AFGHAN NATIONAL POLICE

STANDARD BUILDING DESIGNS

DINING FACILITIES BUILDING TYPE 3 (384 GSM)

SHEET INDEX

G1	COVER SHEET
S1	GENERAL NOTES
S2	GENERAL NOTES
S3	GENERAL NOTES
S4	GENERAL NOTES
S5	FOUNDATION/SLAB PLAN
S6	ROOF FRAMING PLAN
S7	ENLARGED ELEVATED SLAB STORAGE AREA FRAMING PLAN
S8	SECTIONS & DETAILS
S9	SECTIONS & DETAILS
S10	SECTIONS & DETAILS
S11	SECTIONS & DETAILS
S12	TYPICAL DETAILS
A1	FLOOR PLAN
A2	ROOF PLAN AND DETAILS
A3	BUILDING & WALL SECTIONS
A4	BUILDING & WALL SECTIONS
A5	DOOR, WINDOW & FINISH TYPES & DETAILS
A6	LATRINE DETAILS
A7	DFAC ENLARGED KITCHEN ANNEX AND WOOD STORAGE PLANS AND DETAILS
A8	MISCELLANEOUS DETAILS
A9	ENLARGED PROPANE STOVE PLAN AND DETAILS

SHEET INDEX

P1	FLOOR PLAN - PLUMBING
P2	FLOOR PLAN - PLUMBING
P3	DRAINAGE ISOMETRIC
P4	PLUMBING SYMBOLS & ABBREVIATIONS, ISOMETRICS, SCHEMATICS & DETAILS
M1	HVAC FLOOR PLAN
M2	HVAC DETAILS
E0	ELECTRICAL SYMBOLS AND ABBREVIATIONS
E1	LIGHTING PLAN
E2	POWER AND SYSTEMS PLAN
E3	DETAILS
E4	LIGHT FIXTURE SCHEDULE
E5	PANEL SCHEDULES AND RISER DIAGRAM

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY: JDS
DWN BY: JDS
CHK BY: JDS
DATE: 09-30-09
SUBMITTED BY: BAKER
FILE NO.: ANPSDG-001XXX

Michael Baker Jr., Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION
COVER SHEET

SHEET REFERENCE NUMBER:
G1

100% SUBMISSON

STRUCTURAL ABBREVIATIONS:

ACI	AMERICAN CONCRETE INSTITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
ARCH	ARCHITECTURAL
B	BOTTOM
BLDG	BUILDING
BOTT	BOTTOM
℄	CENTER LINE
CFMF	COLD FORM METAL FRAME
CFS	COLD FORMED STEEL
CIP	CAST IN PLACE
CIPL	CAST-IN-PLACE LINTEL
CJ	CONTROL JOINT
CLG	CEILING
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
EA	EACH
ELEC	ELECTRICAL
ELEV	ELEVATION
EMBED	EMBEDMENT
EQUIV	EQUIVALENT
ETC	ET CETERA
E.W.	EACH WAY
EXT	EXTERIOR
FTG	FOOTING
GA	GAUGE
HORIZ	HORIZONTAL
HRS	HOURS
IBC	INTERNATIONAL BUILDING CODE
INT	INTERIOR
Kg	KILOGRAM
KIP	KIPS (1 KIP = 1,000 POUNDS)
kN	KILONEWTON
kPa	KILOPASCAL
L#	ANGLE (# INDICATES SIZE)
LLV	LONG LEG VERTICAL
M	METER
MAX	MAXIMUM
MBM	METAL BUILDING MANUFACTURER
MBMA	METAL BUILDING MANUFACTURERS ASSOCIATION
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
N/A	NOT APPLICABLE
#	NUMBER SYMBOL FOR REBAR SIZE
NTS	NOT TO SCALE
O.C.	ON CENTER
OPNG	OPENING
P 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
TM	TRADE MARK
TYP	TYPICAL
UFC	UNIFIED FACILITIES CRITERIA
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
W	WIDTH
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 CRITERIA. 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.

1.7 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.

1.9 DESIGN PRE-ENGINEERED METAL BUILDINGS IN ACCORDANCE W/ MBMA LATEST EDITION PER DESIGN CRITERIA ON SHEET S2.

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 SHEET S2 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 GROUT FOR BASE PLATES SHALL BE NON-SHRINKABLE GROUT AND SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH AT 28 DAYS OF 35MPa, UNLESS NOTED OTHERWISE.

3.3 NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.

3.4 MIXING, TRANSPORTING AND PLACING OF CONCRETE SHALL CONFORM TO ACI 301M-05

3.5 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.

3.6 CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH 20mm x45 DEGREE CHAMFER UON.

3.7 CONCRETE REINFORCEMENT BARS SHALL CONFORM TO ASTM A615M-96a, GRADE 420. 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.

3.8 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.

3.9 SLABS-ON-GRADE SHALL HAVE CONSTRUCTION JOINTS OR CRACK CONTROL JOINTS AS SHOWN ON THE SHEETS. 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 SHEETS, THE MAXIMUM SPACING OF CONSTRUCTION/ CRACK CONTROL JOINTS SHALL BE 4800mm

3.10 SEE SPECIFICATIONS FOR ALL WATERPROOFING/DAMPPROOFING REQUIREMENTS.

3.11 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.

3.12 SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, SPACING AND PLACEMENT, SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION.

3.13 ALL DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING, UNLESS NOTED OTHERWISE ON SHEETS.

3.14 ADDITIONAL BARS SHALL BE PROVIDED AROUND ALL FLOOR AND WALL OPENINGS AS SHOWN ON THE SHEETS.

3.15 SEE ARCHITECTURAL SHEETS FOR TYPE AND LOCATION OF ALL FLOOR FINISHES.

3.16 THE CONTRACTOR SHALL COORDINATE ADDITIONAL WALL/SLAB OPENINGS NOT SHOWN ON STRUCTURAL SHEETS. SEE MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL SHEETS.

3.17 UNLESS NOTED OTHERWISE, ALL CURBS SHALL BE REINFORCED WITH AT LEAST (1)-#13 CONTINUOUS AND #13 AT 300mm O.C. DOWELS TO STRUCTURE BELOW.

3.18 THE SUB-CONTRACTOR SHALL VERIFY ALL OPENINGS, PAD SIZES, AND ANCHOR BOLTS WITH EQUIPMENT SELECTED.

3.19 FOR ALL WALLS & PIERS, PROVIDE DOWELS INTO FOOTING AT EACH VERT REINF BAR, UON DOWEL SIZE SHALL BE SAME AS VERT REINF.

3.20 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.

3.21 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.

3.22 PROVIDE CONCRETE POUR STOPS OR FORMS AS REQUIRED FOR INSTALLATION OF ALL CONCRETE WORK.

3.23 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 CMU AND CAST-IN-PLACE BOND BEAMS UON ON THE SHEETS. INTERMEDIATE BOND BEAMS 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 DETAIL ON SHEET S12.

4.5 CMU CELLS THAT REQUIRE VERTICAL REINFORCING BARS AS INDICATED ON THE CONTRACT DRAWINGS AND/OR SPECS SHALL HAVE REINF BAR PLACED IN CENTERS OF CMU CELLS AND CONTINUOUSLY GROUTED UON.

4.6 PROVIDE LADDER TYPE JOINT REINFORCEMENT AT 200mm FOR EXTERIOR & 400mm FOR 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 STEEL DECK

5.1 STEEL DECK SHALL BE ASTM A611M, GRADES C & D OR A653M STRUCTURAL QUALITY HAVING A MINIMUM YIELD STRENGTH OF 345 MPa FOR FLOOR DECK AND 228 MPa FOR ROOF DECK AS PER THE STEEL DECK INSTITUTE (SDI) DESIGN MANUAL.

5.2 STEEL DECK SHALL BE ERECTED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND ERECTION LAYOUTS AND CONNECTED TO SUPPORTING MEMBERS AS INDICATED.

5.3 COMPOSITE FLOOR DECK

5.3.1 STEEL FLOOR DECK SHALL BE 51mm RIB HEIGHT, 18 GA HOT-DIP GALVANIZED (SDI TYPE 2VLI-18) UON.

5.3.2 FLOOR DECK SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

	18 GAUGE
MOMENT OF INERTIA, Ip	760mm⁴/mm WIDTH
SECTION MODULUS (TOP OF DECK), Sn	27.5mm³/mm WIDTH
SECTION MODULUS (BOTT OF DECK) Sp	27.8mm³/mm WIDTH

5.3.3 FLOOR DECK SHALL BE FASTENED TO THE SUPPORTS AS INDICATED IN THE BOTTOM OF THE FLUTES USING A SDI 36/7 PATTERN. DECK SIDELAPS SHALL BE ATTACHED USING #10 SELF-TAPPING TEK SCREWS WITH A MINIMUM 3-SIDE LAP CONNECTIONS PER SPAN.

5.3.4 SUSPENDED CEILINGS, LIGHT FIXTURES, DUCTS, CONDUITS, PIPING OR OTHER UTILITIES SHALL NOT BE SUPPORTED BY THE STEEL FLOOR DECK.

5.3.5 IN ADDITION TO MEETING THE MINIMUM REQUIREMENTS ABOVE, THE DECK MANUFACTURER SHALL DESIGN THE FLOOR DECK AND ATTACHMENTS TO STEEL FOR A MAXIMUM DEFLECTION DUE TO WET CONCRETE & 1 KPa CONSTANT LOAD OF L/240. FLOOR DECK SHALL NOT REQUIRE SHORING DURING CONCRETE PLACEMENT.

5.4 ROOF DECK

5.4.1 STEEL ROOF DECK SHALL BE 38mm RIB HEIGHT, 18 GA HOT-DIP GALVANIZED (SDI TYPE B-18) UON.

5.4.2 ROOF DECK SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

	18 GAUGE
MOMENT OF INERTIA, Ip	399mm⁴/mm WIDTH
SECTION MODULUS (TOP OF DECK), Sn	17.58mm³/mm WIDTH
SECTION MODULUS (BOTT OF DECK) Sp	17.10mm³/mm WIDTH

5.4.3 ROOF DECK SHALL BE FASTENED TO THE SUPPORTS AS INDICATED IN THE BOTTOM OF THE FLUTES USING A SDI 36/7 PATTERN. DECK SIDELAPS SHALL BE ATTACHED USING #10 SELF-TAPPING TEK SCREWS WITH A MINIMUM 3-SIDE LAP CONNECTIONS PER SPAN.

5.4.4 SUSPENDED CEILINGS, LIGHT FIXTURES, DUCTS, CONDUITS, PIPING OR OTHER UTILITIES SHALL NOT BE SUPPORTED BY THE STEEL ROOF DECK.

5.4.5 IN ADDITION TO MEETING THE MINIMUM REQUIREMENTS ABOVE, THE DECK MANUFACTURER SHALL DESIGN THE ROOF DECK AND ATTACHMENTS TO STEEL FOR A MAXIMUM DEFLECTION DUE TO WET CONCRETE & 1 KPa CONSTANT LOAD OF L/240. ROOF DECK SHALL NOT REQUIRE SHORING DURING CONCRETE PLACEMENT.

6.0 STRUCTURAL STEEL

6.1 STRUCTURAL STEEL ROLLED SHAPES AND PLATES SHALL CONFORM TO THE MATERIAL INFORMATION SCHEDULE. DIMENSIONS AND PROPERTIES SHALL BE IN ACCORDANCE TO ASTM A36M.

6.2 ANCHOR BOLTS SHALL CONFORM TO ASTM A36M, HEAVY HEX.

6.3 CONNECTION BOLTS FOR STRUCTURAL STEEL MEMBERS SHALL BE 20 DIA ASTM A325M-N, UON; NUTS SHALL CONFORM TO ASTM A563M; WASHERS SHALL CONFORM TO ASTM F436M. CONNECTION BOLTS SHALL HAVE A HARDENED WASHER PLACED UNDER THE ELEMENT TO BE TIGHTENED.

6.4 DETAILING OF STRUCTURAL STEEL CONNECTIONS MUST BE CONSISTENT WITH RECOGNIZED, PUBLISHED METHODS SUCH AS IN THE AISC "STEEL CONSTRUCTION MANUAL", THIRTEENTH EDITION; "ENGINEERING FOR STEEL CONSTRUCTION", OR "VOLUME II CONNECTIONS MANUAL OF STEEL CONSTRUCTION".

6.4.1 THE CODE OF STANDARD PRACTICE OF AISC THIRTEENTH EDITION IS AMENDED SUCH THAT THE FABRICATOR/DETAILER IS RESPONSIBLE FOR THE DESIGN AND DETAILING OF ALL CONNECTIONS.

6.5 STANDARD FRAMING CONNECTIONS SHALL BE DETAILED BY THE FABRICATOR IN ACCORDANCE WITH THE AISC "STEEL CONSTRUCTION MANUAL", THIRTEENTH EDITION. CONNECTIONS SHALL BE DESIGNED TO DEVELOP A MINIMUM END REACTION OF 54kN.

6.5.1 UNLESS NOTED OTHERWISE AS THUS: (##kN), CONNECTIONS SHALL BE DESIGNED AND DETAILED FOR THE END REACTION DETERMINED FROM PART 2 – "ALLOWABLE UNIFORM LOAD TABLES" FROM THE AISC STEEL CONSTRUCTION MANUAL THIRTEENTH EDITION OR A MINIMUM OF 54 kN WHICH EVER IS GREATER.

6.6 ALL MEMBERS AND CONNECTIONS ON THE CONTRACT DRAWINGS AND CONNECTIONS NOT SHOWN SHALL BE DESIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER, DETAILED AND SUBMITTED FOR APPROVAL AND SHOWN ON THE SHOP DRAWINGS.

6.7 ALTERNATIVE CONNECTION DETAILS MAY BE SUBMITTED ON SHOP DRAWINGS BY THE CONTRACTOR ONLY IF ACCOMPANIED BY COMPLETE STRUCTURAL CALCULATIONS PREPARED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER AND SUBMITTED FOR REVIEW.

6.8 CALCULATIONS FOR DETAILS MUST SHOW A RATIONAL ANALYSIS OF A COMPLETE LOAD PATH, INCLUDING LOCAL EFFECTS ON WEBS, FLANGES, ETC OF THE CONNECTED MEMBERS AND THE DEVICES (PLATES, SEATS, BRACKETS, BOLTS, WEBS, ETC) AFFECTING ALL CONNECTIONS. FAILURE TO SUBMIT SUCH CALCULATIONS FOR REVIEW CONCURRENT WITH SHOP DRAWING ERECTION PLANS AND DETAILS WILL BE CAUSE FOR REJECTION OF THAT SUBMITTAL.

6.8.1 ALL SHEAR TAB CONNECTIONS SUBMITTED AS AN ALTERNATE FOR APPROVAL SHALL BE DESIGNED USING A FLEXIBLE SUPPORT CONDITION.

6.8.2 BEAM AND GIRDER CONNECTIONS SHALL BE DESIGNED SUCH THAT ALL ADDITIONAL STRESSES DUE TO CONNECTION ECCENTRICITY SHALL BE DEVELOPED BY THE CONNECTION AND NOT INDUCE ANY ADDITIONAL STRESSES INTO SUPPORTING MEMBERS.

6.9 STRUCTURAL STEEL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS – ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN" AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" – LATEST EDITIONS.

6.10 WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE AWS D1.1. ELECTRODES FOR SHOP AND FIELD WELDS SHALL BE CLASS E70XX. ALL WELDING SHALL BE DONE BY QUALIFIED, CERTIFIED WELDERS PER THE ABOVE STANDARD.

6.11 SHOP AND FIELD TESTING OF WELDS AND BOLTS SHALL BE AS OUTLINED IN THE SPECIFICATIONS.

6.12 ALL FILLET WELDS SHALL BE A MINIMUM OF 5mm UNLESS NOTED OTHERWISE

6.13 THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT PRIOR APPROVAL OF THE CONTRACTING OFFICER.

6.14 FOR FLOOR AND ROOF OPENINGS, THE FABRICATOR SHALL VERIFY OPENING LOCATIONS WITH EQUIPMENT SELECTED AND MAKE ANY NECESSARY MODIFICATIONS AT NO ADDITIONAL COST. THE CONTRACTOR SHALL COORDINATE MECHANICAL UNITS AND OPENINGS & ARCHITECTURAL ITEMS REQUIRED FOR COMPLETE INSTALLATION OF WORK. IT IS THE RESPONSIBILITY OF FABRICATOR TO RECEIVE ALL NECESSARY INFORMATION PRIOR TO FABRICATION OF THE STEEL.

6.15 ALL STRUCTURAL STEEL SHALL BE PRIMED AS PER THE SPECIFICATIONS.

6.16 ALL PLATES NOT INDICATED SHALL BE 13mm MIN THICKNESS. ALL ANGLES NOT INDICATED SHALL BE 76x76x7.9 MIN. ALL WELDS NOT INDICATED SHALL BE 6mm MIN ALL AROUND UON.

6.17 SEE MECHANICAL, ELECTRICAL, AND PLUMBING SHEETS FOR ADDITIONAL OPENINGS NOT SHOWN. ALL OPENINGS SHALL BE FRAMED 4 SIDES WITH C200x17'S UON.

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY: WJJ	DWN BY: RCG	CHK BY: CWW	
DATE: 09-30-09	SUBMITTED BY: BAKER	FILE NO.: ANPSDS-001XXX	

Michael Baker Jr., Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

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STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

GENERAL NOTES

SHEET REFERENCE NUMBER:
S1

100% SUBMISSON

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 – PRE-ENGINEERED FRAMING

	MAXIMUM GRAVITY LOAD	MINIMUM GRAVITY LOAD
STEEL FRAMING	0.20 KPa	0.15 KPa
METAL DECKING/ROOFING	0.14 KPa	0.05 KPa
MECH/ELEC/PLUMBING	0.15 KPa	0.10 KPa
METAL PANEL CEILING	0.15 KPa	0.15 KPa
MISC	0.40 KPa	0.00 KPa
	1.00 KPa	0.45 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)	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 – PRE-ENGINEERED BUILDINGS

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	MOMENT RESISTING FRAME INTERMEDIATE STEEL MOMENT FRAMES
RESPONSE MODIFICATION FACTOR (R)	4.5
RESPONSE COEFFICIENT (Cs)	0.133
SEISMIC ANALYTICAL PROCEDURE	EQUIV LATERAL FORCE
SEISMIC BASE SHEAR	164.6 kN

1.5 WIND LOADS (PER IBC 2006)

1.5.1 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

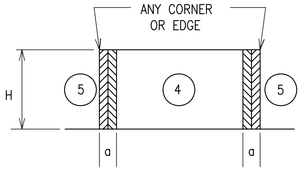
1.5.2 DESIGN WIND PRESSURE – MAIN WINDFORCE RESISTING SYSTEM

LOCATION	CORNER ZONE WIDTH "a"	MEAN ROOF HEIGHT "h"	WINDWARD WALL (@ MEAN ROOF HEIGHT)	LEEWARD WALL (@ MEAN ROOF HEIGHT)	ROOF
FIELD ZONE	N/A	5110mm	600 N/m^2	−570 N/m^2	−780 N/m^2
CORNER ZONE	1440mm	5110mm	830 N/m^2	−680 N/m^2	−1130 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 HIEGHT, IN METERS, EXCEPT THAT EAVE HIEGHT SHALL BE USED FOR ANGLE GREATER THAN 10°.

1.5.3 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:



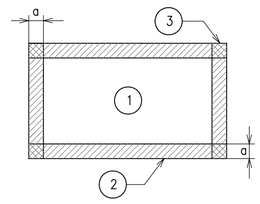
LOCATION	WINDWARD PRESSURE N/m^2 (inward)		LEEWARD PRESSURE N/m^2 (outward)		a
	④	⑤	④	⑤	
MAIN BUILDING					(mm)
AREA = 1 m^2	1050	1050	−1140	−1410	1440
AREA = 2 m^2	1010	1010	−1100	−1310	1440
AREA = 5 m^2	910	910	−1000	−1120	1440
AREA = 10 m^2	820	820	−910	−930	1440

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

1.5 WIND LOADS (CONT)

1.5.4 DESIGN WIND PRESSURE – ROOF COMPONENTS AND CLADDING

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



ROOF MEAN HEIGHT

LOCATION	GROSS UPLIFT PRESSURE N/m^2 (upward)			a
	①	②	③	
MAIN BUILDING				(mm)
AREA = 1 m^2	−970	−1670	−2480	1440
AREA = 2 m^2	−950	−1540	−2320	1440
AREA = 5 m^2	−880	−1260	−1990	1440
AREA = 10 m^2	−880	−1240	−1960	1440

NOTES:
1. DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
2. LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
3. 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/cm^3
MINIMUM BEARING DEPTH BELOW GRADE	800mm
SEISMIC SITE CLASS (based on in-situ soil)	D

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SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: WJJ | DATE: 09-30-09
DWN BY: RCG | SUBMITTED BY: BAKER
CHK BY: CWW | FILE NO.: ANPSDS-002XXX

Michael Baker Jr., Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA. 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

GENERAL NOTES

SHEET REFERENCE NUMBER:
S2

100% SUBMISSON

MINIMUM LAP SPLICES OF REINFORCING BARS IN TENSION (PER ACI 318M–05)

f'c = 28 MPa CONCRETE

BAR SIZE \ CENTER TO CENTER BAR SPACING	(---TOP BARS--) LESS THAN 4db	(---TOP BARS--) 4db OR MORE	(--OTHER BARS--) LESS THAN 4db	(--OTHER BARS--) 4db OR MORE	4db
#10	460	460	410	410	40
#13	660	610	510	480	50
#16	1020	760	790	580	60
#19	1450	910	1120	710	80
#22	1960	1090	1500	840	90
#25	2590	1450	1980	1120	100
#29	3280	1830	2510	1420	110
#32	4140	2340	3200	1780	130
#36	5080	2840	3910	2180	140

NOTES:

1. LAP SPLICES ABOVE ARE IN MILLIMETERS UON.
2. YIELD STRENGTH OF REINFORCEMENT, fy, IS 420 MPa (LAP SPLICE LENGTH IS IN MILLIMETERS)
3. CONCRETE IS NORMAL WEIGHT (2400 Kg/m^3)
4. TOP BAR INDICATES HORIZONTAL REINFORCEMENT WHICH IS PLACED ABOVE 300mm OR MORE OF FRESH CONCRETE.
5. SEE COLUMN SCHEDULE FOR COLUMN AND SHEAR WALL VERTICAL LAP SPLICE.
6. STRAIGHT DEVELOPMENT LENGTH OF AN UNLAPPED BAR IS EQUAL TO VALUE FROM TABLE DIVIDED BY 1.3.
7. CATEGORY FOR BARS SPACED LESS THAN 4d, OR ON CENTER CORRESPONDS TO CATEGORY 1 IN THE CRSI HANDBOOK WHEREAS FOR BARS SPACED 4d, OR MORE ON CENTER CORRESPOND TO CRSI CATEGORY 5.

STEEL MATERIALS SCHEDULE

STRUCTURAL ELEMENT	FY YIELD STRENGTH (MPa)	REMARKS
BEAMS & GIRDERS	250	ASTM A36M ASTM A6M
COLUMNS	240	ASTM A53–95 GRADE B ASTM A6M
MISC BRACING	250	ASTM A572M ASTM A6M
CONNECTIONS, PLATES, & ALL OTHERS	250	ASTM A36M ASTM A6M
ANCHOR BOLTS	–	ASTM A36M or A307M ASTM A6M
PIPES	240	ASTM A53–95 GRADE B ASTM A6M
TUBING	345	ASTM A500–93 GRADE C ASTM A6M
HIGH STRENGTH BOLTS	–	ASTM A325M–N
WELDING ELECTRODES	–	AWS D1.1–90 E70xx

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)	#16 BAR & SMALLER	40
	#19 THRU #36 BAR	50
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.

CONCRETE MATERIALS SCHEDULE

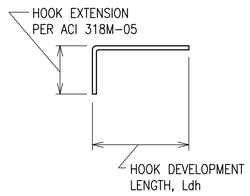
STRUCTURAL ELEMENT	f'c CONCRETE COMPRESSIVE STRENGTH @ 28 DAYS (MPa)
SLAB–ON–GRADE/TURN–DOWN SLABS	28
FLOOR SLABS	28
ALL FOOTINGS (UON)	28
MISC. CURBS, WALLS AND PADS UON	28
CAST–IN–PLACE LINTEL	28
CONCRETE FRAMING – BEAMS AND COLUMNS	28

NOTES:

1. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE. (2400 Kg/m^3 UON)
2. ALL CONCRETE SHALL HAVE A MAX WATER–CEMENT RATIO OF 0.45.

STANDARD HOOKS IN TENSION PER (ACI 318M–05)

BAR SIZE	HOOK DEVELOPMENT LENGTH Ldh (mm) f'c 28 MPa
#10	180
#13	250
#16	300
#19	380
#22	430
#25	480
#29	560
#32	610
#36	690



NOTES:

1. CONCRETE IS NORMAL WEIGHT CONCRETE.
2. BAR YIELD STRENGTH, fy = 420 MPa
3. SIDE COVER REQUIREMENTS OF ACI SECT. 12.5.3.2 ARE ASSUMED TO NOT BE MET.
4. TIE OR STIRRUP REQUIREMENTS OF ACI SECT. 12.5.3.2 ARE ASSUMED TO NOT BE MET.
5. REDUCTION FOR EXCESS REINFORCEMENT IS NOT TAKEN.
6. HOOK DEVELOPMENT LENGTH IS VALID FOR 180° HOOKS ALSO.

SPREAD FOOTING AND PIER SCHEDULE

MARK	FOOTING SIZE LENGTH (mm)	FOOTING SIZE WIDTH (mm)	FOOTING SIZE THICKNESS (mm)	FOOTING REINFORCING	PIER SIZE (mm)	PIER T/PIER	PIER VERT. BARS	PIER TIES	REMARKS
F1	2500	2500	300	(7)–#16 E.W. T&B	900	–150	(8)–#19	2 SETS #13 @ 125	HAIRPINS REQ'D. SEE DETAILS
F2	1800	1800	300	(5)–#16 E.W. T&B	900	–150	(8)–#19	#13 @ 250 TOP 2 @ 75	-----
F3	1200	1200	300	(4)–#16 E.W. T&B	900	–150	(8)–#19	#13 @ 250 TOP 2 @ 75	-----

NOTES:

1. DIMENSIONS NOTED ARE MILLIMETERS (mm) UON
2. T/PIER ELEV GIVEN IN REFERENCE TO 0.0 mm DATUM OR FINISH FLOOR ELEV/SLAB ELEV, DISTANCE ABOVE OR BELOW INDICATED AS NEGATIVE OR POSITIVE.
3. PIER SIZE INDICATED IS SQUARE (DIMENSION SAME IN BOTH DIRECTIONS) UON

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

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A unit of Michael Baker Corporation
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STANDARD DESIGN
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WOOD FIRED HEAT OPTION

GENERAL NOTES

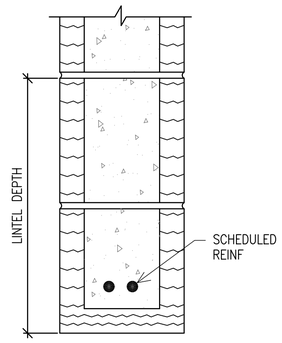
SHEET REFERENCE NUMBER:
S3

100% SUBMISSON

CMU LINTEL SCHEDULE

OPENING TYPE OR SIZE, BEAM LOCATION OR TYPE	MAX SPAN (mm)	LINTEL DEPTH (mm)	REINFORCING BOTTOM
EXT WALL OPENING, 1–STORY BLDG	1800	400	(2)–#13
EXT WALL OPENING, 1–STORY BLDG	900	200	(2)–#13
INT WALL OPENING, NON–BEARING	2400	400	(2)–#13
INT WALL OPENING, NON–BEARING	1800	200	(2)–#13
INT WALL OPENING, NON–BEARING	900	200	(2)–#13
INT SERVERY OPENING	4880	600	(3)–#19
INT WALL OPENING, SHEAR WALL	900	200	(2)–#13
INT WALL OPENING, SHEAR WALL	1800	200	(2)–#13
INT WALL OPENING, SHEAR WALL	2400	400	(2)–#16
EXT KITCHEN ANNEX	1800	1000	(2)–#16

1. STRUCTURAL SHEETS 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.
2. PROVIDE 200mm BEARING EA END FOR 200mm DEEP CMU LINTEL PROVIDE 400mm BEARING EA END FOR 400mm DEEP CMU LINTEL.
3. FOR HEAD DETAILS REFER TO ARCHITECTURAL SHEETS.
4. REINFORCING SHALL BE ASTM A615M, GRADE 420. CONCRETE FOR CAST–IN–PLACE BEAMS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 28 MPa AT 28 DAYS.
5. CONTRACTOR SHALL SUBMIT FOR APPROVAL SHOP DRAWINGS AND SCHEDULES SHOWING SIZE, DETAILS, LOCATIONS, ETC FOR ALL CAST–IN–PLACE BEAMS IN CMU WALLS.



TYPICAL CMU LINTEL DETAIL

SCALE: NTS

NOTE:
1. SEE SCHEDULE THIS SHEET FOR REINFORCING & LINTEL DEPTH

MAXIMUM CMU WALL UNSUPPORTED HEIGHT OR LENGTH

	WALL THICKNESS (mm)	EXTERIOR WALL NON–LOAD BEARING (mm)	INTERIOR NON–LOAD BEARING WALL (mm)
MAX HEIGHT OR LENGTH BETWEEN SUPPORTS	200	4800	7200

NOTE: CMU WALL MAXIMUM LATERAL SUPPORT SPACING GIVEN IN SECTIONS AND DETAILS SHALL SUPERSEDE THE ABOVE SCHEDULE REQUIREMENTS.

MASONRY REINFORCING MINIMUM LAP SPLICES

BAR SIZE	BASIC LAP SPLICE Ld FOR CMU REINFORCING (mm)
#10	450
#13	600
#16	750
#19	900
#22	1050
#25	1200

TYPICAL CMU WALL REINFORCING SCHEDULE

WALL TYPE OR LOCATION	WALL THICKNESS (mm)	CONT VERT REINF (CENTERED IN CMU, UON)	INTERMEDIATE CMU LINTEL (CIP BB)			REMARKS
			DEPTH (mm)	REINF (BOTT UON)	MAX BOND BEAM VERT SPACING (mm)	
ALL PERIMETER/EXTERIOR WALLS (UON)	200	1–#16 @ 600	200	2–#16	1200	-----
LOAD BEARING INTERIOR WALLS WITH TOP AND BOTT SUPPORTS	200	1–#13 @ 800	200	2–#16	1200	-----
NON–LOAD BEARING INTERIOR WALLS WITH TOP AND BOTT SUPPORTS	300	1–#16 @ 800	200	2–#16	1200	-----
KITCHEN ANNEX	200	1–#16 @ 800	200	2–#16	800	-----

NOTES:
1. REINFORCING SIZES AND SPACING GIVEN IN SECTIONS AND DETAILS SHALL SUPERSEDE THE ABOVE SCHEDULE REQUIREMENTS.
2. PROVIDE CONTINUOUS CAST IN PLACE CONCRETE BOND BEAM AT ALL WALL LATERAL SUPPORT LOCATIONS.
3. REINFORCING INDICATED SHALL BE CONTINUOUS FOR FULL EXTENT OF SPLICE FOLLOWING THE REQUIREMENTS OF THE LAP SPLICE TABLE SHOWN ON THIS SHEET.
4. WALLS HAVE BEEN DESIGNATED AS VERTICALLY SPANNING UON AND THEREFORE MUST BE TEMPORARILY SUPPORTED DURING CONSTRUCTION UNTIL THE SUPPORTING DIAPHRAGMS (FLOOR AND ROOF SYSTEMS) HAVE BEEN COMPLETELY INSTALLED. SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL CMU WALLS SHALL BE FULLY GROUTED IN LIFTS NOT EXCEEDING THOSE BY CODE (UON)
6. SEE TYPICAL CMU WALL DETAILS ON SHEET S12.

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Afghanistan Engineer District

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DESIGNED BY: WJJ	DATE: 09–30–09
DWN BY: RCG	SUBMITTED BY: BAKER
CHK BY: CWW	FILE NO.: ANPSDS–004XXX

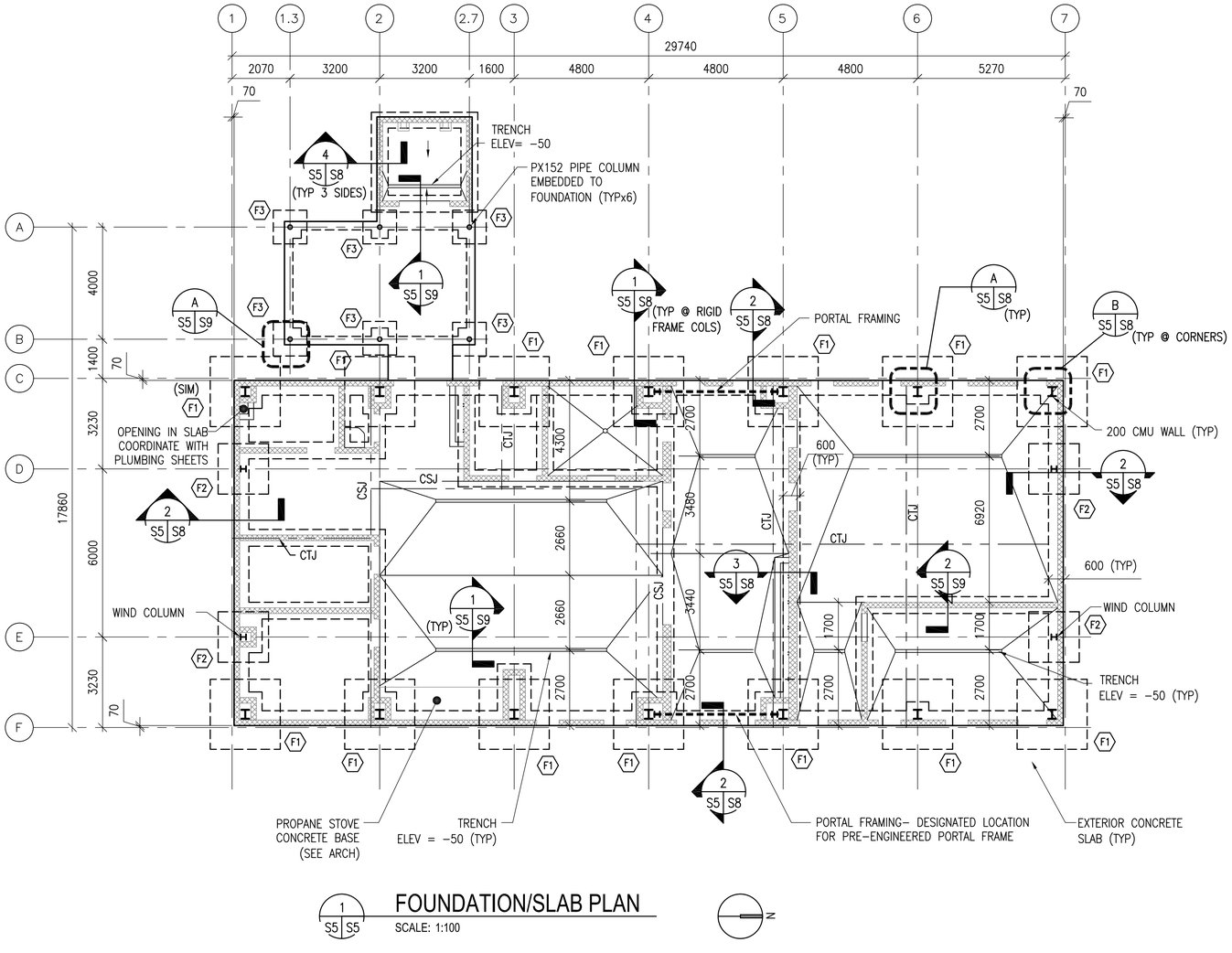
Michael Baker Jr., Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

GENERAL NOTES

SHEET REFERENCE NUMBER:
S4

100% SUBMISSON



1 S5 S5 FOUNDATION/SLAB PLAN

SCALE: 1:100

N

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 -500 UNLESS OTHERWISE INDICATED.
3. TOP OF INTERIOR FOOTINGS SHALL BE -400 UNLESS OTHERWISE INDICATED.
4. UNLESS OTHERWISE INDICATED, FLOORS SHALL BE 150 THICK CONCRETE SLAB-ON-GRADE W/ #13 REBAR @ 450 OC EW (38 CLR TOP) OVER 100 COMPACTED CAPILLARY WATER BARRIER (#57 STONE).
5. SPREAD FOOTINGS INDICATED THUS (XXXX) ON PLAN. REFER TO SPREAD FOOTING SCHEDULE ON SHEET S3.
6. REFER TO SHEETS S1 TO S4 FOR STRUCTURAL NOTES & BASIS OF DESIGN.
7. CTJ & CSJ INDICATES SLAB CONTROL OR CONSTRUCTION JOINTS RESPECTIVELY. REFER TO SHEET S12 FOR DETAILS.
8. REFER TO ARCHITECTURAL SHEETS FOR MASONRY PARTITION TYPES.
9. ALL CMU TO BE FULLY GROUTED UNLESS OTHERWISE NOTED. SEE CMU WALL REINFORCING SCHEDULE ON SHEET S4.
10. SEE MECHANICAL AND ELECTRICAL SHEETS FOR CONCRETE PAD LOCATIONS, SIZES, AND THICKNESS NOT SHOWN. SEE SHEET S12 FOR DETAILS.
11. ⟶ INDICATES SLOPE IN SLAB ON GRADE. COORDINATE LOCATION AND ELEVATION WITH ARCHITECTURAL AND PLUMBING SHEETS. (TYP)
12. PRIOR TO CONSTRUCTION OF FOUNDATIONS, THE CONTRACTOR SHALL COORDINATE THE LOCATIONS OF ALL FOOTINGS, PIERS, AND TURN DOWN SLAB EDGES WITH THE PRE-ENGINEERED BUILDING DRAWINGS AND REVISE AS NECESSARY.
13. PRE-ENGINEERED COLUMN BASES SHALL BE DESIGNED AS PINNED ONLY.
14. LOCATIONS OF PORTAL FRAMES HAVE BEEN SHOWN IN PLAN AND SHALL NOT BE MODIFIED UNLESS APPROVED BY THE CONTRACTING OFFICER.
15. ALL PIERS FOR PRE-ENGINEERED BUILDING COLUMNS SHALL HAVE HAIR-PIN TIES AS INDICATED IN THE DETAILS.
16. ANCHOR BOLTS FOR PRE-ENGINEERED BUILDING COLUMNS/PORTAL FRAMES SHALL BE MIN OF (4)-20 DIA A36M ANCHOR BOLTS (MIN) WITH 300 EMBED MIN. INTO PIER/GRADE BEAM.
17. TOP OF PIER ELEVATION SET AT -150. COORDINATE BOTTOM/BASE PLATE AND GROUT REQUIREMENTS WITH PRE-ENGINEERED BUILDING MANUFACTURER.

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

0 2000 4000 8000

SCALE: 1: 100

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY: WJJ	SUBMITTED BY: BAKER	DATE: 09-30-09	
DWN BY: RCG		FILE NO.: ANPSDS-105XXX	
CHK BY: CWW			

Michael Baker Jr., Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

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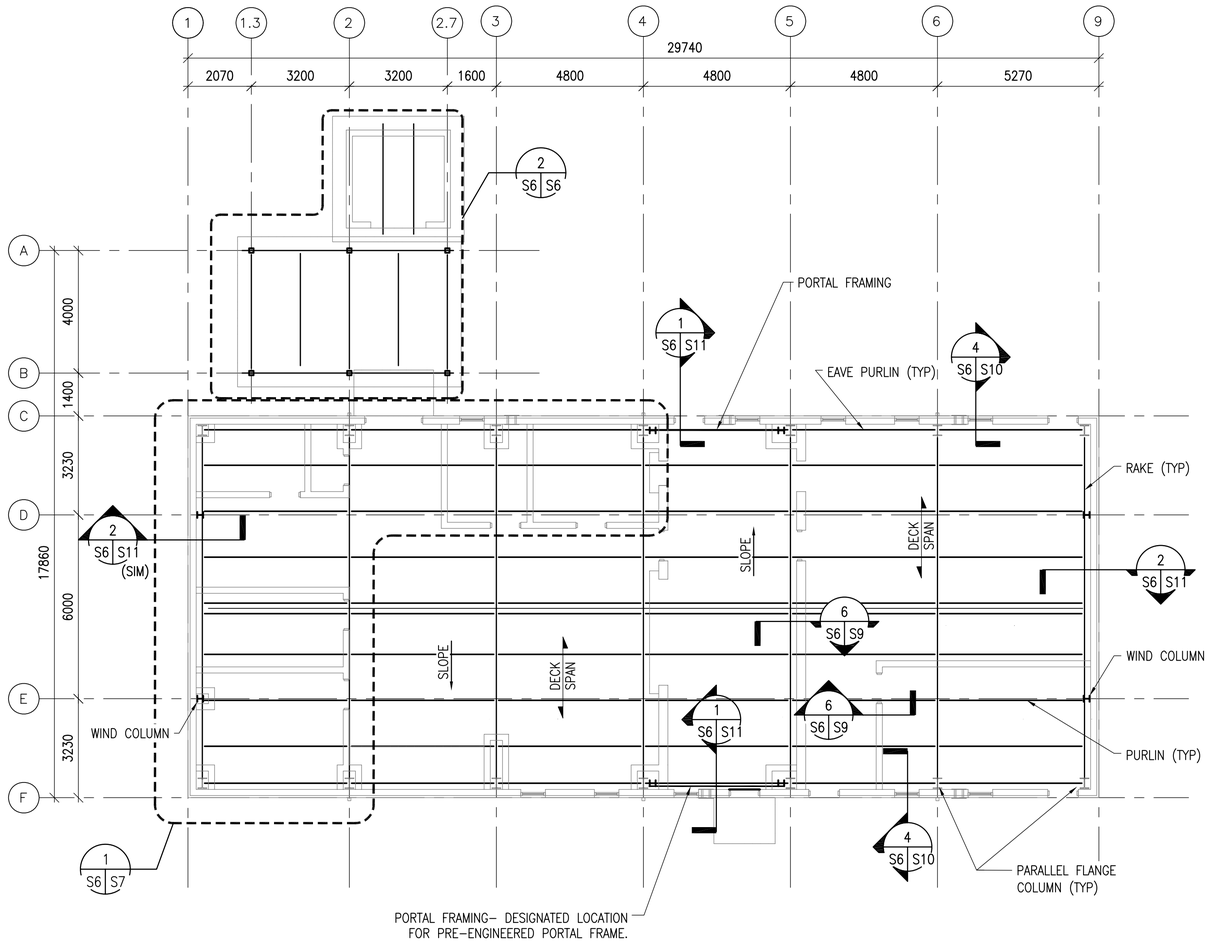
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

FLOOR PLAN

SHEET REFERENCE NUMBER:

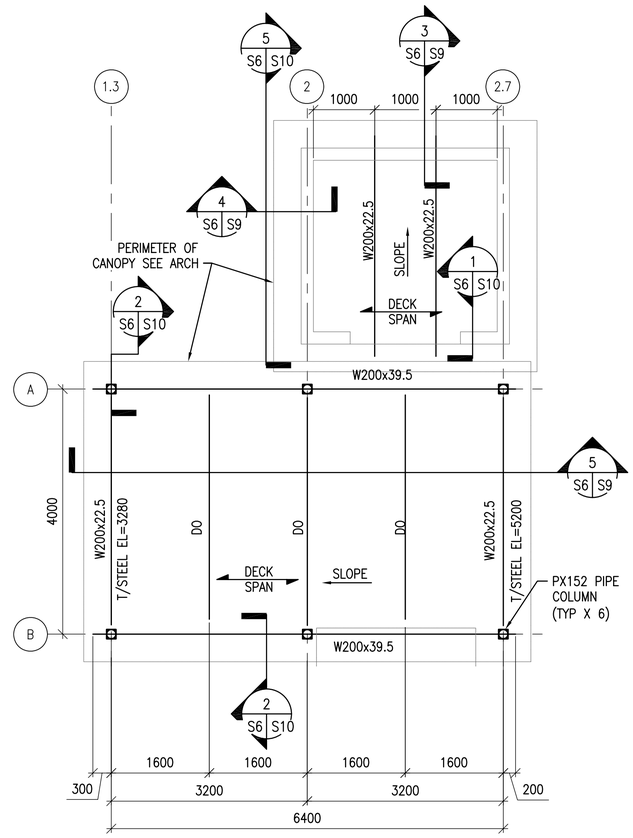
S5

100% SUBMISSON



1 S6 S6 DFAC (2), KITCHEN ANNEX, AND WOOD STORAGE ROOF FRAMING PLAN

SCALE: 1:100



2 S6 S6 ENLARGED KITCHEN ANNEX AND WOOD STORAGE ROOF FRAMING PLAN

SCALE: 1:50

NOTES:

1. REFER TO SHEETS S1 TO S4 FOR STRUCTURAL NOTES, BASIS OF DESIGN SYMBOLS AND ABBREVIATIONS.
2. THE PRE–ENGINEERED BUILDING MANUFACTURER SHALL COORDINATE ALL LOADING REQUIREMENTS INDICATED ON THE SHEETS AND SPECIFICATIONS WITH OTHER TRADES.
3. PRE–ENGINEERED BUILDING COLUMN BASES SHALL BE DESIGNED AS PINNED ONLY.
4. LOCATIONS OF PORTAL FRAMES HAVE BEEN SHOWN IN PLAN AND SHALL NOT BE MODIFIED UNLESS APPROVED BY THE CONTRACTING OFFICER
5. THE PRE–ENGINEERED BUILDING MANUFACTURER SHALL COORDINATE ALL HANGING LOADING FROM EQUIPMENT OR ARCHITECTURAL ELEMENTS AND INCLUDE IN THE DESIGN OF THE FRAMING.
6. SEE SPECIFICATION FOR LATERAL DRIFT REQUIREMENTS.
7. LOCATIONS OF END WALL COLUMNS SHALL BE MAINTAINED AT LOCATIONS INDICATED. THE BUILDING DOES NOT NEED PROVISIONS FOR FUTURE EXPANSION AT END WALLS.
8. THE PRE–ENGINEERED BUILDING MANUFACTURER IS RESPONSIBLE TO DESIGN ALL JAMB AND HEAD CONDITION SUPPORT SUB–FRAMING AS REQUIRED FOR THE LOADING INDICATED AND THE REQUIREMENTS OF THE ATTACHED COMPONENTS.
9. ROOF DECK OVER KITCHEN ANNEX AND WOOD STORAGE BUILDING SHALL BE 38 MIN, 18 GAUGE, TYPE B WIDE RIB METAL DECK.
10. SEE CMU WALL REINFORCING SCHEDULE ON SHEET S4.

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

0 1000 2000 4000

SCALE: 1: 50

0 2000 4000 8000

SCALE: 1: 100

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: WJJ	DATE: 09–30–09
DWN BY: RCG	SUBMITTED BY: BAKER
CHK BY: CWW	FILE NO.: ANPSDS–106XXX

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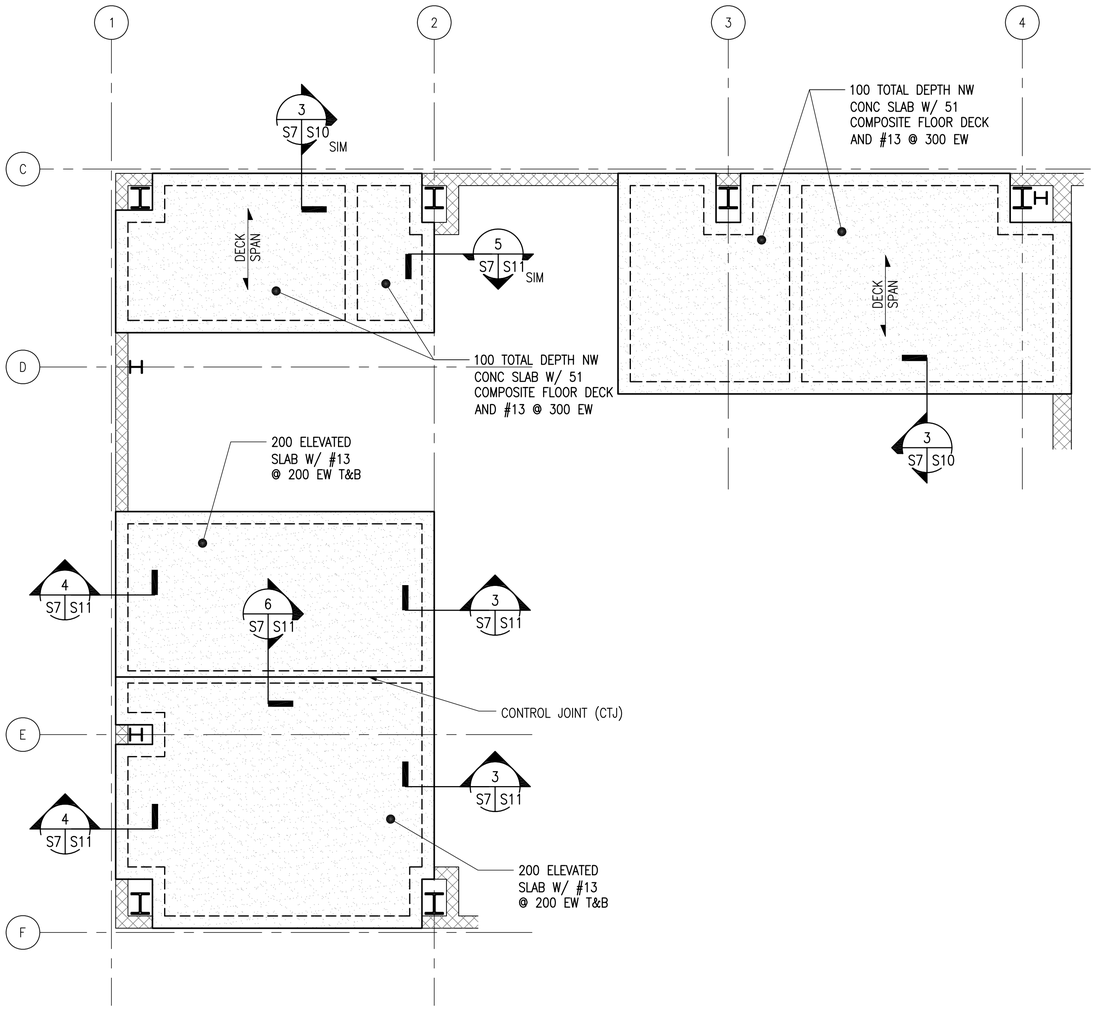
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

ROOF FRAMING PLAN

SHEET REFERENCE NUMBER:
S6

100% SUBMISSON



ENLARGED ELEVATED SLAB STORAGE AREA FRAMING PLAN

1 / S6 S7

SCALE: 1:50

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

0 1000 2000 4000

SCALE: 1: 50

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY: WJJ	DATE: 09-30-09		
DWN BY: RCG	SUBMITTED BY: BAKER		
CHK BY: CWW	FILE NO.: ANPSDS-107XXX		

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100 Airside Drive
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AFGHAN NATIONAL POLICE
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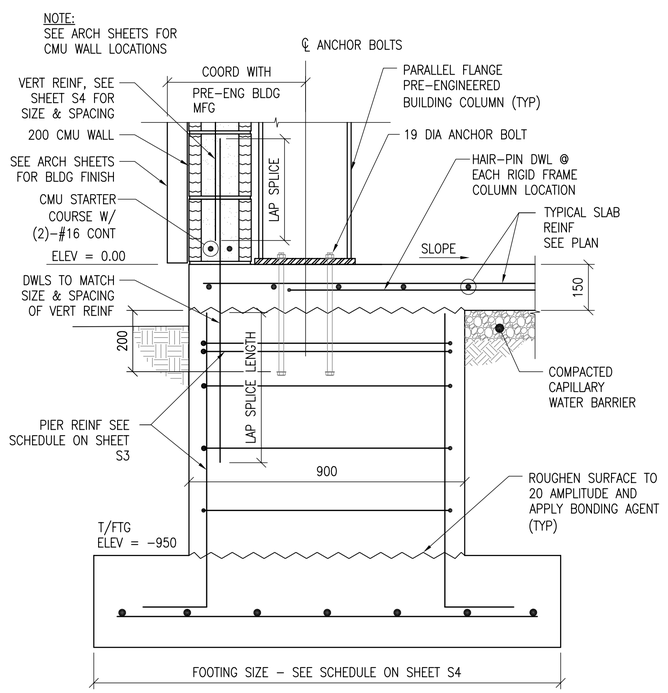
WOOD FIRED HEAT OPTION

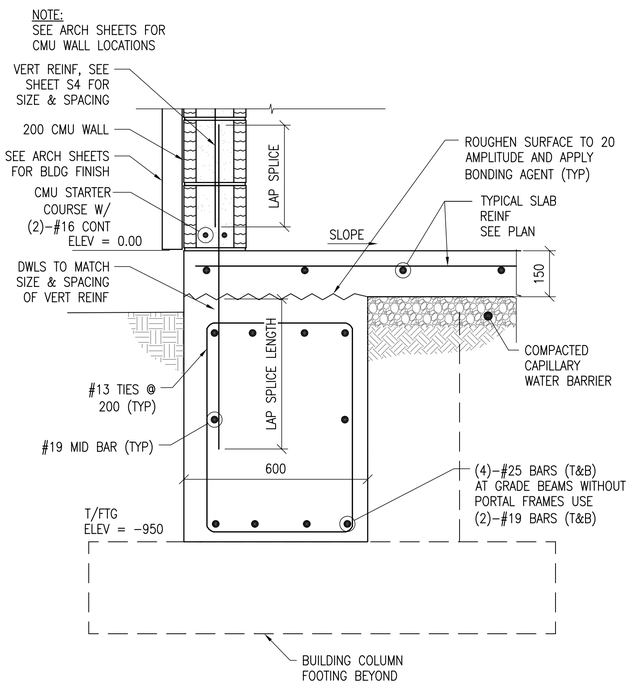
ENLARGED ELEVATED SLAB
STORAGE AREA FRAMING PLAN

SHEET REFERENCE NUMBER:
S7

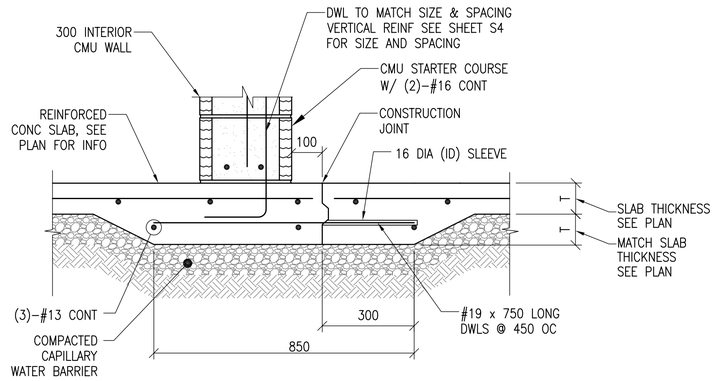
100% SUBMISSON



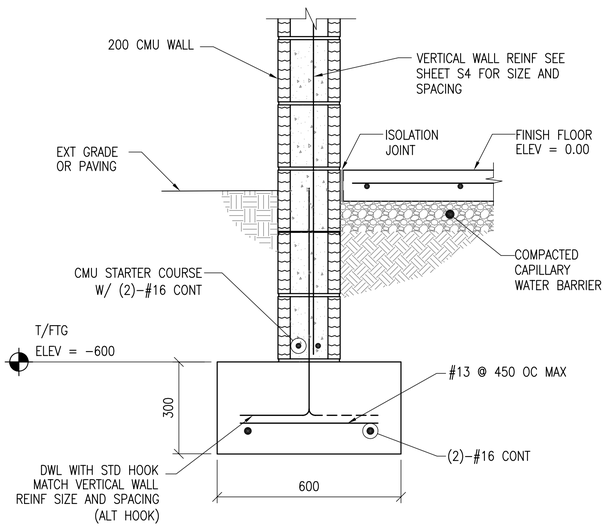
1 S5 S8 **SECTION**
SCALE: 1:10



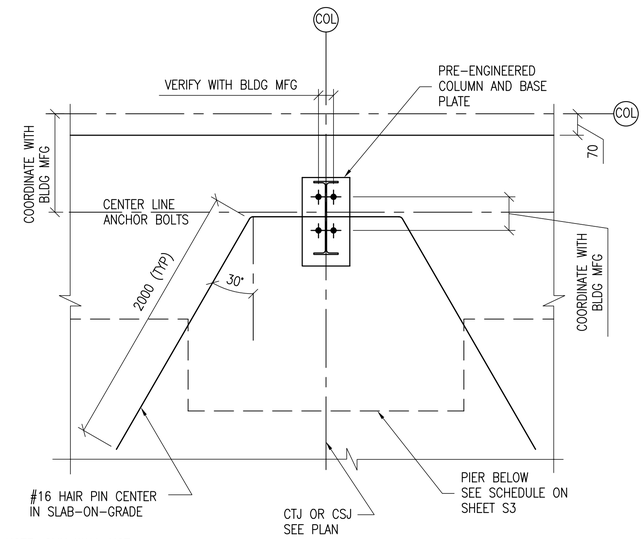
2 S5 S8 **SECTION**
SCALE: 1:10



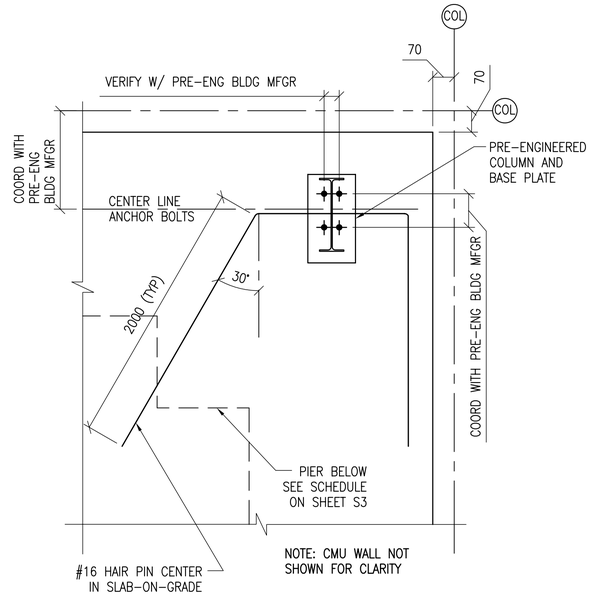
3 S5 S8 **CONTROL JOINT DETAIL AT CMU WALL**
SCALE: 1:10



4 S5 S8 **SECTION**
SCALE: 1:10



A S5 S8 **COLUMN DETAIL**
SCALE: 1:10



B S5 S8 **COLUMN DETAIL**
SCALE: 1:10

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

0 200 400 800
SCALE: 1: 10

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: WJJ	DATE: 09-30-09
DWN BY: RCG	SUBMITTED BY: BAKER
CHK BY: CWW	FILE NO.: ANPSDS-308XXX

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A unit of Michael Baker Corporation
Airside Business Park
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Moon Township, PA 15108
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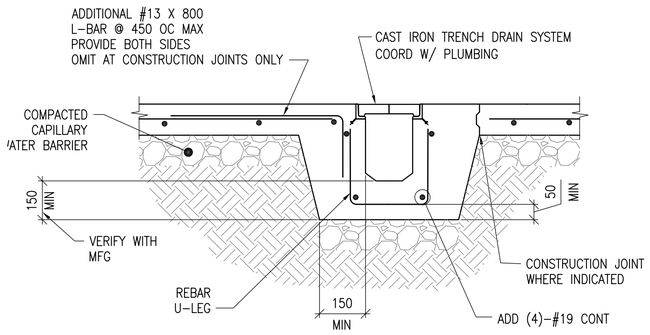
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

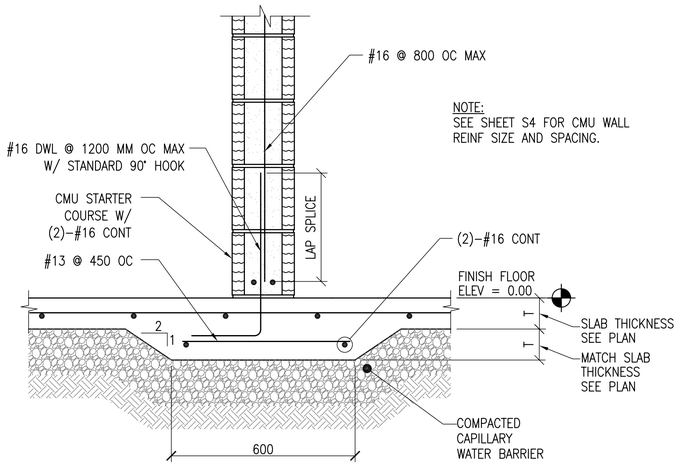
SECTIONS & DETAILS

SHEET REFERENCE NUMBER:
S8

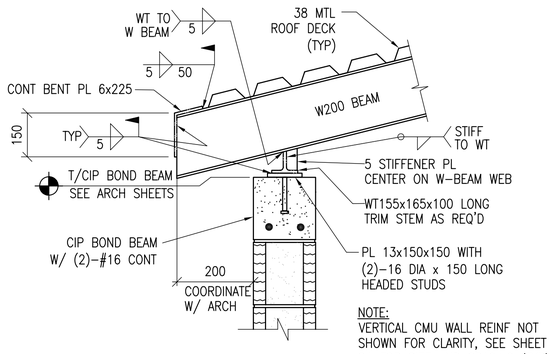
100% SUBMISSON



1 S5 S9 SECTION
SCALE: 1:10



2 S5 S9 SECTION
SCALE: 1:10



3 S6 S9 SECTION
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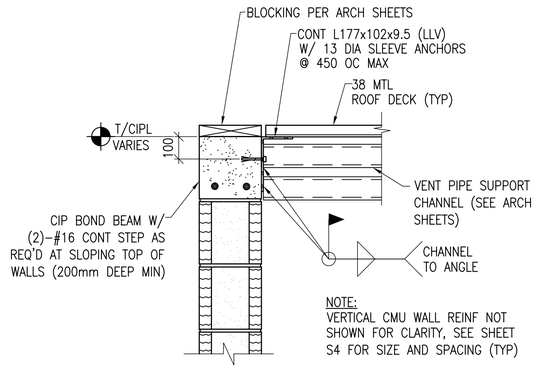
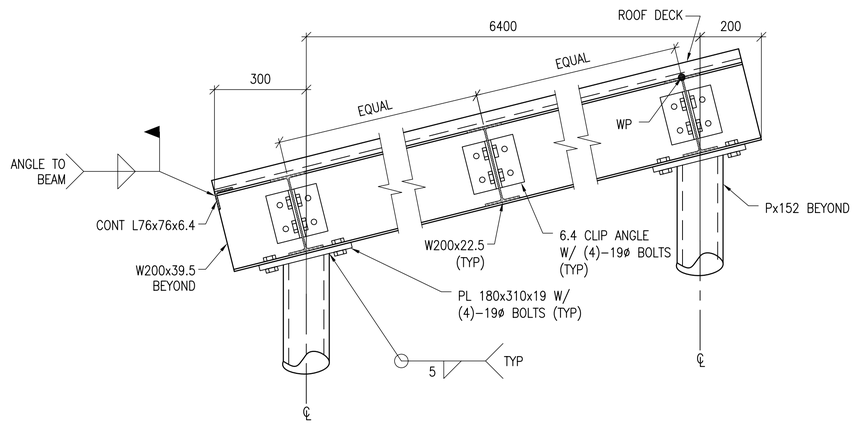
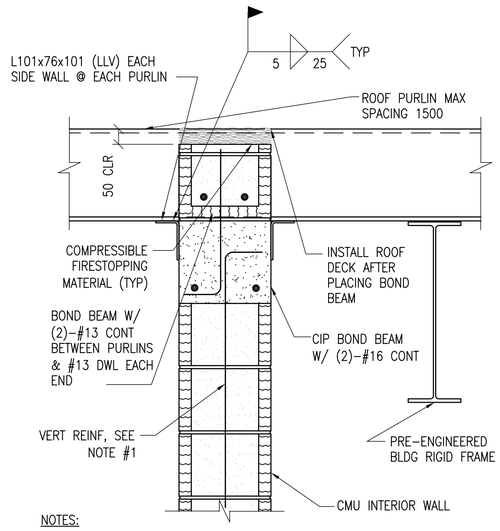


4 S6 S9 SECTION
SCALE: 1:10



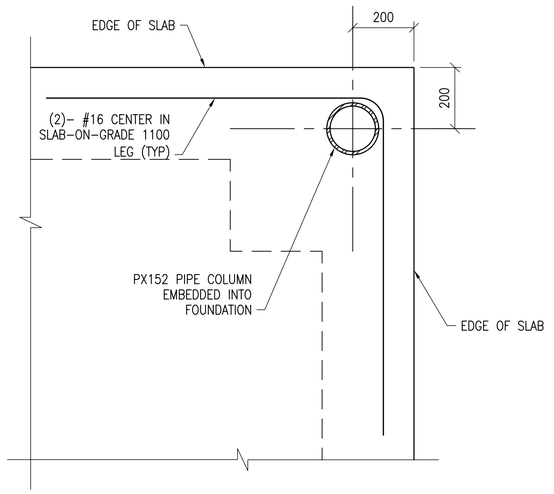
5 S6 S9 SECTION
SCALE: 1:10



NOTES:

1. SEE SHEET S4 FOR REINF SIZE AND SPACING
2. REQUIRED AT INTERIOR CMU WALL LENGTHS THAT EXCEED 3600 BETWEEN OPPOSING CMU WALLS THAT ARE TIED.

6 S6 S9 SECTION
SCALE: 1:10



A S5 S9 CANOPY PIPE COLUMN DETAIL
SCALE: 1:10

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

0 200 400 800

SCALE: 1: 10

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: WJJ	DATE: 09-30-09	FILE NO.: ANPSDS-309XXX
DWN BY: RCG	SUBMITTED BY: BAKER	
CHK BY: CWW		

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Moon Township, PA 15108
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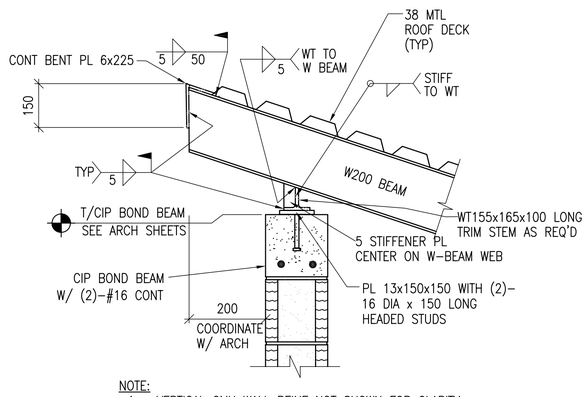
WOOD FIRED HEAT OPTION

SECTIONS & DETAILS

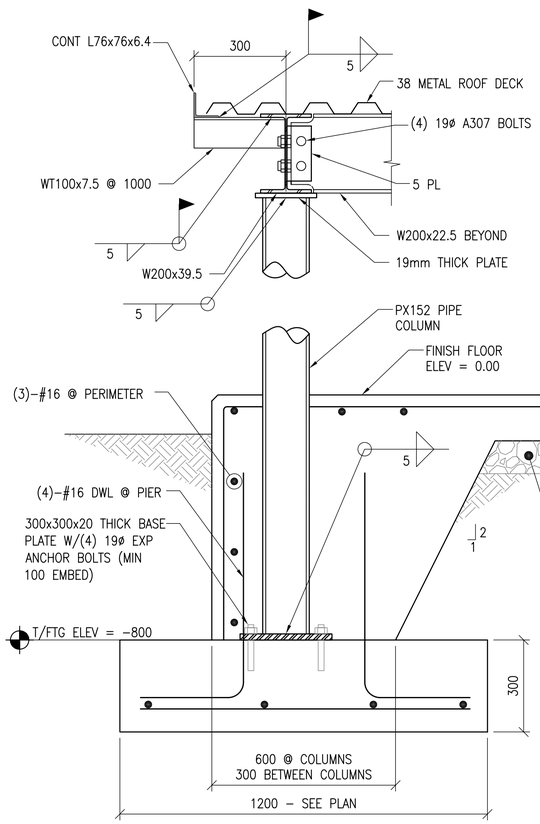
SHEET REFERENCE NUMBER:
S9

100% SUBMISSON

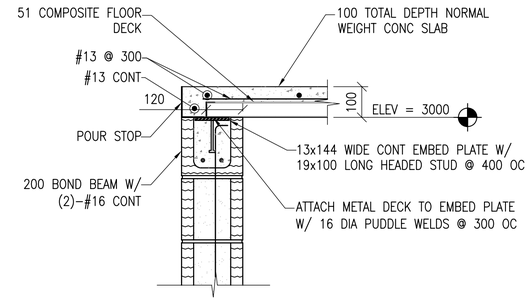


NOTE:
1. VERTICAL CMU WALL REINF NOT SHOWN FOR CLARITY, SEE SHEE S4 FOR SIZE AND SPACING (TYP)

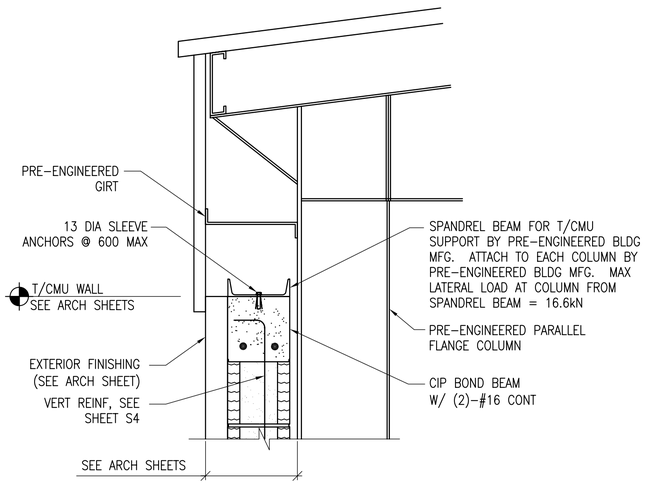
1 S6 S10 **SECTION**
SCALE: 1:10



2 S6 S10 **SECTION**
SCALE: 1:10

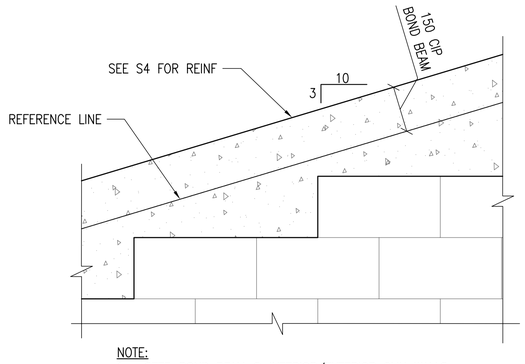


3 S7 S10 **DETAIL**
SCALE: 1:10



NOTE:
VERTICAL CMU WALL REINF NOT SHOWN FOR CLARITY, SEE SHEET S4 FOR SIZE AND SPACING (TYP)

4 S6 S10 **SECTION**
SCALE: 1:10



NOTE:
1. STEP BOND BEAM @ INTERIOR/EXTERIOR CMU WALLS

3 S6 S10 **SECTION**
SCALE: 1:10

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

0 200 400 800
SCALE: 1: 10

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: WJJ	DATE: 09-30-09		
DWN BY: RCG	SUBMITTED BY: BAKER		
CHK BY: CWW	FILE NO.: ANPSDS-310XXX		

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Moon Township, PA 15108
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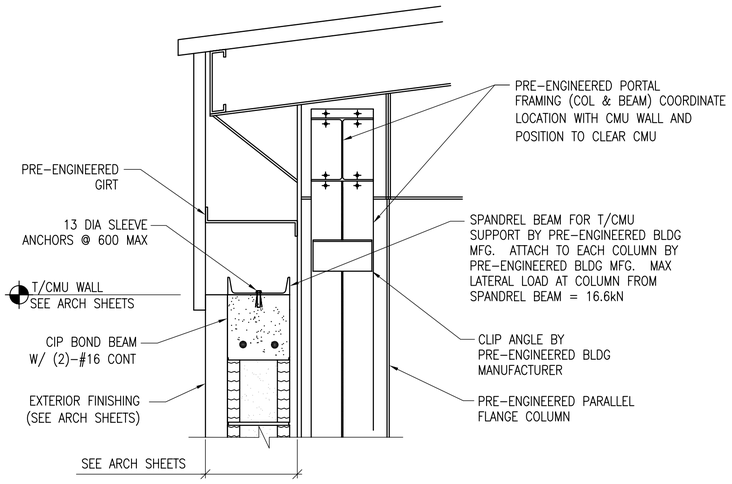
WOOD FIRED HEAT OPTION

SECTIONS & DETAILS

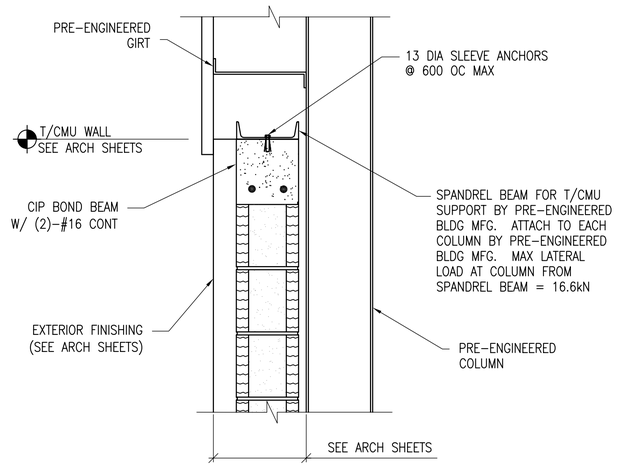
SHEET REFERENCE NUMBER:
S10

100% SUBMISSON



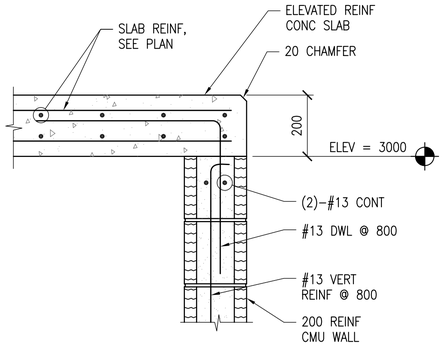
NOTE:
VERTICAL CMU WALL REINF NOT SHOWN FOR CLARITY, SEE SHEET S4 FOR SIZE AND SPACING (TYP)

1 S6 S11 SECTION
SCALE: 1:10

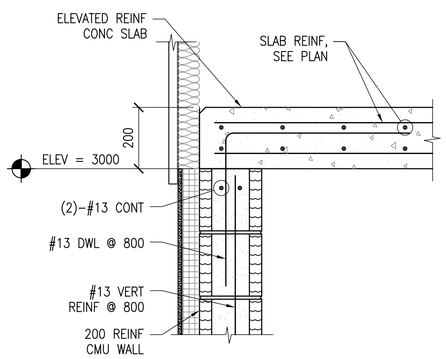


NOTE:
VERTICAL CMU WALL REINF NOT SHOWN FOR CLARITY, SEE SHEET S4 FOR SIZE AND SPACING (TYP)

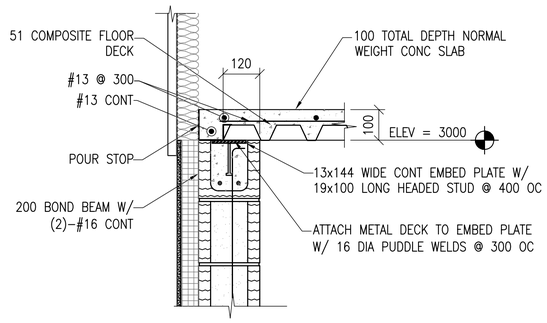
2 S6 S11 SECTION
SCALE: 1:10



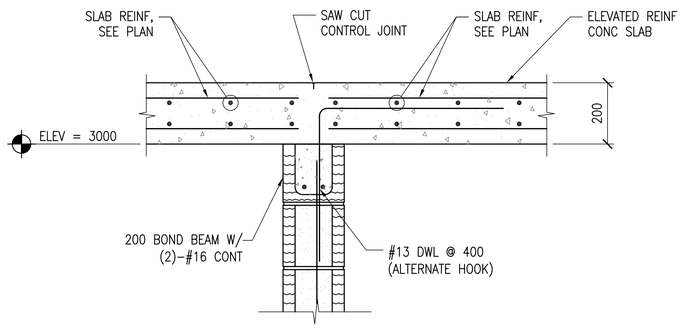
3 S7 S11 SECTION
SCALE: 1:10



4 S7 S11 SECTION
SCALE: 1:10



5 S7 S11 SECTION
SCALE: 1:10



6 S7 S11 SECTION
SCALE: 1:10

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

0 200 400 800
SCALE: 1: 10

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: WJJ
DWN BY: RCG
CHK BY: CWW
DATE: 09-30-09
SUBMITTED BY: BAKER
FILE NO.: ANPSDS-311XXX

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A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
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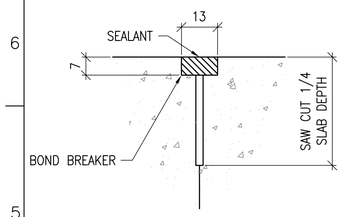
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

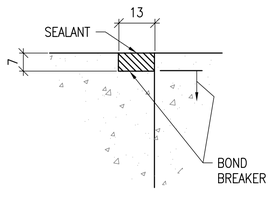
SECTIONS & DETAILS

SHEET REFERENCE NUMBER:
S11

100% SUBMISSON



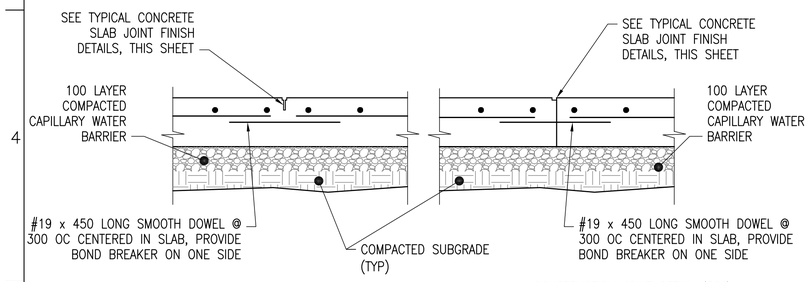
CONTROL JOINT DETAIL



CONSTRUCTION JOINT DETAIL

1 S12 TYPICAL CONCRETE SLAB JOINT FINISH DETAIL

SCALE: NTS

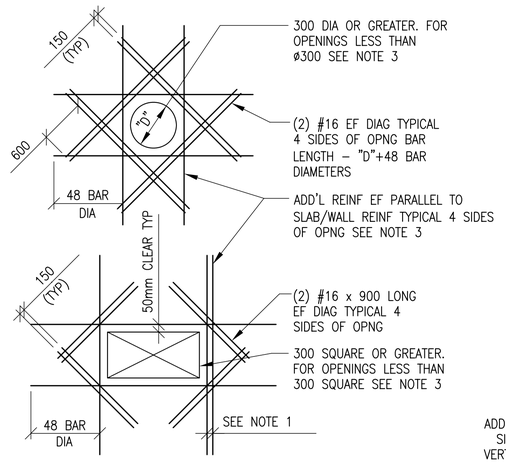


CONTROL JOINT DETAIL (CTJ)

CONSTRUCTION JOINT DETAIL (CSJ)

2 S12 TYPICAL SLAB ON GRADE JOINT DETAILS

SCALE: NTS



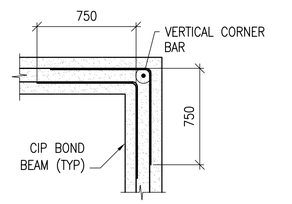
SLAB OPENINGS

DETAIL NOTES:

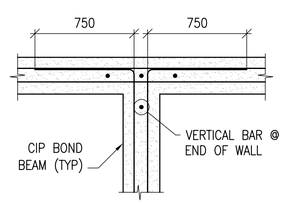
1. WHERE MORE THAN ONE ADDITIONAL BAR IS REQUIRED PARALLEL TO THE EXISTING SLAB/WALL REINFORCING THE ADDITIONAL REINFORCING BARS SHALL BE SPACED AT 100 ON CENTER.
2. ADDITIONAL REINFORCING PARALLEL TO THE SLAB/WALL REINFORCING SHALL BE #16 BARS THAT PROVIDE A STEEL AREA ON EACH SIDE OF THE OPENING EQUAL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

5 S12 ADD'L REINFORCEMENT DETAILS

SCALE: NTS



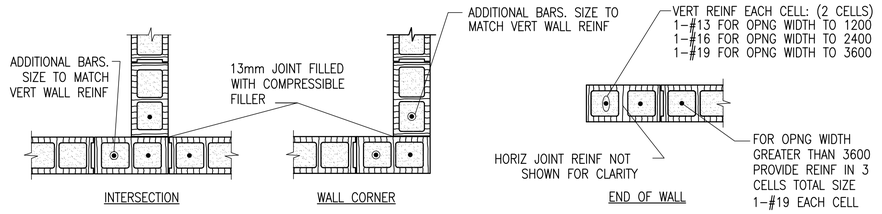
BOND BEAM CORNER



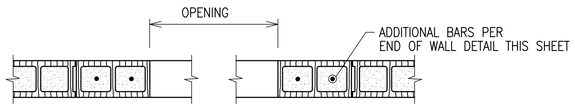
BOND BEAM INTERSECTION

6 S12 CIP BOND BEAM DETAILS

SCALE: NTS



INTERSECTION WALL CORNER END OF WALL



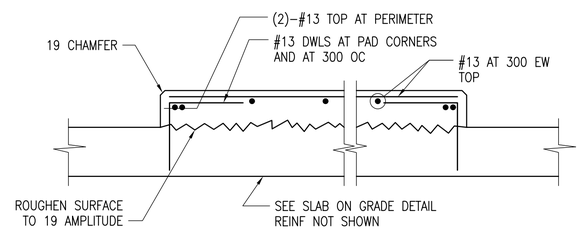
MASONRY OPENING W/ LINTEL

NOTES:

1. OPENING WIDTH SHALL NOT EXCEED 3600 FOR THIS TYPE OF JAMB
2. ALL CMU CELLS FULLY GROUTED

7 S12 TYPICAL CMU DETAILS

SCALE: NTS

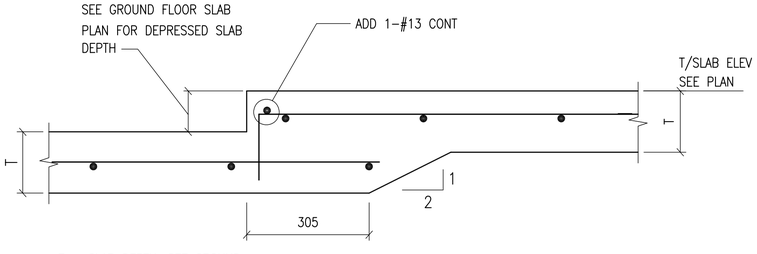


3 S12 INTERIOR EQUIPMENT PAD DETAIL

SCALE: NTS

DETAIL NOTE:

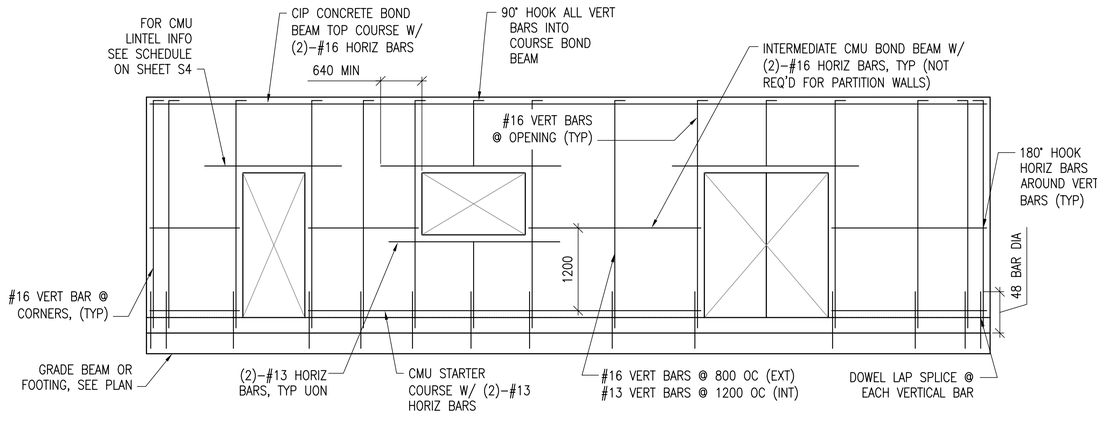
1. COORDINATE EQUIPMENT PAD SIZE AND LOCATIONS W/ ELECTRICAL/MECHANICAL SHEETS AND EQUIPMENT MANUFACTURER.



T = SLAB DEPTH, SEE GROUND FLOOR SLAB PLAN FOR T

4 S12 SLAB DEPRESSION SECTION

SCALE: 1:10



8 S12 MIN CMU WALL REINFORCING

SCALE: NTS

LINTEL NOTES:
CMU LINTEL REINFORCEMENT AS PER SCHEDULE ON SHEET S4

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

0 200 400 800

SCALE: 1: 10

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: WJJ	DATE: 09-30-09	
DWN BY: RCG	SUBMITTED BY: BAKER	
CHK BY: CWW	FILE NO.: ANPSDS-512XXX	

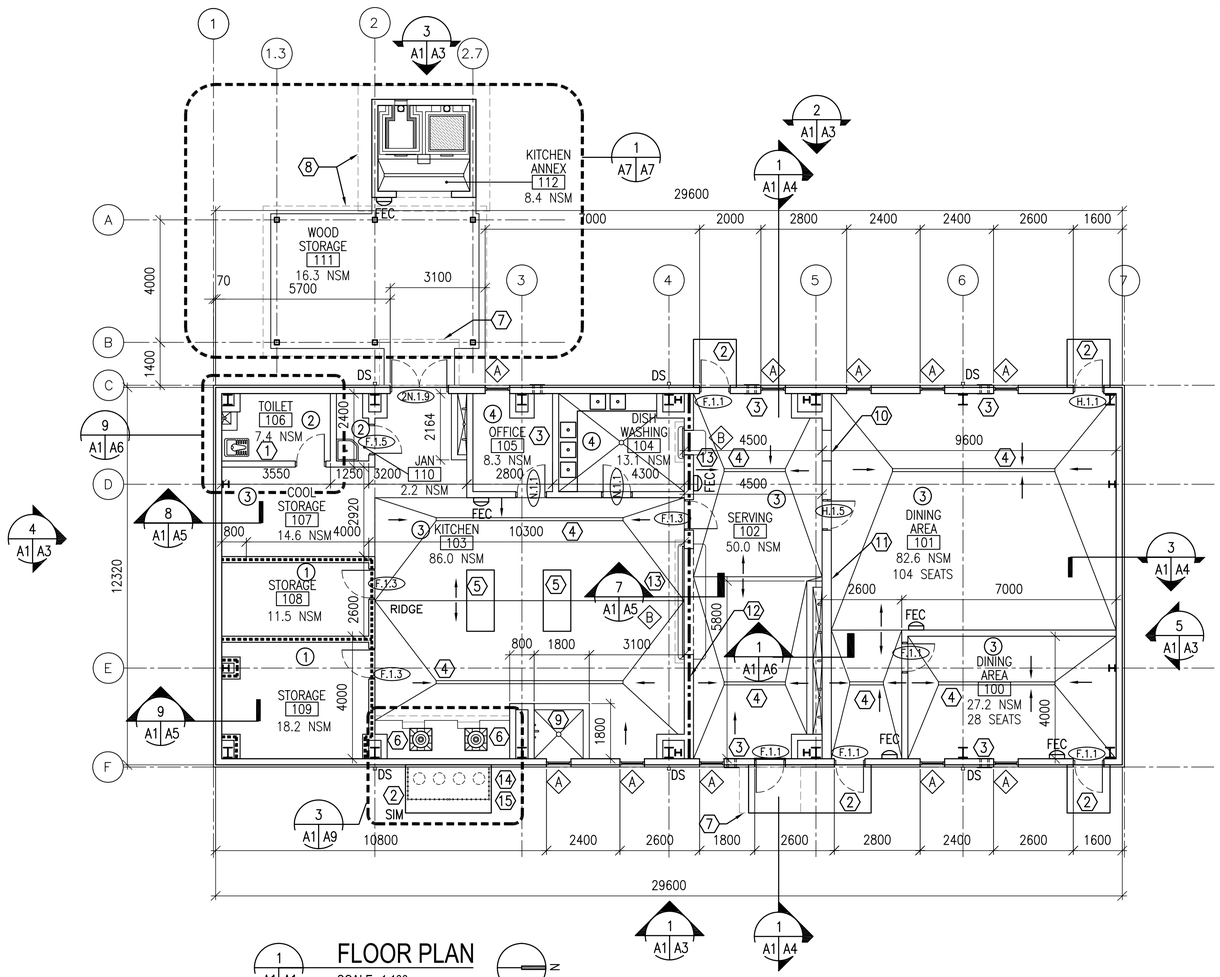
Michael Baker Jr, Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
DINING FACILITIES BUILDING (384 CSM)
WOOD FIRED HEAT OPTION

TYPICAL DETAILS

SHEET REFERENCE NUMBER:
S12

100% SUBMISSON



FLOOR PLAN

SCALE: 1:100
384.0 GSM

GENERAL NOTES:

A. INTERIOR PARTITIONS ARE 3000 MM HIGH, UNLESS OTHERWISE NOTED. INTERIOR PARTITIONS SHALL BE 200 MM CMU UNLESS OTHERWISE NOTED.
B. OPENINGS FOR DOORS SHALL BE LOCATED A MINIMUM OF 200 MM FROM THE ADJACENT WALL.
C. SURFACES TO BE PAINTED SHALL BE CLEAN AND FREE OF FOREIGN MATTER BEFORE APPLICATION OF PAINT. CLEANING SHALL BE SCHEDULED SO THAT DUST AND OTHER CONTAMINANTS WILL NOT FALL ON WET, NEWLY PAINTED SURFACES.
D. CONCRETE AND INTERIOR MASONRY SURFACES GROUTED SOLID SHALL BE ALLOWED TO DRY AT LEAST 30 DAYS BEFORE PAINTING EXCEPT CONCRETE SLAB ON GRADE WHICH SHALL BE ALLOWED TO CURE 90 DAYS BEFORE PAINTING.
E. PAINTS CONTAINING LEAD IN EXCESS OF 0.06 PERCENT BY WEIGHT OF THE TOTAL NONVOLATILE CONTENT SHALL NOT BE USED.
F. MERCURIAL FUNGICIDES SHALL NOT BE USED IN OIL–BASE PAINT.
G. REMOVE LOOSE DIRT AND CLEAN SURFACES BEFORE PAINTING. APPLY PAINT TO INTERIOR STRUCTURAL RIGID FRAMINGS AND CEILINGS AND TEST FOR ADHESION. PRIMER COAT FOR MASONRY. INITIAL FIRST COAT WITH AN ACRYLIC LATEX PAINT FOR EXTERIOR SURFACES AND A SECOND COAT WITH A WATER REPELLENT ACRYLIC LATEX PAINT.
H. METAL DOORS AND FRAMES SHALL RECEIVE A PRIMER COAT PLUS TWO COATS OF PAINT.
I. DIMENSIONS ARE TO STRUCTURAL COLUMN GRID, EDGE OF WINDOW OPENINGS, AND TO HINGE SIDE OF DOOR OPENINGS.
J. FILL ANULAR SPACE AT ANY AND ALL PENETRATIONS IN FIRE RATED PARTITIONS AND CEILINGS WITH APPROPRIATE FIRE STOPPING MATERIALS.
K. PROVIDE 1 HOUR SEPARATION AT STORAGE ROOM 108 AND 109 IN ACCORDANCE WITH IBC TBALE 508.2.
L. PROVIDE 2 HOUR SEPARATION BETWEEN KITCHEN AND SERVING IN ACCORDANCE WITH SCOPE OF WORK.
M. PROPANE TANKS CONNECTED FOR USE SHALL BE LOCATED OUTSIDE OF BUILDINGS IN ACCORDANCE WITH NFPA 58, 6.2.1. PROPANE TANKS CONNECTED FOR USE ARE PERMITTED TO BE INSTALLED ZERO FEET FROM BUILDINGS IN ACCORDANCE WITH NFPA 58, 6.3.1 AND TABLE 6.3.1, PROVIDED EACH CONTAINER IS LESS THAN 125 WATER GALLONS IN CAPACITY. PROPANE TANK DESIGN FOR THIS PROJECT REQUIRES (3) TANKS OF 22.5 WATER GALLONS (100 POUNDS) CAPACITY EACH. THEREFORE, TANKS ARE PERMITTED TO BE INSTALLED ADJACENT TO THE EXISITNG BUILDING. IN ACCORDNACE WITH NFPA 58, 6.3.7 (1), EXTERIOR OPENINGS LESS THAN 1 METER HORIZONTAL DISTANCE FROM CYLINDERS ARE ABOVE THE LEVEL OF DISCHARGE OF THE CYLINDER PRESSURE RELIEF DEVICE.

ROOM FINISHES: (X)

1. WALLS: PAINTED PLASTER,
   FLOOR: SEALED CONCRETE
   CEILING: PAINTED PLASTER APPLIED TO STRUCTURE
2. WALLS: 2400 MM HIGH CERAMIC TILE WAINSCOT, PAINTED PLASTER ABOVE WAINSCOT
   FLOOR: CERAMIC TILE
   CEILING: PAINTED PLASTER
3. WALLS: METAL LINER PANEL ABOVE PAINTED PLASTER
   FLOOR: SEALED CONCRETE
   CEILING: METAL LINER PANEL
4. WALLS: PAINTED PLASTER
   FLOOR: SEALED CONCRETE
   CEILING: EXPOSED METAL DECK

KEY NOTES: (X)

1. TYPICAL TOILET LAYOUT – RE: 3/A6
2. CONCRETE STOOP – RE: DETAIL 10/A5
3. TWO–PIECE WALL THIMBLE AND TRIM PLATE FOR OPTIONAL WOOD BURNING STOVE CHIMNEY PIPE. STOVE AND PIPE BY OTHERS.
4. TRENCH DRAIN – RE: STRUCTURAL & PLUMBING
5. KITCHEN WORKTABLE
6. PROPANE STOVE WITH HOOD RE: SHEET A9
7. LINE OF CANOPY ABOVE
8. LINE OF ROOF OVERHANG ABOVE
9. POT WASH STATION – RE: PLUMBING
10. 1000 X 2200 MASONRY OPENING
11. FULL HEIGHT 300 MM CMU WALL (EXTEND TO UNDERSIDE OF PURLINS)
12. FULL HEIGHT, 300 MM CMU WALL. EXTEND TO UNDERSIDE OF METAL BUILDING RIGID FRAME. APPLY FIREPROOFING TO RIGID FRAME ABOVE RATED WALL.
13. 90 MINUTES COUNTER DOOR.
14. POSTS: 50 MM DIAMETER GALVANIZED PIPE, RE: SHEET A9
15. GATES: GALVANIZED CHAINLINK FENCE ATTACHED TO 50 MM DIAMETER GALVANIZED PIPE. FINISHED HEIGHT SHALL BE 1800 MM MINIMUM.

LEGEND:

- F.1.4 — DOOR TYPE, SEE SHEET A5
- A — WINDOW TYPE, SEE SHEET A5
- X — KEY NOTE
- FEC — FIRE EXTINGUISHER CABINET
- 1–HOUR RATED PARTITION
- 2–HOUR RATED PARTITION
- 4–HOUR RATED PARTITION
- 1 — ROOM FINISH
- DS — METAL DOWNSPOUT

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

0 2000 4000 8000

SCALE: 1: 100

US Army Corps of Engineers
Afghanistan Engineer District

DESIGNED BY:	DATE:	FILE NO.:
DLB	09–30–09	ANPSDA–101XXX
DWN BY:	SUBMITTED BY:	
ECN	BAKER	
CHK BY:		
NLJ		

SYMBOL	DESCRIPTION	DATE	APP

Michael Baker Jr, Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
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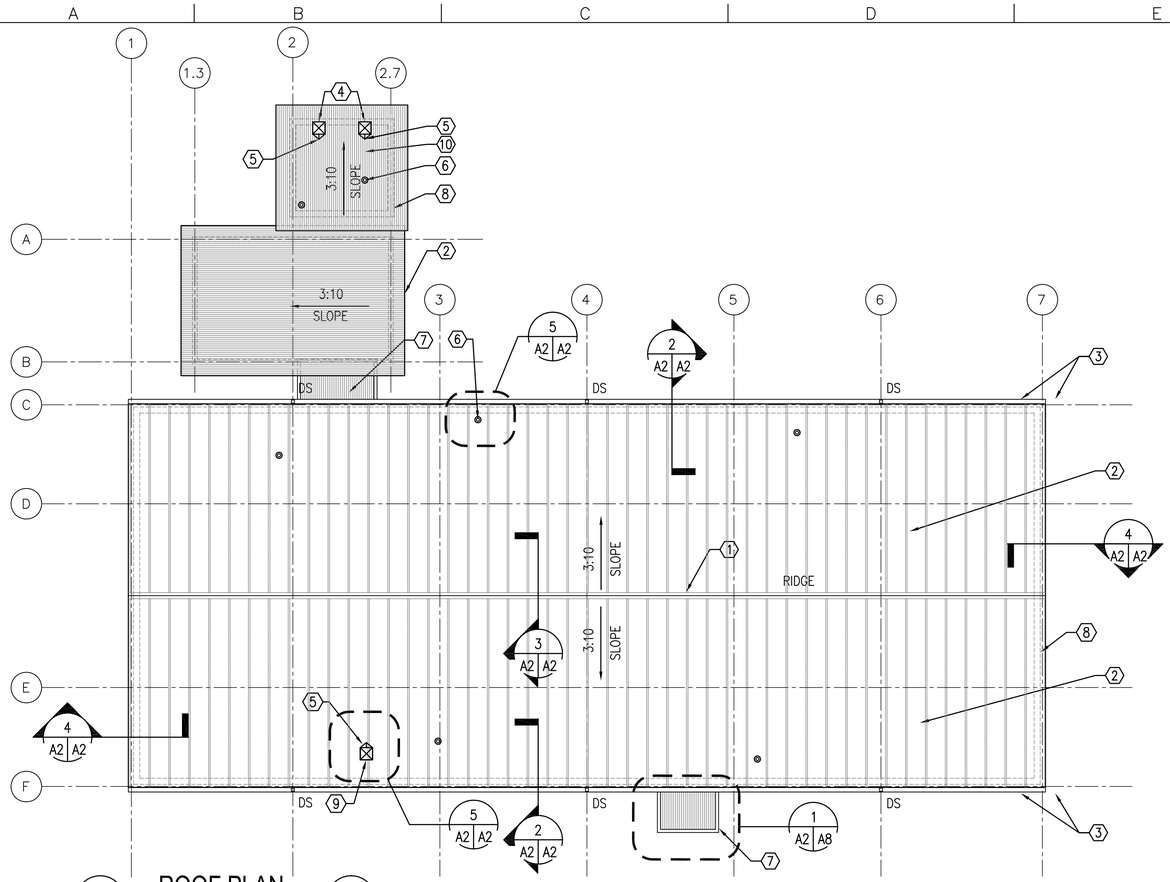
AFGHAN NATIONAL POLICE
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

FLOOR PLAN

SHEET REFERENCE NUMBER: A1

100% SUBMISSON



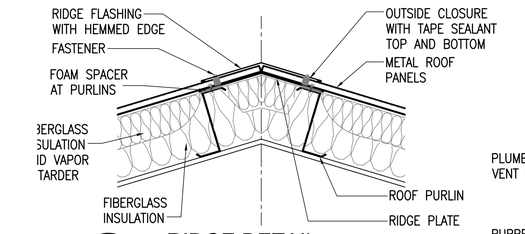
1 A2 A2 ROOF PLAN
SCALE: 1:100

ROOF PLAN NOTES:

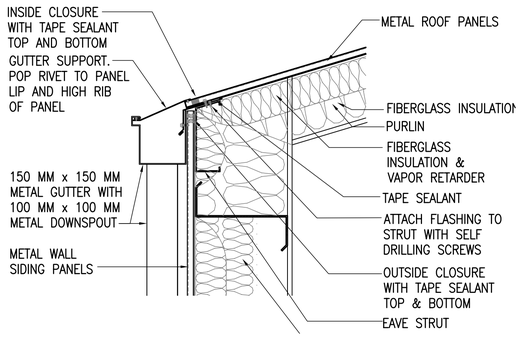
1. THE CONTRACTOR SHALL SIZE THE GUTTERS, DOWNSPOUTS AND SPLASHBLOCKS PER REQUIREMENTS OF THE INTERNATIONAL PLUMBING CODE TO ACCOMMODATE A MAXIMUM 50 MILLIMETER PER HOUR RAINFALL.
2. PRODUCTS BY METAL BUILDING MANUFACTURER:
   A. PRE-FINISHED METAL ROOF PANELS
   B. STEEL PURLINS
   C. VINYL FACED FIBERGLASS INSULATION.
   D. ACCESSORIES.
   E. GUTTERS, DOWNSPOUTS AND SUPPORTS.
3. ROOFING INSTALLATION SHALL BE CONTINUOUS WITH ALL OPERATIONS PROCEEDING TOGETHER. BEFORE CESSATION OF WORK ON EACH WORKING DAY OR WHEN WORK IS INTERRUPTED DUE TO RAINFALL OR OTHER CAUSES, THE ROOF SHALL BE SEALED AGAINST WATER INTRUSION.

KEY NOTES: (X)

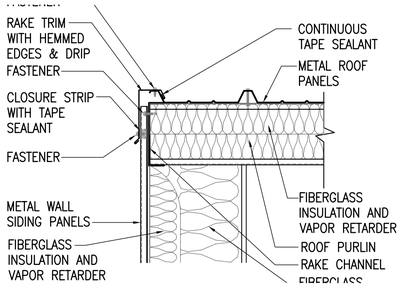
1. CONTINUOUS RIDGE FLASHING
2. METAL ROOF PANELS OVER STEEL PURLIN W/ VINYL FACED FIBERGLASS INSULATION BY METAL BUILDING MANUFACTURER.
3. METAL GUTTERS AND DOWNSPOUTS BY METAL BUILDING MANUFACTURER.
4. PREFINISHED METAL CHIMNEY CAP WITH BIRD SCREEN
5. ROOF CRICKET– RE: DETAIL 6/A2
6. ROOF PENETRATION–RE: DETAIL 5/A2
7. METAL CANOPY –RE: SECTION 4/A5
8. LINE OF BUILDING WALL BELOW
9. ROOF MOUNTED EXHAUST FAN
10. CORRUGATED METAL ROOF PANELS



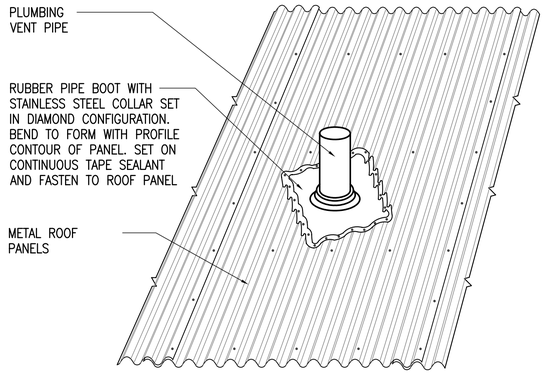
3 A2 A2 RIDGE DETAIL
SCALE: 1:10



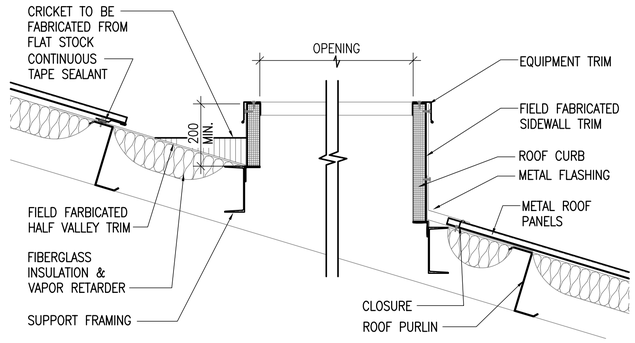
2 A2 A2 EAVE WITH GUTTER DETAIL
SCALE: 1:10



4 A2 A2 RAKE DETAIL
SCALE: 1:10



5 A2 A2 PLUMBING PIPE DETAIL
SCALE: NONE



6 A2 A2 ROOF CURB DETAIL
SCALE: NONE

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

0 200 400 800
SCALE: 1: 10

0 2000 4000 8000
SCALE: 1: 100

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY:	DATE:	FILE NO.:
DLB	09-30-09	ANPSDA-102XXX
DWN BY:	SUBMITTED BY:	
ECN	BAKER	
CHK BY:		
NLJ		

Michael Baker Jr., Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

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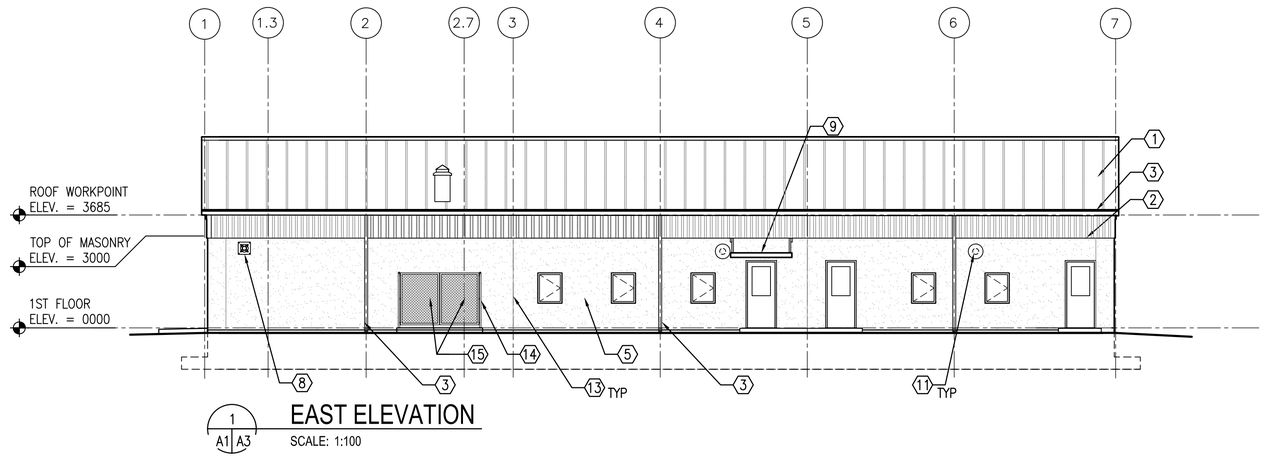
WOOD FIRED HEAT OPTION

ROOF PLAN AND DETAILS

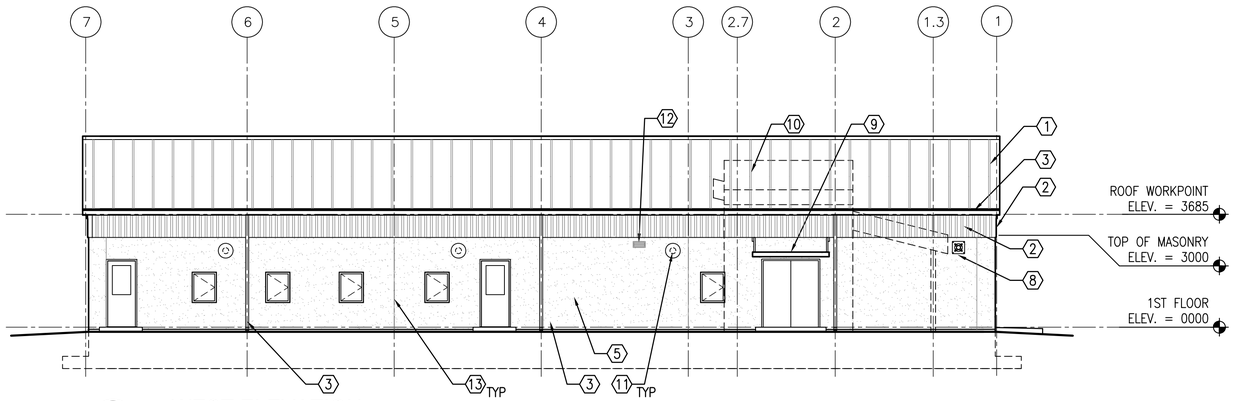
SHEET REFERENCE NUMBER:
A2

100% SUBMISSON



1 A1 A3 **EAST ELEVATION**

SCALE: 1:100



2 A1 A3 **WEST ELEVATION**

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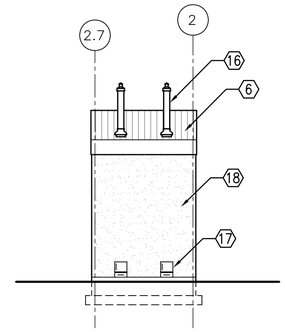
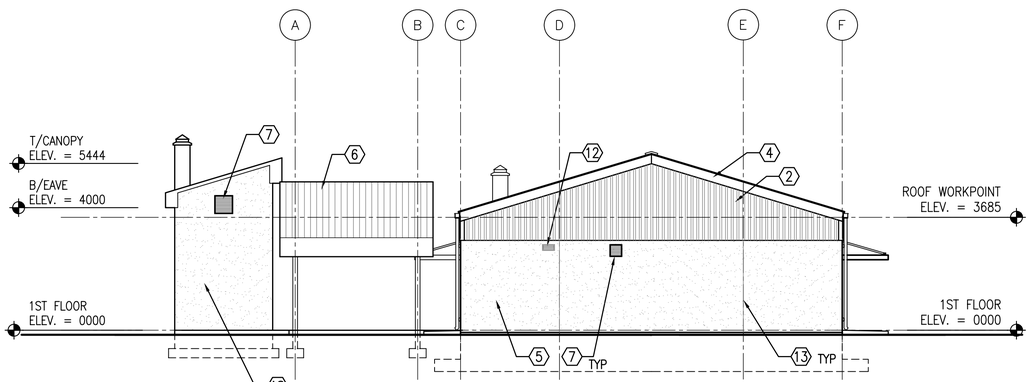


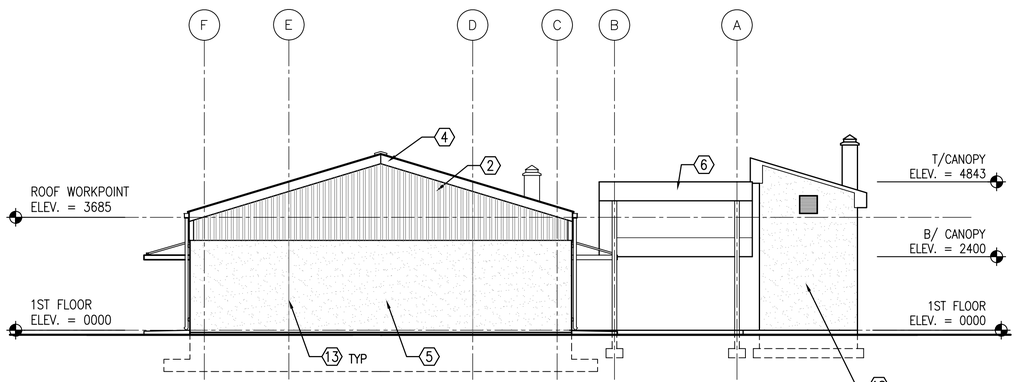
3 A1 A3 **KITCHEN ANNEX ELEVATION**

SCALE: 1:100



4 A1 A3 **SOUTH ELEVATION**

SCALE: 1:100



5 A1 A3 **NORTH ELEVATION**

SCALE: 1:100

KEY NOTES:

(X)

1. PRE-FINISHED METAL ROOF PANELS BY METAL BUILDING MANUFACTURER.
2. PRE-FINISHED METAL WALL PANELS BY METAL BUILDING MANUFACTURER.
3. METAL GUTTERS AND DOWNSPOUTS BY METAL BUILDING MANUFACTURER, TYPICAL
4. RAKE TRIM BY METAL BUILDING MANUFACTURER
5. STUCCO AND RIGID INSULATION ON CMU
6. CORRUGATED METAL ROOF PANELS
7. LOUVER – RE: MECH
8. EXHAUST FAN – RE: MECH
9. CORRUGATED METAL CANOPY PANELS
10. WOOD STORAGE SHED AND KITCHEN ANNEX NOT SHOWN FOR CLARITY.
11. TWO-PIECE WALL THIMBLE AND TRIM PLATE FOR OPTIONAL WOOD BURNING STOVE CHIMNEY PIPE. STOVE AND PIPE BY OTHERS.
12. EXHAUST FAN WITH DUCT WALL CAP – RE: MECH
13. CMU CONTROL JOINT, TYPICAL
14. POSTS: 50 MM DIAMETER GALVANIZED PIPE, RE: SHEET A9
15. GATES: GALVANIZED CHAINLINK FENCE ATTACHED TO 50 MM DIAMETER GALVANIZED PIPE. FINISHED HEIGHT SHALL BE 1800 MM MINIMUM.
16. STAINLESS STEEL VENT PIPE
17. CAST IRON DOORS
18. STUCCO ON CMU

GENERAL NOTES:

1. COORDINATE SIZE AND LOCATION OF OPENINGS FOR MECHANICAL ITEMS WITH MECHANICAL DRAWINGS.
2. PROVIDE STRUCTURAL LINTELS AS REQUIRED – RE: STRUCT.
3. PROVIDE CMU CONTROL JOINT AT EACH STEEL COLUMN – RE: DETAIL 6/A4.

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

0 2000 4000 8000

SCALE: 1: 100

US Army Corps of Engineers

Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY:	DLB
DWN BY:	ECN
CHK BY:	NLJ
DATE:	09-30-09
SUBMITTED BY:	BAKER
FILE NO.:	ANPSDA-203XXX

Michael Baker Jr, Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
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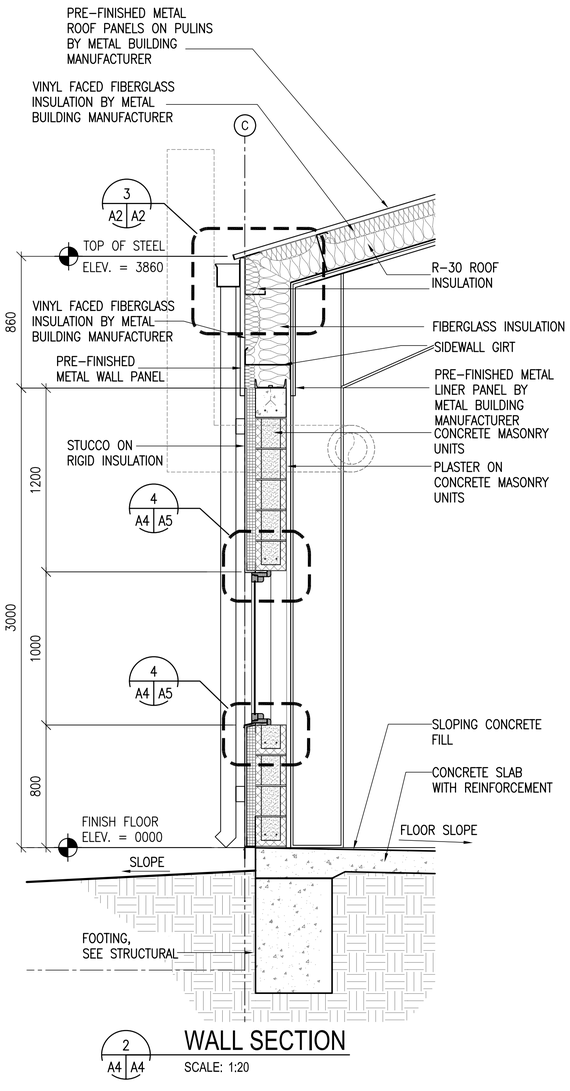
WOOD FIRED HEAT OPTION

BUILDING & WALL SECTIONS

SHEET REFERENCE NUMBER:

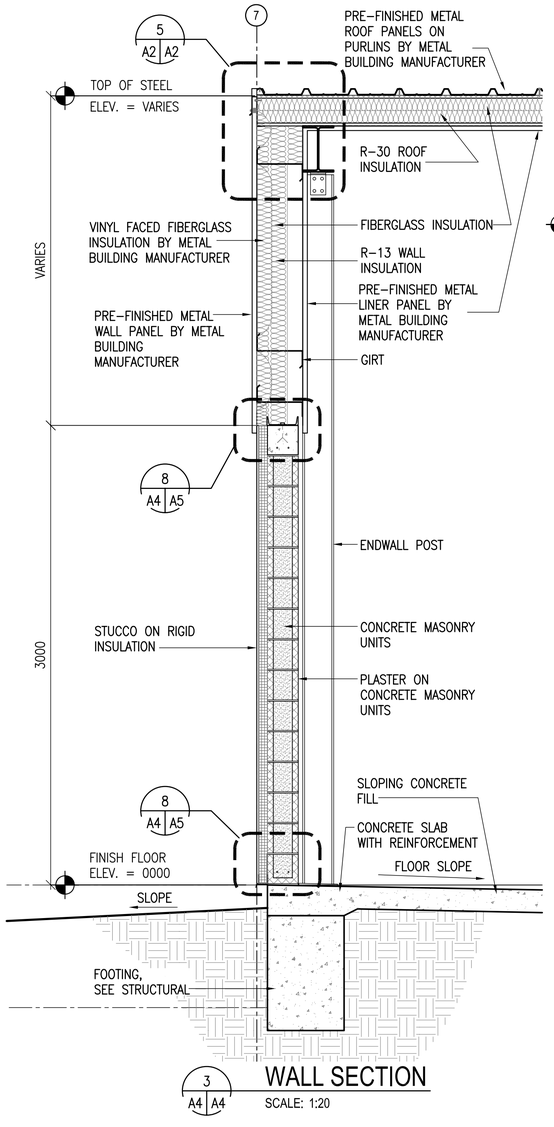
A3

100% SUBMISSON



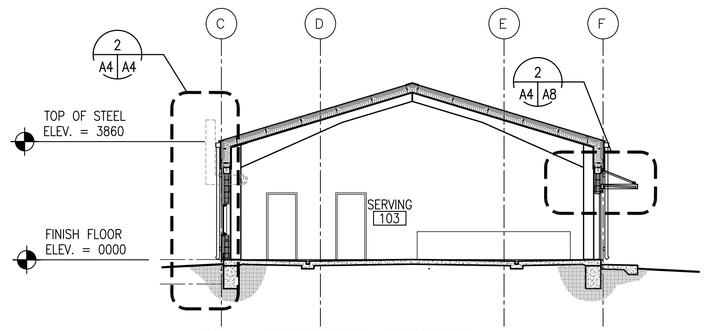
2 A4 A4 **WALL SECTION**

SCALE: 1:20



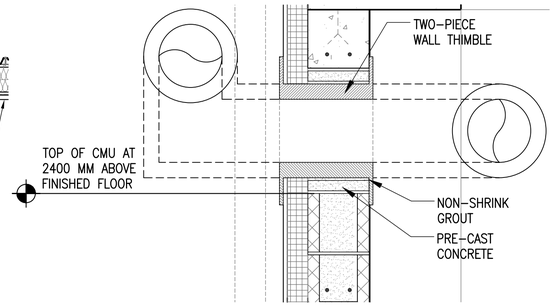
3 A4 A4 **WALL SECTION**

SCALE: 1:20



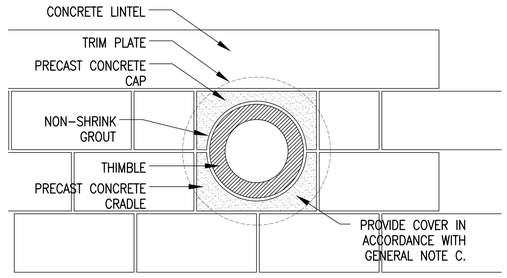
1 A1 A4 **BUILDING SECTION**

SCALE: 1:100



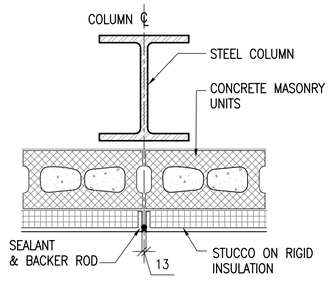
4 A4 A4 **THIMBLE DETAIL, TYPICAL**

SCALE: 1:10



5 A4 A4 **THIMBLE DETAIL, TYPICAL**

SCALE: 1:10



6 A4 A4 **TYPICAL CMU CONTROL JOINT**

SCALE: 1:10

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.

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

0 200 400 800
SCALE: 1: 10

0 400 800 1600
SCALE: 1: 20

0 2000 4000 8000
SCALE: 1: 100

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY: DLB	DATE: 09-30-09
DWN BY: ECN	SUBMITTED BY: BAKER
CHK BY: NLJ	FILE NO.: ANPSDA-304XXX

Michael Baker Jr., Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
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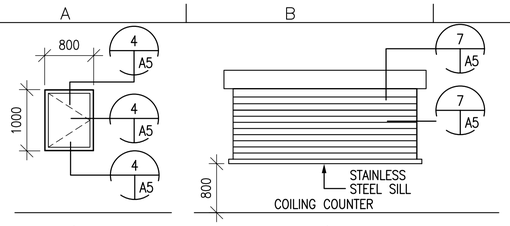
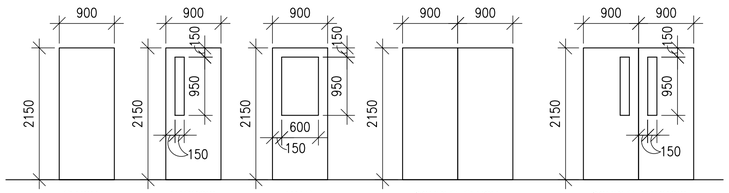
BUILDING & WALL SECTIONS

SHEET REFERENCE NUMBER:
A4

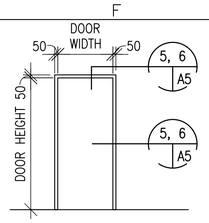
100% SUBMISSON



1 A5 A5 WINDOW TYPES
SCALE: 1:50



2 A5 A5 DOOR TYPES
SCALE: 1:50



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3 A5 A5 FRAME TYPES
SCALE: 1:50

DOOR TYPES NOTES:

1. INTERIOR AND EXTERIOR METAL DOORS AND FRAME COLORS SHALL MATCH ADJACENT WALL COLORS AS SELECTED BY THE CONTRACTING OFFICER.
2. HARDWARE SHALL BE HEAVY DUTY, COMMERCIAL GRADE, STAINLESS STEEL WITH A MATTE FINISH.
3. FRAMES, EXCEPT FIRE-RATED FRAMES, SHALL BE MOUNTED AND ADJUSTED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. FRAMES SHALL BE FASTENED WITH MINIMUM OF THREE FASTENING POINTS PER SIDE AT REGULAR INTERVALS.
4. DIMENSIONS SHOWN ON DOOR SCHEDULE ARE BASED UPON MODULAR MASONRY (OR ROUGH OPENING), HEIGHT OF 2200mm FOR STANDARD PERSONNEL DOORS. CONTRACTOR SHALL COORDINATE WITH DOOR SUPPLIER TO ENSURE THAT DIMENSIONS OF DOORS AND FRAMES PROVIDED ARE COMPATIBLE WITH DOOR OPENING DIMENSIONS.
5. DOORS SHALL BE 45 MINUTE DOORS AS REQUIRED IN 1 HOUR RATED WALLS. (IBC TABLE 715.4).
6. DOORS SHALL BE 90 MINUTE DOORS AS REQUIRED IN 2 HOUR RATED WALLS (IBC TABLE 715.4)

WINDOW TYPES NOTES:

1. ALL EXTERIOR WINDOWS SHALL BE WOOD WITH INSECT SCREENS. WINDOWS SHALL BE COMMERCIAL GRADE.
2. GLAZING SHALL BE ACRYLIC SHEET.

DOOR HARDWARE TYPES:

HW-1 1-1/2 PR HINGES
1 EA EXIT DEVICE, SURFACE MOUNTED F08
1 EA CYLINDER. GRADE 1
1 EA DOOR CLOSER, C02061,LOW RESISTANCE
1 EA THRESHOLD J32130

HW-3 1-1/2 PR HINGES, A8112
1 EA LOCKSET W/LEVERS. GRADE 1
1 EA DOOR CLOSER, C02061,LOW RESISTANCE
1 EA DOOR STOP, L02101 OR L02161
1 EA KICKPLATE, J102
1 EA MOP PLATE, J103

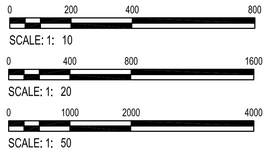
HW-4 1-1/2 PR HINGES
1 EA LOCKSET W/LEVERS. GRADE 1
1 EA STOP L02101 OR L02161

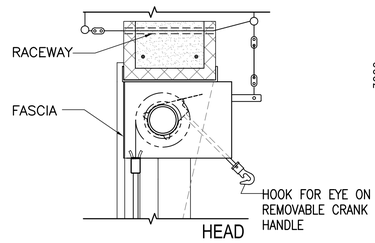
HW-5 1-1/2 PR HINGES, A8112
1 EA LOCKSET W/LEVERS. GRADE 1
1 EA DOOR STOP, L02101 OR L02161
2 EA MOP PLATE, J103

HW-6 1-1/2 PR HINGES
1 EA LOCKSET,F93 ENTRY LOCK W/LEVERS. GRADE 1
1 EA DOOR CLOSER, C02061,LOW RESISTANCE
1 EA THRESHOLD J32130

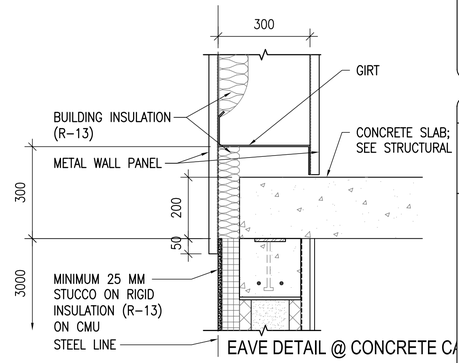
HW-9 3 PR HINGES
2 EA EXIT DEVICE, SURFACE MOUNTED F08
2 EA CYLINDER. GRADE 1
2 EA DOOR CLOSER, C02061,LOW RESISTANCE
1 EA THRESHOLD J32130
1 EA REMOVEABLE MULLION
1 EA COORDINATOR

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

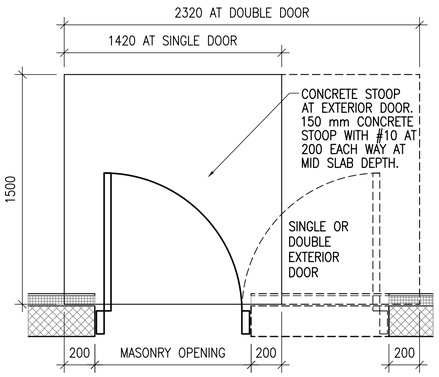




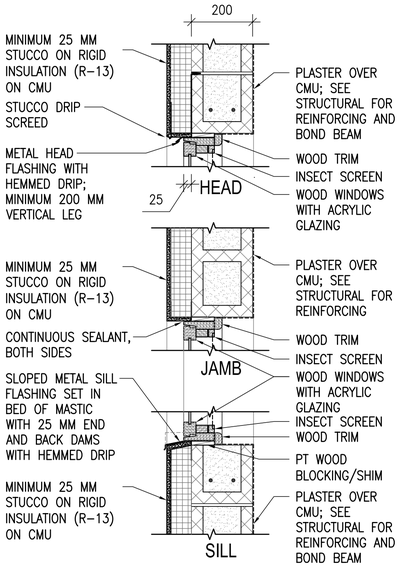
7 A5 A5 COUNTER DOOR DETAILS
SCALE: 1:10



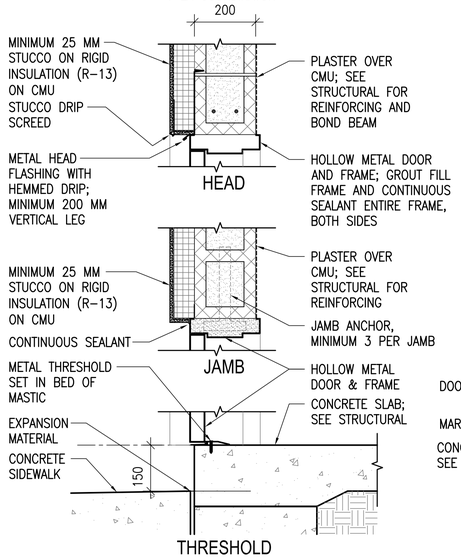
9 A5 A5 EXTERIOR STUCCO DETAIL
SCALE: 1:10



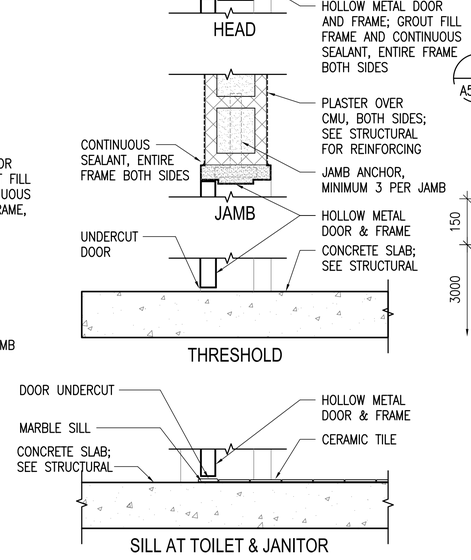
10 A5 A5 CONCRETE STOOP DETAIL
SCALE: 1:10



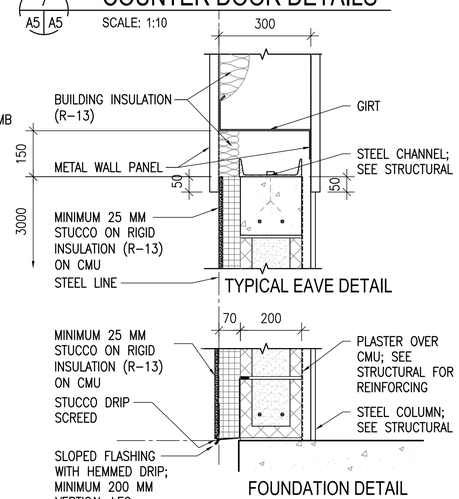
4 A5 A5 WINDOW DETAILS
SCALE: 1:10



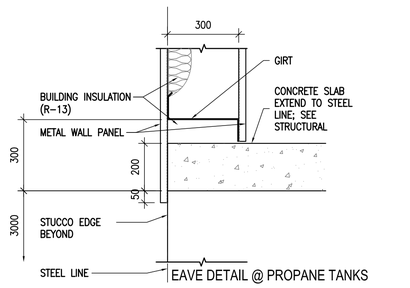
5 A5 A5 EXTERIOR DOOR DETAILS
SCALE: 1:10



6 A5 A5 INTERIOR DOOR DETAILS
SCALE: 1:10



8 A5 A5 EXTERIOR STUCCO DETAILS
SCALE: 1:10



11 A5 A5 EXTERIOR STUCCO DETAIL
SCALE: 1:10

US Army Corps of Engineers
Afghanistan Engineer District

DESIGNED BY: BAKER	DATE: 09-30-09	SUBMITTED BY: BAKER	FILE NO.: ANPSDA-505XXX
DWN BY: AR		CHK BY: KRC	

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100 Airside Drive
Moon Township, PA 15108
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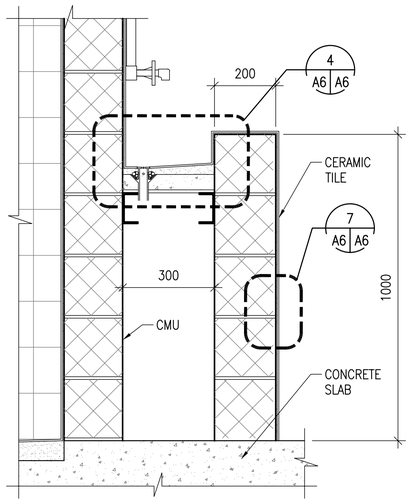
AFGHAN NATIONAL POLICE
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

DOOR, WINDOW & FINISH TYPES & DETAILS

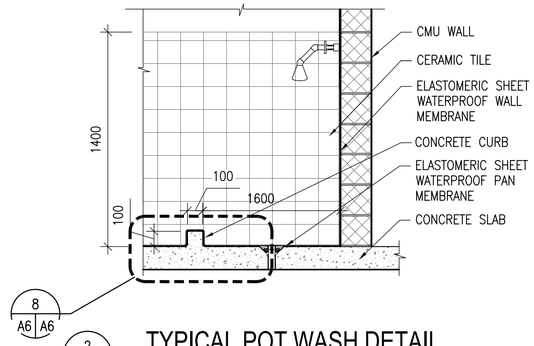
SHEET REFERENCE NUMBER:
A5

100% SUBMISSON



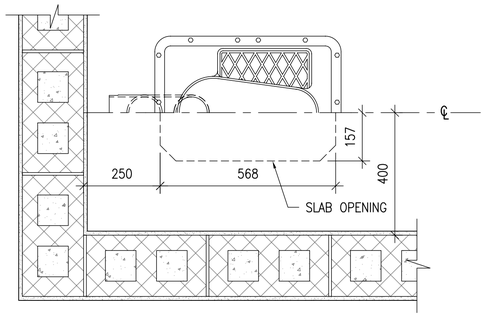
1 A1 A6 **LAVATORY SECTION**

SCALE: 1:10



2 A1 A6 **TYPICAL POT WASH DETAIL**

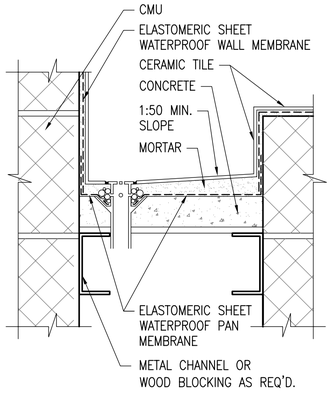
SCALE: 1:20



3 A1 A6 **TYPICAL TOILET DETAIL**

SCALE: 1:10

ZURN Z1290 EASTERN STYLE WATER CLOSET

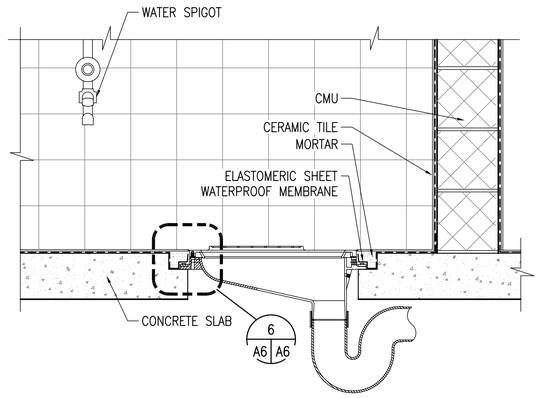


4 A6 A6 **LAVATORY DETAIL**

SCALE: NTS

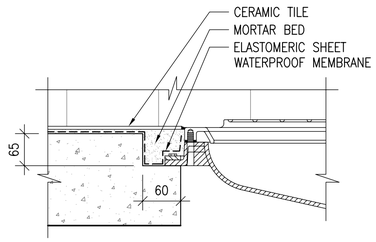
NOTE: WALL MEMBRANE LAPS OVER PAN MEMBRANE

TCA METHOD: B417



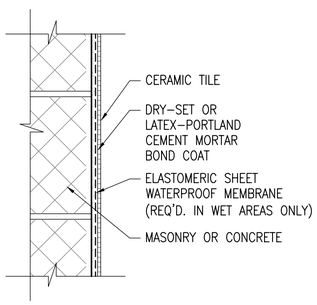
5 A1 A6 **THIN SET LATRINE**

SCALE: 1:10



6 A6 A6 **MOUNTING DETAIL**

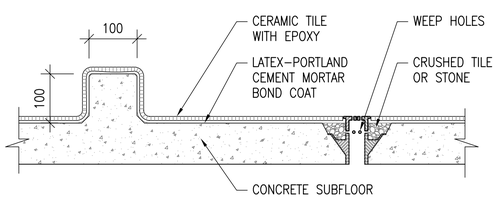
SCALE: NTS



7 A6 A6 **WALL DETAIL**

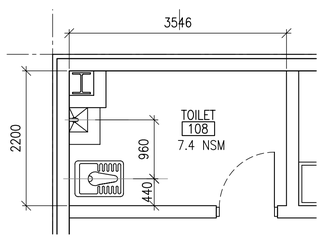
SCALE: NTS

TCA METHOD: W222



8 A6 A6 **THIN SET CURB DETAIL**

SCALE: 1:5



9 A1 A6 **ENLARGED TOILET PLAN**

SCALE: 1:50

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

0 100 200 400

SCALE: 1: 5

0 200 400 800

SCALE: 1: 10

0 400 800 1600

SCALE: 1: 20

0 1000 2000 4000

SCALE: 1: 50

US Army Corps of Engineers

Afghanistan Engineer District

APP	DATE	DESCRIPTION	SYMBOL

DESIGNED BY: DLB	DATE: 09-30-09		
DWN BY: ECN	SUBMITTED BY: BAKER	CHK BY: NLJ	FILE NO.: ANPSDA-506XXX

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A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
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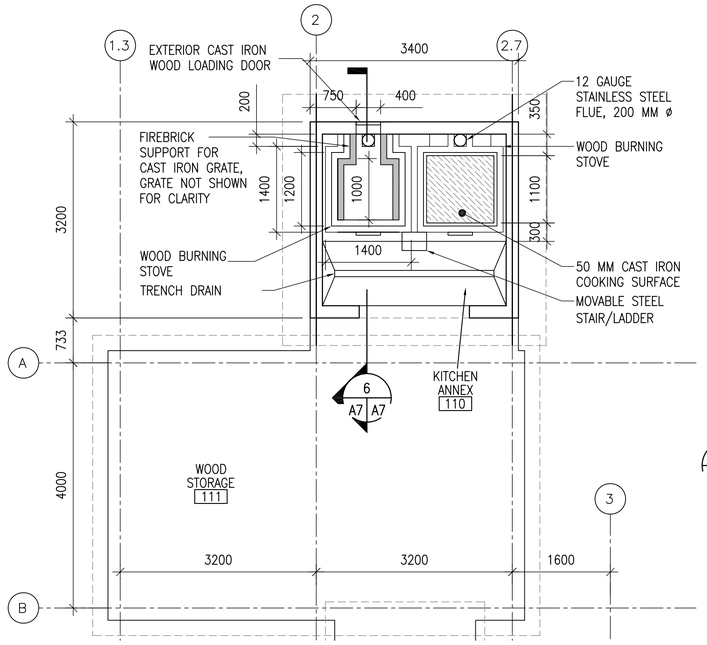
WOOD FIRED HEAT OPTION

LATRINE DETAILS

SHEET REFERENCE NUMBER:

A6

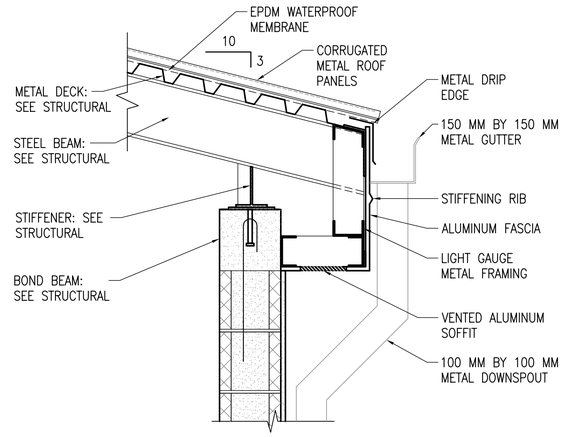
100% SUBMISSON



1 A1 A7 **ENLARGED KITCHEN ANNEX PLAN**

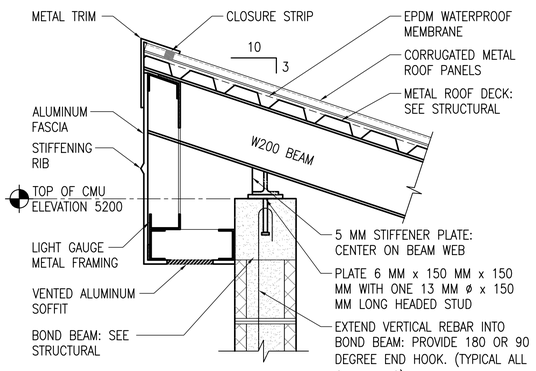
SCALE: 1:50

NOTE: SEE SHEET A2 FOR ROOF PLAN



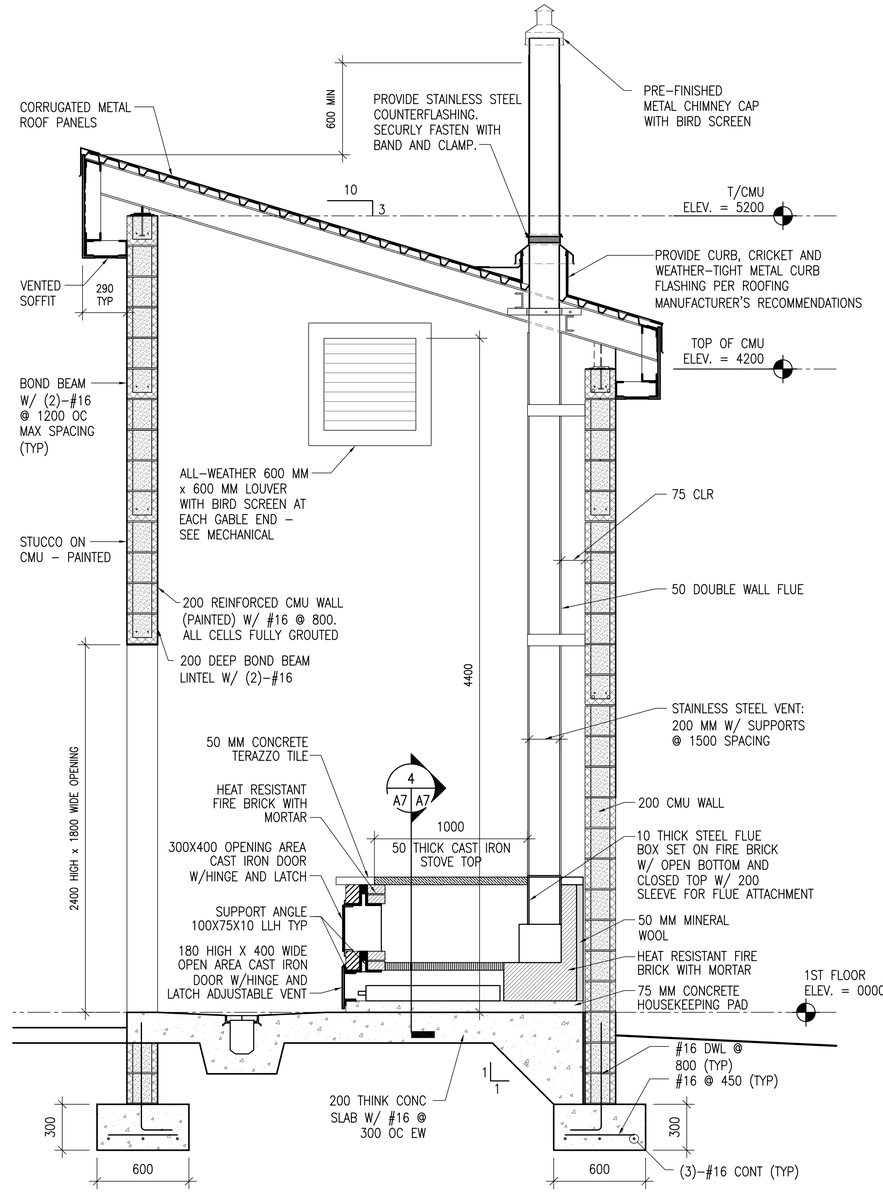
2 A7 A7 **LOWER EAVE DETAIL**

SCALE: 1:10



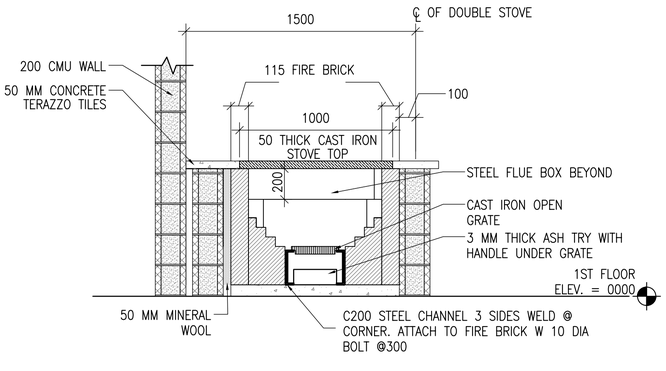
3 A7 A7 **UPPER EAVE DETAIL**

SCALE: 1:10



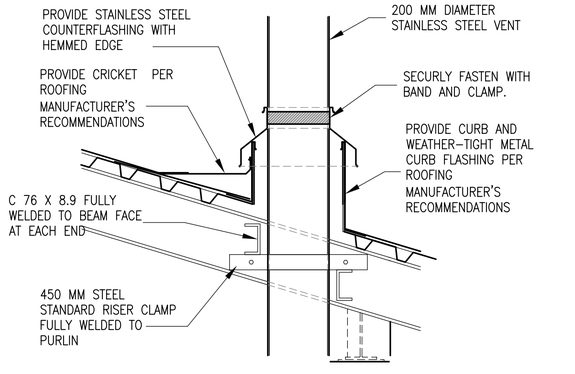
6 A7 A7 **KITCHEN ANNEX SECTION**

SCALE: 1:20



4 A7 A7 **FIRE BOX SECTION**

SCALE: 1:20



5 A7 A7 **ROOF CURB AND FLASHING AT CHIMNEY**

SCALE: 1:10

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

0 200 400 800
SCALE: 1: 10

0 400 800 1600
SCALE: 1: 20

0 1000 2000 4000
SCALE: 1: 50

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: DLB	DATE: 09-30-09
DWN BY: ECN	SUBMITTED BY: BAKER
CHK BY: NLJ	FILE NO.: ANPSDA-507XXX

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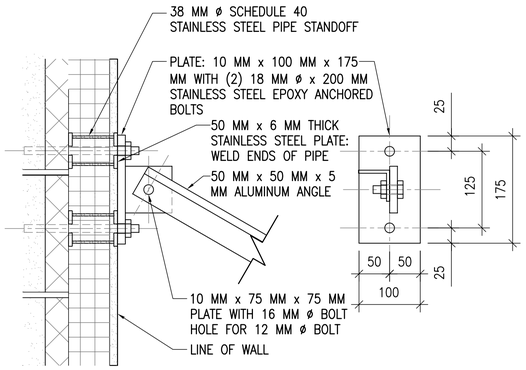
WOOD FIRED HEAT OPTION

DFAC ENLARGED KITCHEN ANNEX AND WOOD STORAGE PLANS AND DETAILS

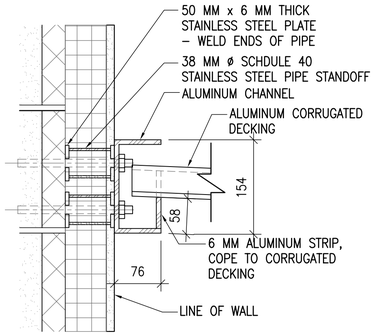
SHEET REFERENCE NUMBER:
A7

100% SUBMISSON



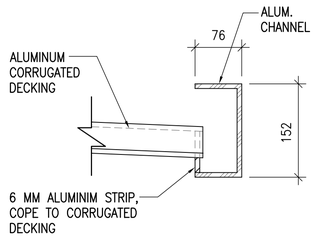
3 A8 A8 TOP CONNECTION DETAIL

SCALE: 1:5



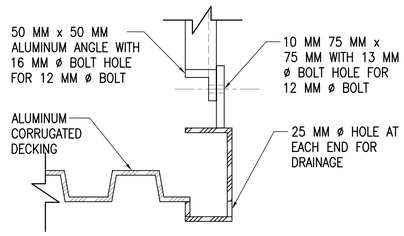
4 A8 A8 BOTTOM CONNECTION DETAIL

SCALE: 1:5



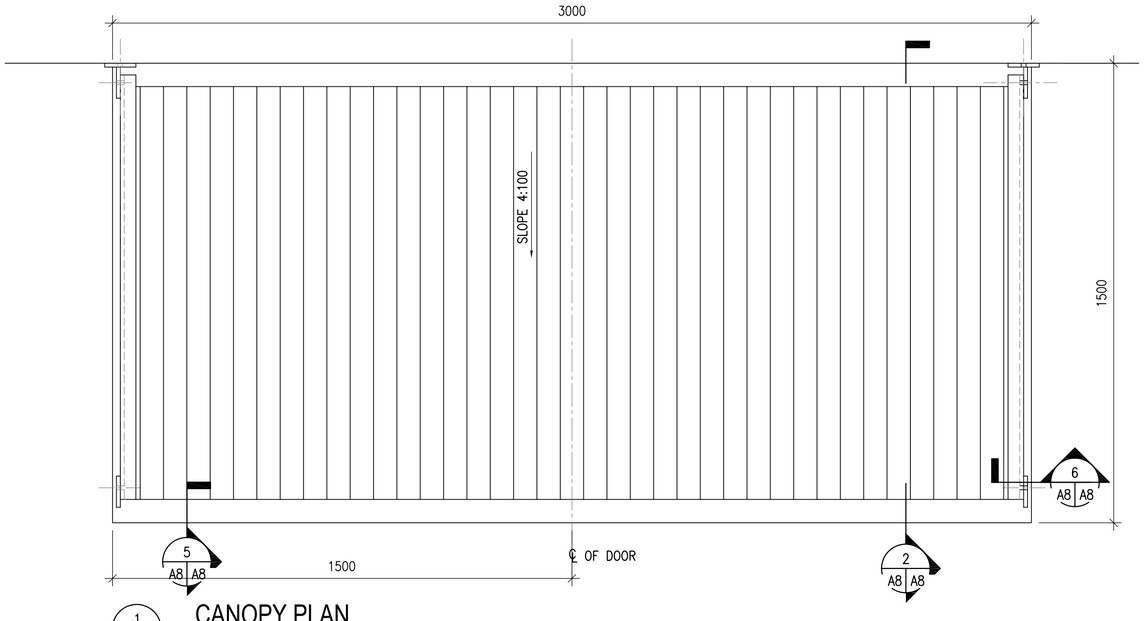
5 A8 A8 FRONT SECTION

SCALE: 1:5



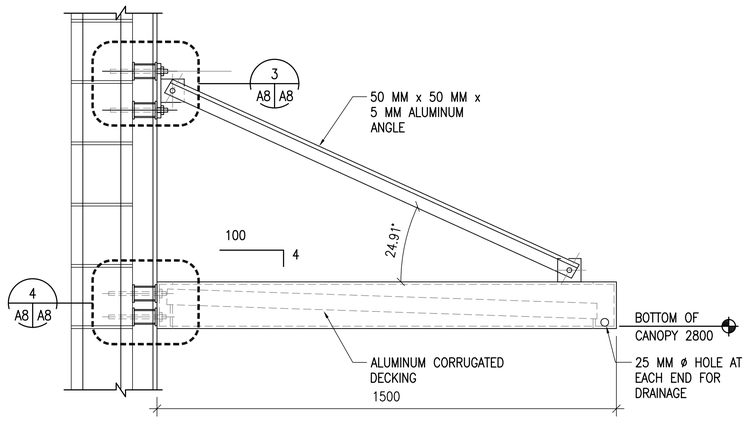
6 A8 A8 SIDE SECTION

SCALE: 1:5 1 AS SHOWN 1 OPP. HAND



1 A8 A8 CANOPY PLAN

SCALE: 1:10



2 A8 A8 CANOPY SECTION

SCALE: 1:10

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

0 100 200 400

SCALE: 1: 5

0 200 400 800

SCALE: 1: 10

US Army Corps of Engineers

Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: DLB	DATE: 09-30-09		
DWN BY: ECN	SUBMITTED BY: BAKER	CHK BY: NLJ	FILE NO.: ANPSDA-508XXX

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100 Airside Drive
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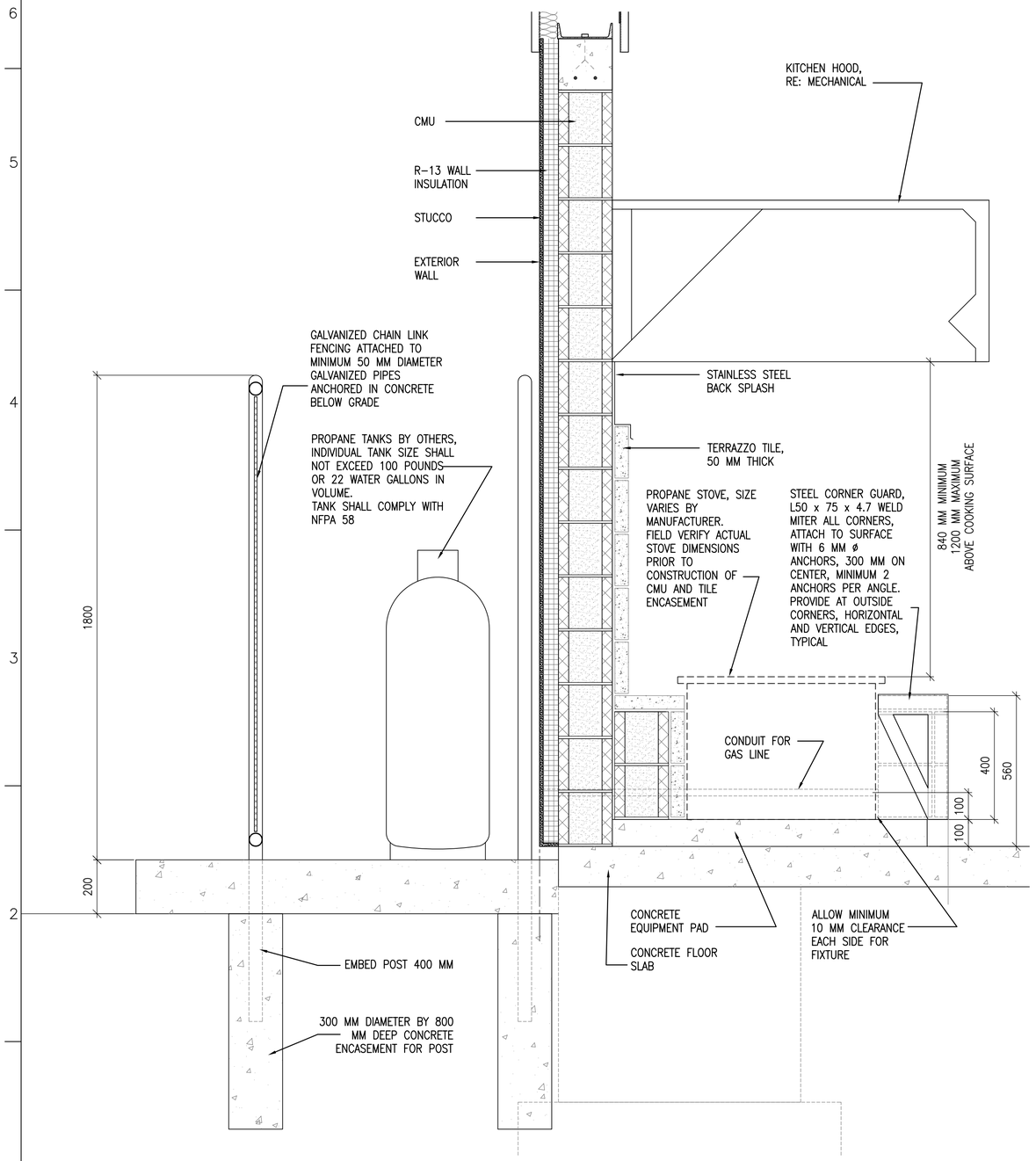
WOOD FIRED HEAT OPTION

MISCELLANEOUS DETAILS

SHEET REFERENCE NUMBER:

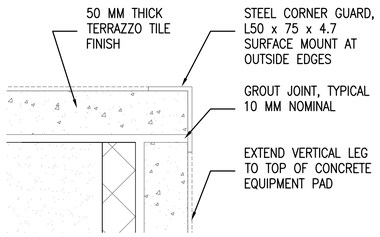
A8

100% SUBMISSON



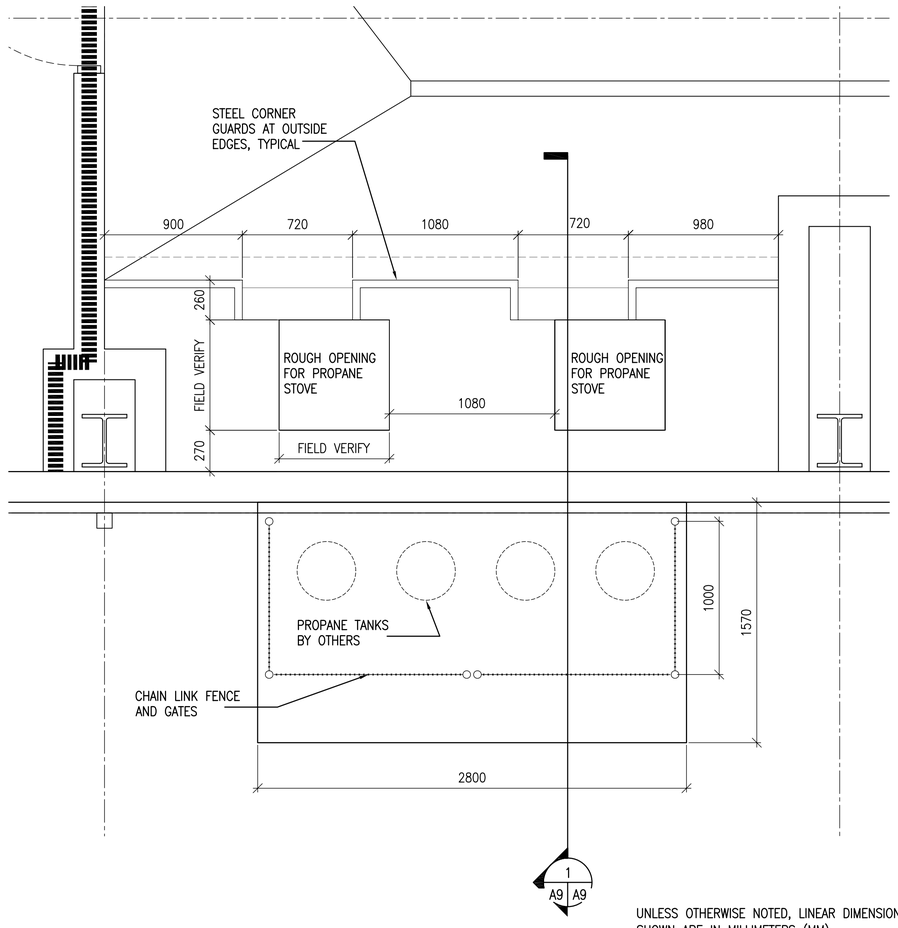
1 A9 A9 PROPANE STOVE ENCASEMENT SECTION

SCALE: 1:20



2 A9 A9 CORNER GUARD DETAIL

SCALE: NOT TO SCALE



1 A9 A9

3 A1 A9 PROPANE STOVE ENCASEMENT PLAN

SCALE: 1:10

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

0 400 800 1600

SCALE: 1: 20

0 200 400 800

SCALE: 1: 10

US Army Corps of Engineers

Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: NLJ	DATE: 09-30-09
DWN BY: NLJ	SUBMITTED BY: BAKER
CHK BY: NLJ	FILE NO.: ANPSDA-509XXX

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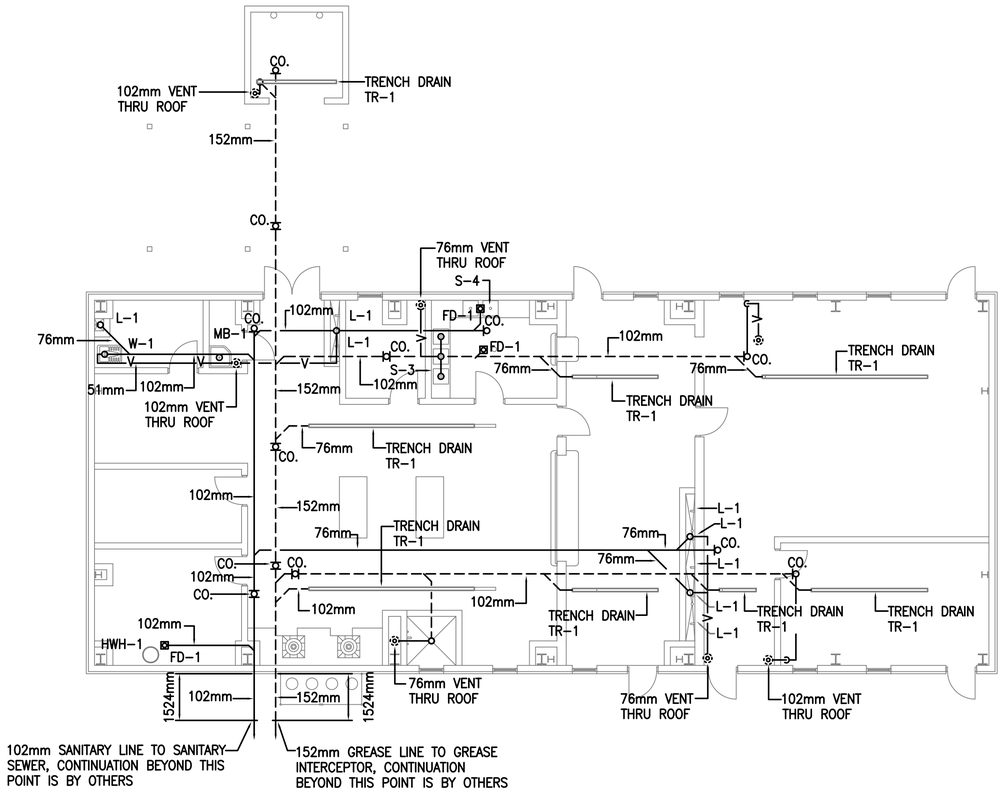
WOOD FIRED HEAT OPTION

ENLARGED PROPANE STOVE PLAN AND DETAILS

SHEET REFERENCE NUMBER:

A9

100% SUBMISSON

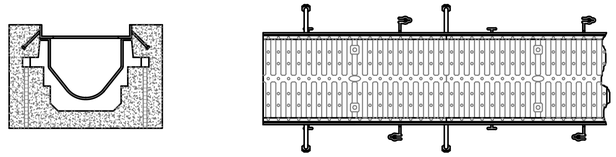


1 P1 P1 DFAC, KITCHEN ANNEX, AND WOOD STORAGE FLOOR PLAN - PLUMBING (SANITARY)

SCALE: 1:100

FLOOR PLAN NOTES:

1. DO NOT SCALE DRAWINGS – ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
2. ALL WORK PERFORMED ON THIS BUILDING SHALL BE IN COMPLIANCE WITH ALL PERTINENT CODES, RULES, ORDINANCES AND REGULATIONS OF THE GOVERNING AUTHORITIES.
3. ALL WORK PERFORMED UNDER AND IN CONNECTION WITH THESE DRAWINGS AND SPECIFICATIONS SHALL BE IN STRICT COMPLIANCE WITH THE LATEST SAFETY AND HEALTH STANDARDS.
4. REPORT ANY DISCREPANCIES FOUND IN THE PLUMBING DRAWINGS AND/OR IN THE SPECIFICATIONS DURING THE BIDDING PROCESS FOR CLARIFICATION BY THE ENGINEER.
5. ALL EASTERN STYLE WATER CLOSETS IN THIS FACILITY ARE TO HAVE THE FIXTURE DESIGNATION OF W-1. EACH FIXTURE SHALL HAVE A (1) INCH (25mm) COLD WATER CONNECTION AND A (4) INCH (102mm) SANITARY CONNECTION.
6. ALL TROUGH FIXTURES IN THIS FACILITY ARE TO HAVE THE FIXTURE DESIGNATION OF L-1. EACH FIXTURE SHALL HAVE A (1/2 INCH) (13mm) COLD WATER, (1/2 INCH) (13mm) HOT WATER CONNECTION AND A (3 INCH) (76mm) SANITARY CONNECTION.
7. PLUMBING CONTRACTOR TO PROVIDE WATER HAMMER ARRESTORS AT ALL WATER CLOSETS.
8. PLUMBING CONTRACTOR TO PROVIDE TRAP PRIMERS AND 1/2" (13mm) COLD WATER LINES FOR ALL FLOOR DRAINS. COLD WATER LINES TO BE UNDER THE FLOOR FROM TRAP PRIMERS TO TRAPS ON FLOOR DRAINS.
9. REFER TO SHEET P4 FOR DETAILS AND SYMBOLS.
10. ALL WATER LINES TO BE EXPOSED. RUN LINES TIGHT TO CEILING AND WALL.
11. ALL FIXTURES TO BE "LOW FLOW EFFICIENT TYPE".



NOTE:
COORDINATE DEPTH, WIDTH, AND SLOPE OF TRENCH DRAIN WITH ARCHITECTURAL PLANS.

2 P1 P1 TRENCH DRAIN DETAIL

SCALE: NO SCALE

LEGEND

COLD WATER

HOT WATER

SANITARY ABOVE GROUND

GREASE WASTE UNDER GROUND

VENT LINE — V —

1 0 1 2 3 4 5 6 7 8 9
1:100

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY: ---
DWN BY: ---
CHK BY: ---
DATE: 09-30-09
SUBMITTED BY: BAKER
FILE NO.: ANPSDP-101XXX

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Airside Business Park
100 Airside Drive
Moon Township, PA 15108
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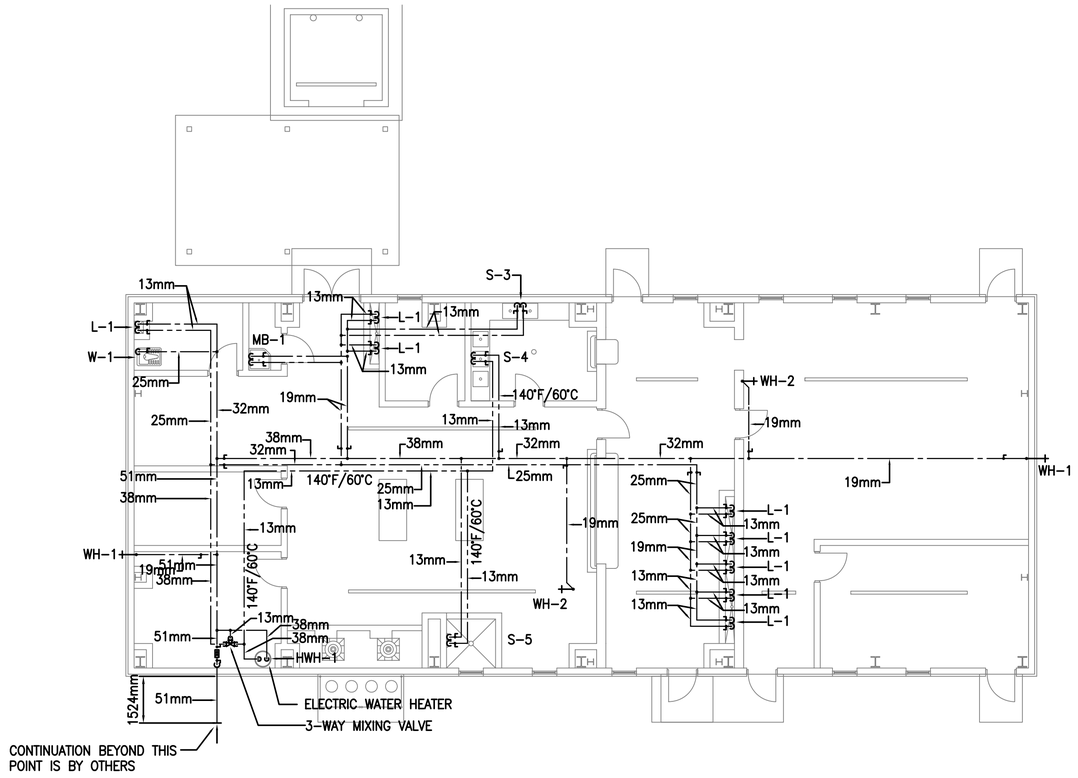
AFGHAN NATIONAL POLICE
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

FLOOR PLAN - PLUMBING

SHEET REFERENCE NUMBER:
P1

100% SUBMISSON



1 P1 P1 DFAC, KITCHEN ANNEX, AND WOOD STORAGE FLOOR PLAN - PLUMBING (WATER)

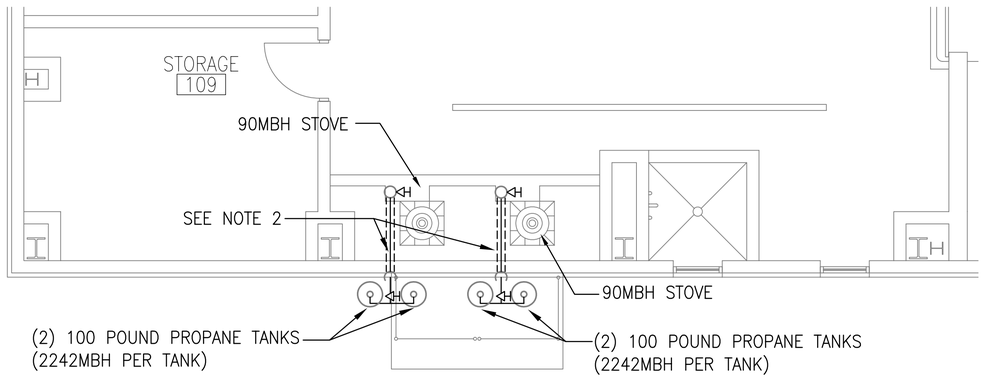
SCALE: 1:100

FLOOR PLAN NOTES:

1. DO NOT SCALE DRAWINGS – ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
2. ALL WORK PERFORMED ON THIS BUILDING SHALL BE IN COMPLIANCE WITH ALL PERTINENT CODES, RULES, ORDINANCES AND REGULATIONS OF THE GOVERNING AUTHORITIES.
3. ALL WORK PERFORMED UNDER AND IN CONNECTION WITH THESE DRAWINGS AND SPECIFICATIONS SHALL BE IN STRICT COMPLIANCE WITH THE LATEST SAFETY AND HEALTH STANDARDS.
4. REPORT ANY DISCREPANCIES FOUND IN THE PLUMBING DRAWINGS AND/OR IN THE SPECIFICATIONS DURING THE BIDDING PROCESS FOR CLARIFICATION BY THE ENGINEER.
5. ALL EASTERN STYLE WATER CLOSETS IN THIS FACILITY ARE TO HAVE THE FIXTURE DESIGNATION OF W-1. EACH FIXTURE SHALL HAVE A (1) INCH (25mm) COLD WATER CONNECTION AND A (4) INCH (102mm) SANITARY CONNECTION.
6. ALL TROUGH FIXTURES IN THIS FACILITY ARE TO HAVE THE FIXTURE DESIGNATION OF L-1. EACH FIXTURE SHALL HAVE A (1/2 INCH) (13mm) COLD WATER, (1/2 INCH) (13mm) HOT WATER CONNECTION AND A (3 INCH) (76mm) SANITARY CONNECTION.
7. PLUMBING CONTRACTOR TO PROVIDE WATER HAMMER ARRESTORS AT ALL WATER CLOSETS.
8. PLUMBING CONTRACTOR TO PROVIDE TRAP PRIMERS AND 1/2" (13mm) COLD WATER LINES FOR ALL FLOOR DRAINS. COLD WATER LINES TO BE UNDER THE FLOOR FROM TRAP PRIMERS TO TRAPS ON FLOOR DRAINS.
9. REFER TO SHEET P4 FOR DETAILS AND SYMBOLS.
10. ALL WATER LINES TO BE EXPOSED. RUN LINES TIGHT TO CEILING AND WALL.
11. ALL FIXTURES TO BE "LOW FLOW EFFICIENT TYPE".

NOTE:

1. SEE SHEET P4 FOR PROPANE PIPING ISOMETRIC AND TANK SUPPORT.
2. EXTEND PROPANE LINE THRU WALL IN PIPE SLEEVE TO A POINT 100mm ABOVE FINISH FLOOR. PIPE SHALL TERMINATE IN FRONT OF PROPANE STOVE WITH SHUT OFF VALVE AND QUICK DISCONNECT NIPPLE.



2 P1 P1 PARTIAL DFAC, KITCHEN ANNEX, AND WOOD STORAGE FLOOR PLAN - PLUMBING (PROPANE)

SCALE: 1:50

LEGEND

- COLD WATER
- HOT WATER
- SANITARY ABOVE GROUND
- GREASE WASTE UNDER GROUND
- VENT LINE

1 0 1 2 3 4 5 6 7 8 9
1:100

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY: ---
DWN BY: ---
CHK BY: ---
DATE: 09-30-09
SUBMITTED BY: BAKER
FILE NO.: ANPSDP-102XXX

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A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

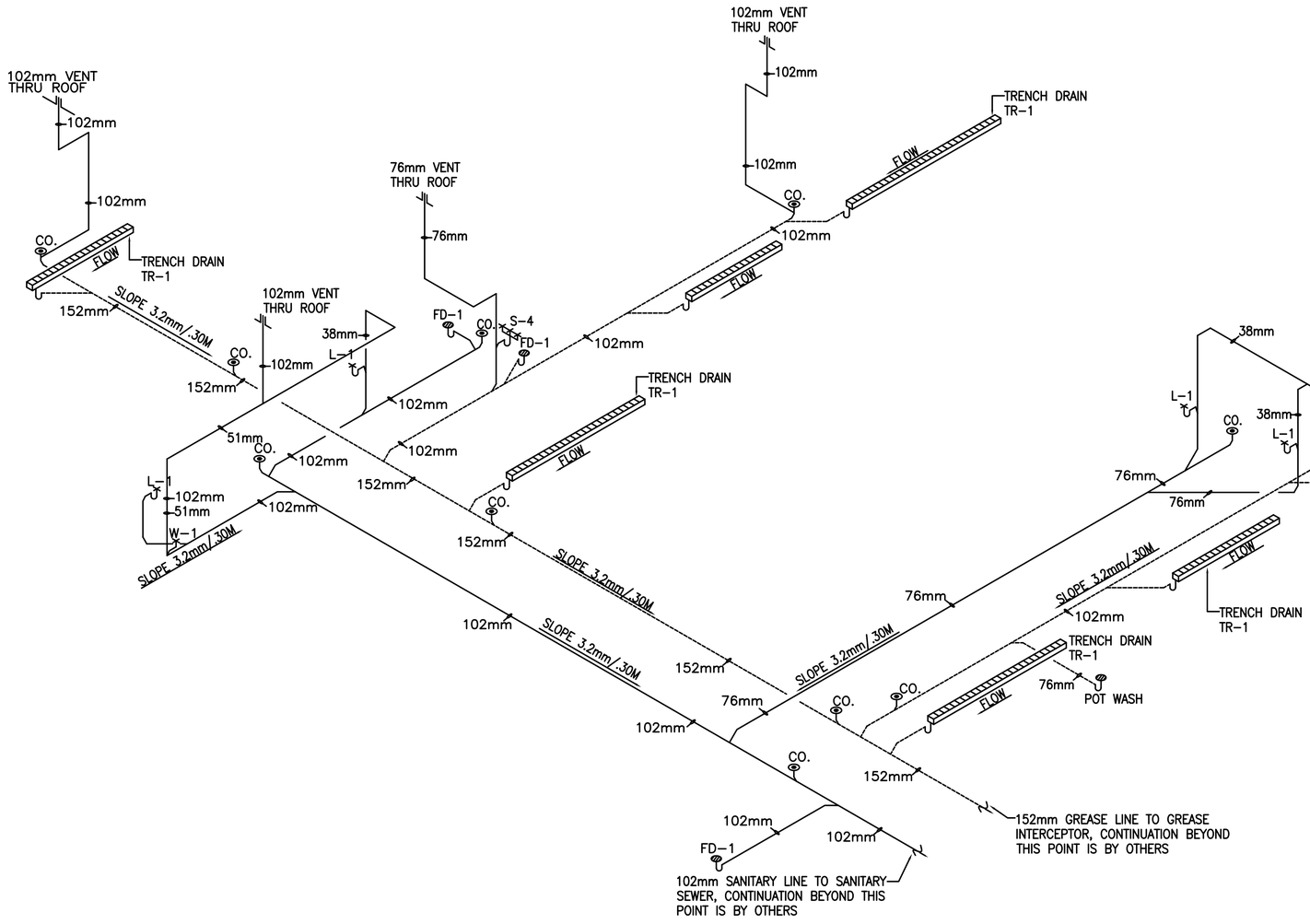
FLOOR PLAN - PLUMBING

SHEET REFERENCE NUMBER:
P2

100% SUBMISSON

GENERAL NOTES:

1. DO NOT SCALE DRAWINGS – ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
2. ALL WORK PERFORMED ON THIS BUILDING SHALL BE IN COMPLIANCE WITH ALL PERTINENT CODES, RULES, ORDINANCES AND REGULATIONS OF THE GOVERNING AUTHORITIES.
3. ALL WORK PERFORMED UNDER AND IN CONNECTION WITH THESE DRAWINGS AND SPECIFICATIONS SHALL BE IN STRICT COMPLIANCE WITH THE LATEST SAFETY AND HEALTH STANDARDS.
4. REPORT ANY DISCREPANCIES FOUND IN THE PLUMBING DRAWINGS AND/ OR IN THE SPECIFICATIONS DURING THE BIDDING PROCESS FOR CLARIFICATION BY THE ENGINEER.



DFAC, KITCHEN ANNEX, AND WOOD STORAGE FLOOR PLAN - DRAINAGE ISOMETRIC

1 / P3 | P3

SCALE: NOT TO SCALE

LEGEND

- COLD WATER
- HOT WATER
- SANITARY ABOVE GROUND
- SANITARY UNDER GROUND
- VENT LINE — V —

1 0 1 2 3 4 5 6 7 8 9

1:100

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY: ---	DATE: 09-30-09	FILE NO.: ANPSDP-903XXX
DWN BY: ---	SUBMITTED BY: BAKER	
CHK BY: ---		

Michael Baker Jr., Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

DRAINAGE ISOMETRIC

SHEET REFERENCE NUMBER:
P3

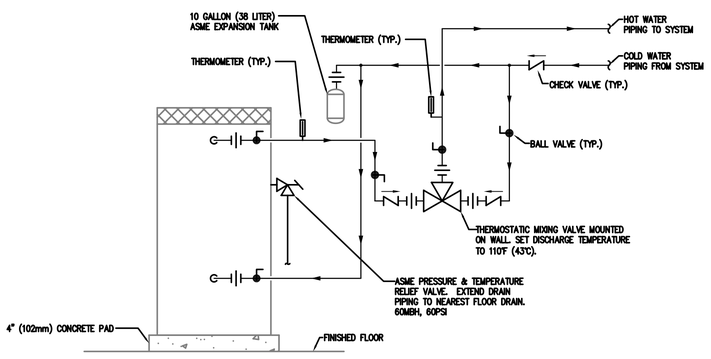
100% SUBMISSON

PLUMBING LEGEND – SYMBOLS AND ABBREVIATIONS

SANITARY SEWER PIPING	DEG. OR °	DEGREE	NO.	NUMBER
VENT PIPING (V)	DIA. OR ø	DIAMETER	OZ.	OUNCE
COLD WATER PIPING (CW)	E.C.	ELECTRICAL CONTRACTOR	O.D.	OUTSIDE DIAMETER
HOT WATER PIPING (HW)	°F	FAHRENHEIT	%	PERCENT
140° HOT WATER PIPING (HW)	GA.	GAGE OR GAUGE	PH. OR ø	PHASE (ELECTRICAL)
BALL VALVE	GAL.	GALLONS	P.C.	PLUMBING CONTRACTOR
UNION	G.P.H.	GALLONS PER HOUR	LBS.	POUNDS
WATER HAMMER ARRESTOR (WHA)	G.P.M.	GALLONS PER MINUTE	P.S.I.	POUNDS PER SQUARE INCH
BACKFLOW PREVENTER	HD.	HEAD	P.S.I.G.	POUNDS PER SQUARE INCH GAGE
CLEANOUT (CO.) OR	HP.	HORSEPOWER	PRESS.	PRESSURE
THERMOMETER	HR.	HOUR(S)	S.O.V.	SHUT-OFF VALVE
PRESSURE GAUGE (PG)	I.D.	INSIDE DIAMETER	SPEC.	SPECIFICATION
FLOOR DRAIN	KW.	KILOWATT	STD.	STANDARD
ROOF PENETRATION	M.B.H.	1,000 B.T.U./HR.	TEMP.	TEMPERATURE
	MIN.	MINIMUM	TYP.	TYPICAL
	N.C.	NORMALLY CLOSED	V.T.R.	VENT THROUGH ROOF
	N.O.	NORMALLY OPEN	V.	VOLT
	N.T.S.	NOT TO SCALE	VOL.	VOLUME
			W.	WATT

FIXTURE LIST

TYPE	ITEM	SOIL & WASTE	VENT	COLD WATER	HOT WATER	REMARKS	REMARKS 2
W-1	EASTERN STYLE WATER CLOSET	102mm	51mm	25mm	------	FLUSH VALVE	LOW FLOW EFFICIENT TYPE
L-1	TROUGH FIXTURE	38mm	38mm	13mm	13mm	FABRICATED IN FIELD	LOW FLOW EFFICIENT TYPE
L-2	LAVATORY	38mm	38mm	13mm	13mm	WALL HUNG FIXTURE	LOW FLOW EFFICIENT TYPE
SH-1	SHOWER	FLOOR DRAIN	------	13mm	13mm	PRIVATE SHOWER	LOW FLOW EFFICIENT TYPE
S-1	COUNTERTOP SINK	38mm	38mm	13mm	13mm	559mm x 635mm x 165mm STAINLESS STEEL	LOW FLOW EFFICIENT TYPE
S-2	WALL HUNG SINK	38mm	38mm	13mm	13mm	STAINLESS STEEL WALL HUNG TREATMENT ROOM SINK	LOW FLOW EFFICIENT TYPE
S-3	2-COMPARTMENT SINK	INDIRECT WASTE	------	13mm	13mm	STAINLESS STEEL PREP SINK	LOW FLOW EFFICIENT TYPE
S-4	3-COMPARTMENT SINK	38mm	38mm	13mm	13mm	STAINLESS STEEL DISHWASHING SINK	LOW FLOW EFFICIENT TYPE
S-5	POT WASH	38mm	38mm	13mm	13mm	STAINLESS STEEL DISHWASHING SINK	LOW FLOW EFFICIENT TYPE
MB-1	MOP BASIN	76mm	51mm	19mm	19mm	------	LOW FLOW EFFICIENT TYPE
HWH-1	WATER HEATER	---	---	SEE DWG.	SEE DWG.	151 LITER ELECTRIC WATER HEATER, 380/3ø, 24KW	----------



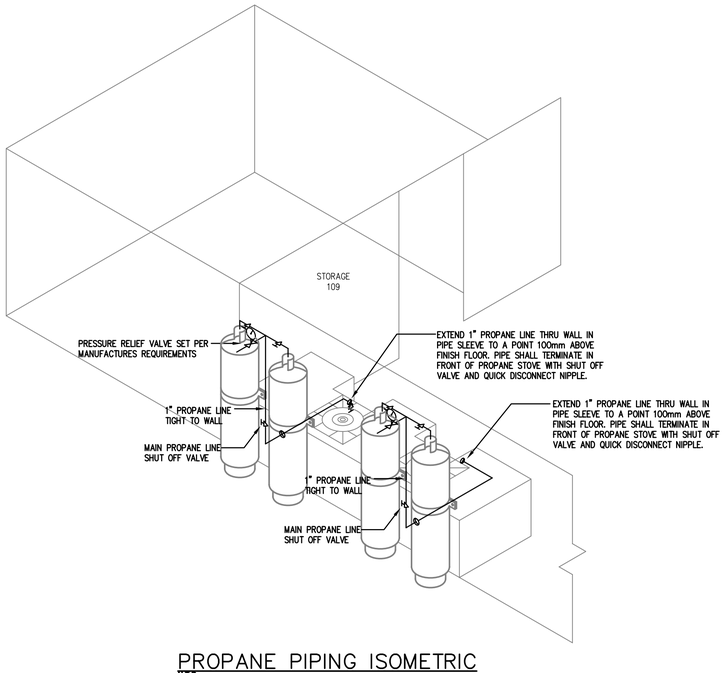
ELECTRIC WATER HEATER PIPING SCHEMATIC
NO SCALE

GENERAL PLUMBING KITCHEN NOTES:

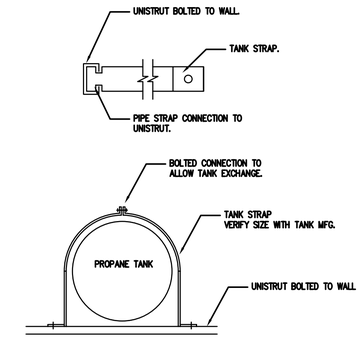
1. ALL ROUGH-INS AND FINAL PLUMBING CONNECTIONS SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE LATEST CODE REQUIREMENTS. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION AND COMPLIANCE WITH ALL APPLICABLE CODE REQUIREMENTS.
2. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL FAUCETS, VACUUM BREAKERS, CHECK VALVES, ETC. REQUIRED FOR ITEMS OF FOOD SERVICE EQUIPMENT THAT ARE NOT SUPPLIED AS PART OF THE EQUIPMENT, AND FOR PROVIDING FINAL CONNECTIONS TO SAME.
3. PLUMBING CONTRACTOR SHALL PROVIDE ALL FLOOR DRAINS, P-TRAPS, FLOOR SINKS, TRAPS, SHUT-OFF VALVES, SHOCK ABSORBERS, PIPING, GAUGES, FITTINGS, AND ANY ADDITIONAL PIPING AND/OR FITTINGS REQUIRED FOR EQUIPMENT INSTALLATION.

GENERAL PLUMBING NOTES:

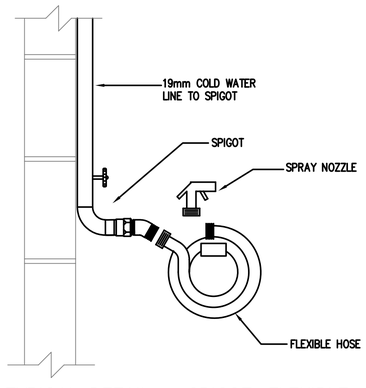
1. ALL SANITARY PIPING SHALL BE BELOW FLOOR, AND ALL WATER, AND VENT PIPING SHALL BE TIGHT TO CEILING, UNLESS OTHERWISE NOTED.
2. PLUMBING CONTRACTOR SHALL COORDINATE PLUMBING WORK WITH THE WORK OF ALL OTHER TRADES. VERIFY THE LOCATIONS OF ALL UTILITIES AT THE SITE PRIOR TO THE START OF ANY PLUMBING WORK.
3. COORDINATE ALL ACCESS PANEL LOCATIONS WITH THE ARCHITECT AND GENERAL CONTRACTOR.
4. ALL SANITARY PIPING BELOW SLAB SHALL BE A MINIMUM OF 51mm, UNLESS OTHERWISE NOTED OR AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
5. ALL SANITARY BRANCH LINES SHALL BE SLOPED AT 6mm PER 305mm, AND ALL MAIN LINES SHALL BE SLOPED AT 3mm PER 305mm, UNLESS OTHERWISE NOTED OR AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
6. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH ALL UTILITY AUTHORITIES FOR INSTALLATION REQUIRMENTS, REGULATIONS, FEES, PERMITS, AND APPROVALS BEFORE THE START OF CONSTRUCTION.
7. THE PLUMBING CONTRACTOR SHALL ROUGH-IN AND CONNECT ALL EQUIPMENT REQUIRING WATER, WASTE, AND/OR VENT WHETHER OR NOT FURNISHED UNDER THIS CONTRACT. THE PLUMBING CONTRACTOR SHALL ALSO FURNISH AND INSTALL ALL NECESSARY PIPE, FITTINGS, VALVES, TRAPS, ETC., REQUIRED FOR A COMPLETE INSTALLATION, LEAVING SAME READY FOR SERVICE.



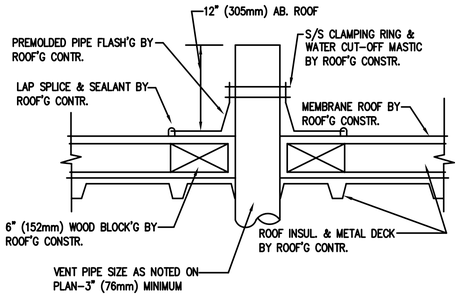
PROPANE PIPING ISOMETRIC
N.T.S.



PROPANE TANK SUPPORT
N.T.S.



TYPICAL DETAIL – SPIGOT, FLEXIBLE HOSE, AND SPRAY NOZZLE
NO SCALE



TYPICAL DETAIL – VENT THRU ROOF
NO SCALE

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY: RMH	DWN BY: RMH	CHK BY: CJM III	
DATE: 09-30-09	SUBMITTED BY: BAKER	FILE NO.: ANPSDP-504XXX	

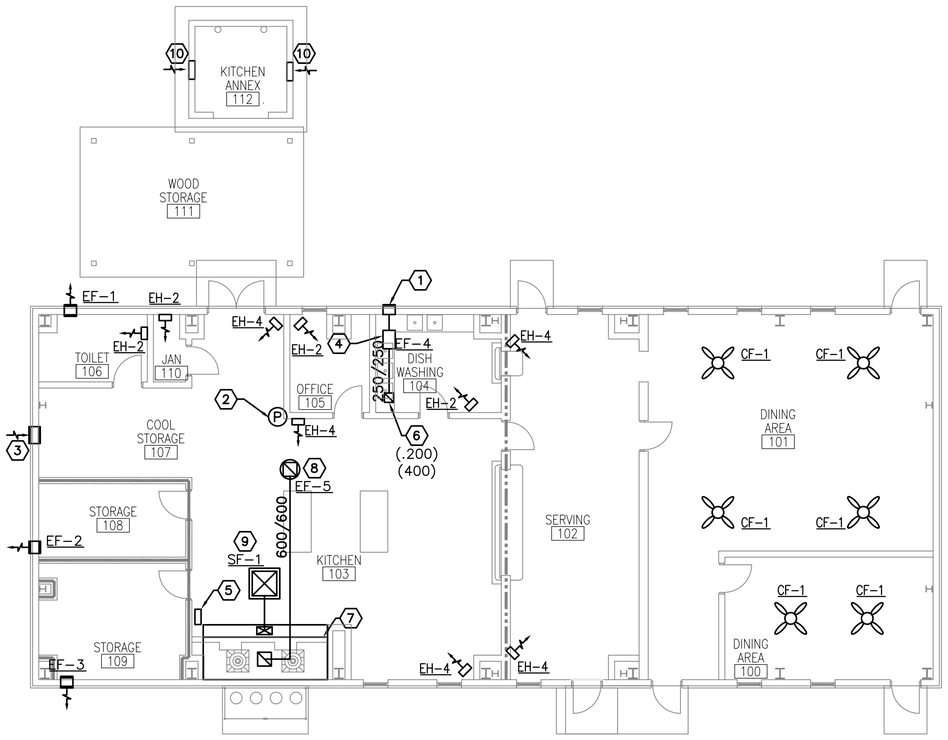
Michael Baker Jr, Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

PLUMBING SYMBOLS & ABBREVIATIONS, ISOMETRICS, SCHEMATICS & DETAILS

SHEET REFERENCE NUMBER:
P4

100% SUBMISSON



1 M1 | M1 FLOOR HVAC PLAN

SCALE: 1:100

GENERAL NOTES:

1. DO NOT SCALE DRAWINGS – ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
2. ALL WORK PERFORMED ON THIS BUILDING SHALL BE IN COMPLIANCE WITH ALL PERTINENT CODES, RULES, ORDINANCES AND REGULATIONS OF THE GOVERNING AUTHORITIES.
3. 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

EXHAUST AIR GRILLE

FAN SCHEDULE

NO.	TYPE	FAN CMS	DRIVE	HP	SP mmH20	ELECT. CHAR.	SWITCH
EF-1	WALL	0.050	DIRECT	FRACT	13	220/1/50	@ WALL
EF-2	WALL	0.050	DIRECT	FRACT	13	220/1/50	@ WALL
EF-3	WALL	0.050	DIRECT	FRACT	13	220/1/50	@ WALL
EF-4	INLINE	0.200	DIRECT	FRACT	13	220/1/50	@ WALL
EF-5	UPBLAST	2.500	DIRECT	2	25	220/1/50	@ HOOD
SF-1	SUPPLY	2.400	DIRECT	2	13	220/1/50	@ HOOD

NOTE:
1. EF-2 SHALL BE EXPLOSION PROOF.
2. INLINE FANS SHALL BE SURFACE MOUNTED WITH SPRING ISOLATORS.
3. ALL FINAL ELECTRICAL CONNECTIONS ARE BY THE ELECTRICAL CONTRACTOR.

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.

CEILING FAN

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

NOTES:
1. FINAL ELECTRICAL CONNECTIONS BY EC.

NUMBERED NOTE:

(1) WALL CAP PER FAN MFG.

(2) REMOTE PULL STATION FOR HOOD FIRE SUPRESSION SYSTEM.

(3) 400X400 (16X16) LOW LEAKAGE GRAVITY WALL LOUVER FOR RELIEF AIR.

(4) INLINE EXHAUST FAN, SECURED TO STRUCTURE ABOVE WITH SPRING ISOLATORS, DUCTED TO WALL CAP.

(5) HOOD FIRE SUPRESSION SYSTEM.

(6) 250x250 (10x10) EGC, BALANCE TO CMS (CFM) IN PARENTHESIS.

(7) 4M LONG UL RATED KITCHEN HOOD WITH UPBLAST EXHAUST FAN AND MAKE UP AIR FAN. HOOD SUPPLIED AND INSTALLED BY MC. SEE DETAILS ON M2. ALL FINAL ELECTRICAL CONNECTIONS SHALL BE BY E.C.

(8) UPBLAST EXHAUST FAN CONNECTED TO HOOD DUCT AS REQUIRED. FAN SHALL SET LEVEL ON ROOF CURB. SEE DETAILS ON M2. ALL FINAL ELECTRICAL CONNECTIONS SHALL BE BY E.C.

(9) FILTERED SUPPLY FAN SET LEVEL ON ROOF CURB. PROVIDE 500x500 DUCT DOWN TO FACE SUPPLY ON HOOD. MAINTAIN MIN. 3.1M BETWEEN EXHAUST AND INTAKE FANS. SEE DETAILS ON M2. ALL FINAL ELECTRICAL CONNECTIONS SHALL BE BY E.C.

(10) 600X600 (24X24) WALL LOUVER, VERIFY LOCATION WITH ARCHITECTURAL DRAWINGS.

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY: RML | DATE: 09-30-09
DWN BY: JJN | SUBMITTED BY: BAKER
CHK BY: CJM | FILE NO.: ANPSDM-101XXX

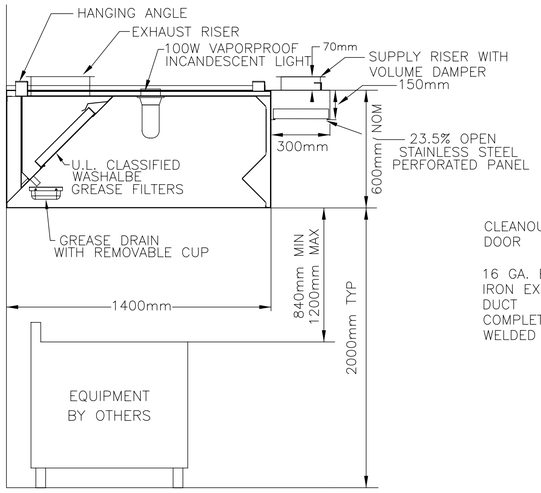
Michael Baker Jr., Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

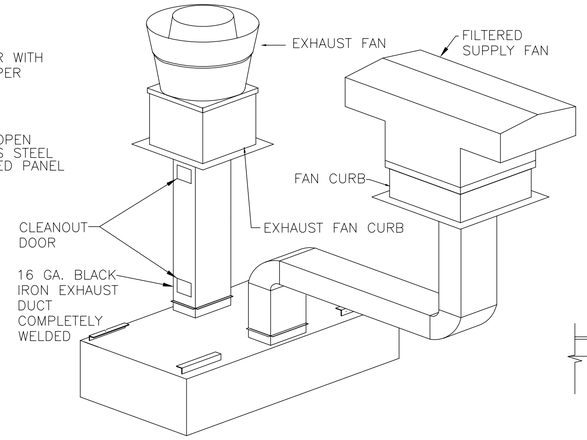
HVAC FLOOR PLAN

SHEET REFERENCE NUMBER:
M1

100% SUBMISSON

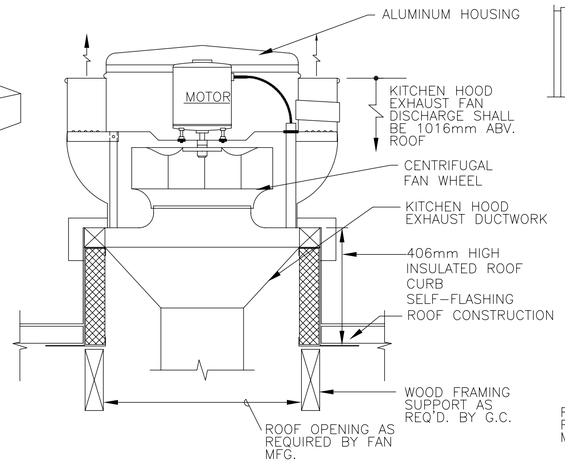


KITCHEN HOOD SECTION
N.T.S.

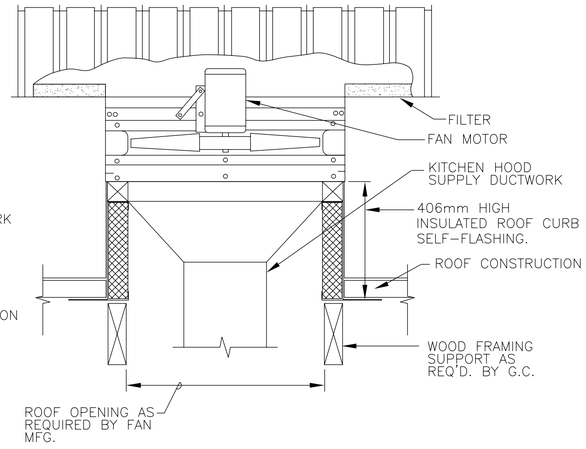


Correct Installation
1. EXHAUST DUCT STRAIGHT UP (IF DUCT CANNOT GO STRAIGHT UP USE OFFSETS)
2. FIRST ELBOW AT LEAST 450MM ABOVE HOOD
3. AT LEAST 1.2M BETWEEN ELBOWS
4. USE RADIUS BACK ELBOWS ONLY
5. DO NOT USE FLEXIBLE SUPPLY DUCTWORK.
6. INSULATE SUPPLY AND EXHAUST DUCTS.

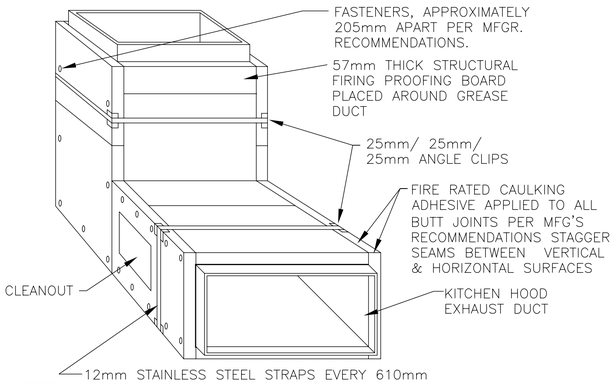
KITCHEN HOOD DUCT DETAIL
N.T.S.



KITCHEN ROOF EXHAUST FAN
N.T.S.

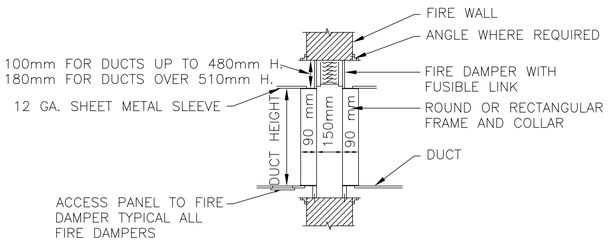


FILTERED SUPPLY FAN
N.T.S.

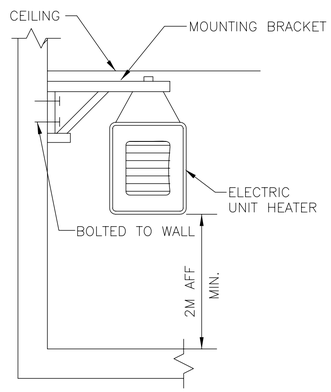


NOTES:
1. WHEN INSTALLING CLEANOUT DOOR COVER, USE REMOVABLE STAINLESS STEEL BANDS AT 305mm O.C. MAXIMUM (2 BANDS MINIMUM).
2. DUCT SYSTEM SHALL BE SLOPED PER NFPA REGULATIONS.
3. DUCT HANGERS AND SUPPORTS FOR HORIZONTAL & VERTICAL RUNS SHALL BE DESIGNED TO PROVIDE ADEQUATE SUPPORT FOR THE DUCT AND ENCLOSURE ACCORDING TO REQUIREMENTS OF THE BUILDING & MECHANICAL CODES.
4. LABELS SHALL BE PROVIDED BY THE ENCLOSURE MANUFACTURER AND BE PLACED ADJACENT TO ALL CLEANOUT OPENINGS WHICH STATE THAT COVER MUST BE REPLACED USING REMOVABLE STAINLESS STEEL BANDS AT 305mm O.C. MAXIMUM (2 BANDS MINIMUM).
5. DUCT AND ENCLOSURE SHALL BE SUPPORTED BY HANGERS FROM BUILDING STRUCTURAL STEEL. MAXIMUM DISTANCE BETWEEN SUPPORTS SHALL BE 1220mm.
6. PROVIDE 40mm GREASE DUCT INSULATION ON ALL KITCHEN EXHAUST DUCTS.

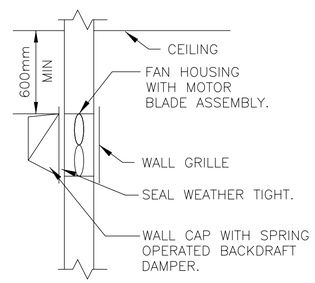
KITCHEN HOOD EXHAUST DUCT
N.T.S.



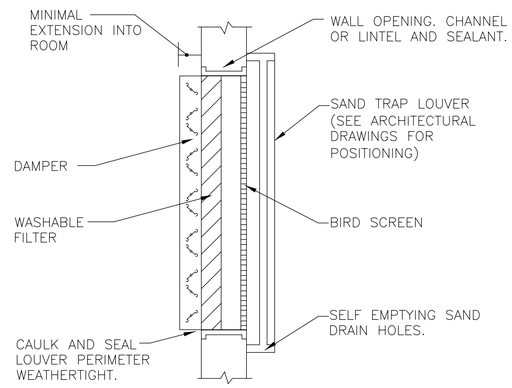
FIRE DAMPER DETAIL
N.T.S.



ELECTRIC UNIT HEATER MOUNTING
N.T.S.



WALL MOUNTED EXHAUST FAN DETAIL
N.T.S.



FILTERED SAND TRAP LOUVER
N.T.S.

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: RML	DATE: 09-30-09
DWN BY: JJN	SUBMITTED BY: BAKER
CHK BY: CJM	FILE NO.: ANPSDM-502XXX

Michael Baker Jr, Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
DINING FACILITIES BUILDING (384 GSM)
WOOD FIRED HEAT OPTION

HVAC DETAILS

SHEET REFERENCE NUMBER:
M2

100% SUBMISSON

POWER

- DISTRIBUTION PANELBOARD
- NEW PANELBOARD – SURFACE
- NEW PANELBOARD – RECESSED
- EXISTING PANELBOARD
- (G) GENERATOR
- TVSS TRANSIENT VOLTAGE SURGE SURPRESSOR
- TRANSFORMER (DRAWN TO SIZE)
- PS POWER SUPPLY
- CP CONTROL PANEL
- TC TIME CLOCK
- TIM ASTRONOMICAL TIME CLOCK– "SEE SPEC."
- R RELAY WITH RATING AND NUMBER OF POLES AS NOTED ON DRAWINGS– "SEE SPEC."
- J JUNCTION BOX
- (J) JUNCTION BOX – CEILING
- PB PULL BOX
- BD BUS DUCT HORIZONTAL
- BUS DUCT VERTICAL
- EMERGENCY POWER OFF PUSH BUTTON
- NON–FUSIBLE SAFETY SWITCH
- FUSIBLE SAFETY SWITCH
- (M) MOTOR
- ^{M} MOTOR STARTING SWITCH – 20A RATED
- ^{K} KEY SWITCH – 20A RATED
- FC FAN COIL – FURNISHED BY MECHANICAL CONTRACTOR, ELECTRICAL CONTRACTOR SHALL INSTALL AND PROVIDE POWER CONNECTION
- UH UNIT HEATER – FURNISHED BY MECHANICAL CONTRACTOR, ELECTRICAL CONTRACTOR SHALL INSTALL AND PROVIDE POWER CONNECTION
- D JUNCTION BOX FOR CONNECTION TO GARBAGE DISPOSAL
- CF LIGHT/HEATER/FAN – FURNISHED BY MECHANICAL CONTRACTOR, ELECTRICAL CONTRACTOR SHALL INSTALL AND PROVIDE POWER CONNECTION
- ELECTRIC WATER HEATER
- EPO WEATHERPROOF / EXPLOSION PROOF EMERGENCY POWER OFF PUSH–BUTTON TO BE INTERCONNECTED WITH GENERATOR SHUT DOWN CONTROL
- CF CEILING FAN – REFER TO SPECIFICATION SECTION 26 20 00

RECEPTACLES

- DUPLEX 20A BRITISH STANDARD UNSWITCHED SOCKETS
- $_{GF}$ DUPLEX 20A BRITISH STANDARD UNSWITCHED SOCKETS – 10mA GROUND FAULT INTERRUPTER TYPE
- $_{WP}$ DUPLEX 20A BRITISH STANDARD UNSWITCHED SOCKETS – 10mA GROUND FAULT INTERRUPTER TYPE WITH WEATHERPROOF COVER
- $_{EXP}$ DUPLEX 20A BRITISH STANDARD UNSWITCHED SOCKETS – EXPLOSION PROOF
- * INDICATES MOUNT DEVICE ABOVE COUNTER TOP

LIGHTNING PROTECTION

- AIR TERMINAL 20mm O.D. X 4m SOLID COPPER, NICKEL PLATED ON ADHESIVE BASE.
- EQ EQUIPMENT AIR TERMINAL
- TEST WELL WITH GROUND ROD(S)
- GROUND ROD
- G GROUND PLATE
- MAIN GROUND CONDUCTER CONCEALED WITHIN CONSTRUCTION
- MAIN GROUND CONDUCTOR EXPOSED ON EXPOSED ON BUILDING EXTERIOR SURFACE
- GROUND CONDUCTOR CAD WELDED TO GROUND CABLE OR EQUIPMENT
- GROUND CONDUCTOR CAD WELDED TO BUILDING STEEL COLUMN
- GROUND ROD TRIPOD, SPACED 10 FEET APART.
- LEVEL TO LEVEL CABLE

LIGHTING

- LIGHTING FIXTURE – SEE FIXTURE SCHEDULE FOR MORE INFORMATION
- LIGHTING FIXTURE – SEE FIXTURE SCHEDULE FOR MORE INFORMATION
- DOWNLIGHT
- LIGHTING FIXTURE ON NORMAL/EMERGENCY
- WALL MOUNTED LIGHT FIXTURE
- E EXIT SIGN – DIRECTIONAL ARROWS AS INDICATED ON DRAWINGS
- B BATTERY PACK WITH HEADS AS INDICATED ON DRAWINGS
- REMOTE HEAD FOR BATTERY PACK
- $ SINGLE POLE SWITCH – 20A RATED
- ^{3} 3–WAY SWITCH – 20A RATED
- ^{4} 4–WAY SWITCH – 20A RATED
- PC PHOTOCELL VOLTAGE TO MATCH CIRCUITRY
- LC LIGHTING CONTACTOR
- POLE MOUNTED SITE LIGHTING FIXTURE– NUMBER OF FIXTURES PER POLE AS INDICATED ON DRAWINGS
- EXTERIOR DIRECTIONAL LIGHTING FIXTURE
- a SMALL CASE LETTERS REPRESENTS LAMP(S) / SWITCHES. WHEN USED WITH AN OCCUPANCY SENSOR THIS INDICATES SENSOR WITH MANUAL OVERRIDE SWITCH

TELECOMMUNICATIONS

- TELEPHONE OUTLET(S) @ 18" AFF. U.N.O. WITH 3/4" RACEWAY TERMINATED ABOVE NEAREST ACCESSIBLE CEILING OR TO TELEPHONE TERMINAL BOARD IF NO ACCESSIBLE CEILING AVAILABLE. SEE TELE/DATA RISER DIAGRAM FOR OUTLET AND CABLE DESCRIPTION
- DATA OUTLET(S) @ 18" AFF. U.N.O. WITH 3/4" RACEWAY TERMINATED ABOVE NEAREST ACCESSIBLE CEILING OR TO DATA EQUIPMENT RACK IF NO ACCESSIBLE CEILING AVAILABLE. SEE TELE/DATA RISER DIAGRAM FOR OUTLET AND CABLE DESCRIPTION

TELECOMMUNICATIONS (CONTINUED)

- COMBINATION TELEPHONE/DATA OUTLET(S) @ 18" AFF. U.N.O. WITH 1" RACEWAY TERMINATED ABOVE NEAREST ACCESSIBLE CEILING OR TO TELE/DATA TERMINAL AREA IF NO ACCESSIBLE CEILING AVAILABLE. SEE TELE/DATA RISER DIAGRAM FOR OUTLET AND CABLE DESCRIPTION
- W WALL MTD. TELEPHONE OUTLET WITH 3/4" RACEWAY TERMINATED ABOVE NEAREST ACCESSIBLE CEILING OR TO TELEPHONE TERMINAL BOARD IF NO ACCESSIBLE CEILING AVAILABLE. SEE TELE/DATA RISER DIAGRAM FOR OUTLET AND CABLE DESCRIPTION
- (x)T INDICATES NUMBER OF TELEPHONE OUTLET(S) AND ASSOCIATED CABLING
- (x)D INDICATES NUMBER OF DATA OUTLET(S) AND ASSOCIATED CABLING
- (x)TF INDICATES NUMBER OF TELEPHONE OUTLETS AND ASSOCIATED CABLING WITH 1 OUTLET AND CABLE DEDICATED FOR FAX

SINGLE LINE SYMBOLS

- SWITCH
- BREAKER
- FUSE
- TRANSFORMER
- CAPACITOR
- GROUND
- CONTACT (NORMALLY OPEN)
- CONTACT (NORMALLY CLOSED)
- AUTOMATIC TRANSFER SWITCH
- MANUAL DOUBLE THROW SWITCH
- CURRENT TRANSFORMER
- INDICATES NEW ELECTRICAL EQUIPMENT
- C INDICATES NEW CONTROL WIRING AND CONDUIT
- EQUIPMENT OUTLINE

MISCELLANEOUS

- BRANCH CIRCUIT WIRING CONCEALED ABOVE CEILINGS, SURFACE MOUNTED ON WALLS
- BRANCH CIRCUIT WIRING – #10 AWG
- BRANCH CIRCUIT WIRING – UNDER FLOOR
- HOME RUN BACK TO PANEL
- CONDUIT TURNED DOWN
- CONDUIT TURNED UP
- LV LOW VOLTAGE WIRING AND CONDUIT
- CT–X CABLE TRAY ("X" DENOTES WIDTH)
- INDICATES CONTINUATION OF LINE

FIRE ALARM

- FACP FIRE ALARM CONTROL PANEL WITH BATTERY BACKUP
- F FIRE ALARM PULL STATION

FIRE ALARM (CONTINUED)

- F FIRE ALARM STROBE – WALL MOUNTED
- F FIRE ALARM AUDIBLE/STROBE – WM
- F FIRE ALARM HORN/STROBE – WM
- S SMOKE DETECTOR
- H HEAT DETECTOR CEILING MOUNTED
- D DUCT DETECTOR – PROVIDED BY EC, INSTALLED BY MC AND CONNECTED BY EC

DENOTATIONS & ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
C	CEILING MOUNTED
E	EMERGENCY
EC	ELECTRICAL CONTRACTOR
EPO	EMERGENCY POWER OFF
EXP	EXPLOSION PROOF
F	FIRE ALARM
FF	FLUSH FLOOR MOUNTED
FL	FLUORESCENT
FO	FIBER OPTIC
FSS	FUSED SAFETY SWITCH
G	GROUND FAULT INTERRUPTER
GC	GENERAL CONTRACTOR
HOA	HAND–OFF AUTO
I	INFRARED
ICD	INCANDESCENT
IG	ISOLATED GROUND
K	KEY
LV	LOW VOLTAGE
M	MOTOR
MC	MECHANICAL CONTRACTOR
NE	NORMAL/EMERGENCY
NFSS	NON–FUSED SAFETY SWITCH
PA	PAGING SYSTEM
PLC	PLUMBING CONTRACTOR
REL	RELOCATE
RED	RELOCATED
SL	SINGLE LINE
SS	SURGE SUPPRESSION
T	TELEPHONE
TL	TWIST LOCK

DENOTATIONS & ABBREVIATIONS (CONT.)

TP	TAMPER PROOF
UE	UNDERGROUND ELECTRIC
UF	UNDERGROUND FIBER
UT	UNDERGROUND TELEPHONE
W	WALL MOUNTED
WG	WIRE GUARD
WP	WEATHERPROOF
WPG	WEATHERPROOF/GROUND FAULT INTERRUPTER
WT	WATER TIGHT

GENERAL PROJECT NOTES:

G1. UNLESS OTHERWISE NOTED, PROVIDE ALL EQUIPMENT SHOWN ON THE PLANS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL SYMBOLS SHOWN ON THE PLANS WITH THE SYMBOL LIST. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE INTENT OF ANY SYMBOL THAT IS SHOWN ON THE PLANS AND NOT INDICATED ON THE SYMBOL LIST WITH THE ENGINEER PRIOR TO BID.

G2. COORDINATE THE FINAL LOCATIONS OF ALL LIGHT FIXTURES WITH THE ARCHITECT'S REFLECTED CEILING PLANS. REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO INSTALLATION.

G3. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE CONSTRUCTION AREA THREE (3) WORKING DAYS NOTICE BEFORE COMMENCE DIGGING. NOTIFY THE LOCAL OR STATE AUTHORITY HAVING JURISDICTION AND WAIT THE REQUIRED TIME BEFORE COMMENCING TO DIG.

G4. THE CONTRACTOR SHALL COORDINATE CONDUIT RUNS, CABLE TRAY, LIGHTING FIXTURES AND OTHER EQUIPMENT LOCATIONS WITH THE OTHER TRADE CONTRACTORS TO AVOID CONFLICTS.

G5. WHERE VOLTAGES AND FREQUENCIES ON THE DRAWINGS AND IN THE SPECIFICATIONS DIFFER FROM THE LOCAL ONES, ALL WORK SHALL BE PERFORMED USING THE LOCAL VOLTAGES AND FREQUENCIES.

G6. THE MINIMUM WIRE SIZE ON THE PROJECT SHALL BE 4mm2. THE MINIMUM CONDUIT SIZE SHALL BE 20mm. THE MINIMUM BREAKER SIZE SHALL BE 20 AMPS.

G7. THE CONTRACTOR SHALL PUT A MAXIMUM OF 6 DUPLEX SOCKETS ON A 20A SINGLE POLE CIRCUIT.

G8. WHERE THE 1010 SCOPE REVIEW, 1015 TECHNICAL REVIEW, DRAWINGS, AND SPECIFICATIONS DIFFER FROM AMERICAN CODES OR STANDARDS THE 1010, 1015, DRAWINGS, AND SPECIFICATIONS SHALL RULE.

G9. WORK FOR THE AMMUNITION SUPPLY POINT SHALL BE DONE IN ACCORDANCE WITH DEPARTMENT OF DEFENSE STANDARD DOD 6055.9–STD.

G10. ALL CONDUIT AND DEVICES SHALL BE SURFACE MOUNTED UNLESS OTHERWISE INDICATED.

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP

DESIGNED BY: JRG	DWN BY: JRG	CHK BY: JRG
DATE: 09–30–09	SUBMITTED BY: BAKER	FILE NO.: ANPSDE–000XXX

Michael Baker Jr, Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
DINING FACILITIES BUILDING (384 CSM)
WOOD FIRED HEAT OPTION

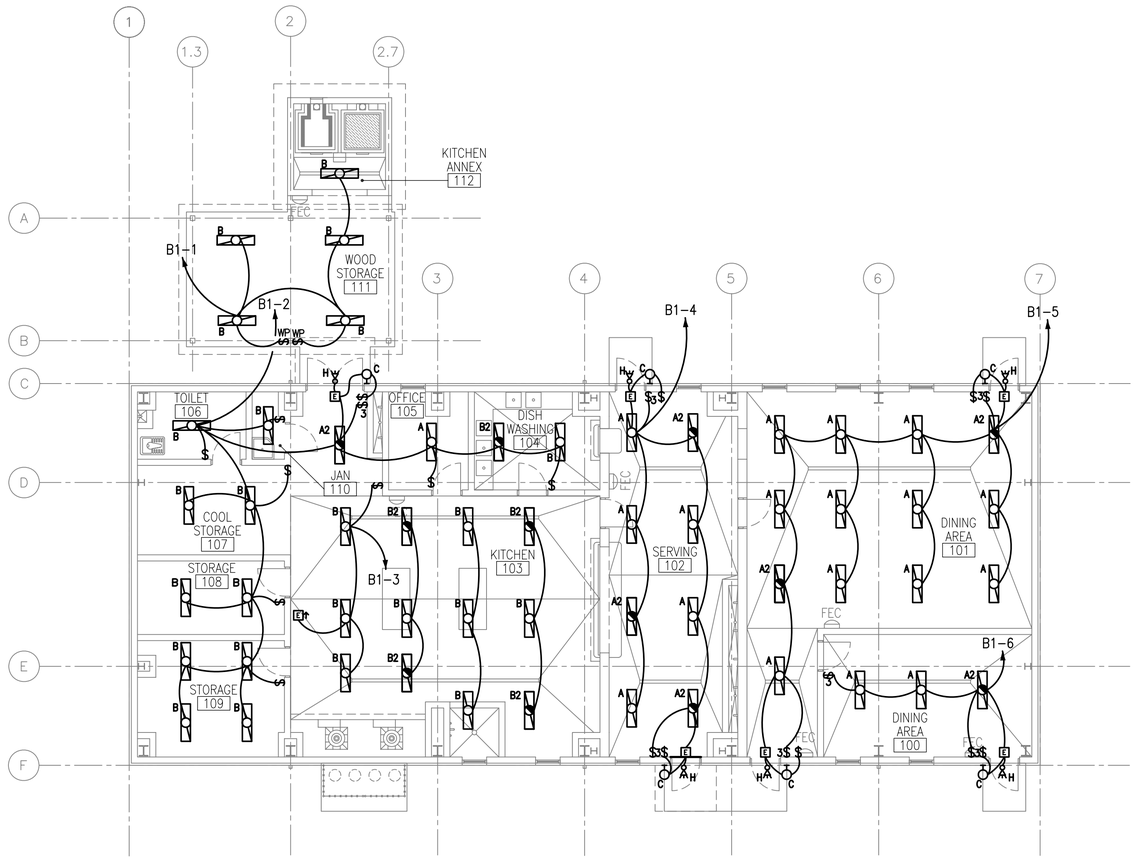
ELECTRICAL SYMBOLS AND ABBREVIATIONS

SHEET REFERENCE NUMBER:
E0

100% SUBMISSON

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 #E4 FOR THE LIGHTING FIXTURE SCHEDULE.
4. REFER TO DRAWING #E3 FOR THE POWER RISER.
5. REFER TO DRAWING #E5 FOR PANEL SCHEDULES.
6. LIGHT FIXTURES INDICATED AS EMERGENCY SHALL BE PROVIDED WITH A BATTERY BACKUP BALLAST.



1 / E1 E1 LIGHTING PLAN
SCALE: 1:100

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

1 0 1 2 3 4 5 6 7 8 9
1:100

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY:	DATE:
JRG	09-30-09
DWN BY:	SUBMITTED BY:
JRG	BAKER
CHK BY:	FILE NO.:
JRG	ANPSDE-101XXX

Michael Baker Jr, Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

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LIGHTING PLAN

SHEET REFERENCE NUMBER:
E1

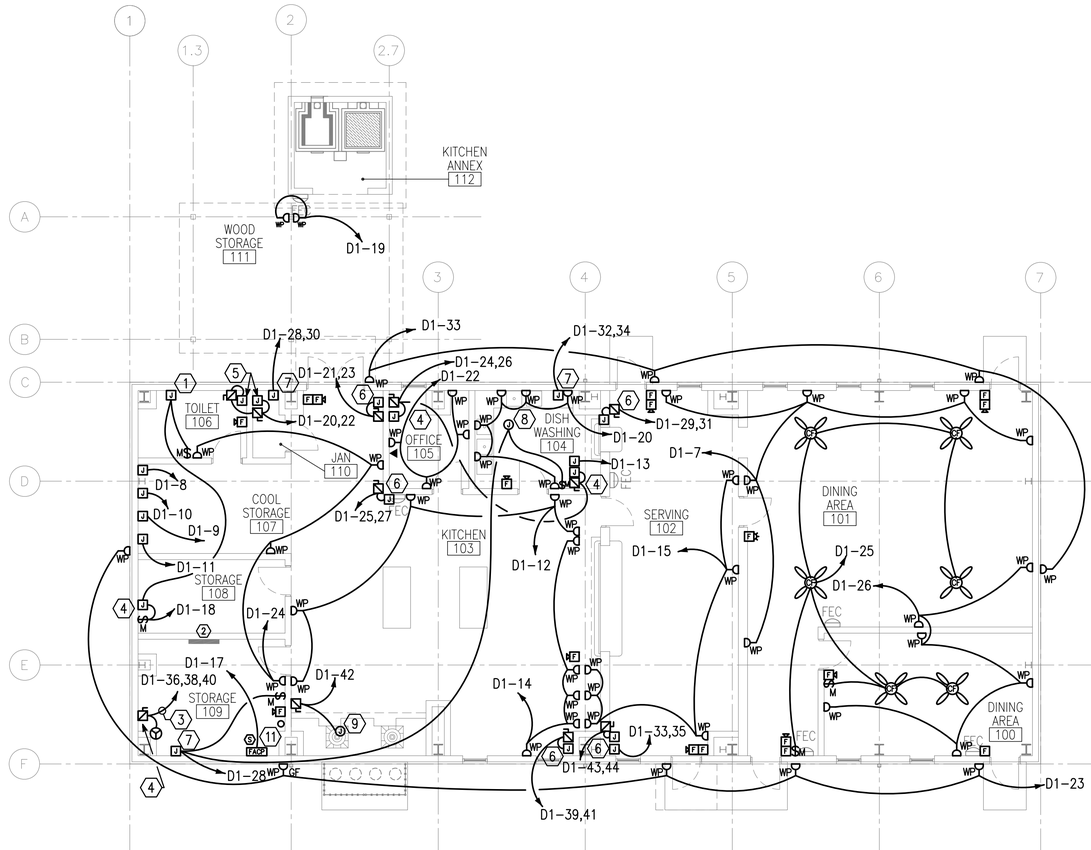
100% SUBMISSON

GENERAL NOTES:

1. REFER TO DRAWING #E0 FOR THE ELECTRICAL SYMBOLS LIST.
2. REFER TO DRAWING #E6 FOR THE POWER RISER.
3. REFER TO DRAWING #E8 FOR PANEL SCHEDULES.
4. COORDINATE EXACT MOUNTING LOCATION OF DISCONNECTING MEANS FOR MECHANICAL AND PLUMBING EQUIPMENT IN THE FIELD.
5. FUSIBLE SAFETY SWITCHES THAT ARE NOT OTHERWISE IDENTIFIED SHALL BE 380V, 1P, 30A FUSED SAFETY SWITCHES WITH 20A FUSES.

NUMBERED NOTE:

1. PROVIDE POWER CONNECTION TO EXHAUST FAN #1. SEE DRAWINGS #E5 AND #M1 FOR MORE INFORMATION.
2. PANEL 'B1'
3. 3 16.0 mm2 + 1 6.0 mm2 GND. IN 20 mm C.
4. PROVIDE POWER CONNECTION TO EXHAUST FAN #2. SEE DRAWINGS #E5 AND #M1 FOR MORE INFORMATION.
5. PROVIDE POWER CONNECTION TO ELECTRIC UNIT HEATER #2. SEE DRAWINGS #E5 AND #M1 FOR MORE INFORMATION.
6. PROVIDE POWER CONNECTION TO ELECTRIC UNIT HEATER #4. SEE DRAWINGS #E5 AND #M1 FOR MORE INFORMATION.
7. PROVIDE POWER CONNECTION TO EXHAUST FAN #3. SEE DRAWINGS #E5 AND #M1 FOR MORE INFORMATION.
8. PROVIDE POWER CONNECTION TO EXHAUST FAN #4. SEE DRAWINGS #E5 AND #M1 FOR MORE INFORMATION.
9. PROVIDE POWER CONNECTION TO EXHAUST FAN #5. SEE DRAWINGS #E5 AND #M1 FOR MORE INFORMATION.
10. PROVIDE POWER CONNECTION TO ELECTRIC UNIT HEATER #5. SEE DRAWINGS #E5 AND #M1 FOR MORE INFORMATION.
11. TELECOMMUNICATIONS CONDUIT STUB-UP



1 / E2 | E2 POWER AND SYSTEMS PLAN

SCALE: 1:100

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

1 0 1 2 3 4 5 6 7 8 9
1:100

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP.

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JRG	09-30-09
DWN BY:	SUBMITTED BY:
JRG	BAKER
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JRG	ANPSDE-102XXX

Michael Baker Jr, Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

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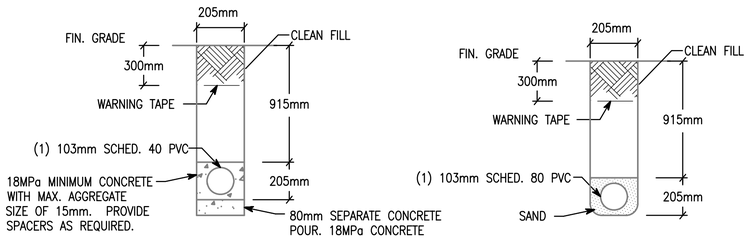
WOOD FIRED HEAT OPTION

POWER AND SYSTEMS PLAN

SHEET REFERENCE NUMBER:
E2

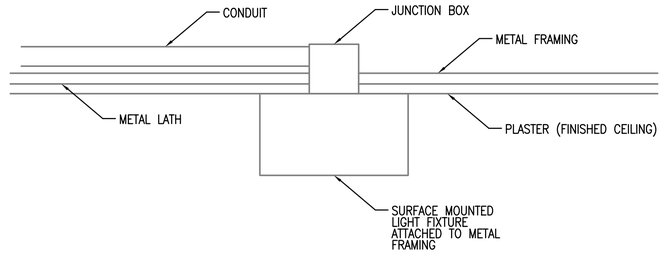
100% SUBMISSON



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

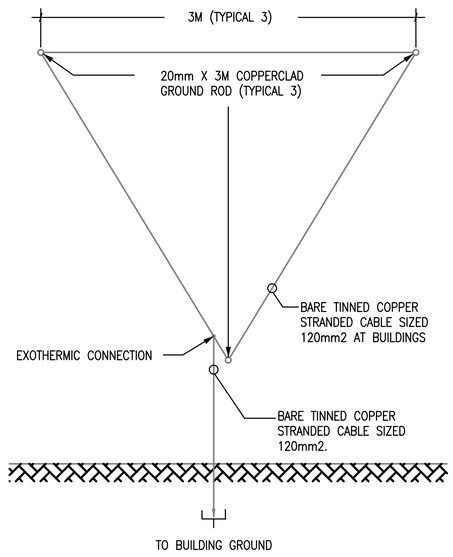
1 E3 E3 TYPICAL DUCT BANK DETAILS FOR CONDUIT IN SAND OR CONCRETE

SCALE: N.T.S.



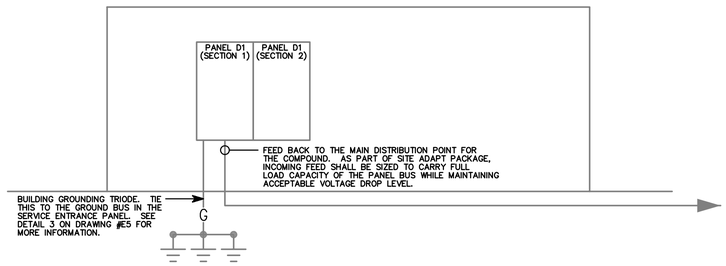
2 E3 E3 TYPICAL DETAIL FOR SURFACE MOUNTED LIGHT FIXTURES

SCALE: N.T.S.



3 E3 E3 GROUND TRIPOD SYSTEM DETAIL - PLAN

SCALE: N.T.S.



4 E3 E3 D.3 RISER DIAGRAM

SCALE: N.T.S.

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY: JRG	DATE: 09-30-09
DWN BY: JRG	SUBMITTED BY: BAKER
CHK BY: JRG	FILE NO.: ANPSDE-503XXX

Michael Baker Jr., Inc
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

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DETAILS

SHEET REFERENCE NUMBER:
E3

100% SUBMISSON

FIXTURE MARK 'A'

PARABOLIC SURFACE/PENDANT MOUNTED 300MM x 1200MM FLUORESCET FIXTURE WITH ELECTRONIC BALLAST.

FIXTURE MARK 'A2':
SAME FIXTURE AS 'A' WITH EMERGENCY BALLAST.

FIXTURE MARK 'B'

WET LOCATION WRAP AROUND SURFACE/PENDANT MOUNTED FLUORESCENT FIXTURE WITH PRISMATIC ACRYLIC LENS AND ELECTRONIC BALLAST.

FIXTURE MARK 'B2':
SAME FIXTURE AS 'B' WITH EMERGENCY BALLAST.

FIXTURE MARK 'C'

INCANDESCENT ONE PIECE WITH APPROVED LENS, STABILIZED HIGH IMPACT POLY CARBONATE

FIXTURE MARK 'H'

REMOTE HEAD EXTERIOR LIGHT HEAD POWERED FROM EXIT SIGN BATTERY– 12V DOUBLE HEAD CORROSION RESISTANT WITH UL34 WEATHERPROOF CONSTRUCTION

FIXTURE MARK 'E'

UNIVERSAL MOUNT ENGINEER GRADE THERMOPLASTIC HOUSING EXIT SIGN WITH LED LAMPS, RED LETTERS 6" IN HEIGHT WITH ARROWS AS INDICATED, WITH 12V CADMIUM BATTERY

FIXTURE MARK 'J'

EXPLOSION–PROOF (2) LAMP FIXTURE PROVIDED WITH LAMPS. COPPER FREE, ALUMINUM HOUSING, TEMPERED BOROSILICATE GLASS, AND BIAX LAMPS WITH WIRE GUARD

LIGHTING FIXTURE SCHEDULE

FIXTURE MARK	STYLE NUMBER AND TYPE	NUMBER AND TYPE OF LAMPS	VOLTAGE	MOUNTING	NOTES
A	PARABOLIC SURFACE/PENDANT MOUNTED 300MM X 1200MM FLUORESCENT FIXTURE WITH ELECTRONIC BALLAST	(2) 32W 3500K	220V – 1ø 50HZ	PENDANT MOUNTED FROM SLOPED CEILINGS	FURNISHED WITH ELECTRONIC BALLAST. PARABOLIC LOUVER SHALL BE SPECULAR LENS IRADESCENCE TYPE.
A2	SAME AS FIXTURE 'A' WITH EMERGENCY BALLAST	(2) 32W 3500K	220V – 1ø 50HZ	PENDANT MOUNTED FROM SLOPED CEILINGS	FURNISHED WITH ELECTRONIC BALLAST. PARABOLIC LOUVER SHALL BE SPECULAR LENS IRADESCENCE TYPE. EMERGENCY BALLAST SELF TEST.
B	WET LOCATION WRAP AROUND SURFACE/PENDANT MOUNTED FLUORESCENT FIXTURE WITH PRISMATIC ACRYLIC LENS AND ELECTRONIC BALLAST	(2) 32W 3500K	220V – 1ø 50HZ	PENDANT MOUNTED FROM SLOPED CEILINGS	FURNISHED WITH ELECTRONIC BALLAST, VIRGIN ACRYLIC WRAP AROUND LENS.
B2	SAME AS FIXTURE 'B' WITH EMERGENCY BALLAST	(2) 32W 3500K	220V – 1ø 50HZ	PENDANT MOUNTED FROM SLOPED CEILINGS	FURNISHED WITH ELECTRONIC BALLAST, VIRGIN ACRYLIC WRAP AROUND LENS. EMERGENCY BALLAST WITH SELF TEST SWITCH.
C	INCANDESCENT ONE PIECE W/ APPROVED LENS STABILIZED HIGH IMPACT POLY CARBONATE.	(1) A19 – 100W INCANDESCENT	220V – 1ø 50HZ	WALL MOUNTED ABOVE EXTERIOR DOORS	
H	REMOTE HEAD EXTERIOR LIGHT HEAD POWERED FROM EXIT SIGN BATTERY– 12V DOUBLE HEAD CORROSION RESISTANT WITH UL34 WEATHERPROOF CONSTRUCTION	(2) 12W/12V HALOGEN LAMP	12V – 1ø 50HZ	EXTERIOR WALL MOUNTED AT TOP OF DOOR HEIGHT	
J	EXPLOSION–PROOF (2) LAMP FIXTURE PROVIDED WITH LAMPS. COPPER FREE, ALUMINUM HOUSING, TEMPERED BOROSILICATE GLASS, AND BIAX LAMPS WITH WIRE GUARD	(2) 40W 3500K BIAX FLUORESCENT LAMPS	220V – 1ø 50HZ	PENDANT MOUNTED FROM SLOPED CEILINGS	FURNISHED WITH LAMPS AND WIRE GUARD
E	UNIVERSAL MOUNT ENGINEER GRADE THERMOPLASTIC HOUSING EXIT SIGN WITH LED LAMPS, RED LETTERS 6" IN HEIGHT WITH ARROWS AS INDICATED, WITH 12V CADMIUM BATTERY WITH REMOTE HEAD CAPABILITY	LED LAMPS	220V – 1ø 50HZ	UNIVERSAL MOUNTING	

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY:	DATE:	FILE NO.:
JRG	09-30-09	ANPSDE-604XXX
DWN BY:	SUBMITTED BY:	
JRG	BAKER	
CHK BY:		
JRG		

Michael Baker Jr., Inc.
A unit of Michael Baker Corporation
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
www.mbakercorp.com

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WOOD FIRED HEAT OPTION

LIGHT FIXTURE SCHEDULE

SHEET REFERENCE NUMBER:
E4

100% SUBMISSON

PANELBOARD D1 SECT. 1 SURFACE MOUNTED _____ ASYM. A.I.C. MIN.
_____ AMP. MAIN LUGS (OR) 225 AMP. MAIN BREAKER W/ 225 AMP. TRIP
CIRCUIT BREAKER TYPE 380/220 VOLTS 3 PHASE 4 WIRE 50 HZ 225 AMP. BUS

CKT. NO.	TRIP AMPS	NO. POLES	WIRE MM ²	GND MM²	CONDUIT MM	LOAD SERVED	LOAD-V.A. AØ	LOAD-V.A. BØ	LOAD-V.A. CØ	LOAD-V.A. AØ	LOAD-V.A. BØ	LOAD-V.A. CØ	LOAD SERVED	CONDUIT MM	GND MM²	WIRE MM²	NO. POLES	TRIP AMPS	CKT. NO.
1	20	1	4.0	4.0	20	LIGHTING – 110, 111	0.4			0.6			LIGHTING – 104 – 109	20	4.0	4.0	1	20	2
3	20	1	4.0	4.0	20	LIGHTING – 103		1.2			1.5		LIGHTING – 102	20	4.0	4.0	1	20	4
5	20	1	4.0	4.0	20	LIGHTING – 101			1.5			1.5	LIGHTING – 100	20	4.0	4.0	1	20	6
7	20	1	4.0	4.0	20	RECEPTACLES – 101, 102	1.2			2.0			JUNCTION BOX – 107	20	4.0	4.0	1	20	8
9	20	1	4.0	4.0	20	JUNCTION BOX – 107		2.0			2.0		JUNCTION BOX – 107	20	4.0	4.0	1	20	10
11	20	1	4.0	4.0	20	JUNCTION BOX – 107			2.0			1.2	RECEPT – 102, 104, 105	20	4.0	4.0	1	20	12
13	20	1	4.0	4.0	20	JUNCTION BOX – 104	2.0			1.2			RECEPTACLES – 103	20	4.0	4.0	1	20	14
15	20	1	4.0	4.0	20	JUNCTION BOX – 110		2.0			2.0		JUNCTION BOX – 111	20	4.0	4.0	1	20	16
17	20	1	4.0	4.0	20	F.A.C.P			0.5			0.5	EXHAUST FANS–106,107	20	4.0	4.0	1	20	18
19	20	1	4.0	4.0	20	RECEPTACLES – 100, 101	1.2			1.3			ELECTRIC HEATERS–106	20	6.0	6.0	2	20	20
21	20	2	4.0	4.0	20	ELECTRIC HEATERS–107		2.0			1.3								22
23									2.0			1.3	ELECTRIC HEATERS–104,105	20	6.0	6.0	2	20	24
25						ELECTRIC HEATERS–103	2.0			1.3									26
27								2.0			0.5		EXHAUST FANS–104,109	20	4.0	4.0	1	20	28
29	20	2	4.0	4.0	20	ELECTRIC HEATERS–103			2.0			1.2	RECEPTACLES – 102, 103	20	4.0	4.0	1	20	30
31							2.0			0.4			RECEPTACLES – 108, 109	20	4.0	4.0	1	20	32
33	20	1	4.0	4.0	20	RECEPTACLES – EXTERIOR		1.2			1.2		RECEPTACLES – 105 – 107	20	4.0	4.0	1	20	34
35	20	1	4.0	4.0	20	RECEPTACLES – EXTERIOR			1.0			8.0	ELECTRIC HEATERS–106	32	6.0	25	3	60	36
37	20	1	4.0	4.0	20	RECEPTACLES – EXTERIOR	0.4			8.0									38
39	20	1	4.0	4.0	20	ELECTRIC HEATERS–103		2.0			8.0								40
41	20	1							2.0			2.7	EXHAUST FANS–103	20	4.0	4.0	1	20	42
							9.2	12.3	11.0	14.8	16.5	16.4							

TOTAL CONN. LOAD PER PHASE (KVA): AØ 26.0 BØ 30.8 CØ 27.4

TOTAL CONN. LOAD 84.2 KVA. 70 % DEMAND = ESTIMATED DEMAND LOAD 58.9 SUPPLIED FROM SWITCHGEAR 'DP'

PANELBOARD D1 SECT. 2 SURFACE MOUNTED _____ ASYM. A.I.C. MIN.
225 AMP. MAIN LUGS (OR) _____ AMP. MAIN BREAKER W/ _____ AMP. TRIP
CIRCUIT BREAKER TYPE 380/220 VOLTS 3 PHASE 4 WIRE 50 HZ 225 AMP. BUS

CKT. NO.	TRIP AMPS	NO. POLES	WIRE MM ²	GND MM²	CONDUIT MM	LOAD SERVED	LOAD-V.A. AØ	LOAD-V.A. BØ	LOAD-V.A. CØ	LOAD-V.A. AØ	LOAD-V.A. BØ	LOAD-V.A. CØ	LOAD SERVED	CONDUIT MM	GND MM²	WIRE MM²	NO. POLES	TRIP AMPS	CKT. NO.
43	20	2	4.0	4.0	20	ELECTRIC HEATER–103	2.0						SPARE				1	20	44
45								2.0					SPARE				1	20	46
47	20	1				SPARE							SPARE				1	20	48
49	20	1				SPARE							SPARE				1	20	50
51	20	1				SPARE							SPARE				1	20	52
53	20	1				SPARE							SPARE				1	20	54
55	20	1				SPARE							SPARE				1	20	56
57	20	1				SPARE							SPARE				1	20	58
59	20	1				SPARE							SPARE				1	20	60
61	20	1				SPARE							SPARE				1	20	62
63	20	1				SPARE							SPARE				1	20	64
65	20	1				SPARE							SPARE				1	20	66
67	20	1				SPARE							SPARE				1	20	68
69	20	1				SPARE							SPARE				1	20	70
71	20	1				SPARE							SPARE				1	20	72
73	20	1				SPARE							SPARE				1	20	74
75	20	1				SPARE							SPARE				1	20	76
77	20	1				SPARE							SPARE				1	20	78
79	20	1				SPARE							SPARE				1	20	80
81	20	1				SPARE							SPARE				1	20	82
83	20	1				SPARE							SPARE				1	20	84
							2.0	2.0	0.0	0.0	0.0	0.0							

TOTAL CONN. LOAD PER PHASE (KVA): AØ 2.0 BØ 2.0 CØ 0.0

TOTAL CONN. LOAD 4.0 KVA. 70 % DEMAND = ESTIMATED DEMAND LOAD 2.8 SUPPLIED FROM SWITCHGEAR _____

* MAIN BREAKER SHALL BE 3P EARTH GROUND TYPE.
** PANEL SHALL BE PROVIDE WITH FEED THRU LUGS.
*** LOADS ON THIS PANEL INCLUDE LOADS FOR PANEL D1 (SECTIONS 1 AND 2).

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE	APP'D

DESIGNED BY:	DATE:
JRG	09-30-09
DWN BY:	SUBMITTED BY:
JRG	BAKER
CHK BY:	FILE NO.:
JRG	ANPSDE-605XXX

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A unit of Michael Baker Corporation
Airside Business Park
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Moon Township, PA 15108
www.mbakercorp.com

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PANEL SCHEDULES AND RISER DIAGRAM

SHEET REFERENCE NUMBER:
E5

100% SUBMISSON