

ELEVATION
SCALE 1:25

GENERAL NOTES:-

1. INSTALLATION DETAILS ARE PROVIDED FOR THE GENERAL 4000x3500 EASEMENT.
2. CIVIL FOUNDATION IS DESIGNED FOR PWC STANDARD SPECIFICATION SOIL TYPE 1, 2 & 3 AND LIMITED TO THE PWC APPROVED 500kVA, 750kVA OR 1000kVA MK3 PACKAGE SUBSTATION (5100 KG MAX.) FITTED WITH EITHER A 3 WAY OR 4 WAY RMU.
3. FOR OTHER SOIL TYPES THE PWC STANDARD CIVIL DESIGN MUST BE REVIEWED AND THE AMENDED DESIGN SUBMITTED TO PWC FOR APPROVAL
4. FOR ALL OTHER HEAVIER SUBSTATIONS OR THOSE WITH DIFFERENT CENTRE OF GRAVITY REQUIRES THE FOUNDATION DESIGN TO BE REVIEWED AND SUBMITTED TO PWC FOR APPROVAL.
5. MK3 PACKAGE SUBSTATION FOUNDATION AND EARTHING, REFER TO S02-02-06-31 SHEET 2 AND S02-02-05-10 FOR DETAILS.
6. HEAVY DUTY ORANGE 100mm DIAMETER CONDUITS WITH 1200mm RADIUS BENDS SHALL BE USED FOR HV AND LV CABLE ENTRY. EACH HV CABLE SHALL OCCUPY ONE SINGLE 100mm CONDUIT. 4 x 240mm² LV CABLES SHALL BE INSTALLED IN EACH 100mm CONDUIT ON THE LV SIDE.
7. IT IS PREFERRED THAT 400mm² CABLES SHALL BE TERMINATED IN SWITCH BAYS 1 AND/OR 2.
8. ALL CONDUITS (EXCEPT FOR DRAIN) SHALL BE CUT LEVEL 30mm ABOVE THE FINISHED GROUT LEVEL.
9. SWITCH BAY 3 IS RESERVED FOR THE FUSED TRANSFORMER TEE-OFF.
10. ALL CONDUIT ENDS SHALL BE SEALED WITH PWC APPROVED SEALANT. REFER TO PWC STANDARD DRAWING S02-01-09-06.
11. REFER TO DRAWING S02-01-07-18 FOR CENTRE OF GRAVITY DETAILS.
12. SUBSTATION DETAILS ARE NOT TO BE COPIED NOR THE INFORMATION HEREON DIVULGED TO ANY THIRD PARTY OR USED FOR THE MAKING OF APPARATUS WITHOUT THE WRITTEN PERMISSION OF WILSON TRANSFORMER CO. PTY. LTD.
13. THE PRECAST SLAB AS PER S02-01-05-12 SHALL BE USED WHEN AVAILABLE. THE MARK 2 SLAB AS PER S02-02-06-31.2 CAN ALTERNATIVELY BE USED. REFER TO S02-02-06-42 FOR ALTERNATE CONDUIT LOCATIONS.
14. INSTALL SUITABLE OUTDOOR NEUTRAL CURING SILICON BEAD AT EDGE OF CONCRETE SLAB CABLE VOID NO GREATER THAN 20mm WIDTH TO LIMIT WATER INGRESS INTO CABLE VOID. THIS SHALL BE DONE PRIOR TO THE PLACEMENT OF THE SUBSTATION

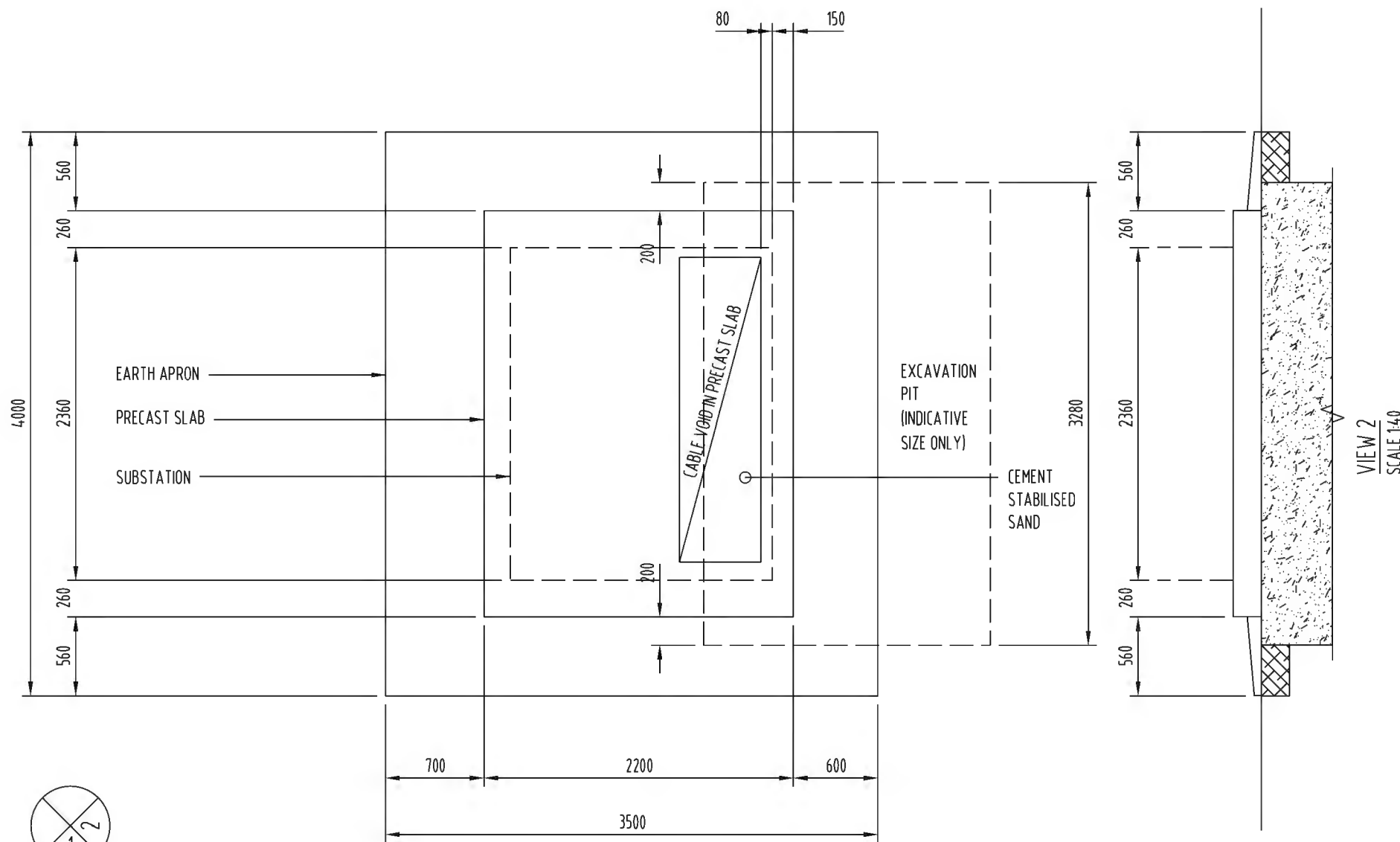
CIVIL NOTES:-

1. THE CONTRACTOR IS RESPONSIBLE FOR ASSESSING SOIL CONDITIONS PRIOR TO COMMENCING WORK. HAZARD IDENTIFICATION AND RISK ASSESSMENT ARE REQUIRED PRIOR TO THE COMMENCEMENT OF WORKS.
2. THIS CIVIL DESIGN IS APPROVED FOR THE FOLLOWING SOIL CONDITIONS. OTHER SOIL CONDITIONS REQUIRE ENGINEERING DESIGN.
 - 2a - SOIL GROUP 1: (GOOD BEARING CAPACITY 300kPa) WELL COMPACTED ROCK SOIL. HARD CLAY AND WELL BONDED SAND AND GRAVEL WITH GOOD SURFACE WATER DRAINAGE AND FOOTING NORMALLY ABOVE WATER TABLE.
 - 2b - SOIL GROUP 2: (MEDIUM BEARING 200kPa) COMPACT MEDIUM CLAY. WELL BONDED SANDY LOAM. BONDED SAND AND GRAVEL WITH REASONABLE SURFACE DRAINAGE.
 - 2c - SOIL GROUP 3: (POOR BEARING 100kPa) SOFT CLAY. POOR COMPACTED SAND AND SOILS THAT TEND TO ABSORB LARGE AMOUNTS OF WATER, PROVIDED THESE DO NOT DEVELOP INTO SLUSH.
3. CEMENT STABILISED SAND SHALL BE 5% CEMENT WITH COHESION = 1000kPa AND A FRICTION ANGLE = 30 DEGREES. THE CONTRACTOR SHALL PERFORM TESTS ON SITE TO PROVE THE REQUIRED STRENGTH IS ACHIEVED.
4. MAXIMUM ALLOWABLE SURCHARGE IS 15kPa. THE CONTRACTOR IS RESPONSIBLE FOR ACCESSING SOIL CONDITIONS PRIOR TO COMMENCING WORK. KEEP ALL EXCAVATION AND LIFTING PLANT A MINIMUM OF 2000mm FROM THE EXCAVATION EDGE.
5. THE PRECAST SLAB SHALL BE FOUNDED ON COMPETENT NATURAL GROUND COMPACTED TO 95% MMDD. IF TOP SOIL IS PRESENT, REMOVE AND REPLACE WITH FILL MATERIAL THAT IS FREE OF ORGANIC MATTER, HAS A MINIMUM SOAKED CBR AT 95% MMDD OF 20% AT 2.5mm AND A PLASTICITY INDEX BETWEEN 2% AND 15%, COMPACTED TO 95% MMDD.
6. FOR SUBSTATIONS REQUIRING A REVERSED LV CONDUIT FOR CUSTOMER CABLE ENTRY CONDUIT, A 450mm WIDE TRENCH SHALL BE EXCAVATED AND BACKFILLED WITH 5% CEMENT STABILISED SAND. EXCAVATION POSITION TO SUIT CABLE POSITION REQUIREMENTS.
7. IF SUBSTATION IS ADJACENT TO PAVING THEN ENSURE PAVING IS FLUSH WITH EDGE OF EARTH APRON.
8. ENSURE 30 THICK GROUT (NOMINAL) IS SLOPED TOWARD DRAIN TO ENSURE ADEQUATE DRAINAGE.
9. RETAINING WALL OR PIERS AS PER MK2 CIVIL INSTALLATION (S02-02-06-31) MAY BE USED ONLY IF EXCAVATION SPACE RESTRICTIONS EXIST FOR BROWNFIELDS INSTALLATION. USE MK2 INSTALLATION METHODS AS REQUIRED FOR THIS SENARIO.
10. ALL LIFTING ANCHORS TO BE GROUTED OR CONCRETE FILLED TO BE FLUSH WITH CONCRETE SLAB FACE.

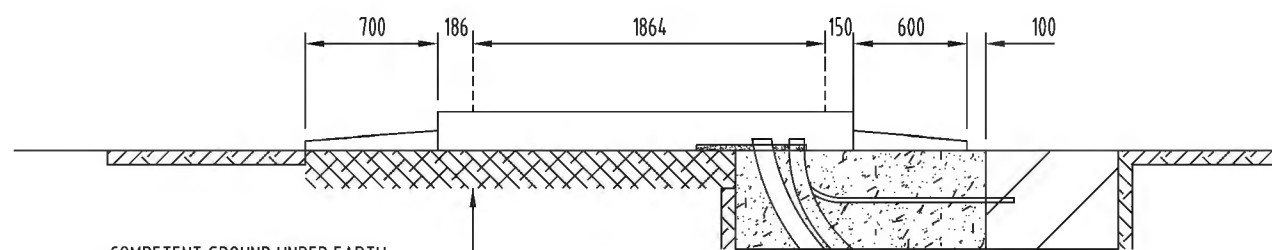
8	SHEET 2 AMENDED	P BH	SEP'23	B V	B C
7	AMENDED GENERAL NOTES 6 & 10. INCLUDED CIVIL NOTE 10, CORRECTED DIMENSIONS	R.A.	OCT'21	B.V.	A.N.
6	GENERAL NOTES UPDATED. SHEET 2, 3 & 4 AMENDED	C.C.	JUL'21	B.V.	B.C.
5	AMENDED NOTE 13 IN PAGE 1 & NOTE 6 IN PAGE 4 TO REFERENCE RENUMBERED PRECAST SLAB DRAWING	R.A.	MAY'21	C C C	B.C.
4	AMENDED DRAWING FRAME & FONTS	CWM	FEB 2020	BV	BV
3	ADD NOTE 14, AND REMOVE EXPANDING FOAM REFERENCE	CWM	NOV 2019	BV	BV
2	TITLE BLOCK & DRAWING NUMBER FORMATTED	KT	FEB 19	CC	CC
1	INCLUDE BROWNFIELDS WALL INSTALLATION NOTES	PH	APR 18	BC	BV
0	ISSUED FOR CONSTRUCTION	SHW	SEPT 17	MP	MP
NO	DESCRIPTION	DRN	DATE	CKD	APPD
AMENDMENTS					



DES	HT	POWER STANDARD DRAWING		
DRN	SHW	CIVIL, MK3 PACKAGE SUBSTATION GENERAL ARRANGEMENT CABLE ENTRY AND FOUNDATION DETAILS ELEVATION - SHEET 1 OF 4		
CKD	MP			
APPD	CS			
SCALE				
ISSUED	Sept 2017	A3	DRAWING NUMBER	S02-02-06-37_1
ALL DIM. IN mm				
DRAFTING STANDARD TO A.S.1100		CAD PRODUCT - DO NOT AMEND MANUALLY		AMDT

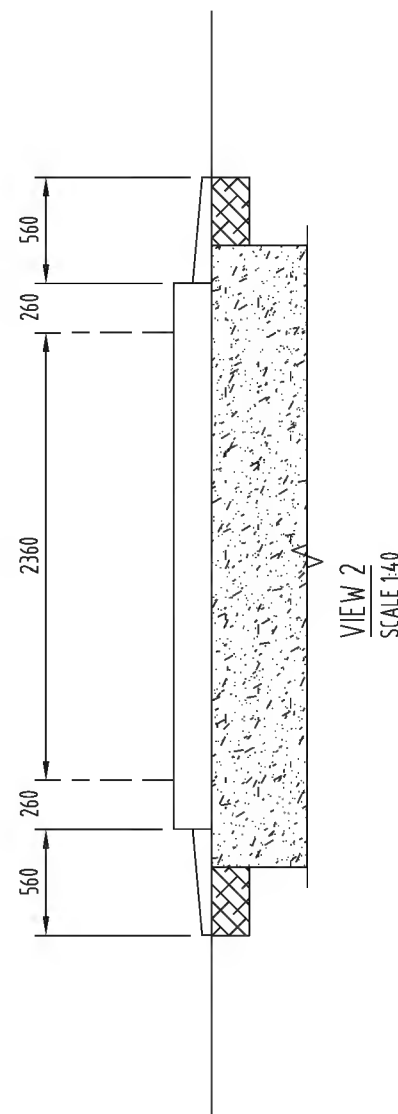


PLAN
SCALE 1:40

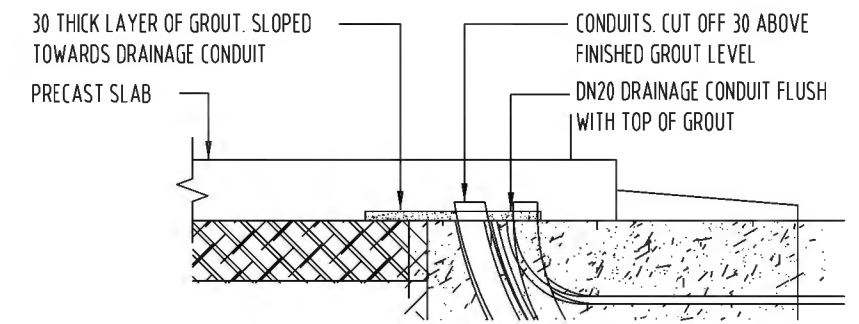


COMPETENT GROUND UNDER EARTH
APRON AND PRECAST SLAB COMPACTED
TO 95% MMDD (MINIMUM 3500 x 4000)

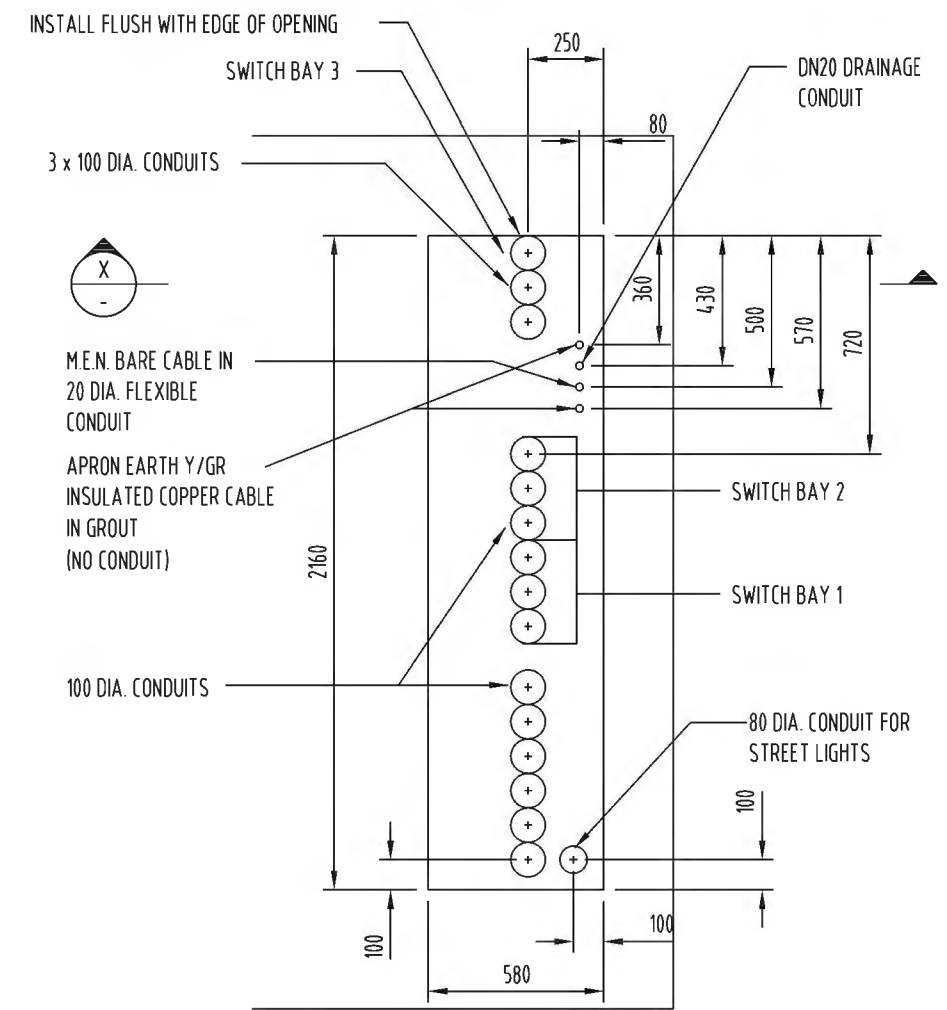
VIEW 1
SCALE 1:40



VIEW 2
SCALE 1:40



SECTION X
SCALE 1:25

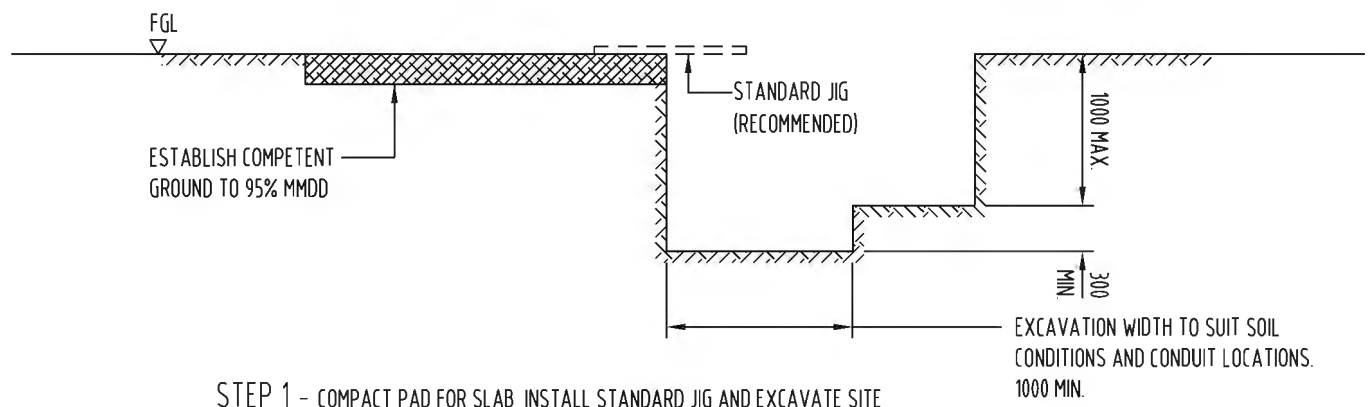


CONDUIT ENTRY DETAILS
SCALE 1:25

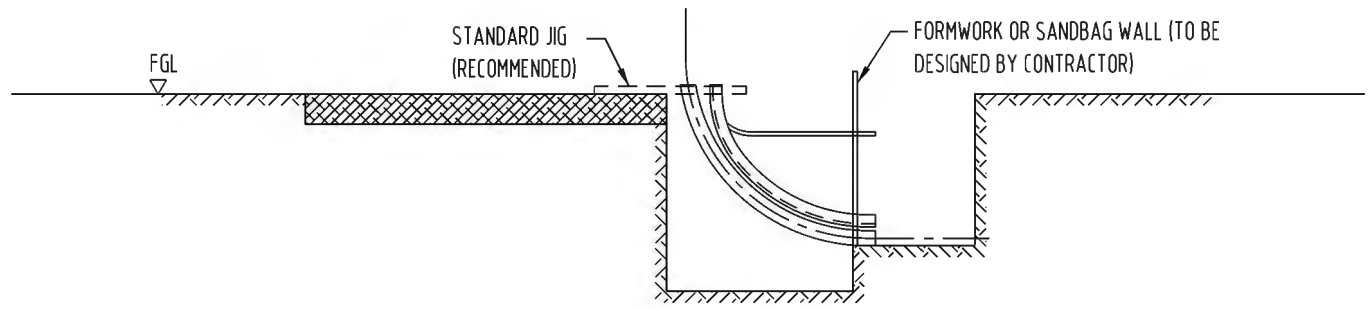
8	APRON EARTH CABLE AMENDED.	P.BH.	SEP'23	B.V.	B.C.
7	AMENDED SHEETS 1, 3 & 4. ADDED ADDITIONAL BARE EARTH CABLE IN SHEET 2.	R.A.	OCT'21	B.V.	A.N.
6	NOTE 1 & 2 ADDED	C.C.	JUL'21	B.V.	B.C.
5	AMENDED NOTE 13 IN PAGE 1 & NOTE 6 IN PAGE 4 TO REFERENCE RENUMBERED PRECAST SLAB DRAWING.	R.A.	MAY'21	C.C.C.	B.C.
4	AMENDED DRAWING FRAME & FONTS	CWM	FEB 2020	BV	BV
3	SHEET 1 AMENDED	CC	NOV 19	BV	BV
2	TITLE BLOCK & DRAWING NUMBER FORMATTED	KT	FEB 19	CC	CC
1	INCLUDE BROWNFIELDS WALL INSTALLATION NOTES	PH	APR 18	BC	BV
0	ISSUED FOR CONSTRUCTION	SHW	SEPT 17	MP	MP
NO	DESCRIPTION	DRN	DATE	CKD	APPD
AMENDMENTS					



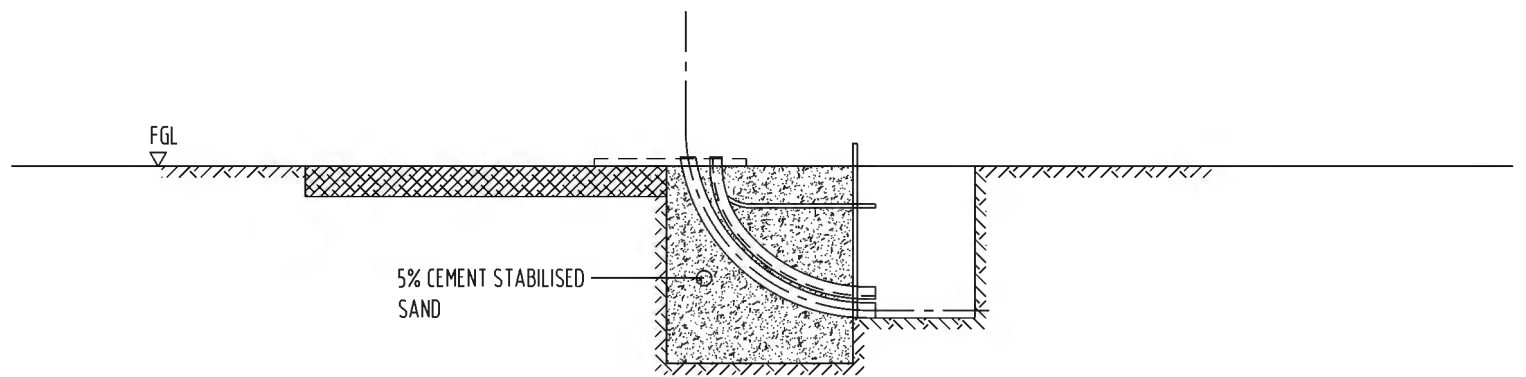
DES	HT	POWER STANDARD DRAWING			
DRN	SHW	CIVIL, MK3 PACKAGE SUBSTATION CABLE ENTRY AND FOUNDATION DETAILS SETOUT DRAWING - SHEET 2 OF 4			
CKD	MP	A3	DRAWING NUMBER	S02-02-06-37_2	
APPD	CS			8	
SCALE	AS SHOWN	DRAFTING STANDARD TO A.S.1100		CAD PRODUCT - DO NOT AMEND MANUALLY	
ISSUED	Sept 2017	AMDT			



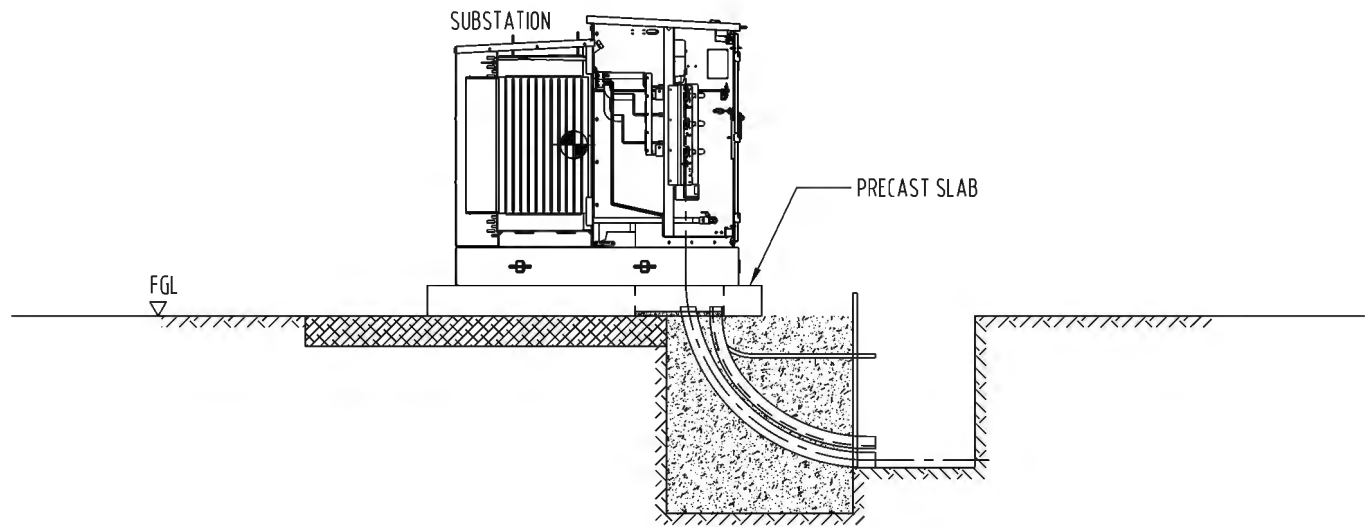
STEP 1 - COMPACT PAD FOR SLAB, INSTALL STANDARD JIG AND EXCAVATE SITE



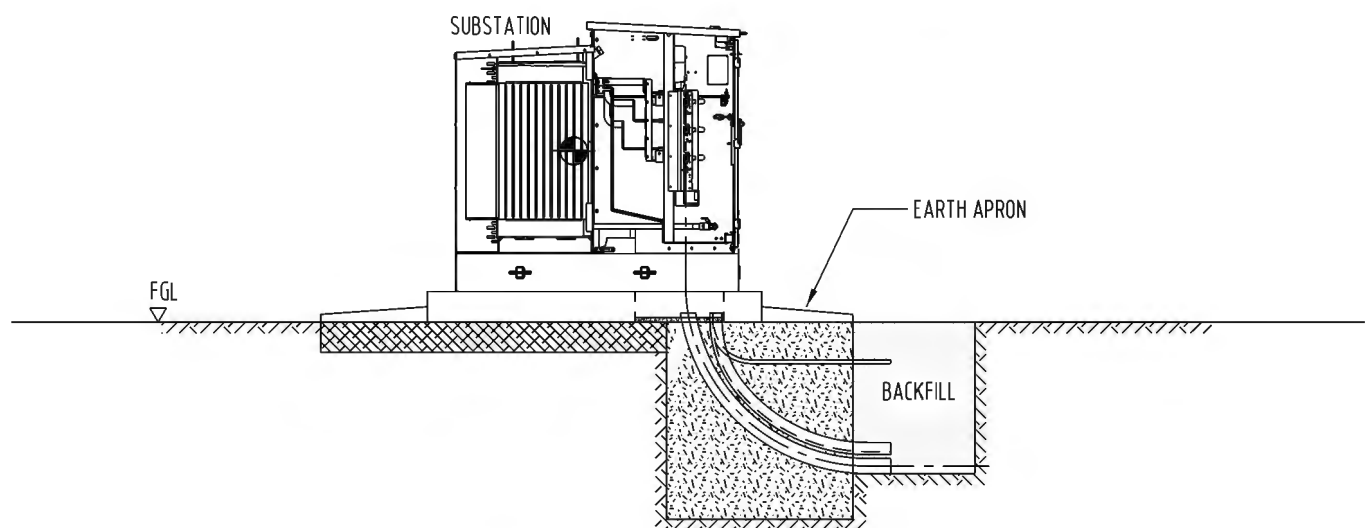
STEP 2 - INSTALL THE CONDUITS USING THE STANDARD JIG AND FORMWORK FOR THE CEMENT STABILISED SAND



STEP 3 - PLACE 5% CEMENT STABILISED SAND AND ALLOW IT TO ACHIEVE REQUIRED STRENGTH



STEP 4 - INSTALL PRECAST CONCRETE SLAB, REMOVE JIG, GROUT CONDUIT ENTRY AND INSTALL SUBSTATION INCLUDING CABLES, EARTHING AND TERMINATIONS



STEP 5 - BACKFILL THE PIT AND INSTALL EARTH APRON. MAKE EXISTING PAVING FLUSH WITH EARTH APRON AS REQUIRED

CONSTRUCTION SEQUENCE
SCALE 1:50

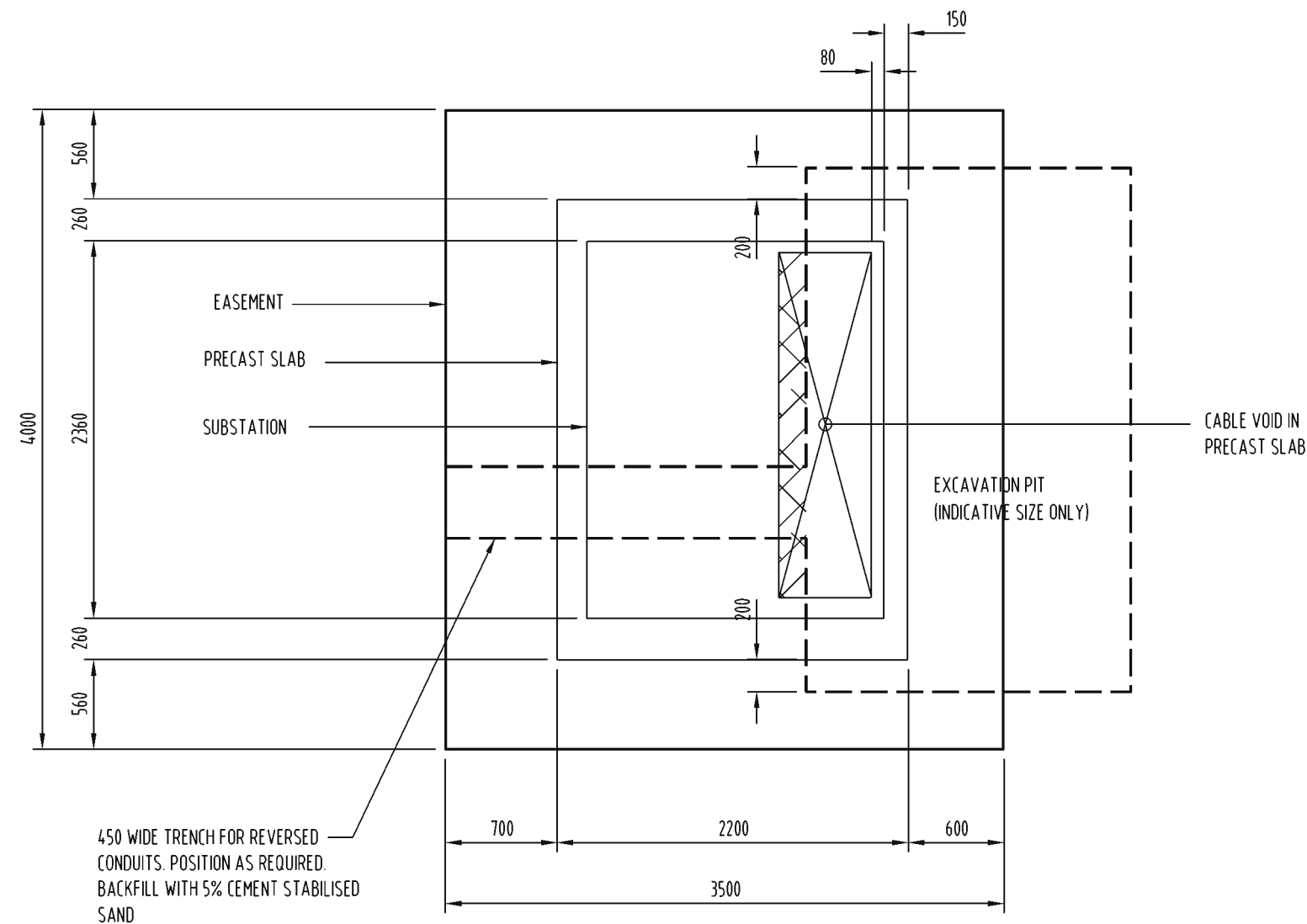
CONSTRUCTION SEQUENCE NOTES:-

1. ESTABLISH COMPETENT NATURAL GROUND OR SELECT FILL BASE FOR THE SLAB AND COMPACT TO 95% MMDD.
2. MARK OUT THE SITE AND POSITION THE STANDARD JIG. REFER DRAWING S02-02-06-38.
3. EXCAVATE THE PIT.
4. INSTALL THE CONDUITS.
5. PLACE THE 5% CEMENT STABILISED SAND AND ALLOW FOR IT TO REACH THE REQUIRED STRENGTH.
6. REMOVE THE JIG AND INSTALL THE PRECAST SLAB.
7. GROUT THE CONDUIT ENTRY OPENING AND CUT OFF THE CONDUITS 30mm ABOVE THE GROUT. ALL LIFTING ANCHORS TO BE GROUTED OR CONCRETE-FILLED TO BE FLUSH WITH CONCRETE SLAB FACE.
8. INSTALL THE MK3 SUBSTATION.
9. BACKFILL THE PIT.
10. INSTALL THE EARTH APRON.

NO	DESCRIPTION	DRN	DATE	CKD	APPD
0	ISSUED FOR CONSTRUCTION	PH	APR 18	HP	HP
1	INCLUDE BROWNFIELDS WALL INSTALLATION NOTES	PH	FEB 19	CC	CC
2	TITLE BLOCK & DRAWING NUMBER FORMATTED	PH	APR 18	CC	CC
3	TITLE BLOCK & DRAWING NUMBER FORMATTED	PH	APR 18	CC	CC
4	SHEET 1 AMENDED	PH	APR 18	CC	CC
5	AMENDED DRAWING FRAME & FONTS	PH	APR 18	CC	CC
6	AMENDED NOTE 13 IN PAGE 1 & NOTE 6 IN PAGE 4, TO REFERENCE RENUMBERED PRECAST SLAB DRAWING	PH	APR 18	CC	CC
7	CONSTRUCTION SEQUENCE NOTES UPDATED & ADDITIONAL NOTE ADDED	PH	APR 18	CC	CC
8	AMENDED SHEET 2	PH	APR 18	CC	CC

PowerWater
NORTHERN TERRITORY

DES	HT	POWER STANDARD DRAWING
DRN	SHW	CIVIL, MK3 PACKAGE SUBSTATION CABLE ENTRY AND FOUNDATION DETAILS CONSTRUCTION SEQUENCE - SHEET 3 OF 4
CKD	HP	
APPD	CS	
SCALE	AS SHOWN	
ISSUED	Sep 2017	
ALL DIM. IN mm	A3	DRAWING NUMBER
DRAFTING STANDARD TO A.S.1100	S02-02-06-37_3	CAD PRODUCT - DO NOT AMEND MANUALLY



PLAN
SCALE 1:40

CONSTRUCTION SEQUENCE NOTES:-

1. ESTABLISH COMPETENT NATURAL GROUND OR SELECT FILL BASE FOR THE SLAB AND COMPACT TO 95% MMDD.
2. MARK OUT THE SITE AND POSITION THE STANDARD JIG. REFER DRAWING S02-02-06-38.
3. EXCAVATE THE PIT AND THE 450 WIDE TRENCH.
4. INSTALL THE CONDUITS.
5. PLACE THE 5% CEMENT STABILISED SAND AND ALLOW FOR IT TO REACH THE REQUIRED STRENGTH.
6. REMOVE THE JIG AND INSTALL THE PRECAST SLAB. REFER DRAWING S02-01-05-12.
7. GROUT THE CONDUIT ENTRY OPENING AND CUT OFF THE CONDUITS 30mm ABOVE THE GROUT. ALL LIFTING ANCHORS TO BE GROUTED OR CONCRETE-FILLED TO BE FLUSH WITH CONCRETE SURFACE.
8. INSTALL THE MK3 SUBSTATION.
9. BACKFILL THE PIT AND THE REMAINING 450 WIDE TRENCH LENGTH.
10. INSTALL THE EARTH APRON. REFER DRAWINGS S02-02-05-10 AND S02-02-06-33.

8	AMENDED SHEET 2	P.BH.	SEP'23	B.V.	B.C.
7	AMENDED NOTE 7	R.A.	OCT'21	B.V.	A.N.
6	CONSTRUCTION SEQUENCE NOTES UPDATED	C.C.	JUL'21	B.V.	B.C.
5	AMENDED NOTE 13 IN PAGE 1 & NOTE 6 IN PAGE 4 TO REFERENCE RENUMBERED PRECAST SLAB DRAWING	R.A.	MAY'21	C.C.C.	B.C.
4	AMENDED DRAWING FRAME & FONTS	CWM	FEB 2020	BV	BV
3	SHEET 1 AMENDED	CWM	NOV 2019	BV	BV
2	TITLE BLOCK & DRAWING NUMBER FORMATTED	KT	FEB 19	CC	CC
1	INCLUDE BROWNFIELDS WALL INSTALATION NOTES	PH	APR 18	BC	BV
0	ISSUED FOR CONSTRUCTION	SHW	SEPT 17	MP	MP
NO	DESCRIPTION	DRN	DATE	CKD	APPD
AMENDMENTS					



DES	HT	POWER STANDARD DRAWING		
DRN	SHW	CIVIL, MK3 PACKAGE SUBSTATION CABLE ENTRY AND FOUNDATION DETAILS CONSTRUCTION SEQUENCE - REVERSED CONDUIT ARRANGEMENT SHEET 4 OF 4		
CKD	MP			
APPD	CS			
SCALE	AS SHOWN			
ISSUED	Sept 2017	A3	DRAWING NUMBER	S02-02-06-37_4
ALL DIM. IN mm				
DRAFTING STANDARD TO A.S.1100		CAD PRODUCT - DO NOT AMEND MANUALLY		

