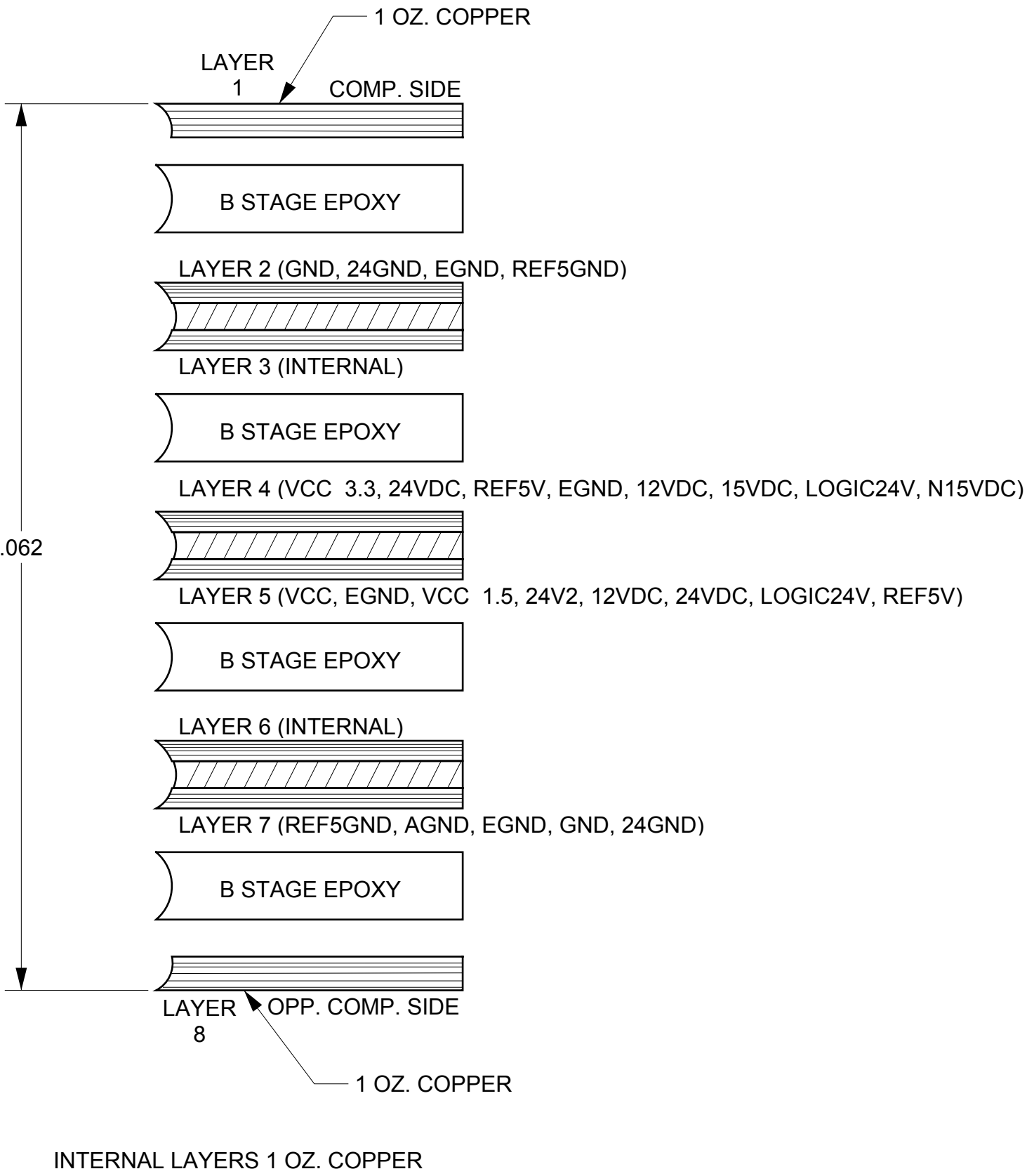
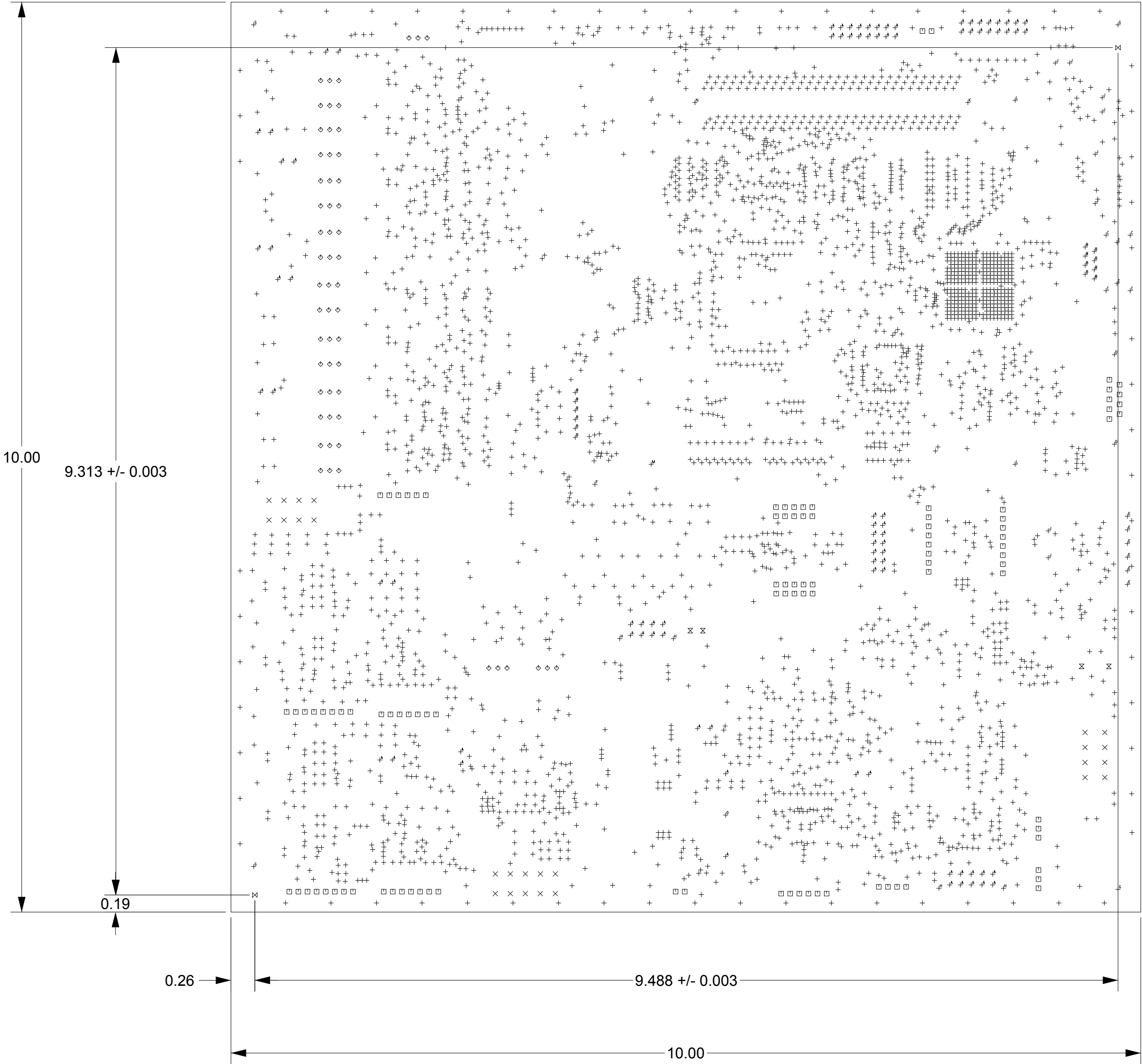


FINISHED HOLE SIZE TABLE

DRILL SYMBOL	DRILL SIZE	COUNT	PLATED	Min/Max
+	0.010	3626	Yes	+0/-0.010
⌞	0.032	1	No	+/-0.003
⌞ ^B	0.035	14	Yes	+/-0.003
⊠	0.038	4	Yes	+/-0.003
⌞ ^D	0.039	8	No	+/-0.003
⌞ ^H	0.040	4	No	+/-0.003
⌞ ^A	0.040	88	Yes	+/-0.003
□	0.042	101	Yes	+/-0.003
◇	0.046	57	Yes	+/-0.003
⌞ ^E	0.047	6	Yes	+/-0.003
⌞ ^N	0.048	1	No	+/-0.003
×	0.055	26	Yes	+/-0.003
⌞ ^F	0.062	4	Yes	+/-0.003
⊠	0.125	2	No	+0.002/-0
⌞ ^P	0.125	2	Yes	+/-0.004
⌞ ^I	0.128	2	No	+/-0.004
⌞ ^F	0.156	1	Yes	+/-0.004
⌞	0.157	3	No	+/-0.004
⌞ ^S	0.157	4	Yes	+/-0.004
⌞ ^O	0.177	1	No	+/-0.004
⌞ ^M	0.213	1	Yes	+/-0.004
Total		3956		



NOTES :

- 1.0 RoHS: PCB MUST COMPLY WITH WATERS RoHS REQUIREMENTS DOCUMENT 735001207.
- 2.0 MATERIAL:

2.1 MATERIAL TO BE IN ACCORDANCE WITH IPC-4101/99 OR BETTER.

2.2 MANUFACTURER MAY ADD THIEVING TO EXTERNAL LAYERS TO IMPROVE COPPER DISTRIBUTION FOR PLATING. THIEVING MUST BE A MINIMUM OF .150 FROM ANY DESIGN FEATURE AND NO THIEVING IS ALLOWED UNDER ANY SURFACE MOUNT COMPONENTS.
- 3.0 SURFACE FINISH:

3.1 ELECTROLESS NICKEL IMMERSION GOLD (ENIG) 3 - 8 MICRO INCHES OF GOLD OVER 100 - 200 MICRO INCHES OF NICKEL.
- 4.0 SOLDERMASK:

4.1 ALL VIAS TO BE CAPPED FROM THE PRIMARY SIDE WITH A SECONDARY SOLDERMASK, AFTER THE FINAL SURFACE FINISH IS APPLIED.

4.2 SOLDERMASK OVER BARE COPPER (SMOBC).
- 5.0 PRINTED CIRCUIT BOARD FABRICATION NOTES AND REGULATORY REQUIREMENTS TO COMPLY WITH WATERS DOCUMENT NUMBER 735001870.
- 6.0 USE ARTWORK PHOTO 610000345 REV G FOR BOARD FABRICATION.
- 7.0 IMPEDANCE:

IMPEDANCE CONTROLLED BOARD. THE FOLLOWING VARIABLES CAN BE CHANGED IN ORDER TO MEET THE IMPEDANCE REQUIREMTS

DIELECTRIC SPACING BETWEEN LAYERS

DIELECTRIC SPACING TO A PLANE LAYER
- 8.0 CONTROLLED IMPEDANCE REQUIREMENTS FOR SINGLE SIDED SIGNALS AS FOLLOWS:

NOM. TRACE WIDTH/SPACE OF .006/.006 ON LAYER 1 IS 50 OHMS +/- 10%

NOM. TRACE WIDTH/SPACE OF .006/.006 ON LAYER 3 IS 50 OHMS +/- 10%

NOM. TRACE WIDTH/SPACE OF .006/.006 ON LAYER 6 IS 50 OHMS +/- 10%

NOM. TRACE WIDTH/SPACE OF .006/.006 ON LAYER 8 IS 50 OHMS +/- 10%
- 9.0 CONTROLLED IMPEDANCE REQUIREMENTS FOR DIFFERENTIAL PAIRS AS FOLLOWS:

NOM. TRACE WIDTH/SPACE OF .005/.010 IS 100 OHMS +/- 10%
- 10.0 TEST IMPEDANCE IN ACCORDANCE WITH IPC APPROVED TIME DOMAIN REFLECTOMETRY OR EQUIVALENT IPC APPROVED METHOD.

UNLESS OTHERWISE SPECIFIED				Waters 34 Maple St. Milford MA 01757 USA		
All dimensions are in inches. Remove all burrs and break sharp edges.		DESIGN R. DUMAS	DATE 05/09			
Tolerances: Decimals: XX = ± .01 XXX = ± .005 Angles = ± 0°/30'		DRAWN D. LAVERTY	DATE 05/09	PCB ANALYTICAL PUMP		
		CHECKED	DATE			
		ENGR	DATE			
		ENGR	DATE			
SURFACE ROUGHNESS 63 ✓		APPROVED	DATE	SIZE D	DWG NO 510000345	REV G
DO NOT SCALE PRINT				SCALE 1 : 1		MENTOR EXPEDITION
						SHEET 1 OF 1