



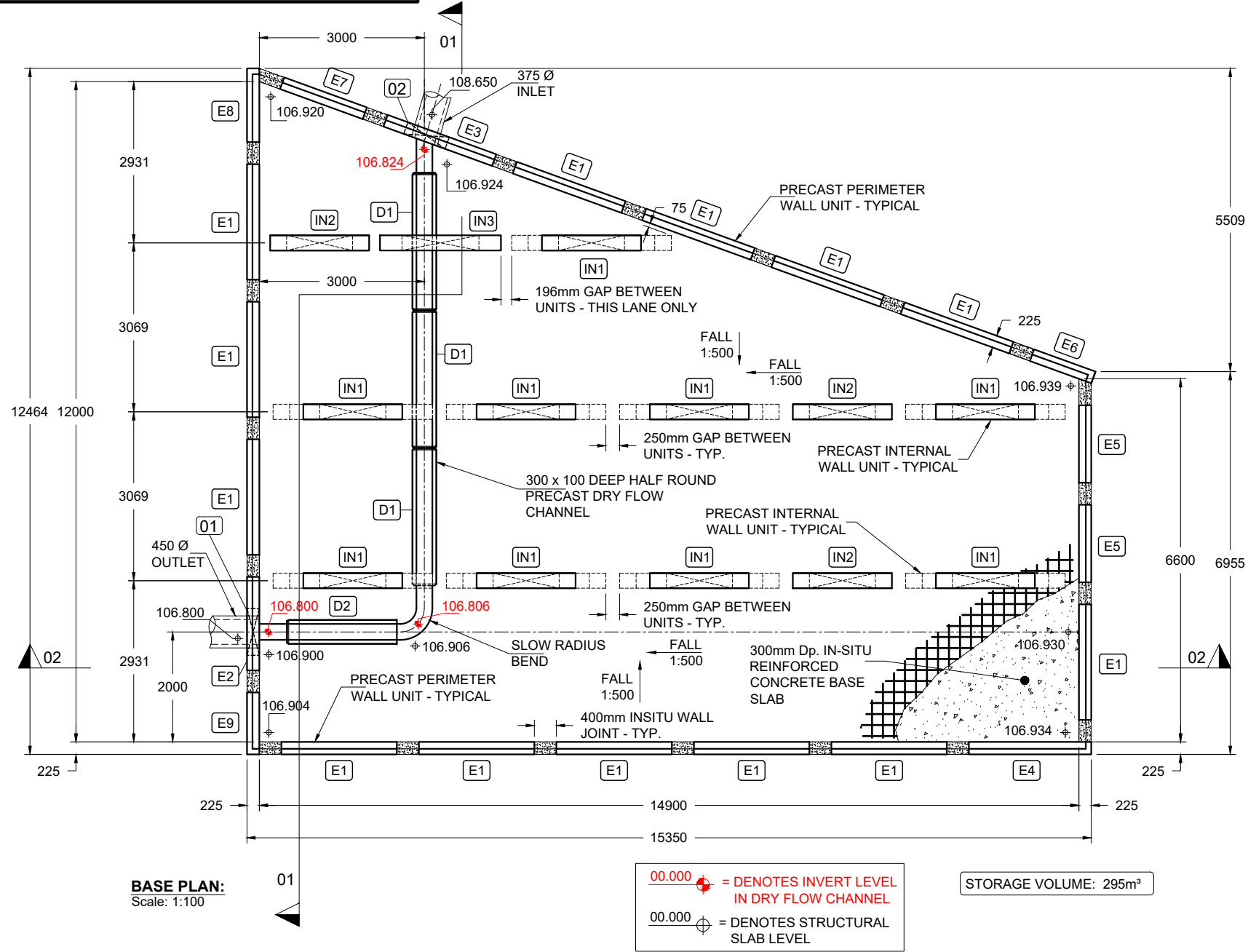
DRAWING TITLE: UNITY HOUSING ASSOC.
PLANE STREET, HUDDERSFIELD
2.2m DEEP ATTENUATION TANK
BASE LAYOUT

YORKSHIRE WATER REFERENCE NUMBER : H-3-264-643

Drawn By: TH	Rev.	Date.	Comments.
Chkd By: PL	0	19-07-24	ISSUED FOR APPROVAL
Date: 19-07-24	A	22-01-25	OUTLET PIPE SIZE REVISED AND INLET PIPE LEVEL REVISED
Drg No.: STS3273-001			

ALL ADOPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH SEWERAGE SECTOR GUIDANCE DESIGN AND CONSTRUCTION GUIDANCE [CODE FOR ADOPTION]. THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATER'S STANDARDS/REQUIREMENTS/LOCAL PRACTICE FOR THE ADOPTION OF SMALL SUBMERSIBLE FOUL AND SURFACE WATER PUMPING STATIONS AND KITEMARKED

A3



NOMINAL COVER	
PRECAST:	40mm
INSITU:	40mm
SURFACE FINISHES	
ROOF SCREED:	WOOD FLOAT
BASE SLAB:	STEEL TROWEL
INTERNAL SURFACE:	FAIR WORKED
EXTERNAL SURFACE:	FAIR

ISSUED FOR APPROVAL

ESTIMATED INSITU CONCRETE VOLUMES	
INSITU CONCRETE BLINDING	15.0m³
BASE SLAB	45.0m³
ROOF SCREED	20.0m³
INSITU WALL JOINTS	5.0m³
BENCHING	N/A
ESTIMATED VOLUMES INCLUDE A 5% ALLOWANCE FOR SITE DEVIATION	

PRECAST CONCRETE SPECIFICATION	
CONCRETE GRADE:	C40/50
EXPOSURE CLASS:	XD1 / XC4
DESIGN CHEMICAL CLASS:	DC-1 (T.B.C.)
MIN CEMENT CONTENT:	360 kg/m³
CEMENT TYPE:	CEM IIB-S
GGBS CONTENT:	25%
MAX WATER / CEMENT RATIO:	0.45
AGGREGATE TYPE:	LIMESTONE
MAX AGGREGATE SIZE:	14mm
SLUMP CLASS:	N/A
INSITU CONCRETE SPECIFICATION GENERAL	
CONCRETE GRADE:	C32/40
EXPOSURE CLASS:	XD1 / XC4
DESIGN CHEMICAL CLASS:	DC-1 (T.B.C.)
MIN CEMENT CONTENT:	325 kg/m³
MAX CEMENT CONTENT:	400 kg/m³
CEMENT TYPE:	CEM IIIA + SR
GGBS CONTENT:	50%
MAX WATER / CEMENT RATIO:	0.55
AGGREGATE TYPE:	LIMESTONE
MAX AGGREGATE SIZE:	20mm
SLUMP CLASS:	SEE NOTE 1
INSITU CONCRETE SPECIFICATION WALL JOINTS AND ROOF SCREED	
CONCRETE GRADE:	C32/40
EXPOSURE CLASS:	XD1 / XC4
DESIGN CHEMICAL CLASS:	DC-1 (T.B.C.)
MIN CEMENT CONTENT:	380 kg/m³
MAX CEMENT CONTENT:	400 kg/m³
CEMENT TYPE:	CEM IIIA + SR
GGBS CONTENT:	50%
MAX WATER / CEMENT RATIO:	0.55
AGGREGATE TYPE:	LIMESTONE
MAX AGGREGATE SIZE:	10mm
SLUMP CLASS:	SEE NOTE 1
NOTE 1: PUMP MIX 120mm TARGET SLUMP (TOLERANCE -10mm, +40mm)	

ESTIMATED MORTAR REQUIRED	
M12 MORTAR	0.3m³
ESTIMATED VOLUMES INCLUDE A 5% ALLOWANCE FOR SITE DEVIATION	

DESIGN ASSUMPTIONS	
DESIGN LIFE:	50 YEARS
DESIGN EXPOSURE CLASSIFICATION:	XD1 / XC4
DESIGN CHEMICAL CLASS:	DC-1 (T.B.C.)
TIGHTNESS CLASS:	CLASS 1
IMPOSED LOAD ON COVER SLAB:	MORE ONEROUS OF 10 kn/m² UDL OR 40t HGV AXLE LOADING
MAXIMUM COVER LEVEL:	+111.300m (1.950m OVERBURDEN)
MINIMUM COVER LEVEL:	+110.750m (1.380m OVERBURDEN)
ASSUMED INTERNAL WATER LEVEL:	TOP OF TANK LEVEL
ASSUMED GROUND WATER LEVEL (FLOATATION):	SURFACE LEVEL
ASSUMED GROUND WATER LEVEL (ULS):	SURFACE LEVEL
ASSUMED GROUND WATER LEVEL (SLS):	TOP OF TANK LEVEL
ASSUMED ALLOWABLE BEARING PRESSURE	>150 kn/m² (BEARING ON MUDSTONE BEDROCK)

KEY TO WALL OPENING TYPES			
	QUANTITY	DESCRIPTION	INVERT
01	1	850mm x 850mm OPENING FOR 450 Ø CONCRETE PIPE	106.800
02	1	800mm x 925mm OPENING FOR 375 Ø CONCRETE PIPE	108.650

KEY TO PRECAST WALL TYPES					
TYPE	DESCRIPTION	QUANTITY	HEIGHT	WIDTH	WEIGHT
E1	STANDARD EXTERNAL WALL	13	2.750m	2.10m	3.19t
E2	CUSTOM EXTERNAL WALL WITH OPENING	1	2.750m	1.70m	2.16t
E3	STANDARD EXTERNAL WALL WITH OPENING	1	2.750m	2.10m	2.80t
E4	CUSTOM EXTERNAL WALL	1	2.750m	2.225m	3.38t
E5	CUSTOM EXTERNAL WALL	2	2.750m	1.41m	2.14t
E6	CUSTOM EXTERNAL WALL	1	2.750m	1.19m	1.81t
E7	CUSTOM EXTERNAL WALL	1	2.750m	1.60m	2.43t
E8	CUSTOM EXTERNAL WALL	1	2.750m	1.34m	2.04t
E9	CUSTOM EXTERNAL WALL	1	2.750m	1.125m	1.71t
IN1	STANDARD INTERNAL WALL	9	2.19m	2.90m	1.70t
IN2	MODIFIED STANDARD INTERNAL WALL	3	2.19m	1.80m	1.45t
IN3	CUSTOM INTERNAL WALL	1	2.19m	2.20m	2.03t
D1	STANDARD PRECAST DRY FLOW CHANNEL (2.50m LONG)	3	0.100m	0.30m	0.43t
D2	STANDARD PRECAST DRY FLOW CHANNEL (2.90m LONG)	1	0.100m	0.30m	0.34t

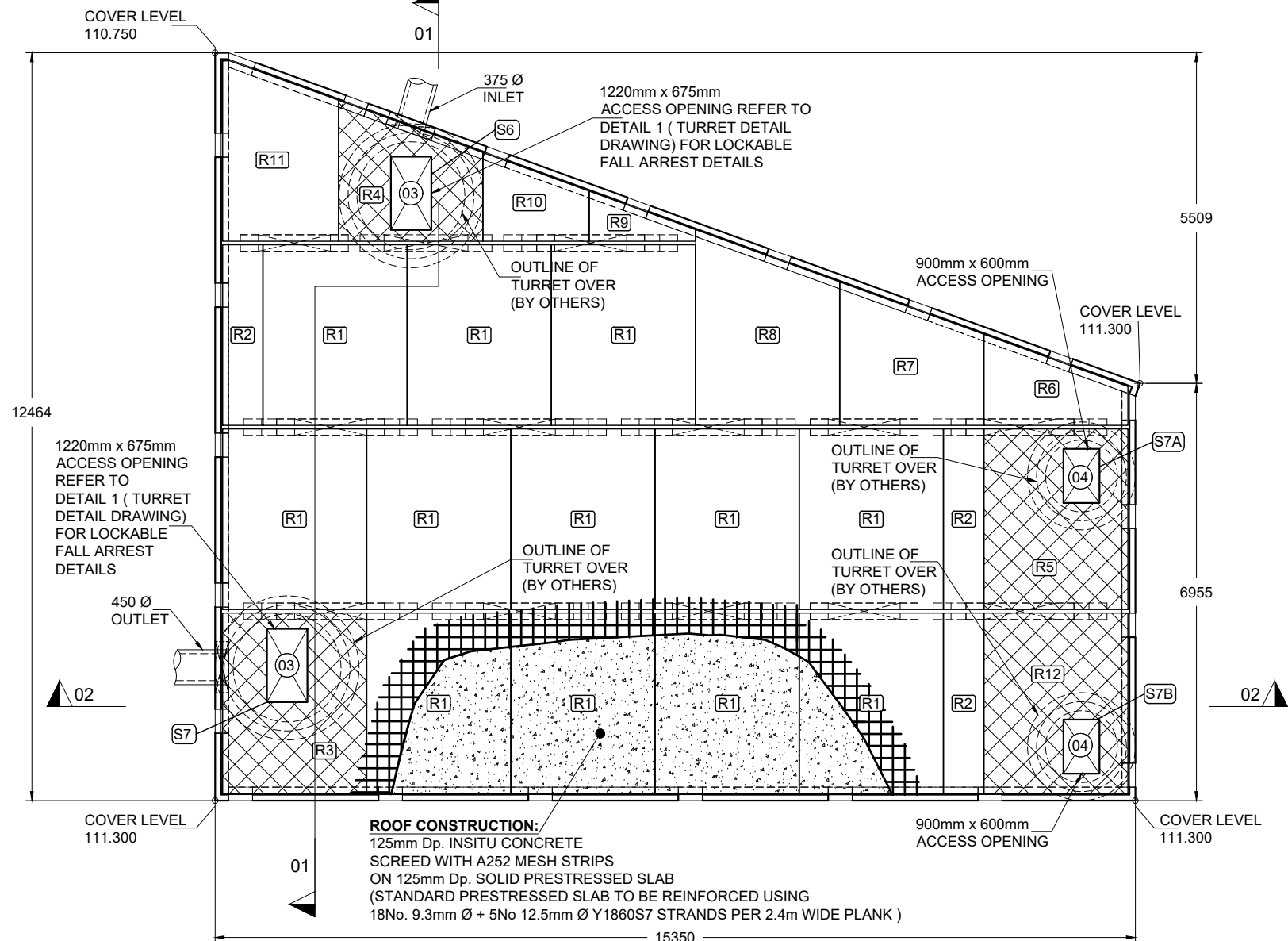
DRAWING TITLE: UNITY HOUSING ASSOC.
PLANE STREET, HUDDERSFIELD
2.2m DEEP ATTENUATION TANK
ROOF LAYOUT

YORKSHIRE WATER REFERENCE NUMBER : H-3-264-643

Drawn By: TH	Rev.	Date.	Comments.
Chkd By: PL	0	19-07-24	ISSUED FOR APPROVAL
Date: 19-07-24	A	22-01-25	OUTLET PIPE SIZE REVISED AND INLET PIPE LEVEL REVISED
Drg No.: STS3273-002			

ALL ADOPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH SEWERAGE SECTOR GUIDANCE DESIGN AND CONSTRUCTION GUIDANCE [CODE FOR ADOPTION]. THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATER'S STANDARDS/REQUIREMENTS/LOCAL PRACTICE FOR THE ADOPTION OF SMALL SUBMERSIBLE FOUL AND SURFACE WATER PUMPING STATIONS AND KITEMARKED

A3



ROOF PLAN:
Scale: 1:100

NOTE:
10mm M12 MORTAR BED TO BE PLACED BENEATH ALL ROOF SLABS

NOTE:
RISER SHAFTS AND COVERS (BY OTHERS)

ISSUED FOR APPROVAL

KEY TO ROOF SLAB TYPES						
UNIT	DESCRIPTION	WIDTH	LENGTH	DEPTH	WEIGHT	QUANTITY
R1	SOLID PRESTRESSED SLAB	2.400m	3.010m	125mm	2.12t	12
R2	NARROW SOLID PRESTRESSED SLAB	0.670m	3.010m	125mm	0.59t	3
R3	CUSTOM SLAB WITH OPENING	2.400m	3.010m	150mm	2.35t	1
R4	CUSTOM SLAB WITH OPENING	2.400m	2.350m	150mm	1.39t	1
R5	CUSTOM SLAB WITH OPENING	2.400m	3.010m	150mm	2.46t	1
R6	CUSTOM SOLID PRESTRESSED SLAB	2.400m	1.520m	125mm	0.76t	1
R7	CUSTOM SOLID PRESTRESSED SLAB	2.400m	2.390m	125mm	1.38t	1
R8	CUSTOM SOLID PRESTRESSED SLAB	2.400m	3.260m	125mm	1.99t	1
R9	CUSTOM SOLID PRESTRESSED SLAB	1.765m	0.835m	125mm	0.27t	1
R10	CUSTOM SOLID PRESTRESSED SLAB	1.765m	1.480m	125mm	0.60t	1
R11	CUSTOM SOLID PRESTRESSED SLAB	1.930m	3.010m	125mm	1.53t	1
R12	CUSTOM SLAB WITH OPENING	2.400m	3.010m	150mm	2.46t	1

NOTE: STANDARD PRESTRESSED SLAB TO BE REINFORCED USING
18No. 9.3mm Ø + 5No 12.5mm Ø Y1860S7 STRANDS PER 2.4m WIDE PLANK

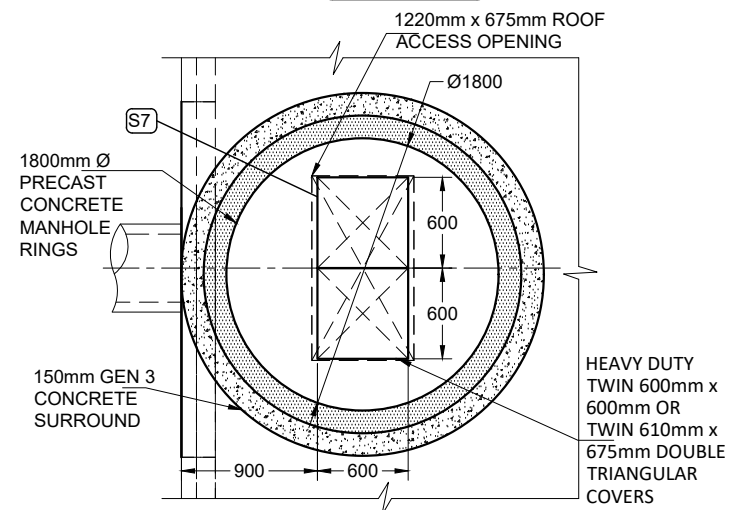
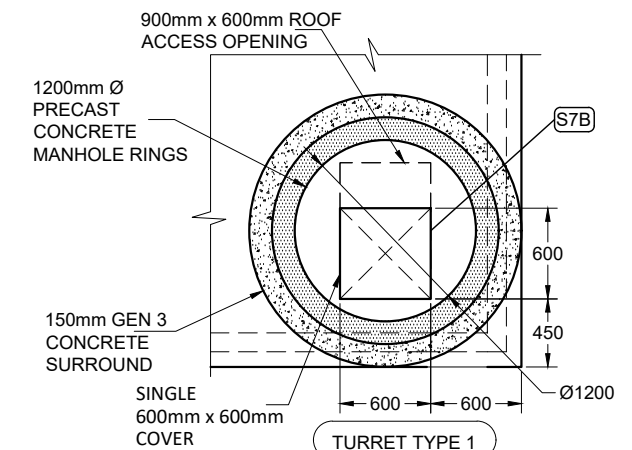
KEY TO ROOF OPENING TYPES		
	QUANTITY	DESCRIPTION
03	2	1220mm x 675mm ROOF OPENING
04	2	900mm x 600mm ROOF OPENING

NOTE:
RISER SHAFTS AND COVERS (BY OTHERS)

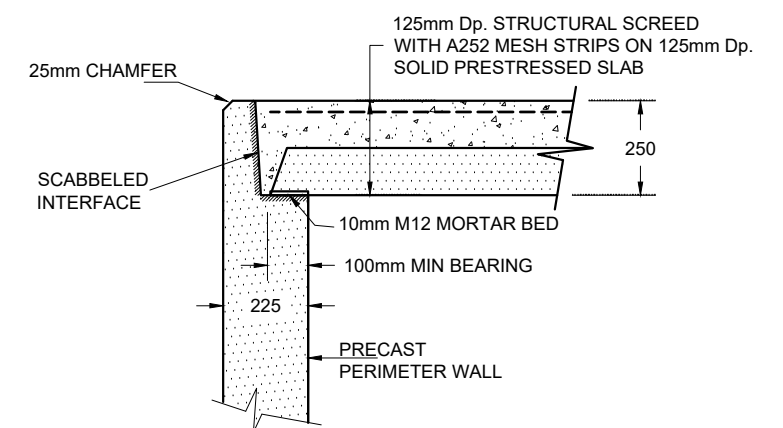
NOTE:
CHAMBER RINGS TO THE CARLOW TANK MUST NOT OVERHANG THE CARLOW TANK ROOF SLAB

FOR TURRET DETAILS SEE DRAWING STS3273-007)

TURRET TYPE 2

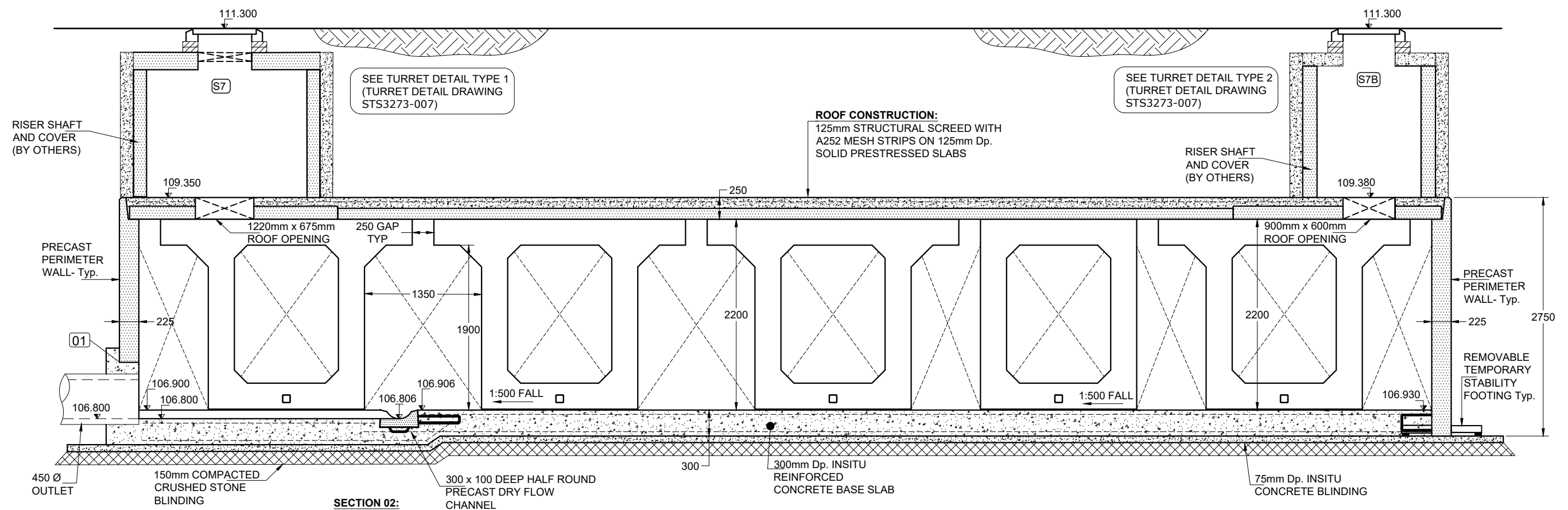


TYPICAL ROOF TURRET TYPE 1 & 2 PLAN:
Scale: 1:50



PERIMETER WALL - TOP OF WALL DETAIL:
SCALE: 1:20

3



A3

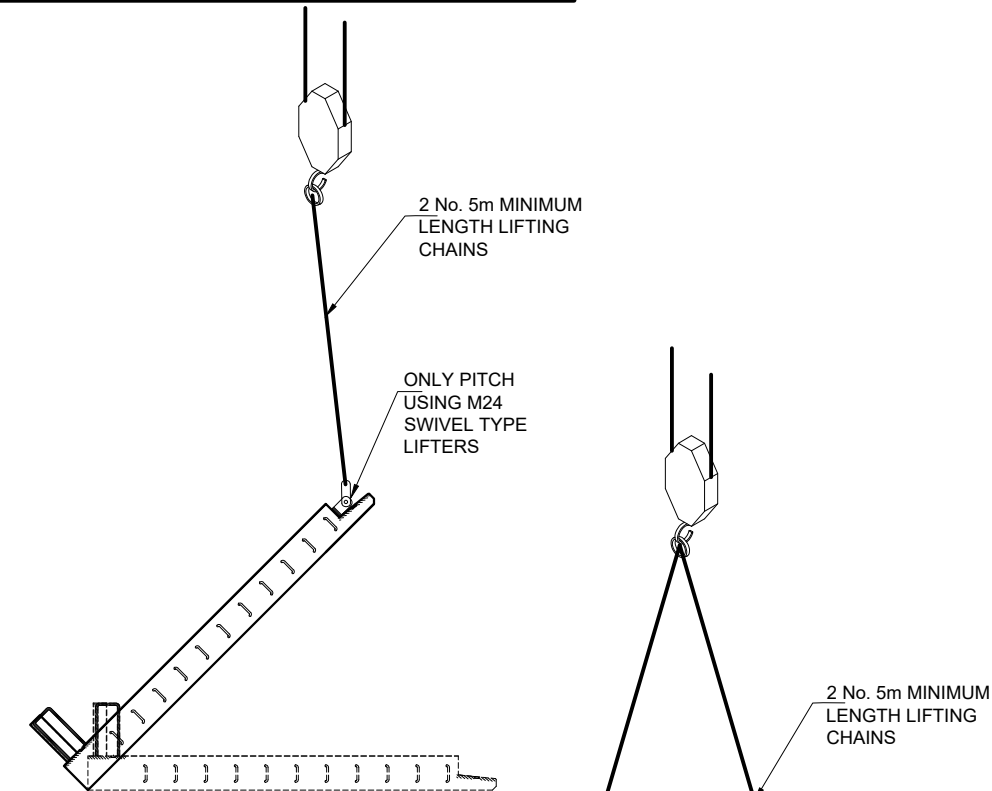
DRY FLOW CHANNEL DETAIL:
SCALE: 1:20

Drawn By: TH	Rev.	Date.	Comments.
Chkd By: PL	0	19-07-24	ISSUED FOR APPROVAL
Date: 19-07-24	A	22-01-25	OUTLET PIPE SIZE REVISED AND INLET PIPE LEVEL REVISED
Drg No.: STS3273-005			

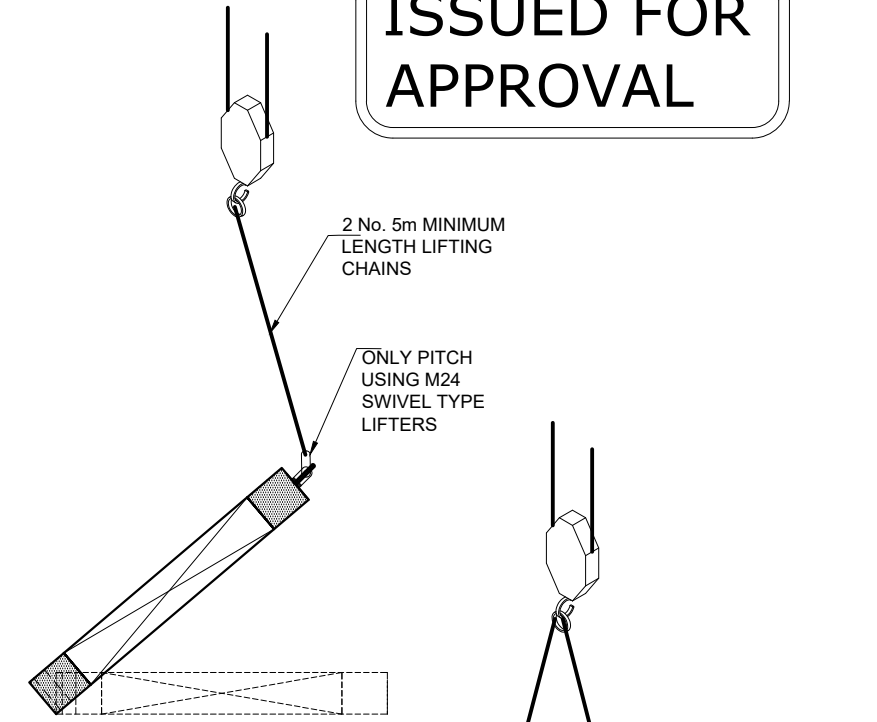
ALL ADOPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH SEWERAGE SECTOR GUIDANCE DESIGN AND CONSTRUCTION GUIDANCE [CODE FOR ADOPTION]. THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATER'S STANDARDS/REQUIREMENTS/LOCAL PRACTICE FOR THE ADOPTION OF SMALL SUBMERSIBLE FOUL AND SURFACE WATER PUMPING STATIONS AND KITEMARKED

YORKSHIRE WATER REFERENCE NUMBER : H-3-264-643

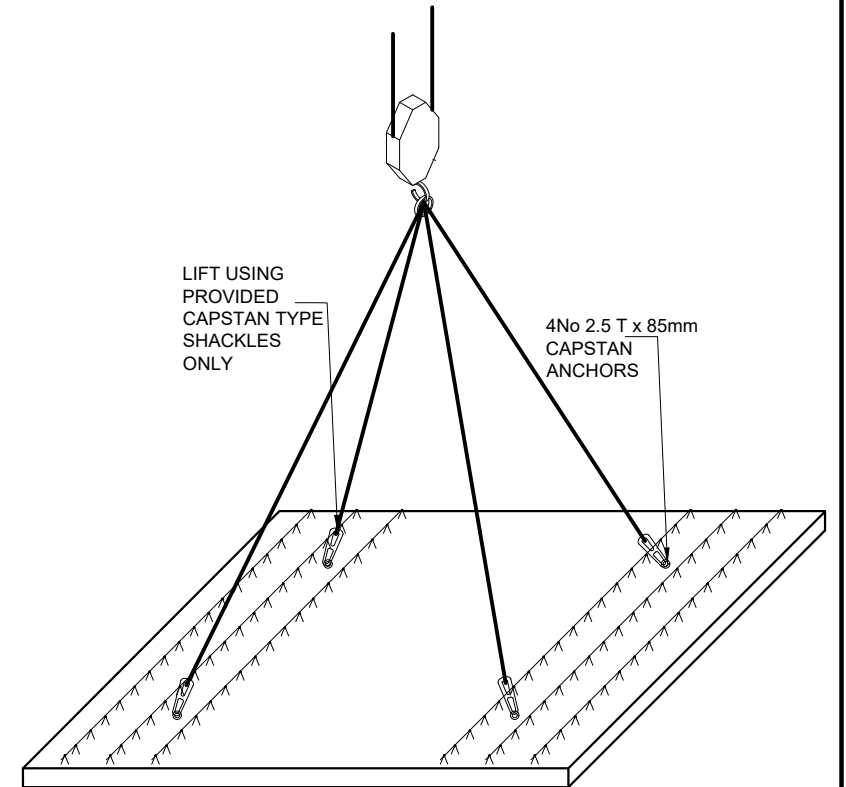
ISSUED FOR APPROVAL



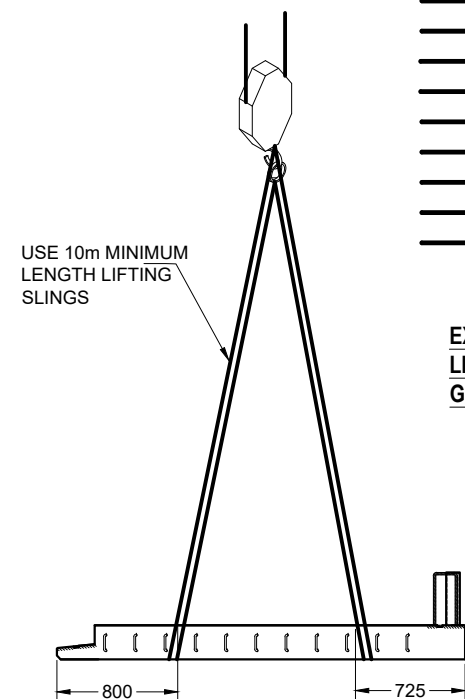
**EXTERNAL WALL
LIFTING ARRANGEMENT - PITCHING UNIT:**



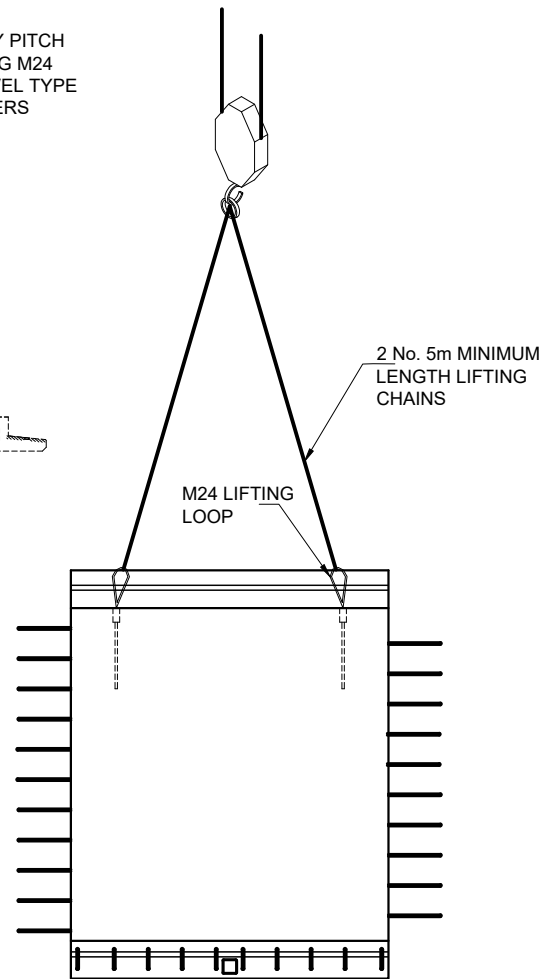
**INTERNAL WALL
LIFTING ARRANGEMENT - PITCHING UNIT:**



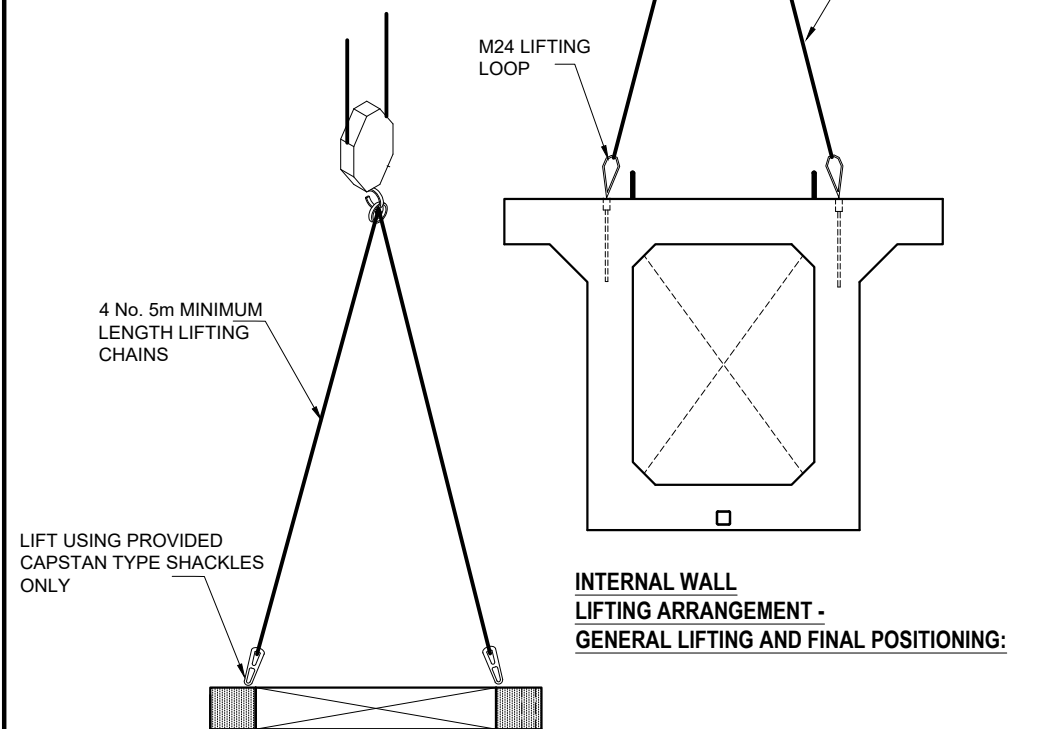
**PRECAST ROOF SLAB
LIFTING ARRANGEMENT -
GENERAL LIFTING AND FINAL POSITIONING:**



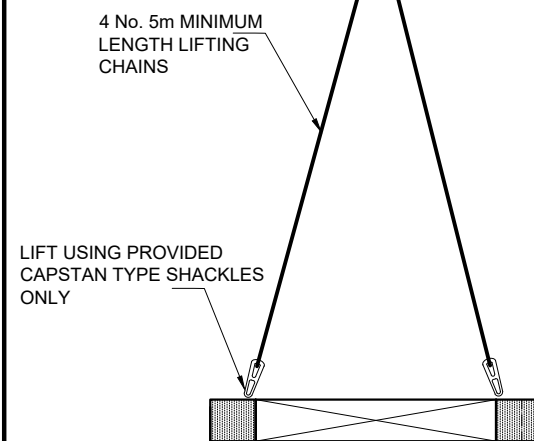
**EXTERNAL WALL
LIFTING ARRANGEMENT - HORIZONTAL LIFTING:**



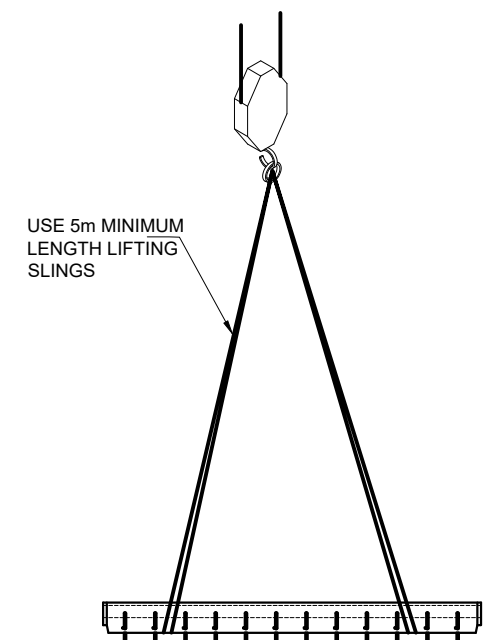
**EXTERNAL WALL
LIFTING ARRANGEMENT -
GENERAL LIFTING AND FINAL POSITIONING:**



**INTERNAL WALL
LIFTING ARRANGEMENT -
GENERAL LIFTING AND FINAL POSITIONING:**



**INTERNAL WALL
LIFTING ARRANGEMENT - HORIZONTAL LIFTING:**

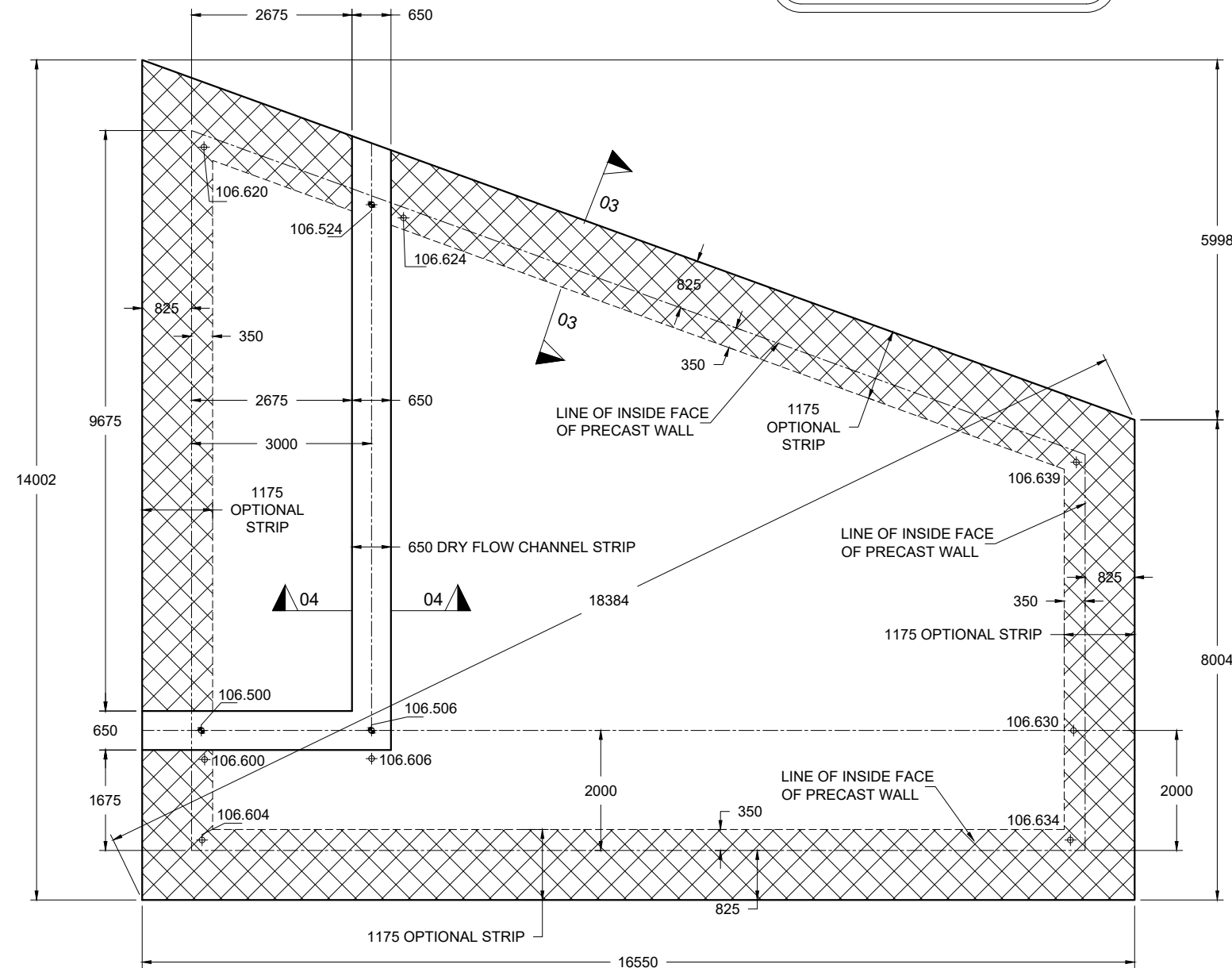


**PRECAST DRY FLOW CHANNEL
LIFTING ARRANGEMENT -
GENERAL LIFTING AND FINAL POSITIONING:**

Drawn By: TH	Rev.	Date.	Comments.
Chkd By: PL	0	19-07-24	ISSUED FOR APPROVAL
Date: 19-07-24	A	22-01-25	OUTLET PIPE SIZE REVISED AND INLET PIPE LEVEL REVISED
Drg No.: STS3273-006			

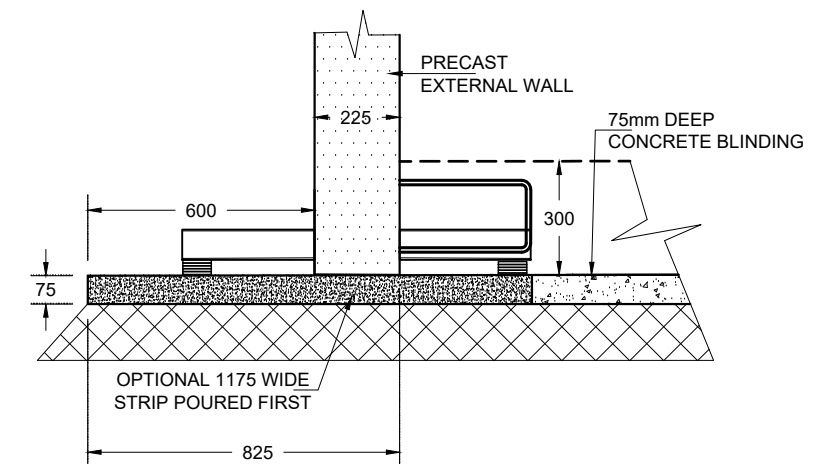
ALL ADOPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH SEWERAGE SECTOR GUIDANCE DESIGN AND CONSTRUCTION GUIDANCE [CODE FOR ADOPTION]. THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATER'S STANDARDS/REQUIREMENTS/LOCAL PRACTICE FOR THE ADOPTION OF SMALL SUBMERSIBLE FOUL AND SURFACE WATER PUMPING STATIONS AND KITEMARKED

ISSUED FOR
APPROVAL

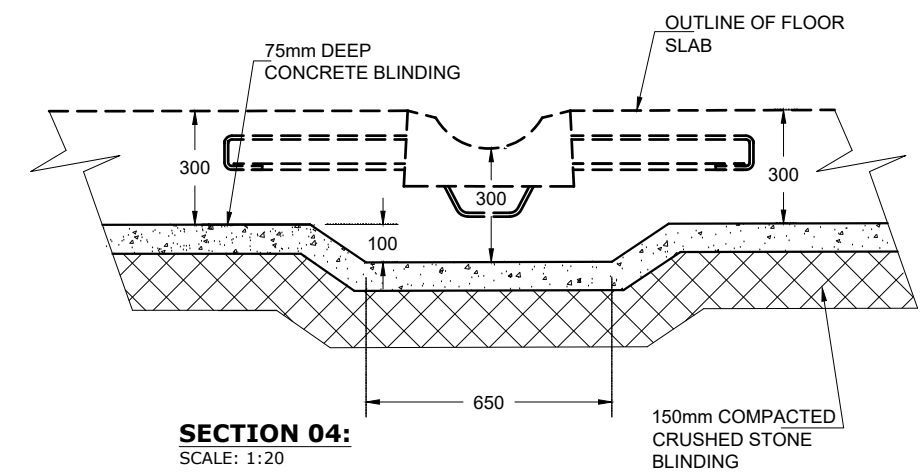


BLINDING SETTING OUT PLAN:
Scale: 1:100

NOTE:
ALL LEVELS ARE TOP OF BLINDING LAYER
LEVEL



SECTION 03:
SCALE: 1:20



SECTION 04:
SCALE: 1:20

