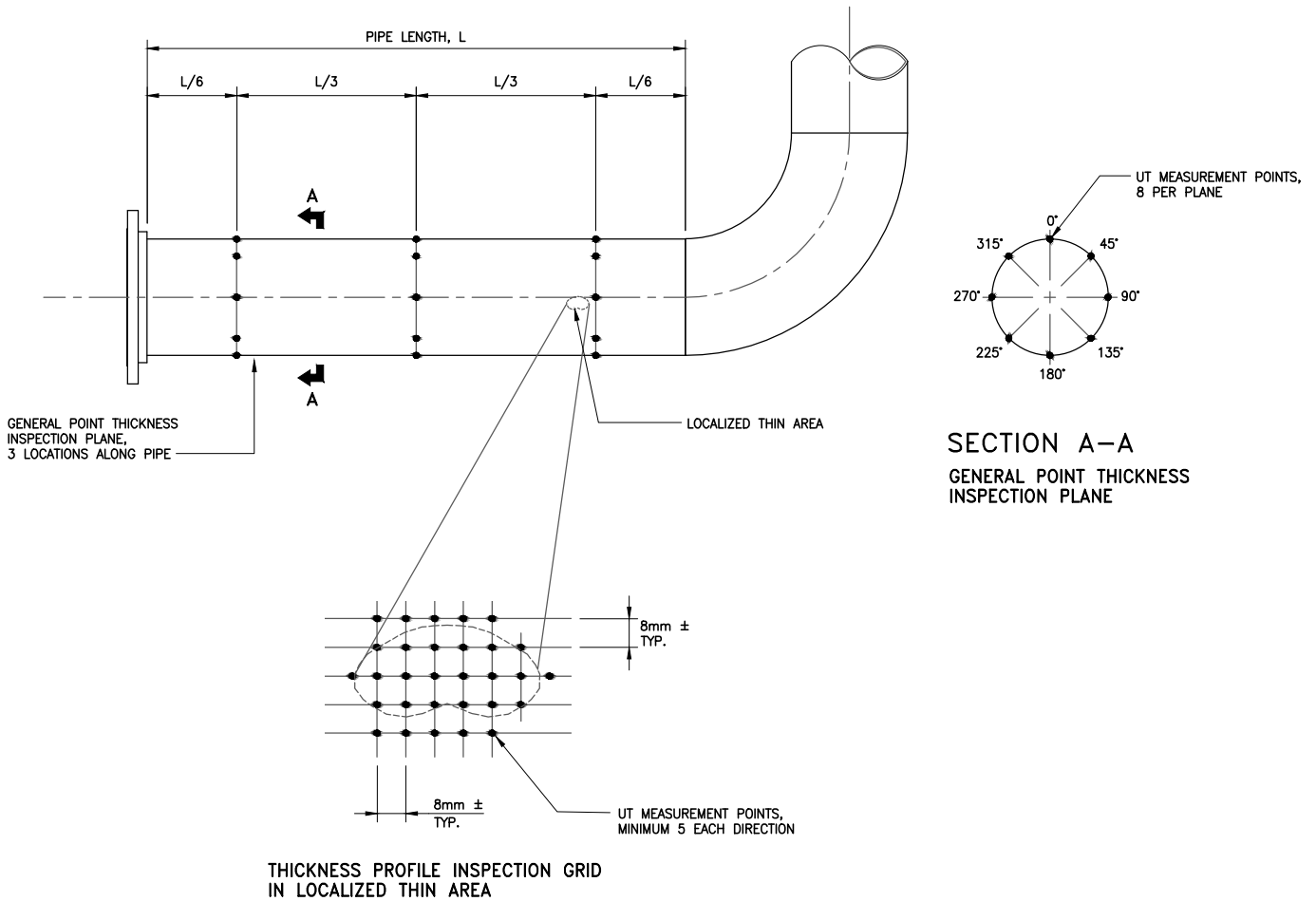


Appendix A

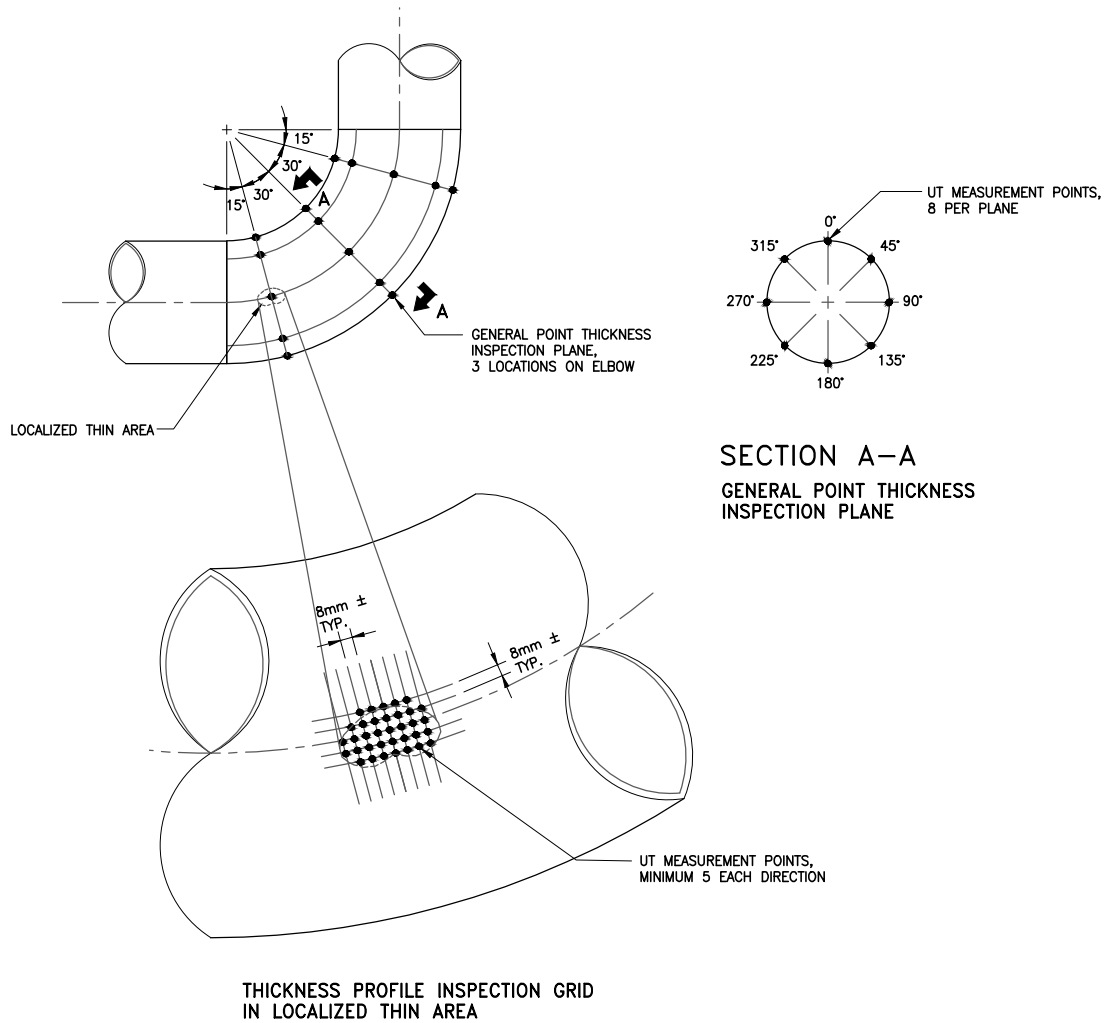
Figures



STRAIGHT PIPE ULTRASONIC THICKNESS (UT) INSPECTION

SCALE: N.T.S.

A	17/09/15	ISSUED WITH MEMORANDUM		
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KGS GROUP CONSULTING ENGINEERS		 THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT		
NEWPCC-RAS PIPE ASSESSMENT AND PRELIMINARY DESIGN				
STRAIGHT PIPE ULTRASONIC THICKNESS INSPECTION				
16-0107-023			FIGURE 1	REV: A

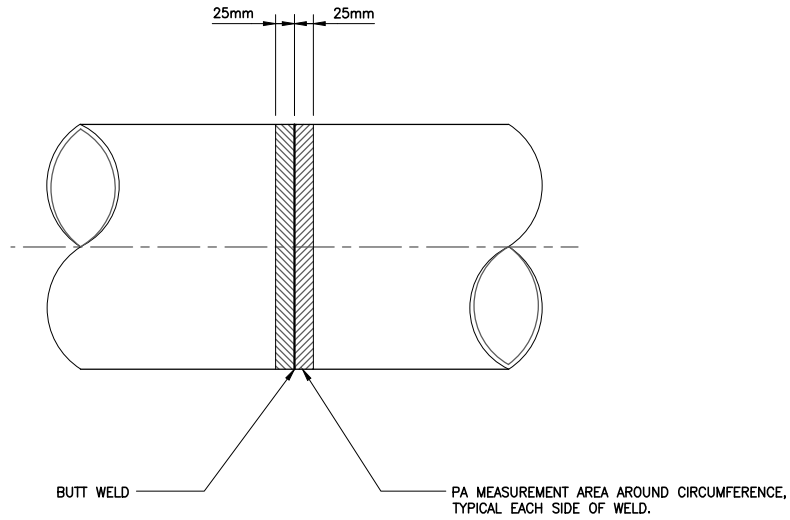


SECTION A-A
 GENERAL POINT THICKNESS
 INSPECTION PLANE

ELBOW ULTRASONIC THICKNESS (UT) INSPECTION


SCALE: N.T.S.

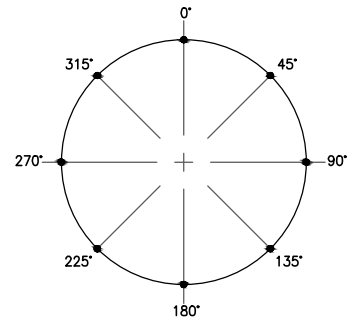
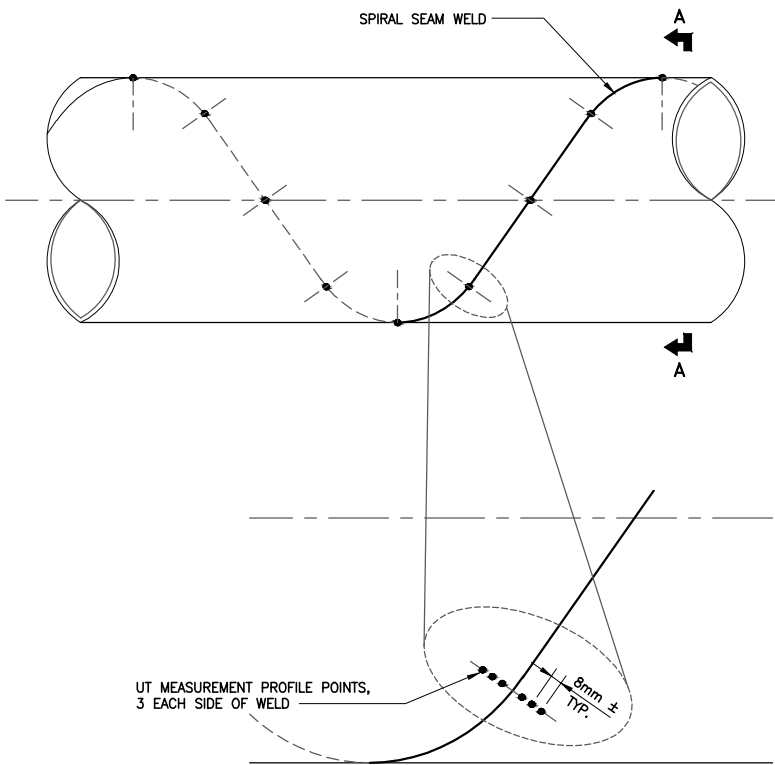
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NEWPCC-RAS PIPE ASSESSMENT AND PRELIMINARY DESIGN					
ELBOW ULTRASONIC THICKNESS INSPECTION					
16-0107-023			FIGURE 2	REV: A	



BUTT WELD JOINT PHASED ARRAY ULTRASONIC (PA) INSPECTION

SCALE: N.T.S.

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NEWPCC-RAS PIPE ASSESSMENT AND PRELIMINARY DESIGN				
BUTT WELD JOINT PHASED ARRAY ULTRASONIC INSPECTION				
16-0107-023			FIGURE 3	REV: A



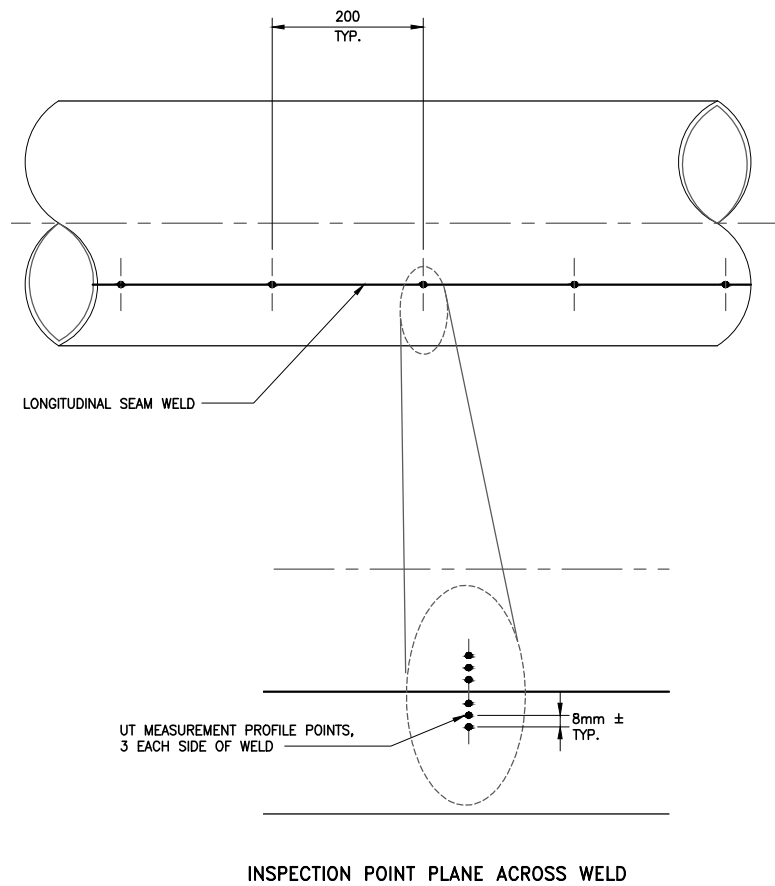
SECTION A-A
LOCATIONS OF SPIRAL WELD
INSPECTION PROFILES

INSPECTION POINT PLANE ACROSS WELD

SPIRAL WELD SEAM ULTRASONIC THICKNESS (UT) INSPECTION

SCALE: N.T.S.

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NEWPCC-RAS PIPE ASSESSMENT AND PRELIMINARY DESIGN				
SPIRAL WELD SEAM ULTRASONIC THICKNESS INSPECTION				
16-0107-023		FIGURE 4	REV: A	



LONGITUDINAL WELD SEAM ULTRASONIC THICKNESS (UT) INSPECTION

SCALE: N.T.S.

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NEWPCC-RAS PIPE ASSESSMENT AND PRELIMINARY DESIGN				
LONGITUDINAL WELD SEAM ULTRASONIC THICKNESS INSPECTION				
16-0107-023			FIGURE 5	REV: A