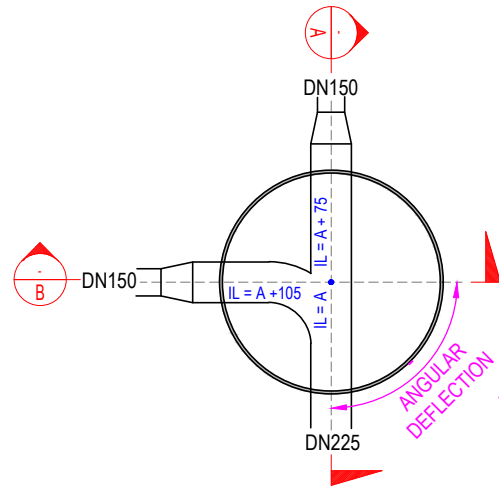


**TABLE 300B-A: MAINTENANCE STRUCTURE BASE LEVEL RULES**

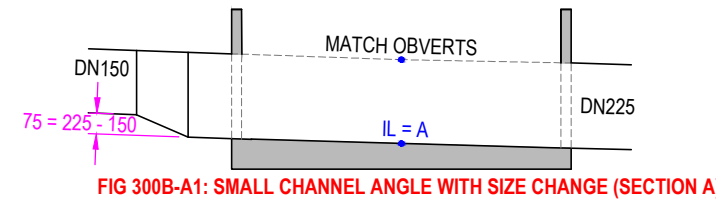
DIAMETER CHANGE	SITUATION		REQUIREMENTS				APPLICABLE STRUCTURES	
	OUTFLOW DIAMETER	ANGULAR DEFLECTION	OBVERT DROP	INVERT DROP	REFERENCE	PLASTIC	MADE TO ORDER	
YES	ANY	SMALL: 0 to 30°	0	= Δ PIPE Ø	SECTIONS A, C, G & I	✓	✓	
	≤ DN225	LARGE: > 30° & ≤ 90°	30	= 30 + Δ PIPE Ø	SECTIONS B & D. Notes 7 to 12	✓	✓	
	≥ DN300	LARGE: > 30° & ≤ 90°	0	= Δ PIPE Ø	SECTIONS F & J		✓	
	ANY	EXTREME: > 90° to 120°	0	= Δ PIPE Ø	FIG 308-B		✓	
NO	ANY	SMALL: 0 to 30°	0	0	SECTION E	✓	✓	
		LARGE: > 30° & ≤ 90°	30	30	SECTION H	✓	✓	
		EXTREME: > 90° to 120°	60	60	FIG 308-B		✓	

**NOTES Regarding Table 300B-A:**

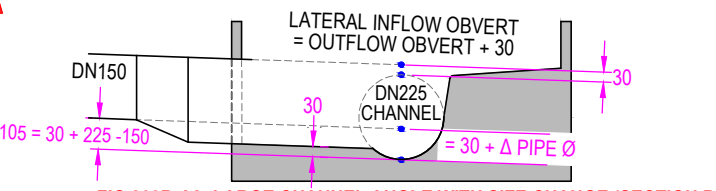
- Δ PIPE Ø = Difference between Inflow and Outflow pipe diameter. This shall be limited to 150, otherwise there is a risk of hydraulic jumps forming, particularly where inflow sewers which are steep (ie: near Table 205-B grades) &/or ≥ DN300. Vertical drops (as per Figures 311-C & E) are preferred to channel drops in such cases.
- Angular Deflection is equal to the change in direction of sewage as it bends to the outflow.
- All MRWA-S-300B figures are schematic in nature, not specific to any particular type of structure and not to scale.
- Refer MRWA-S-308 for details of Made to Order MH requirements.
- "Obvert" and "Invert" (IL) refers to the projected obverts and inverts of sewers at the point of intersection, which is typically at the centre of the Maintenance Structure.
- Using projected obverts and inverts simplifies design and is practical within construction tolerances. Plastic Maintenance structures typically have flat channels, so matching projected obverts &/or inverts is representative rather than factually correct. It is not possible to match projected obverts &/or inverts with flat channels with graded pipes.
- Where: Diameter Change = Yes, Outflow Diameter ≤ DN225 and Angular Deflection = Large: Different Plastic Structures have different geometry. Some have a drop in lateral channels and some don't. Level rules are based on a 30 drop in the lateral channel, which is at the higher end of available Plastic Maintenance Structure products. Allowing for an additional 30 drop on top of Δ PIPE Ø enables structures to be interchangeable with the same design levels. If 30 is allowed for in the Design for but not required (ie: lateral channel has no drop), inflow &/or outflow pipes will end up steeper than the designed grade. Typically this is preferred to the alternative of not allowing for a drop, using a structure that has one, and the inflow &/or outflow pipes being flatter than the designed grade. The 30 additional drop may be removed where it is specified that a Made to Order MH or Plastic structure with no drop is to be used (useful where grades unavoidably flat).



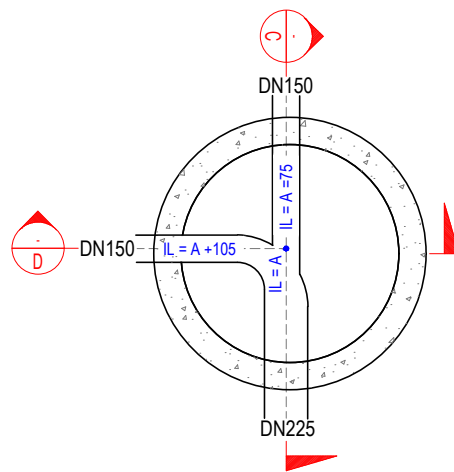
**FIGURE 300B-A: PLASTIC STRUCTURE LEVELS (OUTFLOW ≤ DN225)**



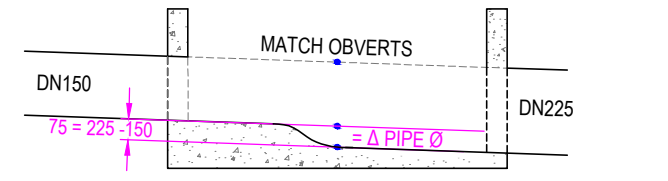
**FIG 300B-A1: SMALL CHANNEL ANGLE WITH SIZE CHANGE (SECTION A)**



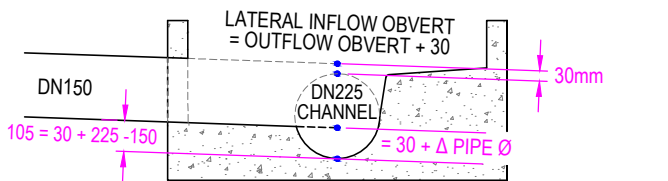
**FIG 300B-A2: LARGE CHANNEL ANGLE WITH SIZE CHANGE (SECTION B)**  
Structure with 30 channel fall shown. Some structures may have no channel drop. Refer notes 6 to 11.



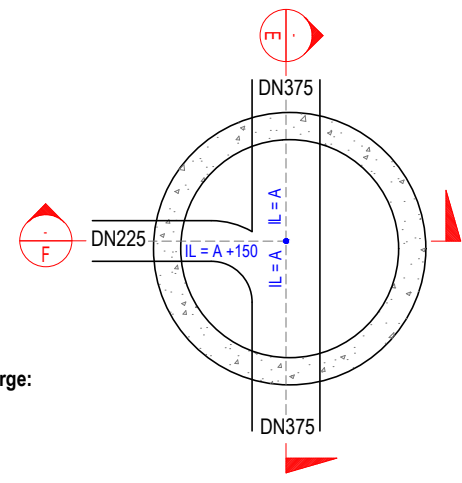
**FIGURE 300B-B: MADE TO ORDER MH LEVELS (OUTFLOW ≤ DN225)**



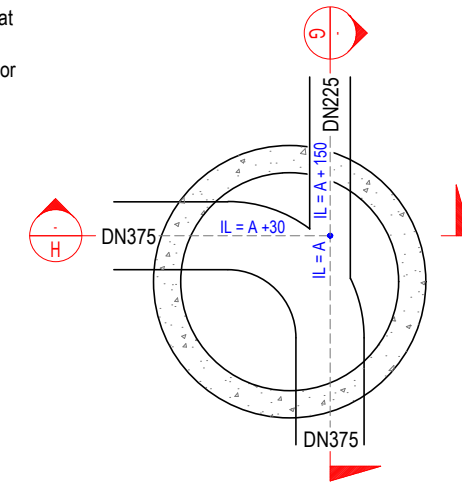
**FIG 300B-B1: SMALL CHANNEL ANGLE WITH SIZE CHANGE (SECTION C)**



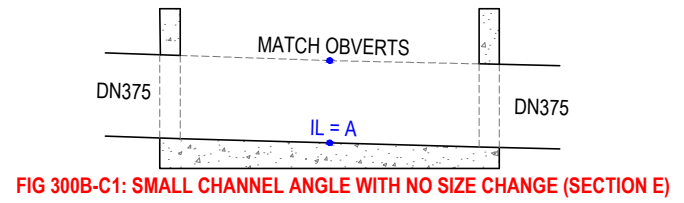
**FIG 300B-B2: LARGE CHANNEL ANGLE WITH SIZE CHANGE (SECTION D)**



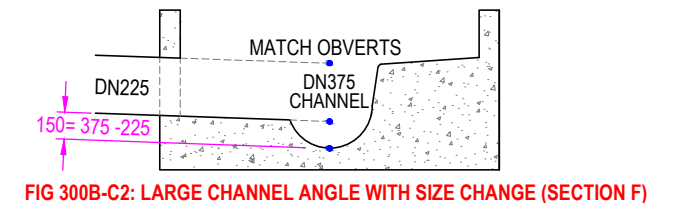
**FIGURE 300B-C: MADE TO ORDER MH LEVELS (OUTFLOW ≥ DN300)**



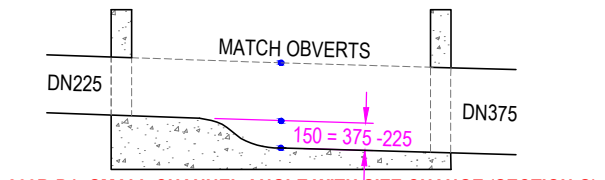
**FIGURE 300B-D: MADE TO ORDER MH LEVELS (OUTFLOW ≥ DN300)**



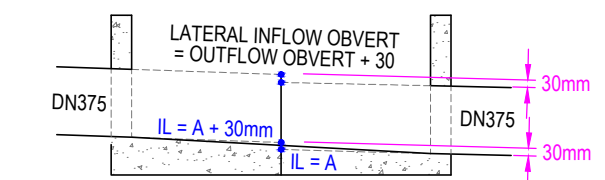
**FIG 300B-C1: SMALL CHANNEL ANGLE WITH NO SIZE CHANGE (SECTION E)**



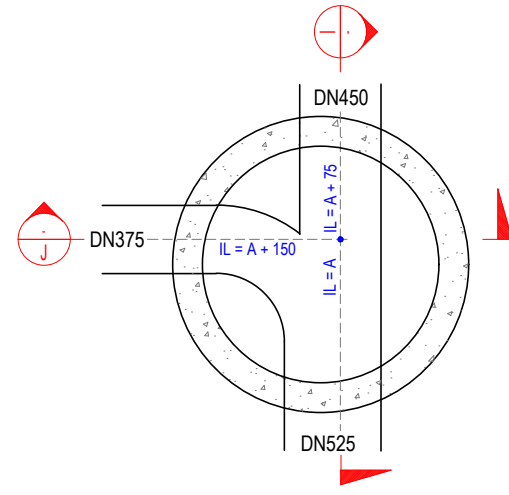
**FIG 300B-C2: LARGE CHANNEL ANGLE WITH SIZE CHANGE (SECTION F)**



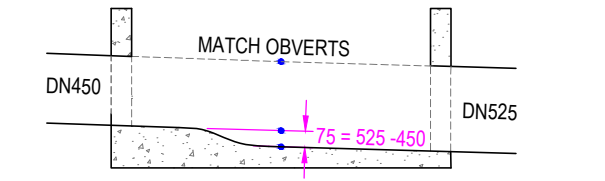
**FIG 300B-D1: SMALL CHANNEL ANGLE WITH SIZE CHANGE (SECTION G)**



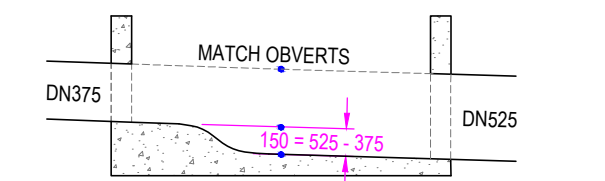
**FIG 300B-D2: LARGE CHANNEL ANGLE WITH NO SIZE CHANGE (SECTION H)**



**FIGURE 300B-E: JUNCTION OF BRANCH SEWERS DISCHARGING TO LARGER OUTFLOW**



**FIG 307-E1: CHANGE IN BRANCH SEWER DIAMETER (SECTION I)**



**FIG 307-E2: CHANGE IN BRANCH SEWER DIAMETER (SECTION J)**

ALL DIMENSIONS IN mm UNLESS STATED OTHERWISE				DESIGNED: R. JAGGER		DATE: SEP 2020	
				DRAWN: R. JAGGER		DATE: SEP 2020	
CHECKED: NAME		DATE		APPROVED: NAME		DATE	
✓ CWW G. ANTHONSEN		SEP 20		✓ CWW S. TRIKHA		SEP 20	
✓ SEW C. PAXMAN		SEP 20		✓ SEW D. STEWART		SEP 20	
✓ YVW N. GERHARD		SEP 20		✓ YVW R. LEON		SEP 20	
ISSUED 2020				VERSION 1			
2	PUBLISHED FIRST ISSUE	SEP 20	CP / GA / RL				
1	DRAFT NEW STANDARD FOR REVIEW	SEP 20	CP / GA / WS				
REV	DESCRIPTION	DATE	APPROVED				

MELBOURNE RETAIL WATER AGENCIES

City West Water

South East Water

Yarra Valley Water

MRWA SEWERAGE STANDARDS			NOT TO SCALE		
MAINTENANCE STRUCTURE BASE LEVELS			MRWA-S-300B		
Planning	Design	Construction			
✓	✓	✓	✓	✓	✓