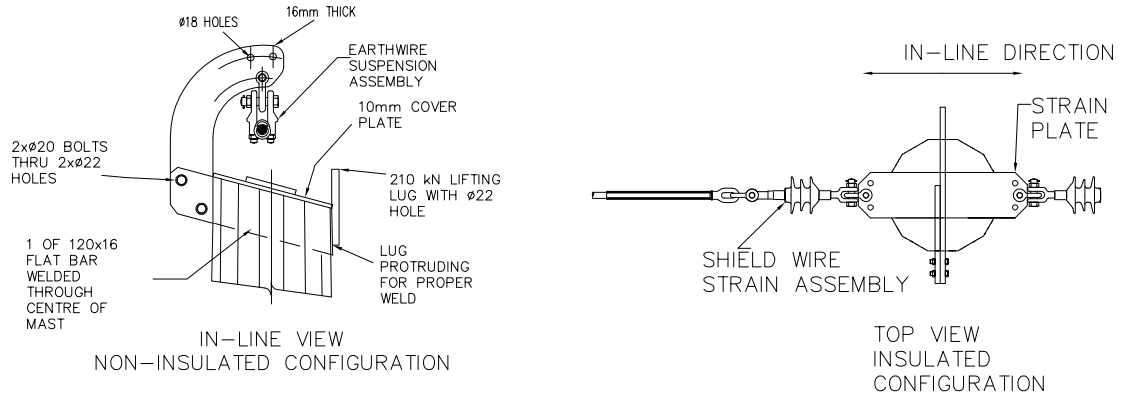


POLE INFORMATION:

STRUCTURE CODE:	277A
PHASE CONDUCTOR:	TWIN CHICKADEE
SHIELD WIRE:	CHICKADEE (21mm)
DEVIATION ANGLE:	0-3 DEG
DESIGN WIND SPAN:	350m
UPLIFT:	0 m
DESIGN WEIGHT SPAN:	490 m
DESIGN ELECTRICAL SPAN*:	505 m
TOTAL LENGTH:	20.43 m - 30.42 m
SIDES:	12
WIND LOAD ON WIRES:	1040-1147 Pa
WIND LOAD ON POLE:	1000 Pa
MATERIAL:	S355JR

POLES NOT TESTED. WIND & WEIGHT SPANS TO INCLUDE A SAFETY FACTOR OF 0.9 WHEN PROFILING. THESE SPANS MAY BE INCREASED AFTER SUCCESSFUL TESTING.
*ELECTRICAL SPAN DETERMINED AT MAXIMUM DEVIATION ANGLE

POLE TOP DETAILS



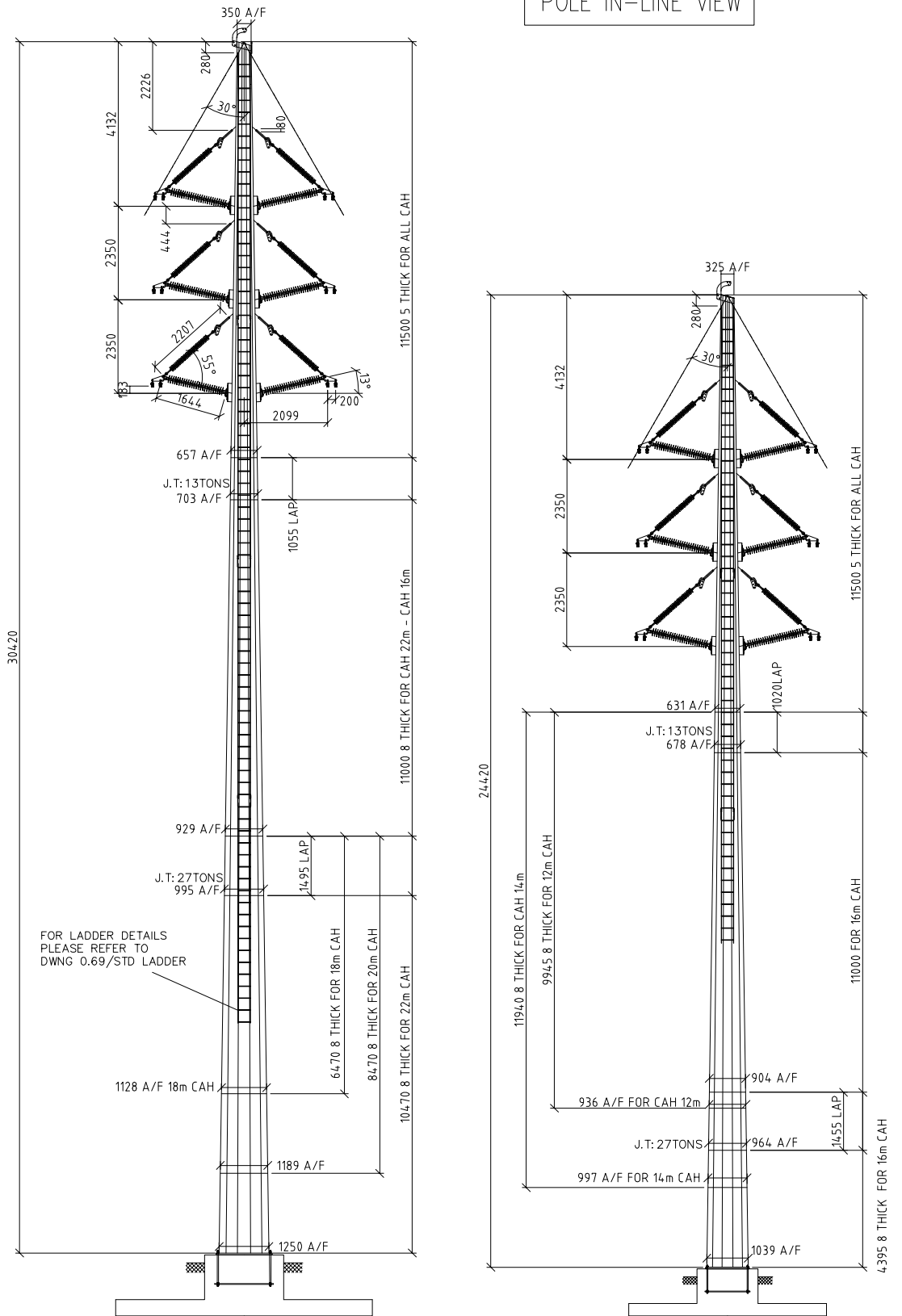
POLE DESIGN SPECIFICATION:

THE DESIGN OF THESE STRUCTURES IS GENERALLY IN ACCORDANCE WITH ASCE/SEI 48-11, DESIGN OF STEEL TRANSMISSION POLE STRUCTURES

TWIN CHICKADEE DESIGN: LOADING DETERMINED AS PER CSIR 1990 LOADS

POLES TO BE FABRICATED AND ERECTED AS PER POLE FABRICATION SPECIFICATION DSP_34-1683 (LATEST REVISION)

POLE IN-LINE VIEW



FABRICATION/CONSTRUCTION INFORMATION:

POLES WILL HAVE THE LOWEST NUMBER OF SLIP JOINTS IN CONFORMANCE WITH THE LIMITATION IMPOSED BY THE LENGTH OF THE GALVANISING BATH. SLIP JOINT LENGTH IS TO BE 1.5 TIMES THE LARGEST I.D. OF THE FEMALE SECTION.

JACKING TENSION: PLEASE REFER TO TOTAL JACKING LOAD MARKED J.T. ON ADJACENT POLE OUTLINE. TO BE DIVIDED BY THE NUMBER OF LUGS AT THE SLIP JOINTS. JACKING LUGS FITTED ON THE POLE FACE AS PER DRAWING 0.69/02/JL (LATEST REVISION) OR AS DETAILED BY FABRICATOR.

FULL PENETRATION WELDS ARE TO BE USED ON: ALL SECTIONS JOINED BY THE CIRCUMFERENTIAL WELDS. ALL LONGITUDINAL WELDS WITHIN 75 mm OF CIRCUMFERENTIAL WELDS OR IN THE FEMALE SECTION OF A SLIP JOINT.

ACCESS LADDERS ARE REQUIRED ON ALL STRUCTURES FROM APPROXIMATELY 6 m ABOVE GROUND LEVEL.

PROTRUDING EDGES OF THE POLE TIP CAP PLATE TO BE GROUND OFF. ALL SHARP CORNERS TO BE ROUNDED TO MIN 5 mm RADIUS.

OPGW DOWNLEAD LUGS TO BE FITTED WHERE REQUIRED IN ACCORDANCE WITH 0.69/00/OPGW/POLC.

STRUCTURE TYPE AND NUMBER MUST BE CLEARLY SHOWN ON EACH POLE SECTION. IT IS PREFERABLE WHEREVER POSSIBLE TO WELD THIS INFORMATION TO THE SIDE/ INSIDE OF THE STRUCTURE FOR EACH SECTION AS WELL AS ON THE TEMPLATE, EG. "DESIGNATION"/1 (FIRST SECTION), DESIGNATION.CAH/2 (SECOND SECTION) ETC. AND DESIGNATION.CAH ON THE TEMPLATES.

FABRICATOR TO SPECIFY VENT HOLES FOR GALVANIZING.

WELDING TO BE MIN 6 mm CONTINUOUS SEAL TO SANS 10162 SECTION 11. HOT DIP GALVANIZING TO SANS 121.

STRESS RELIEVING TO BE APPLIED IN ACCORDANCE WITH SANS 121. TOLERANCES: ON DIMENSIONS: 2 mm ON DRILLING CENTRES: 2 mm

SEE DSP 34-1683 FOR OTHER TOLERANCES.

REFERENCE DRAWINGS

STAND-OFF INSULATOR MOUNTING BRACKET: SEE DRAWING D-WC-7600 SHEET 02 REV. 02

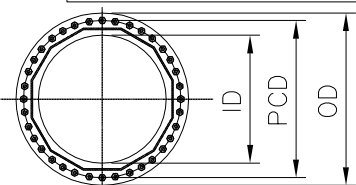
LADDER FABRICATION DETAILS: SEE 0.69/STD LADDER/1 REV. 0
STRAIN PLATE DETAILS: SEE DRAWING D-WC-7600/4 REV. 0

CAH	DESIGNATION	DIMENSIONS			BASE PLATE (1)				ANCHORAGE SYSTEM						FOUNDATION LOADS (2)		ESTIMATED FABRICATED MASS (3)					
		TIP DIA AF (mm)	BASE DIA AF (mm)	POLE LENGTH (m)	OD (mm)	ID (mm)	PCD (mm)	THICKNESS (mm)	GRADE	NO. OF BOLTS	DIA. (mm)	BOLT LENGTH (mm)	NO. OF TEMPLATES	OD (mm)	ID (mm)	THICKNESS (mm)	MAX MOMENT (kNm)	VERTICAL LOAD (kN)	HD BOLTS (kg)	FLANGE PLATE AND TEMPLATES (kg)	POLE MASS (kg)	TOTAL MASS (kg)
12.0	277A.120	325	936	20.43	1090	780	1035	40	8.8	40	24	1180	1	1175	895	20	1795	108	195	153	2277	2625
14.0	277A.140	325	997	22.42	1167	830	1095	40	8.8	44	24	1180	1	1235	955	20	2054	106	214	174	2664	3052
16.0	277A.160	325	1039	24.42	1195	860	1140	40	8.8	48	24	1180	1	1280	1000	20	2320	114	234	170	3329	3733
18.0	277A.180	350	1128	26.42	1285	940	1230	40	8.8	48	24	1180	1	1370	1090	20	2594	118	234	184	3903	4321
20.0	277A.200	350	1189	28.42	1350	990	1295	40	8.8	52	24	1180	1	1435	1155	20	2872	123	253	196	4368	4817
22.0	277A.220	350	1250	30.42	1415	1040	1360	40	8.8	56	24	1180	1	1500	1220	20	3151	131	273	209	4857	5339

TABLE NOTES:
(1) BASE PLATE TO BE CUT FROM SINGLE STEEL PLATE. TEMPLATES MAY BE MADE UP FROM OFFCUT MATERIAL.
(3) ACTUAL POLE MASS MAY VARY BASED ON FABRICATOR DETAILING. NO WASTAGE INCLUDED.

(2) FOUNDATION LOADS AS PER CRITICAL LOAD CASE, NO ADDITIONAL LOAD OR STRENGTH FACTORS APPLIED
(4) VERTICAL LOAD INCLUDES POLE MASS AND APPLIED LOADS

BASE PLATE (TYPICAL)



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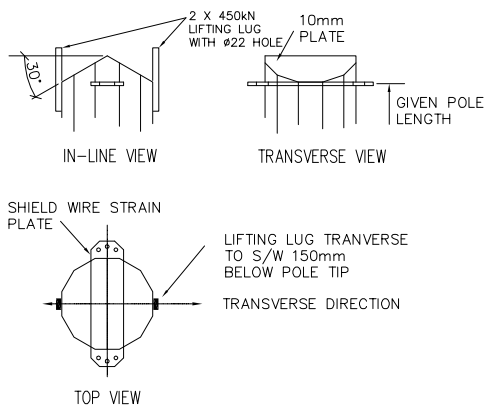
5					
4	RM	TL	05/03/2015	ANCHORAGE RE-DESIGNED TO MAKE USE OF 1 TEMPLATES ONLY. NO GUSSETS AT POLE BASE - BASE PLATE REDESIGNED.	
3	RM	MB	22/05/2012	ALTERED OUTLINE DRAWINGS AS PER CIS FABRICATION DRAWINGS	
2	AH	TL	31/05/2010	RE-DESIGNED POLE AND CROSS-ARM BASEPLATES	
1	GSL	PM	04/12/2009	REVISED CROSS-ARM LENGTHS (INC. ELECTRICAL SPAN) & PH-EARTH SPACING & 12m CAH	
0	GSL	GBL	23/09/2009	FIRST ISSUE	
REV	DRAWN BY:	CHKD	DATE:	REVISION DESCRIPTION:	
				TITLE: 132kV DOUBLE TWIN CHICKADEE CIRCUIT MONOPOLE INTERMEDIATE TYPE "277A" ATTACHMENT HEIGHT 12m TO 22m OUTLINE	
				0.69/277A/1 SHEET 1 OF 1 REV 4	

POLE INFORMATION:

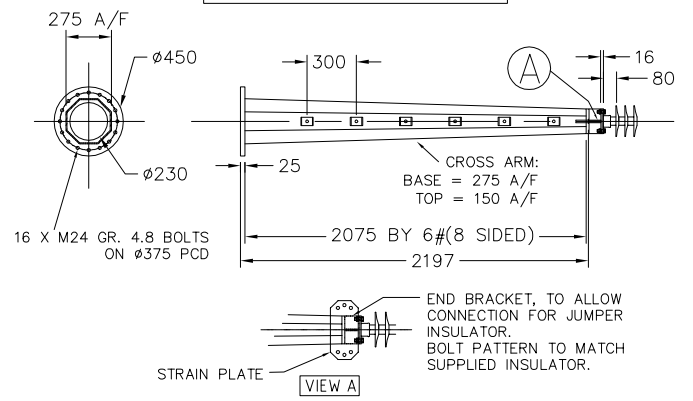
STRUCTURE CODE:	277C
PHASE CONDUCTOR:	TWIN CHICKADEE
SHIELD WIRE:	CHICKADEE (21mm)
DEVIATION ANGLE:	0-15 DEGREES
DESIGN WIND SPAN:	350 m
VERTICAL Ph - Ph SPACING:	2.35 m
DESIGN WEIGHT SPAN:	700 m
DESIGN ELECTRICAL SPAN:	525 m
TOTAL LENGTH:	31.250m-25.570m
SIDES:	12
CAH:	22m - 12m
WIND LOAD ON WIRES:	993-1070Pa
WIND LOAD ON POLE:	1000Pa
MATERIAL:	S355JR

POLE NOT TESTED. WIND & WEIGHT SPAN INCLUDE A SAFETY FACTOR 0.9. THESE SPANS MAY BE INCREASED AFTER SUCCESSFUL TESTING

POLE TOP DETAILS



CROSSARM DETAILS



POLE DESIGN SPECIFICATION:

THE DESIGN OF THESE STRUCTURES IS GENERALLY IN ACCORDANCE WITH ASCE/SEI 48-11, DESIGN OF STEEL TRANSMISSION POLE STRUCTURES.

LOADING DETERMINED AS PER CSIR 1990 LOADING CODE METHOD

THE ABOVE-STATED WIND SPAN IS AT 0.9 OF DESIGN WIND SPAN FOR UNTESTED POLES

POLES TO BE FABRICATED AND ERECTED AS PER POLE FABRICATION SPECIFICATION DSP_34-1683 (LATEST REVISION)

FABRICATION/CONSTRUCTION INFORMATION:

POLES WILL HAVE THE LOWEST NUMBER OF SLIP JOINTS IN CONFORMANCE WITH THE LIMITATION IMPOSED BY THE LENGTH OF THE GALVANISING BATH. SLIP JOINT LENGTH IS TO BE 1.5 TIMES THE LARGEST I.D. OF THE FEMALE SECTION.

JACKING TENSION: PLEASE REFER TO TOTAL JACKING LOAD MARKED J.T ON ADJACENT POLE OUTLINE. TO BE DIVIDED BY THE NUMBER OF LUGS AT THE SLIP JOINTS. JACKING LUGS FITTED ON THE POLE FACE AS PER DRAWING 0.69/02/JL (LATEST REVISION) OR AS DETAILED BY FABRICATOR.

FULL PENETRATION WELDS ARE TO BE USED ON: ALL SECTIONS JOINED BY THE CIRCUMFERENTIAL WELDS. ALL LONGITUDINAL WELDS WITHIN 75mm OF CIRCUMFERENTIAL WELDS OR IN THE FEMALE SECTION OF A SLIP JOINT.

ACCESS LADDERS ARE REQUIRED ON ALL STRUCTURES FROM APPROXIMATELY 6m ABOVE GROUND LEVEL.

PROTRUDING EDGES OF THE POLE TIP CAP PLATE TO BE GROUND OFF. ALL SHARP CORNERS TO BE ROUNDED TO MIN 5 mm RADIUS.

OPGW DOWNLEAD LUGS TO BE FITTED WHERE REQUIRED IN ACCORDANCE WITH 0.69/00/OPGW/POLC.

STRUCTURE TYPE AND NUMBER MUST BE CLEARLY SHOWN ON EACH POLE SECTION. IT IS PREFERABLE WHEREVER POSSIBLE TO WELD THIS INFORMATION TO THE SIDE/ INSIDE OF THE STRUCTURE FOR EACH SECTION AS WELL AS ON THE TEMPLATE, EG."DESIGNATION"/1 (FIRST SECTION), DESIGNATION.CAH/2 (SECOND SECTION) ETC. AND DESIGNATION.CAH ON THE TEMPLATES.

FABRICATOR TO SPECIFY VENT HOLES FOR GALVANIZING.

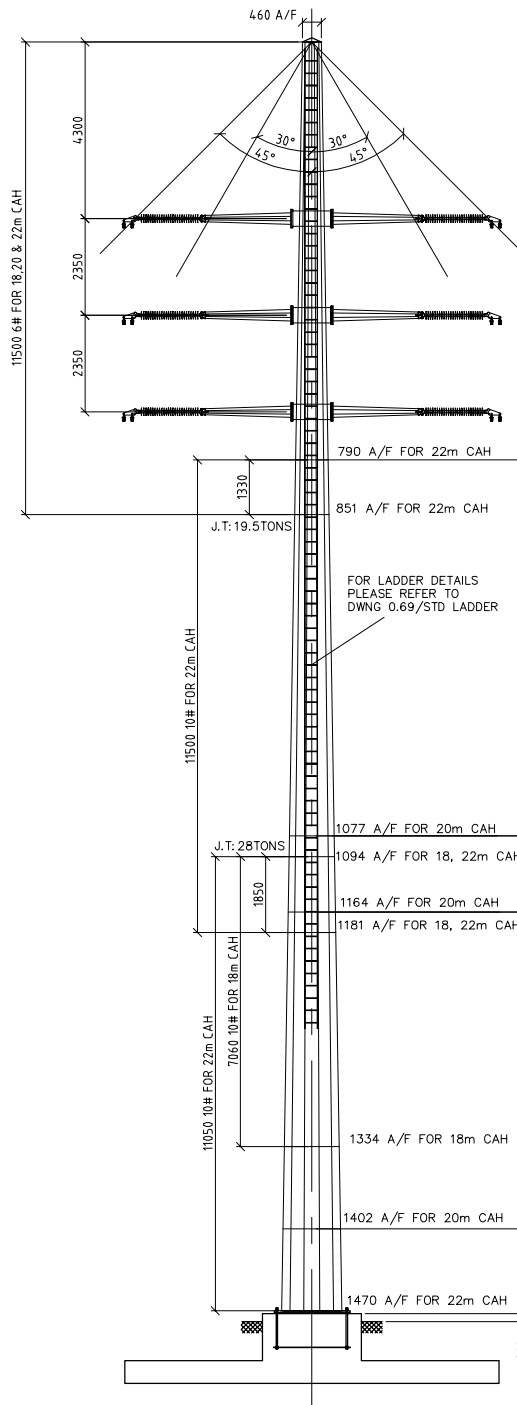
WELDING TO BE MIN 6 mm CONTINUOUS SEAL TO SANS 10162 SECTION 11. HOT DIP GALVANIZING TO SANS 121. STRESS RELIEVING TO BE APPLIED IN ACCORDANCE WITH SANS 121. TOLERANCES: ON DIMENSIONS: 2mm ON DRILLING CENTRES: 2 mm

SEE DSP 34-1683 FOR OTHER TOLERANCES

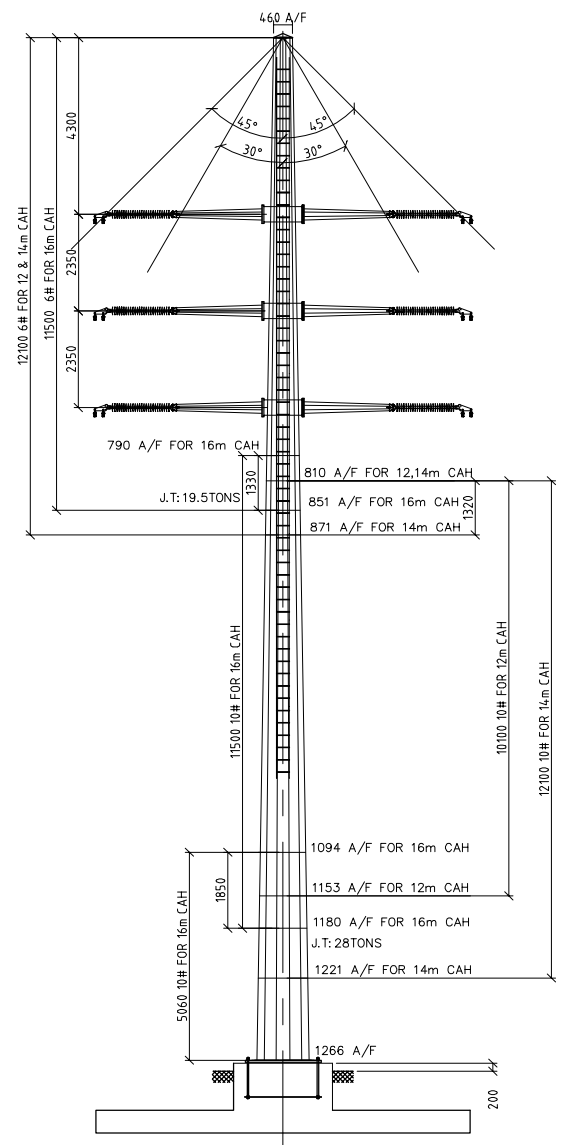
REFERENCE DRAWINGS

STAND-OFF INSULATOR MOUNTING BRACKET: SEE DRAWING D-WC-7600 SHEET 02 REV. 02

LADDER FABRICATION DETAILS: SEE 0.69/STD LADDER/1 REV. 0
STRAIN PLATE DETAILS: SEE DRAWING D-WC-7600/4 REV. 0



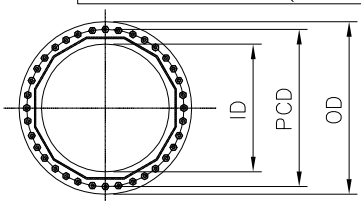
POLE IN-LINE VIEW



CAH	DESIGNATION	DIMENSIONS			BASE PLATE (1)				ANCHORAGE SYSTEM					FOUNDATION LOADS (2)		ESTIMATED FABRICATED MASS (3)							
		TIP DIA (mm)	BASE DIA (mm)	POLE LENGTH (m)	OD (mm)	ID (mm)	PCD (mm)	THICKNESS (mm)	GRADE	NO. OF BOLTS	DIA. (mm)	BOLT LENGTH (mm)	NO. OF TEMPLATES	OD (mm)	ID (mm)	THICKNESS (mm)	MAX MOMENT (kNm)	VERTICAL LOAD (kN)	HD BOLTS (kg)	FLANGE PLATE AND TEMPLATES (kg)	CROSS-ARMS (kg)	POLE MASS (kg)	TOTAL MASS (kg)
12.0	277C.120	460	1153	20.88	1340	960	1270	50	8.8	40	30	1180	1 Template	1450	1090	25	3195	159	315	295	459	3684	4294
14.0	277C.140	460	1221	22.88	1410	1020	1340	50	8.8	44	30	1180	1 Template	1520	1160	25	3649	168	347	313	459	4279	4939
16.0	277C.160	460	1266	24.88	1455	1050	1385	50	8.8	52	30	1180	1 Template	1565	1205	25	4115	176	410	323	459	5449	6182
18.0	277C.180	460	1334	26.88	1525	1110	1455	50	8.8	56	30	1180	1 Template	1635	1275	25	4581	183	442	341	459	6102	6885
20.0	277C.200	460	1402	28.88	1595	1170	1525	50	8.8	60	30	1180	1 Template	1705	1345	25	5052	191	473	360	459	6778	7611
22.0	277C.220	460	1470	30.87	1665	1230	1595	50	8.8	64	30	1180	1 Template	1795	1395	30	5528	199	410	437	459	7508	8355

TABLE NOTES:
(1) BASE PLATE TO BE CUT FROM SINGLE STEEL PLATE. TEMPLATES MAY BE MADE UP FROM OFFCUT MATERIAL
(2) FOUNDATION LOADS AS PER CRITICAL LOAD CASE, NO ADDITIONAL LOAD OR STRENGTH FACTORS APPLIED
(3) ACTUAL POLE MASS MAY VARY BASED ON FABRICATOR DETAILING. NO WASTAGE INCLUDED.
(4) VERTICAL LOAD INCLUDES POLE MASS AND APPLIED LOADS

BASE PLATE (TYPICAL)



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REV	DRAWN BY:	CHKD	DATE:	REVISION DESCRIPTION:
5				
4	LB	TL	12/03/2015	ANCHORAGE SYSTEM REDESIGNED TO MAKE USE OF 1 TEMPLATE. NO GUSSETS AT POLE BASE, BASE PLATE REDESIGNED
3	RM	MB	22/05/2014	ALTERED OUTLINE DRAWINGS AS PER CIS DRAWINGS
2	AH	TL	03/06/2010	RE-DESIGNED POLE AND CROSS ARM BASE PLATES
1	GSL	PH	03/12/2009	REVISED CROSS ARM LENGTHS (INCREASED ELECTRICAL SPAN, PH-EARTH SPACING) AND 12m CAH
0	GSL	GBL	23/09/2009	FIRST ISSUE

REV	DRAWN BY:	CHKD	DATE:	REVISION DESCRIPTION:
1	R NEL		16/03/2015	
2	R NEL		16/03/2015	
3	L BANICA		16/03/2015	

0.69/277C/1	SHEET 1	OF 1	REV 4
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Pole Design Specification:

The design of these structures is generally in accordance with ASCE/SEI 48-05, Design of Steel Transmission Pole Structures.

Poles to be fabricated and erected as per Pole fabrication specification SCSSABG2 Rev 1.

Pole Information:

Structure Code:	277C
Phase Conductor:	Twin Chicadee
Shield Wire:	Chicadee (21mm)
Design Wind Span:	350 m
Design Weight Span:	700 m
Design Electrical Span:	525m
Min. horizontal distance btw phases:	5.011m
Vertical Ph-Ph Spacing:	2.35 m
Vertical Top Ph-Pole Top Spacing:	4.3 m
CAH:	22 m – 12m
Total Length:	50.805m – 20.805m
Sides:	12
Design Angle:	0-15 degrees
Tip Dia.:	350 mm
Base Dia.:	see BP info below
Wall Thickness:	see drawing

Generic Base Plate Information:

H.D. Bolts Class:	Class 8.8
H.D. Bolts length:	Varies
Gusset thickness:	20 mm

Specific Base Plate Information:

CAH (m)	U.L. (mm)	L.D. (mm)	Thickness (mm)	PCD (mm)	Bolt information	No. Temp.	Template Thickness
22m	1860	1340	40	1720	36 X M36 X 1080	1	8
20m	1770	1270	40	1640	36 X M36 X 1080	1	8
18m	1650	1200	35	1540	36 X M30 X 1050	2	8
16m	1550	1120	35	1440	36 X M30 X 1050	2	8
14m	1470	1050	30	1360	36 X M30 X 1050	2	6
12m	1390	990	35	1280	36 X M30 X 1050	1	6

For 14m CAH baseplate thickness to be 50mm

Loading Information:

CAH (m)	Design Wind Pressure (Pa)	Working Tip Load (kN)	Ultimate Base (g.L.) Moment (kNm)	Approximate Mass (kg)	Total Vertical Load (kN)
22m	1000	165	5065	11096	115 kN
20m	1000	162	4646	10160	115 kN
18m	1000	158	4236	9125	115 kN
16m	1000	155	3827	7773	115 kN
14m	1000	150	3417	6993	115 kN
12m	1000	145	3008	6253	115 kN

Fabrication/Construction Information:

Poles will have the lowest number of slip joints in conformance with the limitation imposed by the length of the galvanising bath. Slip joint length is to be 1.5 times the largest i.d. of the female section.

Jacking Tension to be specified by contractor. Jacking lugs fitted as per drawing 0.69/00/JL

Full penetration welds are to be used on:
All sections joined by the circumferential welds.
All longitudinal welds within 75mm of circumferential welds or in the female section of a slip joint.

Access ladders are required on all structures from approximately 6m above ground level.

Protruding edges of the pole tip cap plate to be ground off. All sharp corners to be rounded to min 5mm radius.

OPGW Downlead lugs to be fitted where required in accordance with 0.69/00/OPGW/POLC.

Structure type and number must be clearly shown on each pole section. It is preferable wherever possible to weld this information to the side/ inside of the structure for each section as well as on the template, viz.277C/1 (first section), 277C/2 (second section) etc. and 277C on the template. The CAH should also be indicated on the bottom pole section.

Fabricator to specify vent holes for galvanizing.

Notes:

Material: 300W steel

Welding to be 6mm continuous seal to SANS 10162 Section 11.

Hot dip galvanising to SANS 121.

Stress relieving to be applied in accordance with SANS 121.

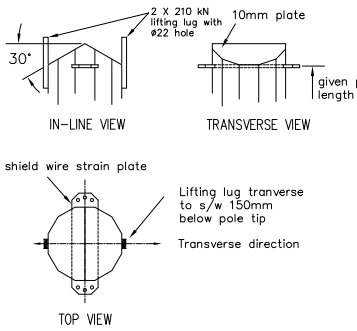
Tolerances:

on dimensions: 2mm
on drilling centres: 2mm

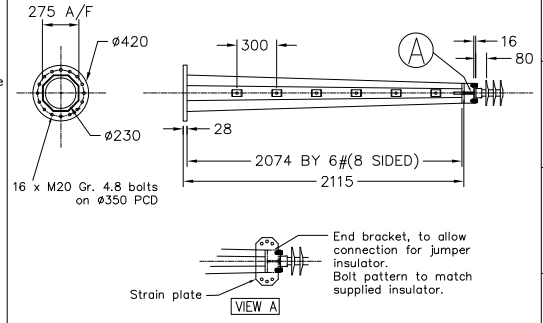
Bolt positions on base plate can be moved in order to avoid clashing between parts.

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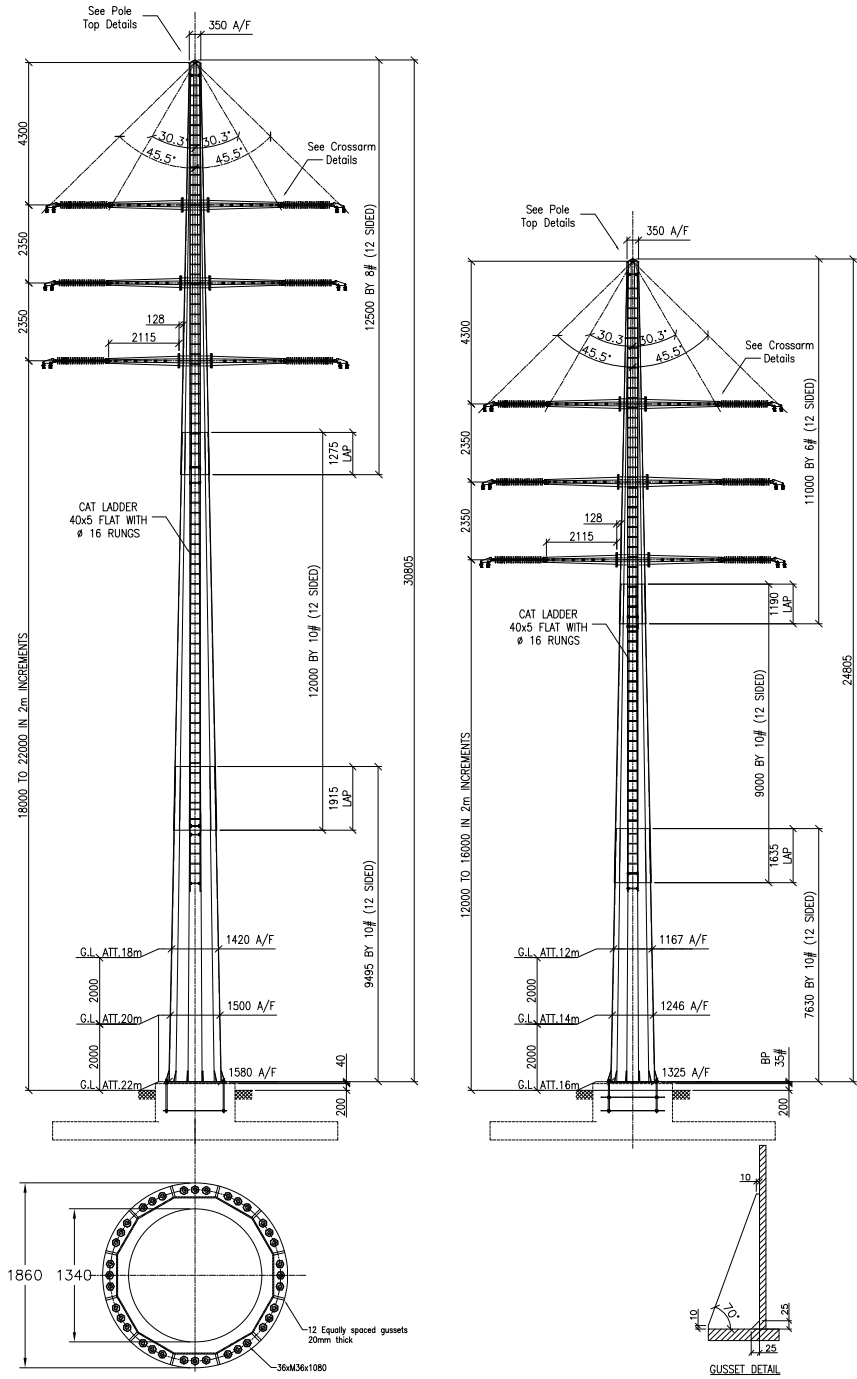
POLE TOP DETAILS



CROSSARM DETAILS



POLE IN-LINE VIEW



BASE PLATE FOR 22m ATT. HEIGHT

REV	DRAWN BY	CHKD	DATE	REVISION DESCRIPTION
5				
4				
3				
2	AH	TL	31/09/2010	RE-DESIGNED POLE & CROSS-ARM BRACKETES
1	CSL	PM	03/12/2009	Revised crossarm lengths (increased electrical span) and added a 12m CAH
0	GSL	GSL	23/09/2009	FIRST ISSUE

CLIENT: Eskom Distribution

SCALE: NIS	TITLE: 132kV DOUBLE CIRCUIT MONOPOLE 0°-15° ANGLE STRAIN TYPE "277 C" ATTACHMENT HEIGHT 12m TO 22m OUTLINE
AUTH: P. HANES	DATE: 23/09/2009
CHKD: G.LANDMOR	DATE: 23/09/2009
DRAWN: G.LOUW	DATE: 23/09/2009
0.69/277C/01	SHEET 1 of 1 REV 2

Pole Design Specification:

The design of these structures is generally in accordance with ASCE/SEI 48-05, Design of Steel Transmission Pole Structures.

Poles to be fabricated and erected as per Pole fabrication specification SCSSABG2 Rev 1.

Pole Information:

Structure Code:	277D
Phase Conductor:	Twin Chickadee
Shield Wire:	Chickadee (22mm)
Design Wind Span:	350 m
Design Weight Span:	700 m
Design Electrical Span:	525 m
Min. horizontal distance btw phases:	5.635m
Vertical Ph-Ph Spacing:	2.35 m
Vertical Top Ph-Pole Top Spacing:	4.7 m
CAH:	22 m - 12m
Total Length:	31.2m - 21.2m
Sides:	12
Design Angle:	15-45 degrees
Tip Dia.:	395mm - 490mm
Base Dia.:	see BP info below
Wall Thickness:	see drawing

Generic Base Plate Information:

H.D. Bolts Class:	Class 8.8
H.D. Bolts length:	VARIABLE
Gusset thickness:	VARIABLE

Specific Base Plate Information:

CAH (m)	O.D. (mm)	I.D. (mm)	Thickness (mm)	PCD (mm)	Bolt Information	No. Bolts	Template Thickness	Gusset Thickness
22m	1890	1320	55	1700	36 X M42 X 1110	2	8	25
20m	1780	1260	50	1630	36 X M42 X 1110	2	8	25
18m	1740	1260	50	1660	24 X M48 X 1140	2	8	25
16m	1680	1170	50	1540	24 X M48 X 1140	2	8	25
14m	1610	1160	50	1460	24 X M48 X 1140	2	6	20
12m	1530	1030	45	1360	24 X M48 X 1140	2	6	20

For 14m CAH baseplate thickness to be 75mm

Loading Information:

CAH (m)	Design Wind Pressure (Pa)	Working Tip Load (kN)	Ultimate Base Moment (kNm)	Approximate Mass (kg)	Total Vertical Load (kN)
22m	1000	283	8811	18994	115 kN
20m	1000	278	8106	17129	115 kN
18m	1000	273	7402	15402	115 kN
16m	1000	266	6697	12716	115 kN
14m	1000	258	5992	11410	115 kN
12m	1000	250	5287	10156	115 kN

Fabrication/Construction Information:

Poles will have the lowest number of slip joints in conformance with the limitation imposed by the length of the galvanising bath. Slip joint length is to be 1.5 times the largest i.d. of the female section.

Jacking Tension to be specified by contractor. Jacking lugs fitted as per drawing 0.69/00/JL

Full penetration welds are to be used on:
All sections joined by the circumferential welds.
All longitudinal welds within 75mm of circumferential welds or in the female section of a slip joint.

Access ladders are required on all structures from approximately 6m above ground level.

Protruding edges of the pole tip cap plate to be ground off. All sharp corners to be rounded to min 5mm radius.

OPGW Downlead lugs to be fitted where required in accordance with 0.69/00/DPGW/POLC.

Structure type and number must be clearly shown on each pole section. It is preferable wherever possible to weld this information to the side/ inside of the structure for each section as well as on the template, viz. 277D/1 (first section), 277D/2 (second section) etc. and 277D on the template. The CAH should also be indicated on the bottom pole section.

Fabricator to specify vent holes for galvanizing.

Notes:
Material: 300W steel

Welding to be 6mm continuous seal to SANS 10162 Section 11.

Hot dip galvanising to SANS 121.

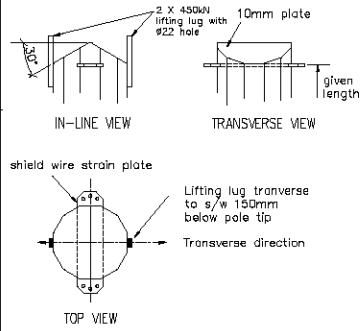
Stress relieving to be applied in accordance with SANS 121.

Tolerances:
on dimensions: 2mm
on drilling centres: 2mm

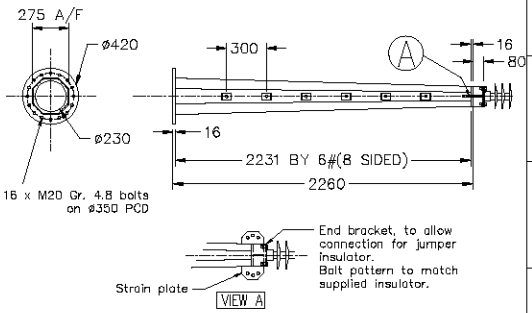
Bolt positions on base plate can be moved in order to avoid clashing between parts.

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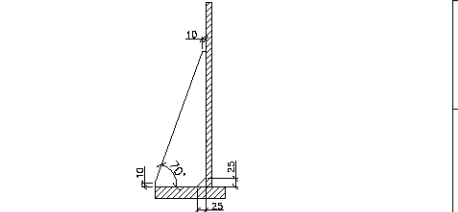
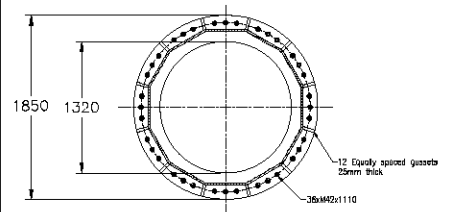
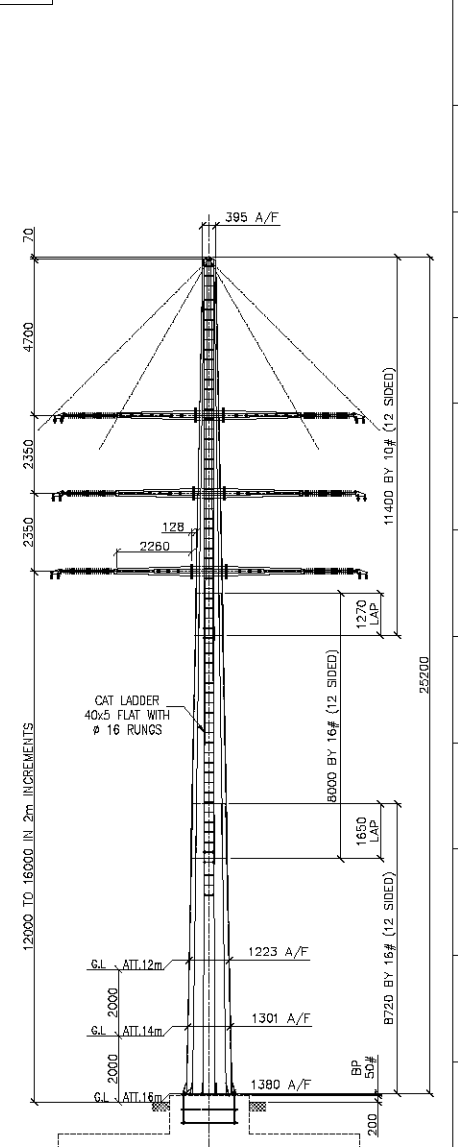
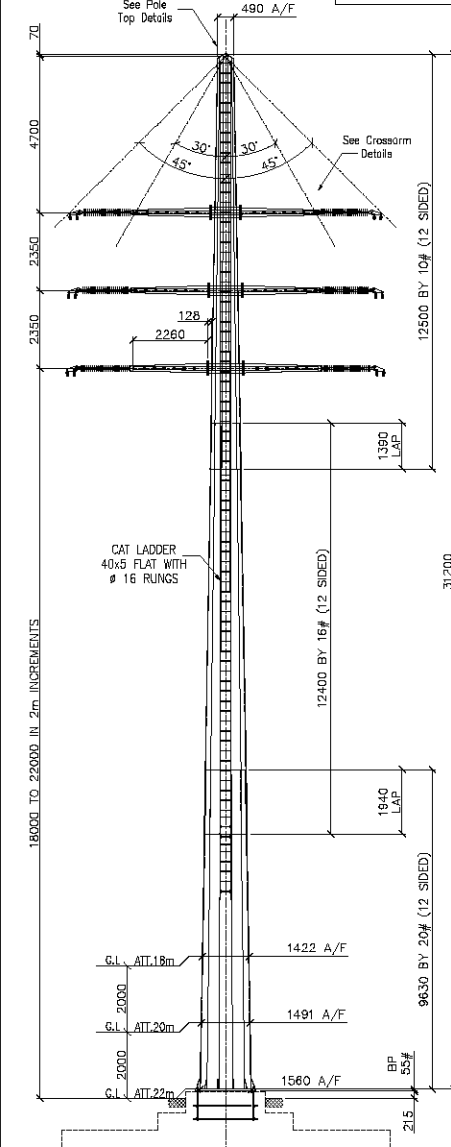
POLE TOP DETAILS



CROSSARM DETAILS



POLE IN-LINE VIEW



5				
4				
3				
2	AK	TL	03/06/2010	RE-DRAWN POLE & CROSS-ARM SUBPLATES
1	CSL	PM	05/12/2009	Revised crossarm lengths (increased electrical span), & Ph-Earth spacing, & 15m CAH
0	CSL	SKL	24/09/2009	FIRST ISSUE
REV	DRAWN BY	CHKD	DATE	REVISION DESCRIPTION
TITLE: 132kV DOUBLE CIRCUIT MONOPOLE 15°-45° ANGLE STRAIN TYPE "277 D" ATTACHMENT HEIGHT 12m TO 22m OUTLINE				
AUTH P. NUMBER	DATE	23/09/2009		
CHWG CLARIFICATION	DATE	23/09/2009		
DRAWN & LAYOUT	DATE	23/09/2009		
			0.69/277D/01	SHEET 1 of 1 REV 2

