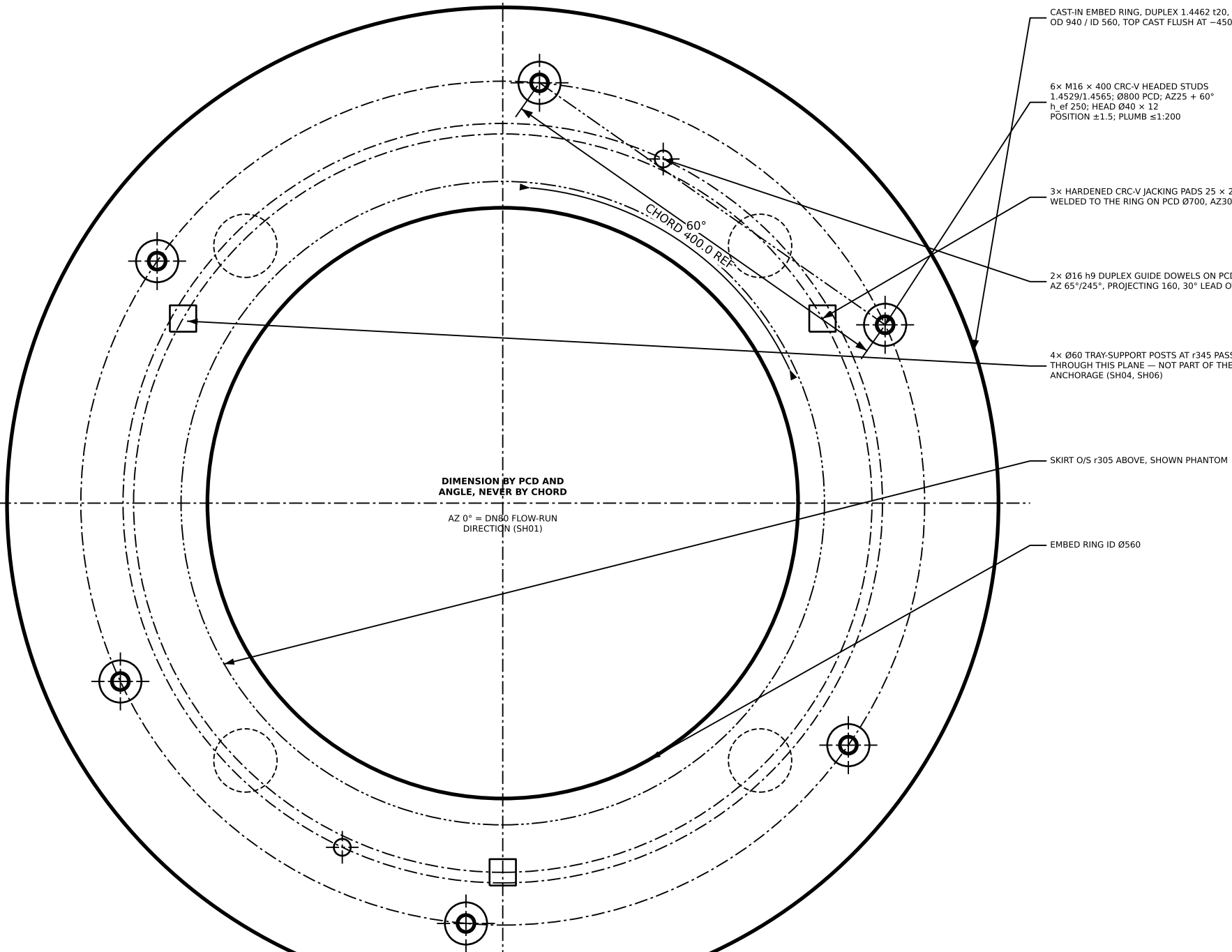


EMBED RING — PLAN · SCALE 1:5



CALCULATION CALLOUT — SHELL / SKIRT JUNCTION

- STUDS ARE NOT TIED TO THE CARBON MATS — NYLON TIES ONLY, NO METALLIC CONTACT. Use a local 1.4362 stainless top mat in the anchor block.
- Under the accidental uplift case the BARE 5 mm SHELL at the junction reaches 208 MPa. 195.6 of that 208 is DISCONTINUITY BENDING at a shell/support junction, classified P_L + P_B, for which the limit under EN 13445-3 Annex C / ASME VIII-2 is $1.5f = R_{p0.2} = 220$ MPa. The bare shell REACHES BUT DOES NOT EXCEED the limit.
- THE INTERNAL DOUBLER COLLAR REDUCES IT TO 46.6 MPa — FoS 4.4 on proof. That is where a concealed, unspectable, unrepairable joint belongs. Peak in the bare shell just outboard of the 1:4 taper is =66 MPa (FoS 3.1).

ANCHOR SCHEDULE

ITEM	SPECIFICATION
Studs	6 x M16 x 400 CRC-V, EN 10088 1.4529 or 1.4565
Embedment	h _{ef} 250 to the head bearing face; head Ø40 x 12
PCD / angle	Ø800, 60° included. Chord 400.0 is DERIVED
Projection	150 above the embed ring top (–450) = crown –300
	= 100 CLEAR above the flange top (–400). TRIM AFTER
	FINAL TORQUE to leave 60-100 clear (REV D.1)
Nuts	Duplex 1.4462 + all-metal lock nut (anti-galling)
Washers	CRC-V plate Ø45 x 6
Preload	90 N·m ±10 %, 3 cross-tightened passes = 28.1 kN
Anti-seize	Halogen-free, METAL-FREE (PTFE or ceramic)
Capacity	N _{Rd,s} 83.7 kN/stud; group N _{Rd,c} 441 kN
Demand	T _{Ed} = 1.10 kN → approx. 1.3 % utilised
Spares	100 % spare studs, nuts and washers with the job

WRENCH ACCESS — PROVEN

1. CLEAR WORKING ANNULUS 495 mm at the anchor level (745 gross from the skirt O/S at r305 to the chamber wall ID at r1050, less the 250 wide elbow trench at that azimuth). REV D.1: the chamber grew to ID 2100, so this is 100 mm more than the 395 quoted at Rev D.
2. DEPTH TO THE FLANGE TOP 400 mm below FPL, reached by lifting one pebble tray segment.
3. CHORD BETWEEN ADJACENT STUDS 400 mm at Ø800 PCD, 60° included.
4. A 3/8 in drive torque wrench $\leq$ 380 lbf with a 24 A/F deep socket fits. Ratchet swing is limited to 55° between adjacent studs, so a RATCHETING HEAD IS REQUIRED — a beam wrench will not turn.

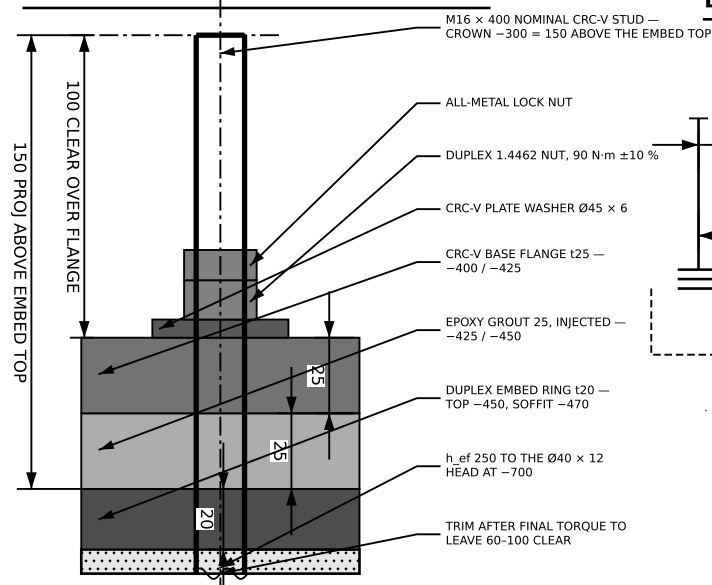
BONDING – MANDATORY

1. M8 CRC-V boss STUD-WELDED to the skirt ABOVE THE GROUT LINE (-425), and a second on the riser. 6 mm² Cu conductor in conduit to a labelled equipotential bar in the plantroom.
2. The route passes an ACCESSIBLE, TESTABLE point under one lifting tray. Transition to copper OUTSIDE the wet zone.
3. CONTINUITY <0.05 Ω MEASURED AND RECORDED BEFORE THE PAVING CLOSES — HOLD POINT. It cannot be retrofitted.
4. The anchorage is deliberately isolated from the carbon rebar, so without this bonding the whole sphere/skirt/flange assembly is a floating conductive mass with no protective conductor.

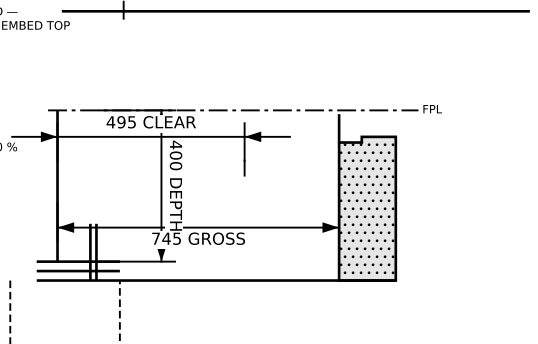
GROUT AND RECOVERABILITY

1. Bond-breaker film to the flange underside. Inject through the 4 x Ø12 flange ports with vents at the ID, AFTER final torque, so contact is achieved by pressure and the bed can be re-injected.
2. DO NOT GROUT OVER THE FLANGE TOP. The anchor nuts and the three jacking screws must remain accessible for the life of the installation
3. Bearing 169 kN / 0.4398 m² = 0.38 MPa against ≥80 MPa epoxy — 0.5 % utilised.

D10 — ANCHOR SECTION · SCALE 1:2.5

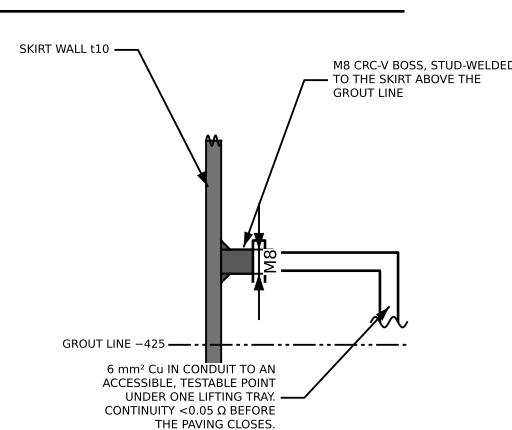


D11 — WRENCH ENVELOPE · SCALE 1:20



• 745 GROSS (SKIRT O/S r305 → CHAMBER WALL ID r1050, REV D.1) LESS THE 250 WIDE ELBOW TRENCH = 495 CLEAR WORKING ANNULUS. DEPTH 400 TO THE FLANGE TOP. CHORD 400 BETWEEN ADJACENT STUDS AT Ø800 PCD.

D12 — BONDING BOSS · SCALE 1:5



REV	DATE	DESCRIPTION	BY
D	2026-08-05	CONCEALED SKIRT ANCHORAGE, RESERVOIR + PLANT, PEBBLE COLLECTOR	NX
E	2026-08-20	REV D.2 ALIGNMENT + VISUAL QA CORRECTIONS	NX
F	2026-09-03	LOGO ENGRAVING ADDED (SH15); SHEET COUNT 14 -> 15	NX
G	2026-09-05	AUDIT CLOSE-OUT: CART 082 FB, SLOT 24, 24 TRAYS, DN80	NX
G.2	2026-09-06	PART DRAWINGS SH30-38: SLOTS A22.5; DOUBLER R995	NX
G.3	2026-09-06	SH37 BRACKET, SH42 WELD MAP, P-16 BELLOW; IFF	NX

SPA FOUNTAIN – B7 SPA, MALDIVES

SPA-F-SH07 — CONCEALED ANCHORAGE DETAIL

DRAWN: NaXief Eng.		CHECKED: NX 2026-09-06		APPROVED: I. NAZEEF 2026-09-06		STATUS: IFF REV G.3	
DATE: 2026-09-06		REV: G.3		UNITS: mm		SCALE: AS NOTED	
A3 · SHEET 7/25							

ISSUED FOR FABRICATION — REV G.3 · HOLD POINTS PER SH42

