON PLAN. REFER TO COLUMN SCHEDULE ON SHEET S2.
6. GRADE BEAM INDICATED THUS GB# ON PLAN, REFER TO BEAM SCHEDULE ON SHEET S2.
7. REFER TO SHEETS S1 TO S3 FOR STRUCTURAL NOTES AND BASIS OF DESIGN.
8. CTJ & CSJ INDICATES SLAB CONTROL OR CONSTRUCTION JOINTS RESPECTIVELY. REFER TO SHEET S10 FOR DETAILS.
9. SEE CMU WALL REINFORCING SCHEDULE ON SHEET S3.
10. REFER TO ARCHITECTURAL SHEETS FOR MASONRY PARTITION TYPES.
11. SEE MECHANICAL AND ELECTRICAL SHEETS FOR CONCRETE PAD LOCATIONS, SIZES, AND THICKNESS NOT SHOWN. SEE SHEET S10 FOR DETAILS.
12. THICKENED SLAB UNDER CMU WALLS NOT SHOWN FOR CLARITY

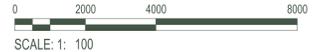


SECTION 2
SCALE: 1:10



SECTION 3
SCALE: 1:10

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)
SCALE: 1: 100



SYMBOL	DESCRIPTION	DATE

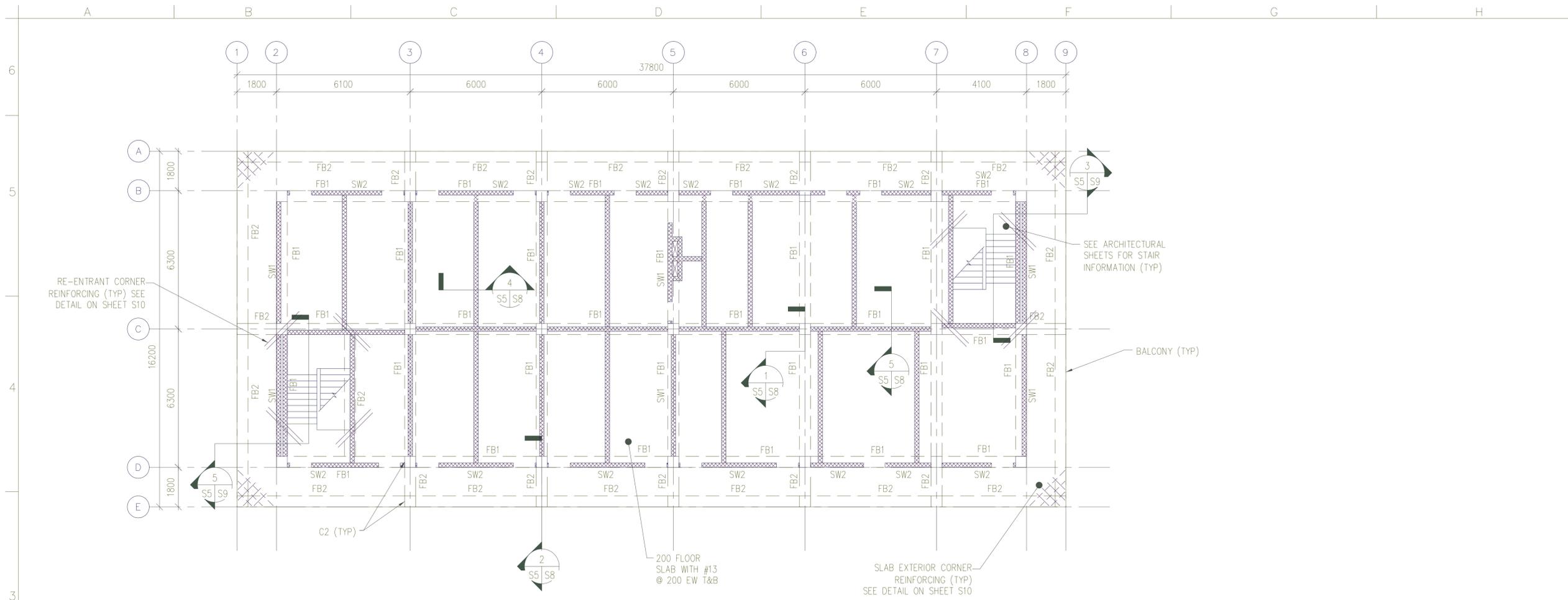
DESIGNED BY:	DATE:	09-30-09
MMY	SUBMITTED BY:	BAKER
RCC	CHK BY:	CWW
FILE NO.:	ANPSDG-BS-TITLE	

Michael Baker Co., Inc.
A Unit of Michael Baker Corporation
4000 Bluffs Business Park
100 N. Eagle Drive
Moon Township, PA 15108
www.mbakercorp.com

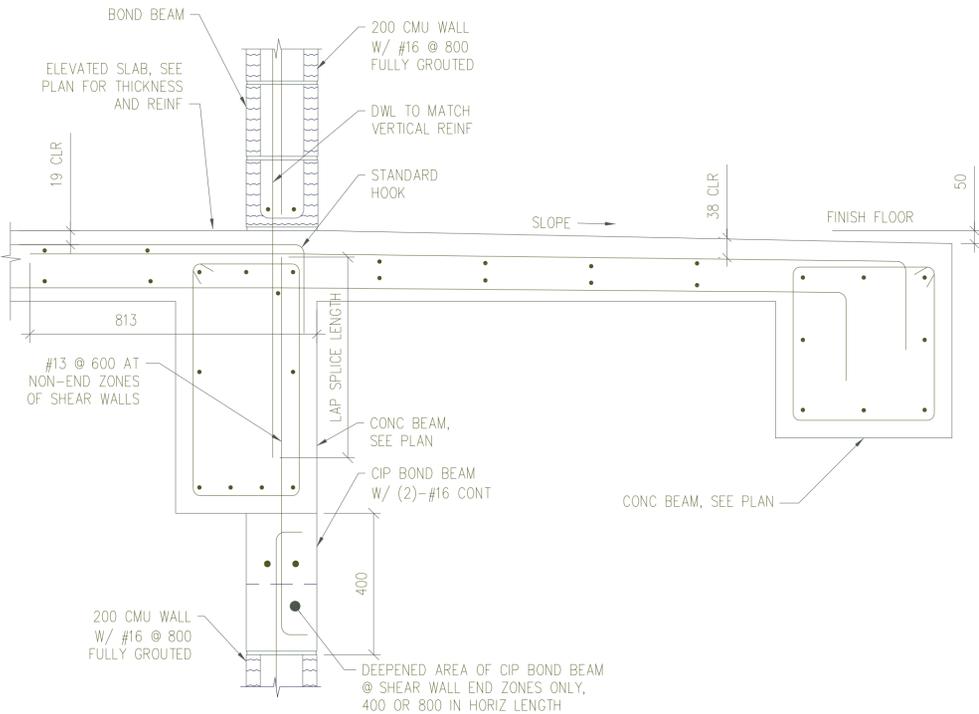
AFGHAN NATIONAL POLICE
STANDARD DESIGN (862 GSM)
BARRACK BUILDING, 2-STORY
ELECTRIC HEAT OPTION
SECOND FLOOR FRAMING PLAN

SHEET REFERENCE NUMBER:
S5

100% SUBMISSION



1
S5 | S5
2ND FLOOR FRAMING PLAN
SCALE: 1:100

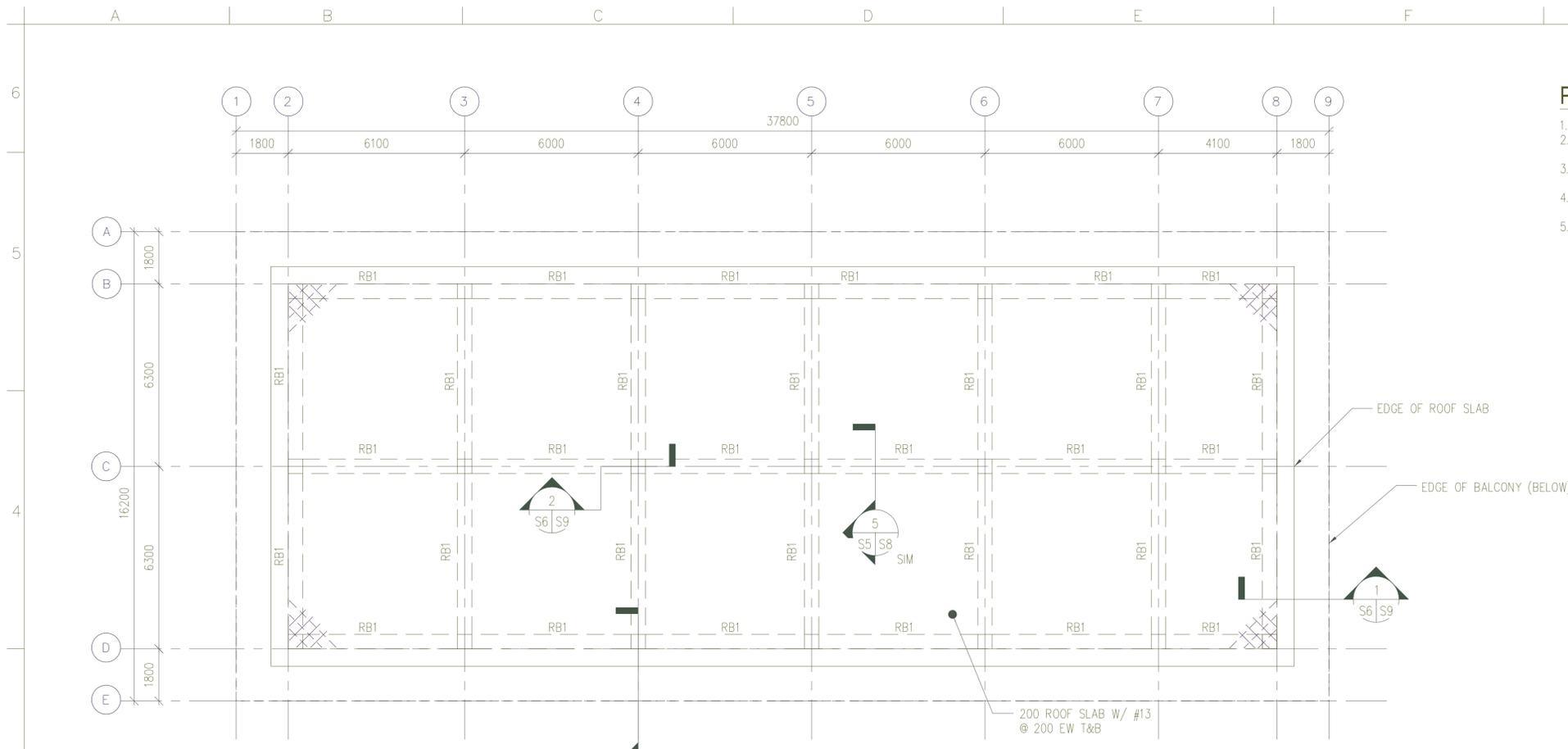


2
S10 | S5
TYP SHEAR WALL END ZONE SECTION
SCALE: 1:10

PLAN NOTES:

1. TOP OF SLAB ELEVATION = 3600 UNLESS NOTED OTHERWISE.
2. COLUMNS INDICATED BY C# ON PLAN. REFER TO COLUMN SCHEDULE ON SHEET S2.
3. FLOOR BEAM INDICATED BY FB# ON PLAN. REFER TO BEAM SCHEDULE ON SHEET S2.
4. REFER TO SHEETS S1 TO S3 FOR STRUCTURAL NOTES AND BASIS OF DESIGN.
5. SEE CMU WALL REINFORCING SCHEDULE ON SHEET S3.
6. REFER TO ARCHITECTURAL SHEETS FOR FLOOR SLAB OPENING LOCATIONS AND MASONRY PARTITION TYPES.
7. SEE MECHANICAL AND ELECTRICAL SHEETS FOR CONCRETE PAD LOCATIONS, SIZES, AND THICKNESS NOT SHOWN. SEE SHEET S10 FOR DETAILS.

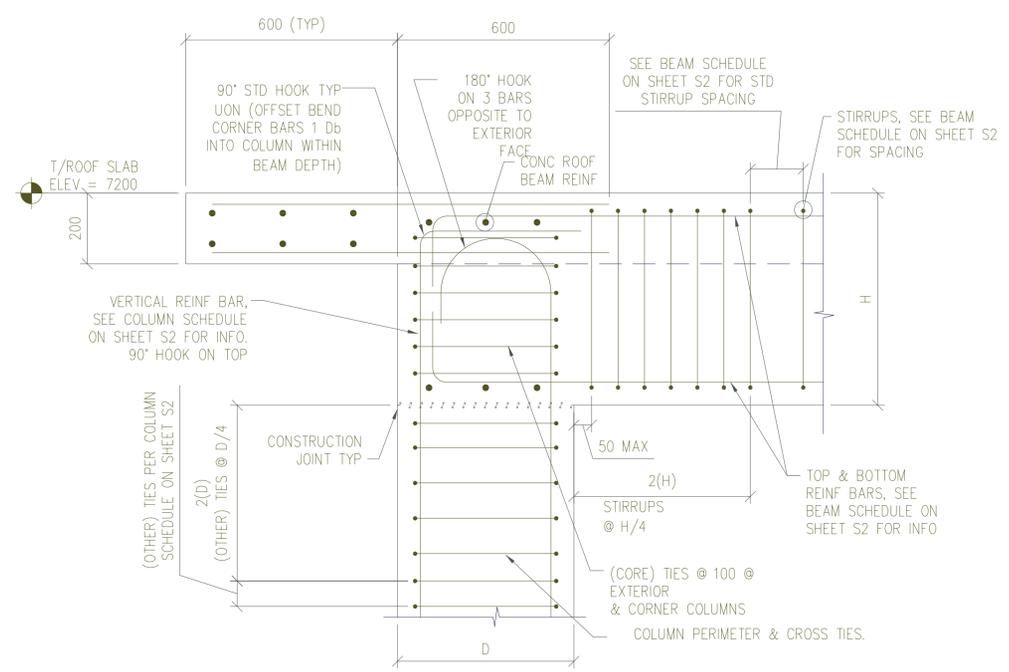
UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)
0 2000 4000 8000
SCALE: 1: 100



PLAN NOTES:

1. TOP OF SLAB ELEVATION = 7200 UNLESS NOTED OTHERWISE.
2. ROOF BEAM INDICATED BY RB# ON PLAN. REFER TO BEAM SCHEDULE ON SHEET S2
3. REFER TO SHEETS S1 TO S3 FOR STRUCTURAL NOTES AND BASIS OF DESIGN.
4. COORDINATE WITH ARCHITECTURAL SHEETS FOR COLD-FORMED STEEL OVERBUILT FRAMING ABOVE ROOF SLAB.
5. COLD-FORMED METAL OVERBUILT ROOF FRAMING NOT SHOWN FOR CLARITY. SEE OVERBUILT ROOF FRAMING DETAILS AND SECTIONS ON SHEET S9.

1
S6 S6
ROOF FRAMING PLAN
SCALE: 1:100



1
S6 S6
SECTION
SCALE: 1:10

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)

0 200 400 800
SCALE: 1: 10

0 2000 4000 8000
SCALE: 1: 100



SYMBOL	DESCRIPTION	DATE

DESIGNED BY: MMY	DATE: 09-30-09
DWN BY: RCG	SUBMITTED BY: BAKER
CHK BY: CWV	FILE NO: ANPSDG-BS-TITLE

Michael Baker Corp.
A Unit of Michael Baker Corporation
4000 Bluffs Cross Park
100 N. Pine Dr.
Moon Township PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
BARRACK BUILDING, 2-STORY (862 GSM)
ELECTRIC HEAT OPTION

ROOF FRAMING PLAN

SHEET REFERENCE NUMBER:
S6

100% SUBMISSION

SYMBOL	DESCRIPTION	DATE

DESIGNED BY: MMY	DATE: 09-30-09
DWN BY: RCG	SUBMITTED BY: BAKER
CHK BY: CWV	FILE NO: ANPSDG-BS-TITLE

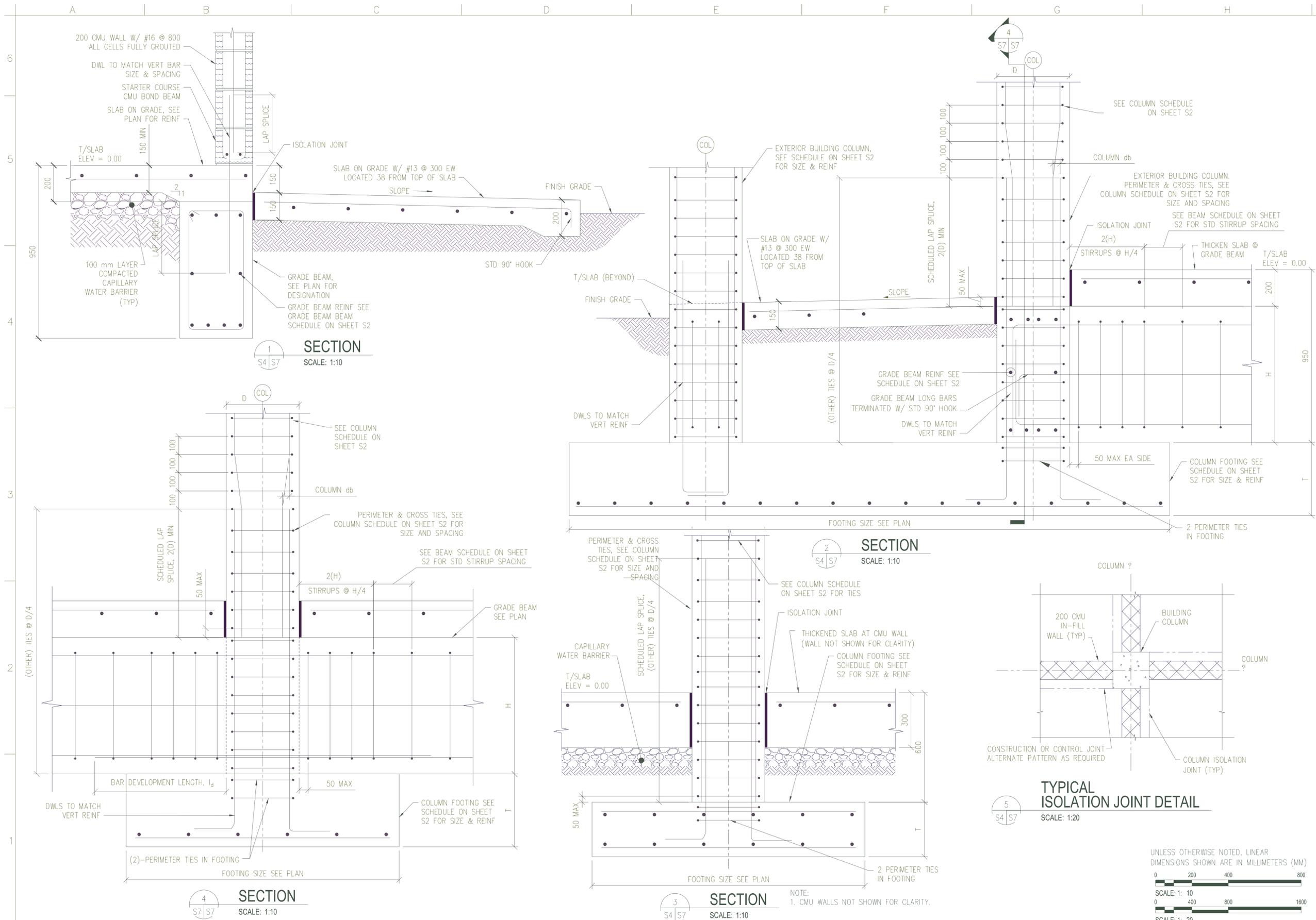
Michael Baker Corp.
A Unit of Michael Baker Corporation
4000 Bluffs Park
100 N. Independence Dr.
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
BARRACK BUILDING, 2-STORY (862 GSM)
ELECTRIC HEAT OPTION

FOUNDATION SECTIONS & DETAILS

SHEET REFERENCE NUMBER:
S7

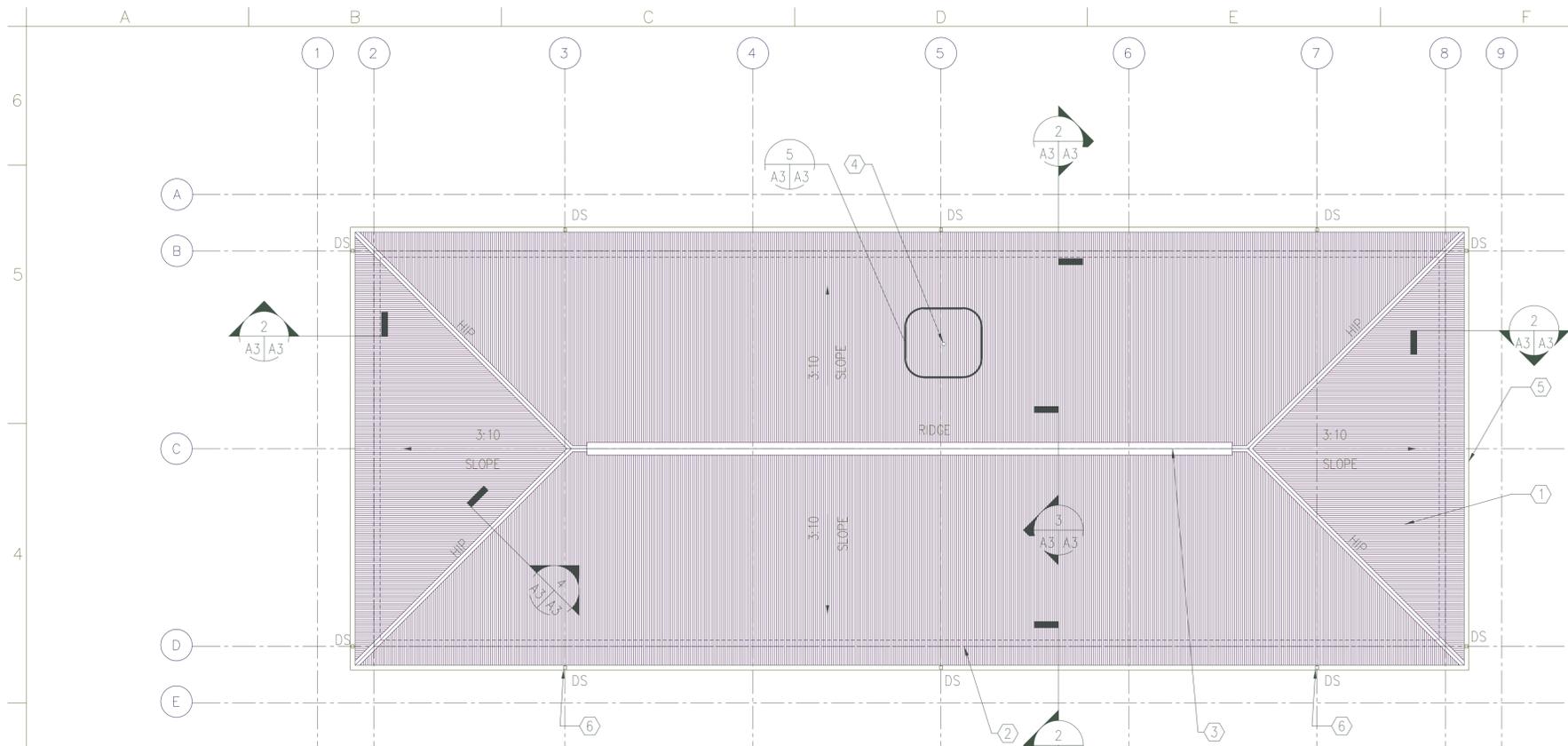
100% SUBMISSION



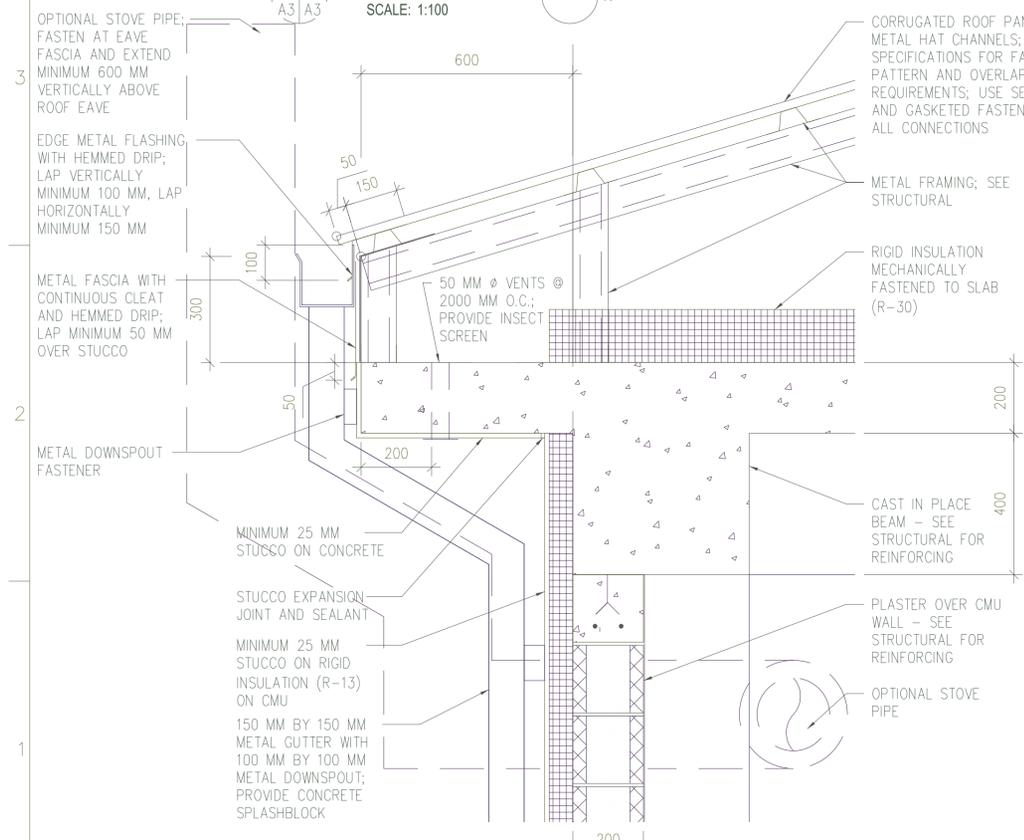
UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)

SCALE: 1: 10
0 200 400 800

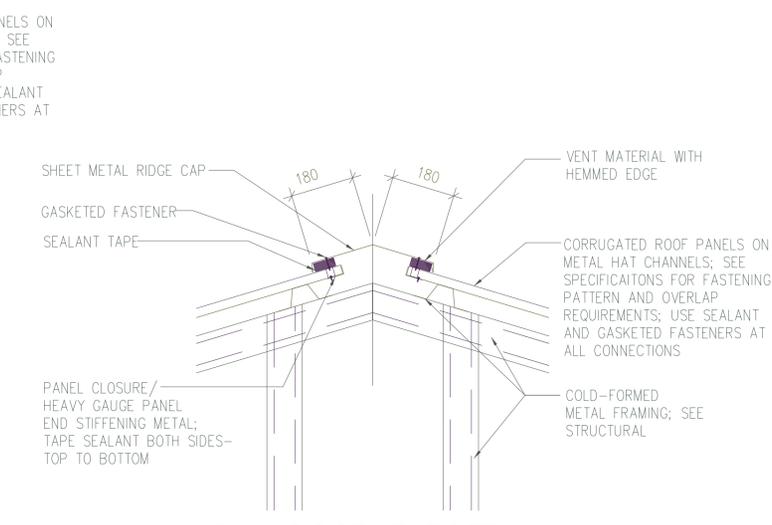
SCALE: 1: 20
0 400 800 1600



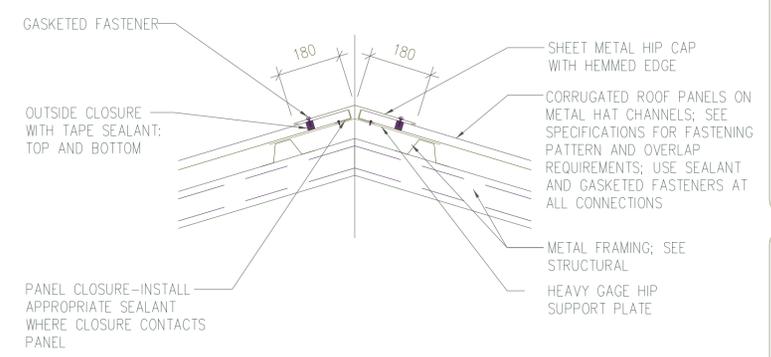
ROOF PLAN
SCALE: 1:100



EAVE DETAIL
SCALE: 1:10



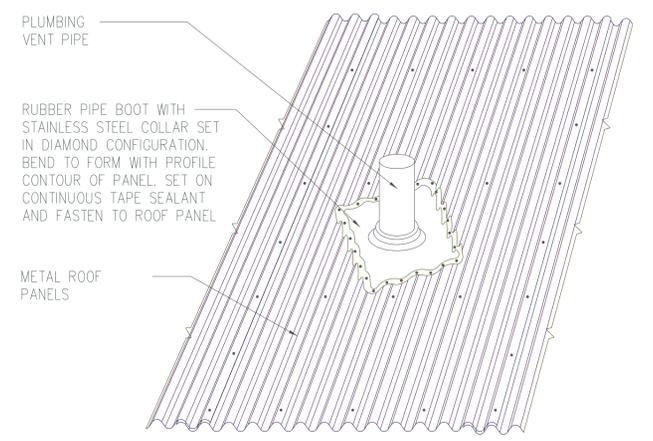
RIDGE VENT DETAIL
SCALE: 1:10



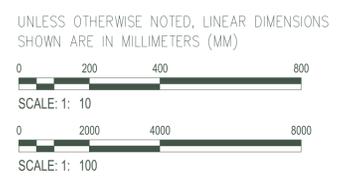
HIP DETAIL
SCALE: 1:10

KEY NOTES:

1. CORRUGATED METAL ROOF PANELS ON COLD-FORMED METAL FRAMING
2. LINE OF BUILDING WALL BELOW
3. CONTINUOUS RIDGE VENT
4. PLUMBING VENT - RE: DETAIL 5/A3
5. METAL GUTTER
6. METAL DOWNSPOUT WITH SPLASHBLOCK



VENT THRU ROOF
SCALE: 1:10



SYMBOL	DESCRIPTION	DATE

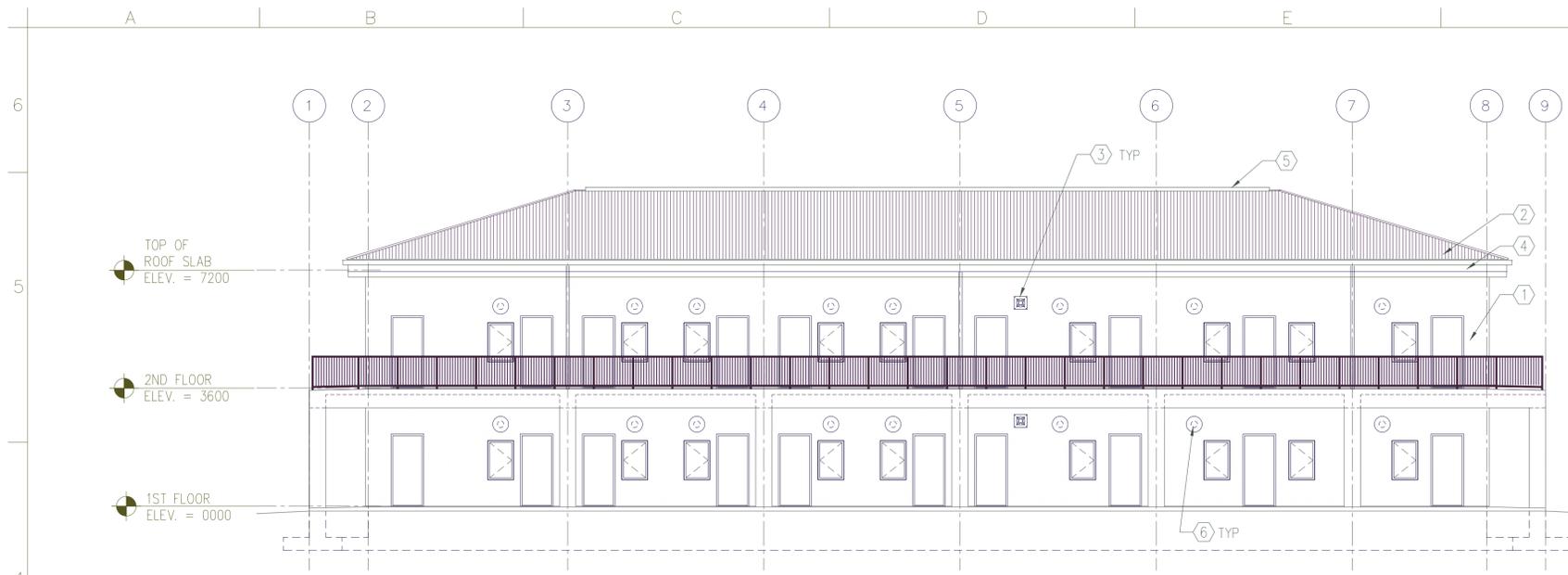
DESIGNED BY: DLB	DATE: 09-30-09
DWN BY: AAR	SUBMITTED BY: BAKER
CHK BY: KRC	FILE NO: ANPSDG-BS-TITLE

Michael Baker Corp.
4000 Old York Road
1000 Old York Road
Moon Township, PA 15108
www.mbakercorp.com

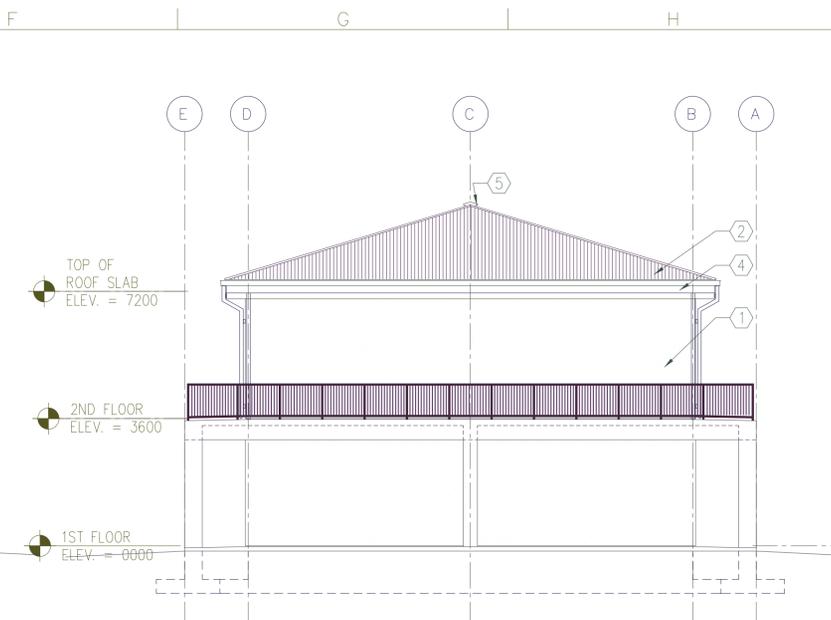
AFGHAN NATIONAL POLICE
STANDARD DESIGN
BARRACK BUILDING, 2-STORY (862 GSM)
ELECTRIC HEAT OPTION

SHEET REFERENCE NUMBER:
A3

100% SUBMISSION



1 EAST ELEVATION
A1 | A4
SCALE: 1:100



2 NORTH AND SOUTH ELEVATION
A1 | A4
SCALE: 1:100



3 WEST ELEVATION
A1 | A4
SCALE: 1:100

GENERAL NOTES:

- A. COORDINATE SIZE AND LOCATION OF OPENINGS FOR MECHANICAL ITEMS WITH MECHANICAL DRAWINGS.
- B. PROVIDE STRUCTURAL LINTELS AS REQUIRED - RE: STRUCT

KEY NOTES:

- 1. STUCCO AND RIGID INSULATION SYSTEM OVER CMU AND CONCRETE.
- 2. CORRUGATED METAL ROOF PANELS ON COLD-FORMED METAL FRAMING.
- 3. EXHAUST FAN - RE: MECH
- 4. METAL GUTTER
- 5. CONTINUOUS RIDGE VENT
- 6. TWO-PIECE WALL THIMBLE AND TRIM PLATE FOR OPTIONAL WOOD BURNING STOVE CHIMNEY PIPE. STOVE AND PIPE BY OTHERS.
- 7. LOUVER - RE: MECH



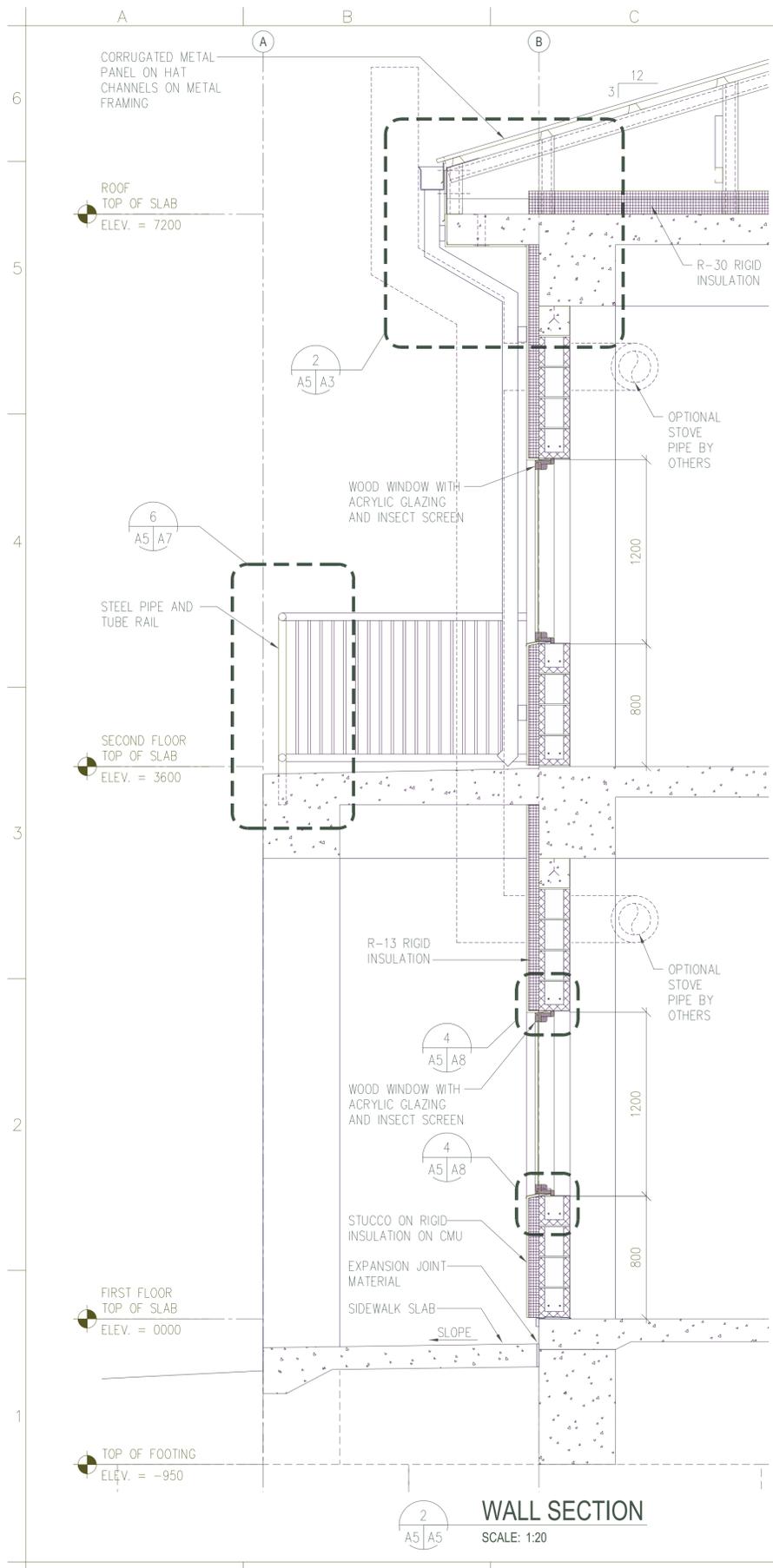
SYMBOL	DESCRIPTION	DATE

DESIGNED BY:	DLB	DATE:	09-30-09
DWN BY:	AAR	SUBMITTED BY:	BAKER
CHK BY:	KRC	FILE NO.:	ANPSDG-BS-TITLE

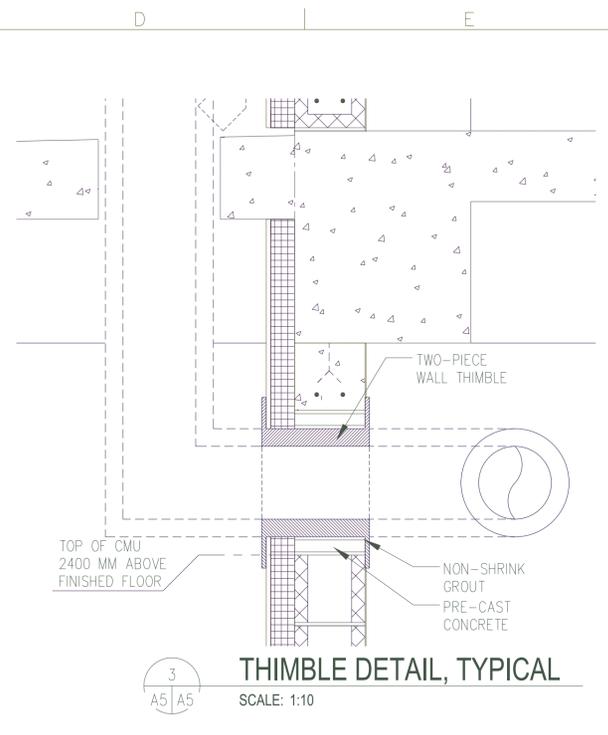
Michael Baker Corp.
A Unit of Michael Baker Corporation
1000 Independence Drive
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
BARRACK BUILDING, 2-STORY (862 GSM)
ELECTRIC HEAT OPTION
EXTERIOR ELEVATIONS

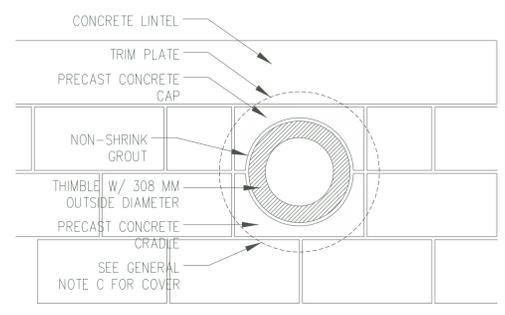
SHEET REFERENCE NUMBER:
A4



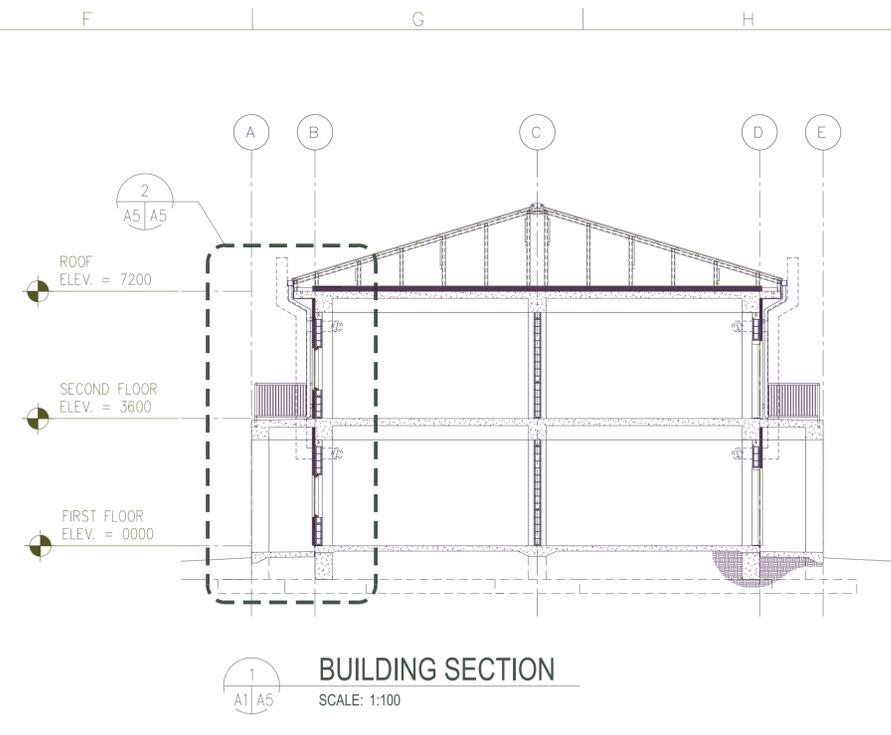
2 WALL SECTION
SCALE: 1:20



3 THIMBLE DETAIL, TYPICAL
SCALE: 1:10



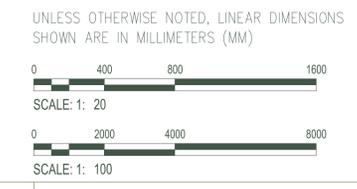
4 THIMBLE DETAIL, TYPICAL
SCALE: 1:10



1 BUILDING SECTION
SCALE: 1:100

GENERAL NOTES:

- A. COORDINATE SIZE AND LOCATION OF OPENINGS FOR MECHANICAL ITEMS WITH MECHANICAL DRAWINGS.
- B. PROVIDE STRUCTURAL LINTELS AS REQUIRED - RE: STRUCT
- C. PROVIDE 480 MM SQUARE, 1.5 MM THICK GALVANIZED SHEET METAL COVER WITH 13 MM HEMMED EDGE FOR WALL THIMBLE UNTIL STOVE PIPE IS PROVIDED. INSTALL COVER ON EXTERIOR FACE OF THIMBLE TRIM PLATE. COVER SHALL BE SET IN SILICONE SEALANT AND FASTENED WITH 4 STAINLESS STEEL SCREWS. ALIGN FASTENER LOCATIONS WITH COVER PLATE FASTENER OPENINGS SO ADDITIONAL FASTENER PENETRATIONS ARE NOT CREATED IN EXTERIOR FINISH.



US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE

DESIGNED BY: DLB	DATE: 09-30-09
DWN BY: AAR	SUBMITTED BY: BAKER
CHK BY: KRC	FILE NO: ANPSDG-BS-TITLE

Michael Baker Corp.
4000 B...
100...
Moon Township PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN (862 GSM)
BARRACK BUILDING, 2-STORY
ELECTRIC HEAT OPTION

BUILDING & WALL SECTIONS

SHEET REFERENCE NUMBER:
A5

100% SUBMISSION

SYMBOL	DESCRIPTION	DATE

DESIGNED BY:	DLB	DATE:	09-30-09
DWN BY:	AAR	SUBMITTED BY:	BAKER
CHK BY:	KRC	FILE NO.:	ANPSDG-BS-TITLE

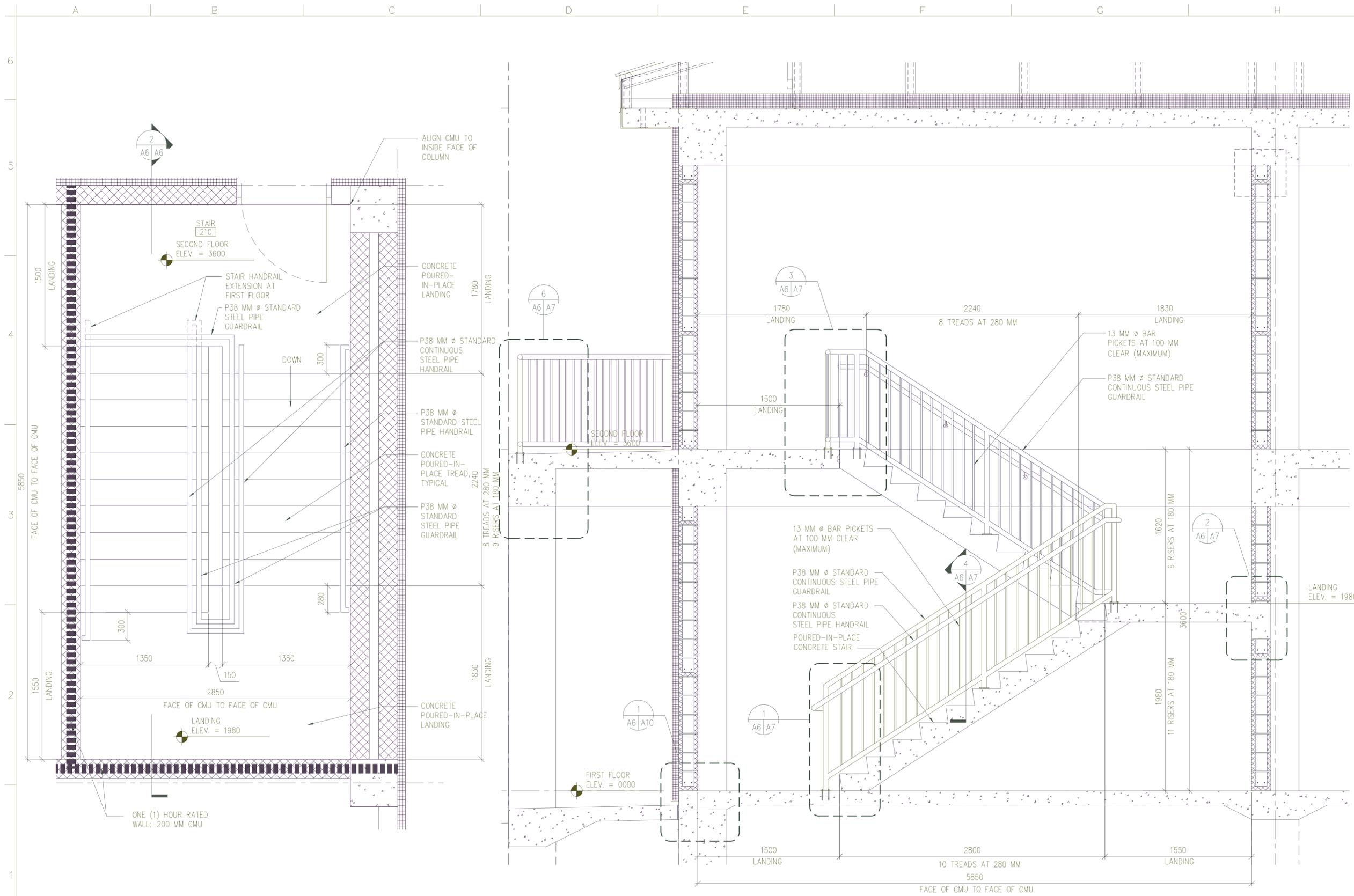
Michael Baker Co., Inc.
A Unit of Michael Baker Corporation
4000 Blue Bell Drive
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
BARRACK BUILDING, 2-STORY
ELECTRIC HEAT OPTION

STAIR PLAN & SECTION

SHEET REFERENCE NUMBER:
A6

100% SUBMISSION

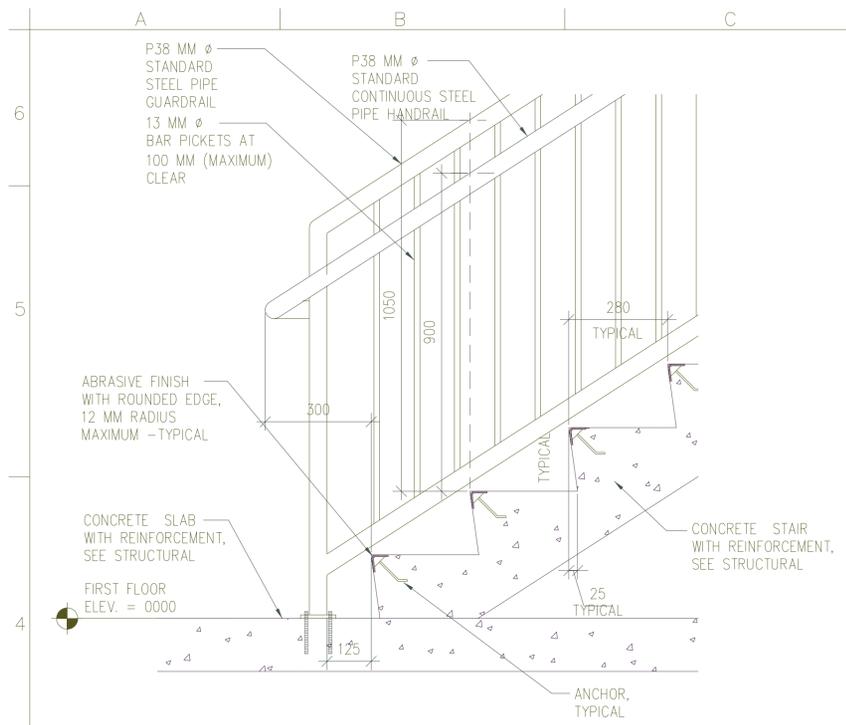


1
A2 | A6
STAIR PLAN
SCALE: 1:20
NOTE: STAIR 211 IS THE SAME PLAN, BUT ROTATED 180 DEGREES.

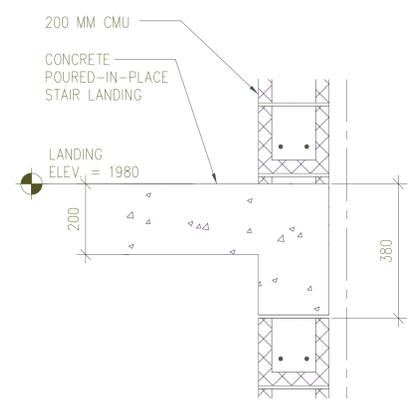
2
A6 | A6
STAIR SECTION
SCALE: 1:20

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)

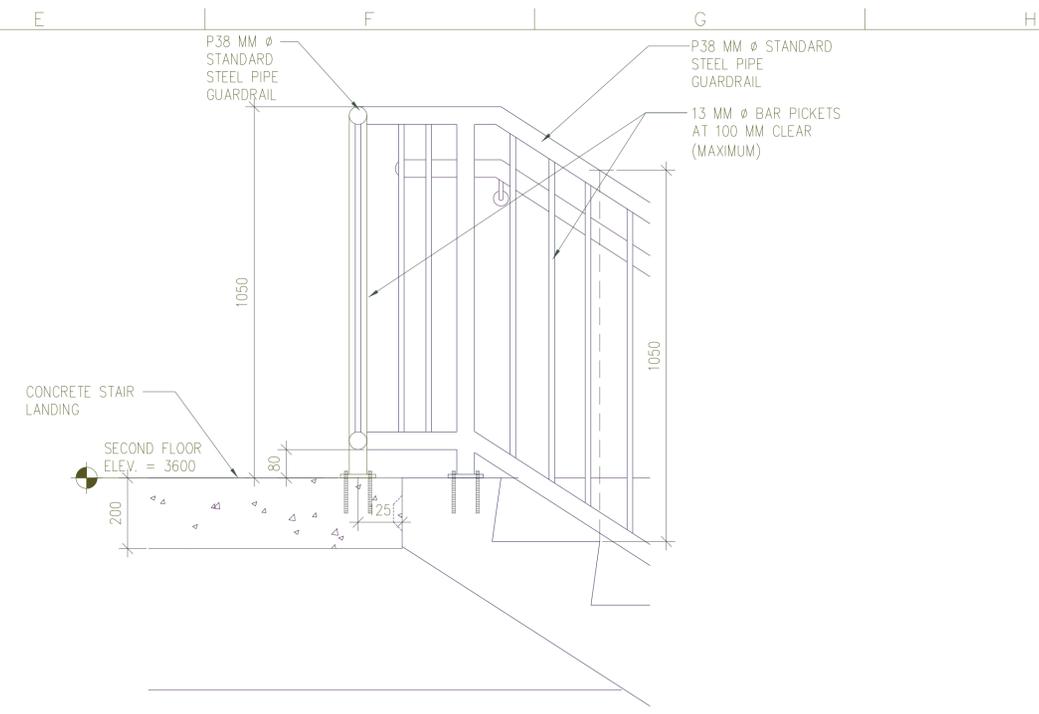
0 400 800 1600
SCALE: 1: 20



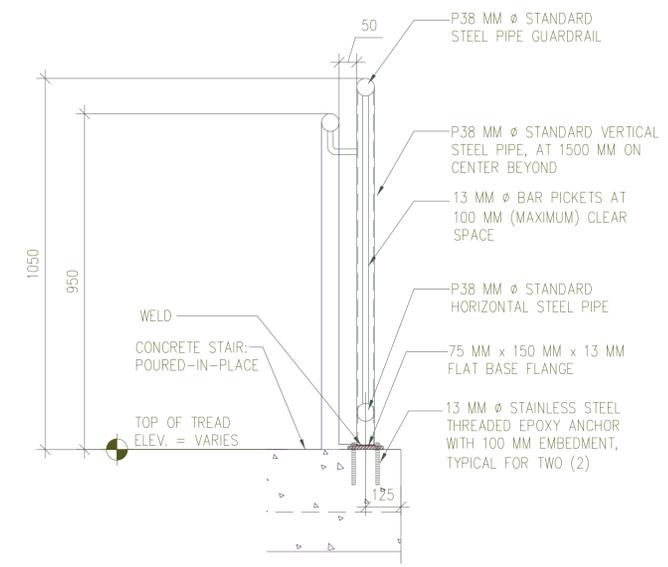
1 **BOTTOM LANDING DETAIL**
A6 | A7 SCALE: 1:10



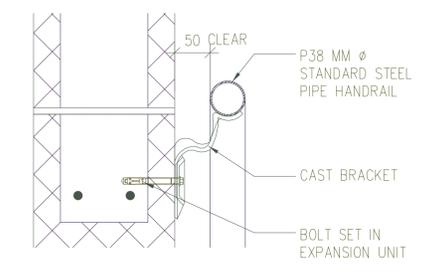
2 **INTERMEDIATE LANDING DETAIL**
A6 | A7 SCALE: 1:10



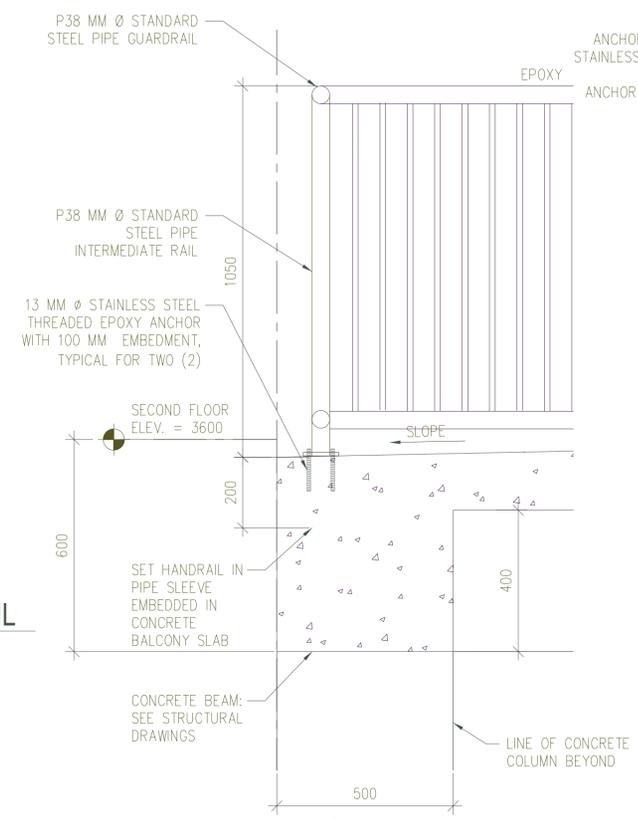
3 **TOP LANDING DETAIL**
A6 | A7 SCALE: 1:10



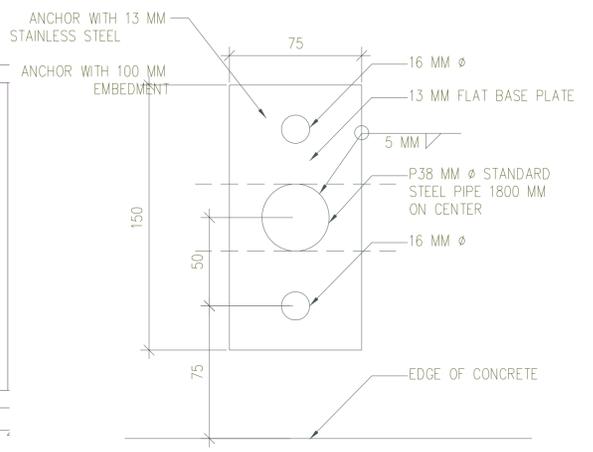
4 **HANDRAIL & GUARDRAIL DETAIL**
A6 | A7 SCALE: 1:10



5 **WALL MOUNTED HANDRAIL DETAIL**
A6 | A7 SCALE: 1:5



6 **BALCONY GUARDRAIL DETAIL**
A6 | A7 SCALE: 1:10



7 **RAILING BASE PLATE DETAIL**
A6 | A7 SCALE: 1:2

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)

0 100 200 400
SCALE: 1: 5

0 200 400 800
SCALE: 1: 10

NO.	DATE	DESCRIPTION	APP.

DESIGNED BY:	DLB	DATE:	09-30-09
DWN BY:	AAR	SUBMITTED BY:	BAKER
CHK BY:	KRC	FILE NO.:	ANPSDG-BS-TITLE

Michael Baker Corp.
A Unit of Michael Baker Corporation
4100 Old Forge Road
100 Old Forge, PA 15108
www.mbakercorp.com

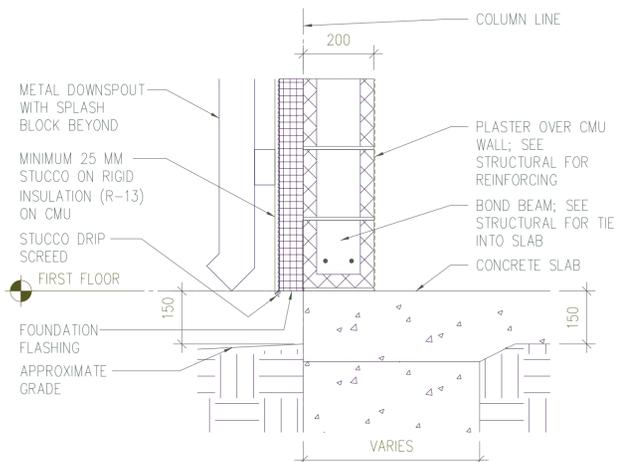
AFGHAN NATIONAL POLICE
STANDARD DESIGN
BARRACK BUILDING, 2-STORY (862 GSM)
ELECTRIC HEAT OPTION

STAR DETAILS

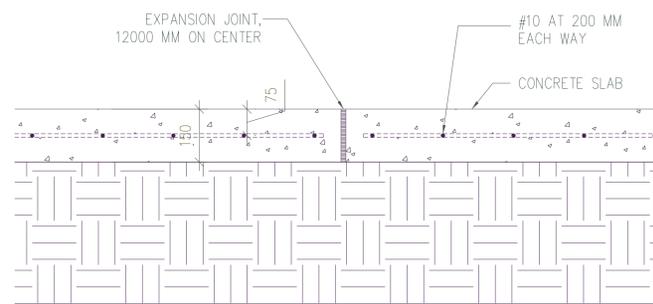
SHEET REFERENCE NUMBER:
A7

A B C D E F G H

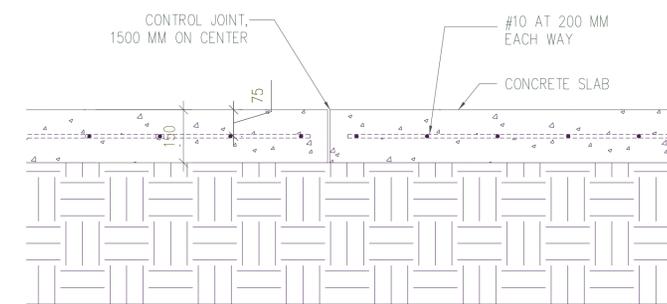
6
5
4
3
2
1



1
A6 A10
STUCCO BASE DETAIL
SCALE: 1:10



2
A1 A10
SIDEWALK EXPANSION JOINT DETAIL
SCALE: 1:10



3
A1 A10
SIDEWALK CONTROL JOINT DETAIL
SCALE: 1:10

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)
 0 1000 2000 4000
 SCALE: 1: 50



SYMBOL	DESCRIPTION	DATE

DESIGNED BY: DLB	DATE: 09-30-09
DWN BY: AAR	SUBMITTED BY: BAKER
CHK BY: KRC	FILE NO: ANPSDG-BS-TITLE

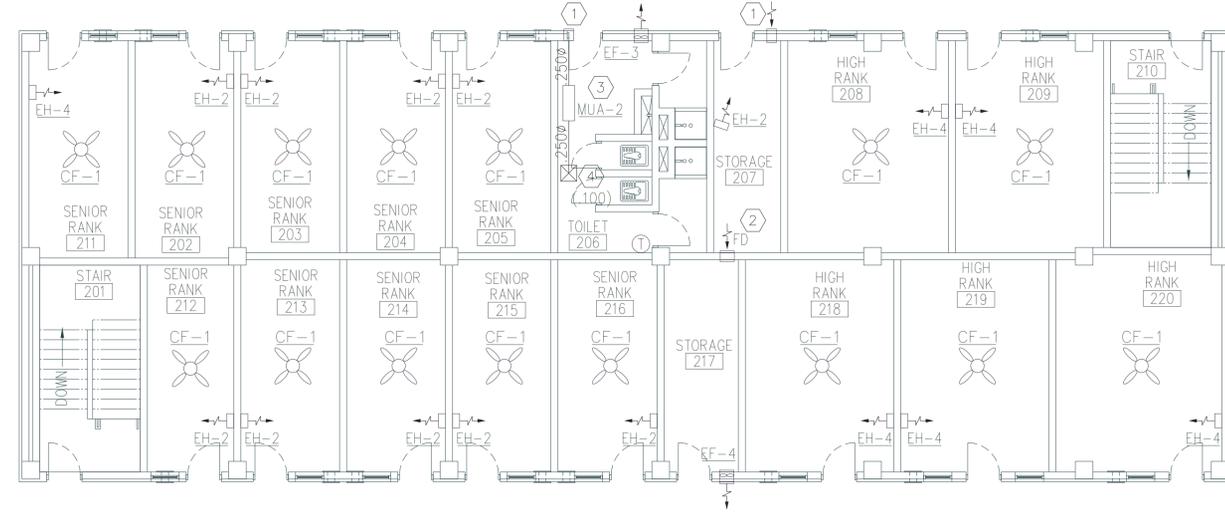
Michael Baker Co., Inc.
 A Unit of Michael Baker Corporation
 4000 B Street, Suite 100
 Moon Township, PA 15108
 www.mbakercorp.com

AFGHAN NATIONAL POLICE
 STANDARD DESIGN
 BARRACK BUILDING, 2-STORY (862 GSM)
 ELECTRIC HEAT OPTION
SECTION DETAILS

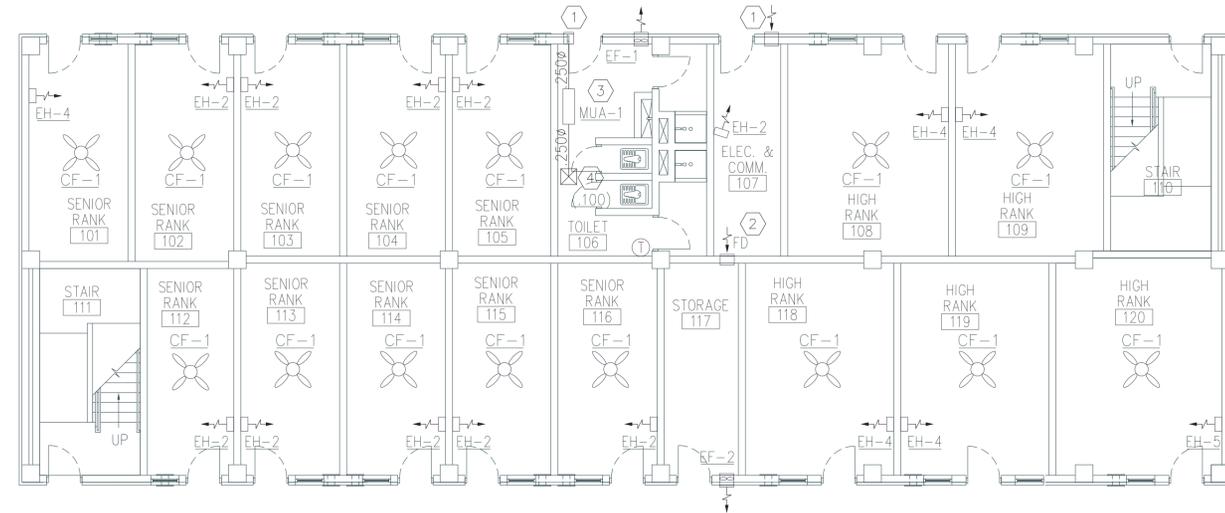
SHEET REFERENCE NUMBER:
A10

100% SUBMISSION

A B C D E F G H



2 SECOND FLOOR PLAN - HVAC
SCALE: 1:100



1 FIRST FLOOR PLAN - HVAC
SCALE: 1:100

EXHAUST FAN SCHEDULE

NO.	TYPE	FAN CMS	DRIVE	HP	SP mmH2O	ELECT. CHAR.	SWITCH
EF-1	WALL	0.100	DIRECT	FRACT	13	220/1/50	@ WALL
EF-2	WALL	0.050	DIRECT	FRACT	13	220/1/50	@ WALL
EF-3	WALL	0.100	DIRECT	FRACT	13	220/1/50	@ WALL
EF-4	WALL	0.050	DIRECT	FRACT	13	220/1/50	@ WALL

NOTES:
1. WALL MOUNTED EXHAUST FAN MOUNT AT 600mm BELOW CEILING.

ELECTRIC UNIT HEATER SCHEDULE

NO.	CMS	KW	F.A.T. °C	ELECT. CHAR.	MOUNTING
EH-2	.200	2.6	38	370/1/50	WALL HUNG
EH-4	.200	4	38	370/1/50	WALL HUNG
EH-5	.200	5	38	370/1/50	WALL HUNG

NOTES:
1. UNIT HEATERS SHALL BE MOUNTED AS HIGH AS POSSIBLE.
2. UNIT HEATERS SHALL HAVE TAMPER PROOF INTEGRAL STATS.

MAKE UP AIR HEATERS

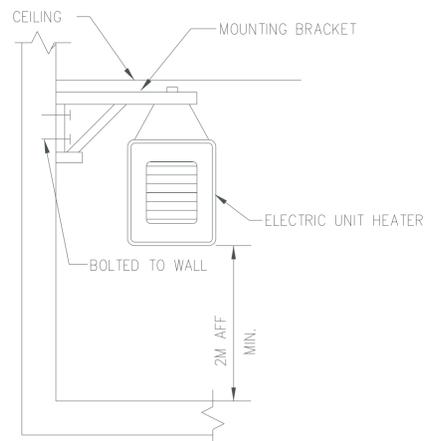
NO.	BLOWER CMS	FUSE	KW	MIN. TEMP RISE °C	SP mmH2O	ELECT. CHAR.	CONTROL
MUA-1	0.100	30	5	20	13	220/1/50	REMOTE
MUA-2	0.100	30	5	20	13	220/1/50	REMOTE

NOTES:
1. PROVIDE REMOTE MOUNTED THERMOSTAT WITH LOCKING COVER.
2. INTERLOCK BLOWER OPERATION WITH EXHAUST FANS.
3. BLOWER SHALL BE SET TO ENERGIZE WITH EXHAUST FAN(S). HEAT SHALL BE CONTROLLED BY THERMOSTAT. PROVIDE AIR SENSING SWITCH FOR HEATING OPERATION.

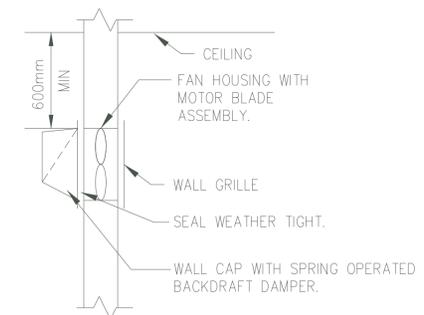
CEILING FAN

NO.	BLADE SIZE		VOLTAGE	SWITCH
	mm	IN		
CF-1	1320	52	220/1/50	@ WALL

NOTES:
1. FINAL ELECTRICAL CONNECTIONS BY EC.



ELECTRIC UNIT HEATER MOUNTING
N.T.S.



WALL MOUNTED EXHAUST FAN DETAIL
N.T.S.

GENERAL NOTES:

- DO NOT SCALE DRAWINGS - ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
- ALL WORK PERFORMED ON THIS BUILDING SHALL BE IN COMPLIANCE WITH ALL PERTINENT CODES, RULES, ORDINANCES AND REGULATIONS OF THE GOVERNING AUTHORITIES.
- ALL WORK PERFORMED UNDER AND IN CONNECTION WITH THESE DRAWINGS AND SPECIFICATIONS SHALL BE IN STRICT COMPLIANCE WITH THE LATEST SAFETY AND HEALTH STANDARDS.

SYMBOLS:

- (X) KEY NOTE
- (.050) AIR VOLUME IN CUBIC METERS PER SECOND (CMS)
- FD FIRE DAMPER

NUMBERED NOTE:

- 200X200 (8X8) LOW LEAKAGE GRAVITY WALL LOUVER FOR SUPPLY AIR. PROVIDE WEATHERPROOF LOUVER W/ 2" WASH DOWN FILTER AND SAND TRAP.
- 200X400 (8X16) TRANSFER GRILLE WITH FIRE DAMPER.
- ELECTRIC MAKE UP AIR HEATER SECURED TO STRUCTURE ABOVE. ALL FINAL ELECTRICAL CONNECTIONS SHALL BE BY THE EC.
- 150x150 (6x6) SUPPLY DIFFUSER CEILING WITH THREE WAY BLOW, BALANCE TO CMS IN PARENTHESIS.



NO.	DATE	DESCRIPTION	SYMBOL

DESIGNED BY: RML	DATE: 09-30-09
DWN BY: JMN	SUBMITTED BY: BAKER
CHK BY: C/M III	FILE NO: ANPSDG-BS-TITLE

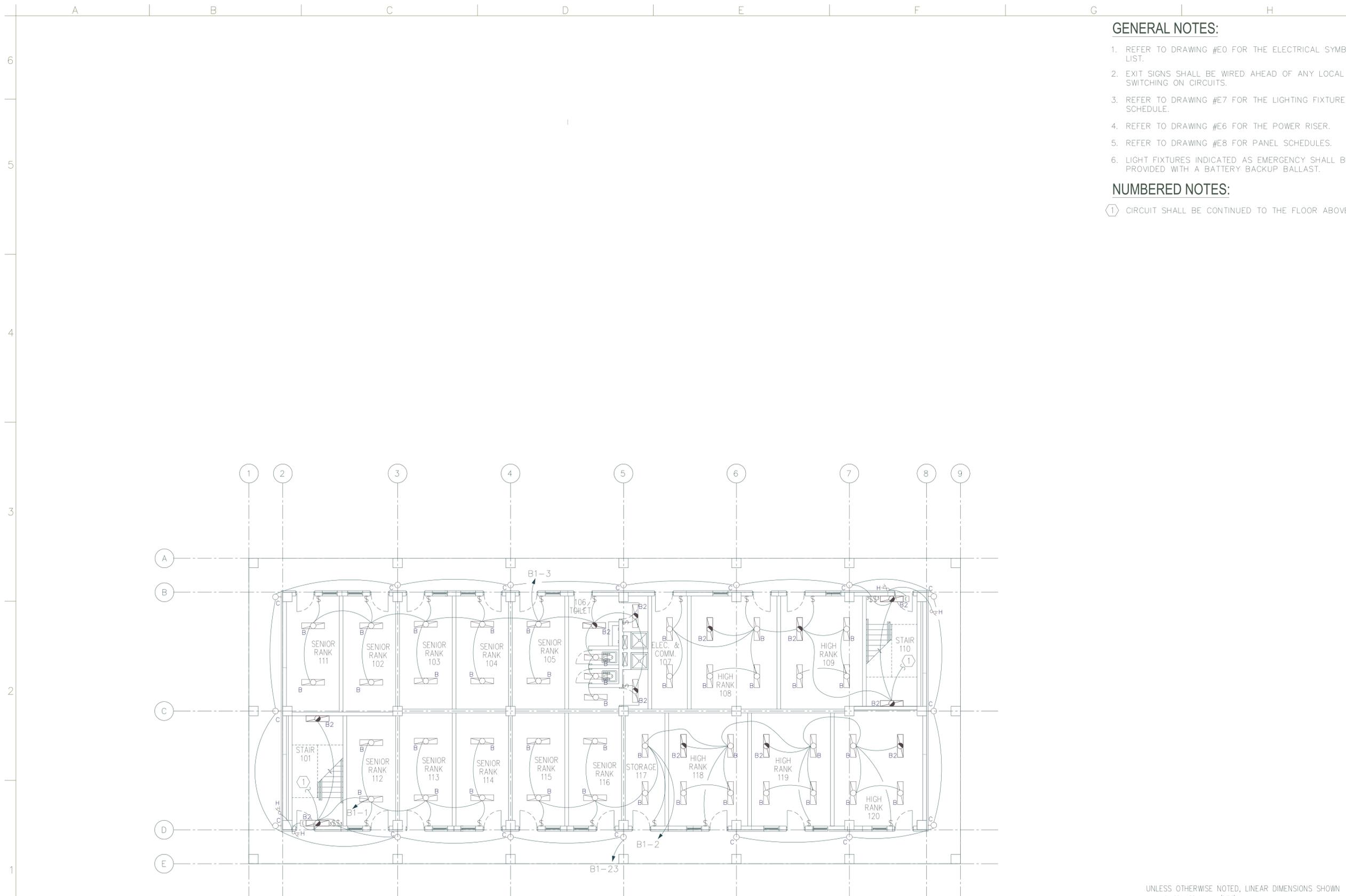
Michael Baker Corp.
4000 Blandwood Drive
1000 Blandwood Drive
Moon Township PA 15108
www.mbc.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN (862 GSM)
BARRACK BUILDING, 2-STORY
ELECTRIC HEAT OPTION

FIRST FLOOR PLAN - HVAC

SHEET REFERENCE NUMBER:
M1

100% SUBMISSION



1
E1 | E1

FIRST FLOOR LIGHTING PLAN

SCALE: 1:100

N

GENERAL NOTES:

1. REFER TO DRAWING #E0 FOR THE ELECTRICAL SYMBOLS LIST.
2. EXIT SIGNS SHALL BE WIRED AHEAD OF ANY LOCAL SWITCHING ON CIRCUITS.
3. REFER TO DRAWING #E7 FOR THE LIGHTING FIXTURE SCHEDULE.
4. REFER TO DRAWING #E6 FOR THE POWER RISER.
5. REFER TO DRAWING #E8 FOR PANEL SCHEDULES.
6. LIGHT FIXTURES INDICATED AS EMERGENCY SHALL BE PROVIDED WITH A BATTERY BACKUP BALLAST.

NUMBERED NOTES:

- ① CIRCUIT SHALL BE CONTINUED TO THE FLOOR ABOVE.



SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: JRG	DATE: 09-30-09
DWN BY: JRG	SUBMITTED BY: BAKER
CHK BY: JRG	FILE NO: ANPSDC-BS-TITLE

Michael Baker Co., Inc.
 A Unit of Michael Baker Corporation
 4100 B. Business Park
 100 B. Business Park
 Moon Township PA 15108
 www.mbakercorp.com

AFGHAN NATIONAL POLICE
 STANDARD DESIGN (862 GSM)
 BARRACK BUILDING, 2-STORY
 ELECTRIC HEAT OPTION

FIRST FLOOR LIGHTING PLAN

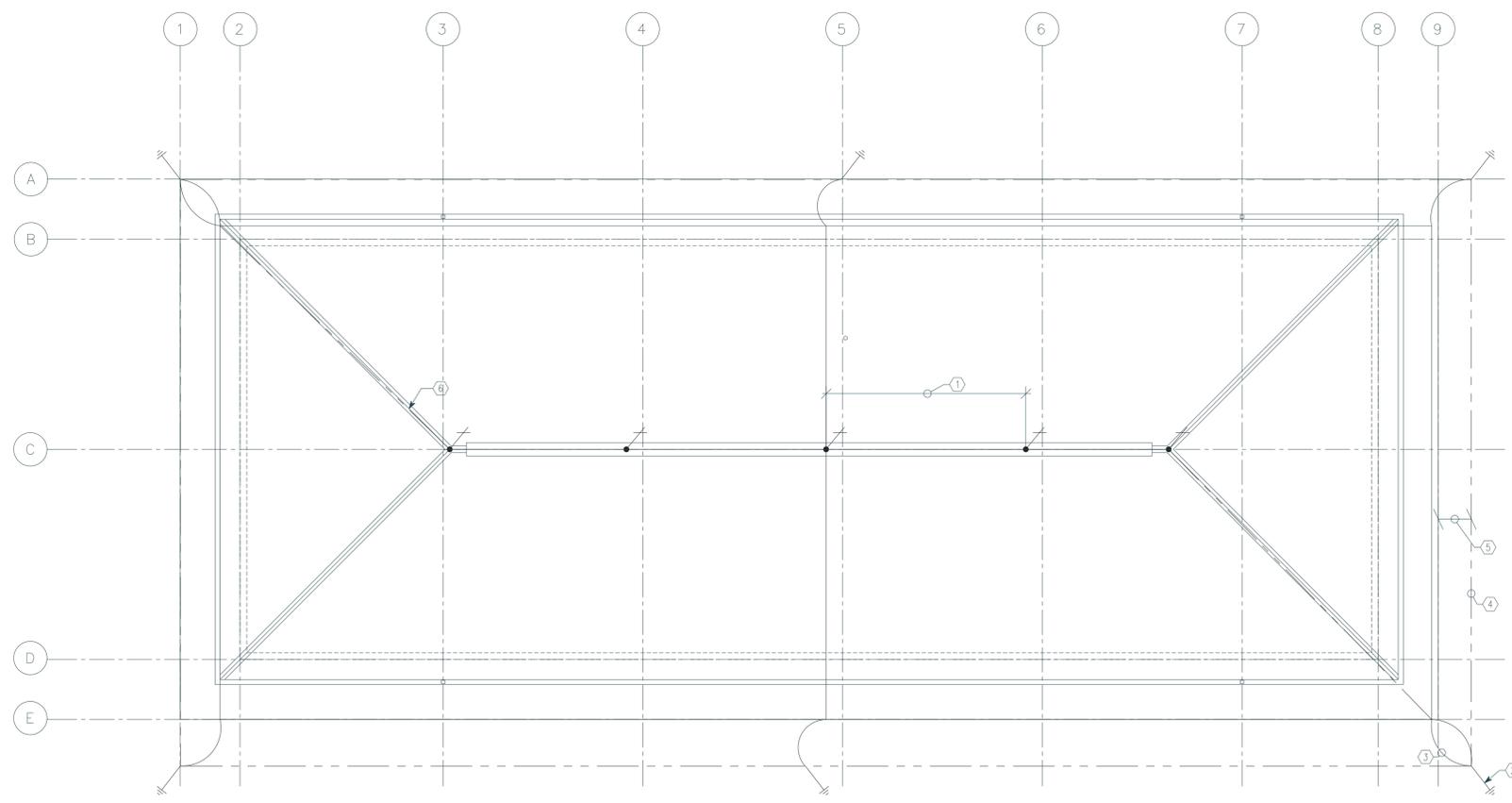
SHEET REFERENCE NUMBER:
E1



100% SUBMISSION

A B C D E F G H

6
5
4
3
2
1



GENERAL NOTES:

1. REFER TO DRAWING #E0 FOR THE ELECTRICAL SYMBOLS LIST.
2. REFER TO DRAWING #E8 FOR DETAILS RELATING TO LIGHTNING PROTECTION AND GROUNDING.
3. FLAG POLE SHALL HAVE THE SAME LIGHTNING PROTECTION SYSTEM AS THE POLE SUPPORTING THE PUBLIC ADDRESS SPEAKER CLUSTER. SEE DRAWING #E8 FOR DETAILS.

NUMBERED NOTES:

- ① THIS DISTANCE SHALL BE A MAXIMUM OF 6.0 METERS.
- ② INSTALL DOWN CONDUCTOR IN 25mm SCHEDULE 80 PVC CONDUIT TO 20mm DIAMETER x 3 METERS SOLID COPPER TINNED GROUND ROD. (TYPICAL)
- ③ CADWELD TO BUILDING STRUCTURE AT 18 METERS O.C. AROUND ENTIRE PERIMETER OR BUILDING. (TYPICAL)
- ④ (1) #120.0mm² BARE, TINNED COPPER COUNTERPOISE GROUND 700mm BELOW GRADE.
- ⑤ 700mm MIN. (TYPICAL) BETWEEN FOUNDATION AND GROUND LOOP.
- ⑥ 120mm² LIGHTNING PROTECTION CABLE.



SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: JRG	DATE: 09-30-09
DWN BY: JRG	SUBMITTED BY: BAKER
CHK BY: JRG	FILE NO: ANPSDC-BS-TITLE

Michael Baker Corp.
 A Unit of Michael Baker Corporation
 4000 B. Business Park
 100 North Park Drive
 Moon Township, PA 15108
 www.mbakercorp.com

AFGHAN NATIONAL POLICE
 STANDARD DESIGN
 BARRACK BUILDING, 2-STORY (862 GSM)
 ELECTRIC HEAT OPTION
ROOF LIGHTNING PROTECTION PLAN

SHEET REFERENCE NUMBER:
E5



ROOF LIGHTNING PROTECTION PLAN

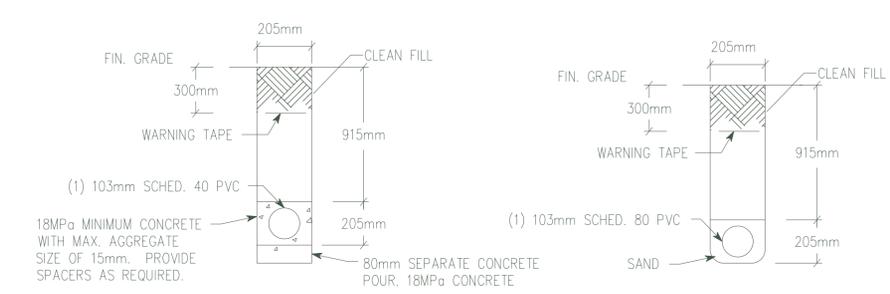
SCALE: 1:100



UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)

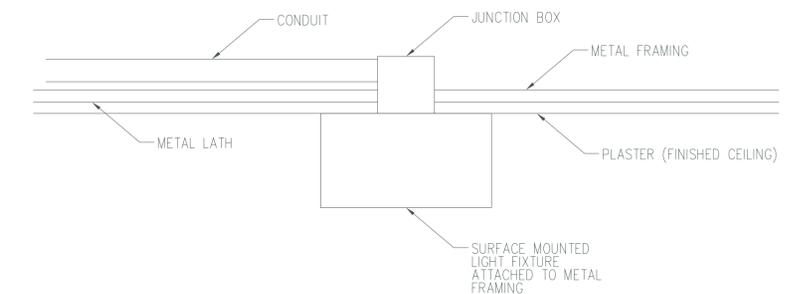
1:100

100% SUBMISSION



NOTE: PVC CONDUIT SHALL BE DIRECT BURIED SCHEDULE 80 FOR NO TRAFFIC AREAS AND CONCRETE-ENCASED SCHEDULE 40 FOR UNDER ROADWAYS OR TRAFFIC AREAS.

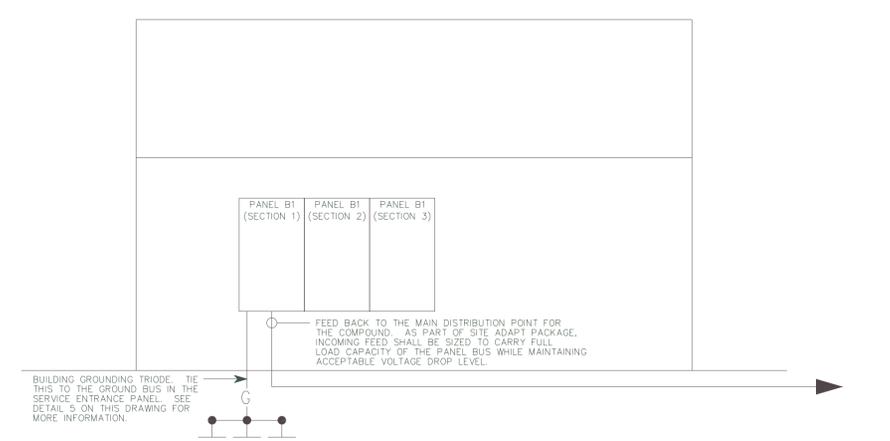
1 TYPICAL DUCT BANK DETAILS FOR CONDUIT IN SAND OR CONCRETE
SCALE: N.T.S.



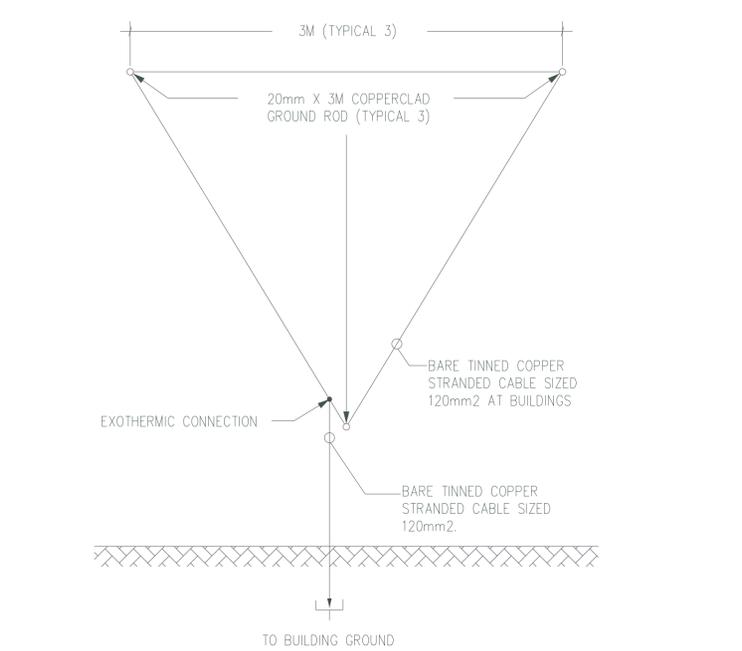
2 TYPICAL DETAIL FOR SURFACE MOUNTED LIGHT FIXTURES
SCALE: N.T.S.



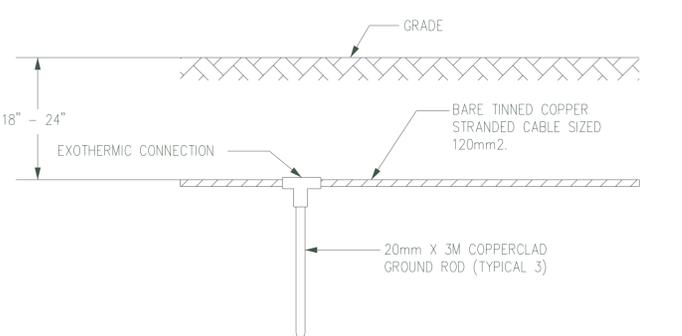
3 LIGHTNING PROTECTION AIR TERMINAL DETAIL
SCALE: N.T.S.



4 B.1 RISER DIAGRAM
SCALE: N.T.S.



5 GROUND TRIPOD SYSTEM DETAIL - PLAN
SCALE: N.T.S.



6 GROUND TRIPOD SYSTEM DETAIL - ELEVATION
SCALE: N.T.S.

US Army Corps of Engineers
Afghanistan Engineer District

NO.	SYMBOL	DESCRIPTION	DATE

DESIGNED BY:	JRG	DATE:	09-30-09
DWN BY:	JRG	SUBMITTED BY:	BAKER
CHK BY:	JRG	FILE NO.:	ANPSDG-BS-TITLE

Michael Baker Corp.
4000 B. Baker Corporation
1000 Business Park
Moon Township PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN (862 GSM)
BARRACK BUILDING, 2-STORY
ELECTRIC HEAT OPTION

SHEET REFERENCE NUMBER:
E6

100% SUBMISSION

STRUCTURAL DESIGN CRITERIA

ALL DESIGNS SHALL CONFORM TO THE PROVISIONS OF THE IBC 2006 AS APPLICABLE

1.0 DESIGN LOADS

1.1 DEAD LOADS

1.1.1 ROOF DEAD LOADS – CONVENTIONAL FRAMING

	MAXIMUM GRAVITY LOAD	MINIMUM GRAVITY LOAD
LIGHT GAUGE FRAMING	0.20 KPa	0.15 KPa
METAL ROOFING	0.14 KPa	0.05 KPa
INSULATION	0.10 KPa	0.05 KPa
MISC	0.05 KPa	0.00 KPa
	0.49 KPa	0.25 KPa

1.1.2 ROOF DEAD LOADS – CONCRETE FRAMING

	MAXIMUM GRAVITY LOAD
CONC FLAT SLAB	4.80 KPa
MECH/ELEC/PLUMBING	0.15 KPa
MISC	0.05 KPa
	5.00 KPa

1.2 LIVE LOADS (PER IBC 2006)

1.2.1 ROOF LIVE LOADS: ALL BUILDINGS

GREATER OF 1.0 KPa MINIMUM OR SNOW LOAD

1.2.2 SLAB-ON-GRADE LIVE LOADS

ALL BUILDINGS 4.80 KPa

1.3 SNOW LOADS (PER IBC 2006)

1.3.1 DESIGN PARAMETERS

GROUND SNOW LOAD (per UFC 3-310-01)	PER LOCAL CONDITION
SNOW IMPORTANCE FACTOR	1.0 KPa
SNOW EXPOSURE FACTOR	1.0 KPa

1.4 SEISMIC LOADS (PER IBC 2006 & UFC 3-310-04)

1.4.1 SEISMIC PARAMETERS – LOAD BEARING MASONRY

SEISMIC OCCUPANCY CATEGORY	II
SEISMIC IMPORTANCE FACTOR (I)	1.0
SEISMIC SITE CLASS	D
Ss	1.280
S1	0.510
Sds	0.853
Sd1	0.510
SEISMIC DESIGN CATEGORY	D
SEISMIC RESISTING SYSTEM	BEARING WALL SYSTEM
	SPECIAL REINF MASONRY SHEAR WALLS
RESPONSE MODIFICATION FACTOR (R)	5.0
RESPONSE COEFFICIENT (Cs)	0.17
SEISMIC ANALYTICAL PROCEDURE	EQUIV LATERAL FORCE
SEISMIC BASE SHEAR	49 kN

1.6 WIND LOADS (PER IBC 2006)

1.6.1 DESIGN PARAMETERS

BASIC WIND SPEED	137 Km/h
WIND IMPORTANCE FACTOR	1.0
WIND EXPOSURE CATEGORY	D
DIRECTIONALITY COEFFICIENT (Kd)	0.85
TOPOGRAPHIC FACTOR (Kzt)	1.0

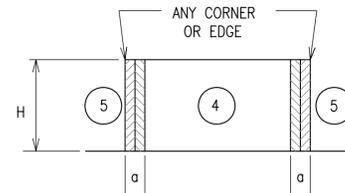
1.6.2 DESIGN WIND PRESSURE – MAIN WINDFORCE RESISTING SYSTEM

LOCATION	CORNER ZONE WIDTH "a"	MEAN ROOF HEIGHT (h)	WINDWARD WALL (@ MEAN ROOF HEIGHT)	LEEWARD WALL (@ MEAN ROOF HEIGHT)	ROOF
FIELD ZONE	N/A	3890mm	582 N/m ²	-463 N/m ²	-803 N/m ²
CORNER ZONE	900mm	3890mm	883 N/m ²	-689 N/m ²	-1244 N/m ²

a = 10% OF LEAST HORIZONTAL DIMENSION OR 0.4h, WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4% OF LEAST HORIZONTAL DIMENSION OR 0.9M.
h = MEAN ROOF HEIGHT, IN METERS, EXCEPT THAT EAVE HEIGHT SHALL BE USED FOR ANGLE GREATER THAN 10°.

1.6.3 DESIGN WIND PRESSURE – WALL COMPONENTS AND CLADDING

EXTERIOR WALL SYSTEMS & THEIR ATTACHMENTS TO THE PRIMARY STRUCTURE SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE DIAGRAM BELOW.



LOCATION	WINDWARD PRESSURE N/m ² (inward)		LEEWARD PRESSURE N/m ² (outward)		a
	④	⑤	④	⑤	
MAIN BUILDING					(mm)
AREA = 1 m ²	627	627	-986	-1216	900
AREA = 2 m ²	589	589	-948	-1134.8	900
AREA = 5 m ²	565	565	-910	-1086.9	900
AREA = 10 m ²	565	565	-910	-1086.9	900

NOTES:

- DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
- LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
- PLUS AND MINUS SIGNS SIGNIFY PRESSURE TOWARD AND AWAY FROM THE EXTERIOR SURFACE, RESPECTIVELY.

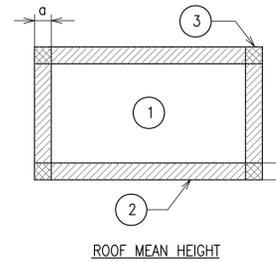
MASONRY CONCRETE LINTEL SCHEDULE

OPENING TYPE OR SIZE, BEAM LOCATION OR TYPE	MAX SPAN (mm)	BEAM DEPTH (mm)	MAIN REINFORCING			SHEAR REINF STIRRUPS
			TOP	BOTTOM	OTHER	
EXT WINDOW OR DOOR	900	400	(2)-#13	(2)-#13		----
INT WALL OPENING, NON-BEARING	1800	400	(2)-#13			----
INT WALL OPENING, NON-BEARING	900	200	(2)-#13			----

- STRUCTURAL DRAWINGS DO NOT INDICATE ALL OPENINGS IN MASONRY WALLS. VERIFY NUMBER, SIZE AND LOCATION OF ALL OPENINGS IN MASONRY WALLS FROM ARCHITECTURAL SHEETS AND APPROVED PLUMBING, MECHANICAL, AND ELECTRICAL SHOP DRAWINGS.
- PROVIDE 200mm BEARING EA END FOR 200mm DEEP CMU LINTEL PROVIDE 400mm BEARING EA END FOR 400mm DEEP CIPL.
- FOR HEAD DETAILS REFER TO ARCHITECTURAL SHEETS.
- REINFORCING SHALL BE ASTM A615M, GRADE 400. CONCRETE FOR CAST-IN-PLACE BEAMS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 28 MPa AT 28 DAYS.
- CONTRACTOR SHALL SUBMIT FOR APPROVAL SHOP DRAWINGS AND SCHEDULES SHOWING SIZE, DETAILS, LOCATIONS, ETC FOR ALL CAST-IN-PLACE BEAMS IN CMU WALLS.

1.6.4 DESIGN WIND PRESSURE – ROOF COMPONENTS AND CLADDING

ROOF COMPONENTS & THEIR ATTACHMENTS SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE ADJACENT DIAGRAM & TABLE BELOW.



1.6 WIND LOADS (CON'T)

LOCATION	GROSS UPLIFT PRESSURE N/m ² (upward)			a
	①	②	③	
MAIN BUILDING				(mm)
AREA = 1 m ²	-838	-1460	-1460	900
AREA = 2 m ²	-838	-1460	-1460	900
AREA = 5 m ²	-838	-1460	-1460	900
AREA = 10 m ²	-838	-1460	-1460	900

NOTES:

- DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
- LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
- PLUS AND MINUS SIGNS SIGNIFY PRESSURE TOWARD AND AWAY FROM THE EXTERIOR SURFACE, RESPECTIVELY.

2.0 FOUNDATION DESIGN CRITERIA (TO BE CONFIRMED BY THE CONTRACTOR)

THE GEOTECHNICAL ANALYSIS FOR THIS PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AWARDED THE WORK. DESIGN VALUES USED IN THE STRUCTURAL ANALYSIS OF THE BUILDINGS HEREIN INDICATED HAVE BEEN ASSUMED AND SHALL BE CONFIRMED AND VERIFIED AS PART OF THE GEOTECHNICAL INVESTIGATION. VALUES WHICH DO NOT MEET THE REQUIREMENTS INDICATED BELOW SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER FOR CONSIDERATION AND DETERMINATION ON THE NEXT APPROPRIATE COURSE OF ACTION.

2.1.1 SOIL DESIGN PARAMETERS

NET ALLOWABLE SOIL BEARING CAPACITY	96.0 KPa
UNIT WEIGHT OF SOIL (moist)	1800 Kg/m ³
COEFF ACTIVE EARTH PRESSURE (Kpa)	0.30
COEFF PASSIVE EARTH PRESSURE (Kpp)	3.33
COEFF AT-REST EARTH PRESSURE (Kpr)	.55
COEFF OF SOIL FRICTION	.35
SUBGRADE MODULUS	4120 g/m ³
MINIMUM BEARING DEPTH BELOW GRADE	800mm
SEISMIC SITE CLASS (based on in-situ soil)	D

CONCRETE COVER SCHEDULE

MINIMUM CONCRETE COVER PROTECTION FOR REINFORCEMENT BARS SHALL BE AS FOLLOWS: (SEE ACI 318M-05, SECTION 7.7 FOR CONDITIONS NOT NOTED). DIMENSIONS FOR BAR PLACEMENT GIVEN IN SECTIONS AND DETAILS SHALL SUPERSEDE MINIMUM COVER REQUIREMENTS GIVEN HERE. DIMENSIONS ARE IN mm.

FOOTINGS (EARTH FORMED)	70
COLUMNS / PIERS (TO TIES)	40
GRADE BEAMS OR SLAB TURNED DOWN EDGES:	
TOP	40
BOTTOM (EARTH FORMED)	70
SIDES (EARTH FORMED)	70
SIDES (BOARD FORMED)	40
	#16 BAR & SMALLER
	#19 THRU #36 BAR
ELEVATED BEAMS & SLABS:	
BEAM TIES & STIRRUPS (NOT EXPOSED TO WEATHER)	40
BEAM TIES & STIRRUPS (EXPOSED TO WEATHER)	50
FLOOR SLABS (NOT EXPOSED TO WEATHER)	20
FLOOR SLABS (EXPOSED TO WEATHER)	
#19 & LARGER	50
#13 & SMALLER	40
ROOF SLAB BARS	25
SLABS-ON-GRADE (NO EXPOSURE TO WEATHER) FROM TOP	20
SLABS-ON-GRADE (EXPOSURE TO WEATHER) FROM TOP	40
UTILITY TUNNEL WALLS, RETAINING WALLS AND SHEAR WALLS, (NO SURFACES SHALL BE EARTH FORMED)	
EARTH SIDE AND FRONT SIDE (EXPOSED TO WEATHER):	
#16 BAR AND SMALLER	40
#19 THRU #36 BAR	50
PROVIDE STANDARD BAR CHAIRS AND SPACERS AS REQUIRED TO MAINTAIN CONCRETE PROTECTION SPECIFIED.	

US Army Corps of Engineers
Afghanistan Engineer District

DATE	DESCRIPTION	SYMBOL

DESIGNED BY: GDH	DATE: 09-30-09
DWN BY: MDB	SUBMITTED BY: BAKER
CHK BY: CWV	FILE NO: ANPSDS-002XXX

Michael Baker, Jr. Inc.
A Unit of Michael Baker Corporation
1000 Business Park
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
WELL HOUSE
DESIGN CRITERIA & SCHEDULES

SHEET REFERENCE NUMBER:
S2

SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: GDH	DATE: 09-30-09
DWN BY: MDB	SUBMITTED BY: BAKER
CHK BY: CWV	FILE NO: ANFSDS-103XXX

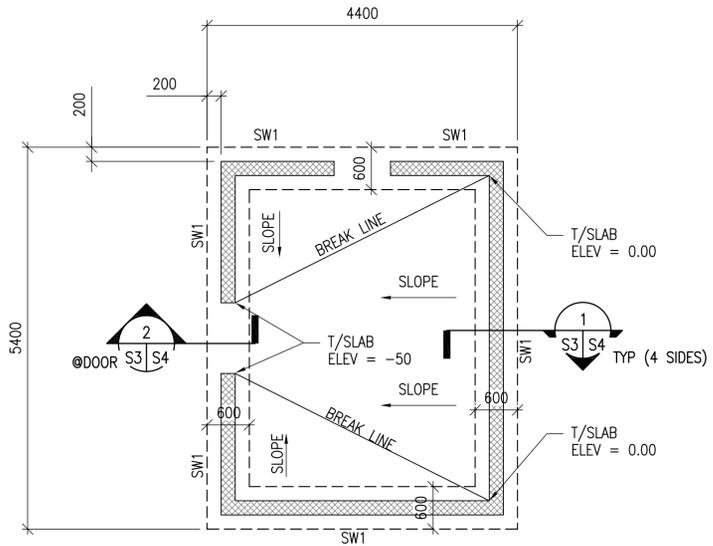
Michael Baker, Jr. Inc.
A Unit of Michael Baker Corporation
1000 Business Park
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
WELL HOUSE
FOUNDATION & ROOF FRAMING PLANS

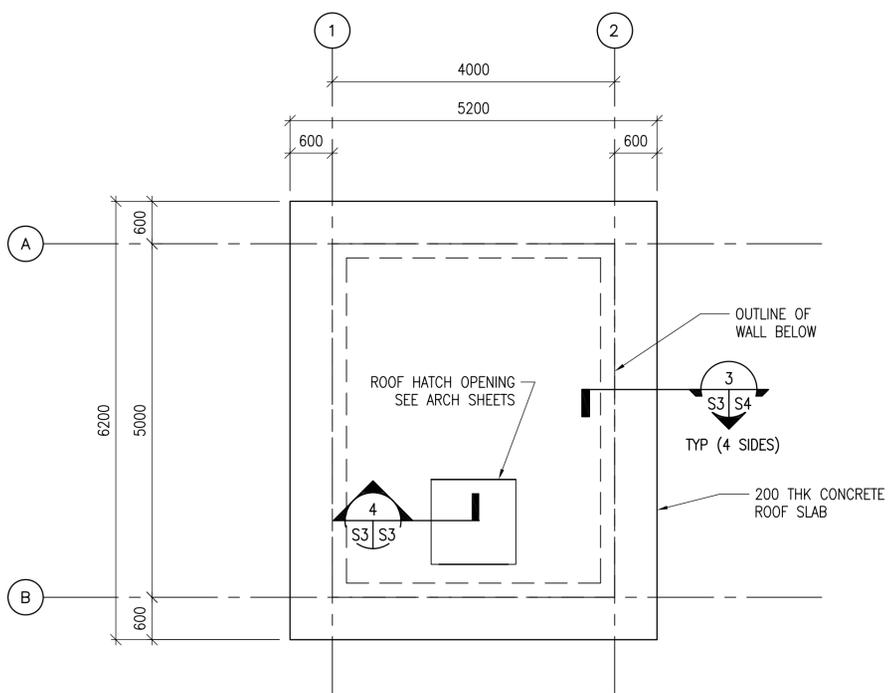
SHEET REFERENCE NUMBER:
S3

100% SUBMISSION

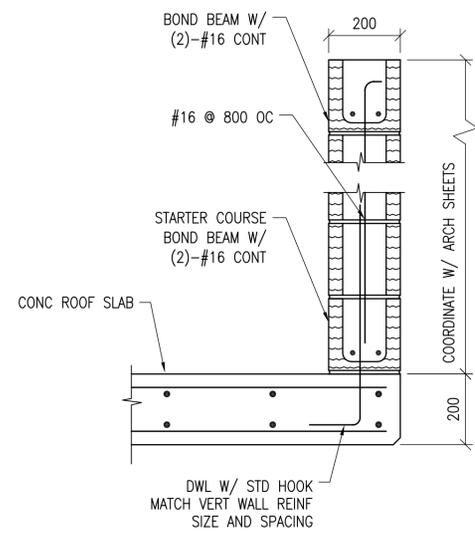
- NOTES:**
1. FINISH FIRST FLOOR ELEVATION SHALL BE (DATUM 0.0) ALL PLUS OR MINUS DIMENSIONS INDICATED ON PLAN OR REFERRED TO IN NOTES RELATE TO FINISH FIRST FLOOR ELEVATION.
 2. TOP OF EXTERIOR FOOTINGS SHALL BE -600 UNLESS OTHERWISE INDICATED.
 3. UNLESS OTHERWISE INDICATED, FLOORS SHALL BE 150 THICK CONCRETE SLAB-ON-GRADE W/ 13 DIA REBAR @ 450 OC E.W. (38 CLR. TOP)
 4. REFER TO SHEET S1 AND S2 FOR STRUCTURAL NOTES, ABBREVIATIONS AND SYMBOLS.
 5. REFER TO ARCHITECTURAL SHEETS FOR MASONRY PARTITION TYPES AND SHEET S5 REINFORCEMENT.
 6. SEE MECHANICAL AND ELECTRICAL SHEETS FOR CONCRETE PAD LOCATIONS, SIZES, AND THICKNESS NOT SHOWN. SEE SHEET S5 FOR DETAILS.
 7. ——— INDICATES SLOPE IN SLAB ON GRADE. COORDINATE LOCATION AND ELEVATION WITH ARCHITECTURAL AND PLUMBING SHEETS (TYP).
 8. COORD W/ ARCHITECTURAL SHEETS FOR COLD-FORMED STEEL OVERBUILT FRAMING ABOVE ROOF SLAB.
 9. COLD-FORMED METAL OVERBUILT ROOF FRAMING NOT SHOWN FOR CLARITY. SEE OVERBUILT ROOF FRAMING DETAILS AND SECTIONS ON SHEET S4.



1 WELL HOUSE FOUNDATION PLAN
SCALE: 1:50



2 WELL HOUSE ROOF FRAMING PLAN
SCALE: 1:50



4 SECTION
SCALE: 1:10

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)

0 200 400 800
SCALE: 1: 10

0 1000 2000 4000
SCALE: 1: 50

SYMBOL	DESCRIPTION	DATE

DESIGNED BY: BAKER	DATE: 09-30-09
DWN BY: BAKER	SUBMITTED BY: BAKER
CHK BY: GPH	FILE NO: ANPSDP-501XXX

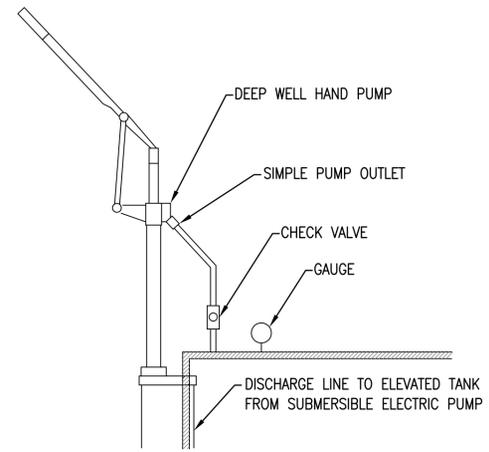
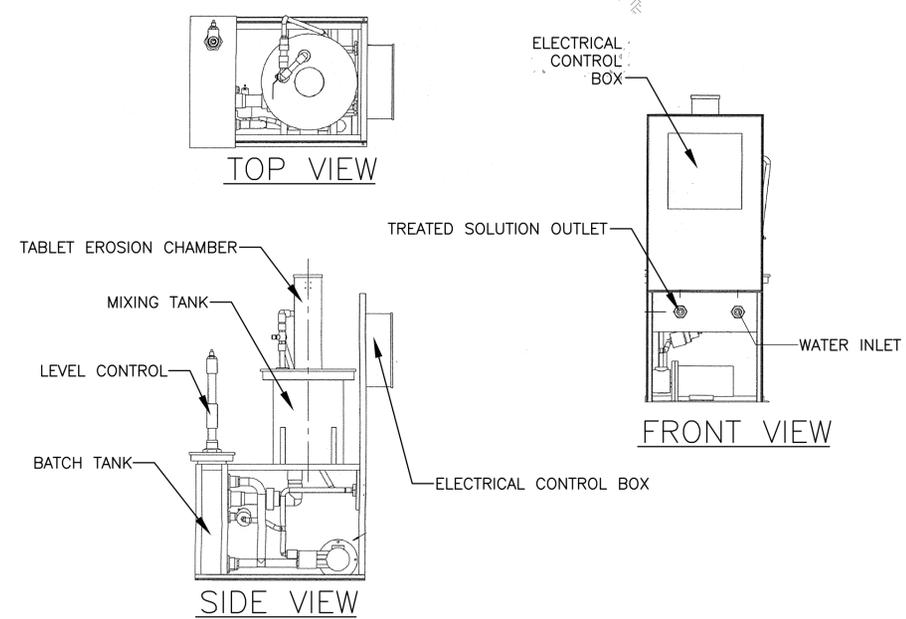
Michael Baker, Jr. Inc.
A Unit of Michael Baker Corporation
1000 Independence Parkway
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
WELL HOUSE
PLUMBING SCHEMATIC AND DETAILS

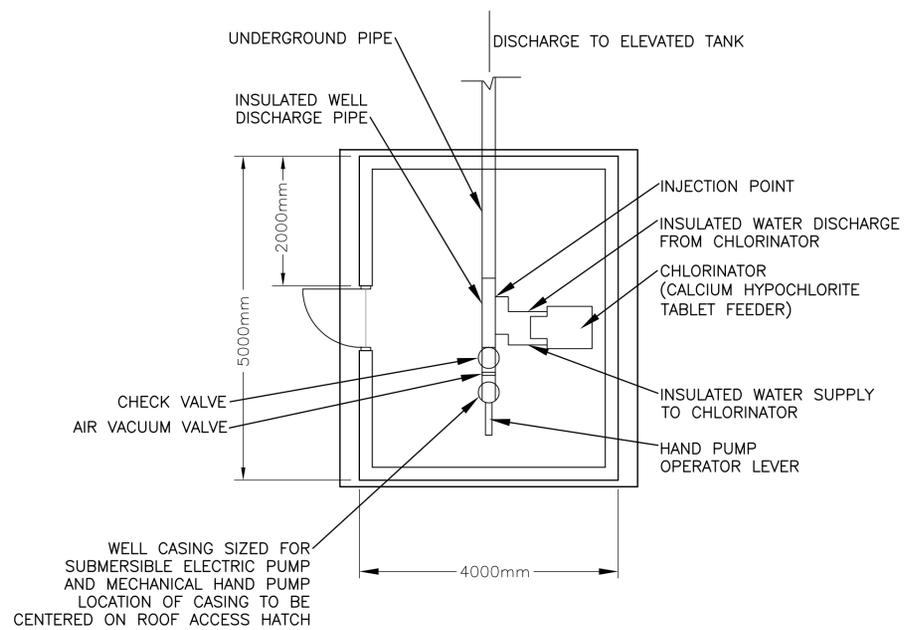
SHEET REFERENCE NUMBER:
P1

A B C D E F G H

6
5
4
3
2
1



HAND PUMP
INSTALLATION DETAIL
N.T.S.



WELL HOUSE
PLUMBING SCHEMATIC
N.T.S.

WELL CASING SIZED FOR
SUBMERSIBLE ELECTRIC PUMP
AND MECHANICAL HAND PUMP
LOCATION OF CASING TO BE
CENTERED ON ROOF ACCESS HATCH

SYMBOL	DESCRIPTION	DATE

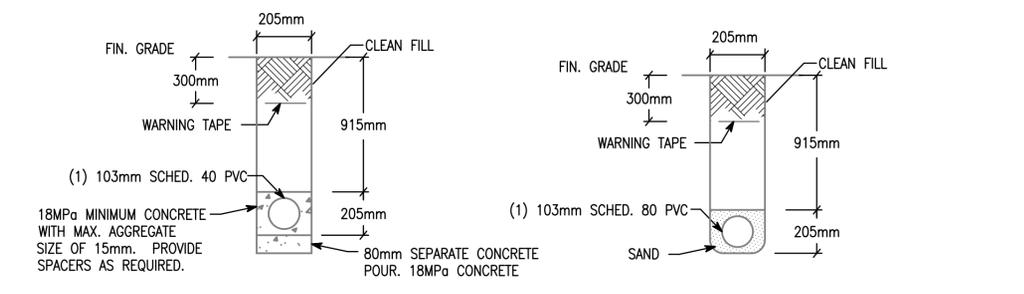
DESIGNED BY:	JRG	DATE:	09-30-09
DWN BY:	JRG	SUBMITTED BY:	BAKER
CHK BY:	JRG	FILE NO.:	ANPSDE-502XXX

Michael Baker, Jr. Inc.
A Unit of Michael Baker Corporation
1000 Business Park
Moon Township, PA 15108
www.mbakercorp.com

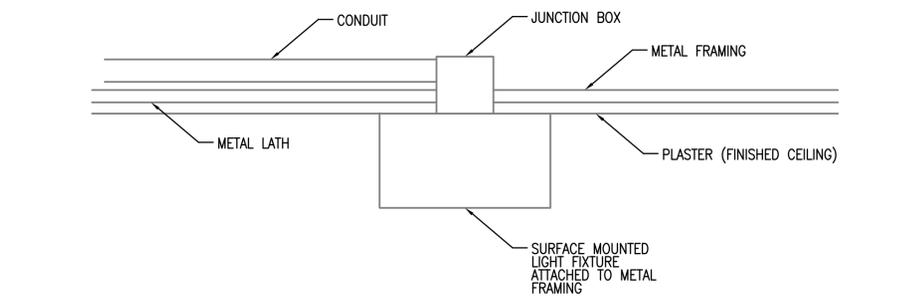
AFGHAN NATIONAL POLICE
STANDARD DESIGN
WELL HOUSE
DETAILS

SHEET REFERENCE NUMBER:
E2

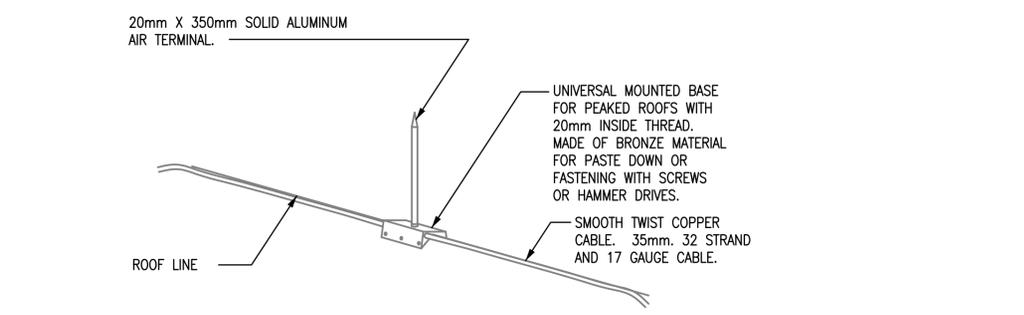
100% SUBMISSION



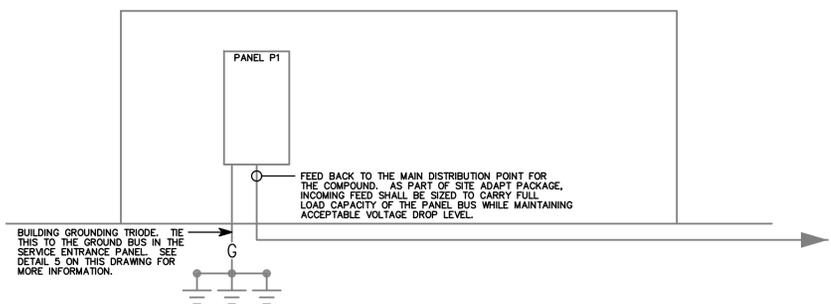
1
E2 E2
TYPICAL DUCT BANK DETAILS FOR CONDUIT IN SAND OR CONCRETE
SCALE: N.T.S.



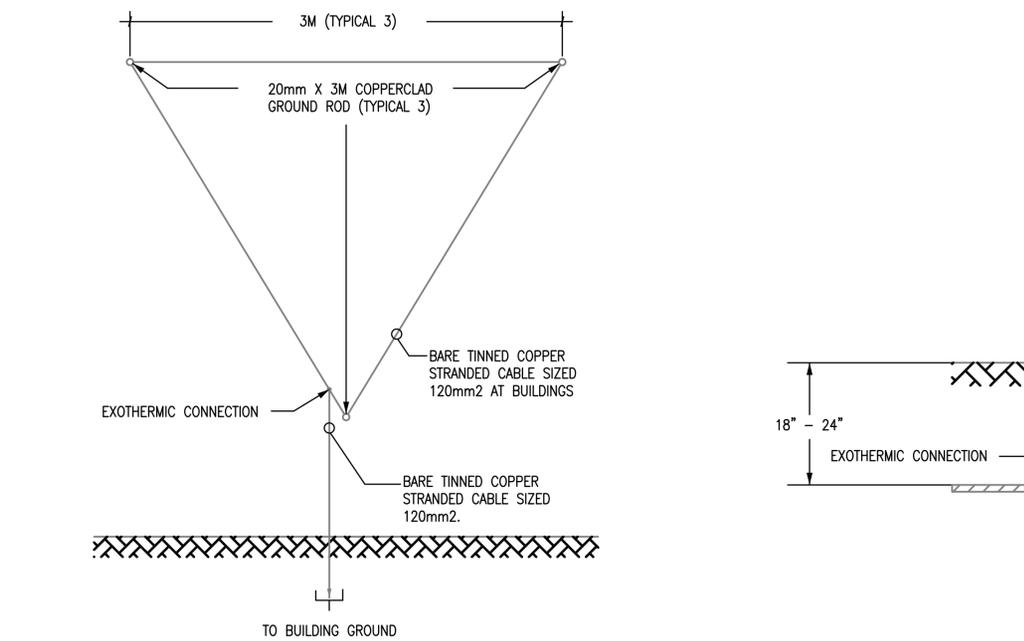
2
E2 E2
TYPICAL DETAIL FOR SURFACE MOUNTED LIGHT FIXTURES
SCALE: N.T.S.



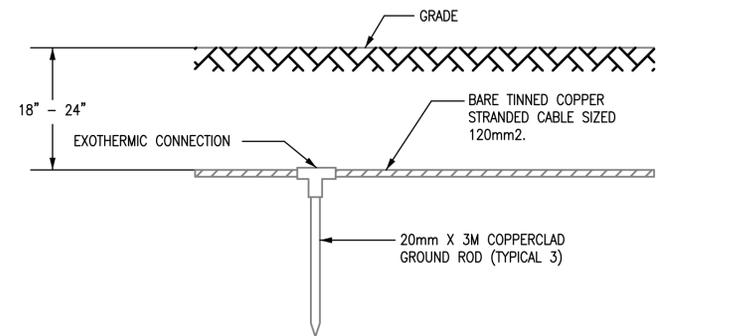
3
E2 E2
LIGHTNING PROTECTION AIR TERMINAL DETAIL
SCALE: N.T.S.



4
E2 E2
WELLHOUSE RISER DIAGRAM
SCALE: N.T.S.



5
E2 E2
GROUND TRIPOD SYSTEM DETAIL - PLAN
SCALE: N.T.S.



6
E2 E2
GROUND TRIPOD SYSTEM DETAIL - ELEVATION
SCALE: N.T.S.

A

B

C

D

E

F

G

H

6

5

4

3

2

1

05a

20 METER WATER TOWER



U.S. Army Corps
OF Engineers

AFGHANISTAN ENGINEER DISTRICT
AFGHANISTAN, APO AE, 09356

17 DECEMBER 2009



US Army Corps of Engineers
Mobile District

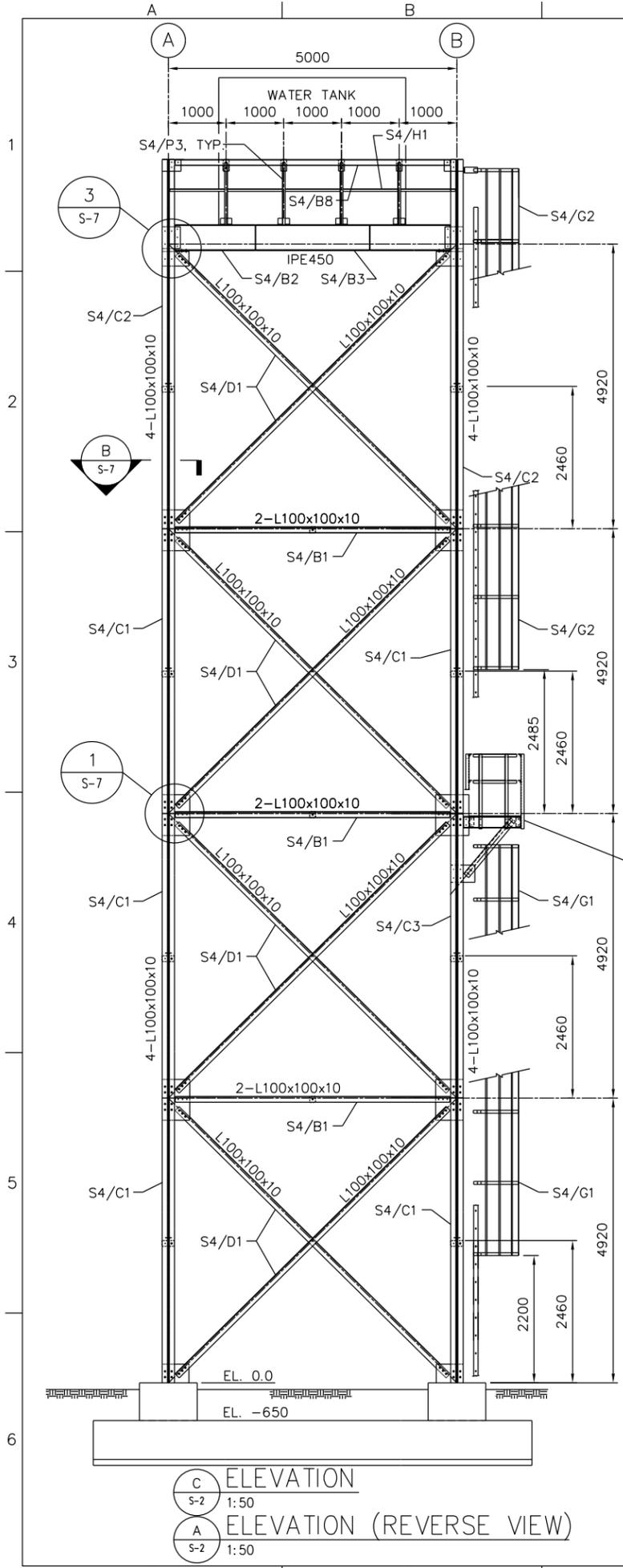
Symbol No.	Description	Date	Approved

Designed By:	Date: 17 DECEMBER 2009
Drawn By:	Contract No:
Checked By:	CADD CODE: M010TC17
Reviewed By:	Solicitation Number:
SIZE: 559x864mm	FILENAME:

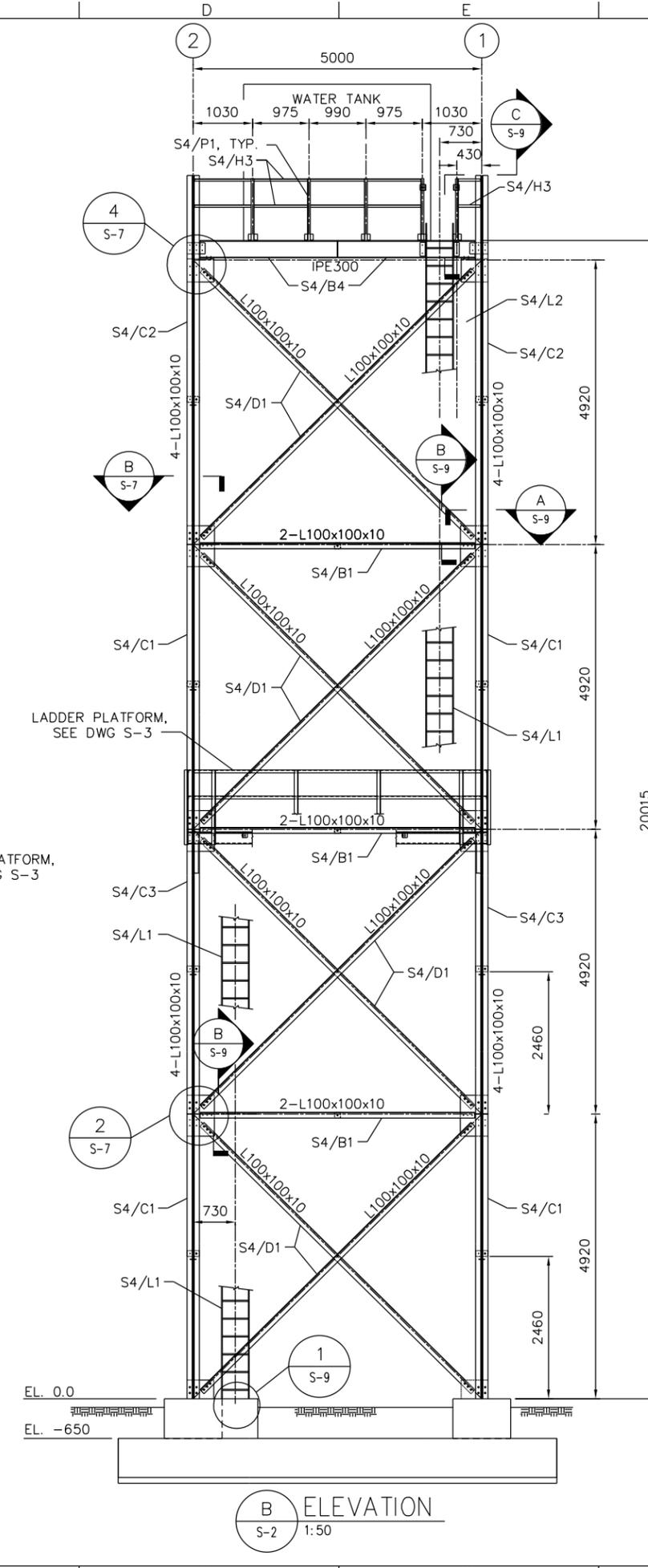
AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
ELEVATIONS

SHEET IDENTIFICATION

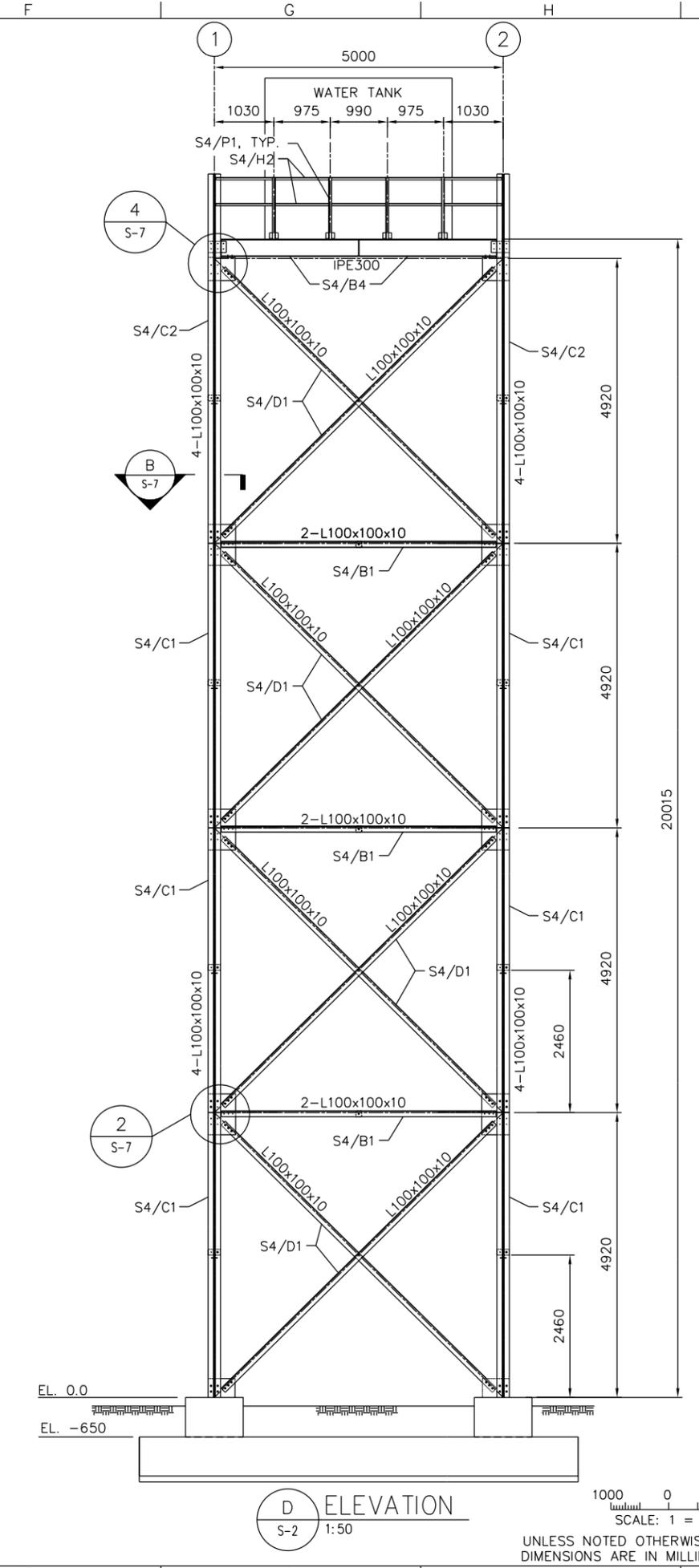
S-4



A ELEVATION (REVERSE VIEW)
S-2 1:50



B ELEVATION
S-2 1:50



D ELEVATION
S-2 1:50

1000 0 1000mm
SCALE: 1 = 50

UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



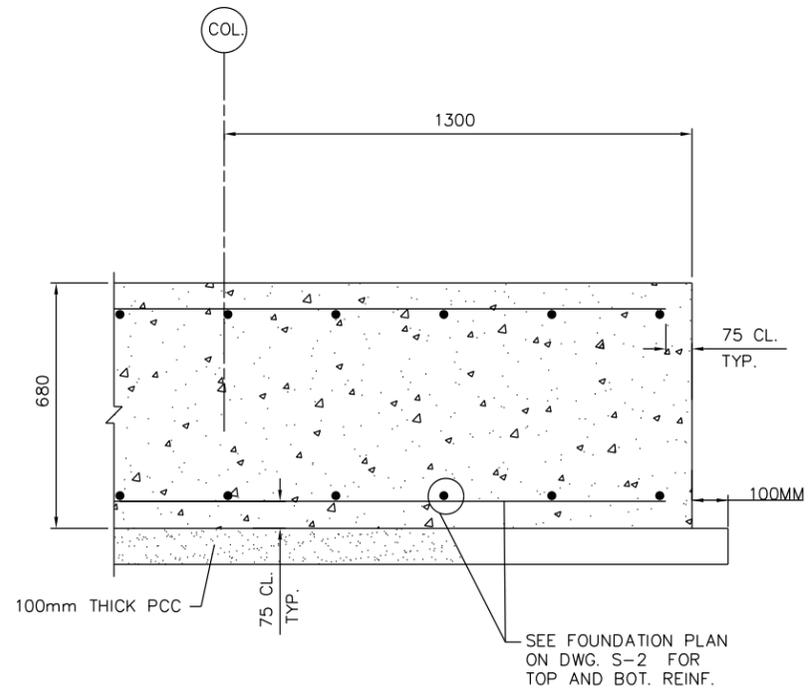
US Army Corps of Engineers
Mobile District

Symbol No.	Description	Date	Approved

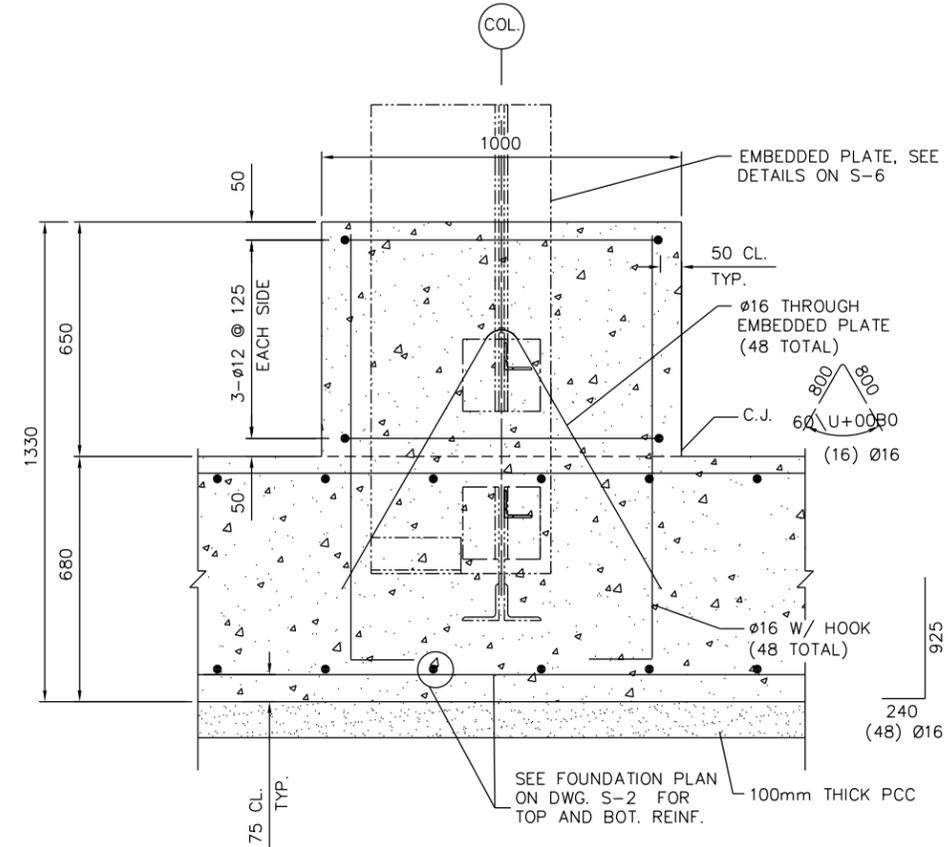
Designed By:	Date:	17 DECEMBER, 2009
Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
	FILENAME:	

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

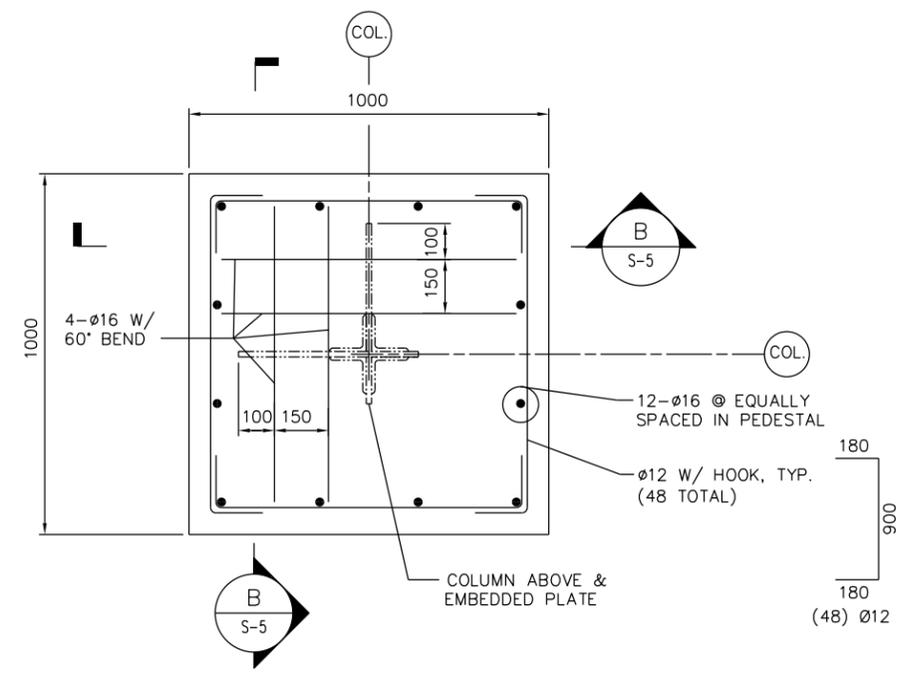
FOUNDATION SECTIONS
SHEET IDENTIFICATION
S-5



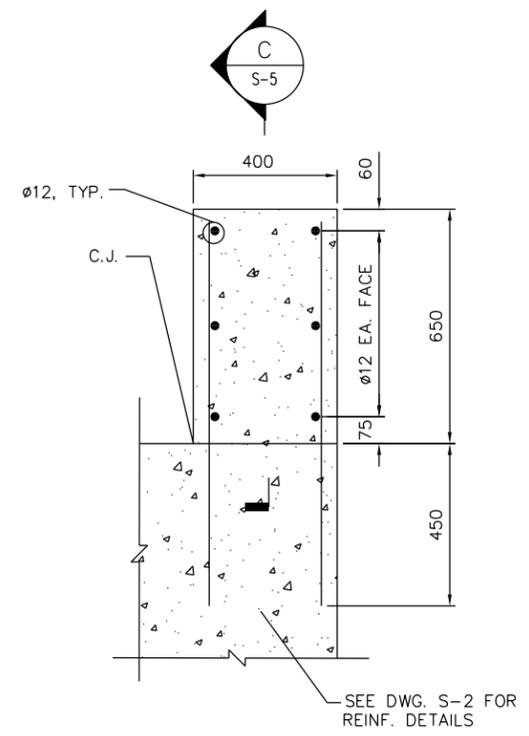
SECTION A
1:10
S-2



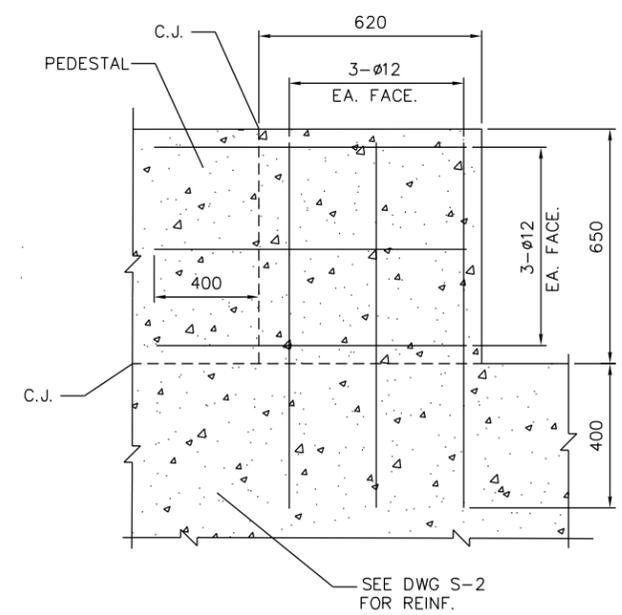
SECTION B
1:10
S-2
S-5



DETAIL 1
1:10
S-2

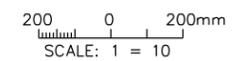


DETAIL 2
1:10
S-2



SECTION C
1:10
S-5

NOTE: SEPARATE CONCRETE PLACEMENT. SEE DETAIL 1 ON DRAWING S-9 FOR ANCHOR BOLT REQUIREMENTS.



UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.

A B C D E F G H

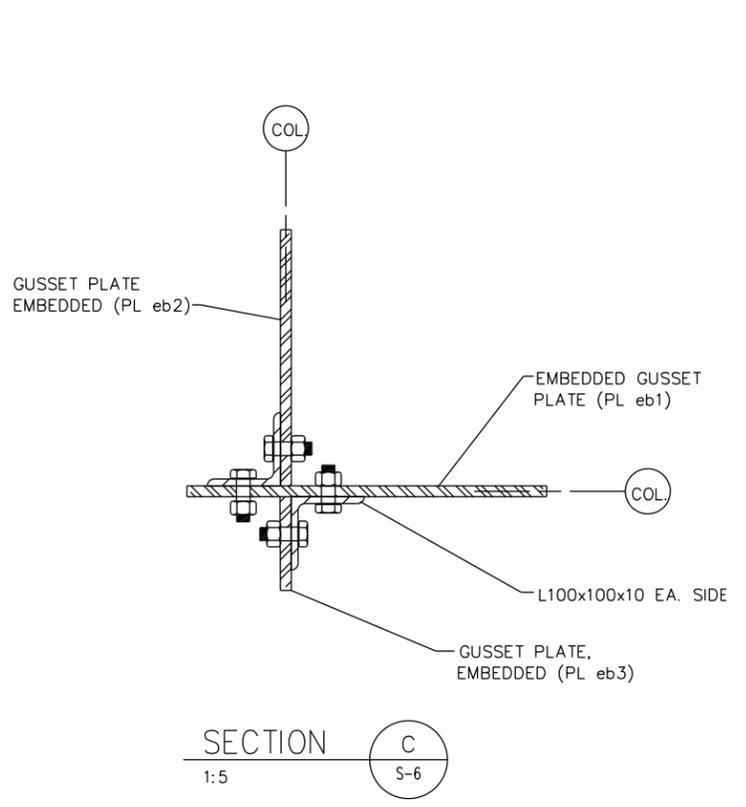
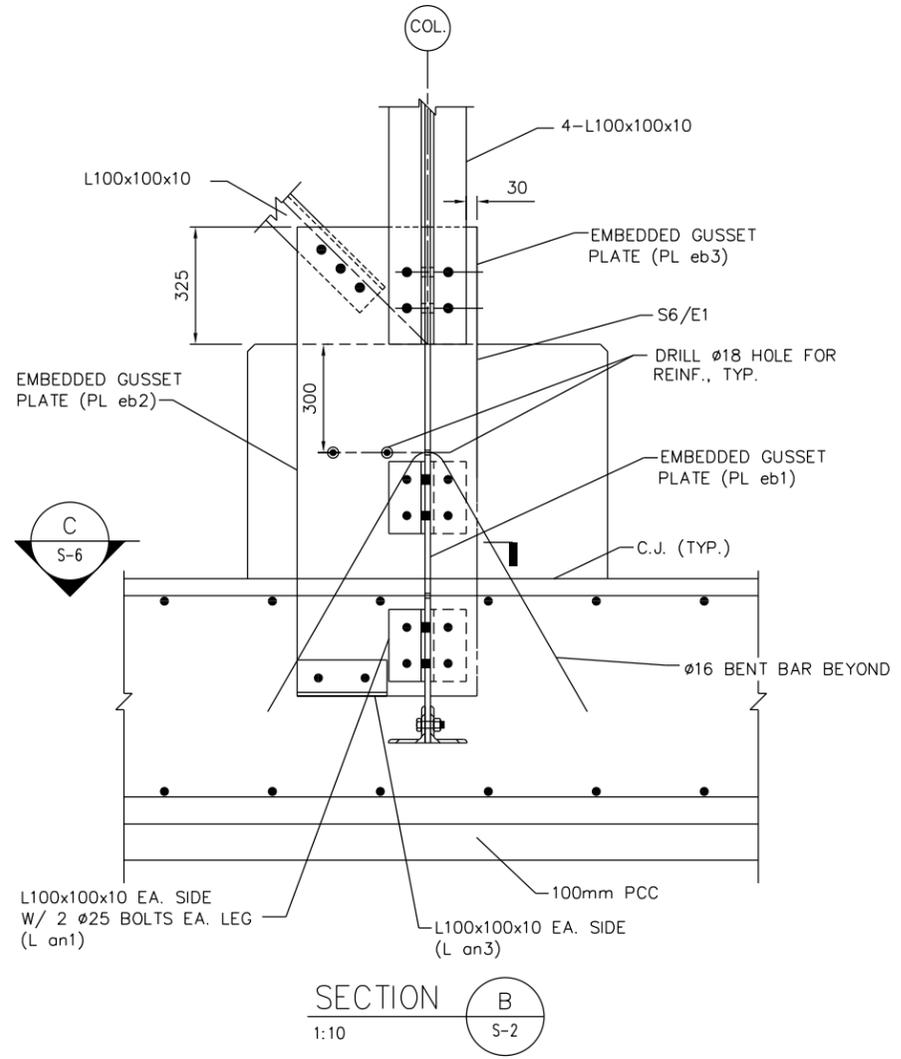
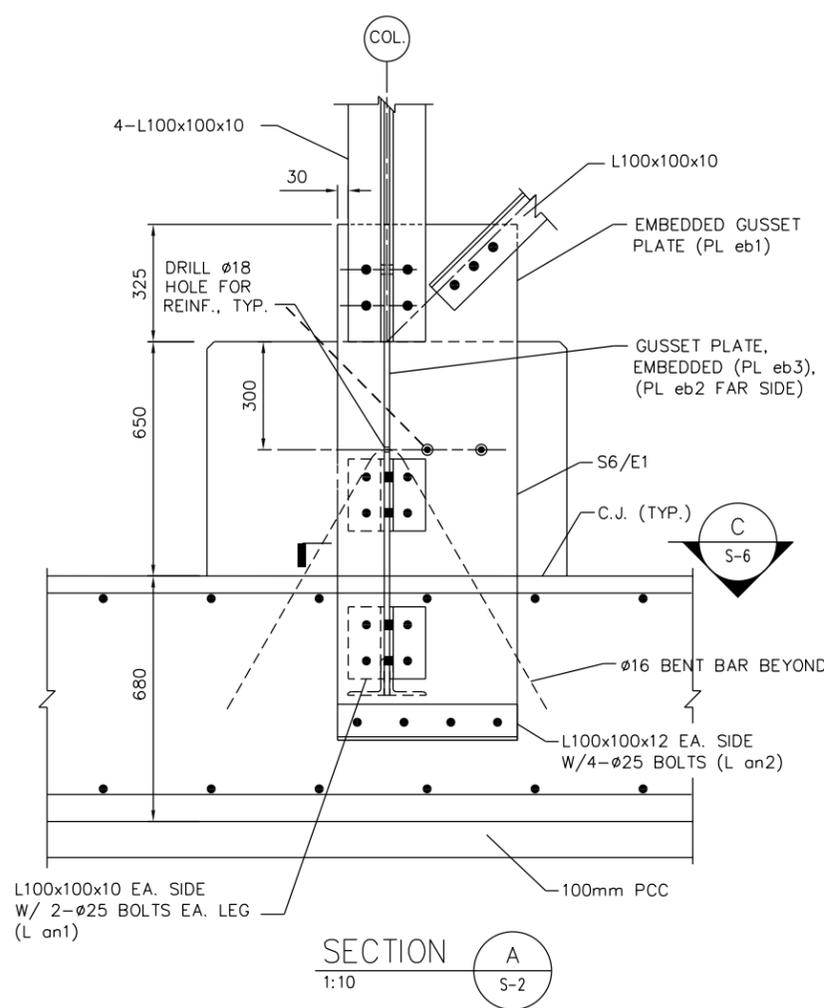


Symbol No	Description	Date	Approved

Designed By:	Date:	17 DECEMBER 2009
Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
	FILENAME:	
	SIZE:	559x864mm

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
FOUNDATION STEEL
FRAMING SECTIONS

SHEET IDENTIFICATION
S-6



UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



US Army Corps
of Engineers®
Mobile District

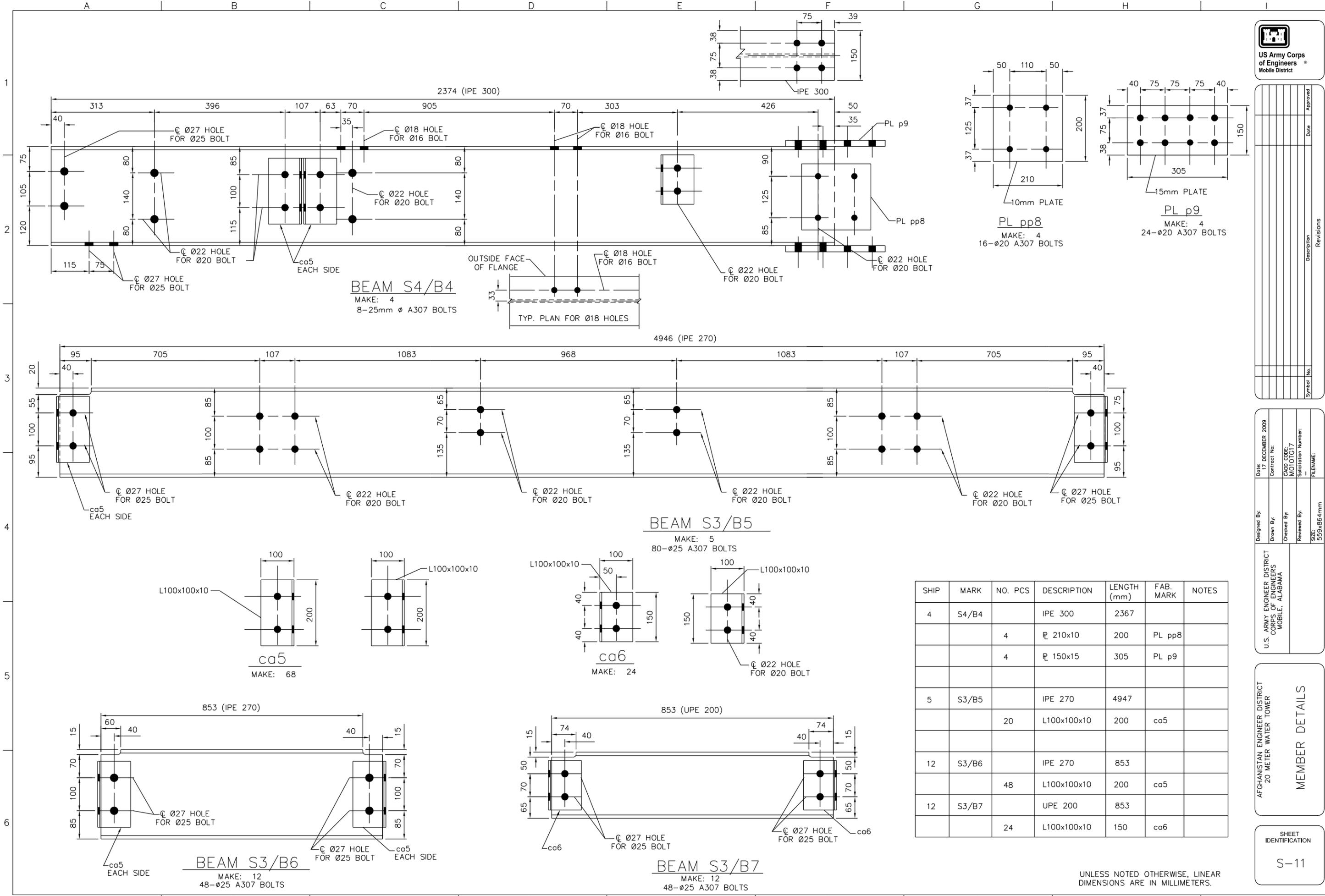
Symbol No.	Description	Date	Approved

Designed By:	Date:	7 DECEMBER 2009
Drawn By:	Contract No.:	
Checked By:	CADD CODE:	M010TG17
Reviewed By:	Solicitation Number:	
SIZE:	FILENAME:	

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
MEMBER DETAILS

SHEET IDENTIFICATION
S-11





US Army Corps
of Engineers
Mobile District

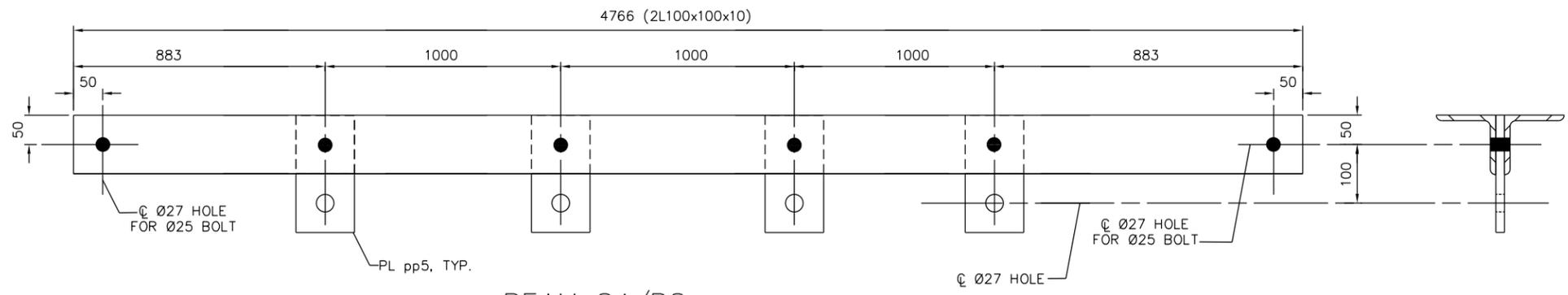
Symbol No	Description	Date	Approved

Designed By:	Date:	17 DECEMBER 2009
Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
SIZE:	FILENAME:	

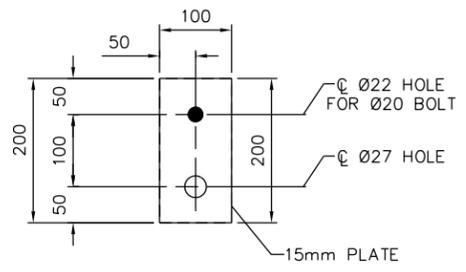
AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER

MEMBER DETAILS

SHEET IDENTIFICATION
S-12



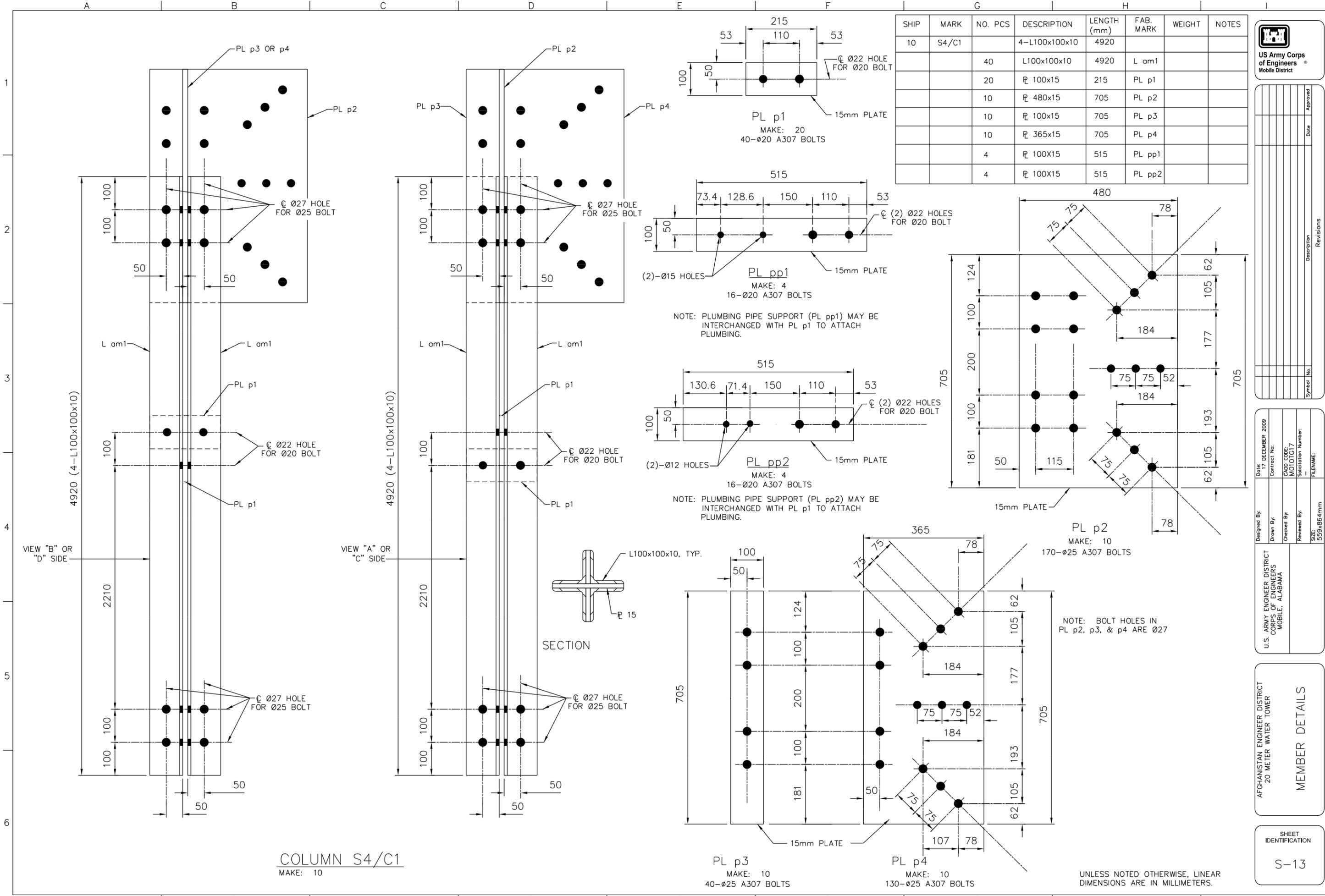
BEAM S4/B8
MAKE: 2
4-Ø25 A307 BOLTS



PL pp5
MAKE: 8
8-Ø20 A307 BOLTS

SHIP	MARK	NO. PCS	DESCRIPTION	LENGTH (mm)	FAB. MARK	NOTES
4	S4/B8		2L100x100x10	4766		
		4	PL 15x100	200	PL pp5	

UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



US Army Corps of Engineers
Mobile District

Symbol No	Description	Date	Approved

Designed By:	Date: 17 DECEMBER 2009
Drawn By:	Contract No:
Checked By:	CADD CODE: M010TG17
Reviewed By:	Solicitation Number:
SIZE: 559x864mm	FILENAME:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER

MEMBER DETAILS

SHEET IDENTIFICATION

S-13



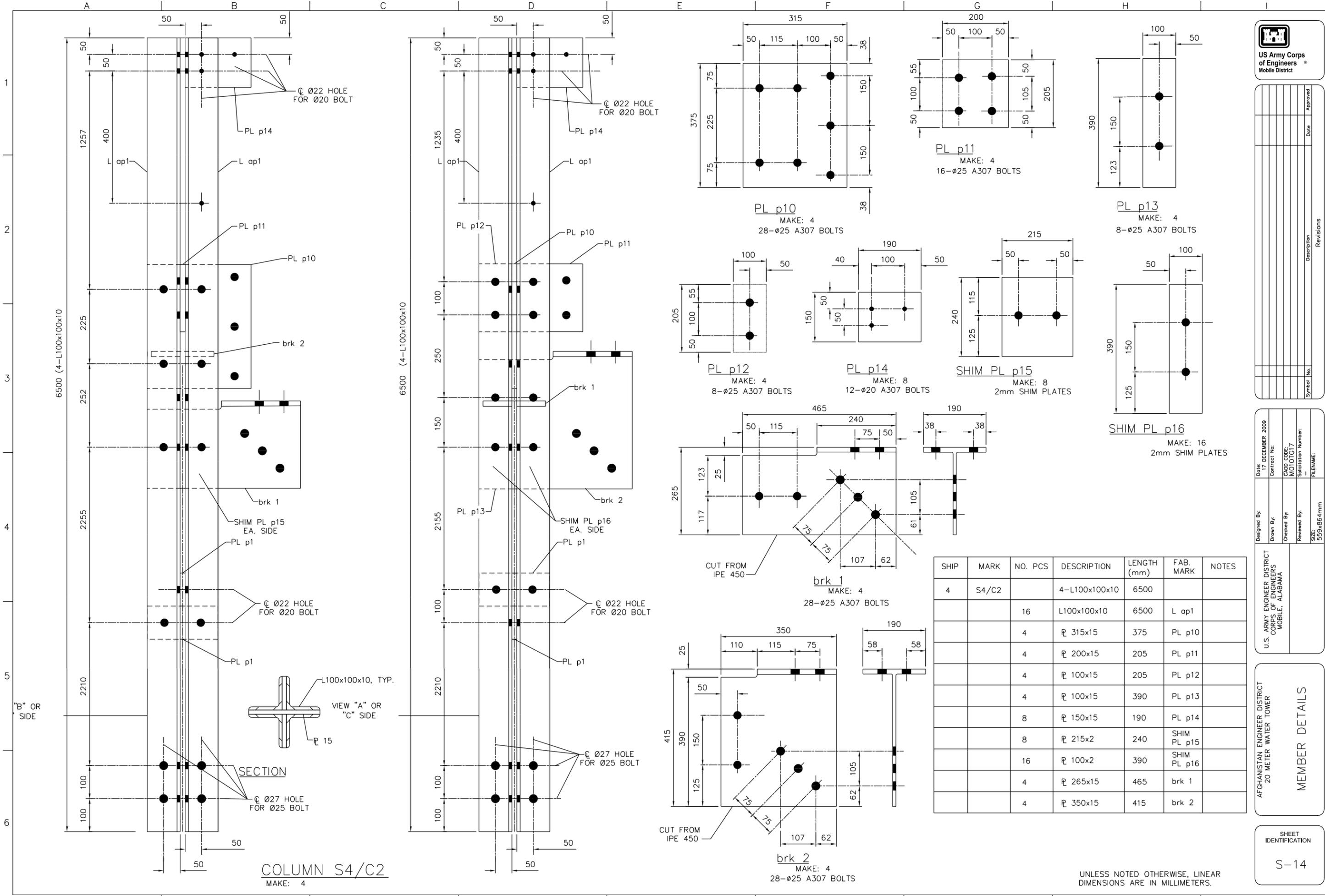
US Army Corps
of Engineers
Mobile District

Symbol No	Description	Date	Approved

Designed By:	Date:	Contract No:
Drawn By:	17 DECEMBER 2009	
Checked By:	CADD CODE:	MO10TC17
Reviewed By:	Solicitation Number:	
	FILENAME:	
	SIZE:	559x864mm

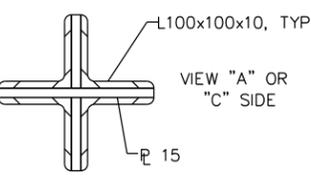
AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
MEMBER DETAILS

SHEET IDENTIFICATION
S-14



6500 (4-L100x100x10)

6500 (4-L100x100x10)



SHIP	MARK	NO. PCS	DESCRIPTION	LENGTH (mm)	FAB. MARK	NOTES
4	S4/C2		4-L100x100x10	6500		
		16	L100x100x10	6500	L op1	
		4	PL 315x15	375	PL p10	
		4	PL 200x15	205	PL p11	
		4	PL 100x15	205	PL p12	
		4	PL 100x15	390	PL p13	
		8	PL 150x15	190	PL p14	
		8	PL 215x2	240	SHIM PL p15	
		16	PL 100x2	390	SHIM PL p16	
		4	PL 265x15	465	brk 1	
		4	PL 350x15	415	brk 2	

UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



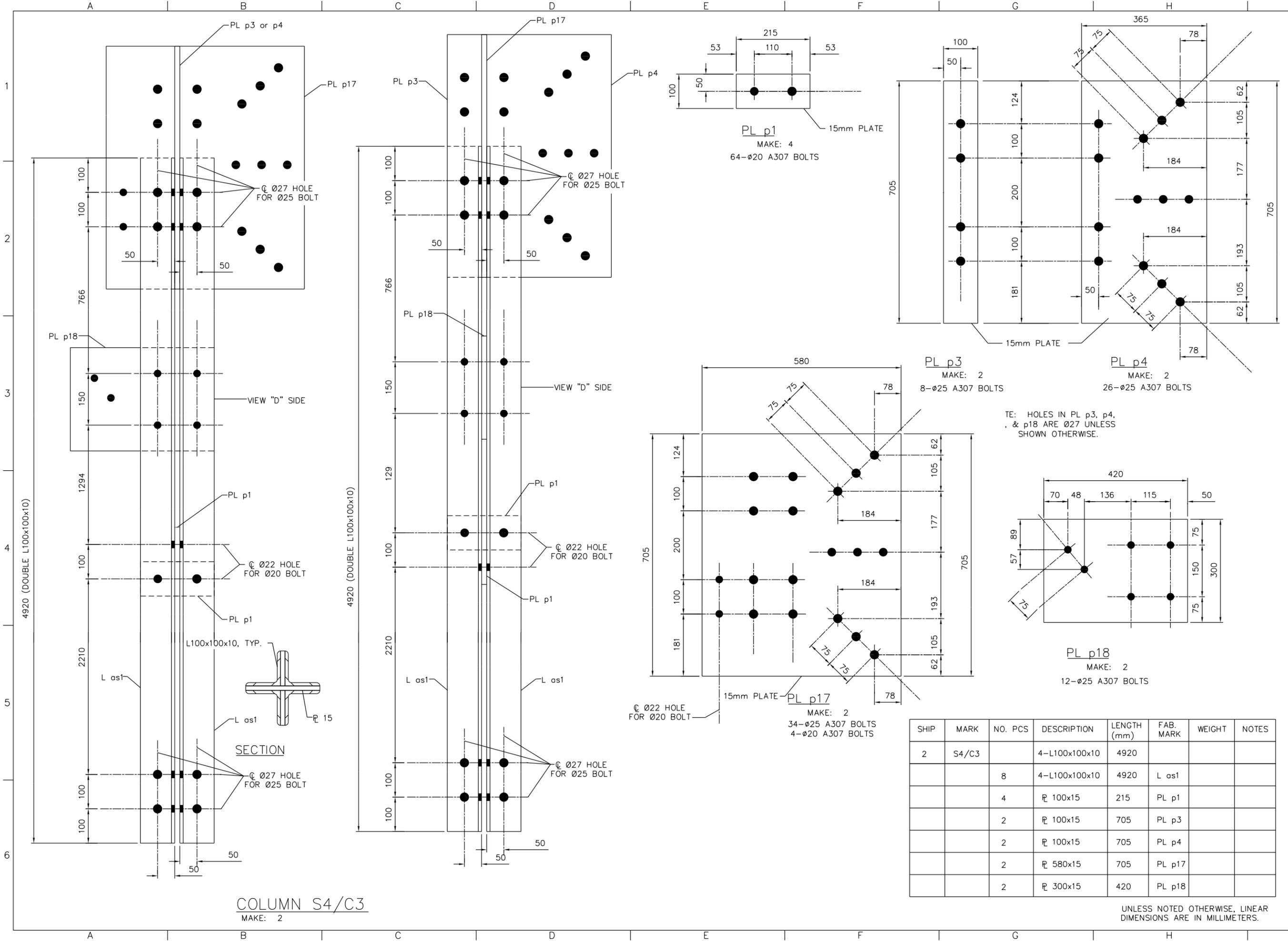
US Army Corps
of Engineers
Mobile District

Symbol No	Description	Date	Approved

Designed By:	Date:	17 DECEMBER, 2009
Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
SIZE:	FILENAME:	

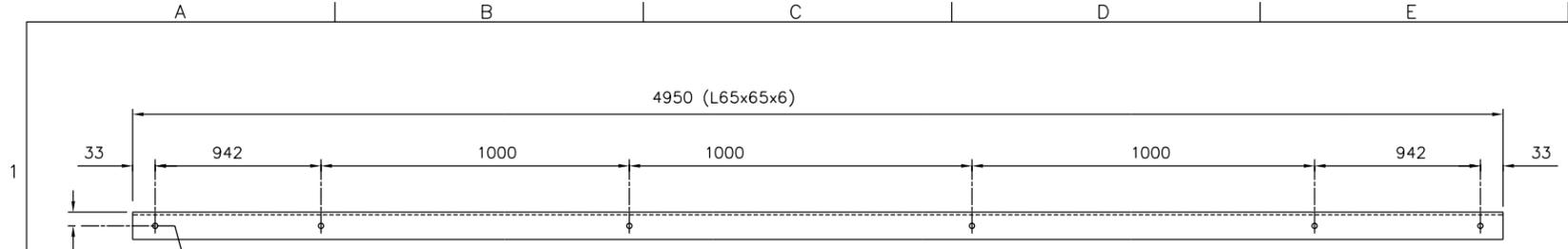
AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
MEMBER DETAILS

SHEET IDENTIFICATION
S-15

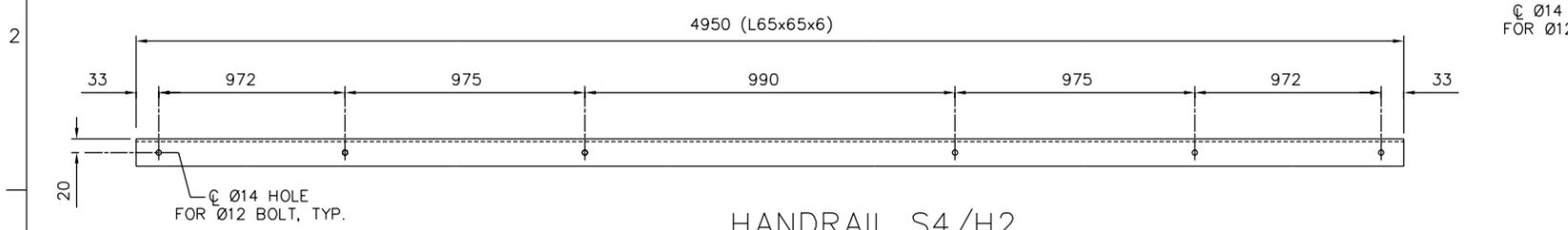


COLUMN S4/C3
MAKE: 2

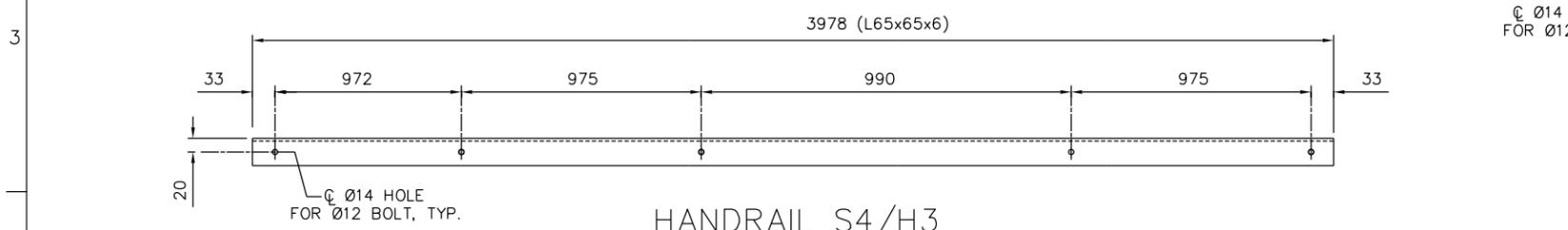
UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



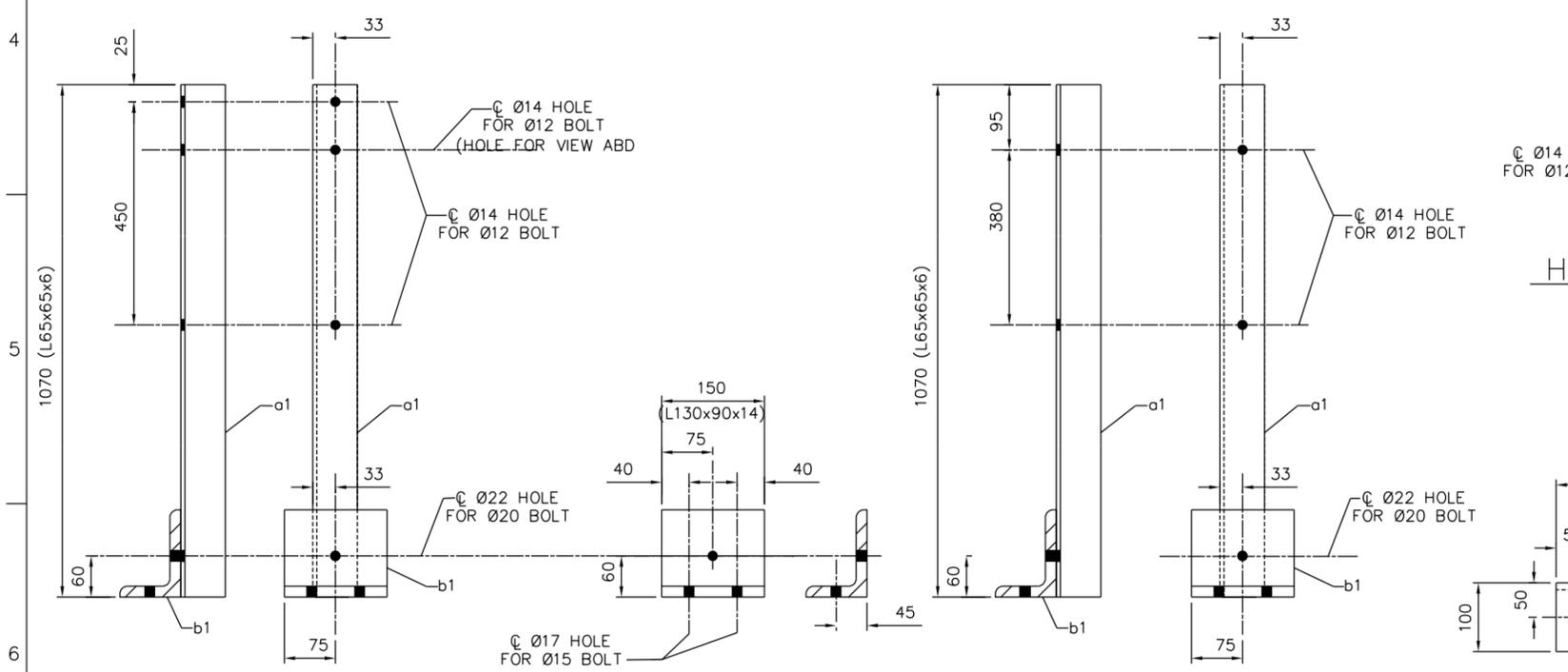
HANDRAIL S4/H1
MAKE: 2
24-Ø12 A307 BOLTS



HANDRAIL S4/H2
MAKE: 2
20-Ø12 A307 BOLTS

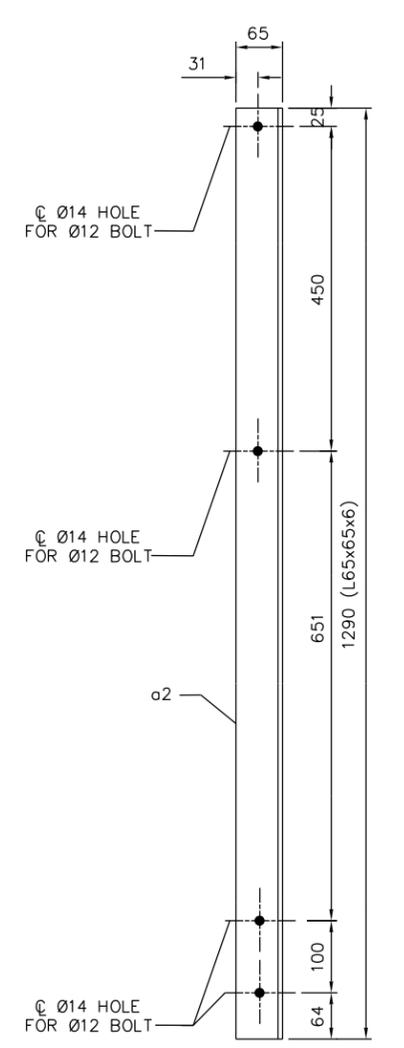


HANDRAIL S4/H3
MAKE: 2
10-Ø12 A307 BOLTS

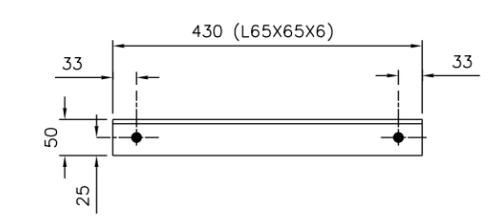


HANDRAIL POST S4/P1
MAKE: 9
28-Ø12 A307 BOLTS
42-Ø15 A307 BOLTS

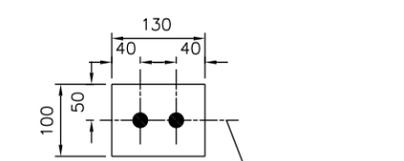
HANDRAIL POST S4/P3
MAKE: 8
28-Ø12 A307 BOLTS
42-Ø15 A307 BOLTS



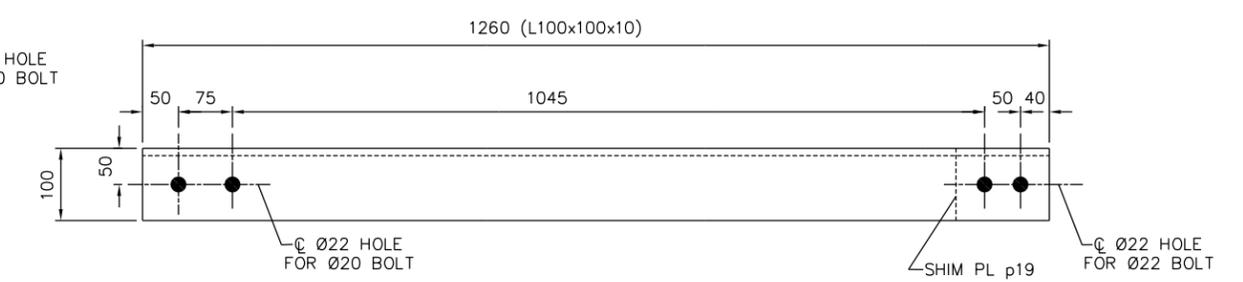
HANDRAIL POST S8/P2
MAKE: 12
48-12 Ø A307 BOLTS



HANDRAIL S4/H4
MAKE: 2
4-Ø12 A307 BOLTS



SHIM PL_p19
MAKE: 2
15mm SHIM PLATES



BEAM S8/BR1
MAKE: 2
4-Ø15 A307 BOLTS

SHIP	MARK	NO. PCS	DESCRIPTION	LENGTH (mm)	FAB. MARK	NOTES
2	S4/H1		L65x65x6	4950		
2	S4/H2		L65x65x6	4950		
2	S4/H3		L65x65x6	3978		
2	S4/H4		L65x65x6	3978		
14	S4/P1		L65x65x6	1070		
		14	L130x90x14	150	b1	
12	S4/P2		HANDRAIL POST	1290		
		14	L65x65x6	1290	a2	
2	S8/BR1		L100x100x10	1260		
		2	PL 100x15	130	PL p19	



Symbol No	Description	Date	Approved

Designed By:	Date:	Contract No:
Drawn By:	17 DECEMBER 2009	
Checked By:	CADD CODE:	Solicitation Number:
Reviewed By:	M010TG17	
SIZE:	FILENAME:	
559x864mm		

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
MEMBER DETAILS

SHEET IDENTIFICATION
S-16

UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



US Army Corps
of Engineers®
Mobile District

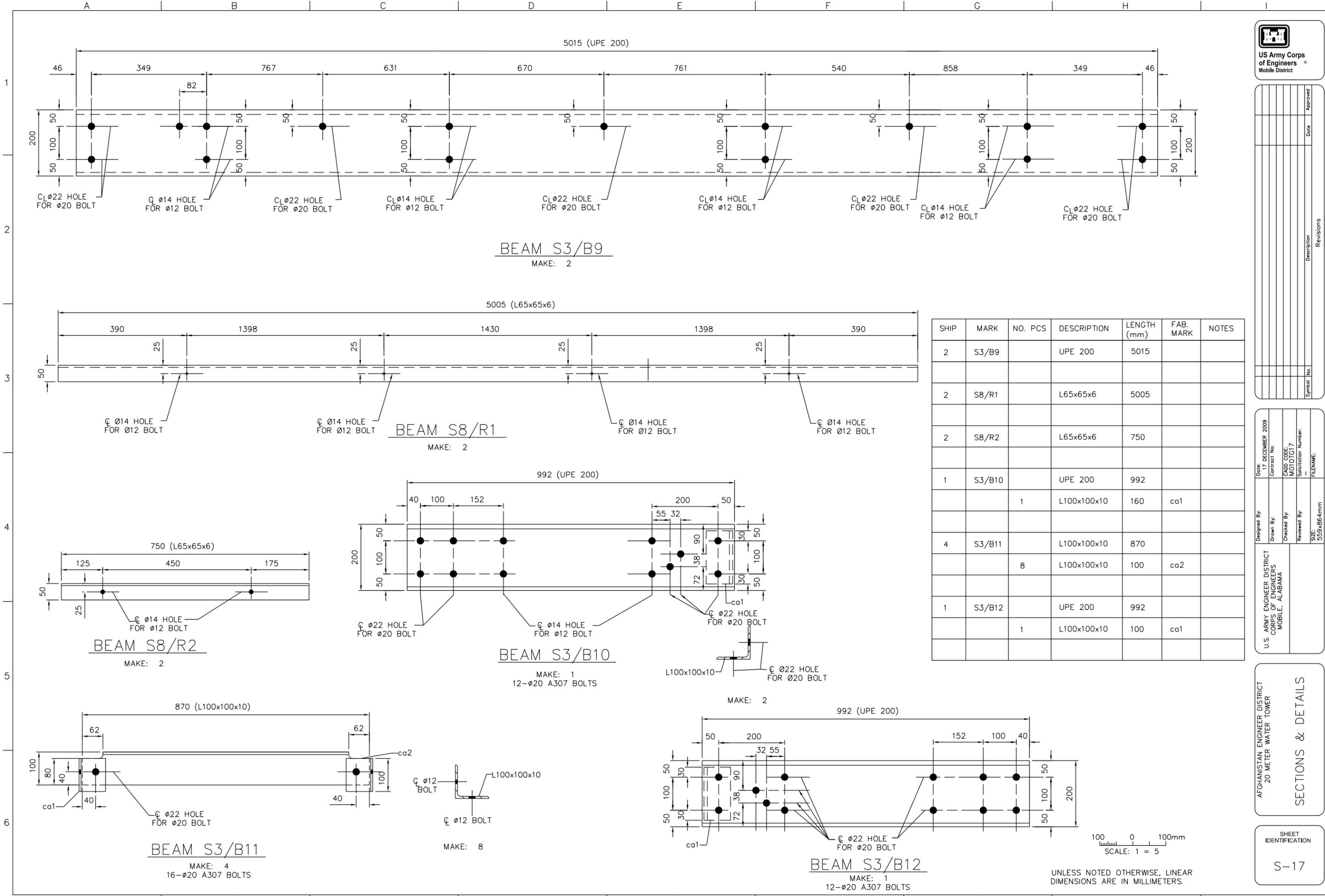
Symbol No	Description	Date	Approved

Designed By:	Date:	7 DECEMBER 2009
Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
	FILENAME:	
	SIZE:	559x864mm

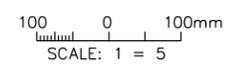
AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER

SHEET IDENTIFICATION
S-17

SECTIONS & DETAILS



SHIP	MARK	NO. PCS	DESCRIPTION	LENGTH (mm)	FAB. MARK	NOTES
2	S3/B9		UPE 200	5015		
2	S8/R1		L65x65x6	5005		
2	S8/R2		L65x65x6	750		
1	S3/B10		UPE 200	992		
		1	L100x100x10	160	ca1	
4	S3/B11		L100x100x10	870		
		8	L100x100x10	100	ca2	
1	S3/B12		UPE 200	992		
		1	L100x100x10	100	ca1	



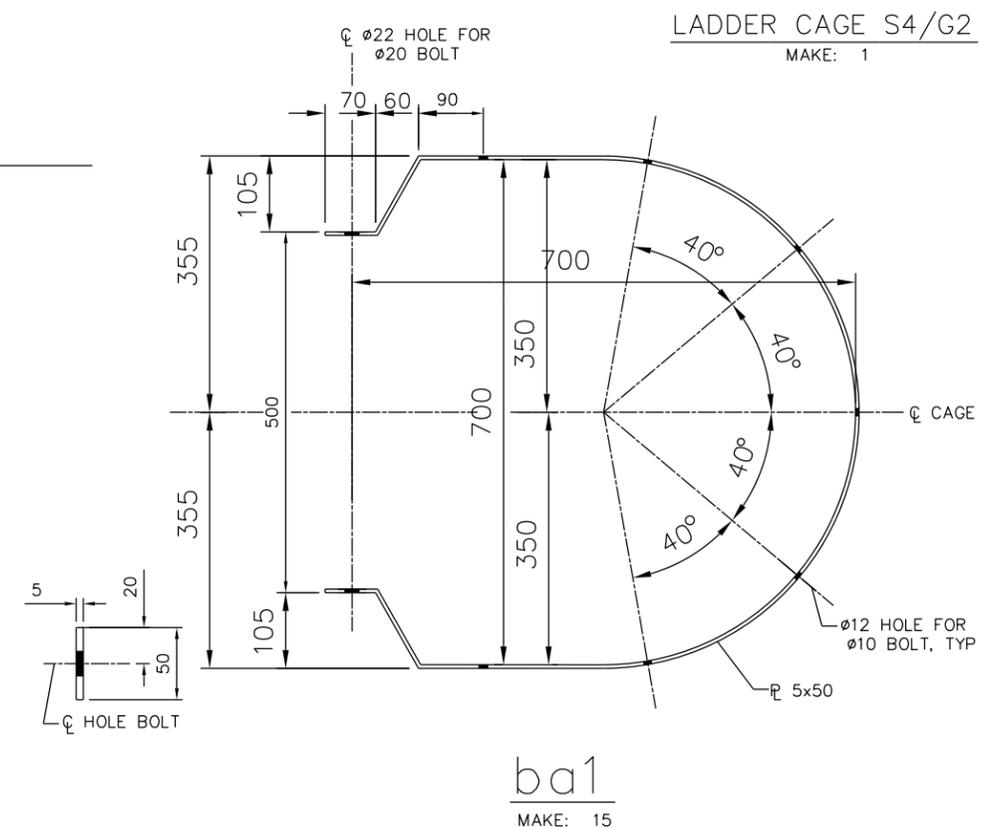
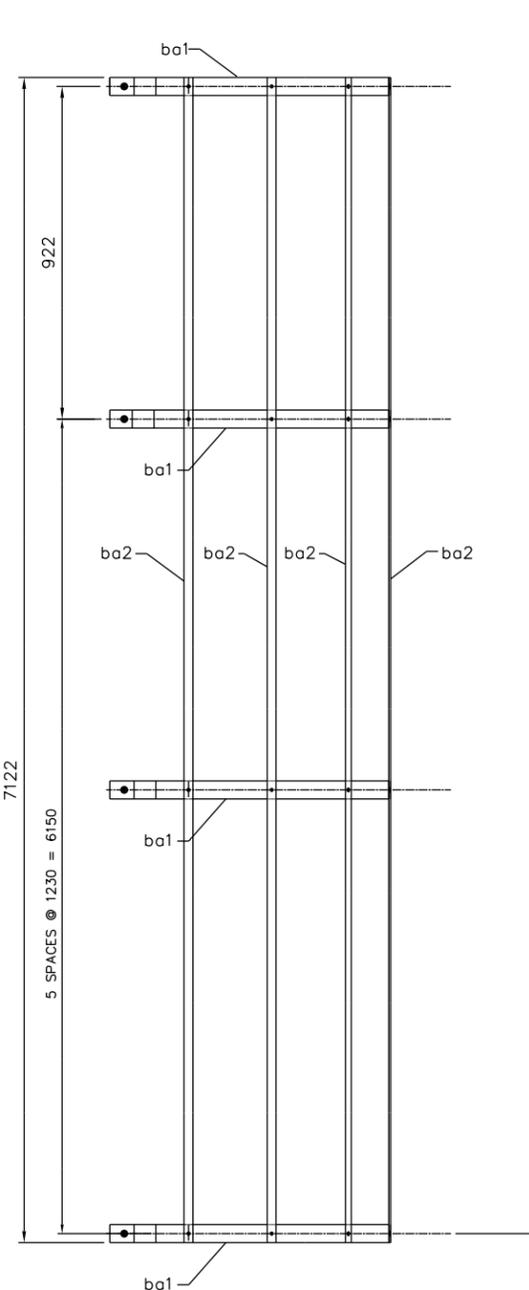
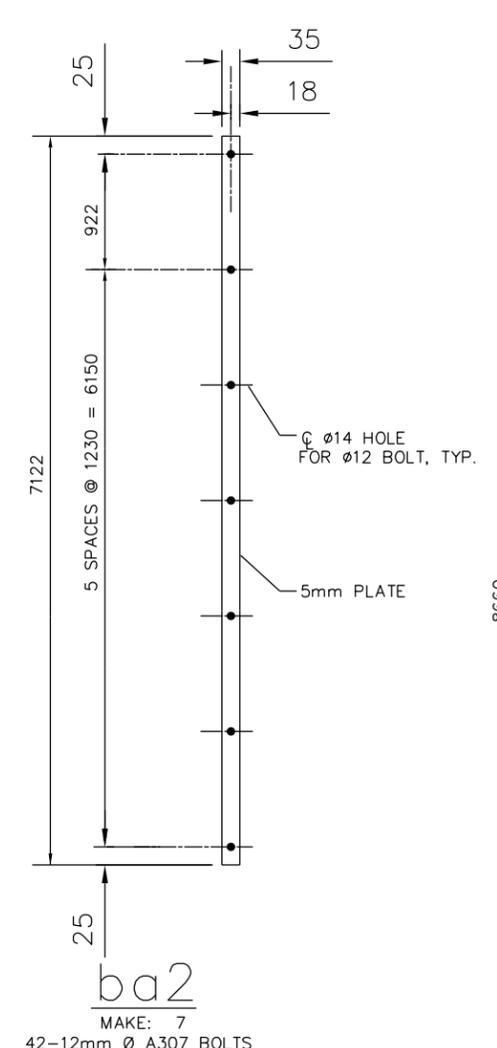
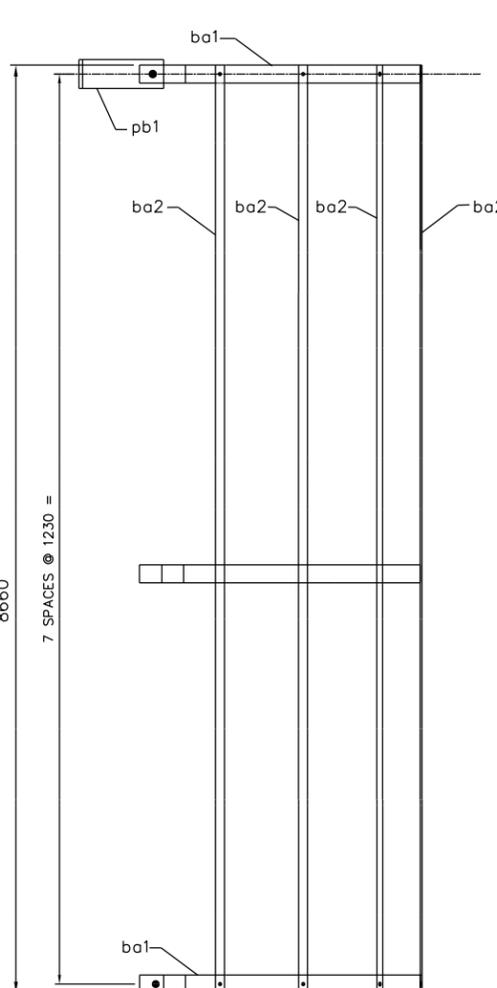
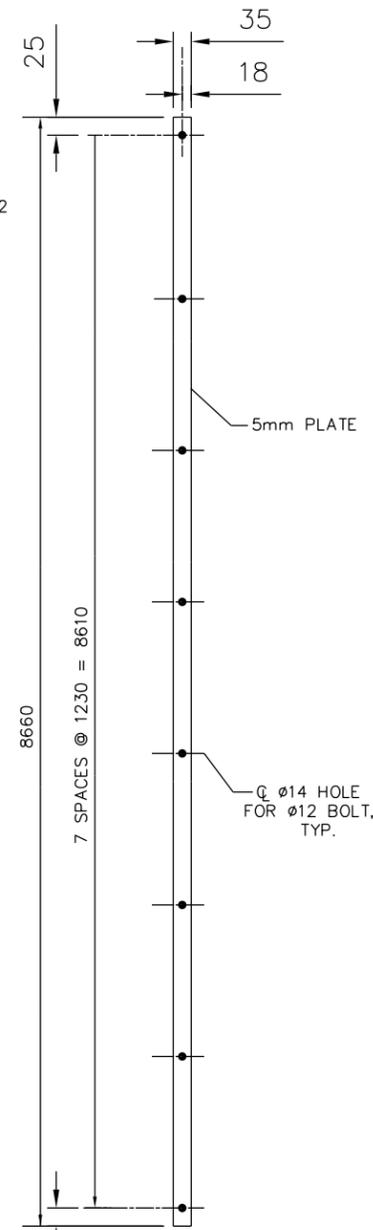
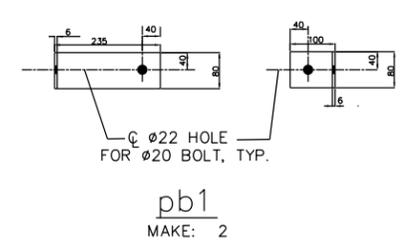
UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.

Symbol No	Description	Date	Approved

Designed By:	Date:	17 DECEMBER 2009
Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
SIZE:	FILENAME:	
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA		

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
MEMBER DETAILS

SHEET IDENTIFICATION
S-19



SHIP	MARK	NO. PCS	DESCRIPTION	LENGTH (mm)	FAB. MARK	WEIGHT	NOTES
1	S4/G1		LADDER CAGE	7150			
		6	P 5x50	1990	ba1		
		7	P 5x35	7122	ba2		
1	S4/G2		LADDER CAGE	8660			
		8	P 5x50	1990	ba1		
		7	P 5x35	8660	ba2		
		2	P 6x80	335	pb1		

UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



US Army Corps of Engineers
Mobile District

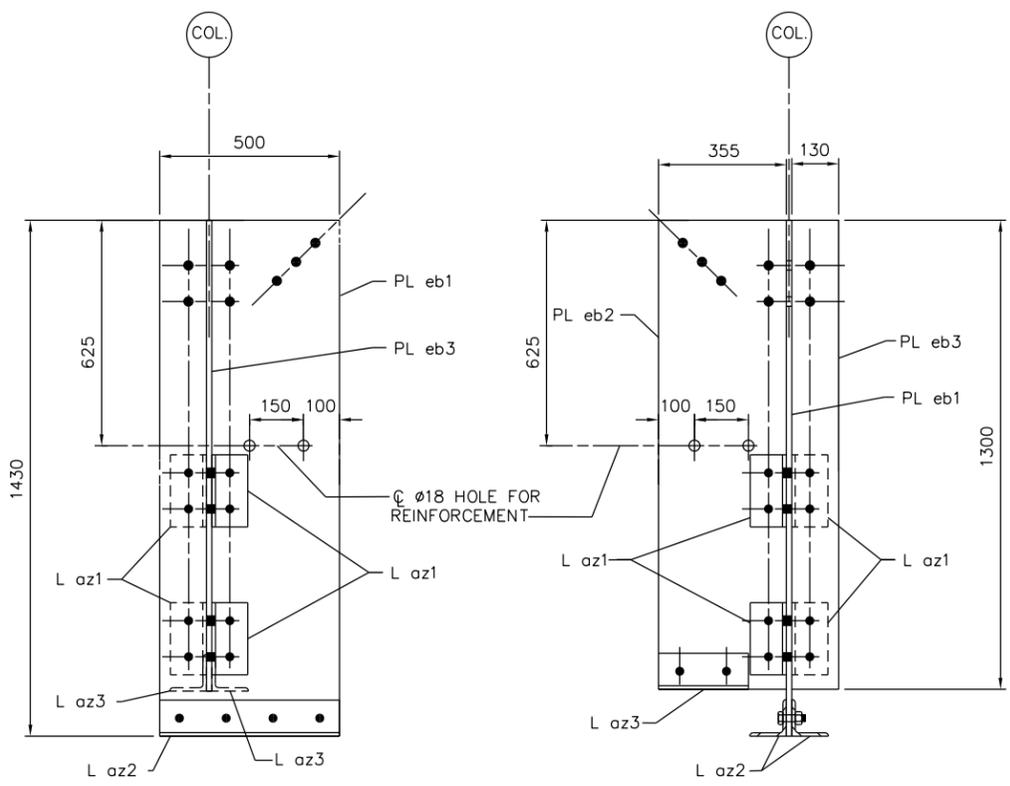
Symbol No	Description	Date	Approved

Designed By:	Date:	Contract No:
Drawn By:	17 DECEMBER 2009	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
		FILENAME:

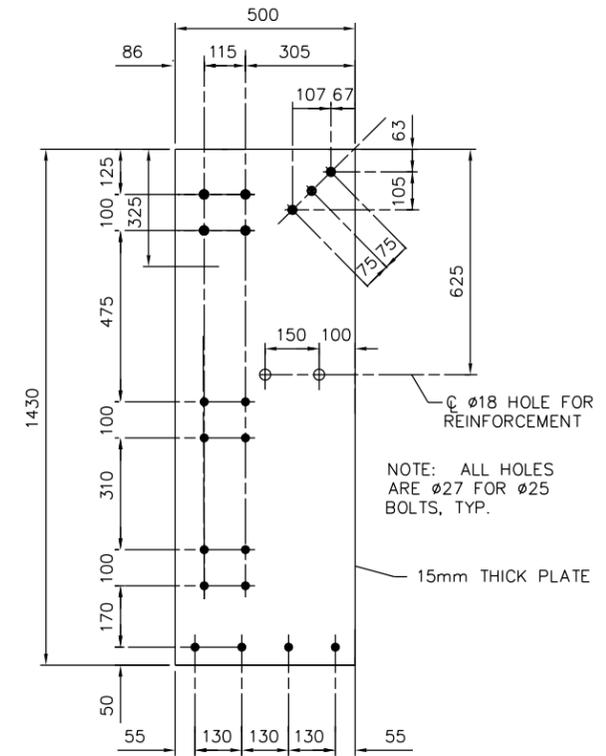
AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER

MEMBER DETAILS

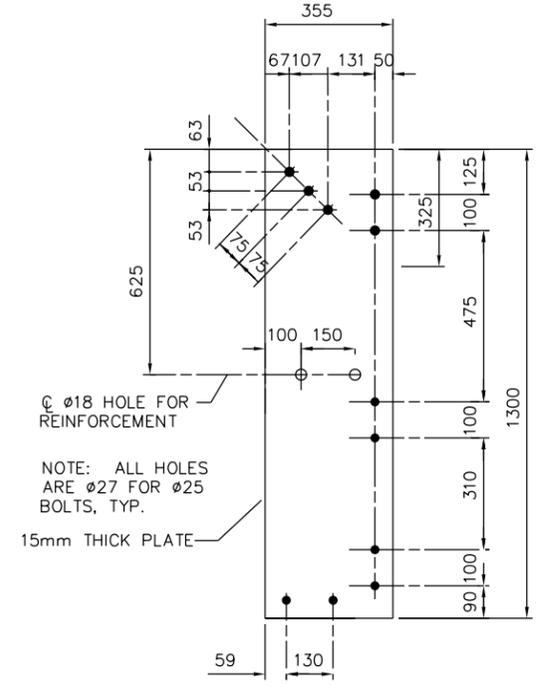
SHEET IDENTIFICATION
S-20



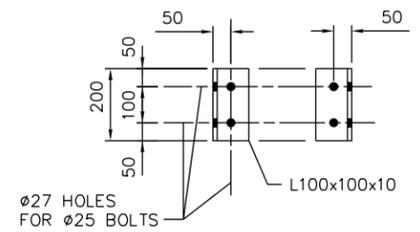
EMBEDDED ANCHOR PLATE S6/E1
MAKE: 4



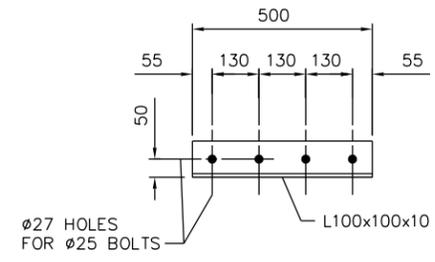
PL eb1
MAKE: 4
76-ø25 A307 BOLTS



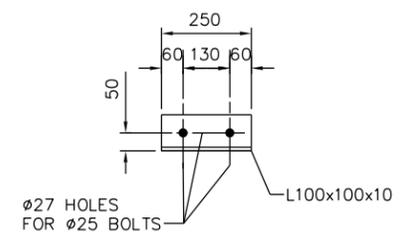
PL eb2
MAKE: 4
44-ø25 A307 BOLTS



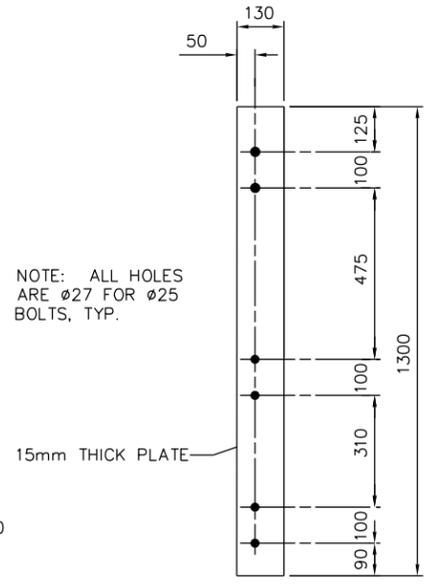
L az1
MAKE: 16



L az2
MAKE: 8



L az3
MAKE: 8



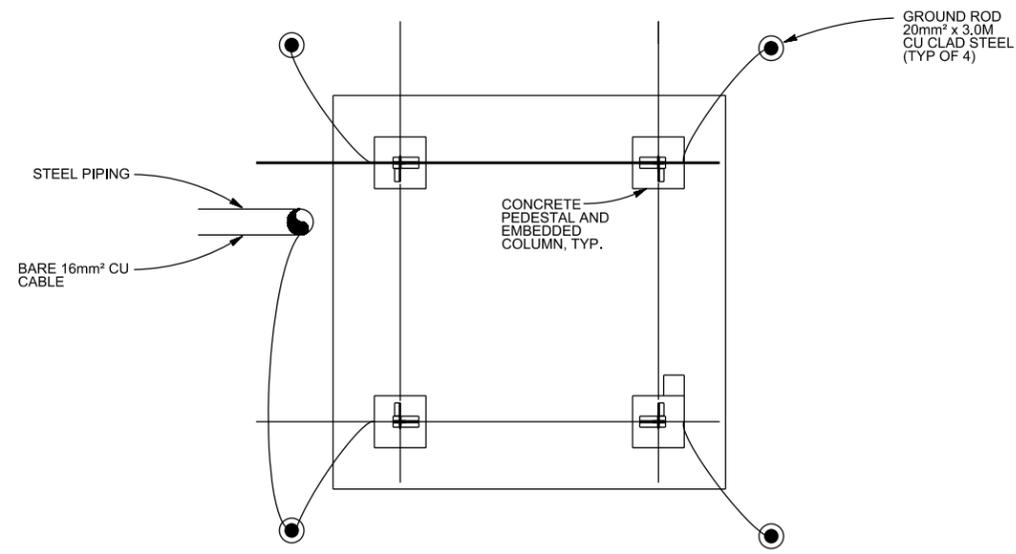
PL eb3
MAKE: 4
24-ø25 A307 BOLTS

SHIP	MARK	NO. PCS	DESCRIPTION	LENGTH (mm)	FAB. MARK	WEIGHT	NOTES
4	S6/E1		EMBEDDED ANCHOR PLATE	1430			
		4	PL 15x500	1430	PL eb1		
		4	PL 15x355	1300	PL eb2		
		4	PL 15x130	1300	PL eb3		
		16	L100x100x10	200	L az1		
		8	L100x100x10	500	L az2		
		8	L100x100x10	250	L az3		

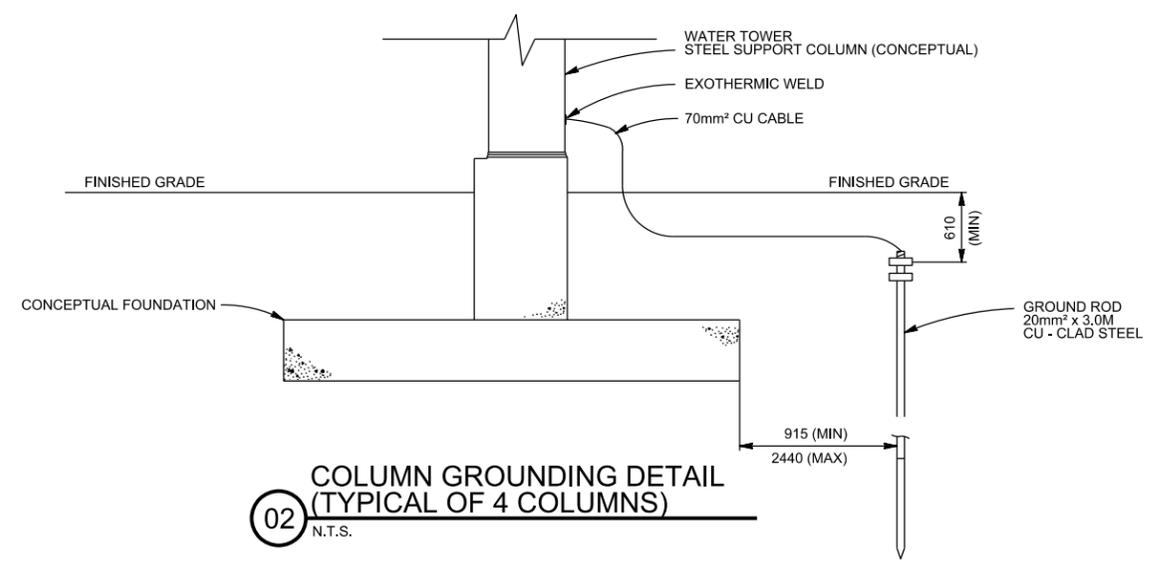
UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.

A B C D E F G H

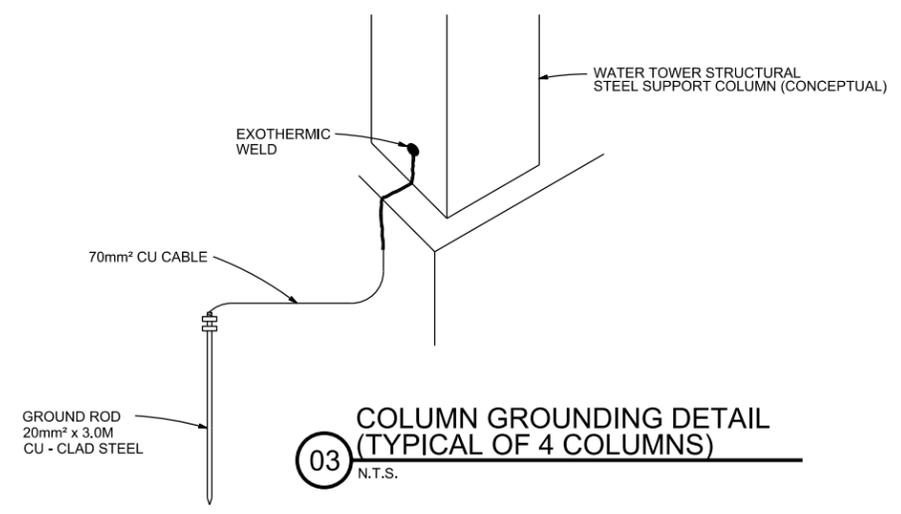
6
5
4
3
2
1



01 GROUNDING ELECTRODE PLAN
N.T.S.



02 COLUMN GROUNDING DETAIL (TYPICAL OF 4 COLUMNS)
N.T.S.



03 COLUMN GROUNDING DETAIL (TYPICAL OF 4 COLUMNS)
N.T.S.

LIGHTING PROTECTION PLANS AND DETAILS
N.T.S.

- NOTES:**
1. CONTRACTOR SHALL MAKE ALL METALLIC ELEMENTS OF WATER TOWER TANK AND SUPPORT STRUCTURE ELECTRICALLY CONTINUOUS BY BOLTING REINFORCEMENT STEEL SHALL BE MADE ELECTRICALLY CONTINUOUS BY METALLIC WIRE TIES.
 2. BOND EACH METALLIC UNDERGROUND PIPE TO AT LEAST ONE GROUND ROD WITH 16mm² CU CABLE.
 3. EACH COLUMN SHALL BE BONDED TO A 20mm² x 3.0M CU CLAD STEEL GROUND ROD VIA A BARE 70mm² CU CABLE. CABLE SHALL BE EXOTHERMIC ALLY WELDED TO COLUMN 150mm ABOVE CONCRETE FOUNDATION.



US ARMY CORPS OF ENGINEERS
AFGHANISTAN ENGINEER DISTRICT

SYMBOL	DESCRIPTION	DATE	APPR.	STATION	DATE	APPR.

DESIGNED BY: _____	DATE: 17 DEC 2010	REV: _____
DRAWN BY: _____	DESIGN FILE NO. _____	DRAWING CODE: _____
REVIEWED BY: _____	FILE NAME: _____	PLOT SCALE: _____
SUBMITTED BY: _____	PLOT DATE: _____	APPROVAL: _____
U.S. ARMY ENGINEER DISTRICT AFGHANISTAN		
CORPS OF ENGINEERS		
APO AE 96338		
ENGINEERING AND CONSTRUCTION DIVISION		

20 METER WATER TANK
AFGHANISTAN
LIGHTING PROTECTION DETAILS

SHEET REFERENCE NUMBER:
E-01