



GOVERNMENT OF BERMUDA

Ministry of Public Works

Works and Engineering

Annex D – Drawings and Reference Documents

Project No. 31-263-76

New Gun Range, Fort Prospect

New Gun Range

Fort Prospect

Bermuda

Annex D

Drawings and Reference Documents

Date: February 24, 2017

Project No. 31-263-76



Drawing List

Drawings

1. A1 Rev C Plans Section
2. A2 Rev B Sections
3. A3 Rev A Structural Baffle Support Safety Ceiling & Roof Bullet Catch Area

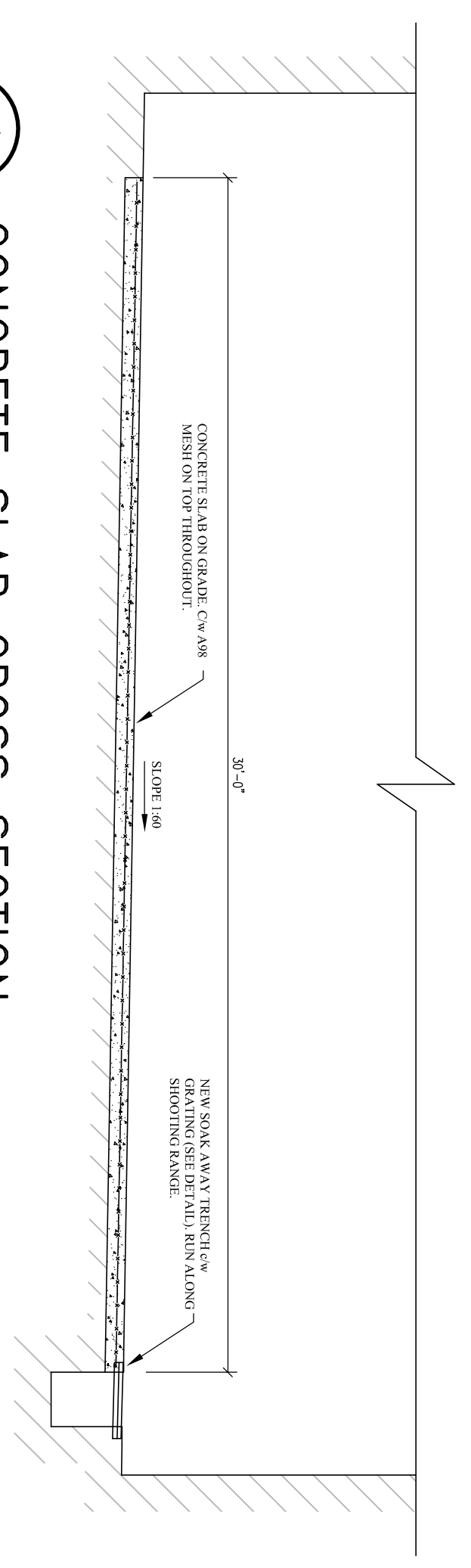
Reference Documents

1. Savage Range Systems 1900 000 02 Rev 3 Standard Details
2. MPW 4833/014/03 Topographic Survey
3. Savage Range Systems Inc, Budget Estimate Q17-0572

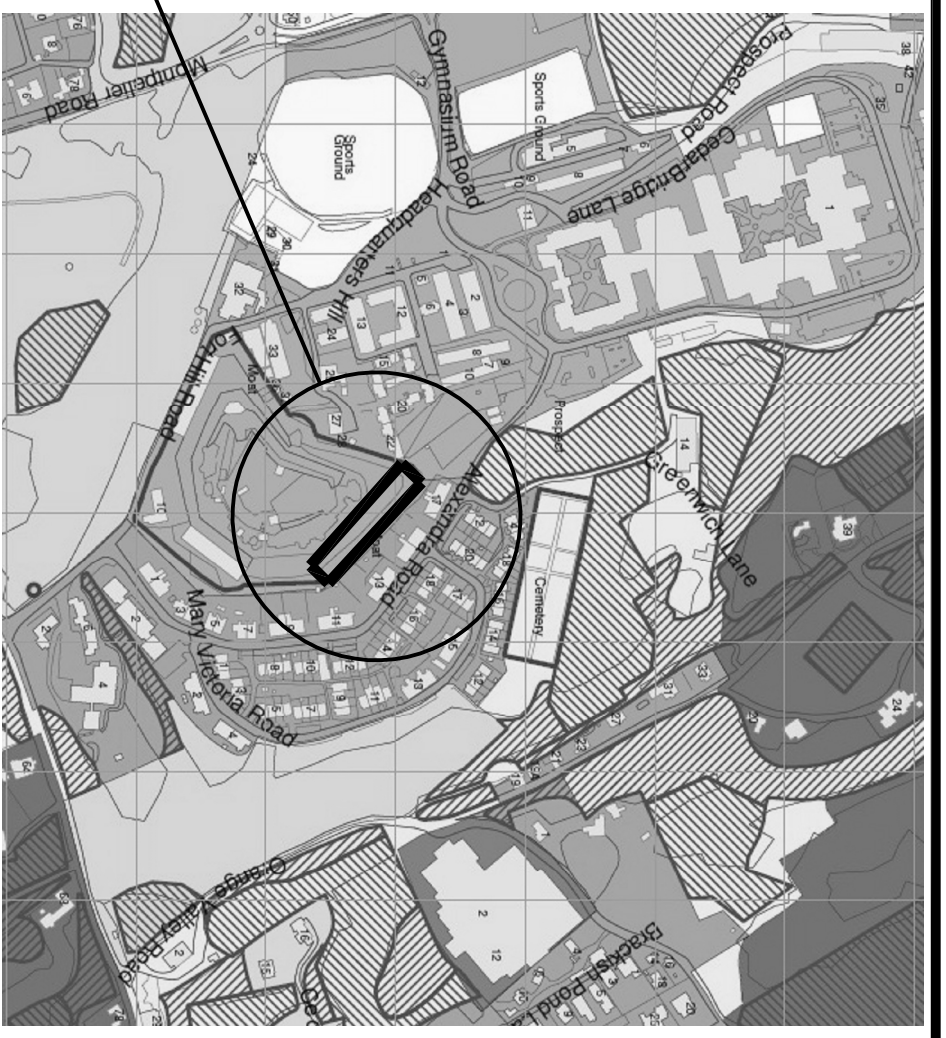
STRUCTURAL NOTES:

1. ANY DISCREPANCIES BETWEEN DRAWINGS OR BETWEEN ASSUMED AND SITE CONDITIONS ARE TO BE BROUGHT TO ENGINEERS ATTENTION IMMEDIATELY.
2. CONTRACTOR IS TO PROCEED WITH ALL WORKS IN ACCORDANCE WITH BERMUDA BUILDING CODE 1998.
3. BRING TO THE ATTENTION OF THE ENGINEER ANY DEFECTS IN THE WORK OR DEPARTURES FROM THE APPROVED DRAWINGS, WHICH MAY OCCUR DURING CONSTRUCTION
4. 24-HOUR NOTICE TO BE PROVIDED FOR ALL INSPECTION REQUIREMENTS.
5. CONCRETE SLAB:
 - 5.1. CONCRETE TO BE MIN. 35 MPa (6,000 psi) @ 28 DAYS. MAX. AGGREGATE SIZE 3/8", MAX. SLUMP 3".
 - 5.2. STEEL POWER FLOAT FINISH TO SLAB.
 - 5.3. CONSTRUCTION JOINT (C.J.) = SAW CUT CONTROL JOINT 1" DEEP.
 - 5.4. REINFORCING TO BE GALVANIZED DEFORMED STEEL BARS & MESH WITH MIN. YIELD STRESS 410 MPa (60,000 psi).

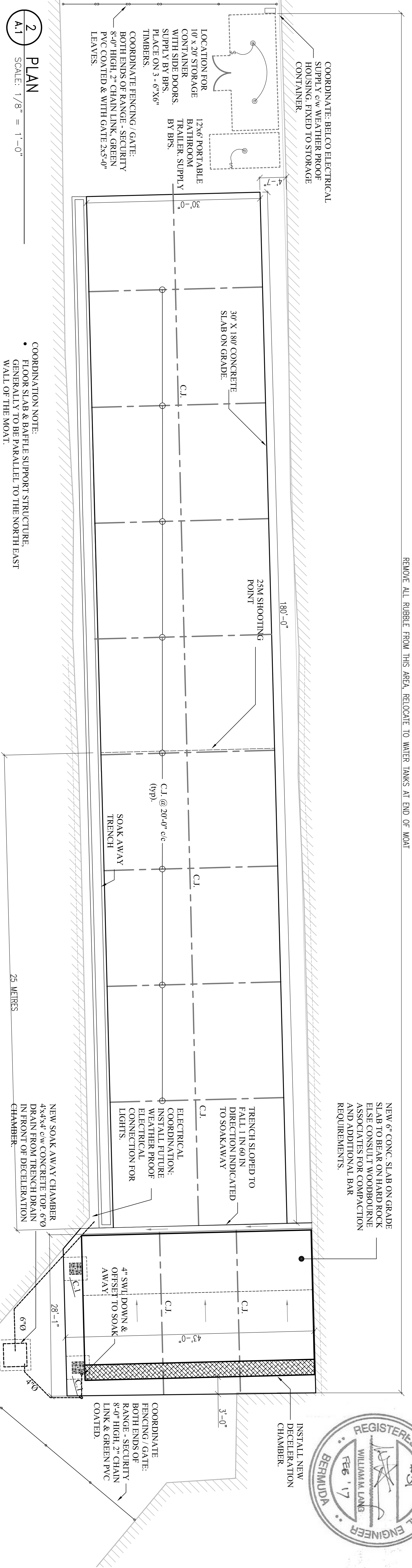
4 CONCRETE SLAB CROSS SECTION
SCALE: 1/4" = 1'-0"



1 LOCATION PLAN
SCALE: 1:2500

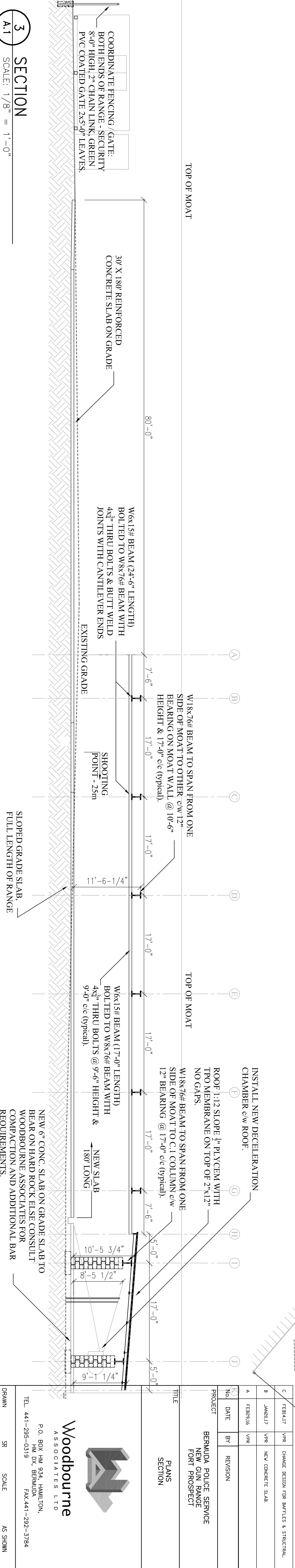


REMOVE ALL RUBBLE FROM THIS AREA, RELOCATE TO WATER TANKS AT END OF MOAT



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

COORDINATION NOTE:
• FLOOR SLAB & BAFLE SUPPORT STRUCTURE, GENERALLY TO BE PARALLEL TO THE NORTH EAST WALL OF THE MOAT.

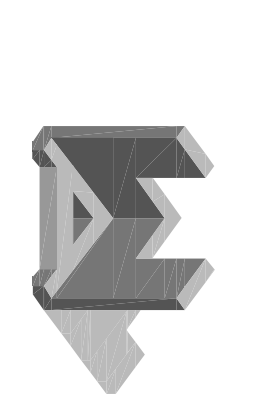


3 SECTION
SCALE: 1/8" = 1'-0"

A.1



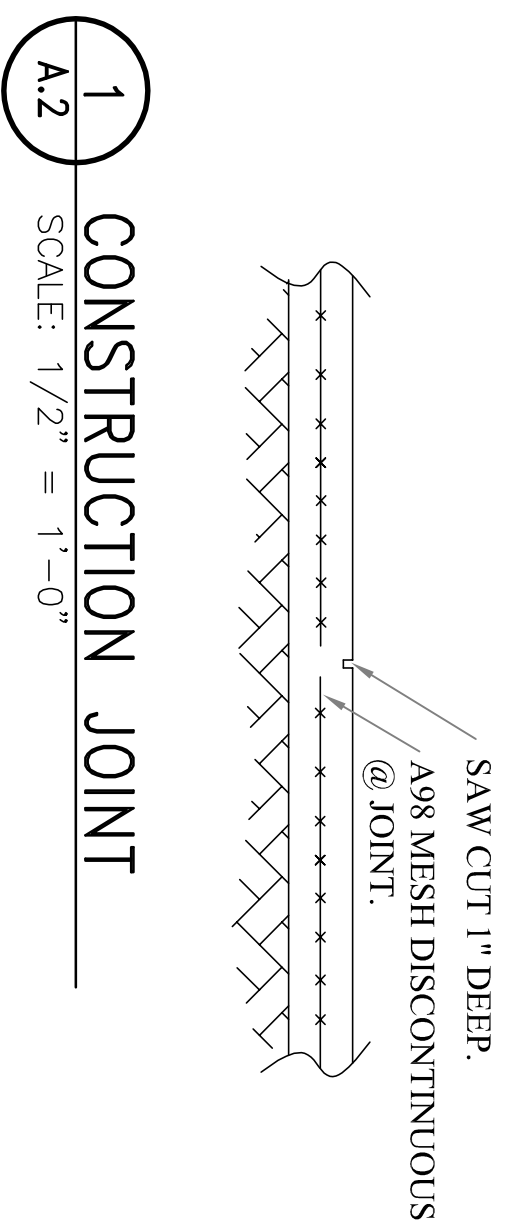
PROJECT		BERMUDA POLICE SERVICE NEW GUN RANGE FORT PROSPECT	
TITLE		PLANS SECTION	
A	DATE	BY	REVISION
B	JAN 2017	VJR	NEW CONCRETE SLAB
C	FEB 2017	VJR	CHANGE DESIGN FOR BATTERS & STRUCTURAL.
D	FEB 2016	VJR	
E			
F			
G			
H			
I			
J			



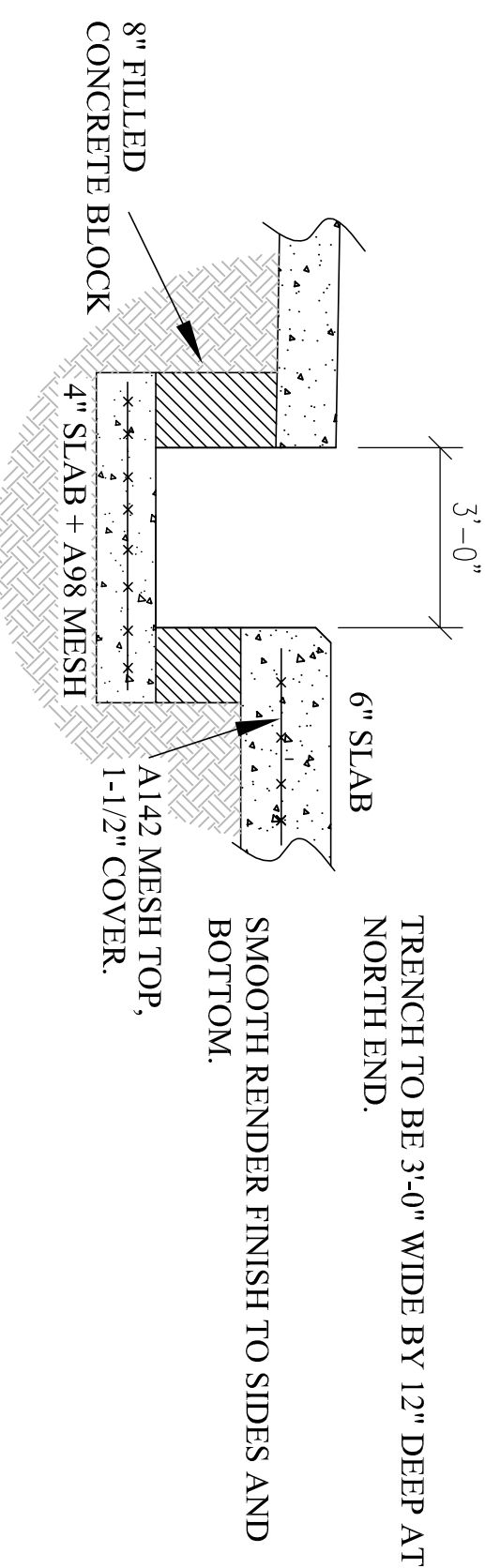
Woodbourne
ASSOCIATES LTD
P.O. BOX HM 934, HAMILTON,
HM DX, BERMUDA
TEL: 441-295-0319 FAX: 441-292-3784

CHECKED: SR
DRAWN: SR
DATE: JAN 2016
JOB NO.: WL16722
SCALE: AS SHOWN
DRAWING NO.: A.1

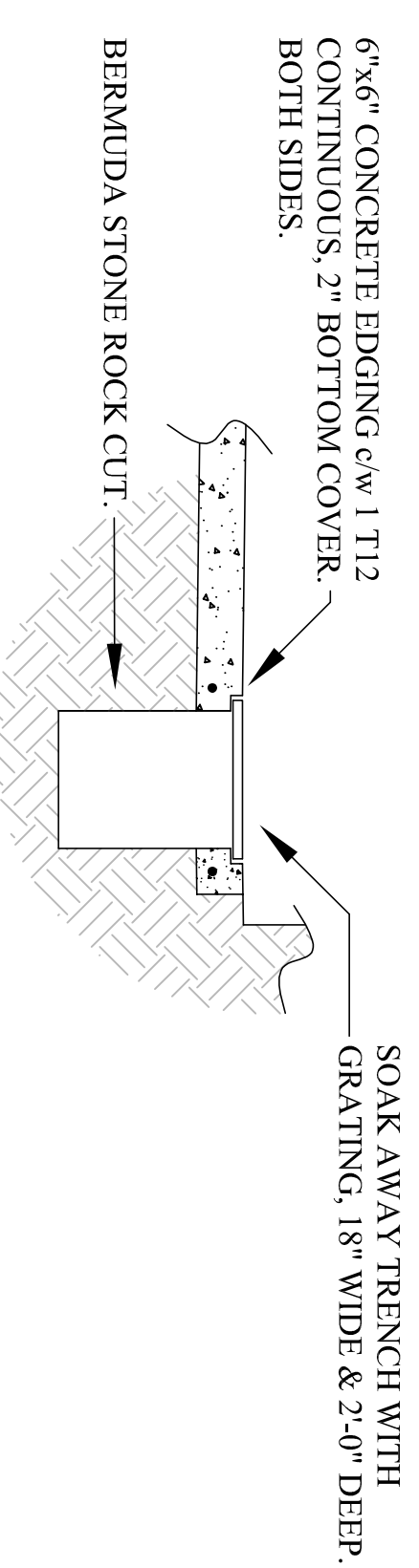
MINISTRY OF PUBLIC WORKS FILE
NUMBER 31-263-76



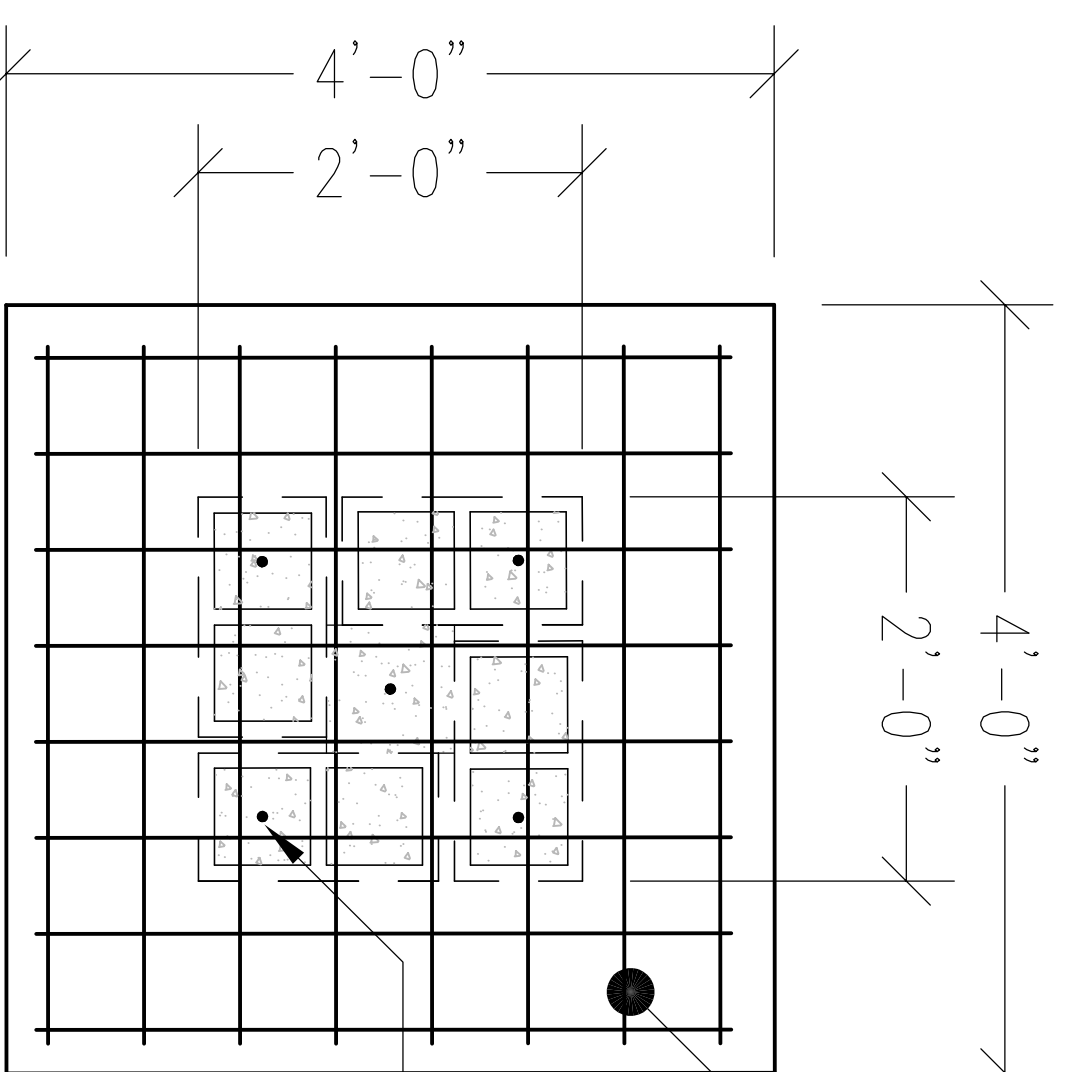
1 CONSTRUCTION JOINT
SCALE: 1/2" = 1'-0"



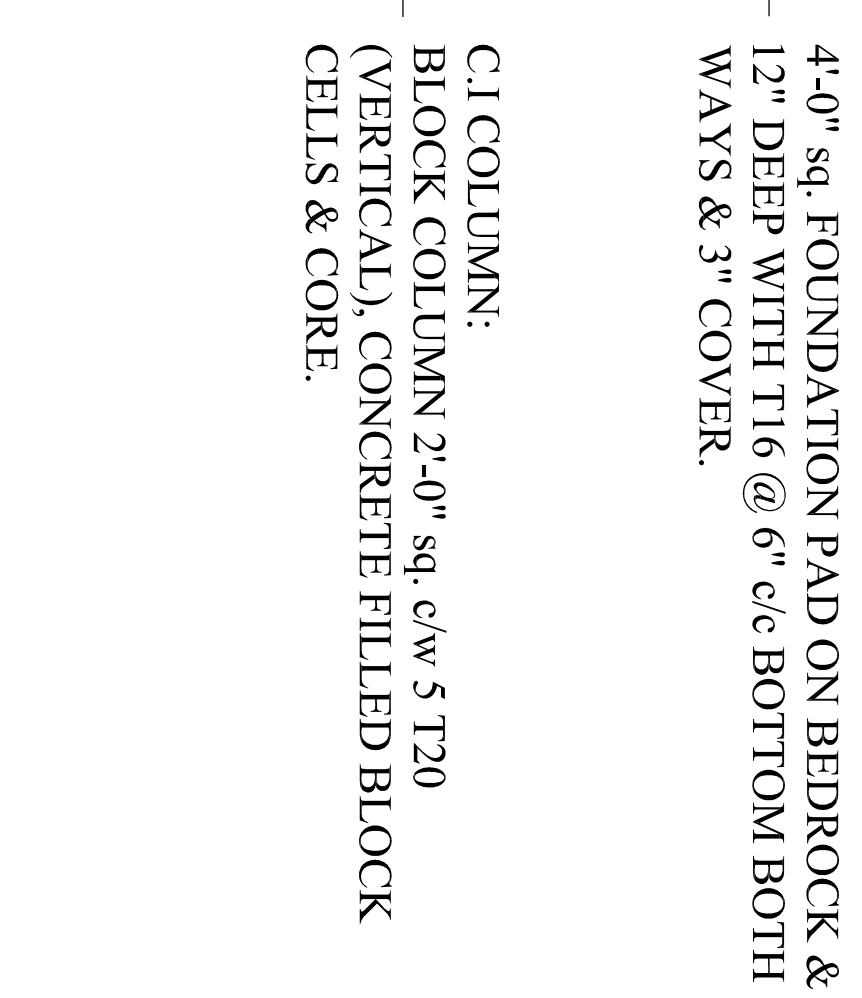
2 TARGET TRENCH DETAIL
SCALE: 1/2" = 1'-0"



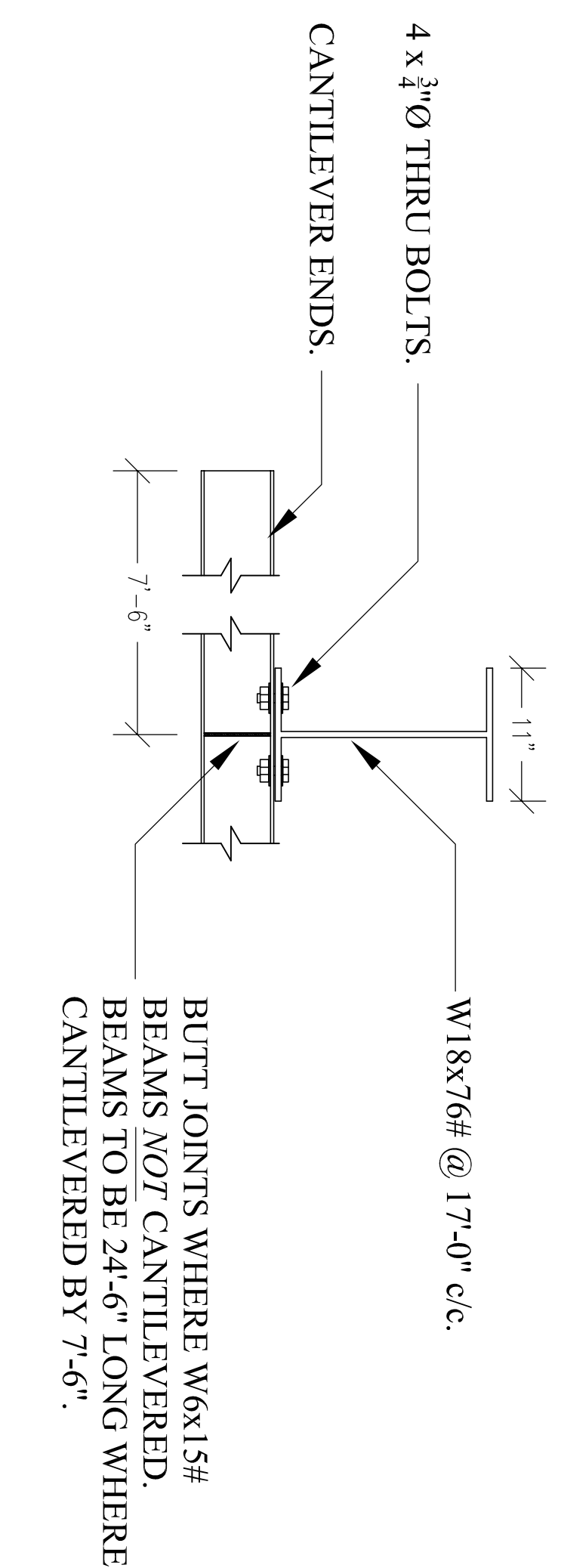
3 SOAK AWAY TRENCH DETAIL
SCALE: 1/2" = 1'-0"



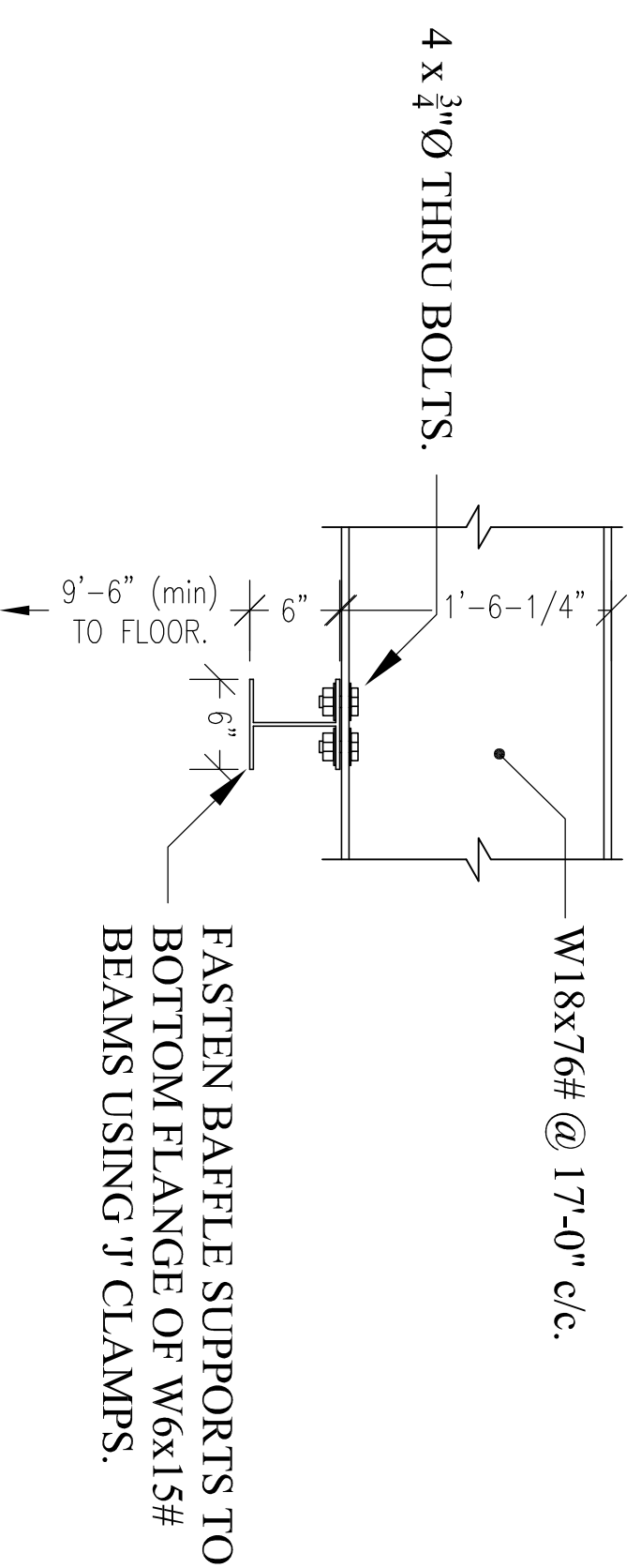
4 C.1 - FOOTING DETAIL
SCALE: 1" = 1'-0"



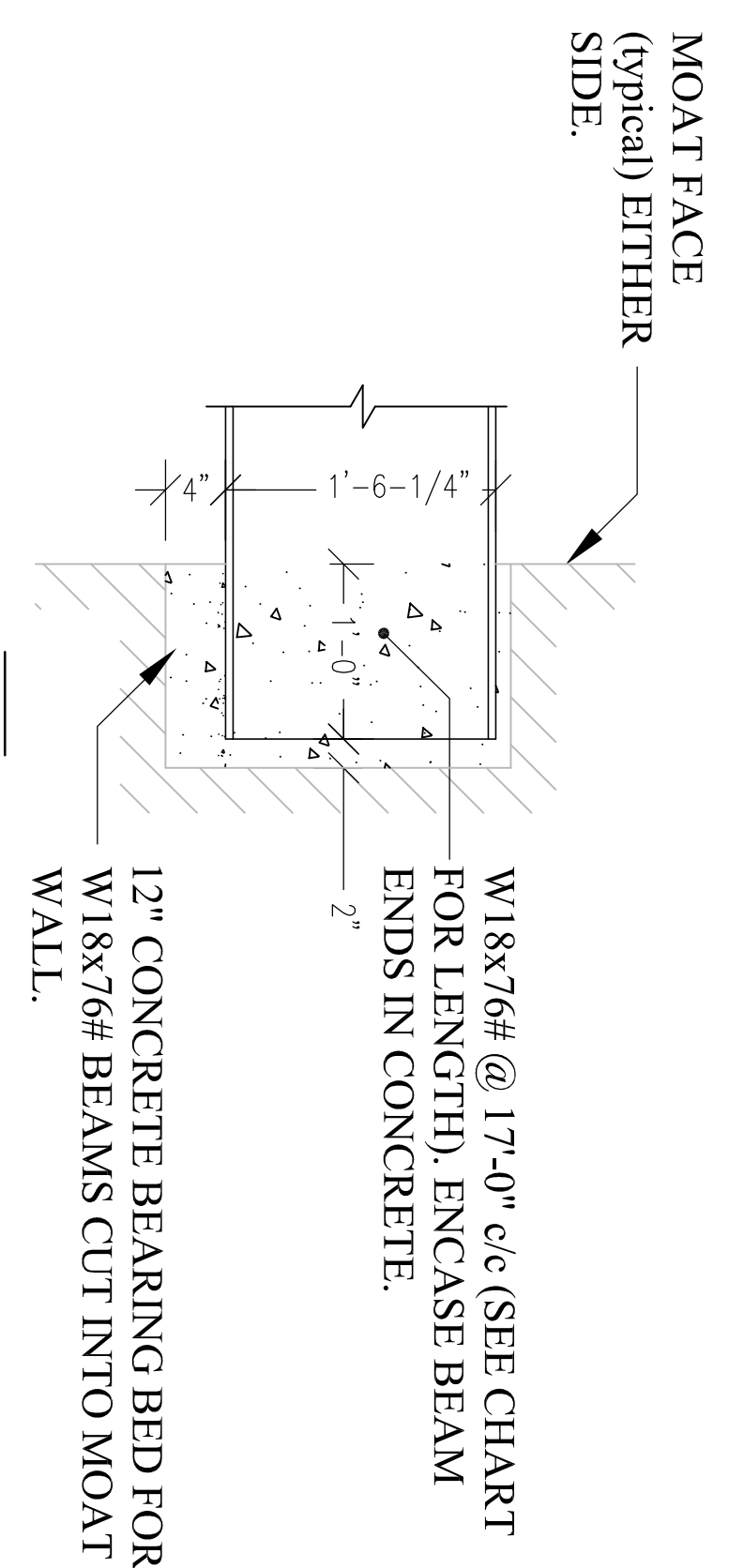
5 BAFFLE SUPPORT - STRUCTURAL
SCALE: 1" = 1'-0"



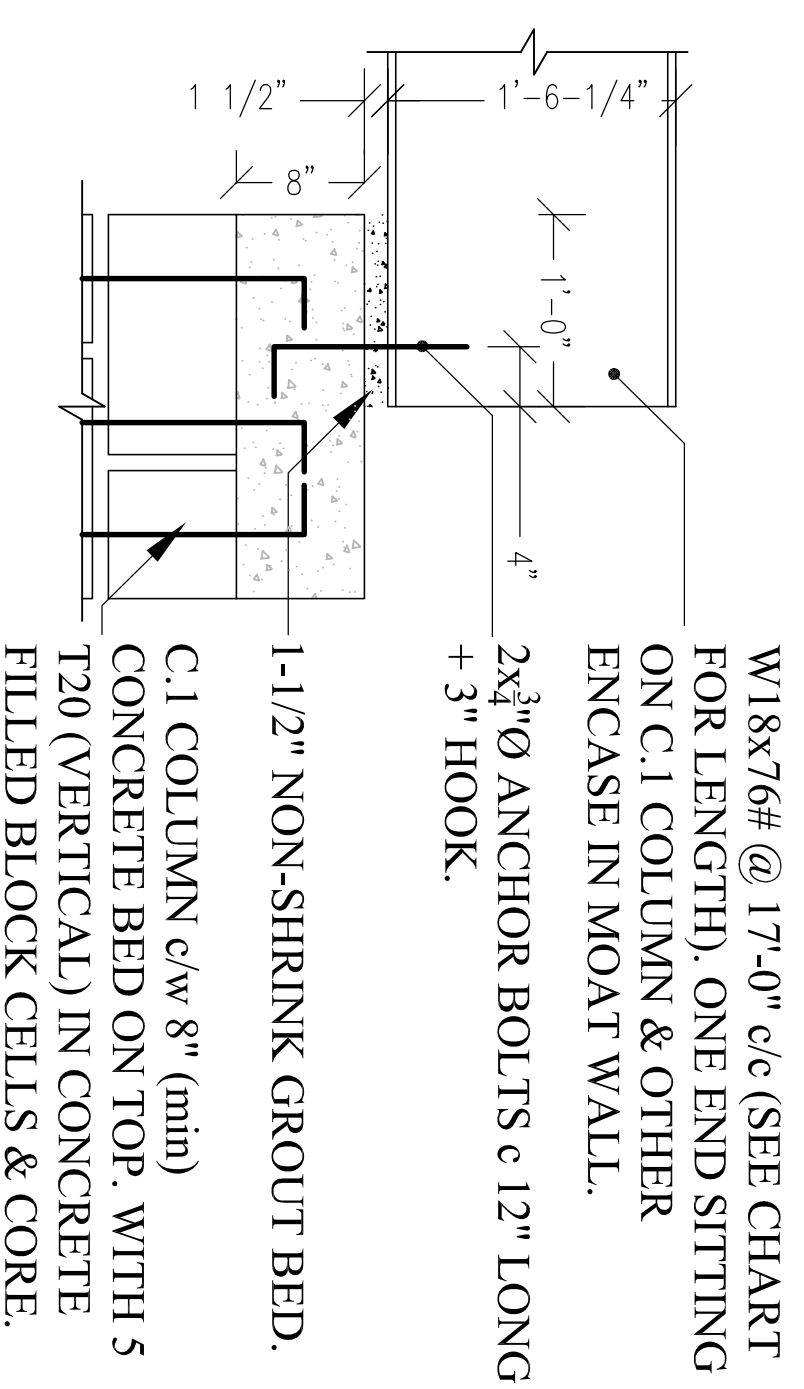
6 C.1 BEAM BEARING DETAIL
SCALE: 1" = 1'-0"



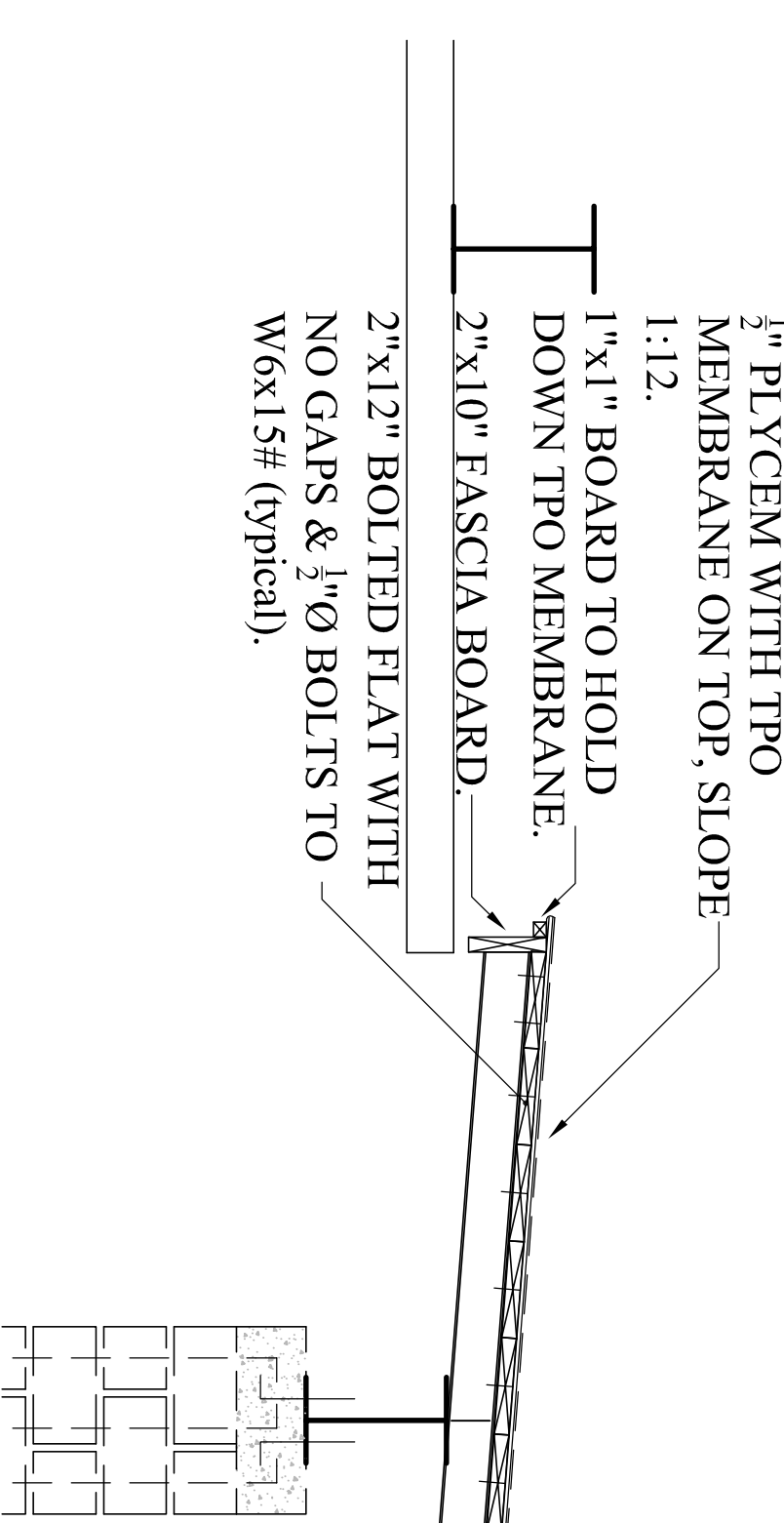
7 ROOF AREA DETAIL
SCALE: 1/2" = 1'-0"



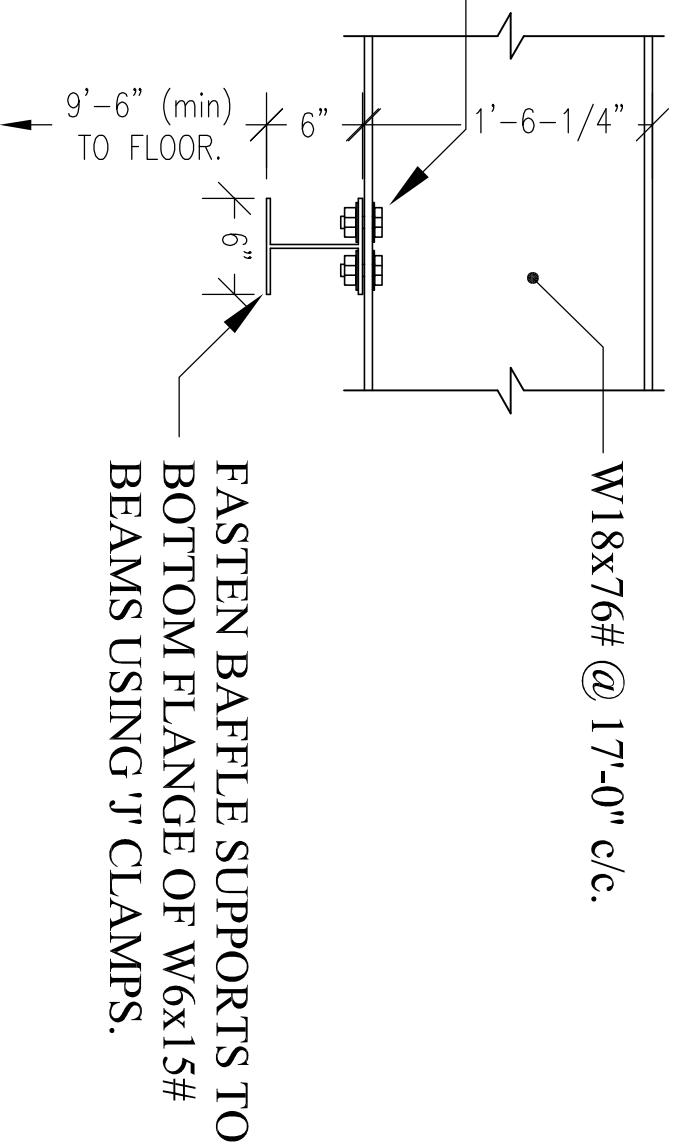
8 BEAM BEARING DETAIL
SCALE: 1" = 1'-0"



9 C.1 BEAM BEARING DETAIL
SCALE: 1" = 1'-0"



10 ROOF AREA DETAIL
SCALE: 1/2" = 1'-0"

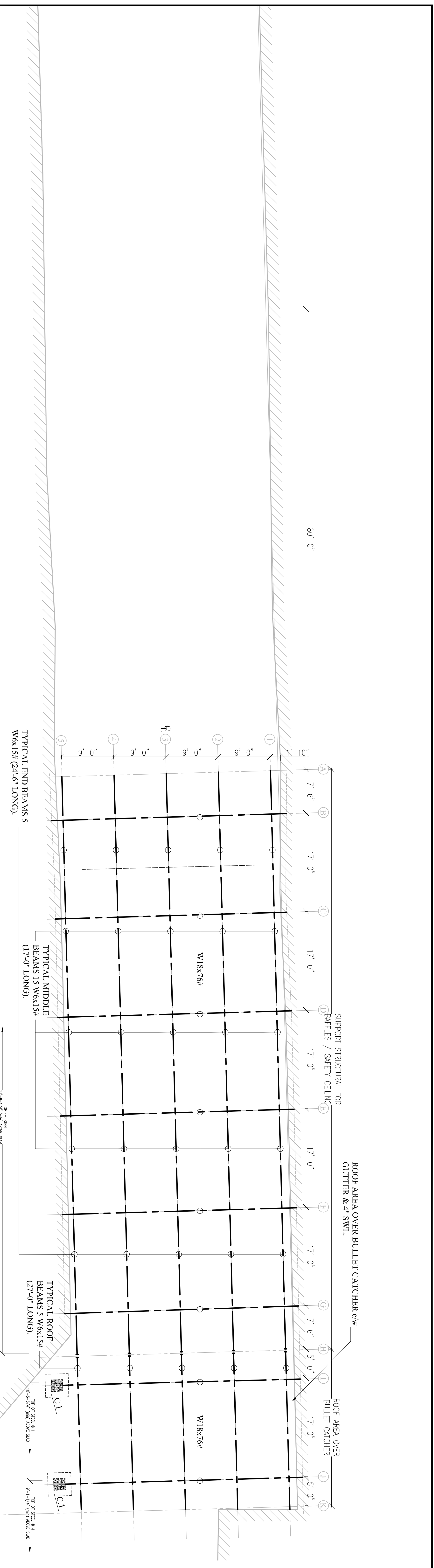


11 FASTEN BAFFLE SUPPORTS TO BOTTOM FLANGE OF W6x15# BEAMS USING 'J' CLAMPS.
SCALE: 1/2" = 1'-0"

3	FRESHLY	W98	CHANGED DESIGN FOR BEAMS & BAFFLES
4	JAN2017	W98	REVISED FOR NEW CONCRETE SLAB
NO.	DATE	BY	REVISION
PROJECT: BERMUDA POLICE SERVICE NEW GUN RANGE FORT PROSPECT			
TITLE: SECTIONS			
DRAWN: SR SCALE: AS SHOWN			
CHECKED: JAN 2016 JOB No. W16722			
DATE: JAN 2016 DRAWING No. A2			



MINISTRY OF PUBLIC WORKS FILE NUMBER 31-263-76



1 BAFFLES SUPPORT – STRUCTURAL
 A.3 SCALE: 1/8" = 1'-0"

BEAM	LENGTH
B	46'-6"
C	46'-6"
D	46'-6"
E	46'-6"
F	46'-6"
G	46'-6"
H	46'-6"
I	42'-0"
J	42'-0"

NOTE:
 • CONTRACTOR IS RESPONSIBLE TO
 VERIFY ALL BEAM LENGTHS REQUIRED
 INSIDE ALL BEAM LENGTHS
 INCLUDE 12" BEARING EACH SIDE

COORDINATION NOTE:
 • FLOOR SLAB & BAFFLE SUPPORT STRUCTURE,
 GENERALLY TO BE PARALLEL TO THE NORTH EAST
 WALL OF THE MOAT.

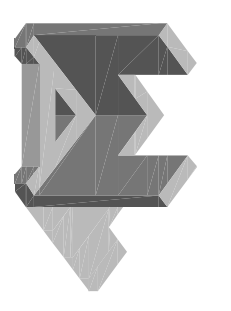


MINISTRY OF PUBLIC WORKS FILE
 NUMBER 31-263-76

No.	DATE	BY	REVISION
A	FEB/17	VRP	NEW BAFFLE SUPPORT STRUCTURAL Dwg.

PROJECT: BERMUDA POLICE SERVICE
 NEW GUN RANGE
 FORT PROSPECT

TITLE: STRUCTURAL
 BAFFLE SUPPORT CEILING
 & ROOF BULLET CATCH AREA



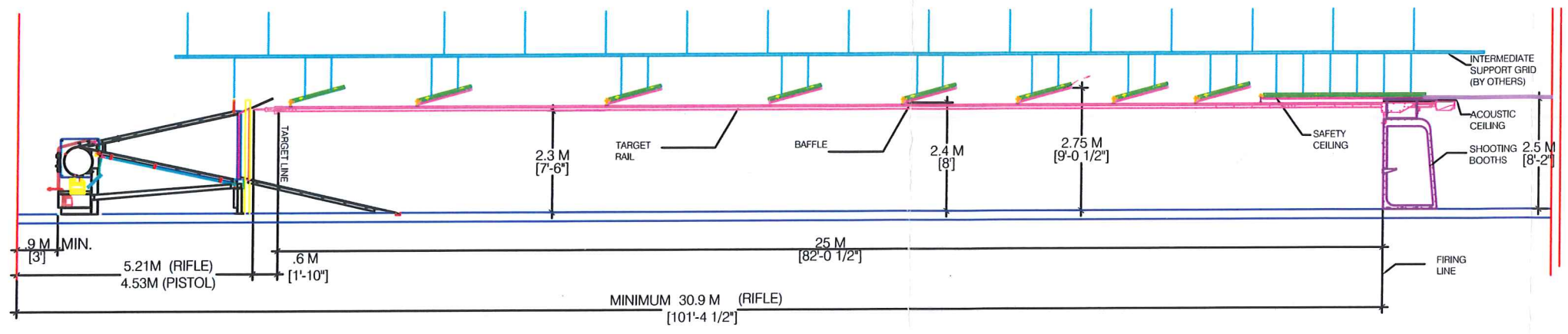
Woodbourne
 ASSOCIATES LTD
 P.O. BOX HM 934, HAMILTON,
 HM DX, BERMUDA
 TEL. 441-295-0319 FAX. 441-292-3784

DRAWN: VRP SCALE: AS SHOWN
 CHECKED: W.LB/ZZ
 DATE: FEBRUARY 1, 2017 DRAWING No. **A.3**

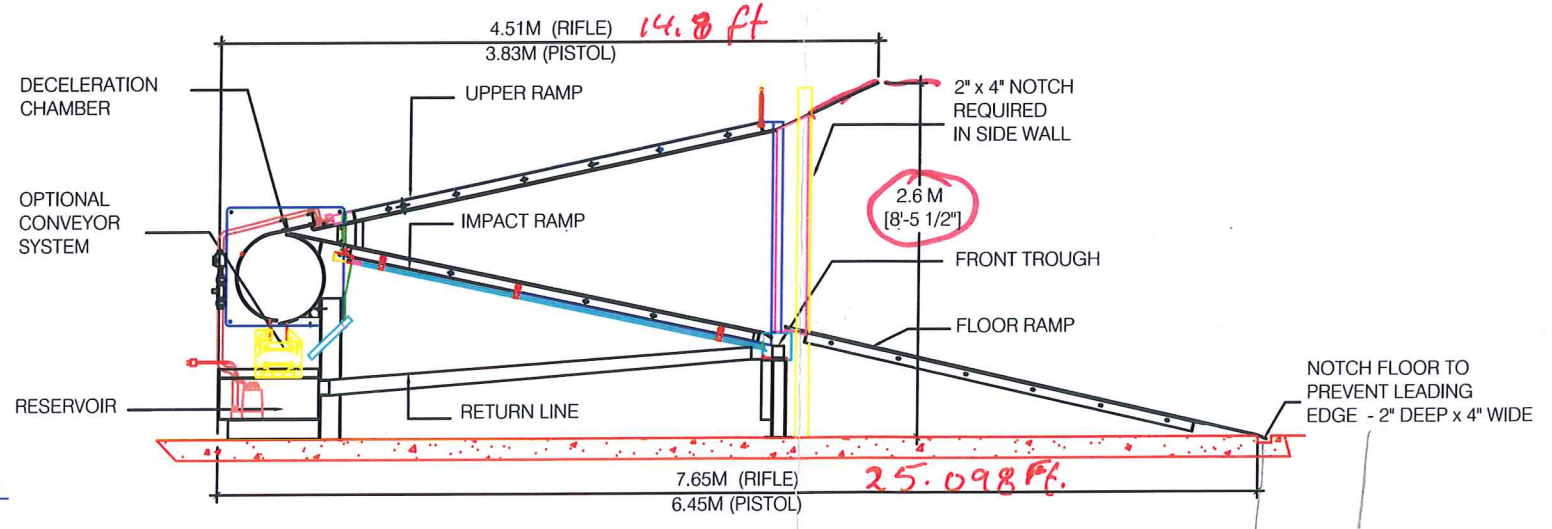
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Roof over DECEL.

NOTE: EIGHT ROWS OF BAFFLES REQUIRED FOR BENCH SHOOTING (SHOWN).
 NINE ROWS OF BAFFLES REQUIRED FOR PRONE SHOOTING.



SECTION THRU' GENERIC INDOOR 25M RANGE



WET TRAP DETAIL

DO NOT SCALE DRAWING

REVISIONS	
REV	DATE
1	05/04/11
2	06/18/12
3	11/16/12

DESCRIPTION
1 TRAP REVISED
2 TRAP RAIL & BOOTH REVISED
3 BAFFLE CONFIGURATION CHANGED

Savage Range Systems Inc.
 100 Springdale Road Westfield, MA 01085
 (413) 568-7001
 www.snittraps.com

SHOOTING RANGES
 &
 BULLET TRAPS

T.P.O. NO:	1900-000
CLIENT:	
PROJECT:	STANDARD DETAILS
TITLE:	GENERIC INDOOR 25M RANGE
DWN BY:	C.J.L. DATE: 01/11/05
CHK BY:	C.J.L. DATE: 01/21/05
DWG NO:	1900 000 02
SCALE:	INTS SHIT 2005



100 Springdale Rd., Westfield, MA 01085
 T:800-370-0712 F:413-562-1152

Budget Estimate

Date	Estimate #...
2/13/2017	Q17-0572
Valid for 60 Days	

Bill To

BERMUDA POLICE
 GEORGE MENSAH
 FACILITIES MANAGER
 HAMILTON
 Bermuda

Ship To

BERMUDA POLICE
 GEORGE MENSAH
 FACILITIES MANAGER
 HAMILTON
 Bermuda

Part #	Description	Qty	U/M	Unit Price	Total
800D/40	Model 800D Trap: will handle handgun & rifle ammunition rated to 8100 FPE, excludes all steel core and AP/API ammunition. Will handle limited quantity/single shot .50 BMG. Upper ramp supported from building structure. Painted with zinc rich paint. – Must select collection system	48	LF		
BRS-DIRECT	Direct Containment Bullet Recovery System for Dry Traps	48	LF		
B801/40	Model B801 Suspended Safety Baffles designed to safely deflect rounds rated up to 8100 FPE. Units are clad with 3/4" CDX plywood to attack face and painted with zinc rich paint. Secondary support grid (e.g. Unistrut) to be provided by Others unless otherwise noted. Rows = 14	672	LF		
C802/40	Model C802 Suspended Safety Ceiling designed to safely contain all rounds rated up to 8100 FPE. Units are clad with 3/4" CDX plywood to attack face and painted with zinc rich paint. Secondary support grid (e.g. Unistrut) to be provided by Others unless otherwise noted.	48	LF		
TT-90/F	1-Way Turning Target	10			
NEXGEN-1000	NEXGEN PLC based target control system for pneumatic targets. Includes Panel View+ 1000 user interface.	1	Each		
NEXGEN-Valve ...	Solenoid valve box with 2 valves. Controls two(2) TT-90 or one (1) TT-180 mechanisms.	5	Each		
NEXGEN-1/4" Li...	1/4" Flexible Nylon Tubing	960	Foot		
NEXGEN-3/8" Li...	3/8" Flexible Nylon 11 Tubing	1	Foot		
NEXGEN-Wiring	16 ga. single conductor general purpose wire.	1,200	Foot		
NEXGEN-Cat5E...	.20" Cat-5E cable from Range Control to the Target Line.	300	Foot		

Estimated by: Nancy Bristol, 413-642-4113

Nancy Bristol

NOTE*FREIGHT WILL BE FOB EX-WORKS SAVAGE RANGE SYSTEMS - TO BE PREPAID & ADDED*****

Total



Savage Range Systems, Inc.
 FID# 76-0335415
 Cage Code 1T8M8
 DUNS # 944231935



100 Springdale Rd., Westfield, MA 01085
 T: 800-370-0712 F: 413-562-1152

Budget Estimate

Date	Estimate #...
2/13/2017	Q17-0572
Valid for 60 Days	

Bill To
BERMUDA POLICE GEORGE MENSAH FACILITIES MANAGER HAMILTON Bermuda

Ship To
BERMUDA POLICE GEORGE MENSAH FACILITIES MANAGER HAMILTON Bermuda

Part #	Description	Qty	U/M	Unit Price	Total
Design	Engineering design support including shop drawings, commissioning of range equipment and training of personnel in operation & maintenance of the equipment.	1	Each	[REDACTED]	[REDACTED]
DELIVERY	FOB Ex-works Savage Range Systems-PREPAID & ADDED	1	Each		
Install. Supervisi...	Manufacturer's supervision of range equipment by customer's crew. Based on normal working hours. We reserve the right to assess a premium for weekend work. Excludes travel, accommodation and related expenses.	18	Day		

Estimated by: Nancy Bristol, 413-642-4113

NOTE*FREIGHT WILL BE FOB EX-WORKS SAVAGE RANGE SYSTEMS - TO BE PREPAID & ADDED*****

Total



Savage Range Systems, Inc.
 FID# 76-0335415
 Cage Code 1T8M8
 DUNS # 944231935



100 Springdale Rd., Westfield, MA 01085
 T: 800-370-0712 F: 413-562-1152

Budget Estimate

Date	Estimate #...
2/13/2017	Q17-0572
Valid for 60 Days	

Bill To

BERMUDA POLICE
 GEORGE MENSAH
 FACILITIES MANAGER
 HAMILTON
 Bermuda

Ship To

BERMUDA POLICE
 GEORGE MENSAH
 FACILITIES MANAGER
 HAMILTON
 Bermuda

Part #	Description	Qty	U/M	Unit Price	Total
Range Inst (20...	<p>This quote is valid for 60 days. Delivery: 10 – 12 Weeks from approval of drawings and receipt of down payment. Installation date to be agreed. Payment Terms: 20% with signed contract, 30% upon production of equipment, 40% upon receipt of equipment, 10% at installation. Shipping: Pre-paid and added unless noted otherwise. This quote does not include Insurance in excess of current limits, performance & payment bond, taxes, local fees, assessments, licenses or mandatory wage requirements unless noted otherwise and agreed. Installation will be by factory trained personnel. OPTIONAL SUPERVISION only at a rate of \$650 per day plus expenses. All site work is excluded from this quotation unless noted otherwise and agreed. Savage Range Systems will provide specifications / details of our requirements. Bullet trap installation requires fork truck access from the front of the trap. Customer is responsible for all line voltage connections unless noted otherwise. The Customer is responsible for providing secure storage for and off-loading of our materials. Savage Range Systems offers a one-year limited warranty on components manufactured by Savage Range Systems. Commercial components – electronics, cylinders, etc. – carry the manufacturer's standard warranty. We reserve the right to revise this quote if the specifications are modified or amended. Pricing in US Dollars.</p>				0.00

Estimated by: Nancy Bristol, 413-642-4113

NOTE*FREIGHT WILL BE FOB EX-WORKS SAVAGE RANGE SYSTEMS - TO BE PREPAID & ADDED*****

Total



Savage Range Systems, Inc.
 FID# 76-0335415
 Cage Code 1T8M8
 DUNS # 944231935