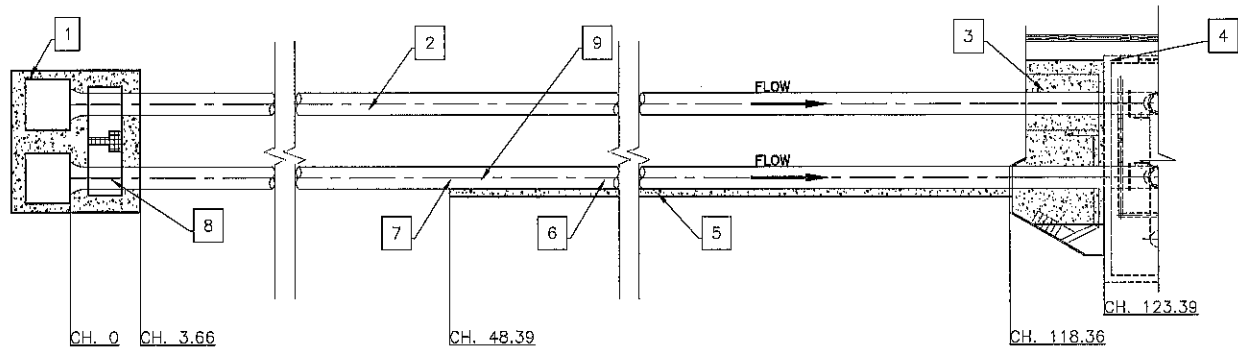
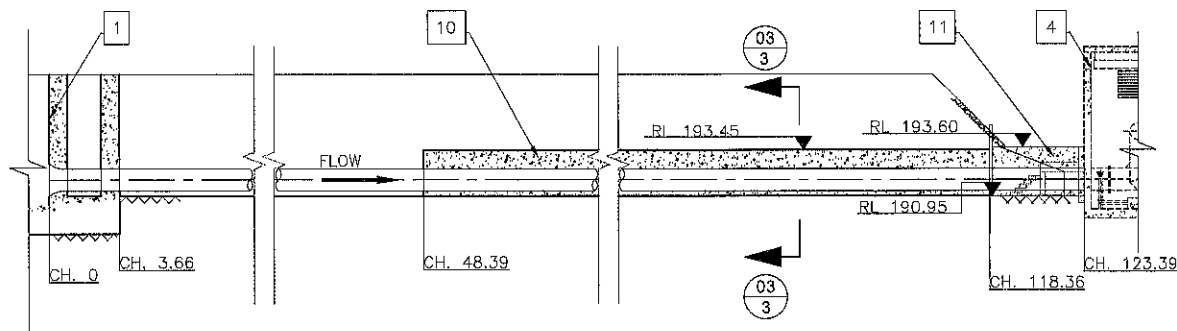


ANNOTATION TABLE	
1	INTAKE TOWER
2	EXISTING DN1200 OUTLET PIPE
3	MODIFICATION OF EXISTING OUTLET STRUCTURE (SEE NOTE No. 3)
4	NEW OUTLET STRUCTURE
5	FILL RIGHT OUTLET GALLERY WITH PUMPCRETE OR EQUIVALENT AROUND NEWLY PLACED DN1200 OUTLET PIPE (SEE NOTE No. 2 AND 3).
6	REPLACE EXISTING DN700 PIPE WITH NEW DN1200 OUTLET PIPE (SEE NOTES AND REFER TO MECHANICAL DRAWING 174581/16 FOR DETAILS)
7	START OF OPEN GALLERY AND EXISTING DN 700 PIPE
8	REPLACE EXISTING DN1200 TO DN700 REDUCER WITH NEW DN1200 OUTLET PIPE, INSTALL DN200 BYPASS AND BUTTERFLY VALVES (REFER TO MECHANICAL DRAWING 174581/16 FOR DETAILS)
9	REMOVE DN700 INSIDE EXISTING DN1200 OUTLET PIPE (SEE MECHANICAL DRAWING 174581/16 FOR DETAILS)
10	FILL RIGHT OUTLET GALLERY WITH PUMPCRETE OR EQUIVALENT AROUND NEWLY PLACED DN1200 OUTLET PIPE (SEE NOTE No. 2 AND 3).
11	FILL EXISTING OUTLET STRUCTURE WITH PUMPCRETE OR EQUIVALENT AROUND NEWLY PLACED DN1200 OUTLET PIPE (SEE NOTE No. 2 AND 3).
12	EXISTING GALLERY
13	GALLERY FILLED WITH PUMPCRETE OR EQUIVALENT AFTER INSTALLATION AND TESTING OF NEW DN1200 OUTLET PIPE (SEE NOTES AND SPECIFICATIONS)
14	NEW DN1200 OUTLET PIPE (REFER TO MECHANICAL DRAWING 174581/16 FOR DETAILS)
15	EXISTING DN700 OUTLET PIPE TO BE REMOVED



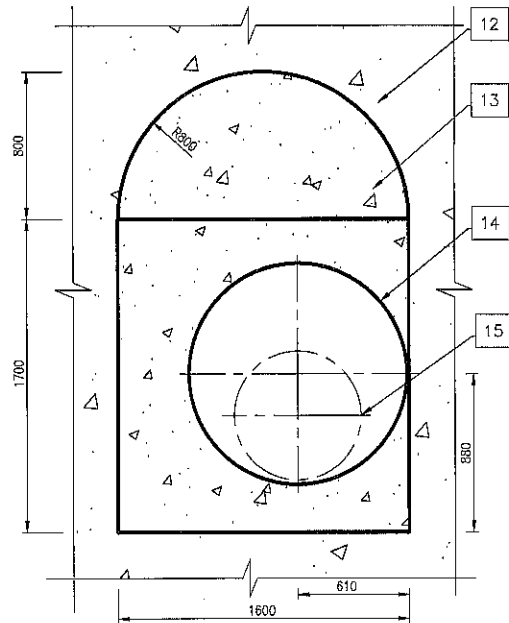
PLAN VIEW OF OUTLET PIPES FROM INLET TOWER THROUGH EMBANKMENT TO OUTLET STRUCTURE

SCALE 1:200



LONGITUDINAL VIEW OF OUTLET PIPES FROM INLET TOWER THROUGH EMBANKMENT TO OUTLET STRUCTURE

SCALE 1:200



SECTION 03-03

EXISTING GALLERY WITH POSITION OF NEW DN 1200 PIPE
SCALE 1:50

NOTES:

- DEMOLISH AND REMOVE SECTIONS OF EXISTING STILLING BASIN AND CANAL TO MAKE PROVISION FOR THE NEW OUTLET STRUCTURE.
- PRIOR TO WELDING PIPE (ITEM 1, MECHANICAL DRAWINGS) ENSURE PROPER SURFACE PREPARATION BY CHIPPING EXISTING WALL AROUND THE LEFT OUTLET PIPE, TO MAKE PROVISION FOR WORKING SPACE.
- EXCAVATE FOR FOUNDATIONS AND CONSTRUCT NEW REINFORCED CONCRETE OUTLET STRUCTURE.
- FOR CONCRETE DETAILS REFER TO BLOCK 1 DRAWING NUMBERS 174849/16 TO 174859/16.
- FOR REINFORCEMENT DETAILS REFER TO BLOCK 2 DRAWING NUMBERS 174860/16 TO 174870/16.
- MAKE PROVISION FOR MECHANICAL, ELECTRICAL AND DE-WATERING EQUIPMENT. REFER TO MECHANICAL, ELECTRICAL AND DE-WATERING EQUIPMENT DRAWINGS FOR THE FOLLOWING DETAILS:
 - PIPES AND SPECIALS.
 - VALVES
 - CRANE
 - MISCELLANEOUS (GRATINGS, BEAMS, LADDERS, MANHOLE COVERS, VENTILATORS, LOUVERED VENTS, WINDOW GUARDS, ACCESS DOORS AND CLADDING PLATES).
 - ELECTRICAL WORKS (LIGHTS, CABLING, DUCTS, DISTRIBUTION BOARDS, ETC).
 - DE-WATERING EQUIPMENT (SUMP PUMPS, DRAINAGE PIPES).
- CONTRACTOR TO PROVIDE EMPLOYER'S AGENT WITH METHOD STATEMENTS FOR APPROVAL PRIOR TO ANY DEMOLITION, EXCAVATION, FOUNDATION PREPARATION, SURFACE PREPARATION (FROM NEW TO EXISTING STRUCTURES) AND CONSTRUCTION.
- THE DEPTH AND NATURE OF THE EXISTING FOUNDATION MATERIAL IS UNKNOWN AND WILL BE DETERMINED ON SITE, THE EMPLOYER'S AGENT WILL APPROVE THE FOUNDATION AND SURFACE BEFORE ANY CONSTRUCTION WILL COMMENCE.
- CONTRACTOR TO TAKE INTO ACCOUNT ALL INFORMATION INCLUDED IN THE CONTRACT, INCLUDING BUT NOT LIMITED TO CONTRACT DATA, PRICING DATA, SCOPE OF WORKS WITH SPECIFICATIONS AND SITE INFORMATION.
- MINIMUM CLEARANCE OF 20MM BETWEEN NEW DN1200 PIPE AND GALLERY WALL.

SPECIFICATIONS:

- CONCRETE CLASS 40/19
- 50% GROUND GRANULATED COREX SLAG (GGCS) CEMENT REPLACEMENT (OR EQUIVALENT, SUBJECT TO THE APPROVAL OF THE EMPLOYER'S AGENT)
- ALL EXPOSED CORNERS TO HAVE 25 X 25mm CHAMFER.
- MAKE PROVISION FOR STAINLESS STEEL CLADDING TO BE CAST IN STILLING CHAMBER AND ACCESS SLABS USING FISHTAILS (SEE MECHANICAL DRAWINGS ON STAINLESS STEEL CLADDING AT SLEEVE VALVE CHAMBER, DRAWING NUMBERS 174375/16ME TO 174378/16ME AND 174388/16ME).
- ALL NON-SHUTTERED CONCRETE SURFACES SHALL HAVE WOOD-FLOATED FINISHES.
- WINDOWS TO BE GLASS WITH ALUMINUM FRAMES AND MUST COMPLY WITH SANS CODES 1283-1, 10137 AND 10400. TWO 1500 X 1500mm AND ONE 1500 X 750mm TO BE PROVIDED.
- LIFTING HOOKS FOR ACCESS SLABS TO BE PROVIDED AS SPECIFIED ON DRAWING 174868/16.

STATUS:

FOR CONSTRUCTION

SHEET	DESCRIPTION	OTHER No.	REV. No.
9 OF 55	NEW OUTLET STRUCTURE: CROSS SECTION 08-08		174856/16
8 OF 55	NEW OUTLET STRUCTURE: CROSS SECTION 07-07		174855/16
7 OF 55	NEW OUTLET STRUCTURE: LONG SECTION 06-06		174854/16
6 OF 55	NEW OUTLET STRUCTURE: LONG SECTION 05-05		174853/16
5 OF 55	NEW OUTLET STRUCTURE: PLAN VIEW		174852/16
4 OF 55	GROUTING OF GALLERY AND MODIFICATIONS AT EXISTING OUTLET CULVERT STRUCTURE		174851/16
2 OF 55	GENERAL LAYOUT OF OUTLET WORKS (KEY PLAN)		174849/16
1 OF 55	LIST OF DRAWINGS SERIES 0800 OUTLET WORKS: CONCRETE AND REINFORCEMENT DETAILS		174848/16

LIST OF DRAWINGS

REVISION				
MOD No.	DATE	DESCRIPTION	FOR	DWA

DEPARTMENT OF WATER AND SANITATION REPUBLIC OF SOUTH AFRICA

HEAD OFFICE
STRATEGIC ASSET MANAGEMENT
PRIVATE BAG X 313
PRETORIA 0001



SEDBERG BUILDING
185 FRANCIS BAARD STREET
PRETORIA
012 338 7500

DESIGNED: S REYNOLDS

CHECKED: T MABALE

DATE

DRAWN: N. MADONSELA

ENGINEER: L. MABALE

DATE

EXTERNAL APPROVAL:

DATE

C. MABALE

DATE

DIRECTOR (PR ENG)

DATE

DAM SAFETY REHABILITATION PROJECT

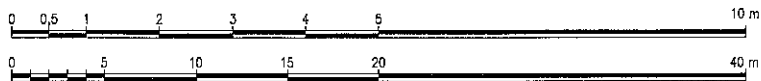
KWAGGASKLOOF DAM REHABILITATION PROJECT

GROUTING OF GALLERY AND MODIFICATIONS AT EXISTING
OUTLET CULVERT STRUCTURE

PROVINCE: WESTERN CAPE	DISTRICT: WORCESTER	KEY CODES	GLY	GRU	OUL	OTHER No.	XXX
LOCALITY No: H100-08	TENDER/ CONTRACTS No:	SHEET	REG. No.	174851/16	REV.	00	
CALCULATION FILE		4 OF 55					

SCALE 1:50

SCALE 1:200



SECTION

SECTION
NUMBER
01
02
SHEET
NUMBER