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Contract No. DHS/231/24/MP Re-Advert Page (i)
DEPARTMENT OF HUMAN SETTLEMENTS
Appointment of a contractor for the construction of bulk water
and sewer infrastructure in Kinross extension 33 settlement
under Govan Mbeki Local Municipality, Gert Sibande District.

Department of Human Settlements



DHS/231/24/MP

VOLUME 1

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER AND SEWER INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT SIBANDE DISTRICT.

PART T1: TENDER PROCEDURE

Prepared by:
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Email: stanelymasher@gmail.com



Employer:		Contractor:	
Witness:		Witness:	

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T1.1 TENDER NOTICE AND INVITATION TO TENDER

TENDER NOTICE

KINROSS EXT.33 & EXT 34- BULK ENGINEERING SERVICES

NOT APPLICABLE

Employer:		Contractor:	
Witness:		Witness:	

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T1.2 TENDER DATA

T1.2.1 Conditions of Tender

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement (January 2009) as published in Government Gazette No 38960, Board Notice 136 of 2015 of 10 July 2015. (See www.CIDB.org.za).

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

T1.2.2 Tender Data

The clause numbers in the Tender Data refer to the corresponding clause numbers in the Conditions of Tender (see Annex).

The additional Conditions of Tender are:

Clause number	Tender Data
F.1.1	The Employer is, FT Consultants Civil and Structural Engineers
F.1.2	<p>The tender documents issued by the Employer comprise:</p> <p>Volume 1: Tendering Procedures T1.1 Tender Notice and Invitation to Tender – N/A T1.2 Tender Data</p> <p>Returnable Documents T2.1 List of Returnable Documents T2.2 Returnable Schedules, including the Enterprise Declaration Affidavit which may be bound in a separate volume</p> <p>Part 1: Agreement and Contract Data C1.1 Form of Offer and Acceptance C1.2 Contract Data C1.3 Forms of Securities</p> <p>Part 2: Pricing Data C2.1 Pricing Instructions C2.2 Schedule of Rates</p> <p>Part 3: Scope of Work C3.1 Scope of Work C3.2 Particular Specifications</p>

Employer:		Contractor:	
Witness:		Witness:	

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Clause number	Tender Data
	<p>Part 4: Site Information C4 Site Information</p> <p>Volume 2: Occupational Health, Safety and Environmental Specification and Environmental Management Plan</p> <p>Volume 3: Drawings</p>
F.1.4	<p>The Employer's agent is: Contact Person: Mr Bernard Masher Telephone : 013 752 8523 E-mail address: stanelymasher@gmail.com</p>
F1.5.2	<p>Replace the existing clause with the following: The Employer may not subsequent to the cancellation or abandonment of a tender process or the rejection of all responsive tender offers, save for all tenders being non-responsive, re-issue a tender covering substantially the same scope of work within a period of six months unless only one tender was received and such tender was returned unopened to the tenderer.- n/a</p>
F.2.1	<p>Eligibility criteria and requirements CIDB registration and grading:</p> <ol style="list-style-type: none"> 1) Only tenderers who are registered with the CIDB or have a sub-contractor registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 7CE class of construction work, are eligible to submit tenders. 2) Joint ventures are eligible to submit tenders provided that: <ol style="list-style-type: none"> i) every member of the joint venture is registered with the CIDB; ii) the lead partner has a contractor grading designation in the 7CE class of construction work; and iii) the combined contractor grading designation calculated in accordance with the CIDB Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 7CE class of construction work. 3) A contract will only be entered into with a Tenderer who has in his employ management and supervisory staff satisfying the requirements of the scope of work for labour-intensive competencies for supervisory and management staff. 4) Information to be submitted with the tender The Tenderer shall, when requested by the Employer to do so, submit the names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff

Employer:		Contractor:	
Witness:		Witness:	

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Clause number	Tender Data
	members satisfy the eligibility requirements.
F.2.7	The arrangements for a compulsory clarification meeting are as stated in the Tender Notice and Invitation to Tender. -n/a Tenderers must sign the attendance list in the name of the tendering entity. Addenda will be issued to and tenders will be received only from those tendering entities appearing on the attendance list. -n/a
F.2.8	Replace the contents of the clause with the following: "Request clarification of the tender documents, if necessary, by notifying the Employer's Official or the Employer's Agent indicated in the Tender Notice and Invitation to Tender in writing at least seven working days before the closing time stated in the foregoing notice and clause F.2.15." -n/a
F.2.9	Add the following to the clause: "Accept that the submission of a Tender shall be construed as an acknowledgement by the Tenderer that he is satisfied with the insurance cover, the Employer will effect under the contract."
F.2.10.5	Add the following to the clause: "If no offer is made for an item, a line must be drawn through the space in pen. All prices and details must be legible / readable to ensure the tender will be considered for adjudication."
F.2.11	Add the following to the clause: <u>"In the event of a mistake having been made on the price schedule, it shall be crossed out in ink and be accompanied by an initial at each and every price alteration."</u> If correction fluid has been used on any specific item price, such item will not be considered. Corrections in terms of price may not be made by means of correction fluid such as Tippex or similar product. <u>No correction fluid may be used in a Price Schedule where prices are calculated to arrive at a total amount. If correction fluid has been used, the tender as a whole will not be considered.</u> The Employer will reject the bid if corrections are not made in accordance with the above."

Employer:		Contractor:	
Witness:		Witness:	

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Clause number	Tender Data
F.2.12	<p>If a tenderer wishes to submit an alternative tender offer, the only criteria permitted for such alternative tender offer is that it demonstrably satisfies the Employer's standards and requirements, the details of which may be obtained from the Employer's Agent.</p> <p>Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative tender offer to enable the Employer to evaluate the efficacy of the alternative and its principal elements, to take a view on the degree to which the alternative complies with the Employer's standards and requirements and to evaluate the acceptability of the pricing proposals. Calculations must be set out in a clear and logical sequence and must clearly reflect all design assumptions. Pricing Data must reflect all assumptions in the development of the pricing proposal.</p> <p>Acceptance of an alternative tender offer will mean acceptance in principle of the offer. It will be an obligation of the contract for the tenderer, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements.</p> <p>The modified Pricing Data must include an amount equal to 5% of the amount tendered for the alternative offer to cover the Employer's costs of confirming the acceptability of the detailed design before it is constructed.</p>
F.2.13.3	Each tender offer shall be submitted as an original. No copies.
F.2.13.5	<p>The Employer's address for delivery of tender offers and identification details to be shown on the Tenderer's offer package are:</p> <p>Physical address: FT Consultants 7 Ehmke Street Mbombela 1201</p>
F.2.13.6 & F.3.5	A two-envelope procedure will not be followed.
F.2.15.1	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
F.2.16	The tender offer validity period is 90 days.
F.2.16.1	<p>Add the following to the clause :</p> <p>"If the tender validity expires on a Saturday, Sunday or public holiday, the Tender Offer shall remain valid and open for acceptance until the closure of business on the following</p>

Employer:		Contractor:	
Witness:		Witness:	

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Clause number	Tender Data
	working day.”
F.2.19	The Tenderer must provide access during working hours to his premises for inspections on request.
F.2.23	The Tenderer is required to submit with his tender a letter of intent from an approved insurer undertaking to provide the Performance Guarantee to the format included in Part T2.2.22 of this procurement document.
F.2.23	<p>The Tenderer is required to submit with his tender:</p> <ol style="list-style-type: none"> 1) Valid SARS Compliance status Pin for Tenders issued by the South African Revenue Services. 2) Proof of CSD registration ie MA xxxxxxxx number 3) a Certificate of Contractor Registration issued by the CIDB. 4) where the tendered amount inclusive of VAT exceeds R 10 million: <ol style="list-style-type: none"> i) audited annual financial statement for 3 years, or for the period since establishment if established during the last 3 years, if required by law to prepare annual financial statements for auditing; ii) a certificate certifying that the tenderer has no undisputed commitments iii) municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days; iv) particulars of any contracts awarded to the tenderer by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract; v) a statement indicating whether any portion of the goods or services are expected to be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality or municipal entity is expected to be transferred out of the Republic. <p>Where a tenderer satisfies CIDB contractor grading designation requirements through joint venture formation, such tenderers must submit the Certificates of Contractor Registration in respect of each partner.</p>
F.2.24	<p>Add the following new clause:</p> <p>Canvassing and obtaining of additional information by tenderers Accept that no Tenderer shall make any attempt either directly or indirectly to canvass any of the Employers officials or the Employer’s agent in respect of his tender, after the opening of the tenders but prior to the Employer arriving at a decision thereon. No Tenderer shall make any attempt to obtain particulars of any relevant information, other than that disclosed at the opening of tenders.”</p>

Employer:		Contractor:	
Witness:		Witness:	

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Clause number	Tender Data
F.2.25	<p>Add the following new clause:</p> <p>Prohibitions on awards to persons in service of the state Accept that the Employer is prohibited to award a tender to a person -</p> <ol style="list-style-type: none"> a) who is in the service of the state; or b) if that person is not a natural person, of which any director, manager, principal shareholder or stakeholder is a person in the service of the state; or c) a person who is an advisor or consultant contracted with the municipality or municipal entity. <p>“In the service of the state” means to be -</p> <ol style="list-style-type: none"> i) a member of:- <ul style="list-style-type: none"> • any municipal council; • any provincial legislature; or • the National Assembly or the National Council of Provinces; ii) a member of the board of directors of any municipal entity; iii) an official of any municipality or municipal entity; iv) an employee of any national or provincial department; v) provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999); vi) a member of the accounting authority of any national or provincial public entity; or vii) an employee of Parliament or a provincial legislature.” <p>In order to give effect to the above, the questionnaire for the declaration of interests in the tender of persons in service of state in Section T2.2 must be completed.</p>
F.2.26	<p>Add the following new clause:</p> <p>Awards to close family members of persons in the service of the state “Accept that the notes to the Employer’s annual financial statements must disclose particulars of any award of more than R 2 000 to a person who is a spouse, child or parent of a person in the service of the state (defined in clause F.2.25), or has been in the service of the state in the previous twelve months, including</p> <ol style="list-style-type: none"> a) the name of that person; b) the capacity in which that person is in the service of the state; and c) the amount of the award. <p>In order to give effect to the above, the questionnaire for the declaration of interests in the tender of persons in service of state in part T2 – Returnable Documents must be completed in full and signed.”</p>
F.2.27	<p>Add the following new clause:</p>

Employer:		Contractor:	
Witness:		Witness:	

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Clause number	Tender Data																														
	<p>Tax Clearance Certificate In the case of a Joint Venture/Consortium the tax Compliance Status Pin must be submitted for each member of the Joint Venture/Consortium.”</p>																														
F.3.1.1	<p>Replace the contents of the clause with the following: “Respond to a request for clarification received up to seven calendar days before the tender closing time stated in the tender data and notify all Tenderers who drew procurement documents” – n/a</p>																														
F.3.4.2	<p>Tenders will be opened in public soon after closing time and recording of received documents but not later than 11:00 at the Tender. Tenderers names and total prices, where practical will be, read out. – n/a</p>																														
F.3.11.1	<p>Although quality does not form part of the tender points scoring, quality will be evaluated first (as outlined below) and if the tenderer does not score a minimum number of points per criteria/sub-criteria and a total of 70 points for quality, the tenderer will be eliminated and will not be considered further. -n/a The quality criteria minimum and maximum points in respect of each of criteria shall be as follows:</p> <table border="1"> <thead> <tr> <th>Quality criteria</th> <th>Sub-criteria</th> <th>Weightings</th> <th>Minimum number of points</th> <th>Maximum number of points</th> </tr> </thead> <tbody> <tr> <td>Compliance with Specification (refer to the data sheets and project specification)</td> <td colspan="4" style="text-align: center;">YES / NO</td> </tr> <tr> <td colspan="5" style="text-align: center;">Only tenderers who satisfy the criteria above will be evaluated on the rest of the criterions</td> </tr> <tr> <th>Quality criteria</th> <th>Sub-criteria</th> <th>Weightings</th> <th>Minimum number of points</th> <th>Maximum number of points</th> </tr> <tr> <td>Availability of key (major) plant and equipment</td> <td></td> <td style="text-align: center;">5</td> <td style="text-align: center;">3.5</td> <td style="text-align: center;">5</td> </tr> <tr> <td>Methodology</td> <td>Contract programme</td> <td style="text-align: center;">10</td> <td style="text-align: center;">7</td> <td style="text-align: center;">10</td> </tr> </tbody> </table>	Quality criteria	Sub-criteria	Weightings	Minimum number of points	Maximum number of points	Compliance with Specification (refer to the data sheets and project specification)	YES / NO				Only tenderers who satisfy the criteria above will be evaluated on the rest of the criterions					Quality criteria	Sub-criteria	Weightings	Minimum number of points	Maximum number of points	Availability of key (major) plant and equipment		5	3.5	5	Methodology	Contract programme	10	7	10
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Methodology	Contract programme	10	7	10																											

Employer:		Contractor:	
Witness:		Witness:	

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Clause number	Tender Data				
		Quality Plan and Control	10	7	10
Experience of the key staff (assigned personnel) in relation to the scope of work. Weightings; Contract Manager -0,4 Site Agent - 0,2 Discipline leads – 0,3 OHS Officer - 0,1		General qualifications	10	7	10
		Experience for the assignment	25	17.5	25
Experience with respect to specific aspects of the project / comparable projects			40	28	40
Possible score for quality (M _s)			100	70	100
<p>Each evaluation criteria will be assessed in terms of five indicators – no response, poor, satisfactory, good and very good. Scores of 0, 40, 70, 90 or 100 will be allocated to no response, poor, satisfactory, good and very good, respectively. The scores of each of the evaluators will be averaged, weighted and then totaled to obtain the final score for quality. Tenderers who fail to achieve a minimum overall score of 70 points, as well as the minimum score for each criterion, will not be considered further.</p> <p>Quality shall be scored in accordance with the following schedules: Tenderer’s Availability of key (major) plant and equipment Major Plant and equipment requirements are as follows but not limited to:</p> <ul style="list-style-type: none"> • 1 x Excavator • 1 x TLB • 2 x 6m³ Dump-trucks • 2 x 1 Ton Bakkies • 1 x Grader • 1 x Vibrator (for compaction of the pipe trenches) • 1 x Vibrator vehicle (for compaction of the gravel roads) 					
(Score 0)	Failed to address the question / issue.				
Poor (score 40)	Tenderer does own less than One (1) of the required key (major) plant and equipment, and /OR can assure use of hired plant and equipment during the contract period.				
Satisfactory (score 70)	Tenderer does own Two (2) of the required key (major) plant and equipment, and /OR can assure use of hired plant and equipment during the contract period.				

Employer:		Contractor:	
Witness:		Witness:	

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Contract No. DHS/231/24/MP Re-Advert Page (12)
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Clause number	Tender Data	
	Good (score 90) Very good (score 100)	Tenderer does own Three (3) of the required key (major) plant and equipment, and /OR can assure use of hired plant and equipment during the contract period. Tenderer does own Four (4) of the required key (major) plant and equipment, and /OR can assure use of hired plant and equipment during the contract period.
<p>Contract execution and quality Programme should entail but not be limited to the following:</p> <ul style="list-style-type: none"> • Procurement / Manufacturing of equipment / materials • Delivery of materials • Pipe Installation Method • Testing and Commissioning of Pipeline <p>Quality plan should cover the following:</p> <ul style="list-style-type: none"> • Compliance with specifications and standards; • On-site quality control. 		
	Contract Programme	Quality Plan
(Score 0)	Failed to address the question / issue.	Failed to address the question / issue.
Poor (score 40)	The activity schedule omits important tasks or the timing of the activities and correlation among them are inconsistent with project deliverables. There is lack of clarity and logic in the sequencing.	The quality approach and / or methodology are poor / is unlikely to satisfy project objectives or requirements. The Tenderer has misunderstood certain aspects of the Scope of Work and/or does not deal with the critical aspects of the project.
Satisfactory (score 70)	All key activities are included in the activity schedule but are not detailed. There are only minor inconsistencies between timing and project deliverables.	The quality approach is generic and not tailored to address the specific project objectives and requirements. The quality plan does adequately deal with the critical characteristics of the projects.
Good (score 90)	The work plan fits the project deliverables well; all important activities are indicated in the activity schedule and their timing and sequencing is appropriate	The quality plan is specifically tailored to the critical characteristics of the Contract projects.

Employer:		Contractor:	
Witness:		Witness:	

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Clause number	Tender Data	
		and consistent with project objectives and requirements. There is a fair degree of detail that facilitates understanding of the proposed work plan.
	Very good (score 100)	Besides meeting the “good” rating, decision points and the sequencing and timing of activities are very well defined, indicating that the Tenderer has optimized the use of resources. The work plan permits flexibility to accommodate contingencies.
		Besides meeting the “good” rating, the important quality issues are approached in an innovative and efficient way, indicating that the Tenderer has outstanding knowledge of state-of-the-art approaches.
Experience of Key Personnel		
General qualifications should cover the following as minimum:		
<ul style="list-style-type: none"> • Contract Manager – Engineer/Technologist. • Site Agent – Technician. • Safety Officers – Courses in Safety or SAMTRAC which is recognised by OHS Qualification Body. 		
Adequacy for assignment should cover the following:		
<ul style="list-style-type: none"> • Key staff should have a minimum of 2 to 5 years project specific experience in the projects of a similar nature in their respective disciplines 		
	General qualifications (Greater weighting will be given to the team leader)	Experience for the assignment (Greater weighting will be given to the team leader)
(Score 0)	Failed to address the question / issue.	Failed to address the question / issue.
Poor (score 40)	Key staff has limited levels of qualification.	Key staff has limited levels of project specific experience.
Satisfactory (score 70)	Key staff has acceptable/reasonable levels of qualification.	Key staff has acceptable/reasonable levels of project specific experience.

Employer:		Contractor:	
Witness:		Witness:	

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Clause number	Tender Data																
	<table border="1"> <tr> <td>Good (score 90)</td> <td>Key staff has extensive levels of qualification.</td> <td>Key staff has extensive levels of project specific experience.</td> </tr> <tr> <td>Very good (score 100)</td> <td>Key staff has outstanding levels of qualification.</td> <td>Key staff has outstanding levels of project specific experience.</td> </tr> </table> <p>Tenderer's experience: Minimum of 3 to 5 projects comprising of a similar nature completed on time and within budget and to the specified quality</p> <table border="1"> <tr> <td>(Score 0)</td> <td>Failed to address the question / issue..</td> </tr> <tr> <td>Poor (score 40)</td> <td>Tenderer has limited experience.</td> </tr> <tr> <td>Satisfactory (score 70)</td> <td>Tenderer has relevant experience (acceptable) and has dealt with the critical issues specific to the assignment.</td> </tr> <tr> <td>Good (score 90)</td> <td>Tenderer has extensive experience in relation to the project and has worked previously under similar conditions and circumstances.</td> </tr> <tr> <td>Very good (score 100)</td> <td>Tenderer has outstanding experience in projects of a similar nature.</td> </tr> </table>	Good (score 90)	Key staff has extensive levels of qualification.	Key staff has extensive levels of project specific experience.	Very good (score 100)	Key staff has outstanding levels of qualification.	Key staff has outstanding levels of project specific experience.	(Score 0)	Failed to address the question / issue..	Poor (score 40)	Tenderer has limited experience.	Satisfactory (score 70)	Tenderer has relevant experience (acceptable) and has dealt with the critical issues specific to the assignment.	Good (score 90)	Tenderer has extensive experience in relation to the project and has worked previously under similar conditions and circumstances.	Very good (score 100)	Tenderer has outstanding experience in projects of a similar nature.
Good (score 90)	Key staff has extensive levels of qualification.	Key staff has extensive levels of project specific experience.															
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Very good (score 100)	Tenderer has outstanding experience in projects of a similar nature.																
F.3.11.2 & F.3.11.3	The procedure for the evaluation of responsive tenders is Method 2																
F.3.13.1	Add to the existing clause: Tender offers will only be accepted if: <ol style="list-style-type: none"> the tenderer submits a valid SARS tax Compliance Status Pin for tenders issued by the South African Revenue Services or has made arrangements to meet outstanding tax obligations; Proof of CSD registration ie MA xxxxx number; the tenderer submits a letter of intent from an approved insurer undertaking to provide the Performance Guarantee to the format included in Part T2.2.22 of this procurement document the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation; the tenderer or any of its directors/shareholders is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; 																

Employer:		Contractor:	
Witness:		Witness:	

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under Govan Mbeki Local Municipality, Gert Sibande District.

Clause number	Tender Data
	<ul style="list-style-type: none"> f) the tenderer has not: <ul style="list-style-type: none"> i) abused the Employer's Supply Chain Management System; or ii) failed to perform on any previous contract and has been given a written notice to this effect; g) the tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the Employer or potentially compromise the tender process and persons in the employ of the state are permitted to submit tenders or participate in the contract; h) the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer; i) the Employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2003, issued in terms of the Occupational Health and Safety Act, 1993, the necessary competencies and resources to carry out the work safely.; and j) the tenderer: <ul style="list-style-type: none"> i) has sufficiently substantiated his experience in this type work; ii) has the required and experienced key personnel; and iii) Owns the primary equipment to effectively and efficiently execute the work.
F.3.17	The number of paper copies of the signed contract to be provided by the Employer is one.
	There are no additional conditions of tender.

--- END OF PART ---

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	TI	T2	C1	C2	C3	C4

ANNEXURE: STANDARD CONDITIONS OF TENDER

As published in Annexure F of the CIDB Standard for Uniformity for construction Procurement, Board Notice 136 Government Gazette No 38960 of 10 July 2015

F.1 General

F.1.1 Actions

F.1.1.1 The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in F.2 and F.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

F.1.1.2 The employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict, and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

Note: 1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.

2) *Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.*

F.1.1.3 The employer shall not seek, and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

F.1.2 Tender Documents

The documents issued by the employer for the purpose of a tender offer are listed in the tender data.

F.1.3 Interpretation

F.1.3.1 The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	TI	T2	C1	C2	C3	C4

F.1.3.2 These conditions of tender, the tender data and tender schedules which are only required for tender evaluation purposes, shall not form part of any contract arising from the invitation to tender.

F.1.3.3 For the purposes of these conditions of tender, the following definitions apply:

- a) **conflict of interest** means any situation in which:
 - i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfil his or her duties impartially;
 - ii) an individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
 - iii) incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.
- b) **comparative offer** means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration;
- c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process;
- d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels;
- e) **organization** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body;
- f) **functionality** means the measurement according to the predetermined norms of a service or commodity designed to be practical and useful, working or operating, taking into account quality, reliability, viability and durability of a service and technical capacity and ability of a tenderer.

F.1.4 Communication and employer’s agent

Each communication between the employer and a tenderer shall be to or from the employer's agent only, and in a form that can be readily read, copied and recorded. Communications shall be in the English language. The employer shall not take any responsibility for non-receipt of communications from or by a tenderer. The name and contact details of the employer’s agent are stated in the tender data.

F.1.5 Cancellation and Re-Invitation of Tenders

F1.5.1 An organ of state may, prior to the award of the tender, cancel a tender if-

- (a) due to changed circumstances, there is no longer a need for the services, works or goods requested; or
- (b) funds are no longer available to cover the total envisaged expenditure; or
- (c) no acceptable tenders are received.

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	TI	T2	C1	C2	C3	C4

F1.5.2 The decision to cancel a tender must be published in the CIBD website and in the government Tender Bulletin for the media in which the original tender invitation was advertised.

F.1.6 Procurement procedures

F.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to F.3.13, be concluded with the tenderer who in terms of F.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.

F.1.6.2 Competitive negotiation procedure

F.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of F.3.4, the employer shall announce only the names of the tenderers who make a submission. The requirements of F.3.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

F.1.6.2.2 All responsive tenderers, or not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the tender data, shall be invited in each round to enter into competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of F.2.17, the employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

F.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the employer to make a fresh tender offer, based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.

F.1.6.2.4 The contract shall be awarded in accordance with the provisions of F.3.11 and F.3.13 after tenderers have been requested to submit their best and final offer.

F.1.6.3 Proposal procedure using the two stage-system

F.1.6.3.1 Option 1

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The employer shall evaluate each responsive sub-

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	TI	T2	C1	C2	C3	C4

mission in terms of the method of evaluation stated in the tender data, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

F.1.6.3.2 Option 2

F.1.6.3.2.1 Tenderers shall submit in the first stage only technical proposals. The employer shall invite all responsive tenderers to submit tender offers in the second stage, following the issuing of procurement documents.

F.1.6.3.2.2 The employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the tender data and award the contract in terms of these conditions of tender.

F.2 Tenderer’s obligations

F.2.1 Eligibility

F.2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with employer.

F.2.1.2 Notify the employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the employer’s written approval to do so prior to the closing time for tenders.

F.2.2 Cost of tendering

F.2.2.1 Accept that, unless otherwise stated in the tender data, the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

F.2.2.2 The cost of the tender documents charged by the employer shall be limited to the actual cost incurred by the employer for printing the documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

F.2.3 Check documents

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	TI	T2	C1	C2	C3	C4

Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.

F.2.4 Confidentiality and copyright of documents

Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a tender offer in response to the invitation.

F.2.5 Reference documents

Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.

F.2.6 Acknowledge addenda

Acknowledge receipt of addenda to the tender documents, which the employer may issue, and if necessary apply for an extension to the closing time stated in the tender data, in order to take the addenda into account.

F.2.7 Clarification meeting

Attend, where required, a clarification meeting at which tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the tender data.

F.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the employer at least five working days before the closing time stated in the tender data.

F.2.9 Insurance

Be aware that the extent of insurance to be provided by the employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The tenderer is advised to seek qualified advice regarding insurance.

F.2.10 Pricing the tender offer

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	TI	T2	C1	C2	C3	C4

F.2.10.1 Rates, prices, and the tendered totals must include all duties, taxes and VAT.

F.2.10.2 As this project forms part of the Department of Human Settlement's housing projects, VAT **is not be applicable** and must not be added to the tendered total.

F.2.10.3 Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data.

F.2.10.4 State the rates and prices in Rand unless instructed otherwise in the tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

F.2.11 Alterations to documents

Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations.

F.2.12 Alternative tender offers

F.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.

F.2.12.2 Accept that an alternative tender offer may be based only on the criteria stated in the tender data or criteria otherwise acceptable to the employer.

F.2.12.3 An alternative tender offer may only be considered in the event that the main tender offer is the winning tender.

F.2.13 Submitting a tender offer

F.2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

F.2.13.2 Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.

F.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	TI	T2	C1	C2	C3	C4

F.2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.

F.2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

F.2.13.6 Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

F.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.

F.2.13.8 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

F.2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the employer, unless stated otherwise in the tender data.

F.2.14 Information and data to be completed in all respects

Accept that tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the employer as non-responsive.

F.2.15 Closing time

F.2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.

F.2.15.2 Accept that, if the employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

F.2.16 Tender offer validity

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	TI	T2	C1	C2	C3	C4

F.2.16.1 Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.

F.2.16.2 If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.

F.2.16.3 Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer’s agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted.

F.2.16.4 Where a tender submission is to be substituted, submit a substitute tender in accordance with the requirements of F.2.13 with the packages clearly marked as “SUBSTITUTE”.

F.2.17 Clarification of tender offer after submission

Provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

Note: Sub-clause F.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the Employer elect to do so.

F.2.18 Provide other material

F.2.18.1 Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer’s commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer’s request, the employer may regard the tender offer as non-responsive.

F.2.18.2 Dispose of samples of materials provided for evaluation by the employer, where required.

F.2.19 Inspections, tests and analysis

Provide access during working hours to premises for inspections, tests and analysis as provided for in the tender data.

F.2.20 Submit securities, bonds and policies

If requested, submit for the employer’s acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.

F.2.21 Check final draft

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	TI	T2	C1	C2	C3	C4

Check the final draft of the contract provided by the employer within the time available for the employer to issue the contract.

F.2.22 Return of other tender documents

If so instructed by the employer, return all retained tender documents within 28 days after the expiry of the validity period stated in the tender data.

F.2.23 Certificates

Include in the tender submission or provide the employer with any certificates as stated in the tender data.

F.3 The employer’s undertakings

F.3.1 Respond to requests from the tenderer

F.3.1.1 Unless otherwise stated in the tender Data, respond to a request for clarification received up to five working days before the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.

F.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to prequalify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:

- a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements;
- b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or
- c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.

F.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until three days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who drew documents.

F.3.3 Return late tender offers

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	TI	T2	C1	C2	C3	C4

Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.

F.3.4 Opening of tender submissions

F.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

F.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, number of points claimed for its BBBEE status level and time for completion for the main tender offer only.

F.3.4.3 Make available the record outlined in F.3.4.2 to all interested persons upon request.

F.3.5 Two-envelope system

F.3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.

F.3.5.2 Evaluate functionality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the functionality evaluation more than the minimum number of points for functionality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any points claimed on BBBEE status level. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality.

F.3.6 Non-disclosure

Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.

F.3.7 Grounds for rejection and disqualification

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	TI	T2	C1	C2	C3	C4

Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.

F.3.8 Test for responsiveness

F.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

- a) complies with the requirements of these Conditions of Tender,
- b) has been properly and fully completed and signed, and
- c) is responsive to the other requirements of the tender documents.

F.3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer’s opinion, would:

- a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- b) significantly change the Employer’s or the tenderer’s risks and responsibilities under the contract, or
- c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

F.3.9 Arithmetical errors, omissions and discrepancies

F.3.9.1 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with F.3.11 for:

- a) the gross misplacement of the decimal point in any unit rate;
- b) omissions made in completing the pricing schedule or bills of quantities; or
- c) arithmetic errors in:
 - i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or
 - ii) the summation of the prices.

F3.9.2 The employer must correct the arithmetical errors in the following manner:

- a) Where there is a discrepancy between the amounts in words and amounts in figures, the amount in words shall govern.
- b) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	TI	T2	C1	C2	C3	C4

- c) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.

Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of the arithmetical error in the manner described above.

F.3.10 Clarification of a tender offer

Obtain clarification from a tenderer on any matter that could give rise to ambiguity in a contract arising from the tender offer.

F.3.11 Evaluation of tender offers

F.3.11.1 General

Appoint an evaluation panel of not less than three persons. Reduce each responsive tender offer to a comparative offer and evaluate them using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

F.3.11.2 Method 1: Price and Preference

In the case of a price and preference:

- 1) Score tender evaluation points for price
- 2) Score points for BBBEE contribution
- 3) Add the points scored for price and BBBEE.

F.3.11.3 Method 2: Functionality, Price and Preference

In the case of a functionality, price and preference:

- 1) Score functionality, rejecting all tender offers that fail to achieve the minimum number of points for functionality as stated in the Tender Data.
- 2) No tender must be regarded as an acceptable tender if it fails to achieve the minimum qualifying score for functionality as indicated in the tender invitation.
- 3) Tenders that have achieved the minimum qualification score for functionality must be evaluated further in terms of the preference points system prescribed in paragraphs 4 and 4 and 5 below.

The **80/20** preference point system for acquisition of services, works or goods up to Rand value of R 50 million

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	TI	T2	C1	C2	C3	C4

Contract No. DHS/231/24/MP Re-Advert Page (28)
DEPARTMENT OF HUMAN SETTLEMENTS
Appointment of a contractor for the construction of bulk water
and sewer infrastructure in Kinross extension 33 settlement
under Govan Mbeki Local Municipality, Gert Sibande District.

4) (a)(i) The following formula must be used to calculate the points for price in respect of tenders(including price quotation) with a rand value equal to, or above R 30 000 and up to Rand value of R 50 000 000 (all applicable taxes included):

$$P_s = 80 \left(1 - \frac{P_t - P_{min}}{P_{min}} \right)$$

Where

P_s = Points scored for comparative price of tender or offer under consideration;

P_t = Comparative price of tender or offer under consideration; and

P_{min} = Comparative price of lowest acceptable tender or offer.

(4)(a)(ii) An employer of state may apply the formula in paragraph (i) for price quotations with a value less than R30 000, if and when appropriate:

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3				
Part	TI	T2	C1	C2	C3	C4	

(4)(b) Subject to subparagraph(4)(c), points must be awarded to a tender for attaining the B-BBEE status level of contributor in accordance with the table below:

B-BBEE status level of contributor	Number of points
1	20
2	18
3	14
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

(4)(c) A maximum of 20 points may be allocated in accordance with subparagraph (4)(b)

(4)(d) The points scored by tender in respect of B-BBEE contribution contemplated in subparagraph (4) (b) must be added to the points scored for price as calculated in accordance with subparagraph (4)(a).

(4)(e) Subject to paragraph 4.3.8 the contract must be awarded to the tender who scores the highest total number of points.

The 90/10 preference points system for acquisition of services, works or goods with a Rand value above R 50 million

(5)(a) The following formula must be used to calculate the points for price in respect of tenders with a Rand value above R 50 000 000 (all applicable taxes included):

$$Ps = 90 \left(1 - \frac{Pt - Pmin}{Pmin} \right)$$

Where

Ps = Points scored for comparative price of tender or offer under consideration;

Pt = Comparative price of tender or offer under consideration; and

Pmin = Comparative price of lowest acceptable tender or offer.

(5)(b) Subject to subparagraph(5)(c), points must be awarded to a tender for attaining the B-BBEE status level of contributor in accordance with the table below:

B-BBEE status level of contributor	Number of points
1	10

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3				
Part	TI	T2	C1	C2	C3	C4	

2	9
3	6
4	5
5	4
6	3
7	2
8	1
Non-compliant contributor	0

- (5)(c) A maximum of 10 points may be allocated in accordance with subparagraph (5)(b).
- (5)(d) The points scored by tender in respect of B-BBEE contribution contemplated in subparagraph (5) (b) must be added to the points scored for price as calculated in accordance with subparagraph (5)(a).
- (5)(e) Subject to paragraph 4.3.8 the contract must be awarded to the tender who scores the highest total number of points.

F.3.11.6 Decimal places

Score price, preference and functionality, as relevant, to two decimal places.

F.3.11.7 Scoring Price

Score price of remaining responsive tender offers using the following formula:

$$N_{FO} = W_1 \times A$$

where: N_{FO} is the number of tender evaluation points awarded for price.
 W_1 is the maximum possible number of tender evaluation points awarded for price as stated in the Tender Data.
A is a number calculated using the formula and option described in Table F.1 as stated in the Tender Data.

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3				
Part	TI	T2	C1	C2	C3	C4	

Table F.1: Formulae for calculating the value of A

Formula	Comparison aimed at achieving	Option 1 ^a	Option 2 ^a
1	Highest price or discount	$A = (1 + \frac{P - P_m}{P_m})$	$A = P / P_m$
2	Lowest price or percentage commission / fee	$A = (1 - \frac{P - P_m}{P_m})$	$A = P_m / P$
a	P _m is the comparative offer of the most favourable tender offer. P is the comparative offer of tender offer under consideration.		

F.3.11.8 Scoring preferences

Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the tender data and reject all claims for preferences where tenderers are not eligible for such preferences.

Calculate the total number of tender evaluation points for preferences claimed in accordance with the provisions of the tender data.

F.3.11.9 Scoring functionality

Score each of the criteria and sub criteria for quality in accordance with the provisions of the Tender Data.

Calculate the total number of tender evaluation points for quality using the following formula:

$$N_q = W_2 \times S_o / M_s$$

where: *S_o* is the score for quality allocated to the submission under consideration;

M_s is the maximum possible score for quality in respect of a submission;
and

W₂ is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data

F.3.12 Insurance provided by the employer

If requested by the proposed successful tenderer, submit for the tenderer's information the policies and / or certificates of insurance which the conditions of contract identified in the contract data, require the employer to provide.

F.3.13 Acceptance of tender offer

Accept the tender offer, if in the opinion of the employer, it does not present any risk and only if the tenderer:

- is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement,
- can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	TI	T2	C1	C2	C3	C4

competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,

- c) has the legal capacity to enter into the contract,
- d) is not insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing,
- e) complies with the legal requirements, if any, stated in the tender data, and
- f) is able, in the opinion of the employer, to perform the contract free of conflicts of interest.

F.3.14 Prepare contract documents

F.3.14.1 If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:

- a) addenda issued during the tender period,
- b) inclusion of some of the returnable documents, and
- c) other revisions agreed between the employer and the successful tenderer.

F.3.14.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

F.3.15 Complete adjudicator's contract

Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.

F.3.16 Notice to unsuccessful tenderers

F.3.16.1 Notify the successful tenderer of the employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data or agreed additional period.

F.3.16.2 After the successful tenderer has been notified of the employer's acceptance of the tender, notify other tenderers that their tender offers have not been accepted.

F.3.17 Provide copies of the contracts

Provide to the successful tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

F.3.18 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3				
Part	TI	T2	C1	C2	C3	C4	

F3.19 Transparency in the procurement process

F3.19.1 The CIDB prescripts require that tenders must be advertised and be registered on the “CIDB i.Tender system”.

F3.19.2 The employer must adopt a transparency model that incorporates the disclosure and accountability as transparency requirements in the procurement process.

F3.19.3 The transparency model must identify the criteria for selection of projects, project information template and the threshold value of the projects to be disclosed in the public domain at various intervals of delivery of infrastructure projects.

F3.19.4 The client must publish the information on a quarterly basis which contains the following information:

- Procurement planning process
- Procurement method and evaluation process
- Contract type
- Contract status
- Number of firms tendering
- Cost estimate
- Contract title
- Contract firm(s)
- Contract price
- Contract scope of work
- Contract start date and duration
- Contract evaluation reports

F3.19.5 The employer must establish a Consultative Forum which will conduct a random audit in the implementation of the transparency requirements in the procurement process.

F3.19.6 Consultative Forum must be an independent structure from the bid committees.

F3.19.7 The information must be published on the employer’s website.

F 3.19.8 Records of such disclosed information must be retained for audit purposes.

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Contract No. DHS231/24/MP Re-Advert Page (i)
DEPARTMENT OF HUMAN SETTLEMENTS
Appointment of a contractor for the construction of bulk water and sewer infrastructure in Kinross extension 33 settlement under Govan Mbeki Local Municipality, Gert Sibande District.

Department of Human Settlements



DHS/231/24/MP

VOLUME 1

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER AND SEWER INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT SIBANDE DISTRICT.

PART T2: RETURNABLE DOCUMENTS

Prepared by:
FT Consultant Civil & Structural Engineers
7 Ehmke Street
Mbombela, 1201
Telephone: +27 72 777 0920
Email: stanelymasher@gmail.com



Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

T2.1 LIST OF RETURNABLE DOCUMENTS

The tenderer must complete the following returnable documents:

<u>Document</u>	<u>Page</u>
1. Returnable Schedules required only for tender evaluation purposes	
T2.1.1 Record of addenda to tender documents	(1)
T2.1.2 Certificate of Authority	(2)
T2.1.3 Compulsory Enterprise Questionnaire	(7)
T2.1.4 Preferential Procurement	(9)
GCC Special Conditions	(10)
SBD 6.2 Declaration certificate for local production and content for designated sectors	(11)
T2.1.5 Proposed amendments and qualifications	(17)
T2.1.6 Schedule of proposed subcontractors	(18)
T2.1.7 Schedule of plant and equipment	(19)
T2.1.8 Schedule of the Tenderer's experience	(20)
T2.1.9 Schedule of key personnel	(21)
T2.1.10 Curriculum vitae of key personnel	(22)
T2.1.11 Tenderer's financial standing	(31)
T2.1.12 Contractor's health and safety declaration	(32)

T2.2 LIST OF RETURNABLE DOCUMENTS

2. Other documents required only for tender evaluation purposes	
T2.2.1 Certificate of Contractor Registration issued by the Construction Industry Development Board	(35)
T2.2.2 SARS Tax Compliance Status Pin and Proof of CSD registration i.e. MA xxxxx xxxxx number	(37)
C1.1 FORM OF OFFER AND ACCEPTANCE	(1)
C1.2 CONTRACT DATA	(5)
C1.3 FORMS OF SECURITIES	(13)
C2 PRICING DATA	(1)
Bill of Quantities	(4)
Summary of Bill of Quantities	(5)

NOTE: The Tenderer is required to complete each and every schedule listed above to the best of his ability as the evaluation of tenders and the eventual contract will be based on the information provided by the tenderer. Failure of a tenderer to complete the schedules and

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Contract No. DHS231/24/MP Re-Advert Page (iii)
DEPARTMENT OF HUMAN SETTLEMENTS
Appointment of a contractor for the construction of bulk
water and sewer infrastructure in Kinross extension 33
settlement under Govan Mbeki Local Municipality, Gert
Sibande District.

forms to the satisfaction of the employer will inevitably prejudice the tender and may lead to rejection on the grounds that the tender is not responsive.

The Enterprise Declaration Affidavit must be endorsed by a commissioner of oaths. All information supplied must be current and valid. Proposed or imminent changes to a Tenderer's status may be mentioned but the declarations must reflect current circumstances.

Employer:		Service Provider	
Witness:		Witness:	

Volume	1	2	3				
Part	T1	T2	C1	C2	C3	C4	

T2.1.1 Record of Addenda to Tender Documents

We confirm that the following communications received from the Employer before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:

	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Attach additional pages if more space is required.

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

T2.1.2 Certificate of Authority

Indicate the status of the Tenderer by ticking the appropriate box hereunder. The Tenderer must complete the certificate set out below for the relevant category.

(I) COMPANY	(II) CLOSE COR- PORATION	(III) PARTNERSHIP	(IV) JOINT VENTURE	(V) SOLE PROPRI- ETOR

(I) Certificate for Company

I,, chairperson of the Board of Directors of, hereby confirm that by resolution of the Board (copy attached) taken on, Mr/Ms, acting in the capacity of, was authorized to sign all documents in connection with the tender for Contract No. DHS 082022 and any contract resulting from it on behalf of the company.

Chairman:

As Witnesses: 1.....

2.....

Date:

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

(II) Certificate for Close Corporation

We, the undersigned, being the key members in the business trading as
..... hereby authorize Mr/Ms , acting in the capacity of
....., to sign all documents in connection with the
tender and any contract resulting from it on our behalf.

NAME	ADDRESS	SIGNATURE	DATE

Note : This certificate is to be completed and signed by all of the key members upon whom rests the direction of the affairs of the Close Corporation as a whole.

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3				
Part	T1	T2	C1	C2	C3	C4	

(III) Certificate for Partnership

We, the undersigned, being the key partners in the business trading as,

....., **hereby authorize Mr/Ms**,

acting in the capacity of, to sign all documents in connection

with the tender and any contract resulting from it on our behalf.

NAME	ADDRESS	SIGNATURE	DATE

Note : This certificate is to be completed and signed by all of the key partners upon whom rests the direction of the affairs of the Partnership as a whole.

Employer:		Service Provider	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

(IV) Certificate for Joint Venture

This Returnable Schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr/Ms , authorised signatory of the company , acting in the capacity of lead partner, to sign all documents in connection with the tender offer and any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORISED SIGNATORY
Lead partner		Signature. Name Designation
		Signature. Name Designation
		Signature. Name Designation
		Signature. Name Designation

Note : This certificate is to be completed and signed by all of the key partners upon whom rests the direction of the affairs of the Joint Venture as a whole.

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3				
Part	T1	T2	C1	C2	C3	C4	

(V) Certificate for Sole Proprietor

I,, hereby confirm that I am the sole owner of the Business trading as

Signature of Sole owner:

As Witnesses :

1.....

2.

Date :

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3				
Part	T1	T2	C1	C2	C3	C4	

T2.1.3 Compulsory Enterprise Questionnaire

The following particulars must be furnished. In the case of a joint venture, **separate** enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

* Complete only if sole proprietor or partnership and attach separate page if more than 3 partners

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Proof of CSD registration i.e. MA xxxx xxxxx number.

SARS Tax Compliance status Pin number

Section 6: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

- | | |
|--|---|
| <input type="checkbox"/> a member of any municipal council | <input type="checkbox"/> an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| <input type="checkbox"/> a member of any provincial legislature | <input type="checkbox"/> a member of an accounting authority of any national or provincial public entity |
| <input type="checkbox"/> a member of the National Assembly or the National Council of Province | <input type="checkbox"/> an employee of Parliament or a provincial legislature |
| <input type="checkbox"/> a member of the board of directors of any municipal entity | |
| <input type="checkbox"/> an official of any municipality or municipal entity | |

If any of the above boxes are marked, disclose the following:

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*insert separate page if necessary

Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent of a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3				
Part	T1	T2	C1	C2	C3	C4	

- | | |
|--|---|
| <input type="checkbox"/> a member of any municipal council | <input type="checkbox"/> an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| <input type="checkbox"/> a member of any provincial legislature | <input type="checkbox"/> a member of an accounting authority of any national or provincial public entity |
| <input type="checkbox"/> a member of the National Assembly or the National Council of Province | <input type="checkbox"/> an employee of Parliament or a provincial legislature |
| <input type="checkbox"/> a member of the board of directors of any municipal entity | |
| <input type="checkbox"/> an official of any municipality or municipal entity | |

Name of spouse, child or parent	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*insert separate page if necessary

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise:

- i) authorizes the Employer to verify the tax compliance status from the South African Revenue Services that my / our tax matters are in order;
- ii) confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
- iv) confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and
- iv) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed _____

Date _____

Name _____

Position _____

Enterprise name _____

Employer:		Service Provider	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

T2.1.4 Preferential Procurement

Forms for Completion by the Tenderer included in this section are:

Form No.	Form Title	Description
GCC	Special Conditions	Sub-contracting and Skills Transfer
SBD1	SCM-Bid documents SBD 1	Form to be completed by the Tenderer
SBD6.1	Standard Biding Document 6.1 new	Procedures and adjudication criteria for the information of the Tenderer
SBD4	Declaration of any potential Conflict or Interest	Form to be completed by the Tenderer

Note:

Failure to complete the forms in full, and failure to have the enterprise declaration affidavit endorsed by a commissioner of oaths will lead to the Tender being considered non-responsive.

All information supplied must be current and valid. Proposed or imminent changes to a Tenderer's status may be mentioned but the declarations must reflect current circumstances.

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

GCC - SPECIAL CONDITIONS

This tender is subjected to the following Conditions in addition to any other conditions stipulated and made part of this tender as described hereunder. By signing this document, the tenderer agrees to comply with all conditions hereunder in the event of being successful.

NB: Tender submissions indicating non-acceptance of these conditions will be eliminated

A. Sub-contracting

1. All infrastructure projects (construction) with a CIDB grading threshold of 6 and above will entail the principle of sub-contracting.
2. Preference in respect of sub-contracting must be given to Black Women Owned (BWO), Black Youth Owned (BYO) or Black Owned enterprises (BOE) or a combination of all who are at least at level 2 BBBEE
3. The successful tenderer is required to sub-contract a minimum of 30% (where possible) of the total contract value to entities that are BWO or BYO or BOE or a combination of all. (In this respect, FT reserves the right to acknowledge a sub-contractor as one who provides only labour to execute the nominated scope of work or one who is a bona fide contractor and able to carry out the work by providing all labour and materials)
4. Qualifying sub-contracting entities will be made available to the successful contractor/s who must then choose the most suitable sub-contractor for the intended project.
5. The successful contractor must submit periodic reports to the Project Engineer as follows:
 - Name of sub-contractor and BBBEE status
 - Area and location of project
 - Scope of work issued to the sub-contractor
 - Value of the work issued (auditable)
 - Assistance provided to the sub-contractor eg acquisition of materials, machinery and tools
 - Performance of the sub-contractor
6. Upon completion of the project, the contractor is required to provide a final report to FT on skills acquired, description and value of work performed as well as their overall performance.

(The above information will assist the sub-contractor to improve their CIDB grading)

B. Skills transfer

It is an absolute requirement that the successful tenderer empowers the appointed sub-contractor through the transfer of skills. In this regard, a skills transfer plan must be submitted prior to commencement of the project.

I / we representing the tenderer hereunder agree to the above conditions in the event of being successful.

Name of tenderer: _____

Authorised signatory _____ **Date** _____

Employer:		Service Provider	
Witness:		Witness:	

PART A INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (NAME OF DEPARTMENT/ PUBLIC ENTITY)					
BID NUMBER:		CLOSING DATE:		CLOSING TIME:	
DESCRIPTION					
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO			TECHNICAL ENQUIRIES MAY BE DIRECTED TO:		
CONTACT PERSON			CONTACT PERSON		
TELEPHONE NUMBER			TELEPHONE NUMBER		
FACSIMILE NUMBER			FACSIMILE NUMBER		
E-MAIL ADDRESS			E-MAIL ADDRESS		
SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
SUPPLIER COMPLIANCE STATUS	TAX COMPLIANCE SYSTEM PIN:		OR	CENTRAL SUPPLIER DATABASE No:	MAAA
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE	TICK APPLICABLE BOX]		B-BBEE STATUS LEVEL SWORN AFFIDAVIT	[TICK APPLICABLE BOX]	
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No
[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES, ANSWER THE QUESTIONNAIRE BELOW]	
QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS					
IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?				<input type="checkbox"/> YES <input type="checkbox"/> NO	
DOES THE ENTITY HAVE A BRANCH IN THE RSA?				<input type="checkbox"/> YES <input type="checkbox"/> NO	
DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?				<input type="checkbox"/> YES <input type="checkbox"/> NO	
DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?				<input type="checkbox"/> YES <input type="checkbox"/> NO	
IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?				<input type="checkbox"/> YES <input type="checkbox"/> NO	
IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 BELOW.					

**PART B
TERMS AND CONDITIONS FOR BIDDING**

1. BID SUBMISSION:
<p>1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.</p> <p>1.2. ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED–(NOT TO BE RE-TYPED) OR IN THE MANNER PRESCRIBED IN THE BID DOCUMENT.</p> <p>1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.</p> <p>1.4. THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (SBD7).</p>

2. TAX COMPLIANCE REQUIREMENTS
<p>2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.</p> <p>2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VERIFY THE TAXPAYER’S PROFILE AND TAX STATUS.</p> <p>2.3 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA.</p> <p>2.4 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.</p> <p>2.5 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.</p> <p>2.6 WHERE NO TCS PIN IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.</p> <p>2.7 NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE.”</p>

NB: FAILURE TO PROVIDE / OR COMPLY WITH ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:
 (Proof of authority must be submitted e.g. company resolution)

DATE:

SPECIFIC GOALS

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Specific goals.

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS AND DEFINITIONS

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2.1.2

- a) The value of this bid is estimated to **not exceed** R50 000 000 (all applicable taxes included) and therefore the.....preference point system shall be applicable; or
- b) Either the 80/20 preference point system will be applicable to this tender.

1.3 Points for this bid shall be awarded for:

- (a) Price; and
- (b) Specific goals.

1.4 The maximum points for this bid are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and Specific goals must not exceed	100

1.5 Failure on the part of a bidder to submit the required documents to substantiate the points claimed with the bid, will be interpreted to mean that points for specific goals are not claimed.

1.6 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to specific goals in any manner required by the purchaser.

2. DEFINITIONS

(a) **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act.

(b) **“Specific goals”** means specific goals as contemplated in section 2(1)(d) of the Act which may include contracting with persons, or categories of persons, historically disadvantaged by unfair discrimination on the basis of race, gender and disability including the implementation of programmes of the Reconstruction and Development

Programme as published in *Government Gazette* No. 16085 dated 23 November 1994

- (c) **“bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals.
- (d) **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (e) **“EME”** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (f) **“functionality”** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- (g) **“prices”** includes all applicable taxes less all unconditional discounts;
- (h) **“proof of B-BBEE status level of contributor”** means:
- 1) B-BBEE Status level certificate issued by an authorized body or person;
 - 2) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;
 - 3) Any other requirement prescribed in terms of the B-BBEE Act;
- (i) **“QSE”** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (j) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1 POINTS AWARDED FOR PRICE (the 80/20 or 90/10 preference point systems)

A maximum of 80/90 points is allocated for price on the following basis:

$$\begin{array}{ccc}
 \mathbf{80/20} & \mathbf{or} & \mathbf{90/10} \\
 \mathbf{Ps = 80 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)} & \mathbf{or} & \mathbf{Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)}
 \end{array}$$

Where

P_s = Points scored for price of bid under consideration

P_t = Price of bid under consideration

P_{min} = Price of lowest acceptable bid

3.2 FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME-GENERATING PROCUREMENT.

3.2.1 POINTS AWARDED FOR PRICE

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20

or

90/10

$$P_s = 80 \left(1 + \frac{P_t - P_{max}}{P_{max}} \right) \text{ or } P_s = 90 \left(1 + \frac{P_t - P_{max}}{P_{max}} \right)$$

Where

P_s = Points scored for price of bid under consideration

P_t = Price of bid under consideration

P_{max} = Price of highest acceptable bid

4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1 In terms of Regulation 3 (1) an organ of state must, in the tender documents, stipulate the specific goal in the invitation to submit the tender for which a point may be awarded, and the number of points that will be awarded to each goal, and proof of the claim for such goal.

SPECIFIC GOAL	NUMBER OF POINTS FOR (80/20 PREFERENCE SYSTEM)	NUMBER OF POINTS (90/10 PREFERENCE SYSTEM)
1. Enterprise owned by Black people	5	2.5
2. Enterprise owned by Women	8	4
3. Enterprise owned by Youth	5	2.5
4. Enterprise owned by People living with Disabilities	2	1

5. BID DECLARATION

5.1 Bidders who claim points in respect of specific goals must complete the following:

SPECIFIC GOAL	NUMBER OF POINTS FOR (80/20 PREFERENCE SYSTEM)	NUMBER OF POINTS (90/10 PREFERENCE SYSTEM)
1. Enterprise owned by Black people		
2. Enterprise owned by Women		
3. Enterprise owned by Youth		
4. Enterprise owned by People living with Disabilities		

6. B-BBEE STATUS LEVEL OF CONTRIBUTOR CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 3.1

6.1 Specific goals: = (maximum of 10 or 20 points)
 (Points claimed in respect of paragraph 6.1 must be in accordance with the table reflected in paragraph 3.1 and must be substantiated by submitting the required documents.)

7. DECLARATION WITH REGARD TO COMPANY/FIRM

7.1 Name of company/firm:.....

7.2 VAT registration number:.....

7.3 Company registration number:.....

7.4 TYPE OF COMPANY/ FIRM

- Partnership/Joint Venture / Consortium
 - One person business/sole propriety
 - Close corporation
 - Company
 - (Pty) Limited
- [TICK APPLICABLE BOX]

7.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....

.....
.....
.....
.....

7.6 COMPANY CLASSIFICATION

- Manufacturer
 - Supplier
 - Professional service provider
 - Other service providers, e.g. transporter, etc.
- [TICK APPLICABLE BOX]

7.7 Total number of years the company/firm has been in business:.....

7.8 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals indicated in paragraphs 1.4 and 5.1 of the foregoing certificates, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 5.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct.
- iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
 - (a) disqualify the person from the bidding process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person’s conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution.

<p>WITNESSES</p> <p>1.</p> <p>2.</p>
--

<p>.....</p> <p>SIGNATURE(S) OF BIDDERS(S)</p>
<p>DATE:</p> <p>ADDRESS</p> <p>.....</p> <p>.....</p>

BIDDER'S DISCLOSURE

1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. Bidder's declaration

2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest¹ in the enterprise, employed by the state? **YES/NO**

2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	Identity Number	Name of State institution

2.2 Do you, or any person connected with the bidder, have a relationship

¹ the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

with any person who is employed by the procuring institution? **YES/NO**

2.2.1 If so, furnish particulars:

.....
...
.....
...

2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? **YES/NO**

2.3.1 If so, furnish particulars:

.....
.....

3 DECLARATION

I, _____ the _____ undersigned, (name)..... in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect:

- 3.1 I have read and I understand the contents of this disclosure;
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium² will not be construed as collusive bidding.
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.4 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

² Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

- 3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.

- 3.6 I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.
I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

Volume	I	2	3				
Part	T1	T2	C1	C2	C3	C4	

LOCAL CONTENT DECLARATION
(REFER TO ANNEX B OF SATS 1286:2011)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. DHS/231/24/MP

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity): **DEPARTMENT OF HUMAN SETTLEMENT**

NB

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on http://www.thedti.gov.za/industrial_development/ip.jsp. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, (full names),

do hereby declare, in my capacity as

of(name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that
 - (i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
 - (ii) the declaration templates have been audited and certified to be correct.
- (a) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R
Imported content (x), as calculated in terms of SATS 1286:2011	R

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Stipulated minimum threshold for local content (paragraph 3 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.

(d) I accept that the Procurement Authority / Municipality /Municipal Entity have the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.

(e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2011 promulgated under the Preferential Policy Framework Act (PPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____

DATE: _____

WITNESS No. 1 _____

DATE: _____

WITNESS No. 2 _____

DATE: _____

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

EXAMPLE SATS 1286.2011

Annex C

Local Content Declaration - Summary Schedule

Tender No. _____

Tender description: _____

Designated product(s) _____

Tender Authority: _____

Tendering Entity name: _____

Tender Exchange Rate: _____

Specified local content % 80%

USD

EU

GBP

(C1) Tender No.
(C2) Tender description:
(C3) Designated product(s)
(C4) Tender Authority:
(C5) Tendering Entity name:
(C6) Tender Exchange Rate:
(C7) Specified local content %

Note: VAT to be excluded from all calculations

		Calculation of local content				Tender summary					
		Tender value net of exempt imported content (C11)	Imported value (C13)	Local value (C14)	Local content % (per item) (C15)	Tender Qty (C16)	Total tender value (C17)	Total exempt imported content (C18)	Total imported content (C19)		
(C8) Tender item no's	(C9) List of items										
Signature of tenderer from Annex B						Total tender value (C20)	Total Exempt imported content (C21)	Total imported content net of exempt imported content (C22)	Total imported content (C23)	Total local content (C24)	Average local content % of tender (C25)
Date:											

T2.1.5 Proposed Amendments and Qualifications

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

The Tenderer should record any deviations or qualifications he may wish to make to the tender documents in this Returnable Schedule. Alternatively, a tenderer may state such deviations and qualifications in a covering letter to his tender and reference such letter in this schedule.

The Tenderer's attention is drawn to clause F.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the employer's handling of material deviations and qualifications.

Page	Clause or item	Proposal

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3				
Part	T1	T2	C1	C2	C3	C4	

T2.1.6 Schedule of Proposed Subcontractors

We notify you that it is our intention to employ the following Subcontractors for work in this contract.

If we are awarded a contract, we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us.

We confirm that all Subcontractors who are contracted to construct a house are registered as home builders with the National Home Builders Registration Council.

	Name and address of proposed Subcontractor	Nature and extent of work	Previous experience with Sub-contractor.

Signed _____

Date _____

Name _____

Position _____

Tenderer _____

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

T2.1.7 Schedule of Plant and Equipment

The following are lists of major items of relevant equipment that I / we presently own or lease and will have available for this contract or will acquire or hire for this contract if my / our tender is accepted.

(a) Details of major equipment that is owned by and immediately available for this contract.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

(b) Details of major equipment that will be hired or acquired for this contract if my / our tender is acceptable.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

Signed _____

Date

Name _____

Position

Tenderer

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

T2.1.8 Schedule of the Tenderer's Experience

EMPLOYER: CONTACT PERSON AND TELEPHONE NUMBER	CONSULTING ENGINEER: CONTACT PERSON AND TELEPHONE NUMBER	NATURE OF WORK	VALUE OF WORK (inclusive of VAT)	DATE COMPLETED OR EXPECTED TO BE COMPLETED

Signed _____ Date _____
 Name _____ Position _____
 Tenderer _____

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3				
Part	T1	T2	C1	C2	C3	C4	

T2.1.10 Schedule of Key Personnel

In terms of the Project Specification and the Conditions of Tender, unskilled workers may only be brought in from outside the local community if such personnel are not available locally.

The Tenderer shall list below the personnel which he intends to utilize on the Works, including key personnel which may have to be brought in from outside if not available locally.

CATEGORY OF EMPLOYEE	NUMBER OF PERSONS					
	KEY PERSONNEL, PART OF THE CONTRACTOR'S ORGANISATION		KEY PERSONNEL TO BE IMPORTED IF NOT AVAILABLE LOCALLY		UNSKILLED PERSONNEL TO BE RECRUITED FROM LOCAL COMMUNITY	
	HDI	NON-HDI	HDI	NON-HDI	HDI	NON-HDI
Site Agent, Project Managers						
Foremen, Quality Control and Safety Personnel						
Technicians, Surveyors, etc						
Artisans and other Skilled workers						
Plant Operators						
Unskilled Workers						
Others:.....						

SIGNATURE:.....
(of person authorized to sign on behalf of the Tenderer)

DATE:

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3				
Part	T1	T2	C1	C2	C3	C4	

Contract No. DHS/231/24/MP Re-Advert Page (19)
DEPARTMENT OF HUMAN SETTLEMENTS
Kinross Ext.33 & Ext 34- bulk engineering services
Returnable Documents Returnable Documents

T2.1.11 Curriculum Vitae of Key Personnel & Certified Academic Certificates

Provide separate forms for each position listed in Form: Key Personnel

Contract Manager

Name:		Date of birth:
Profession:		Nationality:
Qualifications:		
Professional Registration Number:		
Name of Employer (firm):		
Current position:		Years with firm:
<u>Employment Record:</u>		
<u>Experience Record Pertinent to Required service:</u>		

Certification:

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

.....
Signature of person named in the schedule

.....
Date

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Quality Control Manager

Name:		Date of birth:	
Profession:		Nationality:	
Qualifications:			
Professional Registration Number:			
Name of Employer (firm):			
Current position:		Years with firm:	
<u>Employment Record:</u>			
<u>Experience Record Pertinent to Required service:</u>			

Certification:

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

.....
Signature of person named in the schedule

.....
Date

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Technician

Name:		Date of birth:
Profession:		Nationality:
Qualifications:		
Professional Registration Number:		
Name of Employer (firm):		
Current position:		Years with firm:
<u>Employment Record:</u>		
<u>Experience Record Pertinent to Required service:</u>		

Certification:

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

.....
Signature of person named in the schedule

.....
Date

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3				
Part	T1	T2	C1	C2	C3	C4	

Safety Officer

Name:		Date of birth:
Profession:		Nationality:
Qualifications:		
Professional Registration Number:		
Name of Employer (firm):		
Current position:		Years with firm:
<u>Employment Record:</u>		
<u>Experience Record Pertinent to Required service:</u>		

Certification:

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

.....
Signature of person named in the schedule

.....
Date

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3				
Part	T1	T2	C1	C2	C3	C4	

Artisans

Name:		Date of birth:
Profession:		Nationality:
Qualifications:		
Professional Registration Number:		
Name of Employer (firm):		
Current position:		Years with firm:
<u>Employment Record:</u>		
<u>Experience Record Pertinent to Required service:</u>		

Certification:

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

.....
Signature of person named in the schedule

.....
Date

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3				
Part	T1	T2	C1	C2	C3	C4	

Others

Name:		Date of birth:
Profession:		Nationality:
Qualifications:		
Professional Registration Number:		
Name of Employer (firm):		
Current position:		Years with firm:
Employment Record:		
Experience Record Pertinent to Required service:		

Certification:

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

.....
Signature of person named in the schedule

.....
Date

Employer:		Service Provider	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

Others

Name:		Date of birth:
Profession:		Nationality:
Qualifications:		
Professional Registration Number:		
Name of Employer (firm):		
Current position:		Years with firm:
Employment Record:		
<u>Experience Record Pertinent to Required service:</u>		

Certification:

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

.....
Signature of person named in the schedule

.....
Date

Employer:		Service Provider	
Witness:		Witness:	

Volume	1	2	3				
Part	T1	T2	C1	C2	C3	C4	

T2.1.12 Tenderer’s Financial Standing

In terms of Clause F2.18.1 of the Conditions of Tender the Employer may make inquiries to obtain a bank rating from the Tenderer's bank.

To that end the Tenderer must provide with his tender a bank rating, certified by his banker, to the effect that he will be able to successfully complete the contract at the tendered amount within the specified time for completion.

However, should the Tenderer be unable to provide a bank rating with his tender, he shall state the reasons as to why he is unable to do so, and in addition provide the following details of his banker and bank account that he intends to use for the project.

I / We furnish the following information and hereby authorise the Employer to approach the Bank for a reference.

Name of Account holder

Name of Bank: Branch:

Account number..... Type of account:

Telephone number :..... Facsimile number:

Name of contact person (at bank):

Failure to provide either the required bank details or a certified bank rating with his tender, will lead to the conclusion that the Tenderer does not have the necessary financial resources at his disposal to complete the contract successfully within the specified time for completion.

I / We agree, if required, to furnish a copy of the latest audited set of financial statements together with my / our Director’s and Auditors’ report for consideration by the Employer.

The Employer undertakes to treat the information thus obtained as confidential, strictly for the use of evaluation of the tender submitted by the Tenderer.

SIGNATURE: DATE:
(of person authorized to sign on behalf of the Tenderer)

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

T2.1.13 Contractor's Health and Safety Declaration

In terms of Clause 4(4) of the OHS Act 1993 Construction Regulations 2003 (referred to as "the Regulations" hereafter), a Contractor may only be appointed to perform construction work if the Employer is satisfied that the Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act No 85 of 1993 and the OHS Act 1993 Construction Regulations 2003.

To that effect a person duly authorized by the tenderer must complete and sign the declaration hereafter in detail.

Declaration by Tenderer

- I, the undersigned hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No 181 of 1993), and the OHS Act 1993 Construction Regulations 2003.
- I hereby declare that my company has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the Employer's Health and Safety Specifications.
- I hereby confirm that adequate provision has been made in my tendered rates and prices in the Bill of Quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHS Act 1993 Construction Regulations 2003, including the cost of the specific items listed in the tables hereafter.

(Tables to be completed by Tenderer)

TABLE 1: COST OF SAFETY PERSONNEL

PERSONNEL	COSTS AS ALLOWED IN TENDER	NOMINATED PERSON/S
Construction Supervisor		
Construction Safety Officer		
Health and Safety Representatives		
Health and Safety Committee		

TABLE 2: COST OF SAFETY EQUIPMENT

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

EQUIPMENT	STATE YES or NO	COST ALLOWED FOR IN TENDER
Hard hats		
Safety boots		
Harnesses		
Gas detectors		
Add items as per risk assessment:		

4. I hereby undertake, if my tender is accepted, to provide, before commencement of the works under the contract, a suitable and sufficiently documented Health and Safety Plan in accordance with Regulation 5(1) of the Construction Regulations, which plan shall be subject to approval by the Employer.
5. I confirm that copies of my company's approved Health and Safety Plan, the Employer's Safety Specifications as well as the OHS 1993 Construction Regulations 2003 will be provided on site and will at all times be available for inspection by the Contractor's personnel, the Employer's personnel, the Engineer and his Agents, visitors, and officials and inspectors of the Department of Labour.
6. I hereby confirm that I will be liable for any penalties that may be applied by the Employer in terms of the said Regulations (Regulation 30) for failure on the Contractor's part to comply with the provisions of the Act and the Regulations.
7. I agree that my failure to complete and execute this declaration to the satisfaction of the Employer will mean that I am unable to comply with the requirements of the OHS 1993 Construction Regulations 2003 and accept that my tender will be prejudiced and may be rejected at the discretion of the Employer.

SIGNATURE: DATE:
(of person authorized to sign on behalf of the Tenderer)

Employer:		Service Provider	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

T2.2 LIST OF RETURNABLE DOCUMENTS

<u>Document</u>	<u>Page</u>
2. Other documents required only for tender evaluation purposes	
T2.2.1 Certificate of Contractor Registration issued by the Construction Industry Development Board	(35)
T2.2.2 SARS Tax Compliance Status Pin and Proof of CSD registration i.e. MA xxxxx xxxxx number	(36)
T2.2.3 Form of intent to provide a performance guarantee	(37)
T2.2.4 Proof of compliance with COID Act	(38)
T2.2.5 Registration certificate / Agreement / Powers of Attorney / I.D. Document	(39)

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3				
Part	T1	T2	C1	C2	C3	C4	

T2.2.1 Contractor's Certificate of Registration With CIDB

The Tenderer shall attach hereto the Contractor's Certificate of Registration with CIDB. Failure to submit the certificate with the tender document will lead to the conclusion that the Tenderer is not registered with the CIDB and therefore not eligible to tender.

Tenderers who have made application to CIDB for registration and are capable of being so registered prior to the evaluation of submissions must attach a notification from CIDB that their application is being considered.

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3				
Part	T1	T2	C1	C2	C3	C4	

T2.2.2 SARS Tax Compliance Status Pin and Proof of CSD registration

The Tenderer must attach hereto a copy SARS Tax Compliance Status Pin and Proof of CSD registration i.e. MA xxxxx xxxxx number.

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

T2.2.5 Form of Intent to Provide a Performance Guarantee

The Tenderer must attach hereto a letter from the bank or institution with whom he has made the necessary arrangements, to the effect that the said bank or institution will be prepared to provide the required performance guarantee when asked to do so.

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

T2.2.6 Proof of Compliance with COID Act

The Tenderer must attach hereto proof of compliance with the relevant requirements of the compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993).

Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3				
Part	T1	T2	C1	C2	C3	C4	

**T2.2.7 Registration Certificate / Agreement / Powers of Attorney /ID Document
(if Applicable)**

**Important note to Tenderer: Registration Certificates for Companies, Close Corpora-
tion and Partnerships, or Agreements and Powers of Attorney for Joint Ventures, or
ID Document for Sole Proprietor, all as referred to in the foregoing forms and in T2.1
must be inserted here.**

Employer:		Service Provider	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

Department of Human Settlements



DHS/231/24/MP

VOLUME 1

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER AND SEWER INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT SIBANDE DISTRICT.

PART C1: AGREEMENT AND CONTRACT DATA

Prepared by:

FT Consultant Civil & Structural Engineers
 7 Ehmke Street
 Mbombela, 1201
 Telephone: +27 72 777 0920
 Email: stanelymasher@gmail.com



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

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Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

C1.1 FORM OF OFFER (AGREEMENT)

C1.1.1 FORM OF OFFER

THE TENDERER IS TO COMPLETE AND SIGN THE FORM OF OFFER

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works:

CONTRACT NO. DHS/231/24/MP – KINROSS EXT.33 & EXT 34- BULK ENGINEERING SERVICES IN GOVAN MBEKI LOCAL MUNICIPALITY

The Tenderer, identified in the Offer signature block below, has examined the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the Tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS

_____ Rand (in words); R _____ (in figures),
(firm)* (adjustable)* *(delete which does not apply)

This offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the Tenderer before the end of the period of validity stated in the Tender Data, whereupon the Tenderer becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

Signature(s)

Name(s)

Capacity

For the Tenderer

(Name and address of organisation)

Name and signature of witness

Date _____

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

C1.1.2 FORM OF ACCEPTANCE

THE EMPLOYER IS TO COMPLETE AND SIGN THE FORM OF ACCEPTANCE

By signing this part of the Form of Offer and Acceptance, **the Employer** identified below accepts the Tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the Conditions of Contract identified in the Contract Data. Acceptance of the Tenderer's Offer shall form an agreement between the Employer and the Tenderer upon the terms and conditions contained in this Agreement and in the Contract that is the subject of this Agreement.

The terms of the contract are contained in

- Part 1 Agreement and Contract Data, (which includes this Agreement)
- Part 2 Pricing Data
- Part 3 Scope of Work
- Part 4 Site Information

and drawings and documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this Schedule, which must be duly signed by the authorised representative(s) of both parties.

The Tenderer shall within **Fourteen (14) days** after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the employer's agent (whose details are given in the Contact Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at, or just after, the date of this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now the Contractor) within **five days** after the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute binding contract between the parties,

FOR EMPLOYER OFFICIAL USE ONLY

Signature(s)

Name(s)

Capacity

For the Employer

*Department of Human Settlements, No. 7 Government Boulevard,
Riverside Park Extension 2, Nelspruit*
(Name and address of organisation)

Name and signature of witness

Date

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

C1.1.3 SCHEDULE OF DEVIATIONS

Notes:

1. The extent of deviations from the tender documents issued by the employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender;
2. A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid become the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here;
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here; and
4. Any change or addition to the tender documents arising from the above arrangements and recorded here shall also be incorporated into the final draft of the Contract.

1 Subject _____

Details _____

2 Subject _____

Details _____

3 Subject _____

Details _____

4 Subject _____

Details _____

5 Subject _____

Details _____

6 Subject _____

Details _____

7 Subject _____

Details _____

8 Subject _____

Details _____

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Tenderer agree to and accept the foregoing Schedule of deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Tenderer and the Employer during the process of offer and acceptance.

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

DEPARTMENT OF HUMAN SETTLEMENTS

Appointment of a contractor for the construction of bulk water and sewer infrastructure in Kinross extension 33 settlement under Govan Mbeki Local Municipality, Gert Sibande District.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the Tenderer of a completed and signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

**For the Tenderer:
Signature(s)**

Name(s)

Capacity

(Name and address of organisation)

**Name and
signature of
witness**

Date _____

**For the Employer:
Signature(s)**

Name(s)

Capacity

*Department of Human Settlements, No. 7 Government Boulevard,
Riverside Park Extension 2, Nelspruit*

(Name and address of organisation)

**Name and
signature of
witness**

Date _____

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

C1.2 CONTRACT DATA

C1.2.1 PART 1: DATA PROVIDED BY THE EMPLOYER

CONDITIONS OF CONTRACT

The General Conditions of Contract for Construction Works Third Edition (2015), published by the South African Institution of Civil Engineering, Private Bag X200, Halfway House, 1685, is applicable to this Contract and is obtainable from ww.saice.org.za.

CONTRACT SPECIFIC DATA

The following contract specific data are applicable to this Contract:

GCC Clause	Information
1.1.1.13	The Defects Liability Period is 52 weeks from the date of the Certificate of Completion.
1. 1.1.15	The name of the Employer is Department of Human Settlements, the contact person is Mr. P.G. Mpofu
1.1.1.16	The name of the Employer's Agent is Mr. S. Masinga and who is Registered Professional with the Engineering Council of South Africa
1..1.1.26	The Pricing Strategy is Re-measurement Contract.
1.2.1.2	The address of the Employer is: Physical No. 7 Government Boulevard Building No.6 & 7, Riverside Park Ext 2, Nelspruit, 1200 Tel: 013 766 6315 Fax: 013 766 8441/2 Email: mpofupg@mpg.gov.za or mpofupg@gmail.com
1.2.1.2	The address of the Employer's Agent is: Physical Postal FT Consultants PO Box 3999 7 Ehmke Street Mbombela Mbombela 1201 Tel : 013 752 8523 Fax: 013 753 3915 Email: stanelymasher@gmail.com
5.1.1 and 5.8.1	The non-working days are Saturdays and Sundays Special non-working days are: 1. All Public Holidays in terms of the Public Holidays Act as amended. 2. The year-end break commences on 15 December and ending on the first working Monday of January of the succeeding year.
5.3.1	The documentation required before commencement with Works execution are: <ul style="list-style-type: none"> • Health and Safety Plan (Clause 4.3) • Initial programme (Clause 5.6) • Guarantee from Bank or Insurance Company (Clause 6.2) • Insurance of Construction Machinery Plant (Clause 8.6) • Insurance of Motor Vehicle Liability (Clause 8.6) • Commissioner of COID (Clause 8.6) • Signed Notification to the Department of Labour • Construction Permit where applicable

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

GCC Clause	Information
5.3.2	The time to submit the Contract documentation required before commencement of the Works is 14 days.
5.13.1	The penalty for failing to complete the Works is calculated as 0.03% of the contract value excl. VAT per day.
5.16.3	The latent defects period is 10 years.
6.2.1	The liability of the guarantee shall be 10% of the tendered sum
6.8.3	Price adjustments for variations in the costs of special materials Not allowed.
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is 80%. Proof of ownership and indemnity is required.
6.10.3	The percentage retention on the amounts due to the Contractor is 10%.
6.10.3	The limit of retention money is 5% of the contract price
6.10.6	A Retention Money Guarantee is not permitted.
6.11	Delete Clause 6.11. General items will not be adjusted should there be a decrease or increase of scope.
8.4.1.1	Add to the end of Clause 8.4.1.1 the following text: "hereby indemnifies the Employer against any liability in respect of damage or physical loss of property of any person or injury or death of any person due to non-compliance with the Occupational Health and Safety Act (Act 85 of 1993),"
8.6 8.6.1	Delete Clause 8.6.1 and replace it with the following: Notwithstanding anything elsewhere contained in the Contract and without limiting the obligations, liabilities or responsibilities of the Contractor in any way whatsoever (including but not limited to any requirement for the provision by the Contractor of any other insurances) the Employer shall effect and maintain as appropriate the following insurances in the joint names of Employer and Contractor which are subject to the terms limits exceptions and conditions of the Policy :
8.6.1.1	Contract Works Insurance – which will provide cover against accidental and Physical loss of or damage to the Works, Temporary Works and Materials intended for incorporation in the Works from whatsoever cause arising other than causes set out in Clause 8.3.1, and for a sum insured which shall, unless otherwise specified in the Contract, be the aggregate of:
8.6.1.1.1	The Contract Price,
8.6.1.1.2	a sum to cover the value (specified at the time of delivery to the Contractor) of materials supplied by the Employer for incorporation in the Works and not included in the Contract Price is Nil, and
8.6.1.1.3	a sum to cover professional fees, not included in the Contract Price, payable in respect of the repair or reinstatement of damage to the Works to be included in the insurance sum is R100,000.00.
8.6.1.2	Following the introduction of legislation affecting the articles of the South African Special Risks Insurance Association (SASRIA) , insurance cover for loss or damage to the Works caused by any event defined as a risk in terms of the insurance offered by SASRIA, will be provided under a certificate issued by SASRIA.
8.6.1.3	Public Liability Insurance which will provide indemnity against legal liability in the event of accidental death of or injury to third party persons and/or loss or damage to third party property arising directly from the execution of the Contract and occurring during the period of Insurance with a limit of indemnity of R 5,0 million in respect of all claims arising from any one occurrence or series of occurrences consequent on or attributable to one source or original cause..

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

GCC Clause	Information
8.6.1.4	Full details of the Contract Works and Public Liability insurances effected by the Employer may be obtained upon request from the Employer and the Contractor/Subcontractors are deemed to be aware of the terms, exclusions and conditions of these insurances.
8.6.1.5	The Employer shall pay the premium in connection with the insurances effected by the Employer in 8.6.1.1, 8.6.1.2 and 8.6.1.3 above.
8.6.2	The Employer/Contractor/Sub-contractors and/or any other party who obtains indemnity under the policies effected under 8.6.1.1, 8.6.1.2 and 8.6.1.3 above shall become liable for the deductibles (first amount payable) which are applicable in respect of each and every occurrence or series of occurrences attributable to one source or cause giving rise to loss or damage or indemnifiable liability.
8.6.3	In the event of an occurrence which is likely to give rise to a claim under the insurance effected by the Employer, the following procedure shall be adhered to:
8.6.3.1	In addition to any statutory requirements and/or other requirements contained in the Conditions of Contract, the Contractor shall immediately notify the Employer's Insurance Brokers, giving the circumstances, nature and an estimate of the loss or damage.
8.6.3.2	The Contractor shall, when required, complete a claims advice form, available from the Employer's Insurance Brokers, to whom the form shall be returned without delay.
8.6.3.3	The Contractor shall afford all access to the representatives of the Insurers for the purpose of the assessment of any loss or damage.
8.6.3.4	Negotiations on the settlement of claims shall be conducted by the Contractor/Sub-Contractor with the Insurers through the Employer's Insurance Brokers.
8.6.4	Any amount which becomes payable to the Contractor or any of his Sub-Contractors as a result of claim under the Contract Works Insurance shall if required by the Employer be paid net of the deductible to the Employer who shall pay the Contractor from the proceeds of such payment upon rectification repair or reinstatement of the loss or damage but this provision shall not in any way affect the Contractor's obligations liabilities or responsibilities in terms of the Contract.
8.6.1.1	Add the following clause below 8.6.1.1 above: The Contractor shall insure all Constructional Machinery and Plant (including tools, offices and other temporary structures and content) and other items, other than those intended for incorporation into the works, owned, leased or hired brought on to the Site against all risks of physical loss or damage for the period such Plant shall be on the Site to the full value thereof. In respect of Plant brought on to the Site by or on behalf of Sub-Contractors the Contractor shall be deemed to have complied with the provisions of this Sub-Clause by ensuring that such Sub-Contractors have similarly insured such Plant and Machinery. Such insurance shall be effected with a registered Insurer approved by the Employer (which approval shall not be unreasonably withheld) and the Contractor shall, when required, submit to the Employer's Insurance Brokers, the policy or policies of insurance and receipts for payment of the current premiums.
8.6.6	The Contractor and the Sub-contractors shall effect and maintain at their cost insurance under the provision of the Compensation for Occupational Injuries and Diseases Act (COID), 1993 (Act No. 130 of 1993).
8.6.7	The Contractor and the Sub-Contractors shall effect and maintain at their own cost motor vehicle liability insurance with at least indemnification for "balance of third party" risks, including passenger liability with a limit of indemnity of not less than R 2,5 million.
Add the following Clause 8.6.8	The Contractor and the Sub-Contractors shall effect and maintain at their own cost any additional insurance, which they deem necessary to cover damage or loss or injury not insured in terms of the insurance effected by the Employer. Such insurance shall be effected with an Insurer and in terms approved by the Employer (which approval shall not be unreasonably withheld) and the Contractor shall, when required, submit to the Employer's Insurance Brokers the policy or policies of insurance and the receipts for payment of the current premiums. If the Contract entails manufacture and or assembly of the Works or part thereof on a site other than the Contract site, the Contractor must satisfy the Employer that all materials and equipment intended for incorporation into the Works are adequately insured during manufacture and assembly. If the Employer has an insurable interest in

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

GCC Clause	Information
	such works during manufacture or assembly, such interest shall be recorded by way of endorsement on the policies concerned. The Contractor shall furnish the appropriate insurance policies to the Employer within 14 days from the Commencement of Contract Date.
Add the following Clause 8.6.9	Submission of the Tender will be construed by the Employer as acceptance by the Contractor that he is satisfied with the insurance effected by the Employer supplemented by any additional insurance which he shall specify in the manner provided for in the Schedule of Rates.
Add the following Clause 8.6.10	The Contractor shall give all notices and observe all conditions and requirements imposed by any and all relevant insurance policies which shall be read as being part of the General Conditions of Contract and which shall be binding on the Contractor.
Add the following Clause 8.6.11	In addition to any statutory obligations, or other requirements contained in the Conditions of Contract, the Contractor shall report in writing to both the Employer's Agent and the Employer's Insurance Brokers every accident within 48 hours of its occurrence, whether such accident is in respect of damage to persons or property. The report shall contain full details of the accident. The Employer's Agent and/or the Employer's Insurers shall have the right to make all and any enquiries either on the Site or elsewhere as to the cause and results of any such accident and the Contractor shall give the Employer's Agent and/or the Employer's Insurers full facilities for carrying out such enquiries.
Add the following Clause 8.6.12	Negotiations on the settlement of claims under the insurance effected by the Employer shall be conducted by the Contractor/Sub-Contractor with the Insurers through the Employer's Insurance Brokers.
Add the following Clause 8.6.13	Any claims against the insurance effected by the Employer shall be subject to the Contractor being responsible for the payment of the amount stated in the Policy as being the Deductible (First Amount Payable) as defined in the Policy.
Add the following Clause 8.6.14	The Employer shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury to any workman or other person in the employ of the Contractor or any Sub-Contractor save and except an accident or injury resulting from any act or default of the Employer, its agents or servants and the Contractor shall be deemed to have indemnified and shall keep indemnified the Employer against all such damages and compensation (save and except as aforesaid) and against all claims, demands, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto.
Add the following Clause 8.6.15	The Contractor shall insure in the joint names of the Employer, the Contractor and all Sub-Contractors (whether selected or otherwise) for an amount of R2million per occurrence against the liability stated in Sub-Clause 8.6.6 with a registered Insurer approved by the Employer (which approval shall not be unreasonably withheld) and shall continue such insurance during the whole of the time that any persons are employed by him on the Works and shall submit to the Employer's Agent such policy of insurance and the receipt of payment of the current premium. Provided always that in respect of any persons employed by any Sub-Contractor, the Contractor's obligation to insure as aforesaid under this Sub-Clause shall be satisfied if the Sub-Contractor shall have insured against the liability in respect of such persons in such manner that the Employer is indemnified under the policy of insurance but the Contractor shall require such Sub-Contractor to produce to the Employer's Agent such policy and the receipt for payment of the current premium.
Add the following	If the Contractor shall fail to effect and keep in force the insurances referred to in this Clause or for any other insurance which he may be required to effect in terms of the Contract, then and in any such case the Employer may effect and keep in force any such insurance and pay such premium or premiums as

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

GCC Clause	Information
Clause 8.6.16	may be necessary for that purpose and from time to time deduct the amount so paid by the Employer as aforesaid from any monies due or which may become due to the Contractor or recover the same as a debt due from the Contractor.
Add the following Clause 8.6.17	The Contractor shall ensure that all proposed and appointed sub-contractors are fully aware of the contents of Clause 8.6.1, 8.6.2 and any applicable insurances.
8.6.1.1.2	The value of the materials supplied by the Employer to be included in the insurance sum is nil.
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is 0.00.
10.5.1	Dispute resolution shall be by standing adjudication.
10.5.3	The adjudication board shall consist of three members.
10.7.1	The determination of disputes shall be by arbitration if amicable settlement has failed.

C1.2.1.1 Variations to General Conditions of Contract

Add the following Table:

3.2.4	<p>Employer's Agent for Health and Safety</p> <p>Replace Clause 3.2.4 with the following:</p> <p>'In terms of Clause 1.3.2, all parties to the Contract shall be subject to the relevant requirements of the Construction Regulations 2014 (as amended) of the Occupational Health and Safety Act, Act 85 of 1993 (as amended).'</p> <p>Add the following at the end of the above new replacement Clause 3.2.4:</p> <p>'Where the Employer is obliged to appoint an Employer's Agent for Health and Safety in terms of the Construction Regulations 2014 (as amended) of the Occupational Health and Safety Act (Act 85 of 1993 as amended), and where such Employer's Agent for Health and Safety has complied with the registration requirements of a Construction Health and Safety Agent as a specified category in terms of section 18 (1) (c) of the Project and Construction Management Professions Act (Act 48 of 2000), the applicable clauses of the latest edition of the "Standard Scope of Services for Construction Health and Safety Agents Registered in Terms of Section 18(1)(c) of the Project and Construction Management Professions Act (Act No. 48 Of 2000)", including Clauses 2.2.5 "STAGE 5 - CONSTRUCTION DOCUMENTATION AND MANAGEMENT", and 2.2.6 "STAGE 6 - PROJECT CLOSE – OUT", and 2.2.7 "ADDITIONAL RELATED SERVICES",</p> <p>as published in "Registration Rules for Construction Health and Safety Agents in Terms of Section 18 (1) (c) of the Project and Construction Management Professions Act, 2000 (Act No. 48 of 2000)" by the South African Council for Construction and Project Management Professionals in terms of the Project and Construction Management Professions Act (Act 48 of</p>
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Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2	3			
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	2000 as amended), shall also apply.'
5.3.3	<p>Time to instruct commencement of the Works</p> <p>Delete Clause 5.3.3 and replace with the following:</p> <p>The Contractor shall commence with carrying out the Works upon written instruction from the Employer's Agent to commence with the Works.</p>
6..10.4	<p>Delivery, dissatisfaction with and payment of payment certificates</p> <p>Delete Clause 6.10.4 and replace with the following:</p> <p>Payment shall be made upon:</p> <ul style="list-style-type: none"> • The Contractor will provide a payment certificate with quantities to the Employer's Agent before or on the 20th of every month. • After the payment certificate has been approved by Employer's Agent, the Contractor must issue an Original Tax Invoice compliant with SARS requirements for Valid Tax Invoice. The date of the Original Tax Invoice must be date the Employer's Agent approved the Payment Certificate. The certificate will then be ready for handing in to the Employer. • Payment will be made end of the following month. <p>Payment shall be subject to the Contractor submitting an Original Tax Invoice compliant with SARS requirements for Valid Tax Invoice to the Employer for the amount due. Any dissatisfaction in respect of such payment certificate shall be dealt with in terms of Clause 10.2.</p>
7.8.2	<p>Cost of making good of defects</p> <p>Amend Clause 7.8.2.1 as follows:</p> <p>In the first line, correct the spelling of 'therefore'.</p>
8.3.1	<p>Excepted risks</p> <p>Amend Clause 8.3.1.11 as follows:</p> <p>In the second line, delete the words 'Employer or any of their' and substitute with 'or any of its'.</p>

C1.2.1.2 Additions to General Conditions of Contract

Add the following Table:

1.1	<p>Definitions</p> <p>Add the following at the end of Sub-Clause 1.1.1:</p>
1.1.1.34	"Client", as used in the Occupational Health and Safety Act and its Construction Regulations, means Employer.
1.1.1.35	"Principal Contractor", as used in the Occupational Health and Safety Act - Construction Regulations, means Contractor.
C1.2.1.2.1	<p>Penalties</p> <p>In addition to GCC 2015 clause 5.13, during the Contract Period should the Contractor:</p>

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

	<p>a) Penalties irreversible The Contractor shall note that all penalties once imposed shall be non-recoverable or reversible, even if the default is remedied.</p>
C1.1.1.2.1	<p>Source of instructions The Contractor shall neither seek nor accept instructions from any authority external to the Employer's Agent or their authorized representatives in connection with the performance of his services under this Contract.</p>
C1.2.1.2.2	<p>Officials not to benefit The Contractor warrants that no official of the Employer has been or shall be admitted by the Contractor to any direct or indirect benefit arising from this Contract or the award thereof. The Contractor agrees that breach of this provision is a breach of the Contract.</p>
C1.2.1.2.3	<p>Prevention of corruption The Employer shall be entitled to cancel the Contract and to recover from the Contractor the amount of any loss resulting from such cancellation, if the Contractor has offered or given any person any gift or consideration of any kind as an inducement or reward for doing or intending to do any action in relation to the obtaining or the execution of the Contract or any other contract with the Employer or for showing or intending to show favour or disfavour to any person in relation to the Contract or any other contract with the Employer, if the like acts shall have been done by any persons employed by him or acting on his behalf whether with or without the knowledge of the Contractor in relation to this or any other Contract with the Employer.</p>
C1.2.1.2.4	<p>Confidential nature of documents All maps, drawings, photographs, mosaics, plans, reports, recommendations, estimates, documents and all other data compiled by or received by the Contractor under the Contract shall be the property of the Employer, shall be treated as confidential and shall be delivered only to the Employer's Agent or his duly authorized representative on completion of the Works; their contents shall not be made known by the Contractor to any person other than the personnel of the Contractor performing services under this Contract without the prior written consent of the Employer.</p>
C1.2.1.2.5	<p>Returns of labour, plant, equipment and material The Contractor shall provide a return in detail in the form and at such intervals as the Employer's Agent or his duly authorized representative may prescribe showing the supervisory staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such information respecting constructional plant, equipment and material as the Employer's Agent or his duly authorized representative may require.</p>
C1.2.1.2.6	<p>Date falling on public holiday or weekend Where under the terms of the Contract any act is to be done or any period is to expire upon a certain day and that day or that period fall on a day of rest or recognized holiday or weekend, the Contract shall have effect as if the act were to be done or the period to expire upon the working day following such day.</p>
C1.2.1.2.7	<p>Ambiguities and inconsistencies The Employer or the Contractor shall notify the other as soon as either becomes aware of an ambiguity or inconsistency in or between the documents, which are part of this Contract. Governed by the spirit and intention of the Contract, the Employer's Agent shall give a binding instruction resolving the ambiguity or inconsistency.</p>
C1.2.1.2.8	<p>False claims by the Contractor a) Failure, by the Contractor, to demonstrate or present any feature declared during the procurement stage shall constitute grounds for Contract termination or the market related equivalent price discount, if no market related value is available, the Employer shall give a final ruling on the amount. This shall be at the discretion of the Employer based on the implication of such omission. Should the Contractor refuse to accept the Employer's price, the Contract shall be terminated. b) Any false claims by the Contractor or his staff (with or without his knowledge), based on Works to be performed or completed per site stage shall constitute grounds for Contract termination and result in blacklisting on the Employer's database.</p>

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

	The Contractor shall note that any of the above shall constitute non-performance on the part of the Contractor, further resulting in him forfeiting his full Contract Guarantee.
--	--

C1.2.2 PART 2: DATA PROVIDED BY THE CONTRACTOR

GCC Clause	Information
Clause 1.1.1.9	The name of the Contractor is
Clause 1.2.1.2	The address of the Contractor is: Physical Postal Tel: Fax: Email:
Clause 6.8.3	The variation in cost of special materials is Type Unit Rate 1. NOT APPLICABLE

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	CI	C2	C3	C4

C1.3 FORMS OF SECURITIES

FORMS FOR COMPLETION BY THE CONTRACTOR

THE FOLLOWING FORMS ARE TO BE COMPLETED BY THE CONTRACTOR AFTER THE TENDER HAS BEEN AWARDED TO THE SUCCESSFUL TENDERER

Form	Page
Form of Guarantee	(14)
Blasting Indemnity	(16)
Agreement in terms of the Occupational Health and Safety Act	(18)
Occupational Health and Safety Indemnity Undertaking	(20)
Transfer of Rights and Indemnity	(22)

The forms will be completed by the Contractor who will be instructed to do so in the Form of Acceptance. The completed forms will become part of the Contract.

The Form of Guarantee is a pro forma document. An original document, from a financial institution, with the same text will be provided by the Contractor within the time stated in the Contract Data. Only a Bank or approved Insurance Company or Guarantee Corporation is acceptable as Guarantor.

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	CI	C2	C3	C4

FORM OF GUARANTEE PRO-FORMA

Contract No. DHS/231/24/MP

WHEREAS Department of Human Settlements, Mpumalanga, (hereinafter referred to as “the Employer”) entered into a Contract with

_____ (hereinafter called “the Contractor”) on the _____ day of _____ 20_____ for the construction of

Contract No. DHS/231/24/MP – APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER AND SEWER INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT SIBANDE DISTRICT.

AND WHEREAS it is provided by such Contract that the Contractor shall provide the Employer with security by way of a guarantee for the due and faithful fulfillment of such Contract by the Contractor;

AND WHEREAS _____ has/have at the request of the Contractor, agreed to such guarantee;

NOW THEREFORE WE, _____ Do hereby guarantee and bind ourselves jointly and severally as Guarantor and Co-principal Debtors to the Employer under renunciation of the benefits of division and excussion for the due and faithful performance by the Contractor of all the terms and conditions of the said Contract, subject to the following conditions:

1. The Employer shall, without reference and/or notice to us, have complete liberty of action to act in any manner authorised and/or contemplated by the terms of the said Contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the Completion Date of the Works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which the Employer may take under such Contract, or of any modification, variation, alteration of the Completion Date which the Employer may make, give, concede or agree to under the said Contract.
2. This guarantee shall be limited to the payment of a sum of money.
3. The Employer shall be entitled, without reference to us, to release any guarantee held by it, and to give time to or compound or make any other arrangement with the Contractor.
4. This guarantee shall remain in force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by the Employer before the issue of the said Certificate of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated.
5. Our total liability hereunder shall not exceed the sum of _____ (R_____)

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	CI	C2	C3	C4

6. The guarantor reserves the right to withdraw from this guarantee by depositing the Guaranteed Sum with the beneficiary, whereupon the Guarantor's liability hereunder shall cease.

7. We hereby choose our address for the serving of all notices for all purposes arising here from as

IN WITNESS WHEREOF this guarantee has been executed by us at _____

on this _____ day of _____ 20_____

As witnesses

1. _____

2. _____

Signature

Duly authorised to
sign on behalf of

Address

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	CI	C2	C3	C4

BLASTING INDEMNITY
Contract No. DHS/231/24/MP

Given by _____

*Company Registration No. _____

Address _____

a *Company incorporated with limited liability according to the company laws of the Republic of South Africa, *Partnership, *Close Corporation, *Public Company (hereinafter called the Contractor), represented herein by _____ in his capacity as the Contractor's _____ duly authorised hereto by a resolution of the Contractor dated _____ a certified copy of which resolution is attached to this Indemnity.

WHEREAS the Contractor has entered into a Contract with the Department of Human Settlements, Mpumalanga (hereinafter called the Company) for,

and the Company requires this Indemnity from the Contractor

NOW THEREFORE THIS DEED WITNESSETH that the Contractor does hereby indemnify and hold harmless the Company in respect of all loss or damage that may be incurred or sustained by the Company by reason of or in any way arising out of or caused by blasting operations that may be carried out by the Contractor in connection with the aforementioned Contract and also in respect of all claims that may be made against the Company in consequence of such blasting operations, by reason of or in any way arising out of any accidents or damage to persons, life or property or any other cause whatsoever, and also in respect of all legal or other expenses that may be incurred by the Company in examining, resisting or settling any such claims; for the due performance of which the Contractor binds itself according to law.

THUS, DONE AND SIGNED for and on behalf of the Contractor at _____ on the _____ day of _____ 20____ in the presence of the subscribing witnesses.

AS WITNESSES

1. _____
SIGNATURE
2. _____
DESIGNATION OF SIGNATORY

Employer:		Contractor:	
Witness:		Witness:	

Volume	<i>1</i>	2	3			
Part	T1	T2	<i>CI</i>	C2	C3	C4

Contract No. DHS/231/24/MP Re-Advert Page (17)
DEPARTMENT OF HUMAN SETTLEMENTS
Appointment of a contractor for the construction of bulk
water and sewer infrastructure in Kinross extension 33
settlement under Govan Mbeki Local Municipality, Gert
Sibande District.

*Delete which does not apply

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	CI	C2	C3	C4

HEALTH AND SAFETY CONTRACT BETWEEN EMPLOYER AND CONTRACTOR IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT NO 85 OF 1993

Written agreement between Department of Human Settlements, Mpumalanga, (hereinafter referred to as “the Employer) and _____ (hereinafter referred to as “the mandatory”) as envisaged by Section 37(2) of the Occupational Health and Safety Act, No. 85, of 1993 as amended.

I _____ representing _____ (mandatory) do hereby acknowledge that _____ (mandatory) is an employer in its own right and shall be regarded as the employer for purposes of the contract work specified in the body of the principal agreement with duties as prescribed in the Occupational Health and Safety Act, No. 85 of 1993 as amended so as to ensure that all work will be performed or machinery and plant used in accordance with the provisions of the said Act. I furthermore agree to comply with the requirements of the Employer as contained in the Occupational Health and Safety Specification included with the principal agreement and to liaise with the employer should I, for whatever reason, be unable to perform in terms of this agreement.

Signed this _____ day of _____ at _____

Signature on behalf of mandatory _____

Signature on behalf of Employer _____

Compensation Fund Registration No. of mandatory _____

Good Standing Certificate: yes no (tick one box)

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	CI	C2	C3	C4

HEALTH AND SAFETY CONTRACT: GENERAL INFORMATION

1. The Occupational Health and Safety Act comprises Sections 1 to 50 and all un-repealed regulations promulgated in terms of the former Machinery and Occupational Safety Act No 6 of 1983 as amended, as well as other regulations which may be promulgated in terms of the OHS Act
2. 'Mandatory' is defined as including an agent, a contractor or a subcontractor for work, but without derogating from his status in his own right as an employer or user of plant and machinery
3. Section 37 of the Occupational Health and Safety Act potentially punishes employers (principals) for the unlawful acts or omissions of mandataries (contractors) save where a written agreement between the parties has been concluded containing arrangements and procedures to ensure compliance with the said Act by the mandatory
4. All documents attached or referred to in the above agreement form an integral part of the agreement
5. To perform in terms of this agreement mandataries must be familiar with the relevant provisions of the Act
6. Mandataries who utilise the services of their own mandataries (subcontractors) are advised to conclude a similar written agreement
7. Be advised that this agreement places the onus on the mandatory to contact the employer in the event of inability to perform as per this agreement. The employer, however, reserves the right to unilaterally take any steps as may be necessary to enforce this agreement
8. The contractor shall be responsible for the full and proper implementation of the terms and provisions of the Act and its regulations in the area in which the work is to be undertaken by the contractor.
9. The contractor shall be responsible for the well-being, in relation to health and safety, of all persons coming upon or into such area in accordance with that legislation, including the implementation of any directives issued by management of Johannesburg Water in this respect.
10. The work to be done is _____
11. The area in which the work is to be conducted is _____
12. The contractor shall familiarise himself with such area and all risks existing thereon and undertakes to report to the representative of Department of Human Settlements, Mpumalanga, any hazard or risk to health and safety which arises during the contract work in the area concerned and over which the contractor may have no control. All necessary and appropriate safety / health equipment shall be issued by the contractor to all persons working on or coming into the area.

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	CI	C2	C3	C4

OCCUPATIONAL HEALTH AND SAFETY INDEMNITY UNDERTAKING

I, the undersigned _____
in my capacity as _____
of the firm _____

1.0 hereby undertake to ensure that I/my firm and/or employees and/or subcontractors and/or his employees -

- 1.1 comply strictly with the provisions of the Occupational Health and Safety Act of 1993 (as amended) and/or the regulations promulgated in terms thereof, with specific reference to section 37(2) of the said act, as well as any relevant legislation, in the course of the performance/execution of any service and/or work in, to or on any Department of Human Settlements, Mpumalanga buildings, construction sites and/or premises;
- 1.2 ensure that consultants and/or visitors comply with any instructions and measures relating to occupational health and safety, as prescribed by Department of Human Settlements, Mpumalanga; and
- 1.3 comply strictly with the statutorily prescribed work systems, operational equipment, machinery and occupational health and safety conditions;

2.0 and as an independent employer and contractor, hereby indemnify, in terms of the above undertakings, Department of Human Settlements, Mpumalanga -

- 2.1 in respect of any costs that I/my firm and/or employees and/or subcontractors and their employees may incur of necessity in compliance with the above undertakings; and
- 2.2 against any claims that may be instituted against Department of Human Settlements, Mpumalanga and/or any liability that Department of Human Settlements, Mpumalanga may incur, whether instituted and/or caused by me/my firm's employees, agents, consultants, subcontractors and/or their employees and visitors or Department of Human Settlements, Mpumalanga's clients or neighbors in respect of any incidents related to my/my firm's activities and as a result of which the occupational health and safety of the persons involved have been detrimentally affected; and
- 2.3 against similar claims that I, managers or directors of my firm may have against Department of Human Settlements, Mpumalanga and any damages for which I, managers or directors of my firm hold Department of Human Settlements, Mpumalanga liable.

3.0 My firm's compensation commissioner number is _____ and I confirm that my firm and its subcontractors' fees have been paid up and obligations in respect of the compensation commissioner have been complied with and further that I shall furnish proof thereof in writing on request.

4.0 I hereby confirm that I have the authority to sign this indemnity undertaking and that Department of Human Settlements, Mpumalanga is not obliged to confirm such

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	CI	C2	C3	C4

Contract No. DHS/231/24/MP Re-Advert Page (21)
DEPARTMENT OF HUMAN SETTLEMENTS
Appointment of a contractor for the construction of bulk
water and sewer infrastructure in Kinross extension 33
settlement under Govan Mbeki Local Municipality, Gert
Sibande District.

confirmation.

Signed at _____ this _____ day

of _____

Signature

Capacity

As witnesses:

1 _____

2 _____

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	CI	C2	C3	C4

TRANSFER OF RIGHTS AND INDEMNITY
(To be completed during construction by successful Tenderer only)

Claim for materials on site, Payment Certificate No. **Date**

Contract No: For (contract title)

I, the undersigned (name of signatory), in my capacity as
..... of (name of Contractor)

Duly authorized hereto on behalf of the Contractor hereby transfer, cede and assign all the Contractor's rights, titles and interest in and to the materials and goods, for which evidence of bona fide ownership is attached hereto, unto and in favor of (name of Employer)
Insofar as the Contractor retains actual control of the materials and goods, the right of ownership thereof passes to the Employer by constitutum possessorium.

I herewith indemnify the Employer against any claim to and in respect of said materials by reason of the Contractor's sequestration or liquidation or of any defect in the Contractor's title to the materials and agree that no payment for materials on site will be made by the Employer until such time as I have submitted documentary proof of bona fide ownership of the said materials and goods.

This transfer shall become effective upon conclusion of the Contractor receiving payment from Employer or from any other person on behalf of the materials and goods as Materials on Site, payment of retention money thereon excluded.

I further confirm that I am fully responsible for all materials and goods listed under this Transfer of Rights and that they have been insured adequately against all risks and will remain insured until they are built into or used in the permanent works and taken over by the Employer.

This certificate of Transfer of Rights applies only to the materials and goods as listed in the following table.

DESCRIPTION OF ITEM	UNIT	QTY	RATE	AMOUNT	SUPPLIER
TOTAL VALUE OF MATERIALS AND GOODS					

Signed by: **Date:**
For and behalf of the Contractor

Witnessed by: **Date:**

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	CI	C2	C3	C4

Contract No. DHS/231/24/MP Re-Advert Page (23)
DEPARTMENT OF HUMAN SETTLEMENTS
Appointment of a contractor for the construction of bulk
water and sewer infrastructure in Kinross extension 33
settlement under Govan Mbeki Local Municipality, Gert
Sibande District.

Note: this form, together with the documentary proof of ownership or proof of payment by the Contractor to the supplier, shall accompany the Contractor's claim for payment for materials on site in terms of Clause 6.10.1.5 of the General Conditions of Contract 2010 Second Edition.

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Contract No. DHS/231/24/MP Re-Advert Page (i)
DEPARTMENT OF HUMAN SETTLEMENTS
Appointment of a contractor for the construction of bulk water
and sewer infrastructure in Kinross extension 33 settlement
under Govan Mbeki Local Municipality, Gert Sibande District.

Department of Human Settlements



DHS/231/24/MP

VOLUME 1

**APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF
BULK WATER AND SEWER INFRASTRUCTURE IN KINROSS
EXTENSION 33 SETTLEMENT UNDER GOVAN MBEKI LOCAL
MUNICIPALITY, GERT SIBANDE DISTRICT.**

PART C2: PRICING DATA

Prepared by:
FT Consultant Civil & Structural Engineers
7 Ehmke Street
Mbombela, 1201
Telephone: +27 72 777 0920
Email: stanelymasher@gmail.com



Employer:		Service Provider	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

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C2.2 BILL OF QUANTITIES.....	4

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

C2 PRICING DATA

C2.1 PRICING INSTRUCTIONS

C2.1.1 GENERAL PREAMBLE TO THE BILL OF QUANTITIES

- a) All items in the Bill of Quantities, except where otherwise specified in Clause 8 of a Standardised Specification or in the Project Specification, shall be measured and shall cover operations as recommended in the standard system of measurement of civil engineering quantities, published under the title "Civil Engineering Quantities", by the South African Institution of Civil Engineering.
- b) The basis and principles of measurement and payment are described in this section (Pricing Instructions) and Clause 8 of each of the Standardised Specifications for Civil Engineering Construction. The applicable SANS 1200 Standardised Specifications are listed in the Scope of Work, Portion 1: Project Specification. Variations and amendments to the Standardised Specifications are contained in the Scope of Work, Portion 2: Variations and Additions to the Standardised Specifications.
- c) Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the Standardised Specifications. Clause 8 of each Standardised Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification or the Scope of Work, conflict with the terms of the Bill of Quantities, the requirements of the Standardised Specification or Scope of Work, as applicable, shall prevail.
- d) The clauses in a specification in which further information regarding the Schedule item may be found are listed in the "Payment Refers" column in the Schedule. The reference clauses indicated are not necessarily the only sources of information in respect of listed items. Further information and specifications may be found elsewhere in the Contract Documents. Standardised Specifications are identified by the letter or letters which follow SANS in the SANS 1200 series of specifications, e.g. G for SANS 1200G.
- e) Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- f) The quantities set out in the Bill of Quantities are the estimated quantities of the Contract Works, but the Contractor shall be required to undertake whatever quantities may be directed by the Engineer from time to time. The Contract Price for the completed Works shall be computed from the actual quantities of work done, valued at the relevant unit rates and/or prices.
- g) The rates and/or prices to be inserted in the Bill of Quantities are to be the full inclusive prices for the work described under the several items. Such rates and/or prices shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents, as well as overhead charges and profit. Reasonable charges shall be inserted as these shall be used as a basis for assessment of payment for additional work that may have to be carried out.
- h) A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the Schedule.
- i) The units of measurement described in the Bill of Quantities are metric units. Alternatives used are as follows :

mm	=	millimetre	h	=	hour
m	=	metre	kg	=	kilogram
Km	=	kilomètre	t	=	ton (1000kg)
m ²	=	square metre	No.	=	number
m ² pass	=	square metre pass	sum	=	lump sum
ha	=	hectare	MN	=	meganewton
m ³	=	cubic metre	MN.m	=	meganewtom-metre

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

m ³ km	=	cubic metre-kilometre	PC Sum=	Prime Cost sum
l	=	litre	Prov sum=	Provisional sum
kl	=	kilolitre	%	= percent
MPa	=	megapascal	kW	= kilowatt

j) For the purpose of this Bill of Quantities, where applicable, the following words shall have the meanings hereby assigned to them:

- Unit : The unit of measurement for each item of work as defined in the COLTO Standard Specification for Road and Bridge Works for State Authorities (1998 edition).
- Quantity : The number of units of work for each item.
- Rate : The agreed payment per unit of measurement.
- Amount : The product of the quantity and the agreed rate for an item.
- Lump sum : An agreed amount for an item, the extent of which is described in the Bills of Quantities but the quantity of work of which is not measured in any units.

k) Arithmetical errors in the Bill of Quantities shall be corrected in accordance with Clause F3.9 of the Conditions of Tender. Should there be any discrepancy between rates and/or prices written in the Assessment Schedule and the Bill of Quantities, the latter shall govern.

l) The Bill of Quantities shall be completed by hand in **BLACK PEN INK**.

C2.1.2 Special payment conditions

This clause shall be read in conjunction with the 'Penalties' clause(s). Where the penalty clause shall always receive precedence over this clause, should it be found that duplicative financial corrective measures exists.

C2.1.2.1 Provided previously

The Contractor shall not re-execute works under this Contract where he has successfully executed works for the Employer under a previous contract(s) that comply with the requirements of this Contract. However, where applicable the Contractor shall:

- a) clearly state this in his qualifications; and
- b) still provide the associated rates and prices in the schedule in the associated line item, but not calculate an associated amount.

The Employer shall at his sole discretion decide to re-execute such works.

C2.1.2.2 Materials and equipment

The Employer shall not provide any works material and equipment, as this shall be provided by the Contractor and deemed to have been included in his provided activity rates or prices.

C2.1.2.3 Confined space

The Contractor shall note that work activities shall be executed within confined spaces and it shall be deemed that allowance has been made in all activity pricing.

C2.1.2.4 Contract Price Adjustment

The effect of changes in prices or law on the amounts due shall be adjusted on the following basis:

- a) No price adjustment over the first 12-month period of the Contract.
- b) On the 12-month anniversary date of the signing of the agreement the rates shall be adjusted by twelve-month year on year CPI index (as published in the monthly bulletin PO141.1 of statistics

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

South Africa) ruling on the 12-month anniversary date of the signing of the Agreement and fixed at this value for the following 12-month period. Subsequent 12-month periods shall be dealt with on a similar basis.

C2.1.2.5 Preliminary and General

Preliminary and General items shall be limited to a maximum of twenty percent (20%) of the total Contract Value.

C2.1.2.6 Contractor Appointment

Contractors will only be appointed for value of work in their CIDB grading category only.

C2.1.2.7 Filling in of Bill of Quantity

Tenderer should only fill **one** Bill of Quantity in their CIDB grading category only.

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

BILL OF QUANTITIES

(BoQ – Sewer pump station, Water, and Sewer)

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

SUMMARY OF BILL OF QUANTITIES

DESCRIPTION	AMOUNT
Schedule 1 : Preliminary and General	_____
Schedule 2 : Site Clearance	_____
Schedule 3 : Water	_____
Schedule 4 : Sewer	_____
Schedule 5 : Earthworks (Pipe Trenches)	_____
Schedule 6 : Pump Station	_____
Schedule 7 : Elevate Tank	_____
Schedule 8 : Day works	_____
Schedule 9 : Concrete Reservoir	_____
Schedule 9 : Contingence	_____

Sub-total 1

The above prices are Firm
ADD: 15% of above sub-total (1) for **VALUE ADDED TAX (VAT)** **N/A**

TOTAL CARRIED TO FORM OF OFFER

DATE

SIGNATURE OF TENDERER

Employer:		Contractor:	
Witness:		Witness:	

Item No		Description	Unit	Quantity	Rate	Amount
	SANS 1200	SECTION A : PRELIMINARY AND GENERAL ITEMS				
		GENERAL General Requirements and Charges Preliminary and General Charges				
A1	8.3.1	Fixed charges	Lump sum	1		
A2	8.3.2	Time-related charges	Months	24		
A3	8.3.2.1	Compliance with the Occupational Health and Safety Act and applicable regulations including the NEMA Act				
A3.1		Provision and Implementation of a Health and Safety Plan	Lump sum	1		
A3.2		Provision of a Health and Safety File	Lump sum	1		
A3.3		Provision of a SACPCMP registered safety officer (Full-time)	Months	24		
A3.4		Health and safety training	Lump sum	1		
A3.5		Provision of personal protective clothing and equipment	Lump sum	1		
A3.6		Provision of safety fences, signs and barricades	Lump sum	1		
A3.7		Implementation of Health and Safety Obligations	Lump sum	1		
A3.8		Compliance with Environmental Management Obligations	Lump sum	1		
A3.9		Provision of Environmental Officer	Months	24		
A3.10		Community liaison officer appointed at Task Level 5	Prov sum			
A3.11		(a) Handling cost in respect of item A3.10	15%			
A4	8.3.2.2	Establishment of facilities on the site Facilities for Engineer				
		a. Furnished offices (2 No.)	sum	1		
		b. Telephone	sum	1		
		c. Nameboards (2 No.)	sum	1		
A5	8.3.2.3	Facilities for contractor				
		a. Offices and storage sheds	sum	1		
		b. Workshops	sum	1		
		c. Laboratories	sum	1		
		d. Living accommodation	sum	1		
		e. Ablution and latrine facilities	sum	1		
		f. Tools and equipment	sum	1		
		e. Water supplies, electric power and communications	sum	1		
		h. Dealing with water	sum	1		
		i. Access	sum	1		
A6	8.3.4	Removal of site establishment	sum	1		
A7	PSA 8.3.5	(i) Provision for total de-establishment and re-establishment within 24 months at the instruction of the Engineer	Prov sum	1		

A8	8.4	Operation and maintenance of facilities on site, for the duration of construction, except where otherwise stated				
A8.1		Facilities for Engineer				
A8.1	8.4.2.1	a. Furnished offices (2 No.)	sum	1		
A8.2.1.2		b. Telephone	sum	1		
A8.2.1.3		c. Nameboards (2 No.)	sum	1		
A8.2.1.4		d. Survey assistants and materials	sum	1		
A8.2.1.5		e. Software and laptop	sum	1		
A8.2.2	8.4.2.2	Facilities for contractor				
A8.2.2.1		a. Offices and storage sheds	sum	1		
A8.2.2.2		b. Workshops	sum	1		
A8.2.2.3		c. Laboratories	sum	1		
A8.2.2.4		d. Living accommodation	sum	1		
Carried Forward						0.00
Item No		Description	Unit	Quantity	Rate	Amount
Brought Forward						0.00
A8.2.2.5		e. Ablution and latrine facilities	sum	1		
A8.2.2.6		f. Tools and equipment	sum	1		
A8.2.2.7		e. Water supplies, electric power and communications	sum	1		
A8.2.2.8		h. Dealing with water	sum	1		
A8.2.2.9		i. Access	sum	1		
A8.3	8.4.3	Supervision for duration of construction				
A8.3.1		a. Construction manager	sum	1		
A8.3.2		b. Site Agent	sum	1		
A8.3.3		c. Supervisory staff other than those identified in 6. to 3.3	sum	1		
A8.3.4		d. Support staff not included in other sections of the Price List or items 3.1 to 3.4	sum	1		
A8.4	8.4.4	Company and head office overhead costs for the duration of	sum	1		
A8.5	8.4.5	Other time -related obligations	Prov sum	1		
A8.6	8.85	Cost of survey in terms of the land survey act	sum	1		
A8.7		Equipment identified by the Contractor and not included in other sections or included elsewhere	sum	1		
A8.8	8.8	Temporary works identified by the Contractor	sum	1		
A8.9		Other method related charges identified by the Contractor and not included elsewhere	Prov sum	1		
A8.10		Provisional sums				
A8.10.1		Control tests ordered by the engineer	Prov Sum	1	50,000.00	
A8.11	8.8.6	Special water control in terms of project specifications	Prov Sum	1	25,000.00	
Section Total carried to Summary						0.00

Item No		Description	Unit	Quantity	Rate	Amount
SECTION B : WATER RETICULATION						
B1	SANS 1200C	SITE CLEARANCE				
B1.1	8.2.1	Clear and grub pipeline routes 2m wide including removal of trees of girth less than 1m and dispose at an approved dumping site (not applicable where trenching is situated within road fill or road excavation)	m	1 486		
B1.2	8.2.2	Remove and grub large trees and tree stumps of girth:				
B1.2.1	a.	Over 1m and up to and including 2m	No	1		
B1.2.2	b.	Over 2m and up to and including 3m	No	1		
B1.2.3	c.	Over 3m and up to and including 4m	No	1		
B1.3	PSC 8.2.5	Carefully remove block paving and store for re-use at an approved dumping site	m ²	120		
B1.5	PSC 8.2.7	Reinstatement of existing pavements up to a depth of 550mm for surfaces:				
B1.5.1	a.	50mm thick continuously graded asphalt	m ²	45		
B1.5.2	b.	Interlocking block paving with a thickness up to and including 100mm	m ²	68		
B1.6	PSC 8.2.8	Demolish and remove structures/buildings	Sum	1		
B1.7	8.2.9	Transport materials and debris to unspecified sites and dump	m ³ .km	200		
B1.8	8.2.10	Remove topsoil to nominal depth of 150mm and stockpile	m ³	45		
B1.9	PSC 8.2.9	Take down existing wire mesh fence and reinstate	m	25		
B2	SANS 1200DB	EARTHWORKS				
B2.1	8.2.3	Remove 2m wide strip of topsoil for pipe trench to a nominal depth of 150mm, stockpile and maintain (not applicable where trenching is situated within road fill or road excavation)	m ³	60		
B2.2	8.3.2 (a)	Excavate by hand in soft material to expose existing services and for connection to existing water lines	m ³	240		
B2.3	8.3.2 (a)	Dealing with existing services that intersect pipe trenches	m ³	150		
B2.4	8.3.2 (a)	<u>Restricted excavation:</u>				
B2.4.1		Excavate in all materials up to and including 2,5m depth for:				
B2.4.1.1	a.	Concrete supports and thrust / anchor blocks	m ³	24		
B2.4.1.2	b.	Isolation valves	m ³	12		
B2.5	8.3.2 (b)	Extra-over for Items B2.2 to B2.4 for excavation of:		36		
B2.5.1	a.	Intermediate material	m ³	540		
B2.5.2	b.	Hard rock material	m ³	160		
B2.6	8.3.2 (c)	Haulage for disposing of surplus material to an approved dumping site or as instructed by the Engineer				
B2.6.1	a.	Short haul (0.5 to 1.0km)	m ³	400		
B2.6.2	b.	Overhaul exceeding 1.0km	m ³ .km	200		
B3	SANS 1200DB	EARTHWORKS (PIPE TRENCHES)				
B3.1	8.3.2 (a)	Excavate in all materials up to 2.5m deep, use for backfill and compact to 95% Mod. AASHTO maximum density at O.M.C. and dispose of excess material as directed for all diameter pipelines	m ³	850		
B3.2	8.3.2 (b)	Extra-over for Item B3.1 for excavations deeper than 2.5m and up to 5m	m ³	300		
B3.3	8.3.2 (b)	Extra-over for Items B3.1 to B3.2 for excavation of:				
B3.3.1	8.3.2 (b)	Intermediate material	m ³	85		
B3.3.2	8.3.2 (b)	Hard rock material	m ³	520		
B3.4	8.3.2 (b)	Extra-over for Items B3.1 to B3.2 for treatment by screening of excavated material for use as backfill to pipe trenches	m ³	5 650		
B3.5	8.3.2 (b)	Extra-over for Items B3.1 to B3.2 for compaction in road reserves to road specifications for pipes regardless of diameter	m ³	1 200		
					Carried Forward	0.00

Item No	Description	Unit	Quantity	Rate	Amount
				Brought Forward	0.00
B3.6	8.3.2 (b) Extra-over for Item B3.1 for making up deficiency in backfill material by importing G7 material from commercial sources, backfill and compact to 95% Mod. AASHTO maximum density at O.M.C.	m ³	320		
B3.7	8.3.2 (b) Excavation in hard rock where the use of explosives is prohibited	m ³	500		
B3.8	8.3.2 (c) Haulage for disposing of surplus material to an approved dumping site or as instructed by the Engineer				
B3.8.1	a) Short haul (0.5 to 1.0km) (Provisional)	m ³	240		
B3.8.2	b) Overhaul exceeding 1.0km (Provisional)	m ³ .km	1 000		
B3.9	8.3.3 <u>Excavation Ancillaries</u>				
B3.9.1	8.3.3.1 Import backfill material from designated borrow pits (Provisional)	m ³	120		
B3.9.2	8.3.3.2 Opening up and closing down of designated borrow pit	ha	10		
B3.9.3	8.3.3.3 Compaction in road reserve	m ³	500		
B 3.10	8.3.3.4 <u>Overhaul</u>				
B 3.10.1	a) Short haul (0.5 to 1.0km) (Provisional)	m ³	300		
B 3.10.2	b) Overhaul exceeding 1.0km (Provisional)	m ³ .km	500		
B 3.11	8.3.4a Shore trench opposite structure or service	m	100		
B 3.12	PSC8.3.4b) Excavation of the pipe jacking launch pits	m ³	8		
B 3.13	<u>Existing services that intersect or adjoin a pipe trench</u>				
B 3.13.1	8.3.5a a) Services that intersect a trench	no	10		
B 3.13.2	8.3.5b b) Services that adjoin a trench	m	60		
B 3.14	8.3.6 Reinststate road surfaces complete with all courses				
B 3.14.1	8.3.6.1a a) Gravel on shoulders	m ²	20		
B 3.14.2	8.3.6.1b b) Asphalt of thickness 40mm in parking area	m ²	20		
B 3.14.3	8.3.6.1c c) Asphalt of thickness 40mm in roadway	m ²	20		
B 3.15	8.3.7 Accommodation of traffic	Sum	1		
B 4	SANS BEDDING (PIPES)				
	1200LB				
B 4.1	8.2.1 Provision of bedding from trench excavation				
B 4.1.1	a) Selected granular material	m ³	190		
B 4.1.2	b) Selected fill material	m ³	415		
B 4.2	8.2.2 Supply only of bedding by importation				
B 4.2.1	8.2.2.1 From other necessary excavations (Provisional)				
B 4.2.1.1	a) Selected granular material	m ³	16		
B 4.2.1.2	b) Selected fill material	m ³	16		
B 4.2.2	8.2.2.2 From borrow pits (Provisional)				
B 4.2.2.1	a) Selected granular material	m ³	12		
B 4.2.2.2	b) Selected fill material	m ³	12		
				Carried Forward	0.00

Item No		Description	Unit	Quantity	Rate	Amount
					Brought Forward	0.00
B 4.2.3	8.2.2.3	From Commercial sources (Provisional)				
B 4.2.3.1		a) Selected granular material	m ³	160		
B 4.2.3.2		b) Selected fill material	m ³	125		
B4.3	8.2.1	Extra-over for Item B4.1 for treatment of excavated material to make it suitable for bedding of pipes by:				
B4.3.1		a) Screening	m ³	34		
B4.3.2		b) Washing	m ³	36		
B4.3.3		c) Cement Stabilization (4% cement)	m ³	36		
B4.4		Provision of 19mm crushed stone bedding material to form a sub-drain where instructed by the Engineer; from commercial sources	m ³	42		
B4.4.1	8.2.3	Concrete bedding cradle class 20/19	m ³	2		
B4.4.2	8.2.4	Encasing of pipes in concrete class 20/19	m ³	2		
B4.4.3	8.2.5	Overhaul of material for bedding cradle and selected fill blanket (Provisional)	m ³ .km	300		
B5	SANS 1200L	PIPELINES				
B5.1	8.2.1	Supply, lay and bed uPVC pipes, complete with couplings for diameters of:				
B5.1.1		a) 90mm, Class 12	m	6		
B5.1.2		b) 110mm, Class 12	m	6		
B5.1.3		c) 160mm, Class 12	m	1 490		
B 5.3.1.3		c) 160mm, Class 16	No.	6		

					Carried Forward	0.00
Item No	Description		Unit	Quantity	Rate	Amount
					Brought Forward	0.00
B 5.3.2.3		h) 160mm, Class 16	No.	5		
B 5.3.6.3		c) 160mm, Class 16	No.	3		
B 5.3.7	8.2.5	Mild steel blank flange of diameters: 160mm, Class 16	No.	1		
					Carried Forward	0.00

Item No	Description	Unit	Quantity	Rate	Amount
				Brought Forward	0.00
B5.6.2.3	c) 160mm, Class 16	No.	2		
B5.6.4	8.2.5 80mm Ø fire hydrant complete with tamper proof Woodlands type hydrant double lug outlet with "Storz" coupling and stainless steel spindle, 80mm galvanised steel extension pipe, 80mm flanged elbow and hydrant T-piece as per drawings for pipeline diameters:				
B5.6.4.1	a) 90mm, Class 16	No.	3		
B5.6.4.2	b) 110mm, Class 16	No.	2		
B5.6.4.3	c) 160mm, Class 16	No.	2		
B6	SANS 1200L STRUCTURES:				
B6.1	8.2.13 Supply all material and construct isolating gate valve access structure complete as per drawings including valve box cover and frame	No.	2		
B6.2	8.2.14 b Scour valve chamber:				
B6.2.1	Excavate in all material for scour valve chamber to a depth up to and including 2.5m, backfill and compact to 93% Mod. AASHTO maximum density at O.M.C. and dispose of surplus material as directed by the Engineer	m ³	3		
B6.2.2	Extra-over for Item B6.2.1 for excavation of:				
B6.2.2.1	a) Intermediate material	m ³	5		
B6.2.2.2	b) Hard rock material	m ³	5		
B6.2.3	8.2.14 b Concrete:				
B6.2.3.1	a) Supply, cast and compact Grade 25/20 concrete to base as indicated on drawings	m ³	10		
B6.2.3.2	b) Supply and install 1000 x 1000 x 200mm thick no-fines concrete block complete with 250 micron DPC sheet between scour manhole floor and no-fines top	m ²	4		
B6.2.3.3	c) Supply, fix and place high tensile steel reinforcement up to and including Y20 bars	t	1.0		
B6.2.4	8.2.11 Formwork:				
B6.2.4.1	a) Vertical narrow widths up to 300mm for base and roof slabs	m	8		
B6.2.4.2	b) Vertical smooth to walls	m ²	12		
B6.2.4.3	c) Horizontal smooth to roof slab	m ²	10		
B6.2.4.4	d) Box out weep holes of 50mm dia. to a depth up to and including 200mm	No.	2		
				Carried Forward	0.00

Item No		Description	Unit	Quantity	Rate	Amount
					Brought Forward	0.00
B6.2.5	8.2.11	Supply and install galvanised wire "Reno" mattresses complete including the supply and packing of rockfill including surface preparation for mattress size:				
B6.2.5.1		a) 1200 x 1500 x 200mm	No.	5		
B6.2.5.2		b) 1400 x 1500 x 200mm	No.	5		
B6.2.5.3		c) 1500 x 1500 x 200mm	No.	5		
B6.3	8.2.14 b	Air valve chamber:				
B6.3.1		Excavate in all material for air valve chamber to a depth up to and including 2.5m, backfill and compact to 93% Mod. AASHTO maximum density at O.M.C. and dispose of surplus material as directed by the Engineer	m³	3		
B6.3.2		Extra-over for Item B6.3.1 for excavation of:				
B6.3.2.1		a) Intermediate material	m³	2		
B6.3.2.2		b) Hard rock material	m³	6		
B6.3.2.3		c) Supply and install pre-cast concrete manhole rings of diameter 1130mm complete as shown on drawings	No.	2		
B6.3.4		Supply and install 560mm diameter heavy duty concrete cover with galvanised steel ring encased in concrete as shown on drawings	No.	1		
B6.3.5		Supply and install cover slab as per drawings	No.	5		
B6.3.6		Import and place 19mm crushed stone as indicated on drawings	m³	20		
B7		HIGH TENSILE WELDED MESH REINFORCEMENT				
B7.1		Ref. 617	m²	6		
B7.2		Ref. 395	m²	4		
B8	SANS 1200L	Manholes, Structures and concrete works:				
B8.1	8.2.11	Grade 25/20 concrete to thrust/anchor blocks including rough formwork	m³	8		
B8.2	8.2.11	Precast pipeline markers complete as per drawings	No.	6		
B8.3	8.2.12	Grade 20/20 mass concrete encasement of pipes where instructed by the Engineer	m³	2		
B9						
B9.1	PSC 8.2.12c	MISCELLANEOUS Connection to existing pipes: Specials and fittings required for connection to existing water supply system which are not measured elsewhere	Prov Sum	1		
					Carried Forward	0.00
Item No		Description	Unit	Quantity	Rate	Amount
					Brought Forward	0.00

Item No	Description	Unit	Quantity	Rate	Amount
				Brought Forward	0.00
D12	DAYWORKS				
C12.1	Dayworks Labour				
C12.1.1	Contractor's Representative	hr	6		
C12.1.2	Surveyor	hr	4		
C12.1.3	Qualified artisan	hr	12		
C12.1.4	Foreman, leader-hand (9 hr/workday)	workday	3		
C12.1.5	Semi-skilled labourer (9 hr/workday)	workday	10		
C12.1.6	Labourer (9 hr/workday)	workday	10		
C12.2	Plant hire : Work Rates on Site				
C12.2.1	<u>Tipper truck (specify capacity)</u> 5m³ (small)	hr	6		
C12.2.2	10m³ (large)	hr	6		
C12.2.3	<u>Flat bed truck (specify capacity)</u> a) 5 ton (small)	km	160		
C12.2.4	LDV	km	200		
C12.2.5	Wheel loader: m³ bucket (specify type)	hr	6		
C12.2.6	Grader (CAT 140G or similar)	hr	8		
C12.2.7	<u>TLB (Tractor Loader Backhoe)</u> Backhoe TLB type (CAT 428 or equivalent)	hr	4		
C12.2.8	<u>Compactor</u> Pedestrian Roller (Bomag BW 90 or similar)	hr	4		
C12.2.9	<u>Concrete mixer (Diesel or Electrical)</u> a) 310L (small towable)	hr	4		
C12.2.10	<u>Miscellaneous</u> a) Compressor complete with capacity of ± 10m³/min	hr	4		
C12.2.11	b) Dewatering pump including generators and	hr	12		
	accessories (50mm pump, 600 litres per minute)				
Section Total carried to Summary					0.00

Item No	Payment ref	Description	Unit	Quantity	Rate	Amount
	SANS 1200DB	SECTION C: SEWER DRAINAGE				
C1		SITE CLEARANCE				
C1.1	8.3.1 (a)	Clear and grub pipeline routes 2m wide including removal of trees of girth less than 1m and dispose at an approved dumping site (not applicable where trenching is situated within road fill or road excavation). Also remove 150mm of topsoil.	m	12 794		
C1.2	8.3.1 (b)	Remove and grub large trees and tree stumps of girth:				
C1.2.1	a.	Over 1m and up to including 2m	No	7		
C1.2.2	b.	Over 2m and up to including 3m	No	5		
C1.2.3	c.	Over 3m and up to including 4m	No	4		
C1.3	8.3.1 (c)	Remove topsoil to depth of 100mm and stockpile	m ³	1 000		
C2		EARTHWORKS				
C2.1	8.3.1 (c)	Remove 2m wide strip of topsoil for pipe trench excavation to a nominal depth of 150mm, stockpile and maintain (not applicable where trenching is situated within road fill or road excavation)	m ³	3 825		
C2.2	8.3.2 (a)	Excavate by hand in soft material to expose existing services and for connection to existing sewer lines	m ³	470		
C2.3	8.3.5 (a)	Dealing with existing services that intersect pipe trenches	m ³	410		
C2.4	8.3.2 (a)	<u>Restricted excavation:</u>				
C2.4.1		Excavate in all materials up to and including 2,5m for:				
C2.4.1.1		Concrete supports and anchor blocks	m ³	270		
C2.5	8.3.2 (b)	Extra-over for Items F2.2 to F2.4 for excavation of:				
C2.5.1	a.	Intermediate material	m ³	1 070		
C2.5.2	b.	Hard rock material	m ³	2 100		
C2.6	8.3.3.4	Haulage for disposing of surplus material to an approved dumping site or as instructed by the Engineer				
C2.6.1	a.	Short haul (0.5 to 1.0km)	m ³	3 500		
C2.6.2	b.	Overhaul exceeding 1.0km	m ³ .km	1 525		
C2.7	8.3.2 (c)	Excavate and dispose of unsuitable material from trench bottom (Provisional)	m ³	1 550		
C3.1	8.3.2 (a)	EARTHWORKS (PIPE TRENCHES)				
C3.1.1	8.3.2 (a)	Excavate in all materials up use for backfill and compact to 95% Mod. AASHTO maximum density at O.M.C. or dispose of excess material as directed, for all diameter pipelines for depth of:				
	i	0,0 - 1,0	m	618		
	ii	1,0 - 2,0	m	9 285		
	iii	2,0 - 3,0	m	2 517		
C3.1.2	8.3.2 (b)	Extra-over for Item F3.1.1 for excavations deeper than 2.5	m ³	762		
C3.2	8.3.2 (b)	Extra-over for Items F3.1.1 to F3.1.2 for excavation of:				
C3.2.1	a.	Intermediate material	m ³	400		
C3.2.2	b.	Hard rock material	m ³	170		
C3.3	8.3.2 (b)	Extra-over for Items F3.1.1 to F3.1.2 for treatment by screening of excavated material for use as backfill to pipe trenches	m ³	153		
C3.4	8.3.3.3	Extra-over for Items F3.1.1 to F3.1.2 for compaction in road				

C3.5	8.3.3 8.3.3.1 8.3.3.1 (a)	reserves to road specifications for pipes regardless of diameter Excavation ancillaries Make up deficiency in backfill material (Provisional) a. From necessary excavations on site	m ³ m ³	250 2 925		
Carried Forward						-
Item No		Description	Unit	Quantity	Rate	Amount
Brought Forward						-
	8.3.3.1 (b)	b. By importation from a designated borrow pits	m ³	1 750		
	8.3.3.1 (c)	c. Extra-over for Item F3.1.1 making up deficiency in backfill material by importing G7 material from commercial sources, backfill and compact to 95% Mod. AASHTO maximum density at O.M.C.	m ³	5 340		
C3.6	8.3.2 (b)	Excavation in hard rock where the use of explosives is prohibited	m ³	350		
C3.7	8.3.3.4	Haulage for disposing of surplus material to an approved dumping site or as instructed by the Engineer				
C3.7.1	a.	Short haul (0.5 to 1.0km)	m ³	6 500		
C3.7.2	b.	Overhaulage exceeding 1.0km	m ³ .km	2 150		
C4	SANS 1200LB	BEDDING (PIPES)				
C4.1	8.2.1	Provision of bedding from trench excavation				
	a)	Selected granular material	m ³	1 152		
	b)	Selected fill material	m ³	248		
C4.2	8.2.2	Supply only of bedding by importation				
	8.2.2.1	From other necessary excavations (Provisional)				
	a)	Selected granular material	m ³	295		
	b)	Selected fill material	m ³	160		
C4.3	8.2.2.2	From borrow pits (Provisional)				
	a)	Selected granular material	m ³	165		
	b)	Selected fill material	m ³	165		
C4.4	8.2.2.3	From Commercial sources (Provisional)				
	a)	Selected granular material	m ³	144		
	b)	Selected fill material	m ³	138		
C4.5	8.2.1	Extra-over for Item F4.1 for treatment of excavated material to make it suitable for bedding of pipes by:				
C4.5.1	a.	Screening	m ³	138		
C4.5.2	b.	Washing	m ³	156		
C4.5.3	c.	Cement Stabilization (4% cement)	m ³	336		
4.6		Provision of 19mm crushed stone bedding material to form a sub-drain where instructed by the Engineer; from commercial sources	m ³	114		
C5	SANS 1200 LD	PIPELINES				
C5.1	8.2.1	Supply, Lay, Joint, Bed (Class B), Test Pipeline complete with couplings for pipes of diameter:				
C5.1.1	b.	160mm uPVC Class 34	m	8 930		
C5.1.2	c.	200mm uPVC Class 34	m	3 614		
C5.1.3	d.	315mm uPVC Class 35	m	200		
C5.2	8.2.2	Extra-over item F5.1 for supply, lay, joint, bed class B and testSpecials				
	b.	45° bend	No.	200		
Carried Forward						-

Item No	Description	Unit	Quantity	Rate	Amount
Brought Forward					-
C5.2	8.2.2 Extra-over item F5.1 for supply, lay, joint, bed class B and testSpecials c. 110mm diameter junction 45°	No.	80		
C6	8.3.2 MANHOLES				
C6.1	8.3.2 Supply, install and test 1250mm Ø precast concrete manholes complete with cover and frame for all diameter pipelines:				
C6.1.1	a. Up to 2.5m deep	No.	142		
C6.1.2	b. 2.5m and up to 3,2m deep	No.	10		
C6.1.3	c. 3.2m and up to 5,0m deep	No.	4		
C6.2	8.3.2 Supply, install and test 1250mm Ø precast concrete manholes complete with cover and frame for all diameter pipelines:				
C6.2.1	a. Up to 3.0m deep	No.	3		
	b. Over 3m and up to 5.0m deep	No.	2		
C6.3	8.2.5 Inspection chambers complete type 4 cover and frame, for depth over and up to: a. 1.0m - 1.5m b. 1.5m - 2.5m	No.	2		
		No.	2		
C7	SUNDRIES				
	a. 110mm, upto 5m long, to sewers upto 225mm	No.	596		
C7.1	8.2.6 Encasing of pipes in concrete a. Grade 20/19 mass concrete encasement of 110mm pi instructed by the Engineer b. Grade 20/19 mass concrete encasement of 160mm pi instructed by the Engineer	m ³	10		
		m ³	39		
C7.2	8.2.7 Grade 25/20 concrete to thrust/anchor blocks including rough formwork	m ³	11		
C7.3	8.2.8 Precast pipeline markers complete as per drawings	No.	5		
C7.4	8.2.9 Permanent plug stoppers (Provisional)	No.	50		
C7.5	8.2.10 Connection to Existing Sewer at ... including flexible joints good all benching	No.	4		
C7.6	8.2.11 Raising or lowering of existing manholes	No.	4		
C8	MISCELLANEOUS				
C8.1	Testing of manholes (Provisional)	Sum	2		
C8.2	Connect to existing sewer system (Provisional)	Sum	2		
Section Total carried to Summary					-

GOVAN MBEKI LOCAL MUNICIPALITY

Kinross Ext 33 Existing Concrete Reservoir Repair

ITEM NO.	PAYMENT REF	DESCRIPTION	UNIT	Qty	RATE	AMOUNT
D3.1	SABS 1200C	<u>SITE CLEARANCE</u>				
D3.1.1	8.2.3	Remove and grub all grass, trees and tree stumps regardless of girth	ha	0.25		
D3.2	SABS 1200D	<u>BULK EXCAVATION</u>				
D3.2.1	8.3.2a)	Excavate in all materials and dispose of surplus materials.				
		a) Up to 1,5m deep	m ³	2		
		b) Over 1,5 up to 3m deep	m ³	3		
D3.2.2	8.3.2b)	<u>Extra-over item 2.2.1 for</u>				
		1. Intermediate excavation (Provisional)	m ³	2		
		2. Hard rock excavation (Provisional)	m ³	2		
D3.2.3	8.3.3	<u>Restricted Excavation</u>				
		Excavate for restricted foundations, footings and use for				
		a) backfill.	m ³	3		
		b) Extra over for Intermediate Excavation	m ³	2		
D3.3	SABS 1200G	<u>CONCRETE (STRUCTURAL)</u>				
D3.3.1	8.2.1	Rough formwork (Rates to include all scaffolding supports)	m ²	24		
	8.2.2	Smooth formwork (Rates to include all scaffolding supports)	m ²	20		
D3.3.2	8.3.1	<u>Steel Bars</u>				
		The rate includes the supply and placing, no allowance will be made for cutting, waste, space devices or biring wire.				
		1. High tensile bars	ton	0.5		
		2. Mild bars	ton	0.2		
						R 0.00

ITEM NO.	PAYMENT REF	DESCRIPTION	UNIT	Qty	RATE	AMOUNT
		Brought Forward				R 0.00
D3.4		<u>Waterproofing</u>				
D3.4.1	B8.3.2	Sealing of joints with polysulphide compound	m	149		
D3.4.2		Diamond grinding to interior surfaces of walls, slab and column encasements in order to remove existing waterproof coatings and the soft carbonated , micro-cracked layer of underlying concrete.	m ²	1950		
D3.4.3		Cracks repair via high pressure epoxy injection using Sikadur 52ZA, including all application nipples, crack surface filling and application equipment. (Quantity based on 30m long crack estimated at being 100mm deep and 1mm wide).	ft	118		
D3.4.4		Repair spalls using a fibre reinforced repair mortar like Sika Monotop 612, including Sika Armatec 110 Epocem anti-corrosion coating and bond coat. (Quantity based on 3.1m ² of repair and estimated at an average Of 30mm deep).	ft	250		
D3.4.5		Use Sikagard 720 Epocem to replace the replaced deficient layer of concrete. Applied at 2mm thick.	m ²	1250		
D3.4.6		Apply Sikagard 62N Epoxy lining system, including the application of Sikafloor 161 Primmer and 2 coats of the Sikagard 62N, allowing to dry between coats.	m ²	306		
D3.4.7		Application of 250mm flexiband with contact adhesive	m	224		
D3.5	SABS 1200H	<u>STRUCTURAL STEELWORK</u>				
D3.5.1	8.3.1.2	Supply and fabrication of steel work				
D3.5.2		(a) Supply, fabrication and erection of ladders for inspection /access complete with pedestal. See drawing number 167/2015/CR-LA/01	No	1		
D3.6	SABS 1200 LD	Provision of the following galvanised steel pipes and fittings				
D3.6.1		(a) Drop down testing before and after fixing the concrete reservoir.	No.	1		
D3.6.2		(b) Water Level indicator	No.	1		
D3.7	8.3.2	Fixing of existing fence (45m length x 2.4m height.	Prov. Sum	1		
TOTAL SECTION CARRIED FORWARD TO SUMMARY:						R 0.00

ITEM NO.	PAYMENT REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		SECTION E : BOOSTER PUMP STATION				
	SANS	BOOSTER PUMP STATION				
E1	SANS 1200C	SITE CLEARANCE				
E1.1	8.2.1	Clear and grub	ha	0.01		
E2	SANS 1200DA	EARTHWORKS (SMALL WORKS)				
E2.1	8.3.3	Excavation				
		a) Excavation for the sump use for backfill the rate includes excavating, temporal stockpiling, backfilling, watering, compacting testing and disposal of spoil.	m ³	375		
		b) Extra over item 2.1 above for:				
		1) Intermediate Excavation	m ³	650		
		2) Hard rock excavation	m ³	250		
		3) Boulders excavation, Class A	m ³	35		
		4) Boulders excavation, Class B	m ³	45		
E2.2	8.3.4	Importing materials				
		a) Extra-over for importation of materials from commercial sources or from borrow pits	m ³	90		
E2.3	8.3.7	Additional lateral support	Sum	1		
E3	SABS 1200GA	CONCRETE (SMALL WORKS)				
E3.1	8.3.1	<u>Reinforcement steel bars</u>				
		The rate includes the supply and placing, no allowance will be made for cutting, waste, spacer devices or binding wire.				
		1) High-tensile bars	t	40		
		2) Mild bars	t	8		
E3.2	8.4	<u>Concrete</u>				
		The rate includes the mixing or supply, the transportation, the placing, the vibration, the compaction and the curing				
E3.2.1	8.4.2	Blinding layer 50mm thick	m ³	20		
E3.2.2	8.4.3	Concrete grade				
		1) 30 MPa concrete	m ³	110		
		2) 20 MPa concrete screed	m ³	2		
E3.2.3	8.4.4	Unformed surface finishes				
		1) Wood-floated finishes	m ²	540		
E4		MASONRY				
E4.1		PUMP STATION 1				
E4.1.1		1) Supply & Install pump, direct coupled to 30kW 4-pole motor mounted on base plate c/w tyre coupling and guard (or similar approved) - Must be able to supply 30 L/s @ 20m head, including transport, mechanical installation and commissioning	no.	4		
E4.2		2) All pipework, couplings and valves to add new pump and motor to existing two-pump system	Prov Sum	1		
E4.2.1						
E4.2.2		3) Pump station motor control centre (MCC) -30kW	no.	4		
E4.3		4) Removable 0.5ton hand operated chain hoist for inside pumpstation use, fitted with suitable connection to connect to trolley	no.	2		
Carried forward						
Brought Forward						
E4.2		PUMP STATION 1				

E4.3.1	5)	5 ton capacity R1 Morris beam crawl	no.	1	
E4.3.2	6)	Design, manufacture, deliver, install complete with corrosion protection pipe support frames to suit pipework	Prov Sum	1	
E4.2		PUMP STATION 2			
E4.2.1	1)	Supply & Install pump, direct coupled to 30kW 4-pole motor mounted on base plate c/w tyre coupling and guard (or similar approved) - Must be able to supply 20 L/s @ 22m head, including transport, mechanical installation and commissioning	no.	2	
E4.2.2	2)	All pipework, couplings and valves to add new pump and motor to existing two-pump system	m	1	
E4.2.3	3)	Pump station motor control centre (MCC) -30kW for the pumps above	no.	1	
E4.2.4	4)	Removable 0.5ton hand operated chain hoist for inside pumpstation use, fitted with suitable connection to connect to trolley	no.	1	
E4.2.5	5)	5 ton capacity R1 Morris beam crawl	no.	1	
E4.2.6	6)	Design, manufacture, deliver, install complete with corrosion protection pipe support frames to suit pipework	Prov Sum	1	
E4.3		PUMP STATION 3			
E4.3.1	1)	Supply & Install pump, direct coupled to 55kW 4-pole motor mounted on base plate c/w tyre coupling and guard (or similar approved) - Must be able to supply 60L/s @ 48m head, including transport, mechanical installation and commissioning	no.	2	
E4.3.2	2)	All pipework, couplings and valves to add new pump and motor to existing pump station.	m	1	
E4.3.3	3)	Pump station motor control centre (MCC) -30kW for the pumps above	no.	1	
E4.3.4	4)	Design, manufacture, deliver, install complete with corrosion protection pipe support frames to suit pipework	Prov Sum	1	
E4.4		PUMP STATION 4			
E4.4.1	1)	Supply & Install pump, direct coupled to 55kW 4-pole motor mounted on base plate c/w tyre coupling and guard (or similar approved) - Must be able to supply 60L/s @ 48m head, including transport, mechanical installation and commissioning	no.	2	
E4.4.2	2)	All pipework, couplings and valves to add new pump and motor to existing pump station.	m	1	
E4.4.3	3)	Pump station motor control centre (MCC) -30kW for the pumps above	no.	1	
E4.4.4	4)	Design, manufacture, deliver, install complete with corrosion protection pipe support frames to suit pipework	Prov Sum	1	
E5.3		ELECTRICITY SUPPLY			
E5.3.1	a)	Power line supply by Eskom and transformer for electrification of pumpstation 1,2,3 and 4	Sum	4	
E5.4		FENCING			
	SANS 1200HA	STRUCTURAL STEELWORK (SUNDRY ITEMS)			
E5.4.1	8.3.5	The rate includes the supply of all material: a) Supply and fit 2.0m high galvanised Clearvu fencing	m	400	
		b) Spikes on top of Clearvu Fencing, 2 per panel (100mm Height)	m	400	
		c) Heavy duty OEM galvanised sliding gates, 6m wide on 12m rail	sum	8	
		d) Concrete footing under fencing to prevent from entering underneath the clear-vu fence	m	120	
		e) Electric fencing	m	120	
E5.5		GUARD HOUSE			
		STRUCTURAL STEELWORK (SUNDRY ITEMS)			
E5.5.1	a)	25MPa Concrete for the foundation	m3	9	
E5.5.2	b)	Brickforces for the NFX/NFP brickworks	m	60	
E5.5.3	c)	Chromadek roof sheeting coated outside and galvanized inside 0.8mm min.	m	8	
E5.5.4	d)	Brick pallets of stock bricks	No	8	
	e)	650 mm X 530 mm Windows	No	8	

- f) 900 mm X 1100mm windows
- g) 850mm X 2125 mm wooden Door with fram
- h) plumbing with upvc pipe and copper water pipes
- i) Toilets
- J) sinks
- k) basin
- l) electrical connection (Db, two plugs and Four light switch)
- n) Finishing

No	12
No	12
No	12
No	4
No	4
No	4
No	4
No	4

TOTAL SECTION B CARRIED FORWARD TO SUMMARY:

Item No		Description	Unit	Quantity	Rate	Amount
		SECTION F : WATER RETICULATION				
F		SECTION F : STEEL TANK				
F11	SANS	STEEL TANK				
F11.1	1200C	SITE CLEARANCE				
F11.1.1	8.2.1	Clear and Grub a) Clear and grub around proposed tank location	ha	0.2		
F11.2	1200DA	EARTHWORKS				
F11.2.1	8.3.1	Excavations a) Excavate in all materials and use for embankment or bankfill or dispose b) Extra over for: i. Intermediate Excavation ii. Hard rock excavation iii. Boulders excavation, Class A iv. Boulders excavation, Class B	m ³ m ³ m ³ m ³ m ³	460 320 110 20 60		
F11.3	1200G	CONCRETE				
F11.3.1	8.2	<u>Formwork</u>				
F11.3.1.1	8.2.1	Rough formwork	m ²	120		
F11.3.1.2	8.2.2	Smooth formwork	m ²	300		
F11.3.2	8.3	<u>Reinforcement</u> The rate includes the supply and placing, no allowance will be made for cutting, waste, spacer devices or binding wire.				
F11.3.2.1	8.3.1	a. Mild steel bars b. High tensile steel bars	t t	3 6		
F11.3.3	8.4	<u>Concrete</u> The rate includes the mixing or supply, the transportation, the placing, the vibration, the compaction and the curing				
	8.4.2	Blinding layer 50mm thick	m ²	192		
	8.4.3	Concrete grade a. 30 MPa concrete b. 20 MPa concrete screed	m ² m ²	110 30		
	8.4.4	Unformed surface finishes a. wood-floated finishes	m ²	440		
F11.4		<u>Sectional Steel Tank</u> The rate includes supply, transportation, assembling and commissioning				
F11.4.1		a) Supply of 500 kl (10 x 8.7 x 4.9m) sectional steel tank complete with inlet pipe, outlet pipe, overflow pipe, scour pipe, ball valve, 10m galvalised stand and level indicator. b) Supply 20m stand to fit 500kl tank	No. No	2 2		
F11.4.2		The rate includes the supply of all material: a) Supply and fit 2.4m high galvanised Clearvu fencing b) Spikes on top of Clearvu Fencing, 2 per panel (100mm Height) c) Heavy duty OEM galvanised sliding gates, 6m wide on 12m rail	m m sum	90 90 2		
Section Total carried to Summary						0.00

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Contract No. DHS/231/24/MP Re-Advert Page (i)
DEPARTMENT OF HUMAN SETTLEMENTS
Appointment of a contractor for the construction of bulk
water and sewer infrastructure in Kinross extension 33
settlement under Govan Mbeki Local Municipality, Gert
Sibande District.

Department of Human Settlements



DHS/231/24/MP

VOLUME 1

**APPOINTMENT OF A CONTRACTOR FOR THE
CONSTRUCTION OF BULK WATER AND SEWER
INFRASTRUCTURE IN KINROSS EXTENSION 33
SETTLEMENT UNDER GOVAN MBEKI LOCAL
MUNICIPALITY, GERT SIBANDE DISTRICT.**

PART C3: SCOPE OF WORK

Prepared by:
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7 Ehmke Street
Mbombela, 1201
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Email: stanelymasher@gmail.com



Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

C3 PREAMBLE TO SCOPE OF WORK

GENERAL

This section specifies and describes the supplies, services and engineering and construction works which are to be provided and any other requirements and constraints relating to the way the contract work is to be performed.

SCOPE

The Scope of the Work is set out in two portions:

Portion A: PROJECT SPECIFICATION covers a general description of the project, the facilities available and the requirements to be met.

Portion B: VARIATIONS AND ADDITIONS TO THE STANDARDISED SPECIFICATIONS covers variations to the standardised specifications and particular specifications which are applicable to the contract.

STATUS

Should any requirement of the Project Specification conflict with any requirement of the standardised or particular specifications, the requirements of the Project Specifications shall prevail.

Contents

Clause	Description
Portion A	PROJECT SPECIFICATION
PS 1	DESCRIPTION OF THE WORKS
PS 1.1	Employer's Objectives
PS 1.2	Overview of the Works
PS 1.3	Extent of the Works
PS 1.4	Locations of the Works
PS 1.5	Temporary Works
PS 2	ENGINEERING
PS 2.1	Employer's Design
PS 2.2	Drawings
PS 3	PROCUREMENT
PS 3.1	Preferential Procurement Procedures
PS 3.2	Subcontracting
PS 4	CONSTRUCTION
PS 4.1	General Conditions and Applicable Standard
PS 4.2	Particular Generic Specifications
PS 4.2.1	Minimum health and safety requirements

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Contract No. DHS/231/24/MP Re-Advert Page (2)
DEPARTMENT OF HUMAN SETTLEMENTS
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Clause	Description
PS 4.2.2	Traffic Control
PS 4.2.3	Metric Measurement
PS 4.2.4	Site Preparation
PS 4.2.5	General
PS 4.3	Plant and Materials
PS 4.4	Construction Equipment
PS 4.5	Existing Services
PS 4.6	Site Establishment, Facilities Available and Required
PS 4.7	Site Usage
PS 4.8	Permits and Wayleaves
PS 4.9	Alterations, Additions, Extensions and Modifications to Existing Works
PS 4.10	Inspection of Adjoining Structures, Services, Buildings and Properties
PS 4.11	Water, Sanitation and Electricity for construction purposes
PS 4.12	Survey Control and Setting out of the Works
PS 5	MANAGEMENT OF THE WORKS
PS 5.1	Planning and Programming
PS 5.2	Sequence of the Works
PS 5.3	Software application for Programming
PS 5.4	Methods and Procedures
PS 5.5	Quality Plans and Control
PS 5.6	Accommodation of Traffic on Public Roads Occupied by the Contractor
PS 5.7	Other Contractors on Site
PS 5.8	Testing, Completion, Commissioning and Correction of Defects
PS 5.9	Recording of Weather and Abnormal Rainfall
PS 5.10	Format of Communications
PS 5.11	Key Personnel
PS 5.12	Site Meetings
PS 5.13	Forms for Contract Administration
PS 5.14	Daily Records
PS 5.15	Bonds and Guarantees
PS 5.16	Payment Certificates
PS 6	FEATURES REQUIRING SPECIAL ATTENTION
PS 6.1	Security
PS 6.2	Operation of valves
PS 6.3	Work outside normal working hours
PS 6.4	Sanitary facilities
PS 6.5	Community liaison and community relations
PS 6.6	Notices and warning to consumers
PS 6.7	Continuity of service supply to customers
PS 6.8	Conditions and procedures for service agencies
PS 6.9	Generic labour intensive specifications
PS 6.10	Causes for rejection
PS 6.11	Protection against water and storms
PS 6.12	Information supplied by the Engineer

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Clause	Description
PS 6.13	Indemnity Certificate
PS 6.14	Return of materials
PS 6.15	Political and community unrest
PS 7	HEALTH AND SAFETY SPECIFICATION FOR CONSTRUCTION WORK
PS 7.1	Site Specific Health and Safety Issues
PS 7.2	Barricading of Trenches
PS 7.3	Precaution against Pollution and Contamination
PS 7.4	Operations under Live Conditions
PS 8	ENVIRONMENTAL MANAGEMENT
Portion B	VARIATIONS AND ADDITIONS TO THE STANDARDISED SPECIFICATIONS
PSA 8	MEASUREMENT AND PAYMENT
PSA 8.1	Measurement
PSA 8.2	Payment
PSA 8.3	Schedule Fixed-charge and Value-related items
PSA 8.4	Schedule Time-related items
PSA 8.5	Sums stated Provisionally by Engineer
PSA 8.7	Daywork
PSA 8.8	Temporary Works
PSA 8.9	Standing Time
PSAB	ENGINEER'S OFFICE
PSC	SITE CLEARANCE
PSC 1	Construction (Clause 5)
PSC 1.1	Areas to Be Cleared and Grubbed (Sub-clause 5.1)
PSC 1.2	Cutting of Trees (Sub-clause 5.2)
PSC 2	MEASUREMENT AND PAYMENT (Clause 8)
PSC 2.1	Clearing and Grubbing (Sub-clause 8.2.1)
PSC 2.2	Removing and Grubbing Trees (Sub-clause 8.2.2)
PSD	EARTHWORKS
PSD 1	Construction (Clause 5)
PSD 1.1	Disposal of Surplus or Unsuitable Material (Sub-clause 5.2.2.3)
PSD 1.2	Freehaul (Sub-clause 5.2.5.1)
PSC 1.3	Delay Due to Supply of Material
PSDA	EARTHWORKS
PSDA 1	Materials (Sub-clause 3)
PSDA 1.1	Embankments and Backfill (Sub-clause 3.2.1)
PSDA 2	CONSTRUCTION (Clause 5)
PSDA 2.1	Precautions (Clause 5.1)
PSDA 2.1.1	Excavated Material Not to Endanger or Interfere (Sub-clause 5.1.6)
PSC 2.2	Methods and Procedures (Clause 5.2)
PSDA 2.2.1	Excavation (Sub-clause 5.2.2)
PSDA 2.2.2	Freehaul (Sub-clause 5.2.6.1)

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Clause	Description
PSDB	EARTHWORKS (Pipe Trenches)
PSDB 1	Construction (Clause 5)
PSDB 1.1	Precautions (Sub-clause 5.1)
PSDB 1.1.1	Underground Water
PSDB 1.1.2	Programming of Pipe Trenches
PSDB 1.2	Excavation (Sub-clause 5.4)
PSDB 1.3	Trenches for Electrical Cable
PSDB 1.4	Disposal of Material (Clause 5.6.3 and 5.6.4)
PSDB 1.5	Freehaul (Sub-clause 5.6.8)
PSDB 2	MEASUREMENT AND PAYMENT (Clause 8)
PSDB 2.1	Excavation (Sub-clause 8.3.2)
PSDB 2.2	Soilcrete
PSDM	EARTHWORKS (Roads, Subgrade)
PSDM 1	MATERIALS (Sub-clause 3)
PSDM 1.1	Classification for Placing Purposes (Sub-clause 3.2)
PSDM 1.1.1	Subgrade / Fill (Sub-clause 3.2.2)
PSDM 2	PLANT (Clause 4)
PSDM 3	CONSTRUCTION (Clause 5)
PSDM 3.1	Methods and Procedures (Sub-clause 5.2)
PSDM 3.1.1	Stripping of Topsoil (Sub-clause 5.2.1)
PSDM 3.1.2	Cut and borrow (Sub-clause 5.2.2)
PSDM 3.1.2.1	Use of material (Sub-clause 5.2.2.3)
PSDM 3.1.3	Treatment of the road-bed (Sub-clause 5.2.3)
PSDM 3.1.3.1	Preparation and compaction of road-bed (Sub-clause 5.2.3.3)
PSDM 3.1.3.2	Removal of unsuitable material (Sub-clause 5.2.3.4)
PSDB 3.1.4	Freehaul (Sub-clause 5.2.8.1)
PBDB 3.1.5	Sidewalk (Balance of Road Reserve)
PSDM 4	MEASUREMENT AND PAYMENT (Clause 8)
PSDM 4.1	Roadbed Preparation
PSDM 4.2	Blade to Windrow
PSDM 4.3	Cut to Spoil
PSDM 4.4	Width of Excavation for Roads
PSDM 4.5	Import to Fill in Subgrade
PSDM 4.6	Drying Out of Borrow or In-situ Material
PSDM 4.7	SHAPING OF GRAVEL ROADS
PSDM 4.8	Compaction of the wearing surface of gravel roads
PSDM 4.9	Variation in the number of Roller Passes
PSDM 4.10	Sidewalks
PSDM 4.11	Selected Subgrade Layer
PSG	CONCRETE (STRUCTURAL)
PSG 1	MATERIALS
PSG 1.1	Types of Materials (Sub-clause 3.4.2)
PSG 1.2	Plums (Sub-clause) 3.4.2
PSG 1.3	Admixtures (Sub-clause 3.5.1 and 3.5.2.)
PSG 1.4	Pipes and Conduits Embedded in Concrete
PSG 1.5	Aggregate (Sub-clause 3.4)
PSG 1.6	Samples and Mix Design
PSG 2	CONSTRUCTION
PSG 2.1	Cover to Reinforcement (Sub-clause 5.1.3)
PSG 2.2	Concrete Strength (Sub-clause 5.51.7)

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Contract No. DHS/231/24/MP Re-Advert Page (5)
DEPARTMENT OF HUMAN SETTLEMENTS
Appointment of a contractor for the construction of bulk
water and sewer infrastructure in Kinross extension 33
settlement under Govan Mbeki Local Municipality, Gert
Sibande District.

Clause	Description
PSG 2.3	Ready Mix (Sub-clause 5.5.3.2)
PSG 2.4	Compaction (Sub-clause 4.4 and 5.5.6.3.)
PSG 2.5	Consistency (Sub-clause 5.5.1.2)
PSG 2.6	Durability (Sub-clause 5.5.1.5)
PSG 2.7	Strength Concrete (Sub-clause 5.5.1.7)
PSG 2.8	Batching (Sub-clause 5.5.5)
PSG 2.9	Placing (Sub-clause 5.5.5)
PSG 2.10	Concrete Surfaces (Sub-clause 5.5.10.1)
PSG 2.10.1	Wood Floated Finish
PSG 2.10.2	Steel Floated Finish
PSG 2.10.3	Power Floated Finish
PSG 2.10.4	Unformed Surfaces
PSG 2.11	Formwork (Sub-clause 5.2)
PSG 2.12	Grouting of Pipes/Specials Through Walls
PSG 2.13	Spacers and Lifting Blocks (Sub-clause 5.1.2)
PSG 2.14	Expansion Joint formers, Fillers and Sealers
PSG 2.15	Curing and Protection (Sub-clause 5.5.8)
PSG 2.16	Concrete on Wet Ground (Sub-clause 5.5.12)
PSG 3	Testing
PSG 3.1	Test Cubes (Sub-clause 7.1.1)
PSG 3.2	Frequency of Sampling (Sub-clause 7.1.2)
PSG 3.3	Requirements and Tests for Water tightness of Sump
PSG 4	MEASUREMENT AND PAYMENT
PSG 4.1	Excavation
PSG 4.2	Formwork (Sub-clause 8.1.1)
PSGA	CONCRETE (Small Works)
PSGA 1	MATERIALS
PSGA 1.1	Cement (Sub-clause 3.2.1)
PSGA 1.2	Water (Sub-clause 3.2.1)
PSGA 1.3	Aggregate (Sub-clause 3.4)
PSGA 2	CONSTRUCTION
PSGA 2.1	Cover to Reinforcement (Sub-clause 5.1.3)
PSGA 2.2	Concrete (Sub-clause 5.4)
PSL	MEDIUM PRESSURE PIPELINES
PSL 1	MATERIALS
PSL 1.1	Valves (Sub-clause 3.10)
PSL 1.2	Fire Hydrants
PSL 1.3	Piping
PSL 1.4	Anchor / Thrust Blocks
PSL 2	CONSTRUCTION
PSL 2.1	Depth and Covering (Subclause 5.1.4)
PSL 2.2	Connection to Existing Pipes (Added Sub-clause 5.11)
PSLB	BEDDING (Pipes)
PSLB 1	MATERIALS (Clause 3)
PSLB 1.1	Bedding Material (Sub-clause 3)
PSLB 2	MEASUREMENT AND PAYMENT
PSLB 2.1	Principles (Sub-clause 8.1.1)
PSLB 3	INSPECTION OF THE WORKS BY THE LOCAL AUTHORITY
PSLD	SEWERS

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Clause	Description
PSLD 1	MATERIALS
PSLD 1.1	Pipes, Fittings and Pipe Joints (Sub-clause 3.1)
PSLD 1.2	Manholes, Chambers Etc. (Sub-clause 3.5)
PSLD 1.3	Concrete (Sub-clause 3.5.4)
PSLD 1.4	Mortar (Sub-clause 3.5.6)
PSLD 1.5	Manhole Covers and Frames (Sub-clause 3.5.8)
PSLD 2	CONSTRUCTION
PSLD 2.1	House Connections
PSLD 2.2	Water Tightness of Manholes (Sub-clause 7.2.6)
PSLD 3	MEASUREMENT AND PAYMENT
PSLD 3.1	House Connections
PSLE	STORMWATER DRAINAGE
PSLE 1	MATERIALS
PSLE 1.1	Concrete
PSLE 1.2	Mortar
PSLE 2	CONSTRUCTION
PSLE 2.1	General
PSLE 2.2	Concrete Pipes
PSLE 2.2.1	Ogee Joints
PSLE 2.2.2	Spigot and Socket Joints
PSLE 3	MEASUREMENT AND PAYMENT
PSLE 3.1	Pipes, Precast Culverts and Channels
PSLE 3.2	Excavation for Open Channels and Culverts
PSLE 3.3	In-situ Lined Channels and Culverts
PSLE 3.4	Inlets, Catch pits, Headwalls and Manholes
PSLF	ERF CONNECTIONS (WATER)
PSLF 1	MATERIALS (Clause 3)
PSLF 1.1	Pipes (Sub-clause 3.1.3)
PSLF 2	CONSTRUCTION (Clause 5)
PSLF 2.1	General (Sub-clause 5.2.3.1)
PSLF 2.2	Recording of Locations (Sub-clause 5.4.2)
PSLF 3	TESTING
PSLF 4	MEASUREMENT AND PAYMENT (Clause 8)
PSLF 4.1	Supply and Install Erf Connections
PSME	SUBBASE
PSME 1	MATERIALS
PSME 1.1	Stabilizing Agent (Sub-clause 3.3 SABS 1 200 Series)
PSME 1.2	Selection of Material (Sub-clause 3.5.1 SABS 1 200 Series)
PSME 2	Material Characteristic
PSME 2.1	CONSTRUCTION
PSME 2.2	Thickness of Subbase Layer (Sub-clause 5.4.1 SABS 1 200 ME Series)
PSME 3	Rate of Application
PSME 3.1	Method of Construction for Stabilized Layers Under Premix Surfaced Road
PSME 3.2	MEASUREMENT AND PAYMENT
PSME 3.3	Imported Selected Material
PSMFL	BASE (LIGHT PAVEMENT STRUCTURE)
PSM 1	MATERIALS

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Contract No. DHS/231/24/MP Re-Advert Page (7)
DEPARTMENT OF HUMAN SETTLEMENTS
Appointment of a contractor for the construction of bulk
water and sewer infrastructure in Kinross extension 33
settlement under Govan Mbeki Local Municipality, Gert
Sibande District.

Clause	Description
PSM 1.1	Subgrade
PSM 1.2	Selected Subgrade

PORTION A: PROJECT SPECIFICATION

NOTA BENE: Any reference to SABS 1200 shall mean SANS 1200 and vice versa.

Applicable SANS 1200 Standards

The Standard Specification for all associated civil work shall be the SANS 1200 – Standardized Specification for Civil Engineering Construction. The Contractor shall be in possession of these Standardized Specifications and their related SANS 0120 Code of Practice, which apply equally and shall keep a copy of each on site for reference by him and the Engineer for the duration of the Contract.

These Specifications are not issued with this volume but are available at the Contractor's expense from: Standards South Africa,

Office Address:

1 Dr Lategan Road
Groenkloof
PRETORIA

Postal Address:

Private Bag X191
PRETORIA
0001

Telephone:

National: (012) 428-6883
International: + 27 12 428 6883

Telefax:

National: (012) 428-6928
International: + 27 12 428 6928

Email: sales@sabs.co.za

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PORTION A: PROJECT SPECIFICATION

PS 1 DESCRIPTION OF THE WORKS

PS 1.1 EMPLOYER’S OBJECTIVES

The objective of this project is to provide bulk engineering services for Kinross Ext.33 & Kinross Ext 34 development in the Govan Mbeki Local Municipality area.

PS 1.2 OVERVIEW OF THE WORKS

The proposed project entails construction of bulk water and sewer infrastructure in Kinross extension 33 settlement under Govan Mbeki Local Municipality, Gert Sibande District. The development of mixed typology housing with associated facilities and infrastructure, on extent of portion 7 of the Farm Zondagskraal 125 IS an undeveloped 103.05 ha site in Kinross Ext 33 and Kinross Ext 34. This Bulk Infrastructure will connect water resources and effluent/wastewater from internal reticulation system to the appropriate treatment plan.

The provision of these civil engineering services will cater for an estimated 1 457 housing units in Ext 33 and 1199 housing units in Ext 34 together with the associated community facilities. The same bulk line has been designed to take into consideration Extension 25 and Extension 33. The bulk infrastructure will ensure that the township will be able to function properly.

PS 1.3 EXTENT OF THE WORKS

Installation of the following uPVC pipelines:

- **Water**
 - 160mm Ø - Class 12, approximately 1 500m
- **Sewer**
 - 160mm Ø - 355mm Ø - Class 34, approximately 3150m
- **Sewer Pump Station**
 - Sump and pump station
- **Concrete Reservoir**
 - Refurbishment
 - Sealing of the reservoir

The **primary activities** of the project entail the following:

- Site clearance;
- Location, exposing and protection of existing services
- Excavation, trench preparation and compaction;
- Supply, bedding and laying of pipes;
- Backfilling of trenches and testing of installation;
- Provision and installation of valves and chambers;
- Construction of sump and pump stations;
- Connections into existing networks;

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

The Contractor's obligations shall also include strict compliance with any Environmental requirements and/or reports deemed to form part of this Contract as well as any Occupational Health and Safety requirements.

This above-mentioned description of the works is not necessarily complete and shall not limit the work to be carried out by the Contractor under the Contract. Approximate quantities of each type of work are given in the Schedule of Quantities.

PS 1.4 LOCATIONS OF THE WORKS

The location of the proposed development is indicated on Figure1: Locality Plan. The land to be developed is located on portion 7 of the Farm Zondagskraal 125 IS, Kinross Extension 33 and Ext 34, Mpumalanga Province. Zondagskraal is approximately 1636 m above sea level.



The project site, Kinross Ext.33 & Ext 34 is indicated by the shaded blue on the Google image above.

The access to portion 7 of the Farm Zondagskraal 125 IS will be through R29 Provincial Road. Zondagskraal is located approximately 15.3 km South East of Leandra town in the Gert Sibande District Municipality, Mpumalanga Province. The site is accessible by travelling on Regional Road R29 approximately 2.91 km from Kinross town. The site is also bound by R547 to the east direction and R29 to the southern side

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PS 1.5 TEMPORARY WORKS

The Contractor shall, as relevant:

- a) provide temporary drainage works, temporary pumps and other equipment as might be necessary for the protection, draining and dewatering of the works; and
- b) construct and maintain haulage, temporary access and construction roads, subject to the approval of the Employer, and permit the Employer, other Contractors, statutory bodies or any other person who might require legitimate access to or through the site for the purpose of executing legitimate business, free and unhindered usage of such roads.
- c) temporary water connections, Contractor’s offices, storage sheds, latrines, barricading of Works shall be located in an approved position and subject to the approval of all authorities concerned.
- d) safety and security of the Contractors’ temporary works shall be at the Contractors’ discretion, but always in accordance with stipulated Occupational Health and Safety requirements.
- e) the camp shall be adequately guarded during or outside working hours.
- f) include the works required to locate, verify and protect existing services within the works area;
- g) be such to ensure no or limited interruption to vehicular and pedestrian traffic; and
- h) be such that existing storm water flow shall not be impeded during survey and construction activities.

Further the Contractor shall note that no stockpiling of materials, plant, excavated material or any other construction related infrastructure shall be allowed in locations that may interfere with the operations of the Employer and the public in general.

PS 2 ENGINEERING

PS 2.1 EMPLOYER’S DESIGN

The Contractor undertakes only construction on the basis of designs issued by the Employer. The Contractor is to follow the specification, the design and construction drawings as laid out by the Employer.

PS 2.2 DRAWINGS

PS 2.2.1 Volume 3

Drawings are included in Volume 3 of this Contract Document based on current available information. Such drawings may be updated (based on actual site situation uncovered during execution of the works) and re-issued during the Contract Period as required.

Drawings included (but not limited to):

- a) Locality Plans;
- b) Layout Drawings;
- c) Longitudinal Profiles (for roads, stormwater and sewer);
- d) Road Cross Sections and
- e) Typical Construction Details.

PS 2.2.2 Construction drawings

Upon receiving the instruction to commence with construction the Contractor shall receive 3 sets of construction drawings, of which 1 set shall be designated for as-built records and updated by the Contractor on a daily basis. The later shall be:

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

- a) made available to the Engineer or his duly authorised representative within 24hours on request;
- b) Submitted to the Engineer with the Contractor’s request for issue of the Practical Completion Certificate. Practical Completion shall only be granted upon satisfactory receipt of all as-built data.

PS 2.2.3 Shop drawings

Where an item to be supplied in conformance with this Contract specification has not been designed by the Engineer or Employer, the Contractor shall be required to supply the Engineer with 3 copies of detailed shop drawings prior to delivery of materials, including an electronic copy in drawing format that is compatible with the software packages (AutoCAD or DXF) used by the Engineer and/or Employer.

NOTA BENE: Only on approval of such shop drawings or an amended version thereof, shall the Contractor proceed with the manufacturing, supply and installation of the designed item.

PS 3 PROCUREMENT

PS 3.1 PREFERENTIAL PROCUREMENT PROCEDURES

The Employer promotes preferential procurement. The philosophy of the process and mechanics of the points scoring system, which is included in the returnable documents section T2.2.

PS 3.2 SUBCONTRACTING (SMMEs)

The commitment of the Employer to Government Policy concerning the empowerment of the SMMEs shall be noted and adhered to by the main contractor.

It is the intention of The Client that the minimum targeted participation goal for the local sub-contractors is for but not limited to the full value of subcontracting works identified by the Employer as covered in the Bill of Quantities. The onus is upon the main contractor to handle and manage the procurement process of the sub-contractors and once appointed, should be dealt with in accordance with the provisions of Clause 4.4 of the General Conditions of Contract 2015.

The identified scope of work by the Employer includes but not limited to the following:

- Excavation and backfilling of trenches for water and sewer reticulation;
- Installation of water and sewer pipes;
- Excavation and backfilling of trenched for stormwater pipes;
- Installation of stormwater pipes;
- Excavation of road stormwater v-drains;
- Any other task identified on site and approved by the engineer on site;

The minimum requirements for selection of the sub-contractors are as follows:

1. Valid CK registration
2. SA ID copies of owners

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

3. Active CIDB membership: **minimum grading 1CE**
4. Valid Tax clearance certificate
5. COIDA certificate
6. Company Profile including similar experience and skilled personnel CVs
7. Health and Safety Plan

The Contractor is:

to enter into contract with any (nominated, selected) sub-contractor(s) in accordance with the requirements of Clause 4.4 in the General Conditions of Contract for Civil engineering Works (2015), 3rd edition. The number of sub-contractor(s) will be determined by the main contractor depending on the Subcontracting Scope of Work and the amount of work that is to be carried out under this Contract as outlined above and in the Bill of Quantities.

- a) Required to utilise local subcontractors (or regional if he fails to find suitable subcontractors from within the project locality)
- b) Responsible for all work executed (including QUALITY, CONTRACTUAL LIABILITIES) on his behalf or under his supervision and/or management by all sub-contractors, including nominated or selected sub-contractors.

Note:

- **Local** subcontractors are subcontractors from within the project suburb or ward.
- **Regional** subcontractors are subcontractors from within the region as per the Govan Mbeki Local Municipal demarcation of the regions.

The Contractor shall be expected to enter into a contract with the nominated or selected subcontractor(s) in accordance with the requirements of Clause 4.4 the General Conditions of Contract. The Employer must be supplied with a copy of the contract/agreement for records.

NOTA BENE: The Engineer shall not negotiate directly with sub-contractors and all problems relating to programming, workmanship, etc., as they are matters between the Contractor and his sub-contractors.

In the execution of the Subcontract Work, the Contractor shall ensure that the Subcontractor(s) comply with all relevant legislation and regulations including, but not confined to, the Occupational Health and Safety Act. The Contractor hereby indemnifies the Employer against any loss, damage, or claim for Subcontract Works set out for this specific project arising out of the former's failure to comply with instructions issued to him in regard to these requirements.

PS 3.2.1 PERFORMANCE AND EXECUTION OF THE SUBCONTRACT WORK

The main contractor must ensure that his subcontractors shall supply sufficient, suitable resources (e.g. equipment, labour, material) to execute all the Subcontract Work including the portion identified by the Employer as outlined in the Scope of Work and Bill of Quantities.

The Contractor shall also ensure that the Subcontractor(s) shall execute the Subcontract Work in accordance with the Scope of Work and Programme to the reasonable satisfaction of the Employer.

PS 3.2.2 QUALITY OF THE SUBCONTRACT WORK

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

In accordance with the requirements of Clause 4.4 in the General Conditions of Contract for Civil engineering Works (2015), 3rd edition, it is the responsibility of the Contractor to ensure that the Subcontractor shall be capable of executing the Subcontract Work efficiently and in accordance with the Scope of Work.

PS 3.2.3 LAWS AND REGULATIONS

The Contractor shall ensure that the subcontractor(s) complies with the paying all amounts due in respect of his employees and himself in terms of all relevant legislation and regulations including, but not confined to the following:

- Income Tax Act, the
- Compensation of Occupational Injuries and Diseases Act,
- Unemployment Insurance Act,
- Basic Conditions of Employment Act,

PS 3.2.4 RESOURCES TO COMPLETE SUBCONTRACT WORK

Although it is preferred by Employer Agent that the Contractor ensure that the Subcontractor(s) supply all required resources such as labourers, equipment, hand tools, power-driven tools if need be, which are required by him for the execution of the Subcontract Work, however the onus is upon the Contractor to determine the extent of resources the subcontractor shall supply to ensure that the works are completed in time. The agreement between the Contractor and subcontractor is the Contractor's responsibility and Employer Agent is indemnified from any agreements entered between Contractor and his subcontractor (s)

PS 3.2.5 PAYMENT

The Contractor shall ensure that sub-contractor(s) are paid within stipulated time as per the Agreement with the subcontractor failure which the contractor can be reported to the Employers' Supply Chain Department and may prejudice his future employment with The Client.

PS 3.2.6 RETENTION MONIES

The Employer will deduct Retention money for the overall works including the Subcontract work at the percentage stated in the Contract Data.

PS 3.2.7 RESOLUTION OF DISPUTES

Should any dispute between the Contractor and the Subcontractor arise out of the provisions of the Subcontract, or the execution of the Subcontract Work, every effort shall be made by the Parties to resolve the matter themselves without the intervention of the Employer. The agreement signed between the contractor and sub-contractor should state dispute resolution procedure.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Contract No. DHS/231/24/MP Re-Advert Page (14)
DEPARTMENT OF HUMAN SETTLEMENTS
Appointment of a contractor for the construction of bulk
water and sewer infrastructure in Kinross extension 33
settlement under Govan Mbeki Local Municipality, Gert
Sibande District.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PS 4 CONSTRUCTION

PS 4.1 GENERAL CONDITIONS AND APPLICABLE STANDARDS

PS 4.1.1 General Conditions

The “Special Condition of Contract” to be read in conjunction with the “General Conditions for Construction Works (GCC 2015).

PS 4.1.2 Applicable Standardized Specifications

The Standard Specifications for all associated civil work applicable to this Contract shall be (Other standards may also become relevant as project scope is adjusted for some reason):

SANS	Description
28	: Metal ties for cavity walls (1986)
227	: Burnt clay masonry units (2007)
282	: Bending dimensions and scheduling of steel reinforcement for concrete (2004)
523	: Limes for use in building (2007)
558	: Cast iron surface boxes and manhole and inspection covers and frames (1973)
674	: 2008
920	: Steel bars for concrete reinforcement (2005)
1024	: Welded steel fabric for reinforcement of concrete (2006)
1083	: Aggregates from natural sources - Aggregates for concrete (2006)
1090	: Aggregates from natural sources - Fine aggregates for plaster and mortar (2002)
1200 A	: General (1986)
1200 AB	: Engineer's office (1986)
1200 C	: Site clearance (1980)
1200 D	: Earthworks (1988)
1200 DB	: Earthworks (Pipe trenches) (1989)
1200 DK	: Gabions and Pitching (1996)
1200 DM	: Earthworks (Roads, Subgrade) (1981)
1200 G	: Concrete (Structural) (1982)
1200 GA	: Concrete (Small works) (1982)
1200 GE	: Precast Concrete (1984)
1200 L	: Medium-pressure pipelines (1983)
1200 LB	: Bedding (Pipes) (1983)
1200 LC	: Cable ducts (1981)
1200 LD	: Sewers (1982)
1200 LE	: Stormwater Drainage (1982)
1200 LF	: Erf connection (water) (1983)
1200 LG	: Pipe jacking (1983)
1200 ME	: Subbase (1981)
1200 MFL	: Base (light pavement structure) (1996)
1491-1	: Portland cement extenders Part 1: Ground granulated blast-furnace slag (2005)
1491-2	: Portland cement extenders Part 2: Fly ash (2005)
1491-3	: Portland cement extenders Part 3: Silica fume (2005)

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

- 1882 : Polymer concrete surface boxes, manhole and inspection covers, gully gratings and frames (2003)
- 50197-1/ : Cement - Part 1: Composition, specifications and conformity criteria for common EN 197-1 cement
- 5831 : Presence of chlorides in aggregates
- 5861-2 : Concrete tests - Sampling of freshly mixed concrete (2006)
- 5862-1 : Concrete tests - Consistence of freshly mixed concrete - Slump test (2006)
- 5863 : Concrete tests - Compressive strength of hardened concrete (2006)
- 5864 : Concrete tests - Compressive strength of hardened concrete (2006)
- 5865 : Concrete tests - The drilling, preparation, and testing for compressive strength of cores taken from hardened concrete (1994)
- 0268-1 : Welding of thermoplastics – Welding Processes
- 1476:2009: Fabricated flanged steel pipework

Reference is made to certain provisions of:

- SANS 1921-5 Construction and management requirements for works contracts: Earthworks activities which are to be performed by hand
- SANS 1914-5 Targeted construction procurement: Participation of targeted labour

These Specifications are not issued with this volume but are available at the Contractor's expense from Standards South Africa:

Physical Address	Postal Address	Telephone No.	Fax No.	Email Address
1 Dr Lategan Road, Groenkloof PRETORIA	Private Bag X191 PRETORIA 0001	012 428-7911	012 344 1568	sales@sabs.co.za

For "Workmen's Compensation Act" read "Compensation for Occupational Injuries and Diseases Act, 1993 (Act No.130 of 1993)" wherever it appears. For "Machinery and Occupational Safety Act" and "Mines and Works Act" read "Occupational Health and Safety Act, 1993 (Act 85 of 1993)" wherever they appear. For "maintenance period" read "Defects Liability Period in terms of Clause 1.1.1.13 of the General Conditions of Contract, 2015" wherever it appears

PS 4.1.3 Other Standards

Other Standard Specifications applicable to this Contract shall be:

- a) Mpumalanga Province Department of Transport (Roads Authority), wayleave applications and intersection and road access.
- b) Wayleave applications to be submitted to the Govan Mbeki Local Municipality and Transnet.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

c) Water Research Centre – Manual of Sewer Condition Classification

PS 4.2 Particular generic specifications

PS 4.2.1 Minimum health and safety requirements

This section of the specifications is to be read in conjunction with the Contract Health and Safety specifications, included as Volume 3. The following requirements shall be deemed minimum compliance requirements to ensure the health and safety of the public and workers during the execution of the Contract:

PS 4.2.1.1 Road safety equipment

The internal conduit survey unit shall be provided with:

- a) an amber-flashing beacon, which shall comply with and be operated in accordance with any governing road vehicle lighting regulations or similar.
- b) appropriately sized and quantity of road signs, including delineators and cones which shall be displayed at the works area in accordance with safety regulations or similar.
- c) bright coloured overalls, fluorescent over-jackets and belts for each team member for use at all working times during the day or night.

PS 4.2.1.2 Personal safety equipment

The internal conduit inspection unit shall be provided with:

- a) oxygen deficiency and gas detector apparatus, which shall be regularly serviced and operable.
- b) fresh air breathing apparatus, face mask and demand valve, with a sufficient minimum compressed air supply, determined by the duration of manhole and/or conduit entry.
- c) an approved full vertical lift safety harness.
- d) personal equipment per member:
 - i) safety helmet;
 - ii) safety boots;
 - iii) sewer wading boots; and
 - iv) disposable protective gloves.
- e) First Aid Kit suitable to cater for the number of team members.
- f) facilities for washing, including:
 - i) soft soap;
 - ii) disinfectant; and
 - iii) clean water.
- g) radio equipment and cellular phone for on-site and emergency communication.
- h) fire extinguisher.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PS 4.2.2 Traffic control

A traffic control plan shall include detailed diagrams showing the location of all traffic control devices and the length of time for all lane closures, as well as location of any flaggers, as necessary.

- b) One lane of traffic in each direction must be maintained at all times and local streets may only be closed with prior approval of the Engineer.
- c) A written method of handling traffic for each different phase of the project shall be submitted and include both vehicular and pedestrian traffic.
- d) The name and number of the Contractor representative responsible for traffic control shall be made available to solve traffic problems at each job site location.

PS 4.2.3 Metric measurement

All survey recorded dimensions of infrastructure shall be in metric units, including for conduits, chambers and manholes.

PS 4.2.4 Site preparation

Prior to any Works commencement the Contractor shall photograph or video tape entire work area. One copy of which shall be given to the Engineer's authorized representative and one copy shall remain with the Contractor for a period of **12 months** following the issue of a Completion Certificate. This record shall be used to establish accountability for damages during the execution of the Contract.

No alterations beyond what is required for Works are to be made. Contractor shall confine all activities to designated work areas, to the absolute minimum required.

PS 4.2.5 General

4.2.5.1 Unless and to the extent that it is otherwise stated in the contract data, the scope of work or the specification data, the Contractor shall:

- a) carry out the actions and arrange for the facilities as described in part 1 of SANS 1921,
- b) not extend his operations beyond the site,
- c) be responsible for the management of the sequence for executing the works so as to avoid the repair or reinstatement (or both) of completed works or damage to existing works,
- d) provide all labour, materials, plant, equipment, scaffolding, tools and the like required for the due and proper completion of the works,
- e) make all the necessary arrangements with the relevant authorities relating to hoardings, the use of pavements, street encroachment or crossings, permission for the suspension of parking facilities and the like,
- f) provide the safe and unrestricted flow of public traffic,
- g) make his own arrangements with the owners of adjoining properties for overhand work,
- h) make his own arrangements for procuring, transporting, storing, distributing and applying the water needed for the purposes of the contract,

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

- i) furnish the Employer with a list of the names and contact particulars of all key personnel who may be contacted in an emergency, both during and outside office hours,
- j) occupy only such ground as is necessary to carry out the works,
- k) provide and maintain access to the various sections of the works as he requires for the proper execution of the works,
- l) grant access to persons whose properties fall within or adjoin the area in which he is working,
- m) maintain a register and one copy of all drawings and information issued for construction purposes in a place accessible to the Employer and his agents during normal working hours,
- n) not determine dimensions on drawings by scaling, and
- o) provide, within **10 working days** of the works being completed, record drawings indicating all deviations from the construction drawings.

4.2.5.2 Unless and to the extent that it is otherwise stated in the contract data, the scope of work or the specification data, the Employer shall

- a) provide basic survey control points, appropriate to the nature of the works, and
- b) obtain the necessary permits to construct, maintain and operate the works.

4.2.5.3 Any articles of value found on the site shall be handed over to the Employer.

4.2.5.4 Existing structures on the site shall not be interfered with in any way by the Contractor.

4.2.5.5 All fences and other structures that have been damaged or interfered with by the Contractor shall be restored to a condition at least equivalent to their original condition.

4.2.5.6 Earth, stone, gravel and sand, and all other materials existing on, excavated from or obtained by the removal of vegetation or demolition of structures on the site, shall not become the property of the Contractor, but shall be at his disposal in so far as they are required for incorporation into the works.

4.2.5.7 The requirements for drawings, information and calculations for which the Contractor is responsible, shall be in accordance with the provisions of the specification data.

4.2.5.8 Software applications for programming shall be as the Contractor deems appropriate for the contract.

4.2.5.9 All advertising rights on the site and hoardings shall be reserved exclusively for the Employer.

4.2.5.10 A degree of **accuracy II** shall apply where a choice of degree of accuracy is offered, and no degree of accuracy is provided in the specification data associated with the relevant part of SANS 2001.

4.2.5.11 Whenever a drawing is supplied in hard copy by the Employer to the Contractor, or vice versa, two prints of each item, with all lines and text clearly visible, shall be provided.

4.2.5.12 Drawings or other information provided to the Contractor by the Employer shall be marked "for information", "for ordering of materials", "for construction" or for any

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

other purpose, as relevant. Drawings or other information not so marked shall be deemed to be "for construction".

4.2.5.13 The Contractor shall institute a quality assurance system and provide experienced personnel as well as all the necessary transport, instruments and equipment, to ensure adequate supervision and positive control of the works at all times in order to comply with the requirements. Provision of security on site is the responsibility of the contractor.

PS 4.3 Plant and materials

The Contractor is required to provide all plant and materials necessary to carry out the works as specified and required. No additional allowances other than those already specified in the Schedule of Rates shall be allowed for with respect to plant and materials.

Where any of the operations or the movement of any of the construction vehicles or mobile construction equipment, or any combination of these activities, causes damage to the surface of an area normally open to the public, such surface shall be repaired to the original condition as a matter of urgency.

Construction equipment shall be suitable for the successful execution and completion of the works under the conditions applicable to the site.

The construction equipment used for applying the dynamic load, controlling the moisture content, and grading or mixing, shall be capable of achieving the specified compaction with the materials available for the construction of the works.

The Contractor shall provide the following plant and equipment on the site as and when required, together with operating personnel:

- (a) trucks for the transportation of materials from storage site to construction site and back;
- (b) road traffic signs, materials for barricading and lighting and all other items necessary for ensuring public safety and convenience. The Contractor shall furnish all labour required for the erection, maintenance and removal of these items and materials;
- (c) mechanical and power tools, when ordered to do so by the Engineer;
- (d) hand tools and equipment such as shovels, picks, etc., which may, in the opinion of the Engineer, be required for the execution of the works;
- (e) forms for the casting of cast-in-situ concrete for anchor blocks. The Contractor shall supply all labour required for the erection, stripping and cleaning of forms; and
- (f) any other plant and equipment deemed necessary for the execution of the Works

Unless otherwise indicated in the contract documents, the Contractor shall provide all such plant and equipment complete with operating personnel, fuel and power as required.

If the Contractor fails, in the opinion of the Engineer due to his own negligence, to enable the plant or equipment to be efficiently or fully utilized, the costs of underutilization of plant or equipment shall be borne by the Contractor to the extent determined by the Engineer.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PS 4.4 CONSTRUCTION EQUIPMENT

The Contractor shall ensure that adequate equipment is available for the entire pipe construction operation. This shall include equipment for pipe cleaning, pressure testing of the newly laid water main.

The tenderer shall include full details in his tender of the tools he intends to use, its capabilities and the age of the equipment, as well as written proof from the licenser, that he is the duly appointed licensee allowing him to use the said tool in the RSA and that due royalties are paid up to date.

Failure by the tenderer to give full details of the tools the contractor intends to use, will render this tender incomplete.

PS 4.5 EXISTING SERVICES
PS 4.5.1 Known services

Existing known services, both underground and overhead, are indicated on the drawings, but the positions of existing services on the drawings are not guaranteed nor does the Employer or the Engineer accept any liability in this regard.

The Contractor shall make himself acquainted with all existing services such as storm water drains, water mains, power lines, cables, gas pipelines, telephone and lighting poles, water meters, stopcock boxes, valve boxes, hydrants, air mains, trees, sewers, electricity cables, telecommunication cables etc. before any excavation commences. Special care and due diligence shall be exercised when working adjacent to the abovementioned existing services.

Under no circumstance is the Contractor to alter or in any way interfere with existing works or underground services unless authorised by the Engineer.

Where, in the opinion of the Engineer and if ordered by him, there is sufficient uncertainty as to the existence of, or the position or depth of any underground services, the Contractor shall first make use of specialist equipment such as ground penetrating radar before carrying out exploratory excavations using hand tools, in order to obtain the required information without causing damage. Exploratory excavations shall be carried out, refilled and reinstated in an approved manner as expeditiously as possible. Where existing works are of such a nature that the Engineer may require them to be moved by the Contractor, the cost of such work will be paid for at scheduled rates or on a Day works basis.

The Contractor shall excavate by hand, trial pits to ascertain whether there are any services existing within the relevant section of the site. The Contractor shall complete such an investigation well in advance of the start of construction work in the said section and he shall submit a report in appropriate time to the Engineer.

Any deviation of the positions of such services must be reported to the Engineer immediately. Should the Contractor find underground services that are not indicated on the construction drawings at all, the Engineer shall be immediately notified. In both cases the Engineer shall assess the situation and instruct the Contractor on an appropriate course of action to be taken.

All cables and pipes shall be considered "live" unless confirmed otherwise by the relevant authority.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

The Works must be scheduled and programmed so that when work is disrupted due to the influence of unexpected services encountered, construction can continue in other portions of the site to allow the situation to be remedied by rerouting of new or existing services. The Contractor shall restore to its original condition any structure or service with which there has been temporary interference.

PS 4.5.2 Treatment of existing services

The Contractor must liaise with all relevant local service authorities to satisfy himself that all relevant services have been located. At the commencement of the contract, the Contractor must hand excavate a distance **0,5 metre on each side of the located service** to expose it. The exposed service shall be identified and recorded on a drawing.

A copy of the drawing with all known services shall be submitted to the Engineer before construction can commence in any road reserve. Once the exposed service is identified and recorded the excavation must immediately be backfilled. **Re-excavation** by hand at construction stage will not be measured in addition to normal trench excavation.

The Contractor shall retain full responsibility for establishing the exact positions of the various services in advance of any construction work. No allowance for delays or disruption shall be entertained unless the Contractor complies fully with the provisions of this clause regarding the establishment of the exact positions of the various services in advance of any construction work.

PS 4.5.3 Use of detection equipment for the location of underground services

The Contractor is responsible to provide his own equipment in order to determine the location of existing services and shall locate and expose existing services by hand.

PS 4.5.4 Damage to existing services

The Contractor must make adequate provision for the possible existence of numerous services within and in close proximity to the work areas;

He shall take all necessary steps to protect any existing services whatsoever against damage which may arise as a result his operations on site. Adequacy in terms of protection of existing services shall be at the discretion of the Engineer. The Contractor is to make good the protection of and any breakages to existing services;

The Contractor must inform the relevant service provider immediately (within 2 hours of the incident) such that procedures for the re-instatement of the service can be effected, should he damage or break an existing service (whether known or unknown);

The Contractor shall bear the cost of the repair of damages to any service, the possible existence of which could reasonably have been ascertained by him in appropriate time.

Under no circumstance is the Contractor to alter or in any way interfere with existing works or underground services unless authorised by the Engineer.

NOTA BENE: Drawings indicating other existing services in the vicinity of the Works are not guaranteed as being accurate, as all other services may not have been recorded or properly recorded. It shall remain the responsibility of the Contractor to perform pre-operational work, to locate existing services in advance of the commencement of the Works.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PS 4.6 SITE ESTABLISHMENT, FACILITIES AVAILABLE AND REQUIRED

PS 4.6.1 General

In order to facilitate compliance with the General Conditions of Contract and Conditions of Contract the Contractor shall be required to set-up an individual construction camp. The size and functionality of the site camp shall be in relation to the individual Sections. It is, however, expected that the Contractor would have made himself aware on whether one or multiple site camps are required for the execution of the complete Contract Works.

The Contractor shall price accordingly and state so in their proposal. For the camp/s, the following shall apply:

- a) The Contractor shall make arrangements with the relevant authority for a suitable site to establish a construction camp, storage, works offices, workshop/s, kitchen, and shelters for security personnel.
- b) The Contractor shall note that only security personnel shall be permitted to remain in the campsite overnight.
- c) Ablution facilities shall be provided for men and women separately. One (1) toilet per twenty (20) workers shall be provided. Such facilities shall at all times be maintained in a clean and hygienic condition. Toilets shall be **screened** from public view and their use shall be enforced.
- d) Covered accommodation shall be provided for perishable or corrodible materials, fittings and the like and shall be adequate and suitable for their purpose. In the case of cement stores, they shall be well ventilated, weatherproof and waterproof with appropriate floors to keep the materials dry and freely aerated.
- e) All such accommodation shall be subject to the approval of the Engineer who shall have free access thereto at all times.
- f) Temporary buildings and fencing are to be safe, neat and presentable and the surrounding areas must at all times be kept in a neat, clean and orderly condition for the duration of the Works.
- g) It shall be the Contractor’s responsibility to ensure that they are in compliance with all relevant laws and regulations as well as tribal requirements.

PS 4.6.2 Site facilities required for Engineer

- a) Source of **water** supply: It will be the responsibility of the Contractor to make his own arrangements for the supply of water. Potable water is available in the area and the Contractor is to make the necessary arrangements for the provision of a metered point of supply with the Employer. The sum entered by the Contractor in the Bill of Quantities for provision of water shall be deemed to include full compensation for the procurement, transport, storage (where necessary), supply and application of water and for all the work necessary and incidental thereto for the various items of work where water is required for the purposes of the contract. The Employer does not guarantee the availability, sufficiency or continuity of any supply and no claims in this regard will be considered.

The Contractor is to be aware of the fact that this Contract is to be carried close to a built-up environment and that, as such, excessive dust creation will be considered

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
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unacceptable by the local residents. The Contractor is to make provision for regular watering of the works in order to alleviate dust creation. During dry weather, or during periods when dust is created by the construction process, the Contractor will be required to water the works a minimum of twice a day, or as specified by the Engineer. This is a requirement over and above the normal requirement for watering of the works.

- b) Source of **power** supply: It will be the responsibility of the Contractor to make his own arrangements for the supply of electricity. The sum entered by the Contractor in the Bill of Quantities for the provision of power shall be deemed to include full compensation for the procurement and supply of powers to the works. The Employer does not guarantee the availability, sufficiency or continuity of any supply and no claims in this regard will be considered.
- c) Contractor's camp: A suitable site for the Contractors camp will be identified prior to commencement by the Employer. The Contractor is to make the necessary arrangements for the payment of services to the Municipality where applicable. The camp site shall be kept clean and tidy, and at the completion of the contract shall be restored to its original condition at the Contractor's own cost, and to the satisfaction of the Engineer. In order to facilitate compliance with the Conditions of Contract and the Specification, the Contractor may establish storage accommodation, works offices, workshops, mess-rooms, kitchens, shelters for watchmen, latrines, ablutions and the like in such positions and under such conditions as may be agreed by the Engineer and indicated in the Addendum to the EMP.

Temporary buildings and fencing are to be neat and presentable and the surrounding areas must at all times be kept in a neat, clean and orderly condition.

The Contractor shall not make any excavation without written permission of the Engineer.

Covered accommodation for perishable or corrodible materials, fittings and the like shall be adequate and suitable for their purpose, and, particularly in the case of cement stores, shall be well ventilated, weatherproof and waterproof with floors raised off the ground, so as to keep the materials perfectly dry and freely aerated. All such accommodation shall be subject to the approval of the Engineer who shall have free access there at all times.

In addition to the above, the Contractor shall provide one (1) toilet per twenty (20) workmen. Portable toilet facilities shall be made available to workers of both male and female genders, the number provided to be in proportion to the ratio of the sexes. The toilets shall be located in the vicinity of the work site, shall be screened from public view and the use thereof shall be enforced. The Contractor shall, where applicable, make the necessary arrangements for the regular removal of night soil.

The Contractor may not house members of his permanent staff except for a security guard at the site and is to make the necessary arrangements for the transport of his staff members to and from the site on a daily basis. As the Contractor's Camp may be located in close proximity to a residential area, attention to noise levels, particularly after hours, will be essential.

- d) Site facilities required for Engineer and others: The requirements of the Engineer's Site Establishment are detailed in Project Specification PSA and PSAB.

The Contractor shall provide the following office facilities at his main site camp for the Engineer and others:

- One (1) office for the Engineer's Representative.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

- Temporary office accommodation to suit his own requirements.
- Covered parking facilities for two (2) cars for the Engineer's Representative.

A cell phone will be required for the sole use of the Engineer's Representative. The Contractor shall be responsible for the payment of calls related to the Contract made by the Engineer's Representative, on this mobile phone, during the course of the Contract.

A Telkom ADSL line or hi-speed wireless system with modem facilities shall be provided on site and be available for the sole use of the Engineer's Representative at all times.

PS 4.7 SITE USAGE

PS 4.7.1 Work on private or state property

The Contractor is to confine his activities strictly to the working area defined as being within 10 m on either side of the pipelines, spoil sites and the direct access roads to these. He shall not encroach upon any roadway except with the prior approval of the Employer, in writing. The Contractor shall, throughout the Contract, take adequate precautions to protect all existing services from damage whether or not they have been pointed out to him.

Shallow sewer connections are to be found at the rear of the mid-block latrines. Particular care shall be exercised when excavating behind these structures. Underground electric cables are to be found on all erven at depths of between 75 and 1000 mm. Typically, these cables are at a distance of up to 1200 mm parallel to the erf boundaries and perpendicular to the common boundaries where they connect to the houses. Cables may also be encountered along the boundary behind the latrines. Particular care should be exercised when excavating in the vicinity of these cables.

The Contractor shall, as soon as is practically possible, inform the Engineer of any damages to services and shall not repair any such damage unless instructed to do so. The Contractor shall be responsible for making good, at his own cost and to the satisfaction of the Engineer, all damage caused by him to buildings and other improvements to properties.

Should the Contractor consider that damage to buildings and structures is unavoidable in the execution of any portion of the Works, he shall obtain the approval of the Engineer before proceeding with the work. Where damage is noticed before commencement of work on that erf, this should be reported to the Engineer in order to prevent a possible liability claim from the owner.

PS4.7.2 Site safety and precautions against nuisance

The Works are to be conducted in an urban area where high volumes of pedestrian and vehicular traffic may prevail. The watching, barricading, lighting and traffic control on site shall be carried out in strict compliance with these specifications. The Contractor shall ensure that all safety measures are strictly adhered to. The Contractor shall ensure that excavations on sidewalks within the road reserves or within the erven do not at any time present a safety hazard to pedestrians. All excavations that remain open overnight are to be adequately protected.

The Contractor shall provide all safety materials and equipment necessary for barricading and safeguarding the excavations. The safety of staff and labour involved with the Works and the

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

security of installations, plant and equipment is of major concern and need special attention during the execution of the Works.

Plant used on the Works shall be as efficiently silenced as possible and noisy operations will be permitted only between the hours of 07:00 and 17:00. Any work outside normal hours will be permitted only on the written authority of the Engineer. Wherever excavations or loading of material is liable to form dust, an effective method of spraying water over the excavated area and loaded material shall be instilled. Any rock or debris falling from trucks on the roads shall be removed immediately. Precautions shall be taken to prevent fouling of public roads or private surfaces. The Engineer may order the Contractor to broom off and clean roads or surfaces where debris may constitute a danger to the public or a nuisance to the owners.

PS4.7.3 Work on live water mains

Every effort will be made by the Client to furnish the Contractor with all available information regarding existing reticulation systems. Such information is given in good faith. Actual conditions in the field may, however, vary from the records upon which information is based. The Contractor must allow in his programme for delays when working on live mains and, as far as possible, such work should not be on the critical path of any programme and every effort must be made to have alternative work available.

PS4.7.4 Flushing and cleaning of water mains

On satisfactory completion of work, the mains shall be flushed with potable water supplied by the Council. The Contractor shall ensure that the water used for flushing is disposed of in an approved manner without damage, nuisance or injury to person or property. The Contractor shall allow in his rates for all costs associated with the flushing of water mains and communications pipes. All water required for the flushing of water mains shall be supplied free of charge by the Client. If, in the opinion of the Engineer, foreign material has entered or remained in pipelines, the Contractor shall arrange for the water mains to be cleaned. The cost of cleaning including the cost of water used shall be for the Contractor's account.

PS4.7.5 Work outside normal working hours

In accordance with General Conditions of Contract Clause 5.8.1, certain work may only be done outside normal working hours. Such work shall be undertaken solely at the discretion of the Engineer who shall, from time to time, issue advance orders in writing to the Contractor detailing the work to be undertaken. Work undertaken, as ordered, outside normal working hours shall be measured and paid for at the rates applicable to each and every item carried out as scheduled.

Normal working hours shall be defined as between 07:00 and 17:00 Mondays to Fridays and also 07:00 to 13:00 on Saturdays.

Where the Works are conducted within the road reserve of major arterial roads, the Contractor's operations will be restricted to out-of-peak traffic periods (typically 09:00 to 15:30) or as determined by the local authority. The Contractor shall co-ordinate his activities in such a manner that only minor operations that are non-disruptive to traffic are carried out during peak traffic periods. Should the Contractor choose to work outside normal working hours without having been ordered to do so by the Engineer, permission will not be unreasonably withheld but all additional costs arising out of such work shall be entirely for the Contractor's account.

PS 4.8 PERMITS AND WAYLEAVES

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

The Engineer will be responsible for the submissions of the wayleave applications to all the relevant service providers. The Contractor will however remain responsible to liaise with the respective authorities and confirmation of services on Site.

Note that while the Engineer may have obtained approvals for wayleaves, the accuracy of the existing services cannot be guaranteed, and the Client takes no responsibility. Any damages to existing services, remain the responsibility of the Contractor.

Wayleaves must be obtained from all the relevant service providers in the jurisdiction of the Mpumalanga Province Department of Transport and Govan Mbeki Local Municipality, including the following services: roads and stormwater, bulk water supply, electricity, gas, telecommunications, and the like.

All associated costs to obtain permits and way-leaves as required for the execution of the works, where such affect other services, shall be deemed to have been included in the scheduled rates for SANS 1200A or SANS 1200AA or SANS 1200AB where pricing provision for such items have been allowed for in the pricing schedules, alternatively it shall be deemed to be included in the various scheduled activity rates or prices provided by the Contractor.

NOTA BENE: No extension of time shall be granted for this process.

PS 4.9 ALTERATIONS, ADDITIONS, EXTENSIONS AND MODIFICATIONS TO EXISTING WORKS

The Contractor shall, within twenty (20) working days or 10 % of the construction period after taking possession of the site (whichever is the lesser), satisfy himself that the dimensional accuracy, alignment, levels and setting out of existing structures or components thereof are compatible with the proposed works, and notify the Employer of any areas of dissatisfaction.

The Contractor shall, on becoming aware of a defect in existing works which will have an impact on the current works, notify the Employer of such a defect without delay.

The water mains of the existing network would have to be modified on site to facilitate the connection of the new bulk water main installation.

PS 4.10 INSPECTION OF ADJOINING STRUCTURES, SERVICES, BUILDINGS AND PROPERTIES

The Contractor shall, before commencing with works which have the potential to damage surrounding structures, services, buildings or property, arrange an inspection with the owners of such structures, services, buildings and property and representatives of local or controlling authorities, as appropriate, to determine the condition of buildings, structures, services, paved surfaces, roads, kerbs, channels and the like, that the works could affect, and document their current condition in sufficient detail to enable disturbances or damage which might be caused by the works to be evaluated. The Contractor shall furnish the Employer with copies of all such documentation and shall be held responsible for any disturbance and damage to such structures, services, buildings and property arising from the performance of the contract as well as any costs involved in refuting or processing such claims.

PS 4.11 WATER, SANITATION AND ELECTRICITY FOR CONSTRUCTION PURPOSES

PS 4.11.1 Water

The Contractor shall make his own arrangements with the Employer to obtain a potable water metered standpipe connection for which at least 14 days' notice shall be given. The size of the connection provided will be as specified in the Water and Sanitation By-laws.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

The Contractor may only draw water from fire hydrants through means of a legal, Employer owned, potable water metered standpipe. Failure to use such Employer owned potable water metered standpipes, or using illegal, non-Employer owned equipment for purposes of drawing water from fire hydrants, will result in the Contractor having to pay an account to the Employer, for an amount determined by the Employer

The potable water metered standpipe(s) must be made available to the Employer's water inspectors for purposes of reading and inspection, and failure to do so, will result in the immediate withdrawal of such potable water metered standpipe(s). The onus is on the Contractor to return such potable water metered standpipe(s) if they are found to be defective (not registering consumption). Failure to do so will result in an account being levied, payable to and determined by the Employer. Claims for delays caused where standpipe(s) are withdrawn and/or replaced will not be considered.

The current water tariffs applicable to the Contract are available from the Employer.

PS 4.11.2 Sewer

The Contractor shall provide, maintain, move to positions as required and finally remove proper sanitary accommodation at each work front. Sanitary accommodation shall be properly screened, and its use strictly enforced. The Contractor shall comply with the Employer's Sanitation General By-Laws Sections.

The situation of sanitary accommodation prescribed in terms of the Sanitary General By-Laws shall be approved by the Engineer as being convenient for the person for whose use it is intended. The sanitary accommodation provided must be adequately ventilated, properly disinfected and kept in a thoroughly clean condition at all times.

The Contractor shall bear all costs associated with the provision of sanitary accommodation. Compensation for these costs will be made under the relevant item in the Schedule of Rates.

PS 4.11.3 Power

The Contractor shall make arrangements with the relevant authority for the supply and distribution of power for purposes of this Contract, the cost of which shall be deemed to be included in the rates inserted in the Schedule of Rates.

Power used for carrying out of the works in accordance with these Specifications will not be subject to measurement or payment.

PS 4.12 SURVEY CONTROL AND SETTING OUT OF THE WORKS

The Contractor is to confirm the levels and coordinates of all benchmarks prior to commencing with construction.

The Contractor shall, prior to the ordering of construction material, set out the works strictly according to the Engineer's construction drawings and/or site instructions.

The Contractor shall record the setting out of the works in an approved format and order all required construction material accordingly.

PS 5 MANAGEMENT OF THE WORKS

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PS 5.1 PLANNING AND PROGRAMMING

PS 5.1.1 Work plan

Seven (7) days prior to commencing with any part of the Works, the Contractor shall submit to the Engineer, for review and approval, a work plan detailing the procedure and schedule to be used to execute such works, detailing and substantiating any deviation from the originally proposed approach. Further, the work plan shall include a:

- a) time frame;
- b) description of all equipment and tools to be used;
- c) list of personnel and their qualifications and experience (including back-up personnel in the event that an individual is unavailable);
- d) list of sub-contractors, schedule of work activity;
- e) safety plan (clearly highlighting any potentially hazardous substances to be used);
- f) traffic control plan (if applicable);
- g) an environmental protection plan; and
- h) Contingency plans for possible problems.

The approval given by the Engineer shall in no way relieve the Contractor of the ultimate responsibility for the satisfactory completion of the work as prescribed under this Contract

Work plan shall be comprehensive, realistic and based on actual working conditions. Further it shall form the various sub-sections of the overall Contract programme and plan.

NOTA BENE: *No works shall be allowed to commence without an approved work plan.*

PS 5.1.2 Planning

The Contractor shall ensure that he:

- a) is well informed with regard to the Employer's overall maintenance programme and avail resources as required to efficiently complete this Contract; and
- b) delivers goods and services timeously to meet the Employer's prevalent performance standards and where applicable to not unnecessarily delay any other contractors, service providers and suppliers.

PS 5.1.3 Programming

In order to ensure a clear understanding, at the inception of the Contract, of the programming and documentation format requirements, the Contractor shall appoint a project programmer/planner for liaison during the Contract. The Contractor shall for the Contract Period provide and regularly update (maximum monthly) a Contract Programme.

The programme shall at minimum contain:

- a) Time Scale (minimum):
 - i) Days, where the period does not exceed three months. Weeks, where the project period exceeds three months.
 - ii) Months, where the period does not exceed one year.
 - iii) Years, where the project period exceeds one year.
- b) Tasks: Where phases or stages are anticipated, this shall be the highest level of division and all tasks related to the successful accomplishment of that phase of the area shall be grouped. Resources allocation and task dependency shall be indicated.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
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- c) The programme shall make allowance for anticipated activities with durations per line item of no longer than twenty-eight (28) days. Several line items shall comprise an activity of duration in excess of twenty-eight (28) days.
- d) Start and Finish Dates: All tasks shall have specific start and finish dates.
- e) Critical Path: All tasks forming the programme line that will establish any delays in the overall Contract Period shall be clearly indicated and an indication of their sensitivity characteristics shall be provided.
- f) Progress Tracking: The Contractor shall be required to periodically indicate progress per task graphically and on a percentage basis.
- g) Non-working Time: All South African public holidays, weekends and the local traditional annual builder's break shall be incorporated in the programme.

Once a detailed Contract programme has been approved, the Contractor shall not deviate from the planned operations.

The programme shall not be in the form of a bar chart only but shall show clearly the anticipated quantities of work to be performed each month, together with the manner in which the listed plant is to be used, as well as the anticipated earnings for the various sections of work, i.e. linked to a projected cashflow.

NOTA BENE: A Contract programme shall be submitted to the Engineer no later than 21 days after Contract Commencement Date.

The Contractor shall provide the Engineer with a method statement indicating the manner and sequence in which he intends to construct the works, for each work area, with the program. In **the method statement** the Contractor must address **at least the following items**:

- a) sequence of the works for the relevant works area;
- b) target dates for the tasks identified in sequence of the works for the relevant works area;
- c) materials requirements;
- d) construction Plant to be used;
- e) services affecting construction;
- f) any factors that could affect construction progress after commencement and

The programme shall contain the following activities and or items **as a minimum requirement**:

- a) Testing and acceptance control
- b) As-built levels and drawings
- c) Date for Practical Completion
- d) Date for Completion
- e) Health & Safety Compliance Audits
- f) Environmental Compliance Audits

The method statement must be approved by the Engineer before commencement of construction. In order to minimize the impact on traffic, pedestrians and business the Contractor will be required to segment the works in such a manner that no portion of the works is more than one day ahead of the following position. These segments of the works shall be clearly defined in the Contractor's method statement for each work area.

If, during the progress of the work, the quantities of work performed per month fall below those shown on the program or if the sequence of operations is altered, or if the program is deviated from in any other way, the Contractor shall within one week of the event submit a revised program to the Engineer.

Employer:		Contractor	
Witness:		Witness:	

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If the program is to be revised by reason of the Contractor falling behind his program, he shall produce a revised program showing the modifications to the original program necessary to ensure completion of the Works or any part thereof within the time for completion. Any proposal to increase the rate of work must be accompanied by positive steps to increase production by providing more labour and plant on the Site, or by using the available labour and plant in a more efficient manner.

Failure on the part of the Contractor to submit or to work according to the program or revised program shall be sufficient reason for the Employer to take steps as provided for in the GCC.

The approval by the Engineer of any program shall have no contractual significance other than that the Engineer would be satisfied if the work is carried out in accordance to such program and that the Contractor undertakes to carry out the work in accordance with the program. It shall not limit the right of the Engineer to instruct the Contractor to vary the program should circumstances make this necessary.

PS 5.2 SEQUENCING OF THE WORKS

Notwithstanding any changes that the Engineer deems necessary the sequences should include the following:

- Mobilisation, project planning and control and communications to stakeholders
- Site clearance for the affected areas
- Exposing existing services
- Excavation, trench preparation and compaction
- Supply, bedding and laying of pipes
- Backfilling (blanket layers and top layers including compaction)
- Construction of manholes
- Construction of roads and storm-water drainage system
- Testing of the installation
- Clearing of the site including removal of spoil
- Site hand over

PS 5.3 SOFTWARE APPLICATIONS FOR PROGRAMMING

The construction programme shall be completed in Microsoft @ Project Standard 2007 or compatible software. The construction programme and updated versions thereof shall be made electronically available to the Engineer.

PS 5.4 METHODS AND PROCEDURES

The Contractor shall submit to the Engineer, within a period stated in the Contract Data, a detailed construction programme, detailing the date of commencement and completion of the work activities, dates, duration and extent of traffic accommodation interruption water supply to affected consumers. The detailed programme shall be based on the preliminary programme submitted with the tender and shall make an allowance for the following:

- Normal working hours shall be defined as between 07:00 and 17:00 Mondays to Fridays and also 07:00 to 13:00 on Saturdays.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
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- No work outside working hours will be allowed. Should the Contractor wish to work outside normal working hours written permission shall be obtained from the Engineer and all additional costs arising out of such work shall be entirely for the Contractor's account.
- Only one side of the street may be affected by the construction at any one time.
- The Engineer may require that the construction of certain road crossings be done outside normal working hours.

The Engineer shall provide the Contractor with drawings and details of the Works that need to be done.

Once a detailed programme has been approved, the Contractor shall not deviate from the planned operations.

Pipeline and associated hydrants, valves and fittings

- The existing pipes will be left in place and remain operational until such time that it is switched over to the new pipeline.
- The connection of the new pipe will be done by the Contractor under strict monitoring by the Engineer.
- Extreme care should be taken not to break or damage the existing pipelines. If this should happen and the existing pipe gets damaged during the course of installing the new line, then the relevant Depot Manager must be notified. The trench will have to be drained by the Contractor after the Depot has turned the water supply off. All assistance must be given by the Contractor to the Depot in repairing the damaged pipe.
- The new pipelines will be laid as indicated on the drawings supplied.

All existing erf connections are to be disconnected from the existing reticulation and then reconnected to the new pipeline with minimum disruption to residents.

Fire hydrants and valves

- New fire hydrants, valves and fittings are to be supplied and installed on all the new pipelines.
- After the old mains have been disconnected from the reticulation system all existing valves and hydrants are to be handed to the Employer

General

- The Contractor will arrange for the warning of the public of any shutdown of supply necessary in his/her opinion for the proper execution of the Works.
- All disconnections and reconnections, connections to the existing mains, closing and opening of valves and the disruption of water supply must be liaised with the Volksrust Depot Operations Manager, at least four (4) working days prior to the action.
- The disruption of supply and the duration of disruption of the supply to the consumers are to be kept to a minimum. Consumers are to be informed of any disruptions as described later in this specification.
- Any claims from the property owners and/or the community will be considered and evaluated by the Employer. Should the Employer's find a valid claim but found that the

Employer:		Contractor	
Witness:		Witness:	

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Contractor has neglected his/her responsibilities and/or duties, which lead to the claim, the Contractor will be responsible for settling the claim.

PS 5.5 QUALITY PLANS AND CONTROL

The onus to produce work that conforms in quality and accuracy of detail to the requirements of the specifications and drawings rests with the Contractor, and the Contractor shall, at his own expense, institute a quality-control system and provide experienced personnel, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the works at all times.

The cost of supervision and process control will be deemed to be included in the rates tendered for the related items of work.

On completion and submission of every part of the Works to the Engineer for examination, the Contractor shall furnish the Engineer with proof of quality in the form of a data pack containing measurements, levels and all compaction, x-ray and hydraulic test results to indicate compliance with the scope of work.

PS 5.6 ACCOMMODATION OF TRAFFIC ON PUBLIC ROADS OCCUPIED BY THE CONTRACTOR

PS 5.6.1 Accommodation of traffic

The Contractor shall ensure the safe accommodation of traffic at all areas where the work may impact traffic and shall provide all delineators, watching, lighting, signs and barricades required by the road authorities, and in accordance with the South African Road Traffic Signs Manual.

PS 5.6.2 Access to properties

Adequate access shall at all times be maintained to public and private properties unless otherwise arranged and approved. Details of the proposed means of access shall be submitted before any such access is restricted. Claims arising from impeded access shall be the responsibility of the Contractor.

At least seven (7) days before commencing any work affecting access to a property, the Engineer and the occupier/owner of each such property shall be notified of the Contractor's intention to commence work, the date of commencement, expected duration and arrangements which will be made regarding maintenance of access.

PS 5.6.3 Pedestrian access

The Contractor shall provide a structurally sound and safe bridge with side rails across dangerous excavations crossing sidewalks to allow pedestrians safe access to such sidewalk. Associated costs for the provision of pedestrian access to sidewalks shall be deemed to have been included under the various excavations or combined activity rates and/or prices in the pricing schedules.

PS 5.7 OTHER CONTRACTORS ON SITE

Employer:		Contractor	
Witness:		Witness:	

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As indicated in Clause 7.3.1 of the General Conditions of Contract, the Contractor shall afford reasonable facilities to other contractors and The Client workers if so required.

As such, the Contractor is required to make adequate allowances for such access. No claims with respect to this item shall be entertained by the Employer.

PS 5.8 TESTING, COMPLETION, COMMISSIONING AND CORRECTION OF DEFECTS

The onus is on the Contractor to produce goods and services which shall conform in quality and in accuracy of detail to the requirements hereinafter specified. The Contractor must clearly understand that it is not the duty of the Engineer or his representative to act as foreman or surveyor on the Works.

The Contractor shall, at his own expense, provide experienced engineers, foremen and surveyors together with all transport, instruments and equipment for supervising, checking and controlling the work.

The act of passing any completed work or accepting materials or goods for payment by the Engineer shall not be construed as signifying approval or acceptance thereof. Failure on the part of the Engineer to reject any defective work or material or goods shall not in any way relieve the Contractor of his obligations under the Contract, nor prevent later rejection when such work or material is discovered.

The Contractor shall, when submitting any work to the Engineer for examination, satisfy himself by testing, measurement and otherwise as may be necessary that the work does in fact meet with the requirements of the Specifications. This information shall be submitted with the Contractor's request for examination and the Engineer shall be authorised to decide on the number and type of tests, measurements, etc. required to enable him to judge the quality of the work. The submission of this information shall in no way diminish the authority of the Engineer to conduct such tests as he may consider necessary in order to determine the quality of the work performed by the Contractor, nor shall he be bound to take account of the Contractor's tests, measurements, etc. should he consider these to be either incorrect or not representative.

Quality control and completion tests shall be in accordance with the relevant standard and amended specifications and additional specifications.

PS 5.9 RECORDING OF WEATHER AND ABNORMAL RAINFALL

If during the time for completion of the Works or any extension thereof should abnormal rainfall or wet conditions occur, then an extension of time in accordance with Clause 5.12.2 of the General Conditions of Contract 2015 thereof shall be granted by the Employer, calculated on the critical path method. It shall be applied as follows:

A delay caused by inclement weather conditions will be regarded as a delay if, in the opinion of the Engineer, all progress on an item or items of work on the critical part of the working programme of the Contractor has been brought to halt. Delays on working days only (based on a five-day working week) will be considered for the extension of time, but the Contractor shall make provision in his programme of work for an expected delay of twenty (20) working days caused by normal rainy weather, for which he will not receive any extension of time.

Daily records of rainfall and activities within the critical parts affected shall be kept by the Contractor and signed by the Engineer's representative on the site. For this, accurate rain gauging shall be taken at a suitable point on the site, and the Contractor shall, at his own

Employer:		Contractor	
Witness:		Witness:	

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expense, take all necessary precautions to ensure that unauthorised persons do not interfere with the rain gauges. Failure to produce signed copies of the above records on a daily basis to the Engineer's representative on the site after the event having occurred will be deemed to be in breach of this Clause and will not be admissible for purposes of seeking an extension of time.

The Contractor shall be permitted to take his own rainfall measurements on site subject to the Engineer's approval, but access to the measuring gauge(s) shall be under the Engineer's control. The Contractor is to provide and install all the necessary equipment for accurately measuring the rainfall as well as to provide, erect and maintain a security fence plus gate, padlock and keys at each measuring station, all at his own cost.

PS 5.10 FORMAT OF COMMUNICATIONS

The Contractor and Client shall follow the communication protocol through the Engineer and Contractor representatives. Communication media applicable shall be site meetings, telephone, fax, letter and email.

PS 5.11 KEY PERSONNEL

The key role players involved or associated with the contract are listed below with references made to the General Conditions of Contract.

- The Employer (GCC 2015, Clause 1.1.1.15)
- The Engineer (GCC 2015, Clause 1.1.1.16)
- The Engineer's Representative (GCC 2015, Clause 1.1.1.17)
- The Contractor (GCC 2015, Clause 1.1.1.9)
- The Contractor's Site Agent (GCC 2015, Clause 4.12.2)
- Responsible person in terms of the OHAS Act (GCC 2015, Clause 3.1.4)

NOTA BENE: The Contractor will be required to provide key personnel similar to or of higher qualification and experience as those provided for at tender stage.

PS 5.12 SITE MEETINGS

Fortnightly site meetings shall be arranged and facilitated by the Engineer or his representatives. Senior Contractor management staff attendance shall be compulsory.

The Contractor shall be required to provide reporting with regard to project progress, resources (human, plant and equipment), community issues, environmental and health and safety aspects.

PS 5.13 FORMS FOR CONTRACT ADMINISTRATION

The Contractor shall maintain a file which shall contain project information related to project progress, resources (human, plant and equipment), community issues, environmental, health

Employer:		Contractor	
Witness:		Witness:	

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and safety aspects, penalties imposed, claims lodged and outcomes, disputes and resolutions, payment and variations.

PS 5.14 DAILY RECORDS

The Contractor shall keep daily site records as required by the Employer or his representative and as specified herein. Daily records shall include, labour, plant, materials, rainfall, environmental issues, health and safety issues, daily diary and the like. Such records shall be the property of the Employer and shall be made available to the Employer or his representative within 24 hours from being requested to do so.

PS 5.15 BONDS AND GUARANTEES

In addition to GCC 2015 Clause 8.6, the Contractor shall provide the Form of Guarantee for the due and punctual fulfilment and completion of all the Contractor’s obligations under the Contract. No extension of time of the Contract Period of Performance or neither any variation of the Contract, nor the determination of the Contract by the Employer in terms of Clause 8.6 hereof, shall in any way impair or diminish or terminate any liability to the Employer under and by virtue of such Guarantee.

Should the Contractor, when notified of the acceptance of his offer, fail to provide an approved Guarantee within the stated period, then the Employer may, at his sole discretion:

- (a) Grant the Contractor a further reasonable period in which to provide the bond; or
- (b) Withdraw his acceptance of the tender in which case the Contract shall be deemed to be void, but without prejudice to the Employer’s rights to recover whatever damages he may have suffered by virtue of the Contractor’s failure to fulfil his obligations.

PS 5.16 PAYMENT CERTIFICATES

Measurements will be done continuously between the Engineers Representatives and the Contractor on dates and times agreed on. Dates must be arranged by these parties. The progress of the following items will be recorded hereunder:

- The Contractor will provide a certificate with quantities to the Engineer before or on the **18th day of every month**.
- If any material on site is claimed, **proof of ownership must be provided** either by means of the necessary invoices, receipts or a letter from the supplier stating that ownership has been transferred to the Contractor upon delivery.
- After the payment certificate has been approved by Engineer, the Contractor must issue a VAT invoice. The certificate will then be ready for handing in to the Client on the **25th day of every month**.
- Payment certificates shall be accompanied by the monthly **EPWP** stats.
- The Contractor shall note that payment shall only be made for Works activities **successfully** (delivering the end result) executed, complying with the quality requirements and provided to the Engineer or his duly authorised representative.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
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PS 6 FEATURES REQUIRING SPECIAL ATTENTION

PS 6.1 Security

The Contractor shall be responsible to provide security on site as he deems necessary. The Employer shall not be held responsible for any loss or damage(s) suffered by the Contractor with regard to his plant, equipment, materials, subcontractors or employees as a result of a security incident of any nature.

PS 6.2 Operation of valves

Only employees of the Employer are permitted to operate primary and secondary water mains valves.

PS 6.3 Work outside normal working hours

The Contractor is permitted to work outside of normal working hours only upon obtaining written permission from the Engineer. It is anticipated that all switch-over work (tying new infrastructure into existing) will be completed during hours that will not affect the supply of water to affected communities.

PS 6.4 Sanitary facilities

The Contractor shall provide, maintain, move to positions required and finally remove, proper latrines in compliance with the relevant Municipal Sanitation General By-laws. Latrines must be properly screened and secluded from public view and their use shall be strictly enforced. The Contractor shall provide chemical toilets (or other approved toilets). Soak-a ways and septic tanks will not be allowed on the site. Temporary latrines must be sited so that they are within reasonable distance of the working place.

Sufficient latrines must be provided having regard to the number of persons employed on the Works. All latrines shall be adequately ventilated, properly disinfected and kept in a clean condition.

PS 6.5 Community liaison and community relations

For the purpose of this project a community liaison officer will be required; who shall be required to inform the community with regards to Contractor's activities in particular where such activities may affect the service provision to the affected community (See PS6.6).

In all dealings with the community and workers employed from within the community, the Contractor shall take due cognisance of the character, culture and circumstances of the community involved and shall at all times use his best endeavours to avoid the development of disputes and to foster a spirit of co-operation and harmony towards the project.

The Contractor shall at all times, keep the Engineer fully informed on all matters affecting the community. The Contractor shall keep the community fully informed of progress and planned interruptions.

PS 6.5.1 Community Liaison Officer

The contractor shall make use of the Community Liaison Officer (CLO), where scheduled, which is to be appointed on behalf of The Client and who shall be responsible for liaison between the Contractor/Engineer and the local community.

Employer:		Contractor	
Witness:		Witness:	

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The Community Liaison Officer will be responsible for keeping the community informed on the progress of the project and conversely keeping the Contractor and Engineer informed on relevant community affairs and grievances.

A Project Committee shall be established and shall meet on a regular basis to consider, discuss and resolve progress, relevant community matter, welfare of workers, expenditure, requirements of the Contractor and other matters that relate to the project.

The committee, which may be chaired by a representative of The Client shall consist of representatives of:

- The Client
- The Contractor
- The Community Liaison Officers (representing the labour employed)

PS 6.5.1.1 Duties of the Community Liaison Officer

- He will be available on site daily between the hours of 07h00 and 17h00 and at times as the need arises.
- He will consult with the contractor and the Engineer, daily to determine the labour requirements regarding amount and skills, to identify possible labour disputes, and to inform local labourers timeously when they will be relieved.
- He is responsible to screen candidates, inform them of their conditions of temporary employment and to ensure their timeous availability.
- He will ensure that all workers who are involved in the activities where productivity rates have been agreed are fully informed regarding the expected level of productivity for the given task to be assigned as part this Contract.
- He will attend disciplinary proceedings to ascertain that the hearings are fair and reasonable.
- He will keep a daily written record of his interviews and community liaison.
- He will attend the monthly contractual site meetings to report about the local community labour involvement as well as any other relevant problem that needs attention
- The tendered sum shall include for full compensation for the provisions of the CLO including transport costs, cellular phone costs, the cost of typing, printing and distributing notices, and for all other obligations.

PS 6.6 Notices and warning to consumers

The Contractor shall ensure he maintains service (water and/or sanitation) provision at all times whilst executing the works where:

Employer:		Contractor	
Witness:		Witness:	

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a) The maximum amount of time of no service shall be 8 hours for any property. Any service disruption longer than 8 hours shall be temporary bypassed by methodologies approved by the Engineer or his duly authorized representative.

b) A Public Notification Program shall be implemented, requiring at minimum that the Contractor shall deliver written notices to each domestic and non-domestic customer affected by the works, 48 hours before commencement of the works, including providing:

i) a summary of work to be completed;

ii) the time and duration of service interruption; and

iii) a local telephone number and mobile number to contact the Contractor for inquiries or complaints. All complaints received shall be addressed and resolved within the standard Employer response times and a summary of such complaints and associated actions shall be presented to the Engineer or his duly authorized representatives on a monthly basis.

PS 6.7 Continuity of service supply to customers

The activities of the Contractor shall not unreasonably interfere with the service supply to customer and be executed outside the agreed and notice time frames.

Where the Contractor cannot reasonably re-establish services within times agreed and notice time frames, he shall proceed to contact the affected customer and make alternative arrangements that shall be acceptable to the customer and the Engineer.

The associated costs of any customer claim arising from a lack of service provision due to the Contractor's negligence or his disregard for the Employer's SOP or his disregard for the conditions of this Contract, whilst executing activities as per this Contract, shall be solely for his account. The Employer shall have the right to make equivalent monetary deductions from monies owed to the Contractor or from his Guarantee under this Contract and any other active contract(s) with the Employer.

PS6.8 Conditions and procedures for service agencies

The Contractor shall comply with the conditions and procedures of the various affected service agencies, as mandated in their associated wayleaves.

PS 6.9 Generic labour intensive specifications

EPWP (Expanded Public Works Programme) guidelines **will be applicable to this Contract**, and it is expected that the Contractor, execute the majority portion of the works by utilising local labour. The Contractor will also be required to submit monthly reports on the EPWP and monthly labour returns, as per the requirements of the Department of Public Works.

PS 6.10 Causes for rejection

Causes for rejection shall include, but not be limited to, not complying to the Employer's requirements and/or specifications and the intended purpose for this Contract, thus:

a) poor data (including photographs, recording, prints and reports) and data management;

b) inaccurate surveys, with regard to linear meterage of manhole length;

Employer:		Contractor	
Witness:		Witness:	

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- c) poor quality of survey information;
- d) silt, grease, and debris remaining in conduits after cleaning; and
- e) poor quality construction and remedial works:
 - i) Cracks in any concrete works or pre-cast units shall be cause for rejection.
 - ii) honeycombed or patched areas in any concrete works or pre-cast units in excess of 0.02m² shall be cause for rejection.

PS 6.11 Protection against water and storms

The Contractor shall be responsible for the full adequate protection of the works against damage due to storms, rain, floods, storm water, subsoil water and seepage from whatever source. The Contractor shall take over the site where the works has to be executed at the beginning of the Contract Period and the full risk and cost of dealing with all water shall be borne by the Contractor.

The Contractor shall also provide all necessary pipe work, pumps and other appliances necessary for adequate dewatering of all excavations and shall maintain these in good condition and provide adequate standby equipment to ensure that no disruption of work will ensue as a result of possible breakdown of equipment.

PS 6.12 Information supplied by the Engineer

Certain information included in this document or supplied separately is presented in good faith and no guarantees can be given regarding the accuracy or representativeness thereof. This pertains more specifically to all services information, soil tests, material results and similar information that are necessarily subject to limitations in the test methods and sampling. Natural variations in materials and formations also influence the applicability of certain conclusions.

The Employer can therefore not accept any responsibility for the accuracy of any information or for any damage resulting from the fact that the information later proved wrong or not representative. If the Contractor chooses to rely on the information, he does so at his own risk.

PS 6.13 Indemnity Certificate

The Contractor must, on completion of the Works, obtain certificates from all authorities concerned stating that they are satisfied with the condition of all borrow pits, detours, access roads and spoil material on their properties. The certificates must be handed over to the Engineer before the maintenance period starts. The certificates will not exempt the Contractor from any obligations concerning the backfill of trenches, finishing off of borrow pits, access roads, detours etc. This work must still be carried out to the satisfaction of both the Employer and the Engineer.

PS 6.14 Return of materials

All old valves, valve covers, meter boxes and all pipework that can be reused shall be returned by the Contractor to relevant Depot or as directed by the Engineer. The Contractor shall obtain the signature of the Superintendent acknowledging receipt of materials returned. The Contractor shall determine the condition of the materials.

Employer:		Contractor	
Witness:		Witness:	

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Part	T1	T2	C1	C2	C3	C4

PS 6.15 Political and Community unrest

The Contractor shall notify the Client or it's duly Authorized Representative/s of any unrest situation and shall indicate all active Contract sites affected.

PS 7 HEALTH AND SAFETY SPECIFICATION FOR CONSTRUCTION WORK

The Occupational Health and Safety Specification of the Employer's is bound in Volume 3 of these contract documents. Volume 3 forms an integral part of the Contract Specification and, in particular, shall be a part of the HEALTH AND SAFETY SPECIFICATION FOR CONSTRUCTION WORK.

In terms of Construction Regulations 4 (1) (a) of the Occupational Health and Safety Act, Act No 85 of 1993, the Client is required to compile an occupational health and safety specification for any intended project and to provide the specification to prospective tenderers.

The objective of this specification is to ensure that the principal Contractor entering into a contract with the Client achieves and maintains an acceptable level of occupational health and safety performance.

The specification provides the requirements that the principal Contractor and other Contractors shall comply with in order to reduce the risks associated with the contract work, and that may lead to incidents causing injury and/or ill health, to a level as low as reasonably practicable and possible.

The Contractor, appointed by the Employer in terms of Regulation 4 (1) (c), is required to prepare an occupational health and safety plan.

This plan has to be prepared in terms of Regulation 5 (1) as well as the Client's occupational health and safety specification. In terms of Regulation 4 (2), the Client and the principle Contractor are required to agree on the occupational health and safety plan before any work may commence.

The principal Contractor's health and safety plan has to follow the framework in Volume 3, as a minimum.

PS 7.1 Site Specific Health and Safety Issues

The following site-specific assessment of health and safety issues includes a list of risk assessment headings that have been identified by the client as possibly applicable to the contract work for this project.

- Aggregate/Sand Delivery
- Arc welding
- Bench grinder
- Construction of manholes
- Compressed gas cylinders-handling
- Compressors – Air
- Cutting of pipes
- Distribution boards – Electrical

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
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- Drivers – of vehicles
- Electrical installation – Maintenance of
- Excavator
- Gas explosions
- Fire prevention and protection
- Form and support work
- Front end loader
- Fuel supply
- Gas welding-cutting operations
- Hand and spray painting
- Hand tools
- Landscaping
- Laying of pipes
- Levelling – of materials
- Loading supervisor
- Loading/unloading - of trucks
- Machine operator
- Making of steel items
- Material delivery
- Material handling
- Mixer operator
- Pedestal drill
- Pedestal grinder
- Placing concrete
- Portable ladders
- Refuelling vehicles/plant
- Scaffolding
- Site establishment
- Trenches – Digging of
- Trees – Bracing/removing if roots are
- Damaged during excavations
- Use of angle grinder
- Use of portable electrical tools
- Work in confined spaces
- Work in elevated positions
- Working close to existing services i.e. electrical, wastewater etc
- Working close to water
- Workshops

PS 7.2 Barricading of Trenches

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

The Contractor shall ascertain himself of the nature, volume, stability, depth and possible safety risks of the excavations, before any decision with regards to the method of excavation is made.

Allowance for hand excavation has been made for the location of services. Extreme caution shall be taken when excavating along the route of the new pipe for existing services. Any damages and or repairs to the existing services will be for the Contractor's account.

The length of open excavation must at all times not exceed 100m

Adequately protected by a barrier or fence comprising fluorescent orange plastic netting of height at least 1 000mm and as close to the excavation as practicable; and

- Provided with notice boards marked "CLOSED" at each end of closed or partially closed roads,
- The barrier or fence (at least 1m high) shall be suitably wrapped with reflective red and white danger tape or provided with flashing orange lights, placed at 15m intervals along the barricading at night.
- Where the depth of an excavation or the nature of the material excavated renders the sides of the excavation liable to movement that might endanger the works or the workers engaged on the excavation,
- the sides of the excavation shall be supported by suitable timber or other sheeting adequately strutted and braced, all properly assembled and of sufficient strength and stiffness to prevent movement in the materials supported, or, alternatively,
- the slope of the excavated face or faces shall be reduced so that any danger to the works or workers is removed.

Any cavities formed by the fall of rock or earth due to rain, flooding, insufficient timbering or other causes, shall be adequately filled.

The Contractor shall so maintain borrow pits that they do not become a danger to persons or livestock.

NOTA BENE: Trenches may not be left open during the builder's holidays or for any shutdown period exceeding 5 calendar days. Should the Contractor not comply with this requirement without the written approval of the Engineer; the Engineer shall have the open trenches closed by others at the expense of the Contractor. Furthermore, all further opening-up of the backfilled excavation and dealing with the excavated material and subsequent making good will all be to the Contractor's cost.

PS 7.3 Precaution against Pollution and Contamination

The Contractor shall take all necessary steps and precautions to prevent pollution of the surrounding area by his employees in any way. Any debris falling from construction vehicles and plant shall be removed immediately.

Every care is to be taken to avoid possible contamination of the mains during construction. Pipes are not to be stacked in the streets or gutters. On completion of a section, all loose material and foreign bodies are to be removed. The open ends of the new pipeline are to be protected by watertight caps, to the satisfaction of the Engineer, to prevent the entrance of groundwater and foreign bodies until such time as these sections are connected to the live mains.

Employer:		Contractor	
Witness:		Witness:	

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Sterilising chemicals shall be supplied by the Contractor for sterilizing all new water mains. All new lines are to be thoroughly flushed. All sterilization shall be done at 10mg/l free chlorine for 12 hours. The Contractor shall give due notice to The Employer of his intention.

PS 7.4 Operations under Live Conditions

Prior to the execution of any operation under live conditions, the Contractor shall liaise with the Volksrust Depot Operations Manager, at least four (4) working days in advance, in this regard. At least one representative of the Depot shall be present during the execution of such operation. These operations will include disconnection and reconnection to the existing sewer/ water main and water storage tank at the works.

PS 8 ENVIRONMENTAL MANAGEMENT

Tendering Contractors are to adhere to the mitigation measures listed in the EMP (refer to Volume 3: Occupational Health and Safety Specification and Environmental Management Plan for Capital Investment Projects). Environmental mitigation measures are actions needed to align a project implementation phase with environmental control principles, where potential impacts to the natural and social environment are prevented, minimised or remediated. Environmental safeguarding is governed by various sets of legislation, with the most noteworthy for this project constituting the National Environmental Management Act (No. 107 of 1998) and the National Water Act (No. 36 of 1998).

Employer:		Contractor	
Witness:		Witness:	

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PORTION B: VARIATIONS AND ADDITIONS TO THE STANDARDISED SPECIFICATIONS

PSA 8 MEASUREMENT AND PAYMENT

PSA 8.1 MEASUREMENT

PSA 8.1.2 PRELIMINARY AND GENERAL ITEM OR SECTION

PSA 8.1.2.1 CONTENTS

REPLACE THE LAST SENTENCE OF SUBCLAUSE 8.1.2.1(b) WITH THE FOLLOWING:

“Separate items will be scheduled to cover the fixed, value-related and time-related components of the Tenderer ’s preliminary and general costs.”

PSA 8.2 PAYMENT

PSA 8.2.1 FIXED-CHARGE AND VALUE-RELATED ITEMS

REPLACE THE CONTENTS OF SUBCLAUSE 8.2.1 WITH THE FOLLOWING:

PSA 8.2.1.1 FIXED-CHARGE ITEMS

Payment of fixed charges in respect of item 8.3.1 will be made as follows:

- (a) **EIGHTY PER CENT (80%)** of the sum tendered will be paid when the facilities have been provided and approved;
- (b) The remaining **TWENTY PER CENT (20%)** will be paid when the works have been completed, the facilities have been removed and the site of the Tenderer’s establishment has been cleared and cleaned to the satisfaction of the Employer.

No adjustment will be made to the sum tendered in respect of item 8.3.1 should the value of the works finally executed or the time for completion vary in any way from that specified in the tender.”

PSA 8.3 SCHEDULED FIXED-CHARGE AND VALUE-RELATED CHARGE

ADD THE FOLLOWING NEW SUBCLAUSES TO CLAUSE 8.3

PSA 8.3.5 ADDITIONAL CONTRACTUAL OBLIGATIONS

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSA 8.3.5.1 Notice and warning to consumersUnit: Sum

The sum shall cover the full compensation and cost of supply and delivery of the notices and warnings to customers at least 3 days before a shutdown is to take place in each section of work.

PSA 8.3.5.2 OHS Act ObligationsUnit: Sum

The sum shall cover the full compensation and fixed costs for the compliance with the Occupational Health and Safety Act, Construction Regulations 2003 and all the requirements stipulated in the Employer’s Health and Safety Specifications.”

PSA 8.3.5.3 EMP ObligationsUnit: Sum

The sum shall cover the full compensation and all fixed costs for compliance with the requirements of The Employer’s Environmental Management Plan.

PSA 8.4 SCHEDULED TIME-RELATED ITEMS

ADD THE FOLLOWING NEW SUBCLAUSES TO CLAUSE 8.4.

PSA 8.4.6 Additional Obligations

PSA 8.4.6.1 OHS Act Obligation.....Unit: Month

The sum shall cover the full compensation and all-time related costs for the duration of the contract, for the compliance with the Occupational Health and Safety Act, Construction Regulations 2003 and all the requirements stipulated in the Employer’s Health and Safety Specifications. The cost shall include the salary for a full time OHS Officer for the project.

PSA 8.4.6.2 Security services costs.....Unit: Month

The sum shall cover the full compensation and all costs for a sufficient 24 hour guarded services for the duration of the contract.

PSA 8.4.6.3 Community Liaison OfficerUnit: Stated Sum

The stated sum shall cover full compensation and all costs payable monthly, to provide a full time qualified and suitable experienced Community Liaison Office for the duration of the contract. The stated sum shall also cover for the CLO cellphone airtime.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSA 8.5 SUMS STATED PROVISIONALLY BY EMPLOYER

AMEND SUBCLAUSE 8.5.b)1 AND ADD THE FOLLOWING ITEMS:

- i) Alteration to existing services by authorities.....Unit: Stated Sum
- ii) Control tests by independent laboratoryUnit: Stated Sum
- iii) Provision of photographic recordsUnit: Stated Sum
- iv) CLO and CSO..... Unit: Stated Sum
- v) Temporary protection of services..... Unit: Stated Sum
- vi) Pipeline Cathodic Protection.....Unit: Stated Sum
- vii) Reinstatement of asphalt by JRA..... Unit: Stated Sum

The Tenderer is responsible for both the cost of normal testing as described in the Project Specifications and for the cost of any additional test that indicates that the Specifications have not been complied with.”

These sums will be paid to The Tenderer in equal monthly amounts.”

PSA 8.7 DAYWORKS

ADD THE FOLLOWING NEW CLAUSES:

PSA 8.7.1 SCOPE

This section covers the method of measurement and payment for work carried out on a day work basis.

PSA 8.7.1.1 GENERAL REQUIREMENTS

Work will be classified as day work only if the Employer considers no other rate in the Bill of Quantities appropriate for payment purposes.

An instruction regarding all work to be carried out under day work in terms of Clause 6.5 of the General Conditions of Contract 2010 will be issued at the discretion of the Employer. Some or all the items priced under day work in the Bill of Quantities may possibly not be required for this Contract.

Before ordering any material, The Tenderer shall submit quotations to the Employer for his approval and shall submit such receipts or vouchers to the Employer as may be necessary for proving the amount claimed.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSA 8.7.1.2 MEASUREMENT AND PAYMENT - DAY WORKS

The day work rates submitted for vehicles and construction equipment, in the Bill of Quantities shall be a hire charge for the use of the vehicle and driver or constructional plant/equipment and operator (excluding VAT) and shall apply only to vehicles and construction equipment approved in writing by the Employer. The rate shall include for maintenance, fuels and oils and other operating costs, establishment, insurance and other contingency costs relating to the running of the vehicle, plant or equipment.

Where there is ambiguity between the power developed at the flywheel and mass of a machine, the power shall govern the measurement category.

The Tenderer and the Employer will agree on the method of recording the working hours prior to the commencement of the work. Any extended period of idling at any one time which in the opinion of the Employer or his representative is beyond that required for normal operating conditions will not be paid for as working time. Non-working hours for any reason shall not be measured for payment.

The ten percent allowed for overheads etc. as per Clause 6.5.1.2.3 of the General Conditions of Contract 2010 shall include full compensation for all administrative costs, supervision, overheads, liabilities and obligations related to the running of the vehicles, constructional plant and equipment. The tendered percentage shall also include for profit and shall be subject to the Contract Price Adjustment factor laid down in the Contract Data.

PSA 8.8 TEMPORARY WORKS

PSA 8.8.4 EXISTING SERVICES

AMEND THE SUB CLAUSE AS FOLLOWS:

PSA8.8.4 a) Supply or hire of specialist equipment Unit: Sum

The sum shall cover the cost for the supply, operation and/or hire of specialist equipment for detection of underground services as ordered by the Employer.

PSA 8.8.4 b) Excavate by hand in soft material to expose existing services.....Unit: m³

The rate shall cover the cost for removal of premix or other surfacing where necessary, excavating in all materials, shoring, backfilling, compaction and reinstatement of surfaces except for asphalt.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSA 8.9 STANDING TIME.....Unit: hour

Rate to include all costs The Tenderer incurs on an hourly basis (labour, plants, equipment, security, offices, supervisory staff and other time related costs). Standing time will be paid to The Tenderer in a case where there are delays from the Employer in providing information or instruction and where The Tenderer have no work to be undertaken during that period. The standing time rate for equipment will be taken as the dayworks rates less 10% for fuel.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSAB EMPLOYER’S OFFICE

PSAB 3 MATERIALS

PSAB 3.1 NAMEBOARDS

DELETE THE ENTIRE CLAUSE AND REPLACE WITH:

“The name board shall be of either tempered hardboard at least 12mm thick or steel sheeting so braced on the reverse side as to prevent warping or buckling and shall be mounted on two or more firmly planted poles as necessary. The quality of the paint shall conform to SANS Standard Specification CKS 193. The colour of the paint shall conform to SANS 1091-1975 colour F11, strong blue. The Employer’s SOC Ltd logo shall be in colour. The height of the larger name board shall be 2400mm and the width 4800mm, whilst the height of the smaller name board shall be 800mm and the width 1600mm”.

PSAB 3.2 OFFICE BUILDING(S)

Delete this sub-clause entirely and re-title the sub-clause “FACILITIES FOR THE EMPLOYER”

Add the following sub-clause.

PSAB 3.2.1 OFFICE BUILDING(S)

The Tenderer shall provide, furnish and equip one or more offices (as scheduled) for the use of the Employer.

The Tenderer shall provide, furnish and equip one or more offices (as scheduled) for the use of the Employer.

The Tenderer shall provide and furnish one office for the use of the Employer. Each office shall consist of one room with a floor area of at least 12 m² and a ceiling height of at least 2.5 m.

Each office shall be weatherproof, shall have a wooden boarded floor that is at least 150 mm above the ground, and shall be provided with a ceiling and a lining to the walls, or equivalent insulation, with an acceptable type of door with a secure lock, and two opening windows of glazed area at least 3 m². Each office shall be well ventilated and shall be so insulated as to provide comfortable working conditions.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Office building shall be painted with an approved paint after erection and the paintwork shall be maintained during the contract period.

Each door shall be provided with a lock and two keys.

The sitting of all offices shall be to the Employer's satisfaction and shall be decided upon in consultation with him/her and confirmed in writing before erection.

All accommodation shall include the provision of access roads where required, fresh clean portable water and sewerage, which will be considered as part and parcel of the accommodation provided and will not be paid for separately.

All accommodation shall meet with the approval of the Employer.

The offices shall comply with the following requirements.

<u>Dimensions</u>	<u>Type 1 Office</u>	<u>Type 2 Office</u>
Minimum floor area	20 m ²	12 m ²
Minimum window area	4.0 m ²	3.0 m ²
Minimum window area opening	2.4 m ²	1.5 m ²
Minimum clear height	2.5 m	2.5 m
Shaded parking for vehicles	2	2

Furniture and Equipment

Each office shall be equipped with the following:

- i. Office desk with a surface area of at least 1.5m² with at least 3 drawers one of which can be locked.
- ii. Two office chairs.
- iii. a lockable upright steel cabinet with three shelves or a steel filing cabinet with four drawers
- iv. Refrigerator
- v. Printer
- vi. Enough racks and hangers for hanging contract drawings. The hangers shall be of the "Bar hold" type, with one hanger to five drawings.
- vii. Double 80-watt fluorescent light fittings complete with ballast and tubes (2 per Type 1 office, 1 per Type 2 office).

In addition to the above the Type 1 office shall be equipped with the following:

- i. Conference table large enough to accommodate twelve people and have an area of at least 15m².

Fifteen office chairs

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

The Tenderer shall also supply a toilet for the exclusive use of the Employer.

The Tenderer must provide basic survey instruments: dumpy level, tripod stand and staff.

On completion of the Works, ownership of the buildings, furnishings and equipment shall revert to The Tenderer who shall remove them from the Site.

PSAB 3.3 CARPORT

ADD THE FOLLOWING NEW CLAUSE:

The Tenderer shall construct the number of carports specified in Portion A of the Project Specifications, for the sole use of the Employer and his staff. Each carport shall be constructed so that the vehicle parked under it is always protected against the direct rays of the sun. The carport area shall be at least 20 m² and the floor shall be covered with a layer of crushed stone to alleviate dusty and muddy conditions. The carport(s) shall be positioned to provide easy and convenient access to the Employer’s office.”

PSAB 4 PLANT

PSAB 4.1 TELEPHONE

REPLACE SUBCLAUSE 4.1 OF SANS 1200 AB WITH THE FOLLOWING:

“The Tenderer shall arrange for the provision of an approved cellular phone and airtime and data bundles per month for the Employer’s representative. The Tenderer at the tendered rates under the relevant scheduled item shall recover the associated charges and telephone calls and data bundles associates with the contract.

PSAB 4.2 SURVEY EQUIPMENT

ADD THE FOLLOWING NEW CLAUSE:

The Tenderer shall provide on-site and make available for the exclusive use of the Employer and his staff, the survey equipment listed in Portion A of the Project Specifications.

All survey equipment provided by The Tenderer shall be in good condition, properly calibrated and fit for the purpose.

In addition to survey equipment provided by The Tenderer for the exclusive use of the Employer and his staff, The Tenderer shall make available for use by the Employer, the

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

further survey equipment listed in Portion 1 of the Project Specifications, at all times when such is reasonably required by the Employer and his staff for the purposes of the Contract.”

PSAB 4.3 COMPUTER FACILITIES

ADD THE FOLLOWING NEW CLAUSE:

The Tenderer shall, for the duration of the Contract, provide the computer equipment complete with printer, modem and telephone connection including 3G connection together with the software specified hereunder, for the exclusive use of the Employer and his staff:

- a) 1 laptop
- b) 1 printer

The laptop shall comply with the following minimum specifications:

AutoCAD 2023 system requirements -

- Operating System: Microsoft Windows 10 (64-bit only), 8.1 (64-bit only), or 7 SP1 (64-bit only)
- Processor: 2.5 GHz (3+ GHz recommended) (type – I7 chipset)
- Memory: 8 GB (16GB recommended)
- Disk space: SSD 500GB
- Screen Size: 15” minimum
- Display: 1920 x 1080 resolution with True Colour
- Mouse: Separate USB compatible mouse
- Warranty: 3 Year on-site Warranty upgrade

Printers shall, unless otherwise approved by the Employer, be SamsungSCX-4600 Colour Laser Printer Series or equivalent compatible.

All computer hardware shall be provided complete with the requisite connecting cables and all interfacing devices and software necessary for its efficient operation as an integral system.

The following software shall be professionally installed on the computer, and the original license agreements and disks shall be provided to the Employer for safekeeping:

- Microsoft Windows 11
- MS-Office 365 (Word, Excel, PowerPoint, etc.)

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

- MS Projects 2016 (or higher version)

All computer equipment provided shall always be kept fully serviceable by the Tenderer. The Tenderer shall have any defective equipment repaired or replaced at his own cost within 12 hours after notification by the Employer's staff.

The Tenderer shall further provide at his own cost, all paper and black ink cartridges and other consumables reasonably required by the Employer."

PSAB 5 CONSTRUCTION

ADD THE FOLLOWING NEW SUBCLAUSES TO CLAUSE 5 OF SANS 1200 AB:

PSAB 5.6 SURVEY EQUIPMENT

All survey equipment provided by The Tenderer shall always be kept fully serviceable by the Tenderer. The Tenderer shall have any defective equipment repaired or replaced at his own cost within 12 hours after notification by the Employer's staff.

Where required by the Employer, The Tenderer shall, at his own cost, promptly arrange for the recalibration of survey equipment provided."

PSC – SITE CLEARANCE

PSC 1 CONSTRUCTION (Clause 5)

PSC 1.1 Areas to be Cleared and Grubbed (Subclause 5.1)

A strip of up to 1.0m on either side of the centerline of the pipeline route.
No tree shall be removed without a written instruction from the Engineer.

PSC 1.2 Cutting of Trees (Subclause 5.2)

A tree is defined as having a girth of 1000 mm or greater, measured at the narrowest point of the tree or stump in the first metre of its height above ground level.

PSC 2 MEASUREMENT AND PAYMENT (Clause 8)

PSC 2.1 Clearing and Grubbing (Subclause 8.2.1)

Clearing and grubbing shall be measured per hectare in large areas and per metre in trenching, and includes all trees and stumps with a girth less than 1000 mm.

PSC 2.2 Removing and Grubbing Trees (Subclause 8.2.2)

The removal and grubbing of trees shall be paid per No, and in the following incremental steps:

Over	and up to
1000 mm	2 000 mm

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSD – EARTHWORKS

PSD 1 CONSTRUCTION (Clause 5)

PSD 1.1 Disposal of Surplus or Unsuitable Material (Subclause 5.2.2.3)

Only material complying with Clause 3.2.1 shall be used for fill in the embankment and other areas. Surplus or unsuitable material shall be disposed of at a site located by the Contractor and approved by the Engineer

PSD 1.2 Freehaul (Subclause 5.2.5.1)

The freehaul area shall be deemed to be the area bounded by the township boundary plus 1 km beyond the township. Unless otherwise indicated in the detailed bill of quantities.

PSD 1.3 Delay due to Supply of Material

The Contractor shall bear the responsibility for all delays caused by himself, his sub – contractors and / or his suppliers, and the provisions of the penalty clause will be applied in the event of late completion even if these are caused by delays in the delivery of materials unless the Contractor can prove that his order for materials was placed timeously.

PSDA – EARTHWORKS (SMALL WORKS)

PSDA 1 MATERIALS (Subclause 3)

PSDA 1.1 Embankments and Backfill (Subclause 3.2.1)

Add to this subclause :

Compaction and backfill shall be executed as specified in the relevant standardized specification.

PSDA 2 CONSTRUCTION (Clause 5)

PSDA 2.1 Precautions (Clause 5.1)

PSDA 2.1.1 Excavated Material not to Endanger or Interfere (Subclause 5.1.6)

Delete the last paragraph and replace with the following:

All unsuitable and unused excavated materials shall be removed to the designated spoil site.

PSDA 2.2 Methods and Procedures (Clause 5.2)

PSDA 2.2.1 Excavation (Subclause 5.2.2)

Add to this subclause:

The width of the excavation for the manholes, valve boxes, foundation structures, channels, etc., shall be 600 mm wider than the outside dimensions of the structure. Excavation width and depth for the structure's foundation shall be to dimensions as per drawings and concrete shall be cast against the founding material.

Should it be found during the course of excavation that the material at the indicated founding depth does not possess the required bearing strength, the excavation shall be extended at the discretion of the Engineer until satisfactory founding material is encountered. The contractor shall not be entitled to any payment for additional excavation over and above that which is allowed for in clause 8.3.2. The Engineer reserves the right to order the Contractor to make up the difference in levels with foundation fill.

Foundation fill, consisting of granular material, shall be constructed in layers not exceeding 150 mm in thickness after compaction. Each layer shall be moistened or dried to optimum moisture content for the material and compacted to a density of not less than 95 % of Modified AASHTO

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

density.

Mass concrete fill to be used shall be of Class 15/20 or as may be prescribed by the Engineer.

The Contractor shall be responsible for procuring approved imported material which complies with the requirements of the relevant specifications.

PSDA 2.2.2 Freehaul (Subclause 5.2.6.1)

The freehaul area shall be deemed to be the area bounded by the township boundary plus 3 km beyond the township. Unless otherwise indicated in the detailed bill of quantities.

PSDB – EARTHWORKS (PIPE TRENCHES)

PSDB 1 CONSTRUCTION (Clause 5)

PSDB 1.1 Precautions (Subclause 5.1)

PSDB 1.1.1 Underground Water

Attention is drawn to the fact that the invert of pipe trenches might be below the water table in certain areas. No provision has been made for separate payment for dealing with this underground water.

The unit rate for excavation shall cover the cost of dealing with water in the trench. (Refer to the trial hole profiles included in these documents).

PSDB 1.1.2 Programming of Pipe Trenches

The Contractor shall programme his work to finish all excavations and backfilling of the pipe trenches before the subbase of any street is built.

PSDB 1.2 Excavation (Subclause 5.4)

Trenches shall be excavated to the lengths and widths approved by the Engineer, and to a depth to the underside of the bedding layer. The invert levels shown on the plans are the levels of the inside of the pipe, or culvert and the Contractor must make allowance for the bedding layer and pipe thickness.

PSDB 1.3 Trenches for Electrical Cables

The Contractor shall be responsible for importing and placing approved bedding material below and above the cables.

The following procedure shall be adopted in co-ordinating trenching and backfilling in combined trenches. The Civil Contractor shall excavate the trench to the specified width and depth, prepare the bedding for the civil engineering service, haunch and backfill to 200mm above the service as specified leaving the backfill surface lightly compacted.

The Electrical Contractor shall accept the trench from the Civil Contractor, level the surface and prepare the cable bedding, haunch and backfill to 100mm above the cable leaving it protected as specified and to the satisfaction of the Electrical Engineer. Where danger tape is required, the Electrical Contractor shall backfill up to 100mm above the tape. Thereafter the Civil contractor, having received adequate notice from the Electrical Contractor, shall complete the backfill as specified. It is a requirement that no electrical trench shall be left open during the night, weekends and on public holidays. The Electrical Contractor shall not lay more cable per day than can be backfilled by the end of the working hours of that same day.

PSDB 1.4 Disposal of Material (Clause 5.6.3 and 5.6.4)

Surplus and unsuitable material shall not be disposed of along the trench servitude but shall be disposed of on a site located by the Contractor and approved by the Engineer.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSDB 1.5 Freehaul (Subclause 5.6.8)

The freehaul area shall be deemed to be the area bounded by the township boundary plus 1 km beyond the township. Unless otherwise indicated in the detailed bill of quantities.

PSDB 2 MEASUREMENT AND PAYMENT (Clause 8)

PSDB 2.1 Excavation (Subclause 8.3.2)

Pipe and cable trenches where applicable shall be measured and paid per m. The trench depth shall be measured from the underside of the bedding layer up to the surface of the ground. The ground surface will be that existing after any bulk earthworks have been carried out, i.e. the excavated surface.

Measurement shall be made to the nett outside dimensions as detailed on the drawings and no additional payment will be allowed for over-excavation and the remedial reinstatement required.

The Contractor shall be entitled to extra payment for all intermediate and hard material excavated within the nett outside dimensions specified, which shall be measured and paid for per cubic metre extra over the excavation in normal material.

The cost of filling in natural hollows and depressions or the cost of replacing intermediate and hard with selected fill or concrete shall be included in the rates for extra over items of intermediate and hard.

PSDB 2.3 Soilcrete

The unit of measurement is a cubic meter soilcrete as constructed, computed according to prescribed dimensions of the excavation and the depth of the soilcrete. The volume of any pipes and structures in or crossing the soilcrete must be subtracted from the computed quantity.

The tendered rate shall include payment for the construction of the soilcrete complete and according to specifications, including Portland cement used at a rate of 7% of the dry density of the soil used and the placing of rocks to support the soilcrete and the end of the trenches.

PSDM – EARTHWORKS (ROADS, SUBGRADE)

PSDM 1 MATERIALS (Subclause 3)

PSDM 1.1 Classification for placing purposes

PSDM 1.1.1 Subgrade / Fill (Subclause 3.2.2)

The subgrade shall be constructed of suitable in-situ material that complies with the specification in clause PSDM 1.1.2

Materials of different properties shall not be placed at random in the same layer but shall be properly mixed. Materials of incompatible properties shall not be mixed.

The Engineer shall approve all materials used in the subgrade and shall have the right to instruct where materials of different qualities are to be used in the subgrade.

PSDM 1.1.2 Selected (Subclause 3.2.3)

Materials shall conform to the following requirements and be approved by the Engineer:

Natural Gravel or Gravel-soil

G10

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Minimum CBR at 93% Mod AASHTO density	15%
Maximum CBR swell at 100% Mod AASHTO density and optimum moisture content	1,5%
Maximum Plasticity Index	3 x GM + 10
Maximum size of aggregate after compaction	100 mm
Grading Modulus - not less than	0,5

PSDM 2 PLANT (Clause 4)

Add the following to this clause.

The following plant is necessary for roadbed preparation:

- a) Vibrator roller

The vibrator roller must be able to apply a combined static and dynamic load of not less than 120 kN/m at a working frequency of 1500 r.p.m. maximum.

- b) Impact roller

The impact roller shall be a single multi surface roller with a maximum of five flat or nearly flat surfaces and a roller mass of 8 to 10 tons. The roller and tow mechanism, which shall be of the free fall type, shall be designed to make all the energy necessary to take the roller onto the ridge between two flat surfaces available for distribution at impact when the roller falls. The roller shall be towed at a speed of between 8 and 10 kilometers per hour.

PSDM 3 CONSTRUCTION (Clause 5)

PSDM 3.1 Methods and Procedures (Subclause 5.2)

PSDM 3.1.1 Stripping of Topsoil (Subclause 5.2.1)

Add the following to this subclause.

Before the Contractor does any roadbed preparation, he shall get instructions from the Engineer on any stripping of topsoil or clearing and grubbing that may be required. This work shall be carried out according to SABS 1200 C "Site Clearance".

PSDM 3.1.2 Cut and Borrow (Subclause 5.2.2)

PSDM 3.1.2.1 Use of Material (Subclause 5.2.2.3)

Cut to spoil

The material obtained from cutting the road prisms to the top of the formation level, except for the selected material required for pipe bedding and backfilling, for fill in the sidewalks or the selected subgrade, shall be spoiled at a site located by the Contractor and approved by the Engineer.

Cut to fill

The material required for fill in the sidewalks and the selected subgrade shall be selected material cut from the road prisms and stockpiled by the Contractor.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSDM 3.1.3 Treatment of the road-bed (Subclause 5.2.3)

Add the following as subclause 5.2.3.3.

PSDM 3.1.3.1 Preparation and compaction of the road-bed (Subclause 5.2.3.3)

During the compaction of the roadbed with an impact roller if required by the Engineer the roadbed shall be graded before each pass if, according to the Engineer, the surface is uneven and prevents the flat surface of the impact roller to fall uneven.

Add the following as subclause 5.2.3.4.

PSDM 3.1.3.2 Removal of unsuitable material (Subclause 5.2.3.4)

Any roadbed material that will, according to the judgement of the Engineer, have a detrimental effect on the quality of the finished street, shall be removed to the depth and width as instructed by the Engineer, and will be disposed of according to specification. It shall then be backfilled with approved imported material and compacted to the specified compaction.

The Engineer may instruct the Contractor to remove over wet material which cannot form a solid layer or platform, and replace it with approved dry material. The Contractor will be paid for this operation if the Engineer is convinced that the material will not dry out in a reasonable time in spite of adequate temporary drainage and that the condition may not have been prevented by reasonable preplanning to built the work during the dry season.

PSDB 3.1.4 Freehaul (Subclause 5.2.8.1)

The freehaul area shall be deemed to be the area bounded by the township boundary plus 1 km beyond the township.

PSDM 3.1.5 Sidewalks (Balance of Road Reserve)

The sidewalk area, being the area remaining in the road reserve after the road has been constructed, shall be graded from the erf boundary to the top of the kerbs as detailed on the roads cross-sections. Sidewalks shall be watered and compacted to form a firm and even surface, and shall be left in a clean and tidy condition. Surplus material shall be spoiled at a site located by the Contractor and approved by the Engineer. Fill where required shall be selected material compacted to 90% Mod AASHTO density.

PSDM 4 MEASUREMENT AND PAYMENT (Clause 8)

PSDM 4.1 Roadbed Preparation

Roadbed preparation shall be measured and paid per cubic metre, and includes all work necessary to rip, shape and compact to a minimum of 93% Mod AASHTO density in the subgrade layer, or as specified in the Schedule of Quantities.

PSDM 4.2 Blade to Windrow

Blade to windrow shall be measured and paid per cubic metre, and includes all work necessary to blade the subbase layer to one side, after the road prism excavation has been completed.

PSDM 4.3 Cut to Spoil

Cut to spoil and cut to fill from road prism shall be measured and paid per cubic metre, and includes all work necessary to remove the road prisms to top of formation level, load, transport, tip at the spoil site, spread, level and compact to 90% Mod AASHTO density.

PSDM 4.4 Width of Excavation for Roads

The width of excavation for surfaced roads for measurement purposes is fixed as the width of the wearing course of the road, plus 1 m.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSDM 4.5 Import to Fill in Subgrade

Import to fill in subgrade shall be measured per cubic metre, and includes all work necessary to obtain, rip, load, haul, tip and spread the imported material.

PSDM 4.6 Drying out of Borrow or In-situ Material

Where the natural moisture content of the borrow or in-situ material exceeds the optimum moisture content, the material shall be dried out by suitable means, and payment shall be per cubic metre for the following excessive moisture content ranges:

From	To
0%	1%
1%	2%
2%	3%
3%	4%

PSDM 4.7 SHAPING OF GRAVEL ROADS

The construction of the gravel roads will consist of the shaping of the roads as detailed on the typical cross section by means of a motor grader. Payment will be per km of road shaped .per road width .The rate will include for the shaping of the side drain to ensure that no low spots are formed where ponding can occur.

PSDM 4.8 COMPACTION OF THE WEARING SURFACE OF GRAVEL ROADS

(a) Flat wheeled rollerssquare metre (m2)

The unit of measure shall be the square metre of road surface compacted by 8 passes. The rate shall include allowance for the application of water as required.

The tendered amount shall include full compensation for supplying yhe roller ,applying 8 roller passess and removing the roller after completing the compaction process. The engineer may increase or decrease the number of roller passes, in which case payment will be adjusted in accordance with item PSDM 4.10

PSDM 4.9 VARIATION IN THE NUMBER OF ROLLER PASSES

(a) Flat wheeled rollerssquare metre pass (m2)

The unit of measurment shall be the square metre coverage ,and shall be computed by multiplying the number of square mertes to which the changed pass efforts apply by the increased or degreased number of roller passes per layer of the works .

Where a change in the compaction effort is requested ,the contractor will be compensated at the tendered rates for the above items in respect of the increased number of square metre roller pases of each type of roller required over and above that specified in the relevant standard effort. His compensation will be decreased simultaneously, at the applicable rate, by the number of square metre roller pases of each type of roller which is either decreased or completely left out.

The tendered rate for each additional square metre pass ordered by the engineer over and above the specified number of passes shall include full compensation for all supervision .labour plant, equipment ,fuel, materials ,works and incidentals necessary for completing the works .The same rate shall be accepted by the contractor during computation of a decrease in his compensation where the number of rollers passes for each specific type of roller is decreased.

PSDM 4.10 Sidewalks

Finishing the road reserves or sidewalks shall include the total plan area of the road reserves

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

less the plan area of the surfacing and kerbs and shall be measured and paid per square metre.

The rate shall include all plant and labour required to load, transport to dump, offload and spread waste material, stones and vegetation, trim and compact sidewalks to the lines, levels and density specified, form drainage ditches and berms and shape the remainder of the reserves to the lines shown on the cross-section including watering and hand raking.

PSDM 4.11 Selected Subgrade Layer

The selected subgrade layer shall be measured and paid per cubic metre of nett volume or layer constructed as specified. The rate shall include for plant, labour and material required to construct the selected sub-grade including supplying, loading, transporting for the freehaul distance, offloading, spreading, watering, processing, compacting, finishing and testing.

Payment for the construction of selected subgrade shall only be made when the Engineer has ordered such a layer to replace unsuitable in-place subgrade material in cuts or as a controlled layer over trimmed, finished and compacted fill material which does not conform to the specification for selected subgrade material.

PSG – CONCRETE (STRUCTURAL)

PSG 1 MATERIALS

PSG 1.1 Types of Materials (Subclause 3.4.2)

Concrete may be made with either Ordinary Portland Cement or a 1.1 mixture of Ordinary Portland Cement and Milled Granulated Blast Furnace Slag.

PSG1.2 Plums (Subclause) 3.4.2)

Plums may not be used

PSG 1.3 Admixtures (Subclause 3.5.1 and 3.5.2.)

Admixtures and Air Entraining Agents may be used with the written consent of the Engineer provided that the strength and other characteristics of the concrete are not adversely affected. A maximum of 4% entrained air will be permitted. Approved admixtures shall be used in preference to increasing the water/cement ratio to improve the workability.

PSG 1.4 Pipes and Conduits Embedded in Concrete

Except with the written approval of the Engineer, no pipes other than those shown on the drawings shall be embedded in concrete, and the approval of the Engineer for the position of all services to be embedded shall obtained before concreting commences. The clear space between pipes of any kind embedded in reinforced concrete and the clear space between such pipes and reinforcement shall not at any point be less than: 40mm or, 5 mm plus the maximum size of coarse aggregate, whichever is the greater.

PSG 1.5 Aggregate (Subclause 3.4)

Where dolomitic aggregate is specified both coarse and fine aggregate shall be crushed dolomite from an approved commercial source, complying with the relevant specifications.

PSG 1.6 Samples and Mix Design

Not less than 5 weeks before the start of any concrete work on site, the Contractor shall supply to the Engineer for his information and subject to his approval, samples of the constituent materials of the concrete and items ancillary thereto, together with the necessary evidence, including copies of laboratory test results, supporting compliance with this specification. Samples of aggregate shall be supported by a grading analysis.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

In addition, not less than 5 weeks before the start of any concrete work on the site, the Contractor shall submit to the Engineer, for his information and subject to his approval, a statement of mix proportions. This statement shall provide the following information:

For each class of concrete:

- Mix proportions and types
- Type and amount of additives
- Slump
- Target strength
- On-site batching procedures
- On-site quality control procedures

The statement shall be accompanied by evidence in the form of either a statement from an approved laboratory of the results of tests, or an authoritative report of previous use and experience, establishing that concrete made with the materials in the proportions proposed will have the properties specified.

PSG 2 CONSTRUCTION

PSG 2.1 Cover to Reinforcement (Subclause 5.1.3)

Concrete cover to reinforcement to be 40 mm ,except where otherwise shown on the drawings.

PSG 2.2 Concrete Strength (Subclause 5.5.1.7)

Concrete Strengths shall comply with those given on the drawings. The concrete grade will be given in the form of A/B where "A" is the specified strength and "B" is the maximum coarse aggregate size.

PSG 2.3 Ready Mix (Subclause 5.5.3.2)

Ready Mixed Concrete from an approved supplier may be used but test certificates from the supplier will not be acceptable.

PSG 2.4 Compaction (Subclause 4.4 and 5.5.6.3.)

All concrete shall be vibrated unless otherwise specified.

PSG 2.5 Consistency (Subclause 5.5.1.2)

Slump limits shall comply with Table 3, columns 4 and 5, for vibrated concrete.

PSG 2.6 Durability (Subclause 5.5.1.5)

Maximum water/cement ratios shall comply with Table 5 column 4, for severe exposure conditions.

PSG 2.7 Strength Concrete (Subclause 5.5.1.7)

All concrete shall be "Strength Concrete" to the grades specified and of 25mm maximum coarse aggregate size, unless otherwise specified.

PSG 2.8 Batching (Subclause 5.5.5)

All concrete shall be batched by mass.

PSG 2.9 Placing (Subclause 5.5.5)

Pumped concrete will be permitted provided that the design mixes have been evaluated by an approved laboratory and accepted by the Engineer. Concrete to walls and columns shall be tremmied into position through trunking and not dropped or shovelled in, except over heights of less than 1m.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSG 2.10 Concrete Surfaces (Subclause 5.5.10.1)

PSG 2.10.1 Wood Floated Finish

Where wood floating is indicated the concrete surface shall first be finished as specified in Subclause 5.5.10.1 and, after the concrete has hardened sufficiently, it shall be floated to a uniform surface. The screeded surface shall be wood floated, either by hand or machine only sufficiently to produce a uniform surface free of screed marks.

PSG 2.10.2 Steel Floated Finish

Where steel floating is indicated the surface shall be treated as specified in PSG 2.10.1 except that, when the moisture film has hardened sufficiently to prevent laitance from being worked to the surface, the screeded surface shall be steel-trowelled under firm pressure to produce a dense smooth uniform surface free of trowel marks.

PSG 2.10.3 Power Floated Finish

Where power floating is indicated the concrete surface shall be treated as specified in PSG 2.10.2 except that the screeded surface shall be power floated to produce a high quality dense, smooth, uniform surface free of trowel marks.

PSG 2.10.4 Unformed Surfaces

The top unformed surfaces of all members shall be specified on the drawings.

PSG 2.11 Formwork (Subclause 5.2)

Where possible concrete shall be cast directly against the in-situ material, which shall be accurately trimmed to the concrete dimensions shown in the drawings. Payment for rough formwork will only be made if concrete dimensions preclude this or if in the opinion of the Engineer the in-situ material is unsuitable. Unless otherwise specified, formwork finishes are to be "smooth".

PSG 2.12 Grouting of Pipes/Specials Through Walls

Where Entry holes for pipes/specials have been provided in the walls, the Contractor shall be responsible for the grouting-in of such pipes/specials, regardless of whether or not these have been supplied by himself.

Before commencing the positioning in holes of any pipes/specials the Contractor shall:

- a) remove all shuttering and boxing remaining in the holes
- b) make any alterations required to the position and shape of the holes
- c) thoroughly clean the sides of the holes so as to obtain a satisfactory bond surface for the new concrete and,
- d) free all surfaces of the pipes/specials of all coatings, and thoroughly scrape and clean the pipes/specials.

After accurately positioning the pipes/specials in their respective holes, the contractor

shall fix the pipes/specials in the holes.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Immediately before grouting is carried out by the placing of mortar and concrete around the pipes, the surface of the existing concrete shall be removed, and the surface covered with a layer, approximately 12mm thick, of mortar consisting of 3 parts of concrete sand and 1 part of cement.

The concrete ingredients shall be mixed and placed as dry as possible to obtain a dense, waterproof concrete. Where a watertight seal is required, the concrete shall be carefully worked around the puddle flange, if any, and the pipe barrel or body of the special, and shall be vibrated in layers so as to obviate any falling away from pipe/special surfaces of the concrete already placed. The whole shall when set, form a dense, homogenous and waterproof mass. A spare vibrator with an independent power source shall be kept in readiness to ensure continuity of placing in the event of the breakdown of the duty vibrator. Smooth formwork that has been suitably strengthened for use with a vibrator shall be provided for facing the concrete around each pipe/special.

PSG 2.13 Spacers and Lifting Blocks (Subclause 5.1.2)

Spacers and lifting blocks required for providing cover shall be formed of sand/cement mortar or shall be patent units manufactured from plastic or other materials, which will not corrode. The units shall be sufficiently strong for the purpose required and shall be provided with fixing devices suitable for maintaining the units in the required positions.

The units shall be compatible with the type of finish specified.

PSG 2.14 Expansion Joint formers, Fillers and Sealers

Materials used to form expansion joints shall be rigidly held in position during concreting, shall not deteriorate or distort when wet, and shall be easily removed from the formed joint without damaging the finished concrete.

PSG 2.15 Curing and Protection (Subclause 5.5.8)

The method of curing and protection shall be to the Engineer's approval.

Freshly placed concrete shall be protected against heavy rainfall, flowing water and water pressure for at least 48 hours after placing.

PSG 2.16 Concrete on Wet Ground (Subclause 5.5.12)

The Contractor shall be responsible for keeping all excavations free from water.

PSG 3 TESTING

PSG 3.1 Test Cubes (Subclause 7.1.1)

The Contractor shall be responsible for the making and storage of concrete test cubes in accordance with SABS Method 863 and to the approval of the Engineer.

PSG 3.2 Frequency of Sampling (Subclause 7.1.2)

At least one set of 6 test cubes shall be taken from the concrete mixed on any one day. If the volume of concrete poured on any day exceeds 10m³ one set of cubes shall be taken for every 10 m³ or part thereof.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSG 3.3 Requirements and Tests for Watertightness of Sump

The completed structure shall be watertight, and the quality and finish of the work shall be such that no after-treatment of the work such as plastering or cement wash is necessary to ensure compliance with this requirement.

The Works will not be certified until the sump has been proved by testing to be watertight.

Upon completion of construction and when so agreed by the engineer, the structure shall be filled by the gradual admission of water until the water level reaches the designed maximum level. The water level shall then be carefully noted and recorded by the Engineer in relation to a fixed benchmark, and the structure shall be allowed to remain filled for a period of 2 weeks or such longer time as may be required to permit complete saturation of the concrete. During this period, readings will be taken by the Engineer and the results so obtained will be available for the information of the Contractor.

At the end of this period more water shall be added, if necessary, to bring the water level back to the designed maximum level and the water shall be left undisturbed for a period of at least 4 days, during which time the level shall again be recorded by the Engineer at regular intervals. The structure shall be considered to be watertight if the drop in the water level does not exceed 6 mm in 96 hours in the case of a roofed structure and if no leakage is apparent.

If appreciable leakage is evident at any stage of the filling or testing or, in the opinion of the Engineer, the degree of watertightness is unsatisfactory, the Contractor shall, when so ordered by the Engineer, discontinue the test immediately and, at his own expense, take approved steps to rectify the work.

The work of rectification shall be continued assiduously until, on repetition of the test procedure, a satisfactory test result is obtained and the degree of watertightness is acceptable.

Watertightness of the sump roof shall be tested by the continuous sprinkling of water over the roof with approved sprinklers so that a film of water is maintained on the surface of the slab. The roof shall be considered watertight if no damp patches are visible on the underside after 48 hours of sprinkling.

The Engineer shall have the right to retest the structure before the expiry of the defects liability period, the results of these tests will be made available to the Contractor. If these tests indicate to the engineer that the degree of watertightness is unsatisfactory, the engineer (before issuing the final certificate) will be entitled to order the Contractor to rectify the work at his own expense in such a manner as will cause least interruption of the supply to consumers and will ensure that the degree of watertightness of the structure is satisfactory.

PSG 4 MEASUREMENT AND PAYMENT

PSG 4.1 Excavation

Excavation for concrete structures shall be measured and paid as per Clauses 5.1.2.1(b) and 8.2.1 of SABS 1200 D with no allowance for working space, batters etc.

PSG 4.2 Formwork (Subclause 8.1.1)

Formwork shall be measured by type per square metre or linear metre where the width is specified including supply, erection, stripping, cleaning, release agents etc and any other operation necessary, including 30 mm x 30 mm chamfers to all exposed concrete edges.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSGA – CONCRETE (SMALL WORKS)

PSGA 1 MATERIALS

PSGA 1.1 Cement (Subclause 3.2.1)

Concrete shall be made with Ordinary Portland Cement complying with SABS 471

PSGA 1.2 Water (Subclause 3.2.1)

The water from shall not be used in the manufacture of concrete or cement mortar.

PSGA 1.3 Aggregate (Subclause 3.4)

All concrete shall be manufactured with dolomitic aggregate.

PSGA 2 CONSTRUCTION

PSGA 2.1 Cover to Reinforcement (Subclause 5.1.3)

Concrete cover to reinforcement shall be 40 mm for 30 MPa concrete, or 50 mm for 25MPa concrete.

PSGA 2.2 Concrete (Subclause 5.4)

Concrete shall be made with a minimum cement content of 420kg/m³ and a minimum cement water ratio of 2,2.

PSL – PIPELINES (MEDIUM PRESSURE PIPELINES)

PSL 1 MATERIALS

PSL 1.1 Valves (Subclause 3.10)

Valves shall comply with SABS 664, be the Waterworks pattern, resilient seal, class 12, non-rising spindle, anti clockwise closing, fitted with a cap and a means of repacking the gland under pressure.

PSL 1.2 Fire Hydrants

Fire hydrant valves must be tamper proof with a 65 mm double aluminium alloy, quick coupling which complies with the applicable requirements of SABS 1128, Parts 1 and 2, and must be equipped with a square spindle on which the keys of the local fire brigade fit. They must further comply with NBR 85, Section T, No 9613, dated 1 March 1985. Flanges of the fire hydrant T-pieces must be drilled in accordance with SABS 1123, Table 1600.

Fire hydrants must be positioned 450 mm from the erf boundary directly opposite the corner peg of the erf. After installation, fire hydrants must be painted with a zinc chromate or a similar product, which complies with the applicable requirements of SABS 679. Following that, two coats of medium yellow high-gloss enamel paint must be applied such as Plascon Code G6 or an approved similar product, which complies with the requirements of SABS 630.

PSL 1.3 Piping

All water mains shall be uPVC Class 9 pipes in accordance with SABS 966 Part 1, 1998 unless otherwise stated. All house connection pipes shall be HDPE Class 12. All pipes shall carry the SABS approved marking.

PSL 1.4 Anchor / Thrust Blocks

The volume of each block shall be in accordance with the payment quantity shown on the typical Dwg and the constructed dimensions of each block shall be at least those shown. The rate shall include for any extra excavation required, trimming, formwork, reinforcement (if any)

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

and the placing of 10 Mpa concrete.

PSL 2 CONSTRUCTION

PSL 2.1 Depth and Covering (Subclause 5.1.4)

Except where permitted, water pipes shall be positioned in such a way as to maintain a minimum cover of 1 000mm from the finished surface to the top of the pipe at roads and 600mm from the finished surface to the top of the pipe to all other cases.

Where stormwater pipes and/or sewer pipes cross the water pipe, the minimum free distance between the outside of any of the pipes and the outside of the coupling of the water pipe shall be 300mm. Should, at the specified minimum cover, the free distance be less than 300mm, the water pipe will be lowered to the required level ensuring the free distance for a minimum distance of 1,0m, either side of the centre line of the stormwater- or sewer pipe, beyond which the pipe will be sloped back to the required level as detailed in subclause 5.1.4.2 of SABS 1200 L.

PSL 2.2 Connection to Existing Pipes

Add the following to this clause as subclause 5.11:

All the consumers concerned as well as the Engineer and the Statutory Authority shall be notified in writing at least one (1) week before the existing water supply is interrupted. Arrangements for the interruption of the water supply shall be made in advance with the Statutory Authority and the Contractor shall not be entitled to lodge any claims as a result of problems caused by non-compliance. Under no circumstances shall employees of the Contractor be allowed to interrupt the water supply at any time.

All activities during the interruption of the water supply shall be planned and coordinated beforehand and all the preparations possible shall be completed before the interruption to minimize the inconvenience to the consumers. The Engineer has the authority to stop or to postpone the interruption and the Contractor will not be entitled to any claims in this regard, should the Engineer be of the opinion that the interruption was prolonged more than necessary as a result of bad planning by the Contractor.

PSLB – BEDDING (PIPES)

PSLB 1 MATERIALS (Clause 3)

PSLB 1.1 Bedding Material (Subclause 3)

Selected fill material (as per subclause 3.2) shall be used for the bedding cradle and fill blanket up to the underside of the main fill.

Suitable selected fill material for the fill blanket and for the bedding cradle will generally be available from trench excavations, within a distance not exceeding 500 m.

PSLB 2 MEASUREMENT AND PAYMENT

PSLB 2.1 Principles (Subclause 8.1.1)

Bedding material shall be obtained from suitable material from trench excavations. Where material alongside the trench is unsuitable, bedding material shall be provided from alternate locations on instruction from the Engineer. Payment shall only be made for provision of this material when the distance over which it has been transported exceeds 1 km. In all other cases, the rate for excavation and backfill shall cover the cost of handling, providing, placing and compacting the bedding.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSLB 3 INSPECTION OF THE WORKS BY THE LOCAL AUTHORITY

Where the Works are inspected by the Engineer, the following inspections shall be carried out in the presence of the Engineer, the Contractor and the authorised representative of the Local Authority (Water and Sewerage):

First Inspection

When pipes and fittings have been installed, backfilled and compacted up to 50% of the diameter of the pipe with excavation for concrete thrust blocks complete and left open for inspection. (See Clause PSL 1.4).

Second Inspection

When the compacted backfilling is complete to approximately 300 mm above the top of the pipes.

Third Inspection

During pressure tests.

Fourth Inspection

A final takeover inspection.

PSLD – SEWERS

PSLD 1 MATERIALS

PSLD 1.1 Pipes, Fittings and Pipe Joints (Subclause 3.1)

Sewer pipes used in this contract shall be uPVC class 34 (Heavy Duty) to SABS 791 as amended with a minimum wall stiffness of 300 kPa

PSLD 1.2 Manholes, Chambers etc. (Subclause 3.5)

Manholes shall be pre-cast concrete rings with pre-cast concrete lid and frame, Heavy Duty, SABS 566 approved, as in typical details drawing, 12177-C-S-STD-508.

Sewer manholes that consist of precast concrete sections shall comply with SABS 1294 (1993) with step irons located on the downstream side, and are to be of dolomitic concrete.

For all manholes channeling shall be clay channels. Alternative offers can be done separately by the contractor for plain concrete finish steel trowelled smooth, but no PVC channels will be allowed

PSLD 1.3 Concrete (Subclause 3.5.4)

Concrete shall be made with ordinary Portland cement complying with SABS 471. The minimum cement content shall be 420 kg/m³ and a minimum cement: water ratio of 2,2. Only dolomitic aggregates shall be used.

PSLD 1.4 Mortar (Subclause 3.5.6)

Mortar shall be composed of one part of ordinary Port-land cement to 3 parts of sand by volume.

PSLD 1.5 Manhole Covers and Frames (Subclause 3.5.8)

All manhole covers and frames shall comply with SABS 558 and shall be dolomitic concrete with a steel rim to the cover. Covers shall be either heavy duty or medium duty capable of test loading of 135 kN and 40 kN respectively.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSLD 2 CONSTRUCTION

PSLD 2.1 House Connections

Where sewer house connections are installed in hard rock material the Contractor shall over excavate by 1 m measured horizontally.

House connection markers shall consist of a nominal 2 mm dia galvanised iron wire tied to a brick left at the pipe connection. The other end of the wire shall be cast into Class 20/19 rectangular concrete block of dimensions at least 200 mm x 200 mm x 200 mm deep.

The marker shall be installed vertically above the connection and the concrete block shall protrude 50 mm above ground level. The rate for the marker will be included in the erf connections type 1-3.

PSLD 2.2 Water Tightness of Manholes (Subclause 7.2.6)

Amend Subclause 7.2.6 to read:

Where ordered by the Engineer the Contractor shall arrange for the manholes to be tested in the following manner in the presence of the Engineer:

All sewer inlets and outlets to and from the manhole shall be closed with expanding plugs or other apparatus. Water shall then be introduced into the manhole up to a level approximately 50mm below the underside of the roof slab and left standing for a minimum of 2 hours.

The water level shall then be accurately measured at the end of each of four, 15 minute intervals and the rate of leakage computed. In the event of the rate of leakage, if any, exceeding 5,0 l/hr/metre depth of manhole, or in the event of any weakness, defect or fracture or visible signs of leakage occurring in the manhole under test, the test shall be discontinued and the Contractor shall search for and rectify any weakness or defect in the manhole under test, such work or rectification to consist of repair or replacement or both. The manhole shall thereafter be retested in the manner specified. This process shall be repeated until satisfactory results are obtained. The Contractor will be paid for the testing of the water tightness of manholes at the rate per manhole quoted by him in the Schedule of Quantities. The rate for the testing of manholes shall cover the cost of all plant, labour and material required for compliance with the above. The cost of rectification work and retesting of manholes that have failed the test shall be to the Contractor's account.

PSLD 3 MEASUREMENT AND PAYMENT

PSLD 3.1 House Connections

House connections shall be measured and paid per No and shall include all piping, couplings, concrete and formwork used to construct the connection in accordance with the drawings, the markers including painting ,excavations ,backfill and spoil of surplus material as well for any bedding materials .

PSLE – STORMWATER DRAINAGE

PSLE 1 MATERIALS

PSLE 1.1 Concrete

Concrete shall be made with ordinary Portland Cement complying with SABS 471. The minimum cement content shall be 420 kg/m³ with a minimum cement : water ratio of 2,2. Only dolomitic aggregates shall be used.

PSLE 1.2 Mortar

Mortar shall be composed of one part of ordinary Portland Cement to 3 parts of sand by volume.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSLE 2 CONSTRUCTION

PSLE 2.1 General

Pipes, precast culverts and channels shall be laid true to line and level, and each unit shall mate uniformly with the next to preserve a true grade and alignment. Pipes shall be laid in accordance with the SABS Code of Practice No 058.

In every case the unit shall be laid in such a manner that the bearing surface lies firmly and evenly upon its bed. All units shall be laid from the lowest point and proceed upgrade.

PSLE 2.2 Concrete Pipes

PSLE 2.2.1 Ogee Joints

Ogee pipes shall be laid with the socket facing upgrade. The pipes shall be butted hard together and any gaps between the pipes exceeding 3 mm (both on the inside and outside of the pipe) shall be completely filled with cement mortar and trimmed off. The joints shall then be wrapped externally with one layer of approved self adhesive polythene tape having a width of 200 mm and overlapping at least 50 mm on either side.

PSLE 2.2.2 Spigot and Socket Joints

The pipes shall be laid with the socket end facing upgrade. The ends of each pipe and the rubber ring shall be clean and dry before jointing. Each rubber ring shall be placed on the spigot end of the pipe square with the axis and not twisted and the spigot shall be pushed into the socket of the pipe previously laid, ensuring that both pipes are in a straight line.

Pipes shall be closely butted together after jointing and care shall be exercised to ensure that the joints remain tight as the work proceeds. If a pipe is observed to creep out of the joint (due to twisting of the rubber ring), it shall be pulled out and the joint re-made.

Where manufacturer's instructions conflict with these specifications, they shall be submitted to the Engineer for approval.

PSLE 3 MEASUREMENT AND PAYMENT

PSLE 3.1 Pipes, Precast Culverts And Channels

Pipes, precast culverts and channels shall be measured and paid for per linear metre of conduit laid. Measurement shall be from the inside face of manholes or catchpits, the face of headwalls or the end of open pipes, culverts or channels. Payment for cutting the pipes, etc shall be included in the rate for the structures.

Payment for sections of pipeline shall only be made after the entire section between manholes is completed and built into the manhole as required.

Payment for pipes, precast culverts and channels shall include for supplying, delivering, handling, laying, bedding, jointing, plugging the lifting holes with concrete and testing of the units including the necessary material, plant and labour required for the successful completion of the work.

PSLE 3.2 Excavation For Open Channels And Culverts

Excavation shall be measured and paid for per linear metre or cubic metre, whichever is detailed in the Schedule of Quantities. Measurement shall be made to the net outside dimensions as detailed on the drawings and no additional payment shall be allowed for over-excavation and the remedial reinstatement required.

The Contractor shall be entitled to extra payment for all intermediate and hard material excavated within the net outside dimensions specified, which shall be measured and paid for per cubic metre extra over the excavation in normal material.

The cost of filling in natural hollows and depressions or the cost of replacing intermediate and

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

hard with selected fill or concrete, shall be included in the rates for intermediate and hard.

PSLE 3.3 In-situ Lined Channels And Culverts

Cast in-situ channels and culverts shall be measured and paid for as specified for concrete structures.

PSLE 3.4 Inlets, Catchpits, Headwalls And Manholes

All inlets, catchpits, headwalls, manholes etc shall be measured and paid for by units as classified in the Schedule of Quantities. The Contractor's price shall include for all excavation, backfill, material, plant and labour required with the exception of excavation in Intermediate and Hard material, which shall be measured and paid per cubic metre extra over. The rates quoted shall include for all benching necessary in the structures and for any cutting of pipes, culverts, etc to enable the structure to be constructed at the specified position.

PSLF – ERF CONNECTIONS (WATER)

PSLF 1 MATERIALS (Clause 3)

PSLF 1.1 Pipes (Subclause 3.1.3)

Water house connections shall consist of HDPE, Class 9 piping with polypropylene compression fittings as shown on the drawings.

PSLF 2 CONSTRUCTION (Clause 5)

PSLF 2.1 General (Subclause 5.2.3.1)

Erf connections shall be constructed as far as the temporary plug, as indicated on the drawings.

PSLF 2.2 Recording of Locations (Subclause 5.4.2)

No recording is required for erf connections placed strictly in accordance with the drawings. Where erf connections are placed in non-standard positions on the Engineer's instructions the details listed shall be recorded by the Contractor.

PSLF 3 TESTING

The erf connections shall be tested by the Contractor as an integral part of the reticulation system.

PSLF 4 MEASUREMENT AND PAYMENT (Clause 8)

PSLF 4.1 Supply and Install Erf Connections

Erf connections shall be measured and paid for by number of each type.

The rates shall cover the cost of supplying all materials from the saddle on the watermain up to and including the stop cock and temporary plug and for the handling, transporting, installing, jointing and commissioning the piping. Excavations will be measured separately.

PSME – SUBBASE

PSME 1 MATERIALS

PSME 1.1 Selection of Material (Subclause 3.5.1 SABS 1 200 ME Series)

Provision has been made for the supply of subbase quality material from excavations on site as well as 25% to be supplied from a commercial source. It is a condition of this contract that such material shall conform to the following requirements (G7 material):

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

Minimum CBR at 93% Mod AASHTO density	15%
Maximum Plasticity Index	11 (8-20)
Swell at 100% Mod AASHTO density not to exceed	1.5 %
Grading Modulus (GM)	2.7 > GM > 0,75

PSME 1.2 Material Characteristics

Material selected for use shall conform to the following requirements and shall be approved by the Engineer:

	Subbase	Base
Minimum CBR Mod AASHTO density	91-93%	93%
Maximum Plasticity Index:	11	11 (8-20)
Maximum aggregate size	50 mm	50 mm
Prefered aggregate size	37.5 mm	37.5 mm

PSME 2 CONSTRUCTION

PSME 2.1 Thickness of Subbase Layer (Subclause 5.4.1 SABS 1 200 ME Series)

The thickness of the subbase layer shall be as shown on the drawings or specified by the Engineer.

PSME 3 MEASUREMENT AND PAYMENT

PSME 3.1 Imported Selected Material

Imported selected material shall be measured and paid for per cubic metre, and shall cover all work necessary to obtain, load, haul, tip and spread the selected material.

PSMFL – BASE (LIGHT PAVEMENT STRUCTURES)

Gravel Road Wearing Course (No asphalt surfacing required)

PSMFL 1 MATERIALS

PSMFL 1.1 Selection of Material (Subclause 3.5.1 SABS 1 200 ME Series)

Provision has been made for the supply of subbase quality material from excavations on site as well as 25% to be supplied from a commercial source. It is a condition of this contract that such material shall conform to the following requirements (G7 material):

Minimum CBR at 93% Mod AASHTO density	15%
Maximum Plasticity Index	11 (8-20)
Swell at 100% Mod AASHTO density not to exceed	1.5 %
Grading Modulus (GM)	2.7 > GM > 0,75

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

PSME – SUBBASE

PSME 1 MATERIALS

PSME 1.1 Selection of Material (Subclause 3.5.1 SABS 1 200 ME Series)

Provision has been made for the supply of subbase quality material from excavations on site as well as 25% to be supplied from a commercial source. It is a condition of this contract that such material shall conform to the following requirements (G7 material):

Minimum CBR at 93% Mod AASHTO density	15%
Maximum Plasticity Index	11 (8-20)
Swell at 100% Mod AASHTO density not to exceed	1.5 %
Grading Modulus (GM)	2.7 > GM > 0,75

PSME 1.2 Material Characteristics

Material selected for use shall conform to the following requirements and shall be approved by the Engineer:

	Subbase	Base
Minimum CBR Mod AASHTO density	91-93%	93%
Maximum Plasticity Index:	11	11 (8-20)
Maximum aggregate size	50 mm	50 mm
Preferred aggregate size	37.5 mm	37.5 mm

PSME 2 CONSTRUCTION

PSME 2.1 Thickness of Subbase Layer (Subclause 5.4.1 SABS 1 200 ME Series)

The thickness of the subbase layer shall be as shown on the drawings or specified by the Engineer.

PSME 3 MEASUREMENT AND PAYMENT

PSME 3.1 Imported Selected Material

Imported selected material shall be measured and paid for per cubic metre, and shall cover all work necessary to obtain, load, haul, tip and spread the selected material.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2	3			
Part	T1	T2	C1	C2	C3	C4

Contract No. DHS/231/24/MP Re-Advert Page (i)
DEPARTMENT OF HUMAN SETTLEMENTS
Appointment of a contractor for the construction of bulk water and sewer infrastructure in Kinross extension 33 settlement under Govan Mbeki Local Municipality, Gert Sibande District.

Department of Human Settlements



DHS/231/24/MP

VOLUME 1

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER AND SEWER INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT SIBANDE DISTRICT.

PART C4: SITE INFORMATION

Prepared by:
FT Consultant Civil & Structural Engineers
7 Ehmke Street
Mbombela, 1201
Telephone: +27 72 777 0920
Email: stanelymasher@gmail.com



Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

C4 SITE INFORMATION

GENERAL

This section describes the site at the time of tender to enable the tenderer to price his tender and to decide upon his method of working and programming and risks.

CONTENTS

Clause	Description	Page no.
SI 1	SITE LOCATION	(2)
SI 2	SITE INFORMATION	(2)
SI 3	ACCESS TO SITE AND RESTRICTIONS	(2)
SI 4	EXISTING SERVICES, SERVITUDES AND WAYLEAVES	(2)
SI 5	SECURITY	(3)
SI 6	ENVIRONMENTAL IMPACT ASESSMENT	(3)
SI 7	GEOTECHNICAL REPORT	(3)
SI 8	TRAFFIC IMPACT ACCESSMENT	(3)

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

SI 1 SITE LOCATION

The site is located in the vicinity of Lothair.

The following site conditions shall be taken into consideration in the design and selection of equipment:

- Altitude (average over the site) 1 715 m
- Average maximum temperature..... 23.2°C
- Minimum temperature 1°C

SI 2 SITE INFORMATION

The location of the proposed development is indicated on Figure1: Locality Plan. The land to be developed is located on portion 7 of the Farm Zondagskraal 125 IS, Kinross Extension 33 and Ext 34, Mpumalanga Province. Zondagskraal is approximately 1636 m above sea level.

SI 3 ACCESS TO SITE AND RESTRICTIONS

The access to portion 7 of the Farm Zondagskraal 125 IS will be through R29 Provincial Road. Zondagskraal is located approximately 15.3 km South East of Leandra town in the Gert Sibande District Municipality, Mpumalanga Province. The site is accessible by travelling on Regional Road R29 approximately 2.91 km from Kinross town. The site is also bound by R547 to the east direction and R29 to the southern side

No restriction on access to the Site of Works will be placed on persons or vehicles involved with the execution of the Works. All traffic must be restricted to the maximum speed of 30 km/h and vehicles must be driven with extreme caution.

No additional access will be allowed, and the contractor must establish his site camp close to the development along the route mentioned above.

The Contractor’s staff shall be identified by either clothing bearing the contracting companies name or an identification tag, which shall be displayed when entering the Site of Works.

SI 4 EXISTING SERVICES, SERVITUDES AND WAYLEAVES

The known existing services are shown on the drawings. The exact positions of the services cannot be guaranteed. On establishing on Site, the Contractor must determine the positions of all pipelines and cable routes on Site with the assistance of the Engineer’s and the Employer’s staff on Site. The Contractor must take

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2	3			
Part	T1	T2	C1	C2	C3	C4

precautions to prevent any damage to existing services. Damages which might occur will be repaired at the cost of the Contractor.

Wayleaves will have to be sourced from the municipality. If the Municipality does not have details of the exiting services, care must be taken when excavating on site, and hand excavated test pits must be dug where it is deemed necessary.

SI 5 SECURITY

The Contractor shall remain responsible for the security of his on-site establishment and plant.

SI 6 ENVIRONMENTAL IMPACT ASESSMENT

An Environmental Assessment was conducted and is available on request.

SI 6 HYDROLOGICAL INVESTIGATIONS

Catchment and hydrology calculations have been done by FT Consultants Civil & Structural Engineers and flood line information is available.

SI 7 GEOTECHNICAL REPORT

Geotechnical information is available.

SI 8 TRAFFIC IMPACT ACCESSMENT

Traffic Impact Assessment is available.

Employer:		Contractor	
Witness:		Witness:	





MPUMALANGA DEPARTMENT OF HUMAN SETTLEMENTS



DHS/231/24/MP

**APPOINTMENT OF A CONTRACTOR FOR THE
CONSTRUCTION OF BULK WATER AND SEWER
INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT
UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT SIBANDE
DISTRICT.**

VOLUME 2

Prepared for:	Prepared by:
	
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Employer:		Contractor:	
Witness:		Witness:	

PROJECT NUMBER:	DHS/231/24/MP Re-Advert
PROJECT LOCATION:	Govan Mbeki Local Municipality
PROJECT DESCR:	Appointment of a contractor for the construction of bulk water and sewer infrastructure in Kinross extension 33 settlement under Govan Mbeki Local Municipality, Gert Sibande District.

VOLUME 2

Occupational Health, Safety & Environmental Specification

DHS231/24/MP Re-Advert

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER AND SEWER INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT SIBANDE DISTRICT.

CIDB GRADE 7CE OR HIGHER

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PROJECT NUMBER:	DHS/231/24/MP Re-Advert
PROJECT LOCATION:	Govan Mbeki Local Municipality
PROJECT DESCR:	Appointment of a contractor for the construction of bulk water and sewer infrastructure in Kinross extension 33 settlement under Govan Mbeki Local Municipality, Gert Sibande District.

General Notification

This document forms an integral part of the Contract Specification and, in particular, shall constitute the Employer's (FT Consultants Civil and Structural Engineers) Occupational Health, Safety & Environmental (SHE) Specification, as required by the Construction Regulations, 2003, as promulgated under the Occupational Health and Safety Act (Act no. 85 of 1993). The Specification shall furthermore be applied for the management of Mandatories performing activities for or on behalf of FT Consultants Civil and Structural Engineers, irrespective whether the contract work constitutes construction work or not.

The Contract Specification is contained in Volume 1 of the contract documents in Part 3: Scope of Work.

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Overview on SHE specification framework and contractor management process

Introduction

In terms of Section 37 of the Occupational Health and Safety Act (Act no. 85 of 1993), FT Consultants Civil and Structural Engineers is required to control persons/organizations conducting activities for or on their behalf (Mandatories) and the Construction Regulations promulgated under the Occupational Health and Safety Act (Act no. 85 of 1993), is requiring FT Consultants Civil and Structural Engineers. to compile an occupational health and safety specification for any intended project classified as construction work and to provide the specification to prospective tenderers / Mandatories.

The dual objective of this specification is to ensure that the Mandatories and Principal Contractors (herein after called Principal Contractor (including Mandatories)) entering into a contractual agreement/relationship with FT Consultants Civil and Structural Engineers. achieves and maintains an acceptable level of occupational health, safety and environmental performance whilst conducting activities to perform the contract work.

This document forms an integral part of the Contract Specification and, in particular, shall be the OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENTAL (SHE) SPECIFICATION FOR CONSTRUCTION WORK. The Contract Specification is contained in Volume 1 of the contract documents. The principal and other contractors shall ensure that this specification is included with any contract/s that they may have with other contractors and/or suppliers that are engaged for the provision of labour, goods or services for this project. The Principal Contractor and its Contractors shall furthermore implement any reasonably practicable means to ensure compliance to this Occupational Health, Safety and Environmental (SHE) Specification and any other applicable legislation on their organization and/or activities performed by or for them. This SHE Specification will be read in conjunction, where issued and applicable, with the Environmental Specification issued for listed activities requiring environmental authorization by a relevant authority.

Compliance with this SHE specification does not absolve the Principal Contractor from complying with any other applicable minimum legal requirement and the Principal Contractor remains responsible for the sustainable integrity of the environment and the health and safety of its employees, mandatories as well as any persons affected by activities conducted for or on behalf of FT Consultants Civil and Structural Engineers.

FT Consultants Civil and Structural Engineers' commitment to Occupational Health, Safety & Environmental (SHE) Management

FT Consultants Civil and Structural Engineers is committed to responsible occupational health, safety and environmental management. This commitment is essential to protect the environment, employees, Mandatories, visitors and provide a work environment conducive to health and safety. Principal Contractors and their Contractors shall demonstrate their commitment and concern by:

- Ensuring that decisions and practices affecting occupational health, safety and environmental performance are consistent with the issued SHE specification;
- Ensuring adequate resources are made available for the effective implementation of occupational health, safety and environmental control and mitigation measures;
- Participating in hazard identification and risk assessments and design safety reviews;
- Communicating occupational health, safety and environmental management processes, strategies and control measures with all levels of employees, contractor and/or visitors;
- Ensuring visible leadership at all sites;
- Promoting and enforcing the use of correct types of Personal Protective Equipment (PPE);
- Reporting and investigation of incidents and accidents and ensuring actions are identified and implemented to prevent similar types of incidents reoccurring;
- Participating in Client audits and meetings and ensuring required actions are implemented within reasonable time frames on the site/project;
- Recognizing and commending safe work practices and coaching employees who require guidance;
- Applying and enforcing consequence management from deviations and transgressions of/from compliance to this SHE Specification noted and/or observed, where applicable;
- Carrying out safety observations, implement corrective and preventative actions and giving immediate feedback;
- Encouraging employee participation in the formulation of work instructions and safety rules.

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Scope of Occupational Health, Safety and Environmental (SHE) Specification

The scope of this Occupational Health, Safety and Environmental (SHE) Specification is to address the reasonable and foreseeable aspects of occupational health, safety and environmental management, which will be affected by the contract work.

The specification will provide the requirements that the Principal Contractor and other Contractors shall comply with in order to reduce the risks associated with the contract work, and that may lead to incidents causing injury and/or ill health or degradation of the environment, to a level as low as reasonably practicable and possible.

In particular, FT Consultants Civil and Structural Engineers will ensure that it shall not appoint any Principal Contractor unless it is reasonably satisfied that the contractor which it intends to appoint has the necessary competencies and resources to carry out the work safely.

Omissions from SHE Specification

Where any omission from the SHE Specification is identified, applicable legal requirements will constitute the minimum standard for compliance to the relevant omission. The responsibility will be on the Principal Contractor to provide assurance to FT Consultants Civil and Structural Engineers on compliance to the applicable legal requirements related to the activity / task / process.

Change management

Whenever FT Consultants Civil and Structural Engineers identifies the need to change or review the SHE Specification, approved changes and revisions will be communicated to the Principal Contractor. A cost analysis on the implementation of the proposed changes / revisions will be calculated through a collaborative process between FT Consultants Civil and Structural Engineers and the Principal Contractor – where the approved changes and/or revisions has no cost implication for the Principal Contractor the Principal Contractor will be required to accept the approved changes / revisions and ensure implementation within the SHE Plan / File framework.

Overview of contractor management process

The contractor management process consists of the following phases:

- Tender briefing and tender documentation;
- Competency evaluation of Principal Contractors (integrated into Supply Chain Management processes);
- Appointed contractor to attend SHE system induction;
- Preparation of SHE File by Principal Contractor;
- Evaluation of SHE File;
- Principal Contractor engagement phase;
- Project close-out and submission of consolidated Health & Safety File.

Tender briefing and tender documentation (inclusive of SHE Requirements)

Prospective tenderers attending tender briefing meetings will receive an overview of the requirements contained in the SHE Specification to enable them to prepare for submission of documentation for tender evaluation purposes.

Projects requiring quotation / proposal submission will receive the SHE Specification from the relevant engineer / project manager and should ensure they receive the documentation to prepare themselves for implementation of the requirements.

Competency evaluation of Principal Contractors (integrated into Supply Chain Management processes)

Any contractor submitting a bid in response to FT Consultants Civil and Structural Engineers' formal tender request for any construction project, shall prepare and include, in his tender submission, a draft project specific occupational health, safety and environmental plan, specific to activities / tasks to be performed by the Contractor, based on this specification, the Occupational Health and Safety Act (Act no. 85 of 1993) and all applicable environmental legislation. FT Consultants Civil and Structural Engineers will evaluate this plan as part of the formal tender adjudication processes to ensure compliance with this SHE Specification and relevant legislative requirements.

OH&S requirements for tender evaluation stage will be determined by the contractor grading designation (CIDB) which is determined by the financial and works capability of the contractor and assigned by the Construction Industry Development Board. The competency evaluation will be approached in 2 stages:

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STAGE1: Valid letter of good standing with Compensation Commissioner or other Insurer to be submitted to the client. (Invalid / Outstanding documentation will result in a request to the tenderer to submit valid / updated documentation within 7 days from communication.)

STAGE 2: SHE Plan / File, Contractor SHE Competency evaluation form and returnable documentation evaluation in terms of criteria communicated in tender documentation:

The following table provides guidance to Principal Contractors on minimum documentation required to be submitted for evaluation purposes during the competency evaluation phase of tender submission. Should the specification require additional assurance documentation, the Principal Contractor should ensure that these are included – failure to submit the minimum documentation requirements could result in the Principal Contractor being declared not competent for the project work.

MINIMUM REQUIREMENT DESCRIPTION FOR RETURNABLE DOCUMENTS	CIBD GRADING								
	1	2	3	4	5	6	7	8	9
STAGE 1: TENDER SUBMISSION									
Valid letter of good standing with Compensation Commissioner or other Insurer	x	x	x	x	x	x	x	x	x
STAGE 2: SHE PLAN / FILE EVALUATION IN TERMS OF CRITERIA COMMUNICATED IN TENDER DOCUMENTATION									
OHSACT - OH&S Policy (indicating management commitment for OH&S control implementation)	x	x	x	x	x	x	x	x	x
OHSACT legal requirement – Method for conducting hazard identification and risk assessment	x	x	x	x	x	x	x	x	x
OHSACT legal requirement – Baseline Risk Assessment	x	x	x	x	x	x	x	x	x
OHSACT legal requirement – Method Statement / Safe work Procedure Example	x	x	x	x	x	x	x	x	x
OHSACT legal requirement – Hazard & Risk induction / awareness programme	x	x	x	x	x	x	x	x	x
OHSACT legal accountability – 16(1) Resolution or delegated 16(2) appointment	x	x	x	x	x	x	x	x	x
OHSACT legal appointment – Construction Supervisor & proof of competency	x	x	x	x	x	x	x	x	x
OHSACT legal appointment – Competent Risk Assessor & proof of competency	x	x	x	x	x	x	x	x	x
OHSACT legal appointment – Site Safety Officer & proof of competency	x	x	x	x	x	x	x	x	x
Systemic requirement – Smoking policy	x	x	x	x	x	x	x	x	x
Systemic requirement – Disciplinary policy for employees transgressing OH&S site rules	x	x	x	x	x	x	x	x	x
Systemic requirement – Drug, alcohol & substance abuse policy				x	x	x	x	x	x
Systemic requirement – HIV/AIDS policy				x	x	x	x	x	x
Systemic requirement – Local labourer and subcontractor management procedure				x	x	x	x	x	x
Systemic requirement – Medical screening / examination policy							x	x	x
Systemic requirement – Training / Skills development plan for site personnel							x	x	x

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The following evaluation criteria will be applied to evaluate the Principal Contractor's submitted assurance documentation and Health and Safety Plan & File.

EVALUATION CRITERIA	RETURN-ABLE	CIBD GRADING										
OVERVIEW OF EXISTING SHE MANAGEMENT PRACTICES IN THE TENDERER'S ORGANIZATION												
Does your organization have an existing OH&S / SHE Management System?		S					x	x	x	x	x	x
Is your existing SHE Management System certified against ISO 14001 / OHSAS 18001?	x	S								x	x	x
ORGANIZATIONAL POLICIES												
Does your organization have an existing OH&S / SHE Policy signed by top management reflecting your commitment to OH&S / SHE management practices?	x	S	x	x	x	x	x	x	x	x	x	X
Does your organization have a policy addressing drug? Alcohol & substance abuse in the workplace?	x	S					x	x	x	x	x	x
Does your organization have a policy addressing smoking in the workplace?	x	S					x	x	x	x	x	x
Does your organization have a policy addressing HIV / AIDS?	x	S					x	x	x	x	x	x
Does your organization have a disciplinary policy for employees transgressing OH&S / SHE rules and Requirements?	x	S								x	x	x
Does your organization have a medical screening / examination policy?	x	S								x	x	x
HAZARD / RISK, ASPECT / IMPACT IDENTIFICATION, ASSESSMENT & MANAGEMENT												
Does your organization have a method / procedure in place for conducting hazard/aspect identification, assessment, control & management	x	S	x	x	x	x	x	x	x	x	x	x
Submit a copy of a baseline risk assessment related to the scope of work for the tendered project	x	S	x	x	x	x	x	x	x	x	x	x
Does your organization develop method statements / safe work procedures from approved risk assessments? (Submit an example)	x	S	x	x	x	x	x	x	x	x	x	x
Do employees perform risk assessments prior to commencement of any activity or task?		S					x	x	x	x	x	x
APPLICABLE LEGAL AND OTHER REQUIREMENTS												
Is your organization in good standing with the Compensation Commissioner and/or any other insurer for all workers employed by your organization?	x	S	x	x	x	x	x	x	x	x	x	x

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EVALUATION CRITERIA	RETURN-ABLE	C/A S/S	CIBD GRADING									
			1	2	3	4	5	6	7	8	9	
Does your organization have access to occupational health? safety and/or environmental legislation and other industry standards to which your organization must comply?	x	S				x	x	x	x	x	x	x
OH&S / SHE IMPROVEMENT PROCESSES / PROGRAMMES												
Does your organization establish programmes to improve on risk management practices?		S								x	x	x
STRUCTURE, RESPONSIBILITY, AUTHORITY & ACCOUNTABILITY												
Submit a copy of your resolution on CEO responsibilities in terms of Section 16(1) of the OHS Act (85 of 1993) or the appointment letter of the delegated Section 16(2) appointee	x	S	x	x	x	x	x	x	x	x	x	x
Does your organization have an appointed competent Construction Supervisor?	x	C	x	x	x	x	x	x	x	x	x	x
Does your organization have an appointed competent Risk Assessor?	x	C	x	x	x	x	x	x	x	x	x	x
Does your organization have an appointed competent Safety Officer to be assigned to the project tendered for?	x	C	x	x	x	x	x	x	x	x	x	x
Submit a copy of the proposed OH&S Human Resources / Appointment structure to be appointed for the tendered project	x	C								x	x	x
TRAINING (COMPETENCY & AWARENESS)												
Do all legal or nominated appointees the required training and knowledge specific for the responsibilities to be fulfilled?		C	x	x	x	x	x	x	x	x	x	x
Does your organization have a hazard/risk induction and/or awareness programme to make employees aware of the risks they will be exposed to in the work environment? (Submit a copy)	x	S	x	x	x	x	x	x	x	x	x	x
Are employees trained on the implementation of method statements / safe work procedures?		C	x	x	x	x	x	x	x	x	x	X
Does your organization have a training / skills development plan for the project employees? (Submit a copy)	x	C								x	x	x
SUB-CONTRACTOR & LOCAL LABOUR MANAGEMENT												
Does your organization have a procedure addressing sub-contractor and employment of local labour management? (Submit a copy)	x	S				x	x	x	x	x	x	x
Does your organization evaluate whether a sub-contractor to be appointed are competent for the activities / work to be performed by them?		S				x	x	x	x	x	x	x
Does your organization have a process for monitoring compliance & performance of sub-contractors?		S				x	x	x	x	x	x	x
OPERATIONAL CONTROL												
Have your organization established processes / procedures to ensure regular inspection / monitoring of operational hazards and risks as per legislative requirements?		S				x	x	x	x	x	x	x
Does your organization have a security & access control		S	x	x	x	x	x	x	x	x	x	x

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EVALUATION CRITERIA	RETURN-ABLE	CLASS	CIBD GRADING											
			1	2	3	4	5	6	7	8	9			
programme to protect resources and equipment?														
Do operators of machinery and other construction equipment possess a valid training certificate issued by a registered training service provider?		C	x	x	x	x	x	x	x	x	x	x	x	x
Are operators of construction vehicles and/or mobile plant tested to be medically and psychologically fit to operator said vehicles?		SC	x	x	x	x	x	x	x	x	x	x	x	X
Does your organization's motor vehicles, construction vehicles, mobile plant comply with the manufacturer's design and legal requirements?		S	x	x	x	x	x	x	x	x	x	x	x	x
Will your organization provide facilities as applicable and required by legislation to ensure compliance to OH&S legislation (toilets,		S	x	x	x	x	x	x	x	x	x	x	x	x
EMERGENCY PREPAREDNESS AND RESPONSE														
Are fire risks associated with the project assessed and will provision be made for the control of fire risks?		S	x	x	x	x	x	x	x	x	x	x	x	x
Does your organization have a standard / procedure on emergency preparedness and response?		S				x	x	x	x	x	x	x	x	x
OCCUPATIONAL HYGIENE MANAGEMENT														
Does your organization have an occupational hygiene management / monitoring programme that will be implemented on the project?		S									x	x	x	x
ENVIRONMENTAL MANAGEMENT														
Does your organization have a waste management programme in place?		S	x	x	x	x	x	x	x	x	x	x	x	x
Does your organization have a resource conservation programme in place?		S				x	x	x	x	x	x	x	x	x
Does your organization have a dust prevention programme in place?		S				x	x	x	x	x	x	x	x	x
Does your organization have a soil pollution prevention programme in place?		S								x	x	x	x	x

C = Competency evaluation criteria, S = Systemic evaluation criteria

The following qualification criteria will be applied when evaluating returnable documents

SCORING INDEX – SHE MANAGEMENT SYSTEM		
Score	Outcome description	Pre-determined list
Score = 0	Failed to address the question / No submission	No submission
Poor Score >= 30	The SHE Management system is unlikely to satisfy SHE Management objectives or requirements. The tenderer's SHE Management System does not address certain critical aspects of employee and environmental protection through a systemic management approach	Not all characteristics of an established SHE Management System is described
Satisfactory	The SHE Management system is established	There is a fair degree of details and

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Score >= 60	and could be specifically adapted to meet project objectives and accommodate changes that may occur during the project phase.	understanding of SHE Management within an organization
Good Score >=100	All critical issues are addressed and the Contractor Has an established SHE Management System, which is implemented within the tenderer's organization at time of tender. The contractor understands the legislative framework within which SHE Management is conducted and SHE Performance has not been affected by relevant Government Authorities.	All critical issues are listed to ensure a SHE Management System are established for implementation on the project

SCORING INDEX - COMPETENCY		
Score	Outcome description	Pre-determined list
Score = 0	Failed to address the question / No submission	No submission
Poor Score >= 30	The training (competence & awareness) programme is unlikely to satisfy SHE Management objectives or related skill requirements. The tenderer's training (competence & awareness) programme does not address certain critical aspects of employee and environmental protection through a competency transfer and general awareness approach.	Not all characteristics of an established training (competence & awareness) programme is described
Satisfactory Score >= 60	The training (competence & awareness) programme is established and could be specifically adapted to meet project objectives that may occur during the project phase.	There is a fair degree of details and understanding of training (competence & awareness) programme within an organization
Good Score >=100	All critical issues are addressed, and the Contractor has an established training (competence & awareness) programme, which is implemented within the Contractor's organization at time of tender. The contractor understands the legislative framework within which training (competence & awareness) programme is conducted and transfer competency skill and general OH&S information through awareness sessions to employees within the Contractor's organization.	All critical issues are listed to ensure a training (competence & awareness) programme is established for implementation on the project

Appointed Principal Contractor to attend SHE System Induction

Relevant members of the Principal Contractor's site management as well as all the appointed persons responsible for occupational health, safety and environmental management in terms of the Construction Regulations and other legislative requirements, will be required to attend a SHE System Induction training.

FT Consultants Civil and Structural Engineers shall conduct SHE System Induction training to the successful Principal Contractor within 3 (three) days of the appointment of the contractor. This induction is designed to assist the contractor to meet FT Consultants Civil and Structural Engineers standards on the development of the SHE Plan, File and Risk assessments and also to introduce FT Consultants Civil and Structural Engineers' structures for the project.

The Principal Contractor will ensure that a SHE System Induction training session is scheduled with FT Consultants Civil and Structural Engineers within 3 days of contract signature.

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Preparation and Submission of SHE file

The Principal Contractor will prepare a SHE File containing the processes / procedures and templates to be applied during the project period for the scope of work. The Principal Contractor will be evaluated during the contract period against the submitted SHE File.

At a minimum the SHE File will contain the following documentation:

- Notification of construction work to the relevant Department of Labour (stamped on each page / no faxed copies);
- Scope of work to be performed;
- Personnel list (Principal Contractor employees);
- OH&S / SHE Policy and other Policies;
- Updated copy of the Occupational Health and Safety Act (Act no. 85 of 1993) and its Regulations.
- Updated copy of the Compensation for Occupational Injuries and Diseases Act (Act no. 130 of 1993) and its Regulations;
- Proof of valid registration and good standing with the Compensation Commissioner or another licensed Insurer;
- SHE Plan agreed with FT Consultants Civil and Structural Engineers.
- Approved risk assessments, review and monitoring plans and safe work procedures (method statements);
- A list of contractors (sub-contractors) including copies of the agreements between the parties and the type of work being done by each contractor;
- Designs and/or drawings;
- All written designations and appointments for project scope of work (CV and competency copies);
- Management structure (inclusive of OH&S responsibility & meeting structure);
- Induction training and site, SHE rules;
- Occupational health and safety training matrix / plan;
- Arrangements with contractors and/or mandatories;
- Description of security measures;
- The following registers (as applicable to contract scope of work):
 - Accident and/or incident notifications, investigation & control register;
 - Occupational health and safety representatives inspection register;
 - Construction vehicles and mobile plan inspections;
 - Daily inspections templates of vehicles, plant and other equipment by the operator, driver and/or user;
 - Daily inspections templates of excavations by competent person;
 - Template for entry into confined space;
 - Toolbox talks pro-forma;
 - Designer's inspections and structures record template;
 - Inspection and maintenance template of explosive powered tools;
 - Inspection template of electrical installations (including inspection of portable electrical tools, electrical equipment and other electrical appliances);
 - Fall protection inspections template;
 - First-aid box content template;
 - Record of first-aid treatment template;
 - Fire equipment inspection and maintenance template;
 - Record of hazardous chemical substances template kept and used on site;
 - Ladder inspection template;
 - Machine safety inspections template (including machine guards, lock-outs etcetera);
 - Inspection templates for lifting machines and –tackle (including daily inspections by drivers/operators);
 - Inspection templates of scaffolding;
 - Inspection templates of stacking and storage;
 - Inspections templates of structures;
 - Inspections templates of vessels under pressure;
 - Inspection templates of welding equipment; and
 - Templates of issuing of Personal Protective Equipment;
 - Monthly reporting and recording of statistics templates;
 - Keeping of any other record in terms of applicable legislation falling within the scope of SHE Legislation applicable to the project and the Principal Contractor / Contractor's activities and organization.
- Emergency preparedness and response programmes;

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Evaluation of SHE file

FT Consultants Civil and Structural Engineers will conduct an initial inspection and evaluation of the Principal Contractor's SHE File for approval purposes to commence work. The Principal Contractor is required to submit the SHE File within 5 days after receiving the induction training from FT Consultants Civil and Structural Engineers. FT Consultants Civil and Structural Engineers will allocate 3 days to evaluate the file and to give feedback on the evaluation report of the file to the contractor. If the file has not been approved, the contractor shall ensure that the outstanding documents are submitted in the file for re-evaluation within 3 working days. Failure to do so will result in the contractor being re-inducted, and the process of evaluation to be restarted. The approval letter from FT Consultants Civil and Structural Engineers must be kept in the SHE File, and any letter issued concerning the evaluation of the file.

Principal Contractors are required to achieve at least 80% (Eighty Per cent) compliance on the entire SHE File Documentation to obtain approval by FT Consultants Civil and Structural Engineers

Principal Contractor engagement phase

The Principal Contractor can commence with the contract work after approval of the SHE File. The following processes will be applied on the Principal Contractors on a monthly basis for the duration of the contractual period:

- Monthly Compliance Assessments;
- Behavioural Based Safety Assessments;
- Site Inspections;
- Progress meetings;
- Contractor forum meetings held at FT Consultants Civil and Structural Engineers.
- Incident Investigations (where applicable).

An initial site assessment and site establishment audit will be conducted by the Client Agent after approval of the SHE File / Plan.

Project close-out and submission of consolidated Health & Safety File.

On completion of each project the Principal Contractor will submit all documentation required for the Consolidated SHE File to FT Consultants Civil and Structural Engineers in an auditable format within 5 days of project completion. It is the responsibility of the Principal Contractor to deliver the Consolidated SHE File to the relevant FT Consultants Civil and Structural Engineers offices. At a minimum, the consolidated SHE File will contain the following records:

- Approval letter by FT Consultants Civil and Structural Engineers. on contents of Health and Safety File / SHE Plan;
- Notification of construction work to the relevant Department of Labour (stamped on each page / no faxed copies);
- Scope of work performed;
- OH&S / SHE Policy and other Policies;
- Copy of the Occupational Health and Safety Act (Act no. 85 of 1993) and its Regulations.
- Copy of the Compensation for Occupational Injuries and Diseases Act (Act no. 130 of 1993) and its Regulations;
- Proof of registration and good standing with the Compensation Commissioner or another licensed Insurer;
- SHE plan agreed with FT Consultants Civil and Structural Engineers. including the underpinning risk assessment(s) and method statements;
- A list of contractors (sub-contractors) including copies of the agreements between the parties and the type of work done by each contractor;
- Notifications of new projects /extension of scope received;
- Designs and/or drawings;
- Occupational health and safety committee meeting agenda and minutes;
- Copies of written designations and appointments (CV and competency copies);
- Management structure (inclusive of OH&S responsibility & meeting structure);
- Induction training conducted and site SHE rules;
- Occupational health and safety training provided;
- Arrangements with contractors and/or mandatories;
- Description of security measures;
- Occupational health and safety rules and procedures applied during contract period;
- The following registers:
 - Accident and/or incident register;
 - Occupational health and safety representatives inspections; ○ Construction vehicles and mobile plan inspections;

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- Daily inspections of vehicles, plant and other equipment by the operator, driver and/or user;
 - Daily inspections of excavations by competent person;
 - Inspections for entry into confined space;
 - Toolbox talks conducted;
 - Designer's inspections and structures records;
 - Inspections of explosive powered tools;
 - Inspections of electrical installations (including inspection of portable electrical tools, electrical equipment and other electrical appliances);
 - Fall protection inspections;
 - First-aid box content inspections;
 - Record of first-aid treatment;
 - Fire equipment inspection and maintenance records;
 - Record of hazardous chemical substances kept and used on site;
 - Ladder inspections;
 - Machine safety inspections (including machine guards, lock-outs etcetera);
 - Inspections for lifting machines and –tackle (including daily inspections by drivers/operators);
 - Inspections of scaffolding;
 - Inspections of stacking and storage;
 - Inspections of structures;
 - Inspections of vessels under pressure;
 - Inspection of welding equipment; and
 - Issue registers for Personal Protective Equipment;
 - Monthly reporting and recording of statistics reports;
 - Keeping of any other record in terms of applicable legislation falling within the scope of SHE Legislation applicable to the project and the Principal Contractor / Contractor's activities and organization.
 - All other applicable records;
- Emergency preparedness and response programmes;
 - Investigation and reporting of incidents and/or accidents (internal to Client and Department of Labour / Compensation Commissioner).

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SHE Specification requirements

Hazard identification & risk assessment

Annexure 1: List of possible hazards emanating from projects and activities conducted for or on behalf of FT Consultants Civil and Structural Engineers includes an assessment of site-specific health and safety hazards and risks and environmental aspects and impacts that have been identified by FT Consultants Civil and Structural Engineers as possibly applicable to the contract work for this project. It is by no means exhaustive and is offered as assistance to the tenderers and contractors.

Development of risk assessments

Every Contractor performing construction work shall, before the commencement of any construction work or work associated with the construction work, and during construction work, ensure that a risk assessment is undertaken by a competent person, appointed in writing, and the risk assessment shall form part of the SHE plan to be applied on the site. Risk assessments shall identify occupational health and safety hazards and risks and environmental aspects and impacts emanating from the activity to be performed by the Principal Contractor / Contractor.

The risk assessment (inclusive of impact assessment) shall include (at a minimum):

- Identification of the relevant FT Consultants Civil and Structural Engineers Project with regard to FT Consultants Civil and Structural Engineers Number, Project name and area;
- Date on which risk assessments were conducted / reviewed;
- The identification of the risks / hazards and aspects / impacts to which persons may be exposed to per activity;
- The analysis and evaluation of the risks / hazards and aspects / impacts identified;
- Existing control measures and proposed corrective measures;
- A plan to review the risk assessments as the work progresses and changes are introduced;
- Identification of significant risks (e.g. high; exceeding 75%);
- A documented plan of Safe Working Procedures (SWP), and its relevance to the risk assessment, inclusive of method statements, to mitigate, reduce or control the risks and hazards that have been identified;
- A plan to monitor the application of the Safe Working Procedures (SWP);
- Signature of appointed competent person conducting risk assessment; and
- Signature of approval by Principal Contractor management and employees involved in risk assessment.

Based on the risk assessments, the Principal Contractor must develop a set of site-specific occupational SHE rules that will be applied to regulate the health, safety and environmental hazards/aspects of the construction work.

The risk assessments, together with the site-specific occupational health and safety rules, must be submitted to FT Consultants Civil and Structural Engineers before mobilisation on site commences. These will be included in the SHE plan. The Contractor shall ensure through his risk management process the hierarchy of controls stipulated as follows, are implemented:

- **Eliminate** - The complete elimination of the hazard.
- **Substitute** - Replacing the material or process with a less hazardous one.
- **Redesign** - Redesign the equipment or work process.
- **Separate** - Isolating the hazard by guarding or enclosing it.
- **Administrate** - Providing control such as training, procedures etc.
- **Personal Protective Equipment (PPE)** - Use of appropriate and properly fitted PPE where other controls are not practical. (PPE as the last resort)

The Principal Contractor will be required to carry out the following three forms of risk assessment:

- Baseline risk assessment;
- Issue based risk assessment;
- Continuous risk assessments.

Baseline risk assessments

The Principal Contractor is required to develop a baseline risk assessment taking the resources, competency levels, nature and scale of their organization into consideration for submission during SHE File evaluation phase. The hazards and risks to which persons, plant, vehicles and facilities may be exposed during the construction should be identified and evaluated. The aspects and impacts resulting in environmental pollution or degradation should also be identified and evaluated. Measures to reduce or control these risks or hazards should be defined during this assessment. The effectiveness of the measures defined, and the baseline risk assessment prepared shall be monitored and reviewed from time to time to ensure that it remains relevant and accurate.

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Issue based risk assessments

The Contractor will be required to carry out separate risk assessments during construction of the project when methods and procedures are varied, for example when:

- Designs are amended;
- New machines are introduced;
- Plant is periodically cleaned and maintained;
- Plant is started-up or shut-down;
- Systems of work change, or operations alter;
- Indents or near-misses occur; or
- Technological developments invalidate prior risk assessments.

Continuous risk assessments

The Occupational Health and Safety Act (Act no. 85 of 1993) specifically requires that employers shall provide and maintain working environments that are safe and without risk to health. The general awareness of hazards needs to be raised as work ethic to maintain a safe and risk-free environment on an on-going basis. This is achieved by continuous risk assessments, a form of risk assessment that takes place as an integral part of day-to-day management. Examples of continuous risk assessments include:

- Maintaining general hazard awareness, and
- Pre-work risk assessments / Daily Safety Task Instructions.

Occupational health and safety risks or environmental impacts that is identified during the risk assessment process shall be communicated before the commencement of the said activity to every employee whose work is associated with the risk. Each employee shall sign to confirm understanding of the safety, health or environmental risks in the tasks.

Review of risk assessments

The Principal Contractor is required to review the hazards identified, the risk assessments and the Safe Work Procedures as the contract work develops and progresses and each time changes are made to the designs, plans and construction methods and/or processes. Revisions to the approved risk assessments and Safe Work Procedures will be presented at each production planning and progress meeting.

Risk assessments are to be reviewed whenever there is change on the scope of work, process, and accidents or when required by FT Consultants Civil and Structural Engineers

The Principal Contractor must provide FT Consultants Civil and Structural Engineers, other contractors and all other concerned or affected parties with copies of any changes, alterations or amendments to risk assessments and Safe Work Procedures within 14 days of such changes.

Compliance to legal and other requirements

All Contractors entering into a contract with the FT Consultants Civil and Structural Engineers shall, as a minimum, comply with the -

- Occupational Health and Safety Act (Act no. 85 of 1993) and Regulations. An up-to-date copy of the Occupational Health and Safety Act (Act no. 85 of 1993) and its Regulations will be available on site at all times;
- Compensation for Occupational Injuries and Diseases Act, No 130 of 1993. The Principal Contractor will be required to submit a letter of registration and “good-standing” from the Compensation Commissioner or compensation insurer before being awarded the contract. A current, up-to-date copy of the Compensation for Occupational Injuries and Diseases Act, no 130 of 1993 must be available on site at all times – the Principal Contractor will be required to provide evidence to FT Consultants Civil and Structural Engineers that all local labourers included in the project are included in the registration and “good-standing” with the Compensation Commissioner or Insurer.
- Local by-laws relevant and applicable to the scope of work to be performed by the Principal Contractor;
- Where work is being carried out on mine premises, the contractor will comply with the Mine Health and Safety Act and Regulations (Act. 29 of 1996) and any other occupational health and safety requirements that the mine may specify. Current, up-to-date copies of the latter act must be available on applicable sites at all times.

3rd Party Assessment

Principal Contractors could be requested to provide assurance on compliance to applicable legislative requirements by an independent 3rd party to FT Consultants Civil and Structural Engineers Assurance on compliance to applicable legislative requirements by an independent 3rd party could be requested on the following conditions:

- Lost Time Injury Rate is recorded at a level higher than 3.0;

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- 2 (Two) work stoppage orders has been issued to the Principal Contractor due to non-conformances / non-compliances noted;
- Monthly compliance rating of 93% (Ninety Three Percent) is not maintained 3 (three) months in a row;
- Repetitive trends are identified in non-conformances noted during site inspections, monthly compliance audits and behavioural safety inspections 3 (three) months in a row;

The cost of the independent 3rd party compliance assessment will be to the cost of the Principal Contractor and FT Consultants Civil and Structural Engineers will not incur any cost whatsoever.

Manufacturer's and supplier's duty for health and safety compliance

Any person who designs, manufactures, repairs, imports or supplies any article for use must ensure, as far as reasonably practicable:

- That the article is safe and without risk to health and safety when used properly; and
- That it complies with all the requirements of relevant legislation;
- Erects or installs any article for use must ensure, as far as reasonably practicable, that nothing about the manner in which it is erected or installed makes it unsafe or creates a risk to health and safety when used properly; or
- Designs, manufactures, erect or install any article for use must ensure, as far as reasonably practicable, that ergonomic principles are considered and implemented during design, manufacture, erection or installation.

Any person who bears a duty in terms of the above is relieved of that duty to the extent that is reasonable in the circumstances, if-

- That person designs, manufactures, repairs, imports or supplies an article for or to another person; and
- That other person provides a written undertaking to take specified steps sufficient to ensure, as far as reasonably practicable, that the article will be safe and without risk to health and safety when used properly and that it complies with all prescribed requirements.

Any person who designs or constructs a building or structure, including a temporary structure, for use must ensure, as far as reasonably practicable, that the design or construction is safe and without risk to health and safety when used properly.

Every person who manufactures, imports or supplies any hazardous substance for use must:-

- Ensure, as far as reasonably practicable, that the substance is safe and without risk to health and safety when used, handled, processed, stored or transported in accordance with the information provided in terms of paragraph (b);
- Provide adequate information about--
 - The use of the substance;
 - The risks to health and safety associated with the substance,
 - Any restriction or control on the use, transport and storage of the substance, including but not limited to exposure limits;
 - The safety precautions to ensure that the substance is without risk to health or safety;
 - The procedure to be followed in the case of an accident involving excessive exposure to the substance, or any other emergency involving the substance; and
 - The disposal of used containers in which the substance has been stored and any waste involving the substance; and
- Ensure that the information provided in terms of paragraph (b) complies with the provisions of the Hazardous Substances Act, 1973 (Act No. 15 of 1973).

Medical screening requirements

The Principal Contractor will ensure that medical surveillance programme is implemented for all employees.

Medical surveillance and immunisation shall be done accredited institutions or medical doctor, including, but not limited to:

- Audiograms.
- A cardio-respiratory examination / Lung function test;
- Eye/ sight tests.
- A general physical examination;
- A review of previous medical history.
- Typhoid Injection / Hepatitis B injection;
- Glucose levels

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An entry medical certificate shall be obtained for all workers prior to commencing with site activities from approved medical institution. Copies of all medical certificates shall be retained in the SHE File prior to site establishment and before an employee is allowed to come onto site.

- Specific attention shall be given to the physical and psychological fitness of people who will be required to work in elevated positions and operators of mobile machinery.
- An exit medical certificate shall be obtained for all workers at the end of the contract and for all workers who leave the employment of the Contractor before the end of the Project. Copies of all exit medical certificates shall be submitted to the FT Consultants Civil and Structural Engineers Project Specialist or Appointed OHS Agent.

OH&S improvement programmes

The Principal Contractor is required to establish Safety Improvement Programmes for all significant (high) risks determined in the baseline risk assessment to improve on risk management performance. Safety Improvement Programmes shall include:

- SHE Objective and targets to be achieved;
- Actions to be taken to reduce potential exposure to risk during the construction period;
- Personnel responsible for implementation of action;
- Target date / Time Frame for action to be completed.

Safety Improvement programmes shall be reviewed whenever there is changes on the scope of work, significant risk profile, process, and incident/accident outcomes or when required by FT Consultants Civil and Structural Engineers Implementation of Safety Improvement Programmes must be monitored and reported on a monthly basis; records of implementation must be maintained and reviewed / revised as and when necessary.

OH&S structure, responsibilities and accountabilities

Overall supervision and responsibility for occupational health and safety

The Principal Contractor is responsible for implementing and maintaining the SHE plan approved by FT Consultants Civil and Structural Engineers The Principal Contractor's Chief Executive Officer, as appointed in terms of Section 16(1) of the Occupational Health and Safety Act (Act no 85 of 1993), is to ensure that the Employer (as defined in the Occupational Health and Safety Act (Act no. 85 of 1993)) complies with the Occupational Health and Safety Act (Act no 85 of 1993) and all other applicable legislative requirements and regulations.

The Principal Contractor's Chief Executive Officer may appoint any person reporting to him/her as a Designated Person in terms of Section 16(2) of the Occupational Health and Safety Act (Act no. 85 of 1993). The Designated Person is responsible to assist the Chief Executive Officer to ensure that the Employer complies with the requirements of the Occupational Health and Safety Act (Act no. 85 of 1993).

The construction supervisor and assistant construction supervisor(s) appointed in terms of the section 6(1) and 6(2) of the Construction Regulations are responsible for supervising the construction work and especially to ensure that all work undertaken complies with the requirements of the Occupational Health and Safety Act (Act no. 85 of 1993) and all other applicable legislative requirements and regulations, where the scope of contractual work is classified as "construction work" as defined by the Construction Regulations.

No site shall be left without supervision by the appointed persons for the appointed area.

Legal and nominated appointments

These appointments must be in writing and the responsibilities clearly stated together with the period for which each appointment is made. This information must be communicated to and agreed with by the appointees who will sign the appointment letter. Should the relevant appointment letter's responsibilities be defined on an annexure to the appointment letter, the appointee and appointer are required to sign both the appointment letter and annexure.

Copies of appointments must be submitted to FT Consultants Civil and Structural Engineers together with concise CV's and/or proof of competency of the appointees as part of the Principal Contractor's SHE plan. FT Consultants Civil and Structural Engineers must approve all appointments and any changes in appointees or appointments must be communicated to FT Consultants Civil and Structural Engineers and agreed upon before being implemented.

The Principal Contractor must provide FT Consultants Civil and Structural Engineers with an organogram listing the staff, their designations and their responsibilities for all contractors that he has appointed or intends to appoint and keep this list updated on a weekly basis. The Principal Contractor is furthermore required to compile a SHE Organogram indicating all

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Legislative appointments and/or nominations and their reporting / responsibility structure. This SHE organogram will include composition of statutory OH&S meetings to be conducted. The following table provides guidance to Principal Contractors on potentially applicable appointments to their scope of work.

Appointment description	Appointment required in terms of
Construction vehicle, mobile plant and machinery supervisor	Construction Regulations
Construction supervisor	Construction Regulations
Drivers of construction vehicles and operators or plant	Construction Regulations
Electrical installation and appliances inspector	Construction Regulations
Emergency, security and fire coordinator	Construction Regulations
Excavation supervisor (including piling)	Construction Regulations
Explosive powered tool supervisor	Construction Regulations
Fall protection supervisor	Construction Regulations
First-aiders	General Safety Regulation
Firefighting equipment inspector	Construction Regulations
Formwork and support work supervisor	Construction Regulations
Hazardous chemical substances supervisor	HCS Regulations
Incident investigator	General Administrative Regulation
Ladder inspector	General Safety Regulation
Lifting machines and equipment inspector	Construction Regulation
Materials hoist inspector	Construction Regulation
Occupational health and safety committee	OHSACT
Occupational health and safety officer	Construction Regulation
Occupational health and safety representatives	OHSACT
Person responsible for machinery	General Machinery Regulation
Risk assessor	Construction Regulation
Scaffolding supervisor	Construction Regulation
Stacking and storage supervisor	Construction Regulation
Structures supervisor	Construction Regulation
Suspended platform supervisor	Construction Regulation
Traffic management supervisor	OHSACT
Traffic safety officer	OHSACT
Tunnelling supervisor	Construction Regulation
Vessels under pressure supervisor	Vessels under Pressure Regulations
Working on or next to water supervisor	Construction Regulation
Welding supervisor	General Safety Regulation
Environmental Officer (on environmentally authorized projects)	

Training of the legal and nominated appointees

All employees in jobs requiring training in terms of the Occupational Health and Safety Act (Act no 85 of 1993) and any other applicable legislative requirements are to be in possession of valid proof of training. Other occupational health,

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Safety and environmental training requirements of the Occupational Health and Safety Act (Act no 85 of 1993) and Construction Regulations can include:

- General induction;
- Site and job specific induction, including visitors;
- Site and project manager;
- Construction supervisor;
- Occupational health and safety representatives;
- Training of the legal and nominated appointees;
- Operators and drivers of construction vehicles and mobile plant;
- Basic fire prevention and protection;
- Basic first-aid;
- Storekeeping methods and safe stacking; and
- Emergency, security and fire coordinator.

All operators, drivers and users of construction vehicles, mobile plant and other equipment are to be in possession of valid proof of training and, where applicable, valid licenses.

Designation of safety officer

Each site must have a full time appointed & competent safety officer.

The competent safety officer is required to have the following qualifications:

- National Diploma in Safety Management; with at least 1-year experience in construction safety
OR
- SAMTRAC (or equivalent); with at least 3 years relevant construction safety experience
OR
- HIRA, Incident Investigation, Construction Safety Management, Legal requirements (OHS Act).
- Computer literacy;
- At least 3 years relevant construction safety experience.

The ratio for appointed competent safety officer per employee, is as follows:

- For up to 20 employees on site, one full time Safety Officer/Practitioner
- Up to 100 employees (risk based with the Project Manager discretion), one full time Safety Officer/Practitioner, and an additional Safety Officer/Practitioner for every 100 employees thereafter
 - 1 to 20 = 1 ○
 - 21 to 100 = 1
 - 101 to 200 = 2

Appointment and functions of the occupational health and safety committee

The Principal Contractor must establish an occupational health and safety committee consisting of all the designated occupational health and safety representatives together with a number of management representatives. The management representatives shall not exceed the number of occupational health and safety representatives on the committee. The members of the occupational health and safety committee must be appointed in writing. Representatives from FT Consultants Civil and Structural Engineers will act as co-opted members to the Health and Safety Committee meetings as and when required. The Principal Contractor is required to compile a schedule for the statutory occupational health and safety committees for the duration of the project and supply the proposed schedule to FT Consultants Civil and Structural Engineers.

Training, competence and awareness

Management, employees and contractors must have the necessary awareness, commitment and competency to perform their work activities and make operational and business decisions in accordance with FT Consultants Civil and Structural Engineers delegated authority levels. The Principal Contractor is therefore required to determine the different training programmes to be provided to various levels of its organization to ensure that all employees and contractors behave in accordance with FT Consultants Civil and Structural Engineers. Business Principles and Health and Safety Policy commitments. The relevant. HSE Department officials and FT Consultants Civil and Structural Engineers will assist the Principal Contractor to source appropriate training service providers and approval of the identified service provider will be the responsibility of FT Consultants Civil and Structural Engineers.

Training is to be carried out as required by the Occupational Health and Safety Act (Act no 85 of 1993) and the Regulations. The contents and syllabus of all training courses required and attended are to be included in the Principal Contractor's SHE File.

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Occupational health, safety training requirements shall include:

- General induction;
- Site and job specific induction, including visitors;
- Training on safe work procedures and other operational control requirements;
- Occupational health and safety representatives;
- Training of the legal and nominated appointees;
- Operators and drivers of construction vehicles and mobile plant;
- Basic fire prevention and protection;
- Basic first-aid;
- Storekeeping methods and safe stacking; and
- Emergency, security and fire coordinator.

Operational competence training

All operators, drivers and users of construction vehicles, mobile plant and other equipment are to be in possession of valid proof of training and, where applicable, valid licenses.

All employees in jobs requiring training in terms of the Occupational Health and Safety Act (Act no 85 of 1993) and any other applicable legislative requirements are to be in possession of valid proof of training.

Awareness and promotion

The Principal Contractor is required to have a promotion and awareness programme in place to create an occupational health and safety culture within employees. The following are some of the methods that may be used:

- Toolbox talks;
- Posters;
- Videos;
- Competitions;
- Suggestion schemes;
- Participative employee activities such as “occupational health and safety circles”.

The Principal Contractor is, at a minimum, required to provide awareness programmes to employees on the following:

- General Health and Safety Awareness
- Environmental Awareness;
- HIV / AIDS awareness.

General competence requirement

The Principal Contractor shall ensure that his personnel and other contractors’ personnel are trained and competent to carry out work safely and without risk to health has been completed before work commences. The Principal Contractor shall ensure that follow-up and refresher training is conducted as the work progresses and whenever the scope or nature of the work changes.

A “**competent person**” in relation to construction work, means any person having the knowledge, training and experience specific to the work or task being performed: Provided that where appropriate qualifications and training are registered in terms of the provisions of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995), these qualifications and training shall be deemed to be the required qualifications and training. It is the responsibility of the Contractor to determine whether any appropriate qualifications and training are registered in terms of the provisions of the South African Qualifications Authority Act.

Records of all training must be kept in the SHE File. The contents of the file will be audited from time to time.

At a minimum, the Principal Contractor will provide training on Safe Work Procedures / Safe Operating Standards to personnel responsible for performing the related task. Records of training on Safe Work Procedures / Safe Operating Standards will be retained. Competence and skill levels by the employees responsible for performing the task on the implementation of the Safe Work Procedures / Safe Operating Standards will be measured through Planned Job Observations.

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Site-specific induction training

The Principal Contractor will be required to develop a project specific induction-training course based on the baseline risk assessment for the contract work. He will ensure that all his employees and other contractors and their employees have received training on the submitted induction-training programme.

All employees of the principal and other contractors are to be in possession of proof (on person) that they have attended a site-specific occupational health and safety induction-training course.

No contractor shall allow or permit any employee, visitor or any other person to enter the site, unless such employee or person has undergone health, safety and environmental induction training pertaining to the hazards prevalent on the site at the time of entry.

Where the Principal Contractor is required to operate within FT Consultants Civil and Structural Engineers Depot's the Principal Contractor will ensure that all employees undergo the FT Consultants Civil and Structural Engineers induction.

Consultation, communication and participation

Notification of construction work

The Principal Contractor shall, before carrying out any work, notify the relevant Department of Labour of the intention to carry out construction work and use the form (*Annexure A in the Construction Regulations*) for this purpose. Only a certified copy stamped (each page) by the Department of Labour will be acceptable. No faxed or emailed notifications will be accepted.

No work shall commence before the Principal Contractor has submitted notification of construction work to the relevant Department of Labour. FT Consultants Civil and Structural Engineers will not approve the SHE File if no original stamped / certified copy of the notification of construction work has been done.

Consultative forums

At a minimum, representatives of the Principal Contractor will attend the following SHE Meetings.

MEETING	FREQUENCY	OBJECTIVE
Project Progress Meeting	Monthly	Reporting of compliance standing to project team
Contractor Meeting	Monthly	Consultative forum between Safety Officers and FT Consultants Civil and Structural Engineers
Internal OH&S Statutory Meetings	Monthly	Internal to Principal Contractor

The following arrangements with respect to communication and liaison shall apply:

- In addition to the above, communication may be directly to FT Consultants Civil and Structural Engineers or contractor or their appointed Agents, verbally (followed up in writing within 7 days) or in writing, as and when the need arises.
- Consultation with the workforce on occupational health, safety and environmental matters will be through their supervisors, occupational health and safety representatives, the occupational health and safety committee and their elected trade union representatives, if any. Any such communication will be followed up in writing within 7 days.
- The Principal Contractor will be responsible for the dissemination of all relevant occupational health, safety and environmental information to the other contractors. The transfer of information must take place before the contractor or other contractors commence work, for example, on design changes agreed with FT Consultants Civil and Structural Engineers and the designer, instructions by FT Consultants Civil and Structural Engineers and/or his agent, exchange of information between contractors, the reporting of hazardous and/or dangerous conditions and/or situations etc.

Occupational health and safety committee

The occupational health and safety committee must meet at least once per month and will consider, at least, the following agenda items:

- Opening and welcome;
- Members present, apologies and absent;
- Minutes of previous meeting;
- Matters arising from the previous meeting;

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- Occupational health and safety representatives' deviation reports;
- Outcomes of previous audit and behavioural based safety inspections;
- Incident and/or accident reports and investigations;
- Incident, accident and/or injury statistics;
- Health and Safety Plan (revisions and new requirements);
- Training (awareness, competence and off-the-job);
- Emergency Preparedness Plan;
- Non-Conformances and notices;
- Toolbox Talks Program;
- Close and next meeting.

Communication of information through toolbox talks

The Principal Contractor and other contractors will be required to conduct toolbox talks with their employees on a weekly basis and records of these must be kept in the SHE file. The objective of toolbox talks should be to communicate relevant site information to assist in improvement of occupational health and safety performance. Employees must acknowledge the receipt of toolbox talks and this record must also be kept in the SHE file.

Contractor / Mandatory control

Whenever the Principal Contractor appoints contractors or sub-contractors, it is a requirement that an Occupational Health and Safety Act (Act no. 85 of 1993) Section 37(2) agreement (i.e. Agreement with Mandatory) is entered into between the Principal Contractor and Contractors. The Principal Contractor will ensure that all appointed contractors comply with the FT Consultants Civil and Structural Engineers SHE Specification requirements. The Principal Contractor will establish a procedure on sub-contractor management and assurance on compliance to the established procedure will be provided to FT Consultants Civil and Structural Engineers on a monthly basis.

Principal Contractors are required to formally notify FT Consultants Civil and Structural Engineers before appointing subcontractors.

FT Consultants Civil and Structural Engineers shall approve all specialist subcontractors to be appointed and/or engaged by the Principal Contractor.

Safe Work Procedures / Method Statements

The Contractor shall, in writing, clearly explain how identified risks will be addressed to eliminate or reduce it to a tolerable level and submit it for approval by FT Consultants Civil and Structural Engineers before site establishment. This may be through method statements or written operational control procedures.

All method statements shall reflect at least:

- When the activities relating to the method statement will be conducted (timing).
- Materials to be used.
- Equipment and staffing requirements.
- The proposed construction procedure designed to implement the relevant requirements.
- The methodology that will be used to ensure compliance with the method statement.
- Any other information deemed to be necessary by the FT Consultants Civil and Structural Engineers Project team.
- Associated responsibilities and authorities;
- Authorized staff positions to conduct the relevant activities contained in the Safe Work Procedure;

For significant risks identified after site establishment, method statements shall be submitted to FT Consultants Civil and Structural Engineers at least two working days before the start of the associated activity. All changes to approved method statements or procedures shall be approved in writing by FT Consultants Civil and Structural Engineers the Principal Contractor's Site Manager shall retain records of any amendments and shall ensure that only the most current approved version of any method statement or procedure is used.

Operational hazard & risk / aspect & impact control requirements

Asbestos exposure

Where the potential exist that the Principal Contractor's employees will be exposed to asbestos the Principal Contractor must ensure compliance to the Asbestos Regulations as promulgated under the Occupational Health and Safety Act (Act no. 85 of 1993).

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Weekend / after hour work activities

The Principal Contract will notify FT Consultants Civil and Structural Engineers on the need to conduct work activities after hours or on weekends. No after hour or weekend activities will commence before the Principal Contractor has obtained approval from FT Consultants Civil and Structural Engineers

Security & access control

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must, amongst other, include the rule that non-employees will not be allowed on site unaccompanied.

The Principal Contractor must develop a set of security rules and procedures and maintain these throughout the construction period.

The Principal Contractor shall:

- Provide a guardhouse for security personnel. The guardhouse should be in good condition and at-least meet minimum requirements as per Environmental Regulations for Workplaces as promulgated under the Occupational Health and Safety Act (Act no. 85 of 1993).
- Supply an access card containing the name, surname, employee number and photograph for all appointed employees (full or part time) for the site.
- Ensure that no person enters the construction site without wearing the necessary Personal Protective Equipment (PPE).
- Ensure that no children are allowed on the construction site.
- Ensure that no family members are sleeping over on the construction site.
- Ensure that no pets are allowed on the construction site.

Fall protection (Working in elevated positions)

A pre-emptive risk assessment will be required for any work to be carried out above **two metres** from the ground or any floor level. This work will be classified as "work in elevated positions".

As far as is practicable, any person working in an elevated position will work from a platform, ladder or other device that is at least as safe as if he is working at ground level. Whilst working in this position he shall be wearing a single belt with lanyard to prevent the person falling from the platform, ladder or other device. This safety belt will be, as far as is possible, secured to a point away from the edge over which the person might fall and the lanyard must be of such a length and strength that the person will not be able to move over the edge.

Alternatively, any platform, slab, deck or surface forming an edge over which a person may fall may be fitted with suitable guard rails at two different heights as prescribed in the relevant South African National Standard for the design, erection, use and inspection of access scaffolding.

Where the requirement in the paragraph above is not practicable, the person will be provided with a full body harness that will be worn at all times and shall be attached above the wearer's head at all times. The lanyard must be fitted with a shock-absorbing device or the person must be attached to a fall arrest system (anchorage connector; body wear; and connecting device) approved by FT Consultants Civil and Structural Engineers.

Where the requirements in the paragraph above are not practicable, a suitable catch net must be erected.

Employees working in elevated positions must be trained to work without risk to their health and safety or to the health and safety of others and be declared medically and psychologically fit to perform work at elevated positions.

Where work on roofs is carried out, the risk assessment must consider the possibility of persons falling through fragile material, i.e. skylights and openings in the roof.

Structures

The Principal Contractor must ensure that:

- Only skilled employees are allowed to erect structures and that the skills of these employees are verified at regular intervals.
- Steps are taken to ensure that no structure becomes unstable or collapses due to construction work being performed on it or in the vicinity of it.
- No structure is overloaded to the extent that it becomes unsafe.
- He has received from the designer the following information:

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- Information on known or anticipated hazards relating to the construction work and the relevant information required for the safe execution of the construction work.
- A geo-scientific report (where applicable).
- The loading the structure is designed to bear.
- The methods and sequence of the construction process. All

drawings relating to the design are on site and available for inspection.

Access scaffolding

Access scaffolding must be erected, used and maintained safely in accordance with Construction Regulations and relevant SA Bureau of Standards Code of Practice.

Detailed consideration must be given to all scaffolding to ensure that it is carefully planned to meet the working requirements, designed to carry the necessary loadings and maintained in a sound condition. Sufficient material must be available to erect the scaffolding properly.

Scaffolding must only be erected, altered or dismantled by persons who have adequate training and experience and are competent in this type of work and under the continuous supervision of such a person.

Explosive powered tools

Every explosive powered tool must be:

- Provided with a guard around the muzzle to confine flying fragments or particles; and
- Must be fitted with a firing mechanism that will prevent the explosive powered tool from firing unless it is pushed against the surface and at the right angle. Where the explosive powered tool is fitted with an intermediate piston between the charge and the nail this requirement is waived.

The Principal Contractor or user must ensure that:

- Only the correct type of cartridge is used;
- The explosive powered tool is cleaned and inspected daily before use by an appointed competent person. The competent person will keep a register with the findings of his inspection and the details of cleaning, service and repairs;
- The safety devices are in good working order before the explosive powered tool is used;
- When the explosive powered tool is not being used it is stored in an unloaded condition together with the cartridges in a safe and secure place inaccessible to unauthorised persons;
- A warning notice is displayed at the point where the explosive powered tool is in use;
- The issue and return of cartridges must be by issue/returns register signed by both issuer and user and empty cartridge cases must be returned with unspent cartridges;
- Users and operators of the explosive powered tool have received the necessary training and has been authorised as competent to use/operate the explosive powered tool; and
- Users and operators must wear the prescribed personal protective equipment whilst using and/or operating the tool.

Blasting Operations

No blasting shall be done by Principal Contractors and Contractors without the approval and permission of FT Consultants Civil and Structural Engineers. The Contractor shall apply in writing to FT Consultants Civil and Structural Engineers for permission to blast. All contact with the Inspector of Labour shall be done through the appropriate channels.

Contractors who are requested to blast must furnish the following information to FT Consultants Civil and Structural Engineers before permission will be granted:

- The blaster must hold a surface-blasting permit for blasting.
- The name of the blaster.
- The number of his blasting permit.
- The registration number of the explosive vehicle.
- The number of the continuous transport permit held.
- The blasting method statement in detail.
- Hazard Identification Risk Assessment
- Any other requirement as stipulated in the Occupational Act, Explosive regulations

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The Occupational Health and Safety Act (Act no. 85 of 1993) and Mine Guidelines are to be strictly adhered to at all times. **NB: Insofar as those Regulations shall apply in all cases, irrespective of the depth of the hole to be blasted.** The Site Manager is to be advised each morning as to the blasting programme for the day.

Individual precaution procedures may be developed for various sections of the works as required, but generally the following precautions shall be implemented before blasting commences:

- Blasting notification will be provided to neighbouring interested and affected parties 2 (two) days before and on the day of before blasting commences;
- Warning sirens will be sounded continuously for 10 minutes prior to the blast;
- A perimeter of 500 m will be evacuated around the blasting site;
- After the blast, the blaster will examine the site and if satisfied that the blast is complete, he will then give the "All Clear" by sounding the siren for one minute in short bursts;
- Prior to each blast, the Contractor shall send a notice requiring acknowledgement to the other Contractors at adjacent sites, notifying them that a blast is to be made and at what time;
- The actual blast will be fully covered by blasting mats etc., to prevent scatter of "Fly rock";
- An inspection of surrounding buildings and structures shall be conducted prior to and after each blast ensuring that no damage has been caused during the blast.

Lifting equipment

Lifting equipment must be designed and constructed in accordance with the manufactures/designers specifications as well as generally accepted technical standards and operated, used, inspected and maintained in accordance with the manufactures requirements as well as that of the of Driven Machinery Regulations promulgated in terms of the Occupational Health and Safety Act (Act no 85 of 1993).

The Driven Machinery Regulations requires that:

- Lifting equipment is clearly and conspicuously marked with the maximum mass load (MML) that it is designed to carry safely. When the MML varies with the conditions of use a table showing the maximum mass load with respect to every variable condition shall be posted up by the user in a conspicuous, place easily visible to the operator and the table shall be used by the driver/operator;
- Each winch on a lifting machine must at all times have, at least, three full turns of rope on the drum when the winch has been run to its lowest limit;
- Lifting equipment shall be fitted with a brake or other device capable of holding the MML. This brake or device shall automatically prevent the downward movement of the load when the lifting power is interrupted;
- Lifting equipment shall be fitted with a load limiting device that automatically arrest the lift when the load reaches its highest safe position or when the mass of the load is greater than the MML;
- Every chain or rope on a lifting machine that forms an integral part of the machine must have a factor of safety as prescribed by the manufacturer of the machine. Where no standard is available the factor of safety must be:
 - chains – 4 (four)
 - steel wire ropes 5 (five)
 - fibre ropes- 10 (ten)
- Every hook or load attaching device must be designed to prevent the load from slipping off or disconnecting;
- Every lifting machine must be inspected, and load tested by a competent person every time it has been dismantled and re-erected and every 12 months after that. The load test must be in accordance with the manufacturer's requirements or to 110% of the MML. In addition, all ropes, chains, hooks or other attaching devices, sheaves, brakes and safety devices forming an integral part of a lifting machine must be inspected every 6 months by a competent person;
- All maintenance, repairs, alterations and inspection results must be recorded in a log book and each lifting machine must have its own log book; and
- No person may be lifted by a lifting machine not designed for lifting persons unless in a cradle approved by the inspector of the Department of Labour.

General requirements for cranes and lifting equipment

All documentation must be provided to the FT Consultants Civil and Structural Engineers Project Engineer prior to mobilisation. Failure to do so and the resulting cost of any delays and/or remedial activities will be for the Contractor's account.

All crane operators must be authorised by the relevant Engineer before they may operate a crane or lifting machine. The Load charts must be displayed at the crane.

Daily pre-use inspections of the cranes must be done and be kept on the file. The inspections must be logged in a logbook. The area in which a lift is performed must always be barricaded to prevent employees from entering.

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A crane or lifting machine must not be left unattended and the keys may never be left in the ignition when the operator is not present. Properly constructed out rigger pads must be used when soil is uneven or unstable. (Only sleepers or appropriately designed steel plate pads may be used for this purpose).

Only a competent rigger may direct a lift of any kind unless the following requirements are met. Rigger assistants used for performing lifting operations shall be limited to lifts with all of the following requirements:

- Lifts lower than 5 tons
- Easy lifts that does not require the load to be lifted over structures, equipment or machinery
- Equipment that is not critical
- Rigging configuration that requires the attachment of several parts of lifting equipment such as chain blocks to adjust the angle of loads.
- All safety devices on a crane or lifting machine must be functional.

Certification will be required for record purpose, and shall cover the following:

- A Brake or other device capable of holding the maximum mass should the power fail, or which is such that it shall automatically prevent the uncontrolled downward movement of the load when the raising effort is interrupted; and
- A Limiting device which shall automatically arrest the driving effort when:
- The Hook or Load attachment point of the Power-Driven lifting machine reaches its highest safe position; and
- In the case of a Winch Operated lifting machine with a lifting capacity of 5000kg or more, the load is greater than the rated mass load of such machine.

The user shall ensure that every lifting machine is operated by an Operator specifically trained for a particular type of lifting machine; the user shall not require or permit a person to operate such lifting machine unless the operator is in possession of a certificate of training, issued by an accredited person or organisation.

No Crane shall be used at arrival on site before copies of all documentation have been handed over to the FT Consultants Civil and Structural Engineers and the Crane have been checked by a person duly authorised and signed off as acceptable. Copies of all documentation shall be kept in the SHE File at all times.

No Crane shall be used without a pre-use check and findings entered on an approved checklist. Before any cranes are established on site the following must be inspected and approved:

- Operator's licences
- Training certificates
- Medical fitness certificate.
- The cranes load test certificate.
- Rope test certificates including Mill / Destructive test.
- The lifting gear load test certificates.
- The load limiting device calibration certificate.
- Proof that the hooks have been measured for spreading.
- The service inspection history.
- Monthly comprehensive inspection certificate
- Operation and maintenance Manuals and crane condition.

Cranes and Lifting Machines

A contractor shall ensure that where tower cranes are used:

- Account is taken of the effects of wind forces on the structure;
- Account is taken of the bearing capacity of the ground on which the tower crane is to stand;
- The bases for the tower cranes and tracks for rail-mounted tower cranes are firm and level;
- The tower cranes are erected at a safe distance from excavations;
- There is sufficient clear space available for erection, operation and dismantling;
- The tower crane operators are competent to carry out the work safely; and
- The tower crane operators are physically and psychologically fit to work in such an environment by being in possession of a medical certificate of fitness."

No user shall use or permit any person to use a Jib-Crane with a lifting capacity of 5000kg or more at a minimum Jib radius, unless it is provided with:

- A load indicator that shall indicate to the operator of the Jib-Crane the mass of the load being lifted, provided that such a device shall not require manual adjustment from the application of the load, to the Jib-Crane, until the release of the load.

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- A Limiting Device, which shall automatically arrest the driving effort whenever the load is lifted, is greater than the rated mass load of the Jib-Crane.

Mobile Crane near Power Lines

No mobile cranes are to be used near overhead power lines until the FT Consultants Civil and Structural Engineers representative has been notified and provided safe access conditions and a valid permit to work is obtained. Mobile cranes shall be effectively earthed when working in the vicinity of electrical wires. Assume that all electrical equipment and wires are live and avoid them.

Skyjacks

The following requirements for skyjacks shall apply:

- No Skyjack shall be used before the Jack has been inspected and passed by the Resident Engineer.
- The Test Certificate, no older than three (3) months shall be produced.;
- The Safe Working Load shall be clearly displayed.
- The Operators shall make use of Safety belts / Harnesses at all times.
- Only trained, competent and appointed persons shall operate Skyjacks.
- Proof of Training and Training program shall be submitted.
- No person shall stand of the Handrails of a Skyjack.
- When a Skyjack is not operational, it shall be stopped, no lower than three (3) meters above ground level.
- The Operator shall make use of a ladder to get in and out of the Skyjack. The ladder shall be removed to safekeeping when stopped and not in use.
- The Power supply shall be disconnected when not in use thus preventing unauthorised

Overhead Cranes

Contractors and their employees shall not go onto any operational overhead crane runway or crane for any purpose without a valid permit to work.

When ascending to, or descending from, crane runways, always use the access provided for this purpose.

When crane runways are operational, prior to the commencement of any work being carried out on or near a crane runway, or in circumstances as necessary, the Principal Contractor shall arrange to isolate appropriate sections of the crane runway by fitting stops to the crane rail tracks.

If this is impracticable, the Principal Contractor shall provide a watcher who shall take up a position in the crane cab. In cases where there is more than one crane on the same runway, a watcher is to be provided in the cab of each crane, which may approach the work area. The Contractor shall note that the use of a crane watcher is not permitted for repairs or replacements of the crane rails.

The prime responsibility of the watcher is to keep the employee, who may be in or move into a position of danger, constantly in view and warn the crane driver when necessary. It is important that watchers are given clear and concise instructions in carrying out their responsibilities so as to ensure maximum safety.

The watcher shall not engage in conversation with the driver.

In cases where the watcher stationed in the crane cab is unable at all times to view employees working on the runway, a second watcher shall be placed in a position where there is an unobstructed vision of both the employees working on the crane runway and the watcher in the crane cabin.

When sections of runway are being replaced or repaired, arrangements shall be made to isolate the working position by fitting permanent rail stops to the crane rail tracks. If necessary, they are to be fitted on both sides of the section under repair. When the stops are fitted, they shall be at least three (3) metres clear of the area under repair.

When rail stops are fitted for this purpose, members of the group or groups working on the crane runway shall fix Danger Tags to the stops.

The Contractor shall provide the watcher with a hooter or suitable warning device.

Boatswains Chair/Man cage

A certificate of approval shall be obtained from the FT Consultants Civil and Structural Engineers prior to the use of any boatswains chairs / man cages. Only approved cages or work platforms may be used, and the Contractor shall strictly comply with written procedures for their use.

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Personnel in the basket/platform shall have their feet on the floor at all times and remain within the basket. Equipment is intended for the transport of small tools and equipment and shall not be used for the transport of steelwork, machinery, gas bottles etc.

Cradles for the lifting of above shall be designed and approved specifically for the purpose. Each employee within the basket/platform shall wear approved safety harnesses and attached by a lifeline/sling to an anchorage point, which does not form part of the basket/cradle.

Lifting of personnel shall only be done under the supervision of a competent rigger appointed in writing. Appropriate means of communication shall be provided for the personnel in the cage, rigger and crane driver.

A minimum of two tag lines shall be used to ensure the stability of the cage. Each cage shall be fitted with an information plate to indicate the maximum weight and number of persons to be lifted. Cradles and cranes to be used shall be inspected every time before use and the findings recorded. Copy of welding x-rays and approved engineering drawing to be kept on site.

Annual performs test shall be required; where an appropriate design recommendation is not available the equipment shall be tested to a 110% load of the indicated maximum by an accredited person/organisation.

Lifting tackle

The following requirements will apply to lifting tackle:

- Manufactured of sound material, well-constructed and free from patent defects;
- Clearly and conspicuously marked with an identity number;
- MML factor of safety:
 - Natural fibre ropes - 10(ten)
 - Man-made fibre ropes and woven webbing - 06(six)
 - Steel wire ropes – single rope - 06(six)
 - Steel wire ropes – combination slings - 08(eight)
 - Mild Steel chains - 05(five)
 - High tensile/alloy steel chains - 04(four)
- Steel wire ropes must be examined by a competent person every three months and the results recorded in a designated logbook. The ropes must be discarded (not used any further for lifting purposes) when wear and corrosion is evident.

Construction vehicles and mobile plant

FT Consultants Civil and Structural Engineers will inspect construction vehicles and mobile plant prior to being allowed on a project site. Suppliers of hired vehicles, plant and equipment will be required to comply with this specification as well as the Occupational Health and Safety Act (Act no. 85 of 1993) and Regulations.

Construction vehicles and mobile plant to be:

- Of acceptable design and construction;
- Maintained in good working order;
- Used in accordance with their design and intention for which they were designed;
- Operated and/or driven by trained, competent and authorised operators/drivers. No unauthorised persons are to be allowed to drive construction vehicles and mobile plant;
- Provided with safe and suitable means of access;
- Fitted with adequate signalling devices to make movement safe including reversing;
- Provided with roll-over protection (where applicable);
- Inspected daily before start-up by the driver, operator and/or user and the findings recorded in a register/log book;
- Fitted with two head and two tail lights that are in good working condition and must be used whilst operating under poor visibility conditions;
- When used for transporting persons must have seats firmly secured and sufficient for the number of persons being transported.

Operators and drivers of construction vehicles and mobile plant must be in possession of a valid medical certificate declaring the operator and/or driver physically and psychologically fit to operate or drive construction vehicles and mobile plant.

No loose tools, materials etc. are allowed in the driver and/or operators compartment/cabin nor in the compartment in which any other persons are transported.

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No person shall ride on any construction vehicle or mobile plant otherwise than in a safe place provided thereon for that purpose. Employees shall only be transported if provision for seating and safety belts has been provided with an adequate canopy or rollover protection.

All construction vehicles and mobile plant left unattended at night, adjacent to a freeway in normal use or adjacent to construction areas where work is in progress, must have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, in order to identify the location of the vehicles or plant.

Bulldozers, scrapers, loaders, and other similar mobile plant must, when being repaired or when not in use, be fully lowered or blocked with controls in a neutral position, motors stopped, and brakes set.

Self-Propelled Mobile Machinery

All Self-Propelled Mobile Machinery must be inspected daily, and the findings recorded in a register. Pre-use inspection checklist shall identify critical items that would stop the operator from operating machinery should a defect be detected.

All operators shall be tested on their ability to operate machinery and equipment inspected prior to be used on any of the premises by the FT Consultants Civil and Structural Engineers Project Inspectors and Responsible Engineer. Relief drivers shall be made available for mobile machinery where there is a need for on-going operations and the contractor shall establish a rotation schedule.

All Drivers/Operators shall be appointed under the applicable legislation prior to operating any type of mobile equipment or machinery:

- If Driver/Operator does not adhere to the rules and regulations his appointment as operator shall be cancelled and he shall not be able to carry on with his duty.
- No Driver/Operator shall be appointed without proof of training, driver's licence or letter of competency.
- No training of Drivers/Operators on Site.
- No passengers on dump truck, Loaders or Excavators.
- No eating or drinking allowed while operating equipment.
- No vehicle shall be left unattended with engine running or key in ignition.
- Drivers may use no cellular phones during operations.

Equipment Approval

Authorization for the use of equipment shall be given in writing only after the following minimum requirements and documentation have been verified and shall as a minimum include the following:

- Minimum two lights in front and rear of vehicle
- Communications system (where required);
- Reflective Taping;
- First-aid kit, fire-fighting equipment and emergency roadside triangles;
- Tyres in good condition;
- Windscreen clear of cracks;
- Safety belts fitted for all occupants;
- Signage for clear identification;
- Windscreen wipers;
- Warning hooter and reverse alarm;
- Rotating warning lights (where applicable);
- Maximum number of persons indicated;
- Equipment free of oil and other leaks;
- Maintenance/Service & Equipment manuals available;

Operator Approval

Authorization for operators for the use of equipment shall be given in writing only after the following minimum requirements and documentation have been verified and shall as a minimum include the following:

- Operator's Certificate (accredited training organisation);
- Operator's Licence appropriate to the nature of the Mobile equipment;
- Operator's knowledge tested and familiar with the controls for the vehicle;
- Public driver's permit where required;
- Medical fitness certificate.

Symbolic signage

Contractors shall use mandatory and prescribed symbolic safety signs at their lay down and site areas. The display of the following signs is mandatory:

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- “Radio-Active Material” symbolic signs at radioactive storage areas.
- “Eye Protection” symbolic signs shall be displayed at all grinding machines and at any area where it is mandatory to wear eye protection or where there is danger of an eye injury being sustained.
- “Ear Protection” symbolic signs shall be displayed at all areas where there is a danger of noise induced hearing loss being sustained.
- Every separate room of a workplace shall be consecutively numbered.
- All toilets or urinals shall be marked in a conspicuous place with painted or stencilled letters to indicate the sex for which they are intended.
- The location of every first aid box is to be clearly indicated by means of a sign.
- In any room, cabinet or enclosure where flammable substances are used or stored shall be fixed a suitable and conspicuous sign prohibiting smoking or the use of naked flames in the area.
- At the entrance to premises where machinery is used
- Restricted access on “Authorised Person Only” signs on entry. “No person shall enter the workplace or premises without the permission of the employer or user of the machinery”.
- At every place where machinery is used a notice (English & Pictograms) shall be posted.
- Explosive Power Tool shall have a sign warning people when it is in use.
- Electrical Control Gear. A notice shall be posted so as to warn against the re-closing of a switch of control gear whilst a person is working on such equipment.
- Emergency contact telephone numbers.
- Adequate scaffolding signs. (When applicable).
- Adequate firefighting equipment signs.
- Speed limit signs.
- Warning notices at openings through which people may fall.
- Risk based signage depending on the task being performed e.g.:
 - “Men working above”, “Men working below”, “Road closed – detour”, “Excavation in progress”, “No walkway” etc;
- No-entry signs to incomplete platforms

The Principal Contractor shall install a notification board indicating the following information at the site entrance:

- FT Consultants Civil and Structural Engineers project number;
- Principal Contractor identification details (name, telephone number)
- Name and contact details of Construction Supervisor;
- Name and contact details of site safety officer;
- Monthly compliance rating;
- Lost Time Injury Rate;

The Principal Contractor will ensure that information on the notification board is kept up-to-date.

Electrical installations

The installation of temporary electricity for construction shall be in accordance with Construction Regulations and the Electrical Installation Regulations. The Principal Contractor must ensure that:

- Existing services are located and marked before construction commences and the markings maintained during construction;
- Where this is not possible, workers with jackhammers etc. are protected against electric shock by the use of suitable protective equipment e.g. rubber mats, insulated handles etc.;
- Electrical installations and -machinery are sufficiently robust to withstand normal working conditions on site;
- Temporary electrical installations must be inspected at least once a week by a competent person and a record of the inspections kept in the SHE File;
- Electrical machinery used on a construction site must be inspected daily before start-up by the competent driver/operator or any other competent person and a record of the inspections kept in the SHE File; and
- A competent person appointed in writing must control and be responsible for all temporary electrical installations.

Electrical and mechanical lockout

An electrical and mechanical (as applicable) lockout procedure must be developed by the Principal Contractor and submitted to FT Consultants Civil and Structural Engineers for approval before construction commences. All contractors on site must adhere to this lockout procedure.

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Use and storage of flammables

The Principal Contractor to ensure that:

- No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapours being present unless adequate precautions are taken;
- No flammable material is used or applied e.g. in spray painting, unless in a room or cabinet or other enclosure specially designed and constructed for the purpose unless there is no danger of fire or explosion due to the application of adequate ventilation;
- The workplace is effectively ventilated. Where this cannot be achieved:
 - Employees must wear suitable respiratory equipment
 - No smoking or other source of ignition is allowed in the area of the area is conspicuously demarcated as "flammable"
- Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage or room that is kept locked with access control measures in place. Sufficient firefighting equipment is installed, and fire prevention methods practiced. Proper housekeeping may achieve this;
- Flammables stored in a permanent flammable store are stored so that no fire or explosion is caused.
- Stored in a locked and well-ventilated reasonably fire-resistant container, cage or room conspicuously demarcated as "Flammable Store – No Smoking or Naked Lights"
- The flammables store to be constructed of two-hour fire-retardant walls and roof and separated from adjoining rooms or workplaces by means of a two-hour fire-retardant fire wall
- Adequate and suitable firefighting equipment installed around the flammables store and marked with the prescribed signs
- All electrical switches and fittings to be of a flameproof design
- Any work done with tools in a flammable store or work areas to be of a non-sparking nature
- No Class A combustibles such as paper, cardboard, wood, plastic, straw and the like to be stored together with flammables
- The flammable store to be designed and constructed such that in the event of spillage of liquids the store is able to contain the full quantity + 10% of the liquids stored
- A sign indicating the capacity of the store to be displayed on the door
- Only one day's quantity of flammable is to be kept in the workplace;
- Containers (including empty containers) to be kept closed to prevent fumes/vapours from escaping and accumulating in low lying areas;
- Metal containers to be bonded to earth whilst decanting to prevent build-up of static forces; and
- Welding and other flammable gases to be stored segregated according to the type of gas and empty and full cylinders.

Fuel Storage

No petrol or fuel oil shall be stored in bulk on the surface in quantities in excess of two thousand litres in any tank above or below ground level except with the prior written approval of the Chief Inspector. No petrol shall be stored in drums in excess of a total of two hundred litres in any building or other place except with the prior written approval of the Department of Labour Chief Inspector. No fuel oil shall at any time be stored underground unless it is stored in a suitable container or tank, which does not leak.

Every storage tank provided at any filling station on the surface for the purpose of containing petrol or fuel oil shall be suitably constructed to an acceptable standard that would ensure the safe storage thereof. Suitable means for firefighting shall be installed at a safe location for the extinguishing of fire in the event of an incident. Fire equipment supply shall be appropriate to the quantity being stored.

All storage facilities shall be banded 110% of the quantity contained and banded areas will be supplied with a drain facility to enable the banded area to be drained in a receptacle for disposal in the event of a spill or accumulation of water.

Housekeeping

The Principal Contractor to ensure that:

- Housekeeping is continuously implemented and maintained;
- Materials and equipment are safely stored;
- Scrap, waste and debris is removed regularly;
- Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to the free-flow of pedestrians and vehicular traffic;
- Waste and debris not to be removed from heights by throwing but rather by chute or crane;
- Where practicable, construction sites are fenced off to prevent entry of unauthorised persons;

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- Catch platforms or nets are erected over entry and exit ways or over places where persons are working to prevent them being struck by falling objects;
- An unimpeded work space is maintained for every employee;
- Every workplace is kept clean, orderly and free of tools, materials and the like that are not required for the work being done;
- As far as is practicable, every floor, walkway, stair, passage and gangway is kept in good state of repair, skid-free and free of obstruction, waste and materials;
- The walls and roof of every indoors workplace sound and leak-free; and
- Openings in floors, hatchways, stairways and open sides of floors or buildings are barricaded, fenced, boarded over or provided with protection to prevent persons from falling.

Stacking and storage

The Principal Contractor must ensure that:

- A competent person is appointed in writing to supervise all stacking and storage on a construction site;
- Adequate storage areas are provided and demarcated;
- The storage areas are kept neat and under control;
- The base of any stack is level and capable of sustaining the weight exerted on it by the stack;
- The items in the lower layers can support the weight exerted by the top layers;
- Cartons and other containers that may become unstable due to wet conditions are kept dry;
- Pallets and containers are in good condition and no material is allowed to spill out;
- The height of any stack does not exceed 3 times the base unless stepped back at least half the depth of a single container at least every fifth tier or the approval of an inspector has been obtained to build the stacks higher with the aid of a machine. The operator of the machine must be protected against items falling from overhead off the stack and no items may overhang;
- The articles that make up a single tier are consistently of the same size, shape and mass;
- Structures for supporting stacks are structurally sound and able to support the mass of the stack;
- No articles are removed from the bottom of the stack first but from the top tier first;
- Anybody climbing onto a stack must do it in a safe manner, taking reasonable safety precautions, and ensuring that the stack is stable and capable of supporting him or her
- Stacks that are in danger of collapsing are broken down and restacked;
- Stability of stacks are not threatened by vehicles or other moving plant and machinery;
- Stacks are built in a header and stretcher fashion and that corners are securely bonded;
- Stacks are stepped back at least half the depth of a single container at least every fifth tier; and
- Persons climbing onto stacks do not approach unguarded moving machinery or electrical installations.

Project Management shall allocate a laydown area for Contractor-supplied items. At all times, the Contractor shall be responsible for the safe and adequate storage of all materials and equipment on site which he is to install, whether they are supplied by himself or others. The safe handling, unloading and loading of material receipts and dispatches at site or storage areas shall be the Contractors' responsibility.

The Contractor shall provide a suitable and adequate lock-up store for the storage of items of equipment and material, which would be damaged or pilfered if stored in the open. The Principal Contractor shall provide all facilities required for weatherproofing, dust proofing or vermin proofing.

The Contractor is responsible for the proper storage and maintenance of all equipment until issue of the Certificate of Practical Completion.

All equipment and materials will be stored on suitable wood poles or pallets which will not protrude more than a meter from any of the stored material. Safe access ways shall be maintained between all stored items preventing employees from having to climb over or under equipment to retrieve the necessary.

Fire prevention and protection

The Principal Contractor must ensure that:

- The risk of fire is avoided;
- Sufficient and suitable storage for flammables is provided;
- Sources of ignition are removed wherever flammable or highly combustible material is present in the workplace, for example:
 - Notices prohibiting smoking are displayed and enforced
 - Welding and flame cutting is only allowed under controlled conditions that includes written hot work permits

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- Only spark-free hand and power tools are used
- No grinding, cutting and shaping of ferrous metals is allowed using electrically driven power tools that produce sparks
- Flameproof switches and fittings are to be used in the flammable atmosphere
- Good housekeeping is maintained to prevent the accumulation of unnecessary combustibles
- Adequate ventilation is maintained
- Adequate and suitable fixed and portable firefighting equipment is provided and maintained in good working order.
- Maintenance must include:
 - Regular inspection of fire equipment by a competent person appointed in writing and keeping a register
 - Annual inspection and service by an accredited service provider
- All employees are instructed in the use of the firefighting equipment and know how to attempt to extinguish a fire;
- A sufficient number of employees are appointed and trained to act as an emergency team to deal with fires and other emergencies;
- Employees are informed regarding emergency evacuation procedures and escape routes;
- Emergency escape routes are kept clear at all times and clearly marked;
- Evacuation assembly points are demarcated;
- Evacuation is practiced ensuring that all persons are evacuated timeously;
- Roll call is held after evacuation to account for all personnel and ensure that no-one has been left behind; and
- A siren or alarm is fitted which is clearly audible to all persons on site.

Eating, changing, washing and toilet facilities and laydown areas

The provision of toilets for each sex is required in terms of the National Building Regulations and Construction Regulation 28. Chemical toilets are allowed instead of the water borne sewerage type. Toilets have to be provided at a ratio of 1 toilet per 30 workers. The Principal Contractor shall provide flushing toilets on the construction premises.

At least cold-water showers for each sex have to be provided at a ratio of 1 shower per 15 workers.

Some form of screened off changing facility must be provided separately for each sex.

Some form of eating facility sheltered from the sun, wind and rain must be provided.

Where the site is in a remote location and transport to home is not readily available, reasonable and suitable living accommodation must be provided.

Personal and other protective equipment

The Principal Contractor is required to continuously identify the hazards in the workplace and deal with them. He must either remove them or, where impracticable take steps to protect workers and make it possible for them to work safely and without risk to health under the hazardous conditions. The Principal Contractor will establish a Personal Protective Equipment Policy and a Personal Protective Equipment study will be conducted to determine the types of Personal Protective Equipment (PPE) to be supplied related to the hazards and risks emanating from the tasks. Cognisance shall be given to the gender of individuals required to where PPE; size required by the employee and size issued.

Personal protective equipment should, however, be the last resort and there should always first be an attempt to apply engineering and other solutions to mitigating hazardous situations before the issuing of personal protective equipment is considered.

Where it is not possible to create an absolutely safe and healthy workplace the Principal Contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the Principal Contractor maintains the equipment, instructs and trains the employees in the use of the equipment and ensures that the employees use the prescribed equipment.

Employees do not have the right to refuse to use and/or wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear the prescribed protective equipment through health or any other reason, the employee cannot be allowed to continue working under the hazardous condition(s) for which the equipment was prescribed. An alternative solution has to be found that may include relocating the employee.

The Principal Contractor may not charge any fee for protective equipment prescribed by him but may charge for equipment under the following conditions:

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- Where the employee requests additional issue in excess of what is prescribed;
- Where the employee has patently abused or neglected the equipment leading to premature failure; and
- Where the employee has lost the equipment.

All employees shall, as a minimum, be required to wear the following personal protective equipment on any of FT Consultants Civil and Structural Engineers' projects:

- Protective overalls;
- Protective footwear;
- Protective headwear; and
- Eye, face and ear protection.

All Personal Protective Equipment will clearly display the branding components of the Principal Contractor's organization (e.g. Name of Organization, logo).

Portable electrical tools and equipment

Portable electrical tools and equipment includes every unit that takes electrical power from a 15 ampere plug point and is moved around for use in the workplace for example; drills, saws, grindstones, portable lights, etcetera. Other electrical appliances such as fridges, hotplates, heaters, and etcetera must be inspected and maintained to the same standards as portable electrical tools and appliances.

The use, inspection and maintenance of portable electrical tools and equipment shall be as follows:

- Periodical inspections must be carried out by a competent person appointed in writing;
- Inspection results must be recorded in a register;
- Only competent authorised persons are allowed to use portable electrical tools and equipment; and
- The correct protective equipment must be worn or used whilst operating portable electrical tools and equipment.

This equipment:

- Must be maintained in good condition at all times to prevent an electrical shock to the user;
- The main power source should incorporate an earth leakage protection device or receive power through a double wound transformer or be double insulated and clearly marked as such; and
- All equipment must be fitted with a switch to allow for safe and easy starting and stopping.

The following requirements apply to portable lights:

- Must be fitted with a robust non-hygroscopic non-conducting handle;
- Live metal parts or parts which may become live must be protected against contact;
- The lamp must be protected by a strong guard;
- The cable lead-in must withstand rough handling;
- Inspections must be undertaken that concentrate on plug, cord, switch and any obvious faults;
- A register be kept for each piece of equipment with findings of regular inspections undertaken to evaluate the condition of these lights; and
- When used in wet/damp/metal container conditions, the lamp must be protected.

Public health and safety and traffic management

The Principal Contractor is responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from the construction work as well as the precautionary measures to be observed to avoid or minimise those dangers. This includes:

- Non- employees entering the site for whatever reason;
- The surrounding community; and
- Passers-by the site.

The Principal Contractor shall organize the site in such a manner that pedestrians and vehicles can move safely and without risks to health, including sufficient and suitable traffic routes and safe walkways with relevant signage.

Appropriate signage must be posted to this effect and all employees on site must be instructed to ensure that non-employees are protected at all times. All non-employees entering the site must receive induction into the hazards and risks of the site and the control measures to be observed.

The Principal Contractor shall recognize that the Community Liaison Officer (CLO) is the link between FT Consultants Civil and Structural Engineers and the community and provide all reasonable support to the Community Liaison Officer to ensure relevant responsibilities are fulfilled and positive relationships with the community are maintained.

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Where activities are performed close to public routes, the Principal Contractor will establish a traffic management plan incorporating the requirements of relevant by-laws. At a minimum, barricading, warning signage and flagmen will be provided to ensure the protection of workers from vehicles in transit. Where required, the Principal Contractor will interact with the local traffic department to establish minimum requirements to be implemented on public routes.

Hazardous chemical substances

The Principal Contractor must ensure that:

- Employees receive the necessary information and training to be able to use and store hazardous chemical substances safely;
- Employees obey lawful instructions regarding:
 - The wearing and use of protective equipment
 - The use and storage of hazardous chemical substances
 - The prevention of the release of hazardous chemical substances
 - the wearing of exposure monitoring and measuring equipment
 - the cleaning up and disposal of materials containing hazardous chemical substances
 - Housekeeping, personal hygiene and the protection of the environment
- The risk assessments required in terms of Construction Regulation include employee exposure to hazardous chemical substances and that the necessary measures be taken to protect persons from being detrimentally affected by hazardous chemical substances present or used in the workplace;
- Suppliers provide the necessary information in the form of a material safety data sheet regarding a hazardous chemical substance required to ensure the safe use and storage of that substances;
- An up-to-date list is kept on site of hazardous chemical substances stored and used together with the material safety data sheet of the hazardous chemical substances;
- Hazardous chemical substances containers be clearly marked with the contents and main hazardous category e.g. "Flammable" or "Corrosive" and the reference number of the hazardous chemical substances on the list indicated above;
- Hazardous chemical substances, for example asbestos dust, are not cleared by using compressed air but should be vacuumed;
- No person eats or drinks in a hazardous chemical substances workplace; and
- Hazardous chemical substances waste is disposed of safely in terms of hazardous waste disposal requirements.
- MSDS's to be in 16-point format- available on site

Excavations (including piling)

Where excavations will exceed 1.5 m in depth the contractor will be required to submit a method statement to FT Consultants Civil and Structural Engineers for approval before commencing with the excavation and FT Consultants Civil and Structural Engineers will issue a permit to proceed once the risk assessment and method statement is approved.

Excavation work must be carried out under the supervision of a competent person, who has been appointed in writing, with at least two years' experience in excavation work. Before excavation work begins the stability of the ground must be evaluated.

Whilst excavation work is being performed, the contractor must take suitable and sufficient steps to prevent any person from being buried or trapped by a fall or dislodgement of material.

No person may be required or permitted to work in an excavation that has not been adequately shored or braced.

Where the excavation is in stable material and where the sides of the excavation are sloped back to at least the angle of repose of the excavated material, shoring or bracing may be left out but only after written permission has been obtained from the appointed competent person.

Shoring and bracing must be designed and constructed to safely support the sides of the excavation.

Where uncertainty exists regarding the stability of the soil the opinion of a competent professional engineer or professional technologist must be obtained whose opinion will be decisive. The opinion must be in writing and signed by the engineer or technologist as well as the appointed competent person.

No load or material may be placed near the edge of an excavation unless suitable shoring has been installed to be able to carry the additional load.

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Neighbouring/adjoining buildings, structures or roads that may be affected or endangered by the excavation must be suitably protected.

Every excavation must be provided with means of access that must be within 6 metres of any worker within the excavation.

The location and nature of any existing services such as water, electricity, gas etc. must be established before any excavation is commenced with and any service that may be affected by the excavation must be protected and made safe for workers in the excavation.

The appointed competent person must inspect every excavation, including the shoring and bracing or any other method to prevent collapse, as follows:

- Daily before work commences
- After every blasting operation
- After an unexpected collapse of the excavation
- After substantial damage to any supports
- After rain

The results of any inspections must be recorded in a register kept on site and in the safety file.

Every excavation accessible to the public or that is adjacent to a public road or thoroughfare or that threatens the safety of persons, must be adequately barricaded or fenced to at least one meter high and as close to the excavation as practicable, regardless of the depth of the excavation.

Every excavation must be provided with warning lights or visible boundary indicators after dark or when visibility is poor.

Upon entering an excavation, the requirements of General Safety Regulation 5, work in confined spaces, must be observed:

- Any confined space may only be entered after the air quality has been tested to ensure that it is safe to breathe and does not contain any flammable or noxious air mixture.
- The confined space must be purged and ventilated of any hazardous or flammable gas, vapour, dust or fumes.
- The safe atmosphere must be maintained and, where necessary.
- Employees are to be provided with breathing apparatus and must wear a safety harness with a rope with the free end of the rope being continuously attended to by a person outside the confined space.
- Furthermore, an additional person, trained in resuscitation, to be in full-time attendance immediately outside the confined space.
- Additional serviceable breathing and rescue apparatus is kept immediately outside the confined space for rescue purposes.
- All pipes, ducts etc. that may leak into the confined space to be blanked off sufficiently to prevent any leakage or seepage.
- The employer must ensure that all employees have left the confined space after the completion of work.
- Where flammable gas is present in a confined space no work may be performed in close proximity to the flammable atmosphere.

Excavations and other openings must be provided with sufficient barriers to prevent construction vehicles and mobile plant from falling into them.

Excavations left open for extended periods of time (exceeding 48 hours) must be approved the relevant Engineer / Construction Supervisor.

Barricading

Barricading plans are to be presented by the Principal Contractor for any major operations involving site works for approval by FT Consultants Civil and Structural Engineers. Where areas are unsafe, they should be enclosed with barricading. Examples are people working overhead, welding splatter etc.

Where there is a risk of injury, the area should be barricaded off with secure solid barricades.

Barricading for the prevention of access into areas with a potential risk of injury shall as a minimum be constructed of a handrail, knee-rail and appropriately supported as to prevent any person from falling into the restricted/risk area.

Appropriate signage shall be affixed to the barricade indicating the risk associated (i.e. deep excavation, lifting operations etc.) and the responsible Supervisor and contact details shall be displayed. All barricading shall have a "No Entry" signs

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on all sides and at each change of direction. Signage shall be placed at 20 m intervals where lengths exceed. All signage shall be a minimum size of 290 mm x 290 mm.

Danger tape shall not be utilised to prevent personnel from entering into areas.

Where no risk exists of injury to personnel such as stacking and storage areas, the use of wire for hand and knee rails netting shall be acceptable to demarcate the area.

All barricades will have a dedicated entrance where it is required that personnel enter the areas.

Appropriate signage shall be placed at the entrance indicating which Contractor has right of entry.

It is the Contractor's responsibility to remove all redundant barricades directly after use. The Contractor's Safety Officers will maintain a marked-up site plan indicating where barricades are erected.

It will be a requirement that the contractor protects employees against contact with exposed rebar and poles by the installation of rebar-caps on all exposed areas where there is a potential that an employee could be injured.

Working in confined spaces (such as sewer manholes)

Enclosed space work necessitates a Confined Space Permit. This may only be obtained from the authorized person nominated in writing. The responsibility for safe procedure, both at the time of entry and during the entire operation of entering and working in confined spaces, rests with the Contractor. The Contractor shall be sure that adequate steps have been taken to eliminate or control hazards. Before working in an area that contains dust, the area is to be ventilated and hosed down to settle and dampen the dust.

The Contractor shall provide all necessary equipment to manage confined spaces, including all necessary monitoring and rescue equipment (such as tripods, breathing equipment and the like). The Contractor shall ensure all persons working in a confined space or managing entry to a confined space are appropriately trained.

Compulsory - Continuous monitoring, trained rescue teams, radio communication & adequate ventilation.

Pump sumps & valve chambers

Ventilation

All available manholes or ventilation covers must be removed, and the compartment ventilated for 10 (ten) to 15 (fifteen) minutes, using compressed air or a portable blower. Such ventilation must be continued while personnel are in the compartment. Ensure that exhaust fumes from blower do not enter the confined space.

Before entering any sump or compartment, the atmosphere must be tested by the Principal Contractor's competent person (trained by the supplier of the gas monitoring equipment) by lowering the gas monitoring equipment to the bottom of the sump or compartment by means of a rope. A register must be kept indicating that the atmosphere has been tested and that the sump or compartment is fit to work in. The Principal Contractor's construction supervisor must check and co-sign this register each time he visits a site to ensure that the atmosphere is continuously being monitored.

Entering sump

When entering a sump, the person entering the sump must wear the safety harness, gas detector as well as a self-rescuer. A lifeline must be attached to the safety harness and a person on the surface must be in continuous contact with the person in the sump. At least one person on the surface must be trained in basic first aid and CPR and a first aid kit with resuscitation equipment must be available outside the entrance of the confined space for emergencies.

Should the alarm sound when a person is in the confined space, the area must be evacuated immediately and the atmosphere re-tested and certified safe before re-entry into the confined space.

In no circumstance shall any person remain within a sump for a period of more than one hour at a time. A five-minute rest on the surface must be taken after this period before re-entering.

No naked lights, smoking or unprotected electrical apparatus which may cause sparks, shall be permitted in any sump or in their vicinity.

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Underground tanks, digesters

Lock-out

The electrical switch must be locked out in the MCC room when emptying and filling a digester. No work shall be done in any digester or closed tank without the necessary permit issued by the Maintenance Manager of the facility. The Principal Contractor's construction supervisor must check and co-sign the permit.

Ventilation

All available manhole or ventilation covers, and in the case of a digester, the "Varig" (pressure relief) valve must be removed and the compartment force ventilated for at least 4 (four) hours. Such ventilation must be continued while there are people in the confined space.

Before entering the confined space, the atmosphere must be tested by lowering the gas monitoring equipment to the bottom of the confined space by means of a rope. The compartment may only be entered if it has been certified safe by a competent person (certified competent by supplier of gas monitoring equipment).

The first person to enter the confined space must wear the gas monitoring equipment on his person while inside the confined space. A person trained in the use thereof, inside the digester, must also wear an emergency oxygen kit. Another emergency oxygen kit must be available on the surface.

No person may enter any digester or closed tank unaccompanied and at least two other persons must be present on the surface to make continuous contact with the persons in the confined space.

Entering closed tank or digester

The first person to enter a closed tank or digester must wear a safety harness with a safety rope, long enough to reach the point of exit. This safety rope must be monitored at all times. All persons subsequently entering the closed tank/digester must wear a safety harness as well as a self-rescuer. No person is allowed to enter the tank or digester without a safety harness or self-rescuer.

In no circumstances shall any person remain within the enclosure for a period of more than one hour at a time. A fifteen-minute rest on the surface must be taken before re-entry,

No naked lights, smoking or unprotected electrical apparatus which may cause sparks shall be permitted in any confined space or in their vicinity.

Confined spaces & water chambers

General

All employees working in confined spaces or sewer manholes must be issued with gas monitoring equipment and safety harnesses and self- rescuers where applicable. All these employees must be trained in their use.

Where over pumping between manholes is involved, only leakage free pumping machines and conveyance tubes will be allowed.

Under no circumstances may any confined space be entered unless it has been certified safe to work in.

Safety harnesses and attachments must be checked for damage to webbing, metal fittings and ropes on a monthly basis and the findings recorded in a register. Should a harness be damaged, it must be reported to the construction supervisor immediately.

The following records shall be taken and maintained by the Principal Contractor:

- Confined space entry permits
- Confined space entry registers
- Safety harness registers

Ventilation

All available manholes or ventilation covers must be removed, and the chamber ventilated for 10 (ten) to 15 (fifteen) minutes, using compressed air or a portable blower. Such ventilation must be continued while personnel are in the chamber. Ensure that exhaust fumes from blower do not enter the confined space.

Before entering any chamber, the atmosphere must be tested by the Principal Contractor's competent person (trained by the supplier of the gas monitoring equipment) by lowering the gas monitoring equipment to the bottom of the chamber by means of a rope. A register must be kept indicating that the atmosphere has been tested and that the area is fit to work

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in. The Principal Contractor's construction supervisor must check and co-sign this register every time he visits the site to ensure that the atmosphere is continuously being monitored.

Fumes must be extracted from the chamber while welding.

Entering chamber

When entering a chamber, the person entering the chamber must wear a safety harness as well as the gas detector. A lifeline must be attached to the safety harness and a person on the surface must be in continuous contact with the person in the manhole. At least one person on the surface must be trained in basic first aid and CPR and a first aid kit with resuscitation equipment must be available outside the entrance of the confined space for emergencies.

In no circumstances shall any person remain within a chamber for a period of more than one hour at a time. A five-minute rest on the surface must be taken after this period before re-entering.

Should the alarm sound when a person is in the confined space, the area must be evacuated immediately and the atmosphere re-tested and certified safe before re-entry into the confined space.

When the activity to undertake inside the pipeline includes the use of any hazardous chemical substances or substances, which might cause hazardous fumes or gasses the contractor, must comply with 5.24 Hazardous Chemical Substances.

Safety equipment

All teams must be issued with gas monitoring equipment and safety harnesses and self-rescuers where applicable. All employees must be trained in the use thereof.

Manhole precautions

No open manhole in streets, lanes or any place where the public or other persons have access shall be left unguarded. One person with a red flag, 300mm square attached to a vertical staff at least 1 m long, must be present at all such open covers. The necessary road signs and speed limitation boards must also be in place.

Hand Tools

The Principal Contractor must inspect all hand tools before it is brought onto the site.

- As far as possible all hand tools must be numbered and placed on register to be inspected monthly by a person designated to do so.
- Any tools found to be in an unsafe condition must immediately be removed from service and either discarded or rectified.
- No chisels with "mushroomed" heads must be used.
- No hammer shall be used with a cracked or damaged handle.
- All files must be fitted with handles.
- All trolleys, pushcarts, etc. used on site must be identifiable, placed on register and inspected at least once every month.
- Non-sparking tools must be used in areas where the risk of fire or explosion is present.
- No homemade hand tools are allowed on the project.
- All tools shall be attached to a suitable lanyard when utilised in elevated positions

Ladders

The following requirements for ladders will apply:

- All ladders used on the site shall be constructed and used in compliance with the OH&S Act and Regulations.
- Ladders, which provide access to a working platform, shall extend one metre above the platform where it provides access, and shall be secured to prevent slipping.
- Timber ladders shall not be painted other than with clear preserving oils, clear varnishes or clear plastics.
- Ladders, which are in a damaged condition, shall not be used and shall be labelled accordingly and removed from the Premises.
- All Ladders shall be numbered, logged in a register, and inspected monthly.
- A ladder in use shall be held by an assistant and/or properly tied down in position.
- Only ladders that do not conduct electricity shall be used in live electrical sub-stations and switching rooms.
- Ladders shall be removed after use and stored in an appropriate facility as to not expose them unnecessarily to the elements or potential damage by surrounding activities.

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Occupational hygiene management

The Principal Contractor will be required to establish an occupational hygiene management programme related to the hazards and risks emanating from the work environment, environment and activities / tasks to be performed for or on behalf of FT Consultants Civil and Structural Engineers. At a minimum, the occupational hygiene management programme will include:

- Noise management;
- Ventilation management;
- Illumination management;
- Biological monitoring (waste treatment works);
- Ergonomics management; and
- Medical surveillance management.

Soil pollution management

The following requirements for soil pollution management shall apply:

- Topsoil should be temporarily stockpiled, separately from (clay) subsoil and rocky material, when areas are cleared. If mixed with clay sub-soil the usefulness of the topsoil for rehabilitation of the site will be lost.
- Stockpiled topsoil should not be compacted and should be replaced as the final soil layer. No vehicles are allowed access onto the stockpiles after they have been placed.
- Stockpiled soil should be protected by erosion-control berms if exposed for a period of greater than 14 days during the wet season. The need for such measures will be indicated in the site-specific report.
- Topsoil stripped from different sites must be stockpiled separately and clearly identified as such. Topsoil obtained from sites with different soil types must not be mixed.
- Topsoil stockpiles must not be contaminated with oil, diesel, petrol, waste or any other foreign matter, which may inhibit the later growth of vegetation and microorganisms in the soil.
- Soil must not be stockpiled on drainage lines or near watercourses without prior consent from the Project Manager.
- Soil should be exposed for the minimum time possible once cleared of invasive vegetation, that is the timing of clearing and grubbing should be co-ordinated as much as possible to avoid prolonged exposure of soils to wind and water erosion. Stockpiled topsoil must be either vegetated with indigenous grasses or covered with a suitable fabric to prevent erosion and invasion by weeds.
- Limited vehicular access is allowed across rocky outcrops and ridges.
- All cut and fill surfaces need to be stabilized with appropriate material or measures when major civil works are complete.
- Erosion and donga crossings must be dealt with as river crossings. Appropriate soil erosion and control procedures must be applied to all embankments that are disturbed and destabilized.
- All equipment must be inspected regularly for oil or fuel leaks before it is operated. Leakages must be repaired on mobile equipment or containment trays placed underneath immobile equipment until such leakage has been repaired.
- Soil contaminated with oil must be appropriately treated and disposed of at a permitted landfill site or the soil can be regenerated using bio-remediation methods.
- Channelling water into existing surface drainage system must reduce runoff.

Water pollution management

The following requirements for water pollution management shall apply:

- Adequate sedimentation control measures must be instituted at any river crossings when excavations or disturbance of a riverbanks or riverbeds takes place.
- Adequate sedimentation control measures must be implemented where excavations or disturbance of drainage lines of a wetland may take place.
- All fuel, chemical, oil, etc. spills must be confined to areas where the drainage of water can be controlled. Use appropriate structures and methods to confine spillages such as the construction of berms and pans, or through the application of surface treatments that neutralise the toxic effects prior to the entry into a watercourse.
- Oil absorbent fibres must be used to contain oil spill in water.
- During construction through a wetland, the majority of the flow of the wetland should be allowed to pass downstream.
- Vehicular traffic across wetland areas must be avoided.
- No dumping of foreign material in streams, rivers and/or wetland areas is allowed.
- The wetland area and/or river must not be drained, filled or altered in any way including alteration of a bed and/or, banks, without prior consent from the DWA. The necessary licenses must be obtained in terms of Section 21 and 22 of the National Water Act, 36 of 1998 from DWAF.
- No fires or open flames are allowed in the vicinity of the wetland, especially during the dry season.

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- No swimming, washing (including vehicles and equipment), fishing or related activity is permitted in a wetland or river without written permission from the Project Manager.
- Disturbances to nesting, breeding and roaming sites of animals in or adjacent to wetland areas must be minimized.

Air pollution management

The following requirements for air pollution management shall apply:

- Speed limits must be implemented in all areas, including public roads and private property to limit the levels of dust pollution.
- Dust must be suppressed on access roads and construction sites during dry periods by the regular application of water or a biodegradable soil stabilisation agent. Water used for this purpose must be used in quantities that must not result in the generation of run-off.
- The site-specific investigation will quantify the impact of dust on nearby wetlands, rivers and dams in terms of sedimentation. Mitigation measures identified during the site-specific study must be implemented.
- The Contractor must notify the Principal of all schools within 50m of the site of proposed activities. The Principal must in turn ensure that children with allergies and respiratory ailments take the necessary precautionary measures during the construction period. The Contractor must ensure that construction activities do not disturb school activities e.g. dust clouds may reduce visibility affecting sports activities.
- Waste must be disposed of, as soon as possible at a municipal transfer station, skip or on a permitted landfill site. Waste must not be allowed to stand on site to decay, resulting in malodours.
- Noise control measures must be implemented. All noise levels must be controlled at the source. All employees must be given the necessary ear protection gear. Interested and affected parties must be informed of the excessive noise factors.
- The Contractor must inform all adjacent landowners of any after-hour construction activities and any other activity that could cause a nuisance e.g. the application of chemicals to the work surface. Normal working hours must be clearly indicated to adjacent landowners.
- No loud music is allowed on site and in construction camps.
- No fires are allowed if smoke from such fires will cause a nuisance to IAPs.

Social and cultural impact management

The following requirements for social and cultural impact management shall apply:

- Access by non-construction people onto any construction sites must be restricted. The Contractors activities and movement of staff must be restricted to designated construction areas only.
- Rapid migration of job seekers could lead to squatting and social conflict with resident communities and increase in social pathologies if not properly addressed. The Contractor must ensure that signs indicating the availability of jobs are installed.
- Criteria for selection and appointment (by the Contractor) of construction labour must be established to allow for preferential employment of local communities. The Local Authority must be actively involved in the process of appointing temporary labourers.
- Sub-Contractors and their employees must comply with all the requirements of this document and supporting documents e.g. the Contract document that applies to the Contractor. Absence of specific reference to the sub-contractor in any specification does not imply that the sub-contractor is not bound by this document.
- No member of the construction workforce is allowed to wander around private property, except within the immediate surroundings of the site.
- The Contractor must provide suitable sanitation facilities for site staff. Sanitation provided during the construction phase should be managed so that it does not cause environmental health problems. The use of the surrounding veld for toilet purposes is not permitted under any circumstance.
- The Contractor must arrange for all his employees and those of his sub-contractors to be informed of the findings of the environmental report before the commencement of construction to ensure:
 - A basic understanding of the key environmental features of the work site and environments, and
 - Familiarity with the requirements of this document and the site-specific report.
- Supervisory staff of the Contractor or his sub-contractors must not direct any person to undertake any activities which would place such person in contravention of the specifications of this document endanger his/her life or cause him/her to damage the environment.
- The demand for construction materials and supplies will have an effect on the local economy. Sourcing and purchasing materials locally and regionally wherever possible, insofar as the material complies with the design specification can optimise this impact.
- The Contractor must maintain a detailed complaint register. This must be forwarded, together with solutions, to the authorities when requested.

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Aesthetic and visual impact management

The following requirements for aesthetic and visual impact management shall apply:

- Scenic quality:
 - Damage to the natural environment must be minimized.
 - Trees and tall woody shrubs must be protected from damage to provide a natural visual shield. Excavated material must not be placed on such plants and movement across them must not be allowed, as far as practical.
 - The clearing of all sites must be kept to a minimum and surrounding vegetation must, as far as possible, be left intact as a natural shield.
 - No painting or marking of natural features must be allowed.
- Above ground structures:
 - All above ground structures should be located in areas where the visual impact from roads, houses etc. is minimised.
 - All above ground structures could be treated or painted to blend in with the natural environment.
 - Cut and fill areas, river and stream crossings and other soil stabilisation works must be constructed to blend in with the natural environment.
 - Natural outcrops, rocky ridges and other natural linear features must not be bisected. Vegetation on such features must, as far as possible, not be cut unless absolutely necessary for construction.
 - Excavated material must be flattened (not compacted) or removed from site. No heaps of spoil material must be left on site once the Contractor has moved to a new construction site.
 - Any complaints from interest groups regarding the appearance of the construction site must be recorded and addressed promptly by the Contractor.

Archaeology and cultural sites management

The following requirement for archaeology and cultural site management shall apply:

- All finds of human remains must be reported to the nearest police station.
- Human remains from the graves of victims of conflict, or any burial ground or part thereof which contains such graves and any other graves that are deemed to be of cultural significance may not be destroyed, damaged, altered, exhumed or removed from their original positions without a permit from the South African Heritage and Resource Agency (SAHRA).
- Work in areas where artefacts are found must cease immediately.
- Under no circumstances must the Contractor, his/her employees, his/her sub-contractors or his/her sub-contractors' employees remove, destroy or interfere with archaeological artefacts. Any person who causes intentional damage to archaeological or historical sites and/or artefacts could be penalised or legally prosecuted in terms of the National Heritage Resources Act, 25 of 1999.
- A fence at least 2m outside the extremities of the site must be erected to protect archaeological sites.
- All known and identified archaeological and historical sites must be left untouched.
- Work in the area can only be resumed once the site has been completely investigated. The Project Manager will inform the Contractor when work can resume.
- The replacement of memorial stones removed by the contractor, to be replaced in original state after the completion of work.

Flora and fauna management

The following requirements for flora and fauna management shall apply:

- Flora:
 - All suitable and rare flora and seeds must be rescued and removed from the site. They must be suitably stored, for future use in rehabilitation.
 - The felling and/or cutting of trees and clearing of bush must be minimised.
 - Bush must only be cleared to provide essential access for construction purposes. ○ the spread of alien vegetation must be minimized.
 - The Contractor must document any incident of unauthorised removal of plant material, as well as accidental damage to priority plants.
 - Woody vegetative matter stripped during construction must either be spread randomly throughout the surrounding veld so as to provide biomass for other microorganisms and habitats for small mammals and birds, or it may be stockpiled for later redistribution over the reinstated top soiled surface. No vegetative matter must be burnt or removed for firewood other than those removed during the grubbing and clearing phase. Such vegetation can be made available to the local inhabitants to be used as firewood.
 - No tree outside the footprint of the Works area must be damaged.
- Fauna:

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- No species of animal may be poached, snared, hunted, captured or wilfully damaged or destroyed.
- Snakes and other reptiles that may be encountered on the construction site must not be killed unless the animal endangers the life of an employee.
- Anthills and/or termite nests that occur must not be disturbed unless it is unavoidable for construction purposes.
- Disturbances to nesting sites of birds must be minimized.
- The Principal Contractor must ensure that the work site is kept clean and free from rubbish, which could attract pests.

Environmental infrastructure and facility management

The following requirements for environmental infrastructure and facility management shall apply:

- The relevant authorities must be notified of any interruptions of services, especially the Local Municipality, National Road Agency, Spoornet, TELKOM, TRANSNET and ESKOM etc. In addition, care must be taken to avoid damaging major and minor pipelines and other services.
- The integrity of property fences must be maintained.
- No telephone lines must be dropped during the construction operations, except where prior agreement by relevant parties is obtained. All crossings must be protected, raised or relocated as necessary.
- All complaints and/or problems related to impacts on man-made facilities and activities must be promptly addressed by the Contractor and documented.
- Storage Facilities
 - Proper storage facilities should be provided for the storage of oils, grease, fuels, chemicals and hazardous materials.
 - The Contractor must ensure that accidental spillage does not pollute soil and water resources.
 - Fuel stock reconciliation must be done on all underground tanks to ensure no loss of oil, which could pollute groundwater resources.
 - Cement must be stored and mixed on an impermeable substratum.
- Traffic Control
 - All reasonable precautions must be taken during construction to avoid severely interrupting the traffic flow on existing roads, especially during peak periods.
 - Before any work can start the Local Traffic, Department must be consulted about measures to be taken regarding pedestrian and vehicular traffic control.
- Access Roads
 - The Contractor and the affected landowner must collaborate on the planning and construction of new access routes and the repair or upgrading of existing routes.
 - Access to the site must be controlled such that only vehicles and persons directly associated with the work gains access to the site.
 - Temporary access roads must not be opened until required and must be restored to its former state as soon as the road is no longer needed.
- Batching Plants
 - Concrete must be mixed only in an area demarcated for this purpose. All concrete spilled outside this area, must be promptly removed by the Contractor and taken to a permitted waste disposal site. After all concrete mixing is complete; all waste concrete must be removed from the batching area and disposed of at an approved dumpsite. Storm water must not be allowed to flow through the batching area. Water laden with cement must be collected in a retention area for evaporation and not allowed to escape the batching area. Operators must wear suitable safety clothing.
- Chemical flushing toilet facilities should be managed and serviced by a qualified company. No disposal or leakage of sewerage should occur on or near the site.
- Blasting
 - Blasting must not endanger public or private property.
 - Noise mufflers and/or soft explosives must be used to minimize the impact on animals.
 - All the provisions of the Explosives Act, 26 of 1956 and the Minerals Act, 50 of 1991 must be complied with.
 - The Contractor must take measures to limit fly rock.

Environmental health and safety consequences

The following requirements for environmental health and safety consequences shall apply:

- Measures must be taken to prevent any interference that could result in flashover of power lines due to breaching of clearances or the collapse of power lines due to collisions by vehicles and equipment.
- Measures must be taken during thunderstorms to protect workers and equipment from lightning strikes.
- All tall structures must be properly earthed and protected against lightning strikes.
- The Contractor must take all the necessary precautions to protect the materials on site and to avoid veld fires.

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- No fires or open flames are allowed on site unless directly used for construction purposes, e.g. acetylene blowtorch.
- Review all SABS standards relating to fire precautions and fire control namely, SABS 0131-3 Section 8 and SABS 089-1 or as amended.
- The Contractor must have fire-fighting equipment and a first aid box available on site and on all vehicles working on site.
- All waste bins must be kept away from fuel tank installations.
- All fuel tanks must be installed above ground, depending on the volume of stored fuel, for easy detection of fuel leaks.
- Any welding or other sources of heating of materials must be done in a controlled environment, wherever possible and under appropriate supervision, in such a manner as to minimise the risk of veld fires and/or injury to staff.
- Fires lit for comfort (warmth) must be actively discouraged by the Contractor, due to the risk of veld fires and the risk to adjacent properties. Also, no waste material must be burnt.
- Fires for food preparation purposes (e.g. braai) are only allowed in designated areas;
- The process of excavation and back filling must be carried out as a sequential process following one another as quickly as possible. Excavations must only remain open for a minimum period of time and during this time they must be clearly demarcated. If excavations place the public at risk these sites must be fenced.
- The residents directly affected by open trenches must be notified of the dangers. This will be done during the site-specific phase.

Waste management

The Principal Contractor will establish a waste management programme and the several types of bins provided for the several types of waste containers / liners will be colour coded and/ or clearly marked:

- General waste – white;
- Hazardous waste – red;
- Recyclable waste – green;
- Construction and other types of waste – blue.

The following requirements shall be incorporated into the waste management programme:

- Solid Waste:
 - Littering on site and the surrounding areas is prohibited.
 - Clearly marked litterbins must be provided on site. The Contractor must monitor the presence of litter on the work sites as well as the construction campsite.
 - All bins must be cleaned of litter regularly.
 - All waste removed from site must be disposed at a municipal/permitted waste disposal site.
 - Excess concrete, building rubble or other material must be disposed of in areas designated specifically for this purpose and not indiscriminately over the construction site.
 - The entire works area and all construction sites must be swept of all pieces of wire, metal, wood or other material foreign to the natural environment.
 - Contaminated soil must be treated and disposed of at a permitted waste disposal site or be removed and the area rehabilitated immediately.
 - Waste must be recycled wherever possible.
- Liquid Waste
 - The Principal Contractor must install and maintain mobile toilets at work sites.
 - The Principal Contractor must provide adequate and approved facilities for the storage and recycling of used oil and contaminated hydrocarbons. Such facilities must be designed and sited with the intention of preventing pollution of the surrounding area and environment.
 - All vehicles must be regularly serviced in designated area within the Contractors camp such that they do not drip oil. Where required, vehicles will be serviced in bunded areas and drip trays will be provided.
 - All chemical spills must be contained and cleaned up by the supplier or professional pollution control personnel. Run-off from wash bays must be intercepted.
- Hazardous Waste:
 - No hazardous materials must be disposed of in the veld or anyplace other than a registered landfill for hazardous material. Hazardous waste must be stored in containers with tight lids that must be sealed and must be disposed at an appropriately permitted hazardous waste disposal site. Such containers must not be used for purposes other than those originally designed for.
 - The Principal Contractor must maintain a hazardous material register.

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Rehabilitation management

The following requirements for rehabilitation management shall apply:

- When all major construction activities are completed, the site must be inspected to determine site-specific rehabilitation measures. This may be considered as unplanned work e.g. soil rehabilitation due to oil spills.
- All temporary buildings and foundations, equipment, lumber, refuse, surplus materials, waste, construction rubble fencing and other materials foreign to the area must be removed.
- If waste products cannot be recycled, they must be disposed of at a permitted landfill site.
- All drainage deficiencies including abandoned pit latrines and waste pits must be corrected.
- Cut and fill areas must be restored and re-shaped.
- The area must be restored to its natural vegetation condition using indigenous trees, shrubs and grasses as directed by a grassland and/or rehabilitation expert.
- Borrow pits must be re-shaped into even slopes and surfaces to blend with the natural terrain and topsoil must be replaced.
- The grass mix, shrubs and trees used for rehabilitation must be compatible with the species identified in the site-specific investigation.
- Areas compacted by vehicles during construction must be scarified to allow penetration of plant roots and the regrowth of natural vegetation.

Emergency preparedness, contingency, planning and response

The Principal Contractor must appoint a competent person to act as emergency controller and/or coordinator.

The Principal Contractor must conduct an emergency identification exercise and establish what emergencies could possibly develop. He must then develop detailed contingency plans and emergency procedures, considering any emergency plan that FT Consultants Civil and Structural Engineers may have in place.

In the event where a contractor incorporates the services of a 3rd party service provider for the provision of Emergency Response Services, the following criteria must be met:

- Identification of 3rd party emergency response services (organization & contact details);
- Notification of contractor to 3rd party emergency response service of incorporation of services into contractor's emergency response plan (written agreement / signed letter).

The Principal Contractor and the other contractors must hold regular practice drills of contingency plans and emergency procedures to test them and familiarise employees with them.

First-aid

The Principal Contractor must provide first-aid equipment (including a stretcher) and have qualified first-aiders on site as required by General Safety Regulations promulgated in terms of the Occupational Health and Safety Act (Act no. 85 of 1993).

The contingency plan of the Principal Contractor must include arrangements for the speedy and timeous transporting of injured and/or ill person(s) to a medical facility or of getting emergency medical aid to person(s) who may require it.

The Principal Contractor must have written arrangements in place with his other contractors regarding the responsibility of the other contractors towards their own injured and/or ill employees.

Performance monitoring, measurement and assessment

Monthly compliance rating

A monthly compliance rating will be calculated for each Principal Contractor as per a formula determined by FT Consultants Civil and Structural Engineers focussing on or incorporating outcomes of assurance (e.g. monthly audit), operational (e.g. behavioural based safety inspection) assessments and other requirements, as necessary. FT Consultants Civil and Structural Engineers reserves the right to adjust the monthly compliance calculation formula as and when required – each revision of the monthly compliance calculation formula will be communicated to the Principal Contractor before implementation.

Each Principal Contractor is required to maintain a minimum compliance rating of 93% (Ninety Three Percent).

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Scoring	Classification	Classification description
93% -100%	Good	Substantial compliance
80% -92%	Average	Compliance status needs to be improved
60% - 79%	Poor	Methods to ensure compliance require substantial improvement - operations with substantial non-compliance risks
<60%	Extremely poor	Methods to ensure compliance failed completely - troubled operation with severe non-compliance risks

Corrective actions will be identified by FT Consultants Civil and Structural Engineers and the Principal Contractor's representative and implemented by the Principal Contractor (at no cost to FT Consultants Civil and Structural Engineers) to ensure that a minimum compliance rating of 93% (Ninety Three Percent is maintained by each contractor).

Lost Time Injury (LTI) Rate

The Principal Contractor is required to maintain a Lost Time Injury Rate of less than or equal to 1.0. The contractor will report his LTIR to FT Consultants Civil and Structural Engineers on a monthly basis.

$$LTIR = \frac{(\text{NUMBER OF LOST TIME INJURIES}) \times 200\,000}{\text{TOTAL NUMBER OF MAN-HOURS WORKED OVER PERIOD FOR THE CONSTRUCTION PROJECT}}$$

Lost-Time Injury (LTI): A work related injury or illness resulting in unfitness or absence from normal work activities and the employee's absence are calculated from the time of the incident / accident. Lost-Time Injuries include injuries / accidents where an employee is placed on light-duty or any other duty for which he/she is not normally employed as a result of an accident / injury.

The Principal Contractor must submit a completed monthly report on injuries on duties and accidents for the month to FT Consultants Civil and Structural Engineers and Agent by 12:00pm on the last working day of each month.

Environmental monitoring requirements

The following Environmental Monitoring Programme is recommended:

ISSUE	FREQUENCIES MONITORING	OF RESPONSIBLE PERSON
WATER		
Prevention of water pollution	Weekly in rainy season	Contractor's Representative (CR)
Prevention of stagnant water on site.	Weekly in rainy season	
Proper functioning of sanitation facilities	Weekly	
SOIL		
Surface or gully erosion on site	Weekly in rainy season	Contractor's Representative (CR)
Soil contamination with oils	Monthly	
If small, clean up. If large, appoint a suitable contractor for clean-up.	Immediately	
AIR		
Control domestic fires.	Weekly	Contractor's Representative

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Heavy vehicle emission control.	Monthly	(CR)
Dust control of access roads. Wetting when required.	Weekly inspection	
WASTE		
Efficiency of domestic waste collection.	Bi Weekly	Contractor's Representative (CR)
Prevention of burning of solid/liquid wastes on site.	Weekly	
Proper collection and containment of liquid wastes (petroleum, oils, paints, resins & cooking oils)	Monthly	
The recycling and/or disposal thereof.	Bi Weekly	
The collection and disposal of construction waste (concrete, wood, steel)	Monthly	
Collection of hazardous waste.	Bi Weekly	
WILDLIFE		
Weed Control	Weekly	Contractor's Representative (CR)
Control of illegal hunting or snaring of game, birds or other wild animals.	Weekly	
SOCIAL		
Inspect overall appearance of site. (Paint work, cleanliness & housekeeping)	Weekly	Contractor's Representative (CR)
Resolve complaints	Daily	
Monitor behaviour of labourers	Daily	
ENVIRONMENTAL HEALTH & SAFETY		
Inspect road signs, pedestrian and vehicle behaviour	At least once a week	CR

Compliance assessments& observations

A representative of the Principal Contractor must accompany FT Consultants Civil and Structural Engineers. on all assessments and inspections and may conduct his own inspection at the same time. Each party will process the results of their own assessment or inspection through their normal channels.

Monthly compliance assessment by client

FT Consultants Civil and Structural Engineers. will conduct unannounced monthly compliance assessment to measure and confirm that the Principal Contractor has implemented and is maintaining the agreed and approved SHE Plan and FT Consultants Civil and Structural Engineers. SHE Specification.

FT Consultants Civil and Structural Engineers. reserves the right to adjust the monthly compliance assessment criteria as and when required – adjustment of the monthly compliance assessment will ensure that the Principal Contractor is assessed against various assurance and operational components of the SHE Plan and FT Consultants Civil and Structural Engineers. SHE Specification.

Corrective actions will be identified by FT Consultants Civil and Structural Engineers. and the Principal Contractor's representative and implemented by the Principal Contractor (at no cost to FT Consultants Civil and Structural Engineers.) to ensure SHE Performance improvement.

Monthly OH&S reporting by Contractor to FT Consultants Civil and Structural Engineers.

The Principal Contractor is required to provide FT Consultants Civil and Structural Engineers. with a monthly report in the format provided no later than 12:00pm on the last working day of the month.

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Safe Work Behaviour and Behavioural Observations

The Contractor and his employees, including those of his Sub Contractors, shall observe and comply with the requirements of all relevant government acts, rules and regulations including, but not limited to, the Occupational Health & Safety Act, regulations, any project management safe working instructions, and the FT Consultants Civil and Structural Engineers. SHE Specification.

- A total of two (PTO) Planned Task/Job Observations shall be completed and logged on site by each manager, supervisor and foreman on a weekly basis.
- A formal Behavioural Based Safety (BBS) system will be rolled out on site and observations will be conducted by occupation, task or activity.
- It's the Principal Contractor's responsibility to ensure action plans are in place and closed out accordingly on areas that requires attention as identified by Planned Task / Job Observations and Behavioural Based Safety (BBS) Inspections.
- Time loss during these sessions shall be for the Contractors account. No claims will be accepted for safe coaching sessions that result in any production loss.

Other assessments and inspections by FT Consultants Civil and Structural Engineers.

FT Consultants Civil and Structural Engineers. reserves the right to conduct other ad-hoc assessments and inspections as deemed necessary. This may include, amongst other measures, site safety walks. Corrective actions will be identified by FT Consultants Civil and Structural Engineers. and the Principal Contractor's representative and implemented by the Principal Contractor (at no cost to FT Consultants Civil and Structural Engineers.) to ensure SHE Performance improvement.

Contractor's internal assessments and inspections

The Principal Contractor is to conduct his own internal assessments and inspections to verify compliance with his own occupational health and safety plan and management system as well as compliance with the requirements of the FT Consultants Civil and Structural Engineers. SHE Specification. The Principal Contractor will also assess and inspect the compliance of other contractors under its control. Management members of the Principal Contractor will be involved in the internal assessments and inspections.

Inspections by occupational health and safety representatives and other appointees

Occupational health and safety representatives must conduct inspections of their areas of responsibility and report thereon to their foreman or supervisor. Frequency for OH&S Representative inspections will be as follows:

- Projects with a duration of less than 6 months – weekly inspections;
- Projects with duration of more than 6 months – weekly inspections.

Other appointees must conduct inspections and report thereon as specified in their appointments. For example, vehicle, plant and machinery drivers, operators and users must conduct daily inspections before start-up.

Site Safety Observations

The Principal Contractor will be required to do site safety walks with FT Consultants Civil and Structural Engineers and/or his agent at times and frequencies to be agreed between the parties. A record of the safety walks and the findings and recommendations derived from the walks will be kept in the health and safety file.

Recording and review of inspection results

All the results of inspections shall be in writing, reviewed at occupational health and safety committee meetings, endorsed by the chairperson of the meeting and placed on the SHE File

Incidents Reporting and Investigation

Reporting of accidents and incidents

The Principal Contractor must report all incidents where an employee is injured on duty to the extent that he:

- Dies
- Becomes unconscious
- Loses a limb or part of a limb
- Is injured or becomes ill to such a degree that he is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he was usually employed

or where -

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- A major incident occurred
- The health or safety of any person was endangered
- Where a dangerous substance was spilled
- The uncontrolled release of any substance under pressure took place
- Machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
- Machinery ran out of control

to FT Consultants Civil and Structural Engineers within two days and to the Provincial Director of the Department of Labour within seven days from date of incident (Section 24 of the Occupational Health and Safety Act (Act no. 85 of 1993) and General Administrative Regulations), except that, where a person has died, has become unconscious for any reason or has lost a limb or part of a limb or may die or suffer a permanent physical defect, the incident must be reported to both FT Consultants Civil and Structural Engineers and the Provincial Director of the Department of Labour forthwith by telephone, telefax or e-mail. All other reports required by this specification must also be completed. Reporting of accidents / incidents to FT Consultants Civil and Structural Engineers will be on the prescribed format.

The Principal Contractor is required to provide FT Consultants Civil and Structural Engineers with copies of all statutory reports required in terms of the Occupational Health and Safety Act (Act no. 85 of 1993) within 7 days of the incident occurring.

The Principal Contractor is required to provide FT Consultants Civil and Structural Engineers with copies of all internal and external accident/incident investigation reports, within 7 days of the incident occurring.

Accident and incident investigation

The Principal Contractor is responsible for the investigation of all accidents and/or incidents where employees and non-employees were injured to the extent that they had to receive medical treatment other than first aid.

The results of the investigation are to be entered into the accident and/or incident register. The Principal Contractor is responsible for the investigation of all minor and non-injury incidents as described in Section 24 (1) (b) and (c) of the Occupational Health and Safety Act (Act no. 85 of 1993) and for keeping a record of the results of the investigations including the steps taken to prevent similar accidents in future.

The Principal Contractor is responsible for the investigation of all road traffic accidents, related to the construction activities, and for keeping a record of the results of the investigations including the steps taken to prevent similar accidents in future.

FT Consultants Civil and Structural Engineers reserves the right to hold its own investigation into an incident or call for an independent external investigation.

Corrective actions, work stoppages and non-conformance management process

Corrective actions from monthly compliance assessments / behavioural based safety inspections.

Principal Contractors are required to closeout all corrective actions identified from monthly compliance / assessments, behavioural based safety inspections within 30 (Thirty) days from date of the assessment / inspection. FT Consultants Civil and Structural Engineers representatives will monitor the Principal Contractor on closeout of corrective actions. The Principal Contractor is required to provide proof of the relevant action(s) taken to the FT Consultants Civil and Structural Engineers representative before the corrective action will be closed-out.

Failure by the Principal Contractor to closeout corrective actions within the prescribed period will result in implementation of the Non-conformance Management Process.

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Corrective actions from site inspections

Principal Contractors are required to closeout all corrective actions identified from site inspections within 7 (Seven) days from date of the inspection. FT Consultants Civil and Structural Engineers representatives will monitor the Principal Contractor on closeout of corrective actions. The Principal Contractor is required to provide proof of the relevant action(s) taken to the FT Consultants Civil and Structural Engineers representative before the corrective action will be closed-out.

Failure by the Principal Contractor to closeout corrective actions within the prescribed period will result in implementation of the Non-conformance Management Process.

Work stoppages

FT Consultants Civil and Structural Engineers reserves the right to issue work stoppages for at least the following situations:

- Identification of any unsafe act or conditions where the risk of injury to an employee is significant during site inspections, compliance assessments and/or behavioural based safety inspections;
- Identification of any non-compliance against applicable legislative requirements and the FT Consultants Civil and Structural Engineers SHE Specification during site inspections, compliance assessments and/or behavioural-based safety inspections.

Where a work stoppage is recommended by FT Consultants Civil and Structural Engineers and issued by the FT Consultants Civil and Structural Engineers Project Manager / Engineer, the Principal Contractor will be required to implement corrective and preventative actions within 72 hours from date of issue of the work stoppage.

The Principal Contractor will not commence with any work until the work stoppage order has been closed-out and proof of implementation of required actions has been submitted to the relevant FT Consultants Civil and Structural Engineers Representative.

Any work stoppage issued by FT Consultants Civil and Structural Engineers as a result of SHE non-compliance, non-conformance will result in no cost or claim implication for FT Consultants Civil and Structural Engineers whatsoever.

Work stoppages will be identified for 2 (two) types of work stoppages to be implemented:

- Overall work stoppage – the Principal Contractor and its Contractors are not allowed to continue with any type of construction / site work up until the work stoppage has been closed-out;
- Activity work stoppage – The Principal Contractor and its Contractors are not allowed to continue with the specific activity / task / job up until the work stoppage has been closed-out.

Overall work stoppages will be issued where non-conformances are identified against the criteria in the following table.

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NR	DESCRIPTION OF AUDIT NON-CONFORMANCE / NON-COMPLIANCE
1	NOTIFICATION OF CONSTRUCTION WORK
1.1	Local Department of Labour not notified of construction work before commencement of construction activities
1.2	Notification of construction work not stamped by local Department of Labour (no fax copies)
1.3	Copy of notification of construction work not available on site
2	PROOF OF REGISTRATION WITH COMPENSATION COMMISSIONER
2.1	Proof of registration with Compensation Commissioner or other insurer not available
2.2	Registration with Compensation Commissioner or other insurer not valid and up-to-date
3	POLICY COMMITMENT & SHE SPECIFICATION
3.1	SHE Plan not compiled, approved by contractor management and available on site
4	SECTION 37(2) AGREEMENT
4.1	Signed section 37(2) Agreement not signed and available on site
5	RISK ASSESSMENTS
5.1	Risk assessments not developed by competent, appointed person
5.2	Risk assessments not applicable to scope of work issued by Client
6	CONSTRUCTION SUPERVISOR
6.1	Competent person not appointed in writing as construction supervisor for specific site where construction activities are performed
6.2	Proof of competency not available on-site

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NR	DESCRIPTION OF AUDIT NON-CONFORMANCE / NON-COMPLIANCE
7	SITE SAFETY OFFICER
7.1	Site safety officer not appointed specifically for site where construction activities are performed
8	TRAINING (COMPETENCE & AWARENESS)
8.1	All new employees did not receive health and safety induction training
8.2	Training on safe work procedures specific to employee not available
9	EMERGENCY PREPAREDNESS AND RESPONSE
9.1	Emergency preparedness and response programmes not established
9.2	Emergency alarm not available and in working condition
9.3	Emergency alarm not audible from all points of site
9.4	Every workplace not provided with sufficient number of first-aid boxes (required where 5 or more persons are employed)

Activity work stoppages will be issued where non-conformance are identified against the criteria in the following table

NR	DESCRIPTION OF AUDIT NON-CONFORMANCE / NON-COMPLIANCE
1	RISK ASSESSMENTS
1.1	Hazard identification and risks not identified for all types of hazards emanating from activities / work environment
1.2	Proof of training not available to employees and sub-contractors on contents of risk assessments
1.3	Written safe work procedures / method statements not available for all activities to be performed
1.4	Written safe work procedures / method statements not approved and controlled
1.5	Written safe work procedures / method statement information correlate with submitted risk assessments
2	SUB-CONTRACTOR MANAGEMENT
2.1	Written agreements with contractor and all sub-contractors not signed and available
2.2	Proof of registration with Compensation Commissioner / Other Insurer not available for all Sub-contractors
2.3	Registration with Compensation Commissioner / Other insurer not valid for all sub-contractors
2.4	Proof of approval of sub-contractor SHE Files not available
3	OPERATIONAL CONTROL - FALL PROTECTION PLAN
3.1	Fall protection plan not compiled by competent, appointed person
3.2	Proof of competency not available on-site
3.3	Fall protection plan not adequate to type of work to be performed
3.4	Risk assessment not carried out for work conducted at heights
3.5	Unprotected opening not adequately guarded, fenced and barricaded with catch nets installed where necessary
4	OPERATIONAL CONTROL - ROOF WORK
4.1	Competent person not appointed to plan & supervise roof work
4.2	Proof of appointees competence not available on site
4.3	Risk assessments not carried out for roof work
4.4	Roof work plan not drawn up and updated

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4.5	Employees conducting roof work not medically examined for physical and psychological fitness and written proof on site
5	OPERATIONAL CONTROL - STRUCTURES
5.1	Information regarding the structure being erected not received from the designer
5.2	Risk assessments for structures not carried out
5.3	Method statements for structures not compiled and approved
5.4	Structures not inspected before each shift
5.5	Proof of inspections according to predetermined frequency not available
6	OPERATIONAL CONTROL - FORMWORK AND SUPPORT WORK
6.1	Competent person not appointed in writing to supervise erection, maintenance, use and dismantling of support and formwork
6.2	Proof of competency not available on-site
6.3	Design drawings not available on site
6.4	Risk assessments not carried out
6.5	Support and form work not inspected before use and inspection
6.6	Support and form work not inspected weekly whilst in place
6.7	Support and form work not inspected before stripping or dismantling and inspection registers kept
6.8	Support and form work not inspected before pouring of concrete
7	OPERATIONAL CONTROL - SCAFFOLDING
7.1	Competent persons not appointed in writing for scaffolding erection, inspection
7.2	Proof of competency not available on-site
7.3	Persons appointed not available on-site whilst scaffolding in place
7.4	Copy of SANS -085 not available on site
7.5	Risk assessments for scaffolding not carried out
7.6	Proof of weekly inspection and/or after severe weather conditions not available
8	OPERATIONAL CONTROL - SUSPENDED PLATFORMS
8.1	Competent person not appointed in writing for erection, inspection of suspended platforms
8.2	Risk assessments for suspended platforms not conducted
8.3	Certificate of authorization not issued by a registered professional engineer available on site
8.4	Certificate of authorization not forwarded to Department of Labour
8.5	Inspection after erection and before use not conducted by appointed competent person
8.6	Daily inspection prior to use not conducted by appointed competent person
8.7	Load test of whole installation and working parts not conducted by competent person (every 12 months)
8.8	Load tests of hoisting ropes, hooks and load attaching devices not conducted by competent person (quarterly)
8.9	Test log books not kept and available
8.10	Proof of medical and psychological certificates of fitness for all employees working on suspended platforms not available
9	OPERATIONAL CONTROL - EXCAVATIONS
9.1	Competent person not appointed in writing to supervise and inspect excavation work

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9.2	Proof of competency not available on-site
9.3	Excavation plan / procedure not established and approved
9.4	Risk assessments not conducted for excavations work
9.5	Proof of inspection before every shift not available
9.6	Proof of inspection after any blasting not available
9.7	Proof of inspection after any unexpected fall of ground / ground movement not available
9.8	Proof of inspection after any substantial damage to shoring not available
9.9	Proof of inspection after rain not available
9.10	Method statements not developed where explosives will be and/or are used
9.11	Adequate barricading and warning systems surrounding excavations not in place
9.12	Excavations not provided with an access ladder
9.13	Lighting system not in place to ensure visibility of excavations after dark
9.14	Soil not dumped at least 1m from edge of excavation
9.15	Sloping ground - soil not dumped on lower side of excavation
10	OPERATIONAL CONTROL - DEMOLITION WORK
10.1	Competent persons not appointed in writing to supervise and control demolition work
10.2	Proof of competency not available on-site
10.3	Risk assessments for demolition work not carried out
10.4	Engineering survey and method statement not available on site
10.5	Inspections to prevent premature collapse not carried out by competent person before each shift
10.6	Inspection records not available
11	OPERATIONAL CONTROL - MATERIAL HOISTS
11.1	Competent person not appointed in writing to inspect material hoist
11.2	Proof of competency not available on-site
11.3	Weekly inspections not conducted and retained
11.4	Inspection not records available
12	OPERATIONAL CONTROL - WATER ENVIRONMENTS
12.1	Competent person not appointed in writing to supervise, control and inspect work on or over water and the construction installation and dismantling of caissons and or cofferdams
12.2	Proof of competency not available on-site
12.3	Risk assessment not conducted for water environments on a daily basis
12.4	Inspection records not available
13	OPERATIONAL CONTROL - CONFINED SPACES
13.1	Procedure not established and implemented for confined space entry
13.2	Risk assessments not conducted for confined spaces
13.3	Proof of training to workers entering confined spaces not available
13.4	Ventilation programme / Buddy system not in place for confined spaces
14	OPERATIONAL CONTROL - EXPLOSIVE POWERED TOOLS

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14.1	Competent person not appointed in writing to control the issue of explosive powered tools and cartridges as well as the service, maintenance and cleaning
14.2	Inspection records of explosive powered tools not available
14.3	Explosive powered tools not on register
14.4	Empty cartridge cases, nails and fixing bolts returns not recorded
14.5	Explosive powered tools not cleaned daily after use
15	OPERATIONAL CONTROL - BATCH PLANTS
15.1	Competent person not appointed to control the operation of the batch plant as well as the service, maintenance and cleaning of this plant
15.2	Register of service, maintenance and cleaning of batch plant not kept and available
15.3	Risk assessments on batch plant not carried out
15.4	Batch plant not inspected weekly by a competent person and inspection records kept
16	OPERATIONAL CONTROL - TUNNELLING
16.1	Risk assessments for tunnelling not carried out
16.2	Method statements not compiled and approved for tunnelling
16.3	Assurance on compliance to Mine Health and Safety Act not available
17	OPERATIONAL CONTROL - CRANES AND LIFTING MACHINES / EQUIPMENT
17.1	Competent person not appointed in writing to inspect cranes, lifting machines and other lifting equipment
17.2	Proof of competency not available on-site
17.3	Cranes and lifting tackle not identified and numbered
17.4	Register not kept of lifting tackle
17.5	Logbook not available for each individual crane
17.6	Proof of training of operators not available (SETA and Dept. of Labour accredited)
17.7	Daily inspection of all cranes not available
17.8	Inspection records of tower crane after erection and thereafter every 6 months not available
17.9	Annual inspection of other cranes conducted by competent person not available
17.10	Three monthly inspections of lifting tackle, slings, ropes, chain slings etc. not available
18	OPERATIONAL CONTROL - ELECTRICAL INSTALLATION AND EQUIPMENT
18.1	Competent person not appointed in writing to inspect / test the installation and equipment
18.2	Proof of competency not available on-site
19	OPERATIONAL CONTROL - PERSONAL PROTECTIVE EQUIPMENT
19.1	Items of PPE not prescribed, and use enforced
20	OPERATIONAL CONTROL – WELDING & CUTTING
20.1	Competent person(s) not appointed to inspect electric arc, gas welding and flame cutting equipment
20.2	Proof of competency not available on-site
20.3	Equipment not identified / numbered and entered into a register
20.4	Proof of monthly inspections not available
21	OPERATIONAL CONTROL – HAZARDOUS CHEMICAL & FLAMMABLE SUBSTANCES
21.1	Risk assessments for hazardous chemical and flammable substances not available

PROJECT NUMBER:	DHS/231/24/MP Re-Advert
PROJECT LOCATION:	Govan Mbeki Local Municipality
PROJECT DESCR:	Appointment of a contractor for the construction of bulk water and sewer infrastructure in Kinross extension 33 settlement under Govan Mbeki Local Municipality, Gert Sibande District.

21.2	Storage facilities of hazardous chemical and flammable substances not controlled
21.3	List of all hazardous chemical and flammable substances not available
21.4	MSDS (16-point format) not available for all hazardous chemical and flammable substances
21.5	Proof of training to relevant employees on hazardous chemical and flammable substances not available
21.6	Decanting process not in place and under control
21.7	Storage areas for flammables not provided with suitable doors, ventilation, bunding etc.
21.8	Not only sufficient quantities issued for daily use
21.9	Types of gas cylinders not identified and stored separately
21.10	Gas cylinders not stored upright, secured and separated (empty / full)
21.11	Adequate warning signs not displayed for hazardous chemicals and flammable substances
22	OPERATIONAL CONTROL - VESSELS UNDER PRESSURE
22.1	Competent person not appointed to supervise the use, storage, maintenance and inspections of vessels under pressure
22.2	Proof of competency not available on-site
22.3	Risk assessments not carried out for vessels under pressure
22.4	Certificates of manufacture not available on-site
22.5	Register of vessels under pressure not available
22.6	Inspections and test by approved inspection authority after installation, re-erection and repairs not available
22.7	Inspections and test by approved inspection authority every 36 months not available
22.8	Register or log kept of inspections, tests, modifications and/or repairs not on site
23	OPERATIONAL CONTROL - VESSELS UNDER PRESSURE
23.1	Operators and drivers not appointed for specific construction vehicles and earth moving equipment to be used
23.2	Valid and applicable driver / operator licenses not available
23.3	Medical and psychological certificates of fitness not available for all driver's operators
23.4	Records of daily inspections not available
23.5	Preventative maintenance programme for construction vehicles and earth moving equipment not available
23.6	Unauthorized access / key control system not in place
23.7	Site speed limit not posted and visible
23.8	Passengers on construction vehicles
24	OPERATIONAL CONTROL - RAMPS
24.1	Erection and inspection of ramps not conducted by appointed competent person
24.2	Inspection records not available
25	OPERATIONAL CONTROL - SITE PLANT AND MACHINERY
25.1	All operators not adequately trained for type of site plant and machinery operated
25.2	Site plant and machinery not inspected through inspection sheets at prescribed intervals
26	OPERATIONAL CONTROL - HEALTH, HYGIENE AND STAFF WELFARE FACILITIES
26.1	Medical certificates of fitness not available for all relevant employees where required (entry medicals)
27	EMERGENCY PREPAREDNESS AND RESPONSE

PROJECT NUMBER:	DHS/231/24/MP Re-Advert
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27.1	Emergency alarm not audible from all points of site
27.2	Fire extinguishers not available for general stores
27.3	Fire extinguishers not available for flammable stores
27.4	Fire extinguishers not available for fuel storage tanks
27.5	Fire extinguishers not available for Gas welding or cutting operations
27.6	Every workplace not provided with sufficient number of first-aid boxes (required where 5 or more persons are employed)

PROJECT NUMBER:	DHS/231/24/MP Re-Advert
PROJECT LOCATION:	Govan Mbeki Local Municipality
PROJECT DESCR:	Appointment of a contractor for the construction of bulk water and sewer infrastructure in Kinross extension 33 settlement under Govan Mbeki Local Municipality, Gert Sibande District.

Non-conformance management process

The following actions will be instituted where non-conformances are identified in terms of compliance to relevant legislative requirements and the FT Consultants Civil and Structural Engineers SHE Specification.

CRITERIA	ACTION TO BE INSTITUTED	RESPONSIBLE PARTY
Compliance rating: 93-100%	Non-conformance closure	Principal Contractor / Contractor
Compliance rating: 80-92%	Letter of compliance improvement to Principal Contractor	FT Consultants Civil and Structural Engineers
	Non-conformance closure	Principal Contractor / Contractor
Compliance rating: 60-79%	Non-compliance hearing	FT Consultants Civil and Structural Engineers
	Letter of commitment for performance improvement	Principal Contractor / Contractor
	Non-conformance closure	Principal Contractor / Contractor
Compliance rating: <60%	Non-compliance hearing	FT Consultants Civil and Structural Engineers
	Letter of commitment for performance improvement	Principal Contractor / Contractor
	Non-conformance closure	Principal Contractor / Contractor
	Supply Chain Management to be informed of non-compliance standing	FT Consultants Civil and Structural Engineers
3 x Work stoppages	Non-compliance hearing	FT Consultants Civil and Structural Engineers
	Letter of commitment for performance improvement	Principal Contractor / Contractor
	Non-conformance closure	Principal Contractor / Contractor
	Supply Chain Management to be informed of non-compliance standing	FT Consultants Civil and Structural Engineers
3 x Non-conformance to <93% monthly compliance rating	Non-compliance hearing	FT Consultants Civil and Structural Engineers
	Letter of commitment for performance improvement	Principal Contractor / Contractor
	Non-conformance closure	Principal Contractor / Contractor
	Supply Chain Management to be informed of non-compliance standing	FT Consultants Civil and Structural Engineers

Documentation management and record control

The Principal Contractor will ensure that documentation and records related to the establishment, implementation, maintenance and improvement of the SHE Plan is:

- Clearly identifiable (according to element description of the SHE Plan);
- Retrievable; and

PROJECT NUMBER:	DHS/231/24/MP Re-Advert
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- Retained for record keeping purposes.

On completion of each project the Principal Contractor will submit all documentation required for the Consolidated SHE File to FT Consultants Civil and Structural Engineers in an auditable format within 5 days of project completion.

Terms and Conditions

Acceptable risk: Risk that has been reduced to a level that can be tolerated by the organization having regard to its legal obligations and its own OH&S policy.

Audit: Systemic, independent and documented process for obtaining audit evidence” and evaluating it objectively to determine the extent to which audit criteria “are fulfilled

Employer: FT Consultants Civil and Structural Engineers

Continual improvement: Recurring process of enhancing the OH&S Management system in order to achieve improvements in overall OH&S performance consistent with the organization’s OH&S policy.

Contractor (inclusive of Principal Contractor): Any organization, person, entity performing activities for or on behalf of FT Consultants Civil and Structural Engineers.

Corrective action: Action to eliminate the cause of a detected nonconformity or other undesirable situation.

Document: Information and its supporting medium

Employer: Any person who employs or provides work for any person and remunerates that person or expressly or tacitly undertakes to remunerate him, but excludes a labour broker as defined in Section 1(1) of the Labour Relations Act, 1956.

Hazard: Source, situation or act with a potential for harm in terms of human injury or ill health, or a combination of these.

Hazard identification: Process of recognizing that a hazard exists and defining its characteristics.

Ill health: Identifiable, adverse physical or mental condition arising from and/or made worse by a work activity and/or work-related situation.

Incident: Work related event(s) in which an injury or ill health (regardless of severity) or fatality occurred or could have occurred.

Interested party: Person or group, inside or outside the workplace, concerned with or affected by the OH&S performance of an organization.

Mandatory: Includes an agent, a contractor or a subcontractor for work, but without derogating from his status in his own right as an employer or user.

Nonconformity: Nonfulfillment of a requirement.

Occupational Health and Safety (OH&S): Conditions and factors that affect, or could affects, the health and safety of employees or other workers (including temporary workers and contractors personnel), visitors or any other person in the workplace.

OH&S performance: measurable results of an organization’s management of its OH&S risks.

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SHE policy: Overall intentions and direction of an organization related to its SHE performance as formally expressed by top management.

Organization: Company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own functions and administration.

Preventive action: Action to eliminate the cause of a potential nonconformity or other undesirable potential situation.

Principal Contractor: Any employer who performs work and is appointed by the Client to be in overall control and management of the contract work (inclusive of Mandatories).

Procedure: Specified way to carry out an activity or a process.

Record: Document stating results achieved or providing evidence of activities performed.

Risk: Combination of the likelihood of an occurrence of a hazardous event or exposure(s) and the severity of injury or ill health that can be caused by the event or exposure(s).

Risk assessment: Process of evaluating the risk(s) arising from a hazard(s), considering the adequacy of any existing controls, and deciding whether or not the risk(s) is acceptable.

Workplace: Any physical location in which work related activities are performed under the control of the organization.

Annexure 1: List of possible hazards emanating from projects and activities conducted for or on behalf of FT Consultants Civil and Structural Engineers

Potential risks emanating from **chemical hazards**:

- Exposure to additives, acids, cements and solvents used in construction activities;

Potential risks emanating from **biological hazards**:

- Exposure to biological vectors;
- Exposure to biological pathogens, viruses and bacteria.

Potential risks emanating from **workplace environmental hazards**:

- Inadequate provision of sanitation facilities resulting in exposure to infections / contagious diseases;
- Manual handling and lifting practices resulting in ergonomic stressor and poor posture;
- Exposure to thermal stress;
- Exposure to noise, vibration, dust, chemical vapours and smoke from emitted from construction activities;
- Exposure to adverse weather conditions;
- Exposure to risks emanating from unidentified existing services.

Potential risks emanating from **workplace hazards**:

- Ground instability due to substandard support, scaling, creeping, mud & slurry;
- Exposure to water environments and water releases
- Slip, trip and falling due to instable / wet floor surface conditions;
- Exposure to pressure systems and sudden releases from landslides, blockages, water pipes, falling flying objects and/or mud rushes;
- Poor visibility of employees due to inadequate lighting conditions;
- Unsafe road / track conditions and/or vehicle movement over slopes.
- Inadequate traffic control or poor visibility measures of traffic control system.

PROJECT NUMBER:	DHS/231/24/MP Re-Advert
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PROJECT DESCR:	Appointment of a contractor for the construction of bulk water and sewer infrastructure in Kinross extension 33 settlement under Govan Mbeki Local Municipality, Gert Sibande District.

Potential risks emanating from **equipment hazards:**

- Exposure to falling objects due to poor rigging, loose materials & equipment, load instability and/or deterioration;
- Exposure to moving parts of machinery due to failure in guards, load locks, interlocks or inadequate operator protection;
- Exposure to sharp, hot/cold, heavy/ unbalance, moving and or abrasive hazardous objects;
- Load instability due to unsafe stacking & storage practices;

Potential risks emanating from **fire hazards:**

- Injury to people and damage to property due to fires from combustible materials, flammable liquids, cutting and welding, overheating of machines, electrical faults, friction, lightning
- Injury to people and damage to property due to explosions from gas ignitions, flammable liquid containers, gas bottles and vessels under pressure.

Potential risks emanating from **vehicles and driven machinery:**

- Driver incompetence or not adequately trained to operate drive machinery;
- Inadequate driver/passenger protection;
- Unsafe transportation of passengers on vehicles and/or falling from vehicles;
- Inadequate inspection and maintenance of vehicles and driven machinery;
- Vehicles / driven machinery applied in activity not suitable for purpose of use;
- Failure in safety devices of vehicles and driven machinery;
- Exposure of employees and pedestrians to surrounding traffic;

Potential risks emanating from **environmental hazards:**

- Excessive dust emissions;
- Excessive noise emissions;
- Poor waste generation and disposal practices;
- Poor rehabilitation practices;

Potential risks emanating from **electrical hazards:**

- Exposure to electrical current due to failure in isolation, cable damage, power failure, tampering or earthing.

Potential risks emanating from **organizational control hazards:**

- Failure in lockout control systems.

PROJECT NUMBER:	DHS/231/24/MP Re-Advert
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Returnable Annexure A: Acknowledgement of SHE Specification & Annexures

CONTRACTOR:	
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I, the undersigned, hereby acknowledge that I have obtained copies of the following listed documentation and confirm that I fully understand the contents thereof and the consequences of non-compliance. The Contractor furthermore reiterates its commitment to compliance of the requirements contained within the following provided documentation:

- FT Consultants Civil and Structural Engineers, Safety, Health & Environmental (SHE) Specification, Volume 2.4;
- Annexure 1: List of possible hazards emanating from projects and activities conducted for or on behalf of FT Consultants Civil and Structural Engineers;

Signed at on this Day of 20.....

CONTRACT MANAGER			
NAME	DESIGNATION	DATE	SIGNATURE
CONTRACT SUPERVISOR			
NAME	DESIGNATION	DATE	SIGNATURE
WITNESS (1)			
NAME	DESIGNATION	DATE	SIGNATURE
WITNESS (2)			
NAME	DESIGNATION	DATE	SIGNATURE

PROJECT NUMBER:	DHS/231/24/MP Re-Advert
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PROJECT NUMBER:	DHS/231/24/MP Re-Advert
PROJECT LOCATION:	GOVAN MBEKI LOCAL MUNICIPALITY
PROJECT DESCR:	APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER AND SEWER INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT SIBANDE DISTRICT.. CIDB GRADE 7CE OR HIGHER

ANNEXURE 1:

**CONTRACTOR COMPETENCY
EVALUATION FORM**

All sections must be answered. Failure to do so may result in your application not being accepted / approved

**DHS/231/23/MP: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER AND SEWER INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT SIBANDE DISTRICT.
CIDB GRADE 7CE OR HIGHER**

CONTRACTOR / PROJECT INFORMATION

SECTION A

CONTRACTOR NAME: _____

ADDRESS: _____

Street Address

City

Country

Mail Code

PHONE NUMBER: () _____

FAX NUMBER: () _____

SHE CERTIFICATION : _____
(NAME)

EXPIRY DATE : _____

Comments

SECTION B

CLIENT NAME: DEPARTMENT OF HUMAN SETTLEMENTS

PROJECT NAME: _____

PROJECT / CONTRACT DHS No.: 082022

PROJECT LOCATION _____

City

Address

Mail Code

Comments

SECTION C

FOR ACE USE ONLY

PERSON COMPLETING THE EVALUATION: _____

PHONE NUMBER: () _____

FAX NUMBER: () _____

ADDRESS: (If different from above) _____

Street Address

City

State

Zip

TITLE: _____

SIGNATURE: _____

SECTION D	CONTRACTORS' SHE QUALIFICATION QUESTIONNAIRE
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1. INJURY / ILLNESS STATISTICS
USE THE PREVIOUS THREE YEARS' INJURY AND ILLNESS RECORDS TO COMPLETE THE FOLLOWING:

	20_____	20_____	20_____
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NUMBER TOTAL RECORDABLE CASES			
NUMBER OF RESTRICTED WORKDAY CASES			
NUMBER OF LOST WORKDAY CASES			
NUMBER OF FATALITIES			
NUMBER OF EMPLOYEE HOURS WORKED			

SHE MANAGEMENT SYSTEM	Yes	No	N/A	Proof required
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1	Does your Company have an SHE Management System? If Yes , then complete subsections 1.1 – 1.2:				
1.1	Provide the type(s) / name(s) of the management system(s).				X
1.2	If this is a recognised accredited system, please attach copies of certificates.				X
2	Does your Company have a Safety, Health, and Environmental (SHE) Policy in place that is signed by the supplier's senior management?				X
3	Has your Company identified the specific SHE impacts associated with the products, services or works it provides, and the steps taken to mitigate these impacts?				X
4	Does your Company observe SHE legislation and industry best practice standards?				X
5	Has your Company been prosecuted or issued with an enforcement notice / directive / compliance notice for infringement of any SHE legislation in the past three (3) years?				
5.1	If Yes, please provide details of the prosecution / enforcement notice /directive / compliance notice and what measures were taken to ensure the issue/s would not recur.				X
6	Has your Company had any reportable incident (safety and/or environmental) in the past five (5) years?				

6.1 If yes, please provide details:

ENVIRONMENTLA MANAGEMENT	Yes	No	N/A	Proof required
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7	Has your company had any notices of violations, permit non- compliances or reportable spills in the past year? If yes, how many?				
8	Has your Company a formally established EMS in place? If so, is it based on ISO 14001 and is it certified? If not, what are your plans to do establish one in the next 12 months?				X X X
9	Has your Company implemented any third-party certifications or reviews related to your product or services such as Energy Star or Type III environmental declarations – Principles and procedures (ISO 14025)? If so, which one?				X
10	Does your Company measure and trend energy use? Are there targets in place to reduce consumption? Is there a programme in place to reduce consumption?				
11	Does your Company measure and trend waste use? Are there targets in place to reduce waste? Is there a programme in place to reduce waste? Do you incorporate any recycled materials in your manufacturing process? Can your product be easily recycled, re-used or disposed of?				
12	Does your Company have any opportunities to collaborate with us to improve environmental performance, such as transport reduction or technological improvements?				

OCCUPATIONAL HEALTH & WELLNESS		Yes	No	N/A	Proof required
13	Does your Company have a Health and Wellness Policy/Plan and Programme?				X
14	Does your Company have an HIV/Aids Awareness Policy/Plan and Programme?				X
15	Does your Company have an Employee Assistance Programme for permanent and temporary employees?				X
16	Does your Company have a medical surveillance programme that includes permanent and temporary employees?				X
17	Does your Company have man-job specifications (risk based) for each employee (including temporary / casual and labour broker persons) that is specific to the individual, the position that they fill, the work environment and tasks that they perform?				X
SECURITY MANAGEMENT		Yes	No	N/A	Proof required
18	Does your Company have a Security Management Policy to protect resources?				X
EMERGENCY PREPAREDNESS PLAN		Yes	No	N/A	Proof required
19	Does your Company have a Policy/Standard on Emergency Preparedness?				X
SUB-CONTRACTORS AND SUPPLIERS MANAGEMENT		Yes	No	N/A	Proof required
20	Does your Company appoint competent subcontractors /suppliers? (provide details of selection process and criteria)				X
21	Do you have arrangements for monitoring compliance & performance of your subcontractor/supplier?				X
VEHICLE SAFETY		Yes	No	N/A	Proof required
22	Does your Company have a policy that addresses Driver, Passenger and Vehicle Safety (which includes vehicle maintenance, driver/operator competence)?				X
23	Do your Company's motor vehicles / cycles, construction vehicles, mobile plant used/hired comply with the manufacturer's design and legal requirements?				
HYGIENE MONITORING		Yes	No	N/A	Proof required
24	Does your Company have an Occupational Hygiene Programme?				
SHE COMPETENCY		Yes	No	N/A	Proof required
25	Supervisors: Do the Appointed Supervisors have the required training, knowledge and experience specific to the work to be performed? (Proof has to be provided)				X
26	Does/Do the SHE functionary (ies) have the required SHE-related training, knowledge and experience specific to the work being performed? (Proof has to be provided)				X
27	Do employees have the appropriate qualifications and experience for performing the assigned tasks?				X
28	If not, are they under direct and controlled competent supervision?				X
FIRE PREVENTION		Yes	No	N/A	Proof required
29	Are the fire risks being assessed and is provision made for the risks?				
HAZARDS IDENTIFICATION & RISK ASSESSMENT (HIRA)		Yes	No	N/A	Proof required
30	Does your Company have procedures in place for conducting hazard identification and risk assessments and for developing and implementing safe systems of work/method statements?				X
31	Does your Company have an updated Legal Register of the applicable legislation with which it has to comply?				X
32	Does your Company have a competent person appointed to carry out hazard identification and risk assessments?				X
33	Do employees perform hazard identification and a risk assessment prior to the commencement of a task?				X
34	Does your Company have a standard/procedure on the hierarchy of control principles that is applied to the mitigation of risks?				X

TRAINING MANAGEMENT		Yes	No	N/A	Proof required
35	Does the Company have an orientation and safety induction programme/ policy?				
	Does the Company have implemented training arrangements in place to ensure that employees?				
36	have sufficient skills and understanding to discharge their various duties? This includes refresher training that will keep employees updated on legislation and good health, safety and environmental practice. This applies throughout the Company, from top management to trainees.				X
37	Are training records kept?				X
38	Have training matrices been developed and implemented?				X
40	Have team leaders and team members been given the appropriate level of First Aid training?				X
COIDA		Yes	No	N/A	Proof required
41	Is your company registered with COIDA or a mutual company and are you still in good standing? If yes, please provide copy of current valid certificate issued by the Compensation Commissioner.				X
42	Are all the Company's employees registered with COIDA?				X

REFERENCES – PLEASE PROVIDE AT LEAST TWO (2) CLIENTS REFERENCES

1	Client's name:	
	Description of works, services, product:	
	Duration of contract (specify start and end dates):	
	Value of contract/work/services/product:	
	Contact telephone number/s:	
	Number of 'near misses' reported:	
	Number of lost-time injuries:	
	Number of disabling injuries:	
	Number of motor vehicle incidents/accidents:	
	Number of fatalities:	
	Number of lost-time injuries:	
	Largest number of permanent staff members working for the supplier during the contract period:	
	Number of permanent or non-permanent staff members involved in the work/services/product on the contract: Total number of staff days lost due to Injuries:	
Number of incidents of non-compliance to environmental legislation (including conditions of environmental authorisations / permits / licences):		
Number of environmental incidents:		
2	Client's name:	
	Description of works, services, product:	
	Duration of contract (specify start and end dates):	
	Value of contract/work/services/product:	
	Contact telephone number/s:	
	Number of 'near misses' reported:	
	Number of lost-time injuries:	
	Number of disabling injuries:	

Number of motor vehicle incidents/accidents:	
Number of fatalities:	
Number of lost-time injuries:	
Largest number of permanent staff members working for the supplier during the contract period:	
Number of permanent or non-permanent staff members involved in the work/services/product on the contract: Total number of staff days lost due to Injuries:	
Number of incidents of non-compliance to environmental legislation (including conditions of environmental authorisations / permits / licences):	
Number of environmental incidents:	

COMPANY SIGN-OFF

I acknowledge that the information provided in this SHE Contractors ' Competency Questionnaire , as part of the FT Consultants Civil & Structural Engineers evaluation process, is true and correct.

Company name	
Name and surname	
Position	
Signature	
Date	

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SCORING:

A: Each question scores one (1) point. Total possible points Percentage Score = $\frac{\text{Actual Score}}{\text{Possible Score}} \times 100 = \underline{\hspace{2cm}} \%$

Note: if a question is Not Applicable, do not score any points.

B: Subsections:	Actual score	Total			
Organisational structure and contact details of key persons					

Comments:

SUPPLIER EVALUATION RESULT – Comply/Not Comply

Approved /Not approved (NOTE: Gatekeeper of minimum of 80% is required)

NAME OF ASSESSOR:	
SIGNATURE:	
DATE:	



PROJECT NUMBER:	DHS/231/24/MP Re-Advert
PROJECT LOCATION:	GOVAN MBEKI LOCAL MUNICIPALITY
PROJECT DESCR:	APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER AND SEWER INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT SIBANDE DISTRICT.. CIDB GRADE 7CE OR HIGHER

ANNEXURE 2:
HAZARDS IDENTIFICATION RISK
ASSESSMENT FORM

PROJECT NUMBER:	DHS/231/24/MP Re-Advert
PROJECT LOCATION:	GOVAN MBEKI LOCAL MUNICIPALITY
PROJECT DESCR:	APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER AND SEWER INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT SIBANDE DISTRICT.. CIDB GRADE 7CE OR HIGHER

ANNEXURE 3: LIST OF POSSIBLE HAZARDS

LIST OF POSSIBLE HAZARDS ON THIS

PROJECT Potential risks emanating from **chemical hazards**:

- Exposure to additives, acids, cements and solvents used in construction activities;

Potential risks emanating from **biological hazards**:

- Exposure to biological vectors;
- Exposure to biological pathogens, viruses and bacteria.

Potential risks emanating from **workplace environmental** hazards:

- Inadequate provision of sanitation facilities resulting in exposure to infections / contagious diseases;
- Manual handling and lifting practices resulting in ergonomic stressor and poor posture;
- Exposure to thermal stress;
- Exposure to noise, vibration, dust, chemical vapours and smoke from emitted from construction activities;
- Exposure to adverse weather conditions;
- Exposure to risks emanating from unidentified existing services.

Potential risks emanating from **workplace hazards**:

- Ground instability due to substandard support, scaling, creeping, mud & slurry;
- Exposure to water environments and water releases
- Slip, trip and falling due to instable / wet floor surface conditions;
- Exposure to pressure systems and sudden releases from landslides, blockages, water pipes, falling flying objects and/or mud rushes;
- Poor visibility of employees due to inadequate lighting conditions;
- Unsafe road / track conditions and/or vehicle movement over slopes.
- Inadequate traffic control or poor visibility measures of traffic control system.

Potential risks emanating from **equipment hazards**:

- Exposure to falling objects due to poor rigging, loose materials & equipment, load instability and/or deterioration;
- Exposure to moving parts of machinery due to failure in guards, load locks, interlocks or inadequate operator protection;
- Exposure to sharp, hot/cold, heavy/ unbalance, moving and or abrasive hazardous objects;
- Load instability due to unsafe stacking & storage practices;

Potential risks emanating from **fire hazards**:

- Injury to people and damage to property due to fires from combustible materials, flammable liquids, cutting and welding, overheating of machines, electrical faults, friction, lightning
- Injury to people and damage to property due to explosions from gas ignitions, flammable liquid containers, gas bottles and vessels under pressure.

Potential risks emanating from **vehicles and driven machinery**:

- Driver incompetence or not adequately trained to operate drive machinery;
- Inadequate driver/passenger protection;
- Unsafe transportation of passengers on vehicles and/or falling from vehicles;
- Inadequate inspection and maintenance of vehicles and driven machinery;
- Vehicles / driven machinery applied in activity not suitable for purpose of use;
- Failure in safety devices of vehicles and driven machinery;
- Exposure of employees and pedestrians to surrounding traffic;

Potential risks emanating from **environmental hazards**:

- Excessive dust emissions;
- Excessive noise emissions;
- Poor waste generation and disposal practices;
- Poor rehabilitation practices;

Potential risks emanating from **electrical hazards**:

- Exposure to electrical current due to failure in isolation, cable damage, power failure, tampering or earthing.

Potential risks emanating from **organizational control hazards**:

- Failure in lock-out control systems.

PROJECT NUMBER:	DHS/231/24/MP Re-Advert
PROJECT LOCATION:	GOVAN MBEKI LOCAL MUNICIPALITY
PROJECT DESCR:	APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER AND SEWER INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT SIBANDE DISTRICT.. CIDB GRADE 7CE OR HIGHER

ANNEXURE 4:
MEDICAL SCREENING REPORT

FT CONSULTANTS CIVIL & STRUCTURAL ENGINEERS

MEDICAL SCREENING POLICY

**DHS/231/23/MP : APPOINTMENT OF A CONTRACTOR FOR THE
CONSTRUCTION OF BULK WATER AND SEWER
INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT
UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT
SIBANDE DISTRICT..**

CIDB GRADE 7CE OR HIGHER

FT MEDICAL SCREENING POLICY

NOTICE

It is the Contractor's responsibility to ensure that medical surveillance requirements specified in the Occupational Health and Safety Act (85/1993) and Regulations and any other applicable legal and Johannesburg Water's requirements are fully complied with.

This document is meant to facilitate the Contractor's compliance to applicable requirements and does not replace the applicable legal requirements.

This document may be revised at any time to include applicable legal requirements not currently included that may come to the attention of FT Consultants Civil and Structural Engineers in future. The Contractor will accordingly be responsible to comply with the revised requirements as might be necessary.

Where methods to ensure legal compliance have been specified in this document, Contractors may submit alternative detailed method statements for consideration and approval by FT Consultants Civil and Structural Engineers. FT Consultants Civil and Structural Engineers may, at its sole discretion, reject or accept such alternative methods.

1 PURPOSE OF THE MEDICAL SURVEILLANCE REQUIREMENTS PROCEDURE

The purpose of this Medical Surveillance Requirements Procedure is to facilitate the achievement of legal compliance relating to medical surveillance by all Consultants, Contractors, Subcontractors and suppliers that will be working on the Kinross Extension 33 to ensure that employees are fit to work in the roles that they have been employed to execute and remain so for their duration on the project site.

This document represents the minimum requirements for medical surveillance and does not replace applicable legal requirements.

2 MEDICAL SURVEILLANCE OBJECTIVES

FT Consultants Civil and Structural Engineers main objectives for medical surveillance are:

- a) To ensure compliance to all applicable medical surveillance legal requirements.
- b) To ensure compliance to all FT Consultants Civil and Structural Engineers' requirements regarding medical surveillance.
- c) To ensure that employees are fit to execute the work for which they have been employed.
- d) To prevent employees from acquiring occupational diseases or illnesses.
- e) To ensure early detection and treatment of occupational diseases and to prevent the aggravation of existing medical conditions.

- f) To ensure that employees on departure from the project have not contracted any occupational diseases and to enable any such condition that arises to be suitably addressed.

All contractors are required to demonstrate total commitment towards the achievement of these objectives.

3 GENERAL REQUIREMENTS

3.1 Medical surveillance & Immunisation shall be done accredited institutions or medical doctor, including, but not limited to:

- a) Audiograms.
- b) A cardio-respiratory examination, including full size chest x-rays.
- c) Lung function tests.
- d) Eye/ sight tests.
- e) A general physical examination.
- f) Blood glucose levels tests
- g) Blood pressure tests
- h) A review of previous medical history.

3.2 An entry medical certificate shall be obtained for all workers prior to commencing with site activities from approved medical institution. Copies of all medical certificates shall be submitted to the FT Consultants Civil and Structural Engineers Project Specialist or Appointed OHS Agent to prior to site establishment and before an employee is allowed to come onto site.

- 3.3 Specific attention shall be given to the physical and psychological fitness of people who will be required to work in elevated positions and operators of mobile machinery.
- 3.4 An exit medical certificate shall be obtained for all workers at the end of the contract and for all workers who leave the employment of the Contractor before the end of the Project. Copies of all exit medical certificates shall be submitted to the FT Consultants Civil and Structural Engineers Project Specialist or Appointed OHS Agent.
- 3.5 Medical surveillance shall address all occupational health risks to which the employee is exposed, identified through the risk assessment referred to in section 4 below.
- 3.6 Retention monies will be withheld if the exit medical is not complete for all employees.
- 3.7 The cost of all medical examinations will be borne by the Contractor as provision is made on the bill of quantities.

4 OCCUPATIONAL HEALTH RISK ASSESSMENT

- 4.1 The Contractor shall conduct an occupational health risk assessment prior to site establishment.
- 4.2 The Contractor shall ensure that, as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated and addressed in the risk assessment.

4.3 The methodology used by the contractor to assess occupational health risks associated with their activities shall be submitted to Johannesburg Water for approval by the FT Consultants Civil and Structural Engineers Project Specialist or Appointed OHS Agent prior to site establishment. The methodology should take the following into consideration, among others:

- a) Legal requirements.
- b) Normal activities undertaken by the contractor.
- c) Abnormal situations (e.g. unanticipated breakdown of equipment etc).
- d) Emergency situations (e.g. fires, exposure to chemicals).
- e) Changes in work procedures and methods.
- f) Previous experience.

4.4 A risk register that will include the following shall be submitted to the FT Consultants Civil and Structural Engineers Project Specialist or Appointed OHS Agent before site establishment.

- a) All occupational health risks identified during the occupational health risk assessment.
- b) A list of the occupational health risks that have been identified as being significant.
- c) Reference to the method statements, measures or procedures that will be followed to either eliminate or reduce the significant risks to tolerable levels.

4.5 The Contractor shall, in writing, clearly explain how each occupational health risk assessed to be significant will be addressed to eliminate or reduce it to a tolerable level and submit it for approval by the FT Consultants Civil and Structural Engineers Project Specialist or Appointed OHS Agent before site establishment. This may be through method statements or written operational control procedures. Associated responsibilities and authorities shall be clearly defined. All method statements shall reflect at least:

- a) When the activities relating to the method statement will be conducted (timing).
- b) Materials to be used.
- c) Equipment and staffing requirements.
- d) The proposed construction procedure designed to implement the relevant requirements.
- e) The system to be implemented to ensure compliance with the method statement.

Any other information deemed to be necessary by the FT Consultants Civil and Structural Engineers Project Specialist or Appointed OHS Agent and/or the contractor's responsible person.

4.6 For significant occupational health risks identified after site establishment, method statements shall be submitted to the FT Consultants Civil and Structural Engineers Project Specialist or Appointed OHS Agent at least 10 working days before the start of the associated activity, when possible.

4.7 All changes to approved method statements or procedures shall be approved in writing by FT Consultants Civil and Structural Engineers Project Specialist or Appointed OHS Agent.

4.8 The contractor's Responsible Person shall retain records of any amendments and shall ensure that only the most current approved version of any method statement or procedure is used.

4.9 Every occupational health risk that is identified during the risk assessment process shall be conveyed to every employee whose work is associated with the risk. This

may be done in the form of a toolbox talk but does not replace the toolbox talk entirely. Each employee shall sign to confirm an understanding of the occupational health risks in the tasks.

4.10 Occupational health risk assessments may be combined with safety and environmental risk assessments, but the consideration of occupational health issues shall be clearly reflected in the records generated and maintained.

4.11 The occupational health risk assessment process and effective implementation of measures to eliminate or reduce identified risks is the responsibility of the Contractor. FT Consultants Civil and Structural Engineers will closely monitor the effectiveness of implemented measures.

PROJECT NUMBER:	DHS/231/24/MP Re-Advert
PROJECT LOCATION:	GOVAN MBEKI LOCAL MUNICIPALITY
PROJECT DESCR:	APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER AND SEWER INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT SIBANDE DISTRICT.. CIDB GRADE 7CE OR HIGHER

ANNEXURE 5:

**MEDICAL SCREENING
ACKOLEDGEMENT FORM**

Acknowledgement of FT Medical Screening Policy

Name of Contractor

.....

I, the undersigned, hereby acknowledge that I have obtained copies of FT Medical Screening Policy and confirm that I fully understand them and the consequences of non-compliance.

Signed at on this Day of 20.....

Signature of Contractor Manager

Date

.....

.....

Signature of Contractor Supervisor

Date

.....

.....

Witness 1

Witness 2

PROJECT NUMBER:	DHS/231/24/MP Re-Advert
PROJECT LOCATION:	GOVAN MBEKI LOCAL MUNICIPALITY
PROJECT DESCR:	APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER AND SEWER INFRASTRUCTURE IN KINROSS EXTENSION 33 SETTLEMENT UNDER GOVAN MBEKI LOCAL MUNICIPALITY, GERT SIBANDE DISTRICT.. CIDB GRADE 7CE OR HIGHER

ANNEXURE 6:
ACKOLEDGEMENT FORM

Acknowledgement of FT Volume 2 OHS Specification

Name of Contractor

.....

I, the undersigned, hereby acknowledge that I have obtained copies of FT Volume 2 OHS Specs and confirm that I fully understand them and the consequences of non-compliance.

Signed at on this Day of 20.....

Signature of Contractor Manager

Date

.....

.....

Signature of Contractor Supervisor

Date

.....

.....

Witness 1

Witness 2

DRAWING NUMBER	DRAWING TITLE	REVISION	ISSUED FOR
SEWER - 001	DRAWING LIST	01	CONSTRUCTION
SEWER - 100	SEWER RETICULATION MASTER LAYOUT PLAN	01	CONSTRUCTION
SEWER - 101	SEWER RETICULATION MASTER LAYOUT PLAN 1.1	01	CONSTRUCTION
SEWER - 102	SEWER RETICULATION MASTER LAYOUT PLAN 1.2	01	CONSTRUCTION
SEWER - 103	SEWER RETICULATION MASTER LAYOUT PLAN 1.3	01	CONSTRUCTION
SEWER - 104	SEWER RETICULATION MASTER LAYOUT PLAN 1.4	01	CONSTRUCTION
SEWER - 105	SEWER RETICULATION MASTER LAYOUT PLAN 1.5	01	CONSTRUCTION
SEWER - 106	SEWER RETICULATION MASTER LAYOUT PLAN 1.6	01	CONSTRUCTION

DRAWING NUMBER	DRAWING TITLE	REVISION	ISSUED FOR
SEWER - 107	SEWER RETICULATION MASTER LAYOUT PLAN 1.7	01	CONSTRUCTION
SEWER - 108	SEWER RETICULATION MASTER LAYOUT PLAN 1.8	01	CONSTRUCTION
SEWER - 109	SEWER LONGITUDINAL SECTION 01	01	CONSTRUCTION
SEWER - 110	SEWER LONGITUDINAL SECTION 02	01	CONSTRUCTION
SEWER - 111	SEWER LONGITUDINAL SECTION 03	01	CONSTRUCTION
SEWER - 125	SEWER DETAILS 01	01	CONSTRUCTION
SEWER - 126	SEWER DETAILS 02	01	CONSTRUCTION
SEWER - 127	SEWER DETAILS 03	01	CONSTRUCTION

No	Description	Date	By

REVISIONS

Approved by		Date	
Drawn T. Sundayi	Designed A.M		
Checked A.M	Engineer T. Sundayi		
Client App.	Date 20 Apr. 2020		

Scale: As shown



Title
**KINROSS EXT 33 SEWER
RETICULATION -DRAWING LIST**

CIVIL SEWER DRAWINGS

Project No
DHS/231/24/MP

Drawing No
SEWER 001

Rev No
00

1:1	1:1	1:1
1:1	1:1	1:1
1:1	1:1	1:1



LEGEND:

	Cadastral Boundary
	Proposed Sewerline
	Sewer Manhole
	200mm Sewer uPVC Pipe
	Contour Line

No	Description	Date	By
00	Issued for Council Approval	08 Dec 2021	TS

REVISIONS

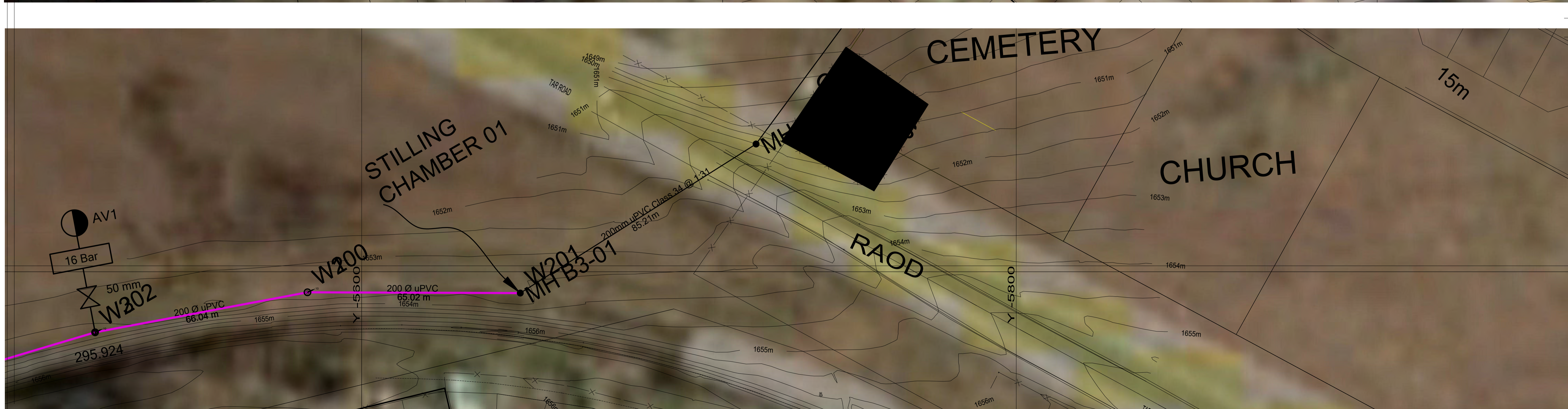
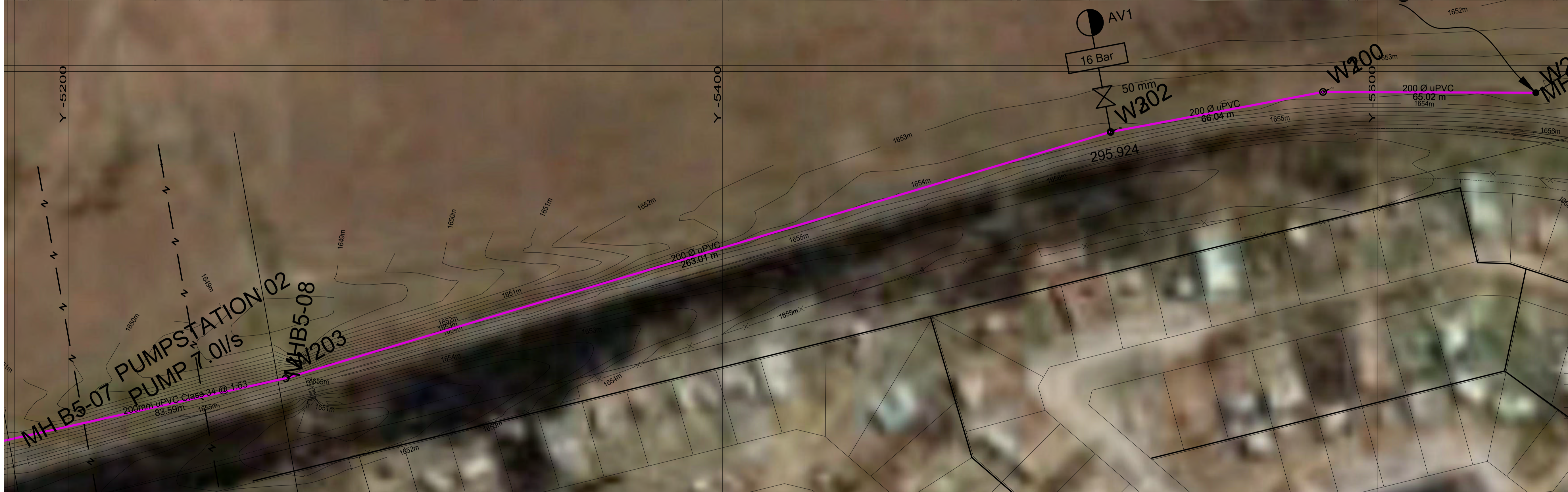
Approved by	Date
Drawn T Sondayi	Designed A.M
Checked A.M	Engineer T - Sondayi
Client App.	Date 08 Dec. 2021



No. 7 Ehme Steet
Nelspruit 1200
Tel: +27(078) 986 1380

Title
KINROSS BULK SEWER
RETICULATION -
SEWER RETICULATION MASTER
LAYOUT PLAN & COORDINATE DATA
LIST.

CIVIL SEWER DRAWINGS	
Project No	DHS/231/24/MP
Drawing No	SEWER 100
Rev No	00



LEGEND:

	Cadastral Boundary
	Proposed Sewerline
	Sewer Manhole
	200mm Sewer uPVC Pipe
	Contour Line

No	Description	Date	By
00	Issued for Council Approval	08 Dec 2021	TS

REVISIONS

Approved by	Date
Drawn T Sondayi	Designed A.M
Checked A.M	Engineer T - Sondayi
Client App.	Date 08 Dec. 2021



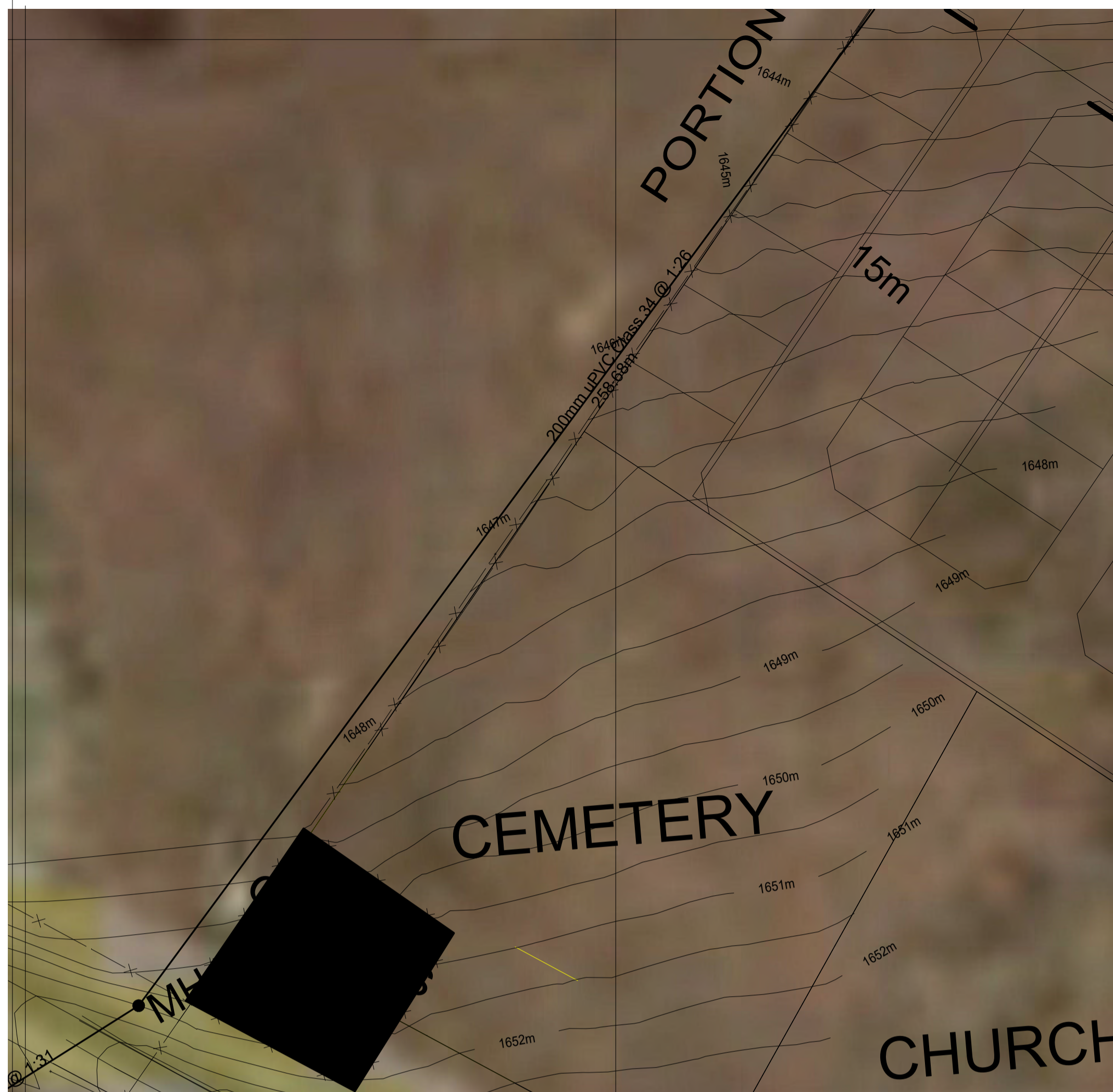
No. 7 Ehme Steet
Nelspruit 1200
Tel: +27(078) 986 1380

Title
KINROSS BULK SEWER
RETICULATION -
SEWER RETICULATION MASTER
LAYOUT PLAN 1.1

CIVIL SEWER DRAWINGS

Project No
DHS/231/24/MP

Drawing No
SEWER 101
Rev No. 00



LEGEND:

	Cadastral Boundary
	Proposed Sewerline
	Sewer Manhole
	200mm Sewer uPVC Pipe
	Contour Line

No	Description	Date	By
00	Issued for Council Approval	08 Dec 2021	TS

REVISIONS

Approved by	Date
Drawn T Sondayi	Designed A.M
Checked A.M	Engineer T - Sondayi
Client App.	Date 08 Dec. 2021

FT Consultants
Civil & Structural Engineers

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Title
KINROSS BULK SEWER
RETICULATION -
SEWER RETICULATION MASTER
LAYOUT PLAN 1.2

CIVIL SEWER DRAWINGS

Project No
DHS/231/24/MP

Drawing No
SEWER 102

Rev No
00



LEGEND:

	Cadastral Boundary
	Proposed Sewerline
	Sewer Manhole
	200mm Sewer uPVC Pipe
	Contour Line

No	Description	Date	By
00	Issued for Council Approval	08 Dec 2021	TS

REVISIONS

Approved by	Date
Drawn T - Sundayi	Designed A.M
Checked A.M	Engineer T - Sundayi
Client App.	Date 08 Dec. 2021



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Title
KINROSS BULK SEWER
RETICULATION -
SEWER RETICULATION MASTER
LAYOUT PLAN 1.3

CIVIL SEWER DRAWINGS

Project No
DHS/231/24/MP

Drawing No
SEWER 103
Rev No. **00**



XT 34

LEGEND:

	Cadastral Boundary
	Proposed Sewerline
	Sewer Manhole
	200mm Sewer uPVC Pipe
	Contour Line

No	Description	Date	By
00	Issued for Council Approval	08 Dec 2021	TS

REVISIONS

Approved by	Date
Drawn T. Sundayi	Designed A.M.
Checked A.M.	Engineer T. Sundayi
Client App.	Date 08 Dec. 2021



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Title
KINROSS BULK SEWER
RETICULATION -
SEWER RETICULATION MASTER
LAYOUT PLAN 1.4

CIVIL SEWER DRAWINGS

Project No
DHS/231/24/MP

Drawing No
SEWER 104
Rev No. **00**

EXT 34



LEGEND:

	Cadastral Boundary
	Proposed Sewerline
	Sewer Manhole
	200mm Sewer uPVC Pipe
	Contour Line

No	Description	Date	By
00	Issued for Council Approval	08 Dec 2021	TS

REVISIONS

Approved by	Date
Drawn T. Sundayi	Designed A.M.
Checked A.M.	Engineer T. Sundayi
Client App.	Date 08 Dec. 2021



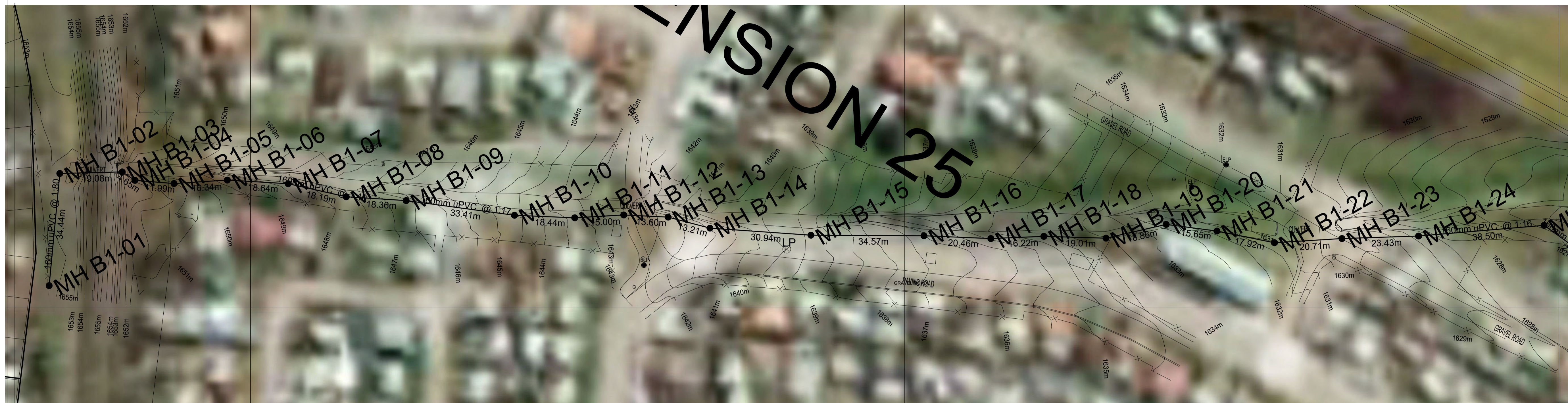
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Nelspruit 1200
Tel: +27(078) 986 1380

Title
KINROSS BULK SEWER
RETICULATION -
SEWER RETICULATION MASTER
LAYOUT PLAN 1.5

CIVIL SEWER DRAWINGS

Project No
DHS/231/24/MP

Drawing No
SEWER 105
Rev No. **00**



LEGEND:

	Cadastral Boundary
	Proposed Sewerline
	Sewer Manhole
	200mm Sewer uPVC Pipe
	Contour Line

No	Description	Date	By
00	Issued for Council Approval	08 Dec 2021	TS

REVISIONS

Approved by	Date
Drawn	Designed
Checked	Engineer
Client App.	Date



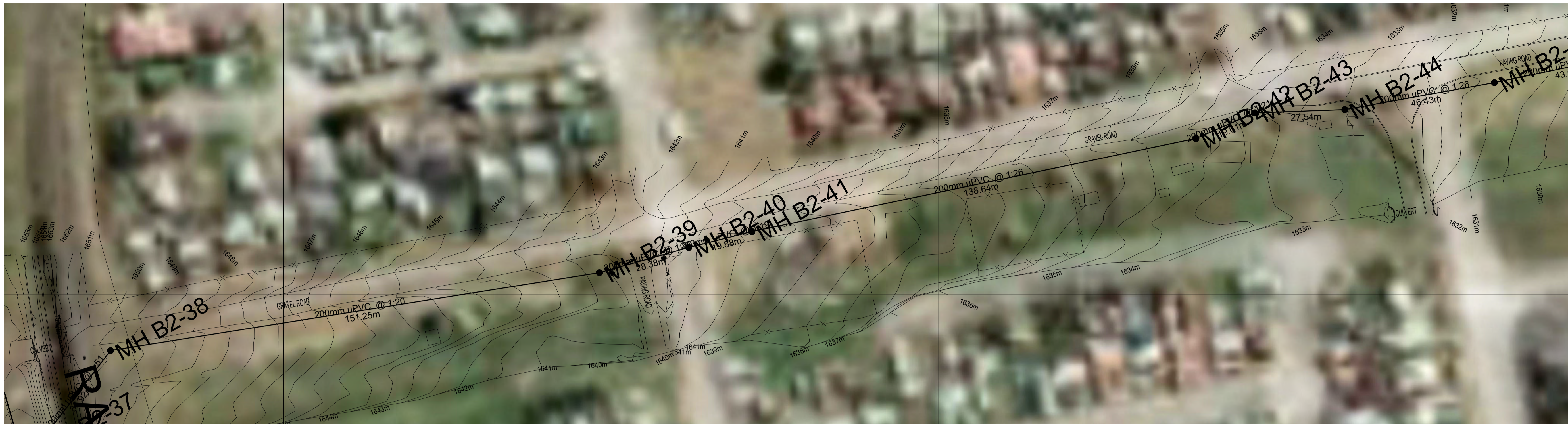
No. 7 Ehme Steet
Nelspruit 1200
Tel: +27(078) 986 1380

Title
KINROSS BULK SEWER
RETICULATION -
SEWER RETICULATION MASTER
LAYOUT PLAN 1.6

CIVIL SEWER DRAWINGS

Project No
DHS/231/24/MP

Drawing No
SEWER 106
Rev No. 00



LEGEND:

	Cadastral Boundary
	Proposed Sewerline
	Sewer Manhole
	200mm Sewer uPVC Pipe
	Contour Line

No.	Description	Date	By
00	Issued for Council Approval	08 Dec 2021	TS

REVISIONS

Approved by	Date
Drawn T. Sondayi	Designed A.M.
Checked A.M.	Engineer T. Sondayi
Client App.	Date 08 Dec. 2021



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Title
KINROSS BULK SEWER
RETICULATION -
SEWER RETICULATION MASTER
LAYOUT PLAN 1.7

CIVIL SEWER DRAWINGS
Project No
DHS/231/24/MP
Drawing No
SEWER 107
Rev No. **00**



LEGEND:

	Cadastral Boundary
	Proposed Sewerline
	Sewer Manhole
	200mm Sewer uPVC Pipe
	Contour Line

No	Description	Date	By
00	Issued for Council Approval	08 Dec 2021	TS

REVISIONS

Approved by	Date
Drawn	Designed
Checked	Engineer
Client App.	Date



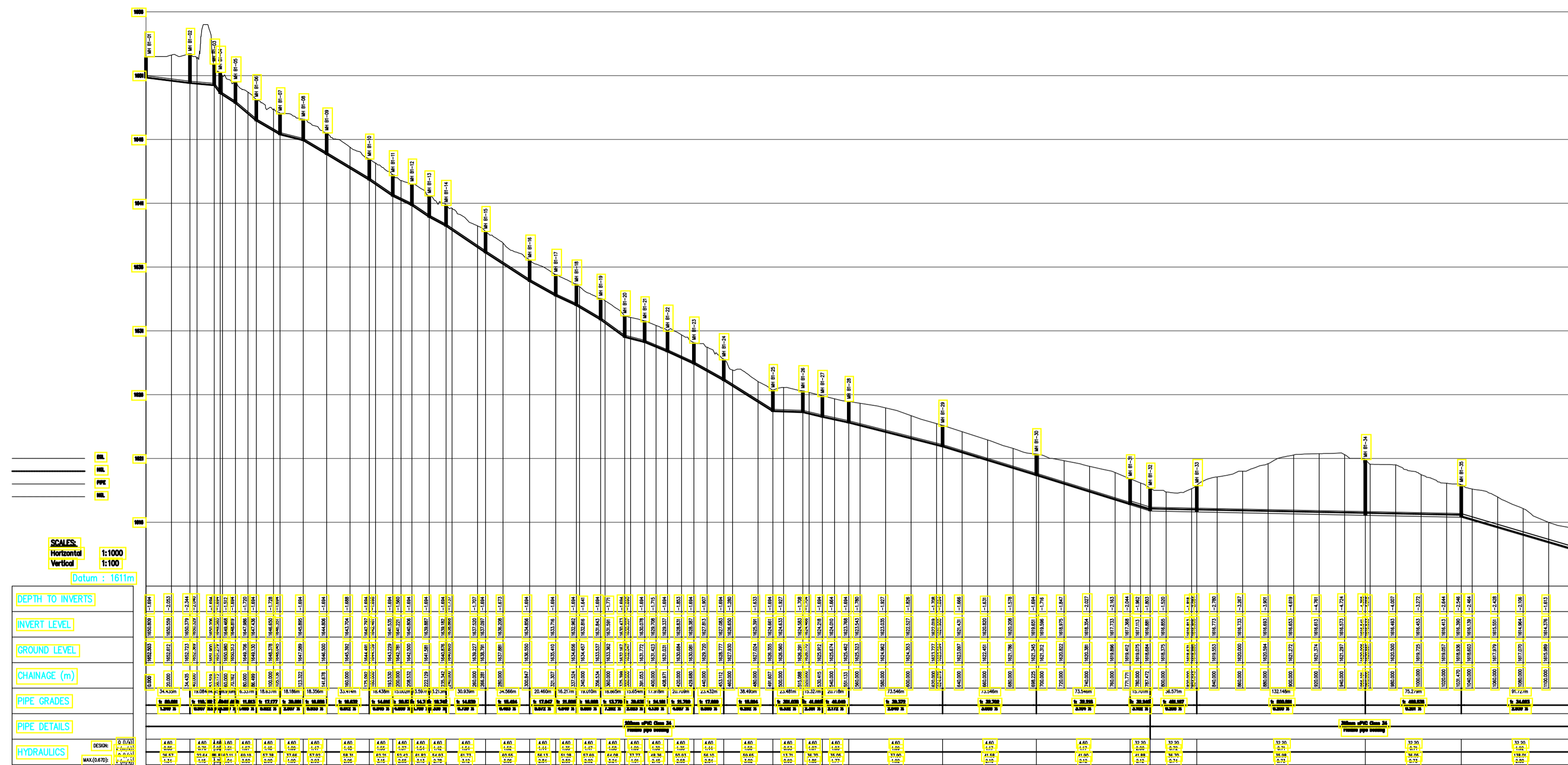
No. 7 Ehme Steet
Nelspruit 1200
Tel: +27(078) 986 1380

Title
KINROSS BULK SEWER
RETICULATION -
SEWER RETICULATION MASTER
LAYOUT PLAN 1.8

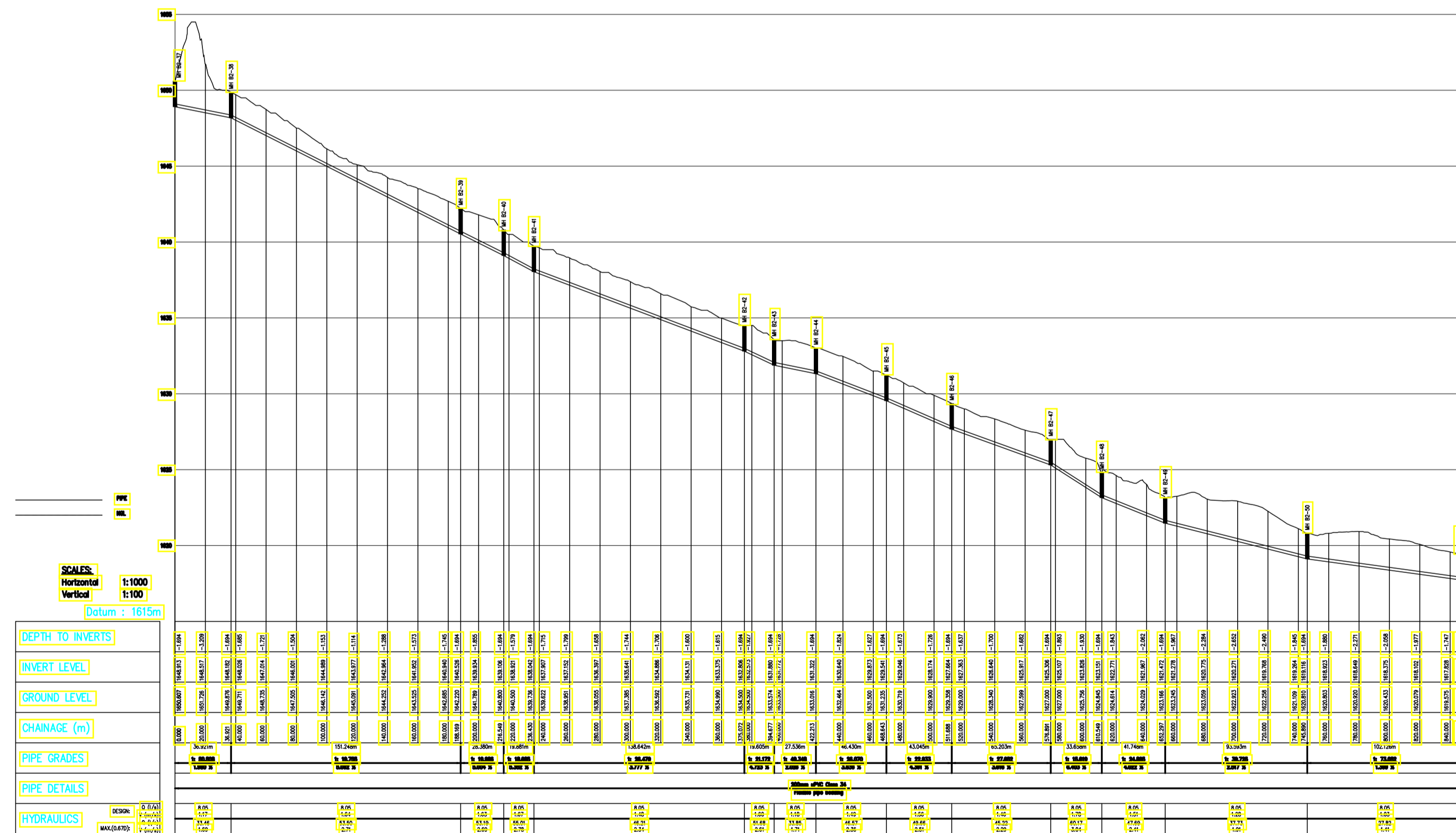
CIVIL SEWER DRAWINGS

Project No
DHS/231/24/MP

Drawing No
SEWER 108
Rev No. 00



MH B1-01 - MH B1-50
Branch: Kinross Bulk Outfall001



MH B2-37 - MH B2-50
Branch: Kinross bulk outfall002

COORDINATE LIST

Lo 29		
Kinross Bulk Outfall		
MH No.	YLo	XLo
Constant:		
MH B1-01	-5938.448	2921193.482
MH B1-02	-5941.714	2921159.202
MH B1-03	-5960.792	2921158.728
MH B1-04	-5964.672	2921161.297
MH B1-05	-5976.620	2921162.284
MH B1-06	-5992.922	2921161.211
MH B1-07	-6011.525	2921162.344
MH B1-08	-6029.269	2921166.330
MH B1-09	-6047.588	2921167.487
MH B1-10	-6080.700	2921171.972
MH B1-11	-6099.121	2921172.751
MH B1-12	-6114.098	2921171.880
MH B1-13	-6127.678	2921172.552
MH B1-14	-6140.458	2921175.911
MH B1-15	-6171.321	2921178.059
MH B1-16	-6205.887	2921178.240
MH B1-17	-6226.329	2921179.089
MH B1-18	-6242.533	2921178.428
MH B1-19	-6261.536	2921178.977
MH B1-20	-6279.923	2921174.765
MH B1-21	-6295.446	2921176.797
MH B1-22	-6313.005	2921180.364
MH B1-23	-6333.674	2921179.090
MH B1-24	-6357.094	2921178.325
MH B1-25	-6395.450	2921175.061
MH B1-26	-6414.528	2921188.751
MH B1-27	-6427.745	2921196.511
MH B1-28	-6445.703	2921206.844
MH B1-29	-6508.915	2921244.437
MH B1-30	-6572.127	2921282.030
MH B1-31	-6635.339	2921319.623
MH B1-32	-6650.591	2921323.350
MH B1-33	-6686.082	2921332.174
MH B1-34	-6803.284	2921393.222
MH B1-35	-6869.492	2921429.046
MH B1-36	-6947.032	2921478.051
MH B2-37	-5924.645	2921646.506
MH B2-38	-5947.131	2921617.222
MH B2-39	-6096.496	2921593.435
MH B2-40	-6123.812	2921585.736
MH B2-41	-6143.088	2921580.865
MH B2-42	-6278.776	2921552.401
MH B2-43	-6296.747	2921544.565
MH B2-44	-6324.266	2921543.584
MH B2-45	-6369.958	2921535.340
MH B2-46	-6412.083	2921526.494
MH B2-47	-6475.871	2921512.984
MH B2-48	-6509.529	2921512.761
MH B2-49	-6546.394	2921493.168
MH B2-50	-6596.309	2921413.996

TOTAL LENGTHS OF PIPING

MH Centre to MH Centre	
Diameter (mm)	Length (m)
315mm uPVC Class 34	335.73
200mm uPVC Class 34	848.02
160mm uPVC Class 34	787.47
Total :	1971.21

PIPE DATA LIST

MH - MH	Distance (m)	Diam. (mm)
MH B1-01 - MH B1-02	34.435	160mm uPVC Class 34
MH B1-02 - MH B1-03	19.084	160mm uPVC Class 34
MH B1-03 - MH B1-04	4.654	160mm uPVC Class 34
MH B1-04 - MH B1-05	11.989	160mm uPVC Class 34
MH B1-05 - MH B1-06	16.337	160mm uPVC Class 34
MH B1-06 - MH B1-07	18.638	160mm uPVC Class 34
MH B1-07 - MH B1-08	18.186	160mm uPVC Class 34
MH B1-08 - MH B1-09	18.356	160mm uPVC Class 34
MH B1-09 - MH B1-10	33.414	160mm uPVC Class 34
MH B1-10 - MH B1-11	18.437	160mm uPVC Class 34
MH B1-11 - MH B1-12	15.002	160mm uPVC Class 34
MH B1-12 - MH B1-13	13.597	160mm uPVC Class 34
MH B1-13 - MH B1-14	13.214	160mm uPVC Class 34
MH B1-14 - MH B1-15	30.938	160mm uPVC Class 34
MH B1-15 - MH B1-16	34.566	160mm uPVC Class 34
MH B1-16 - MH B1-17	20.460	160mm uPVC Class 34
MH B1-17 - MH B1-18	16.217	160mm uPVC Class 34
MH B1-18 - MH B1-19	19.011	160mm uPVC Class 34
MH B1-19 - MH B1-20	18.864	160mm uPVC Class 34
MH B1-20 - MH B1-21	15.655	160mm uPVC Class 34
MH B1-21 - MH B1-22	17.918	160mm uPVC Class 34
MH B1-22 - MH B1-23	20.708	160mm uPVC Class 34
MH B1-23 - MH B1-24	23.432	160mm uPVC Class 34
MH B1-24 - MH B1-25	38.495	160mm uPVC Class 34
MH B1-25 - MH B1-26	23.481	160mm uPVC Class 34
MH B1-26 - MH B1-27	15.327	160mm uPVC Class 34
MH B1-27 - MH B1-28	20.719	160mm uPVC Class 34
MH B1-28 - MH B1-29	73.546	160mm uPVC Class 34
MH B1-29 - MH B1-30	73.546	160mm uPVC Class 34
MH B1-30 - MH B1-31	15.701	160mm uPVC Class 34
MH B1-31 - MH B1-32	36.572	315mm uPVC Class 34
MH B1-32 - MH B1-33	36.572	315mm uPVC Class 34
MH B1-33 - MH B1-34	132.148	315mm uPVC Class 34
MH B1-34 - MH B1-35	75.279	315mm uPVC Class 34
MH B1-35 - MH B1-36	91.727	315mm uPVC Class 34
MH B2-37 - MH B2-38	36.921	200mm uPVC Class 34
MH B2-38 - MH B2-39	151.248	200mm uPVC Class 34
MH B2-39 - MH B2-40	28.380	200mm uPVC Class 34
MH B2-40 - MH B2-41	19.882	200mm uPVC Class 34
MH B2-41 - MH B2-42	138.642	200mm uPVC Class 34
MH B2-42 - MH B2-43	19.605	200mm uPVC Class 34
MH B2-43 - MH B2-44	27.536	200mm uPVC Class 34
MH B2-44 - MH B2-45	46.430	200mm uPVC Class 34
MH B2-45 - MH B2-46	43.045	200mm uPVC Class 34
MH B2-46 - MH B2-47	65.203	200mm uPVC Class 34
MH B2-47 - MH B2-48	33.658	200mm uPVC Class 34
MH B2-48 - MH B2-49	41.749	200mm uPVC Class 34
MH B2-49 - MH B2-50	93.593	200mm uPVC Class 34
MH B2-50 - MH B1-31	102.126	200mm uPVC Class 34

LEGEND:

	Cadastral Boundary
	Proposed Sewerline
	Sewer Manhole
	200mm Sewer uPVC Pipe
	Contour Line

No	Description	Date	By
00	Issued for Council Approval	08 Dec. 2021	TS

REVISIONS

Approved by	Date
Drawn T. Sunday	Designed A.M.
Checked A.M.	Engineer T. Sunday
Client App.	Date 08 Dec. 2021



No. 7 Ehme Steet
Nelspruit 1200
Tel: +27(078) 986 1380

Title
KINROSS EXT 33&34 BULK
SEWER RETICULATION 01 -
SEWER LONGSECTIONS 01

CIVIL SEWER DRAWINGS

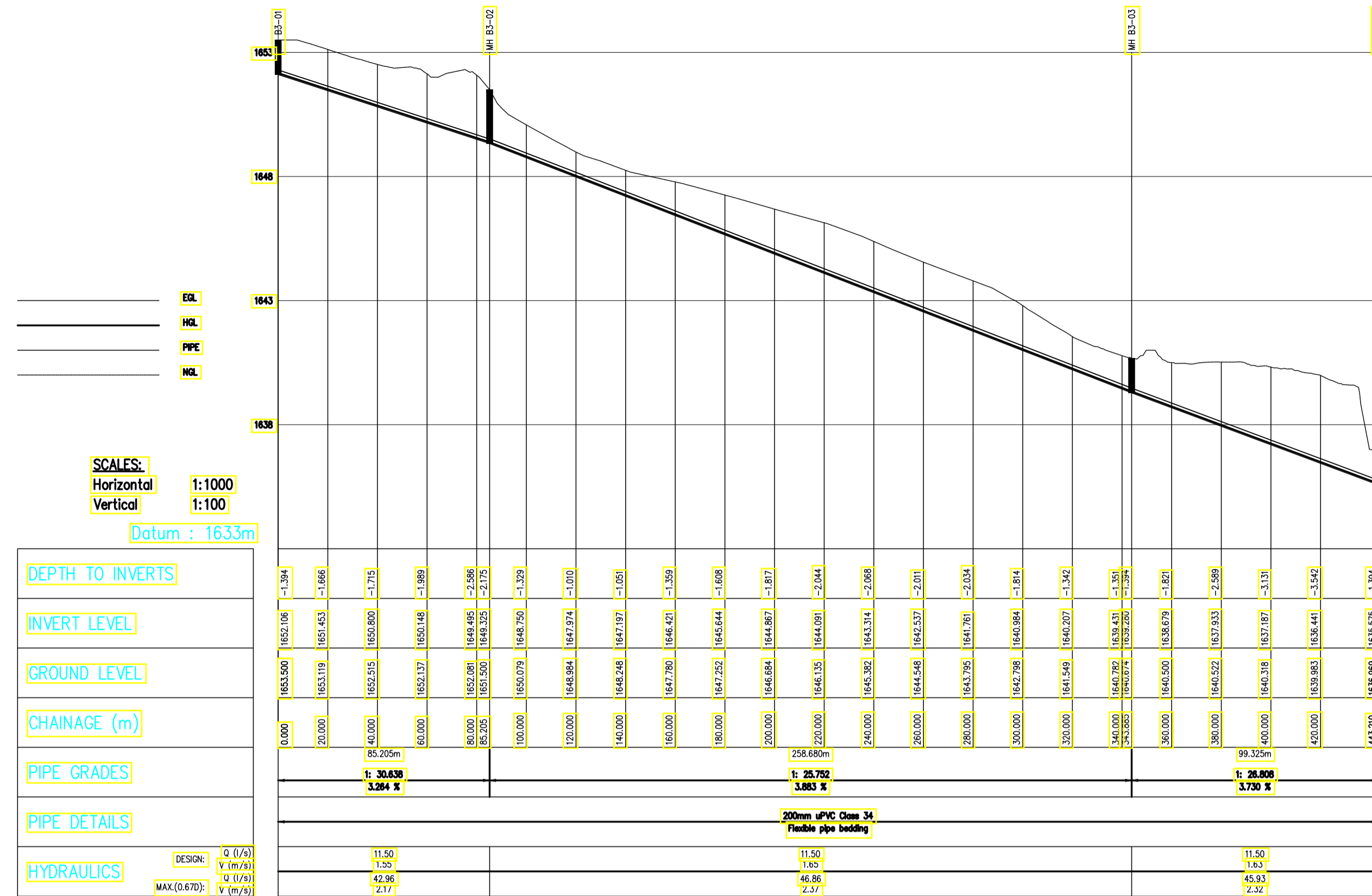
Project No
DHS/231/24/MP

Drawing No
SEWER 109
Rev No. 00

COORDINATE LIST		
Lo 29		
Kinross Bulk Outfall1		
MH No.	YLo	XLo
Constant:		
MH B3-01	-5648.460	2920806.502
MH B3-02	-5720.497	2920760.998
MH B3-03	-5874.155	2920552.901
MH B3-04	-5971.177	2920531.636

PIPE DATA LIST			
MH - MH	Distance	Diam.	
Kinross Bulk Outfall1			
	(m)	(mm)	
MH B3-01 - MH B3-02	85.205	200mm uPVC Class 34	
MH B3-02 - MH B3-03	258.680	200mm uPVC Class 34	
MH B3-03 - MH B3-04	99.325	200mm uPVC Class 34	

TOTAL LENGTHS OF PIPING		
MH Centre to MH Centre		
Diameter (mm)	Length (m)	
200mm uPVC Class 34	443.21	
Total :	443.21	

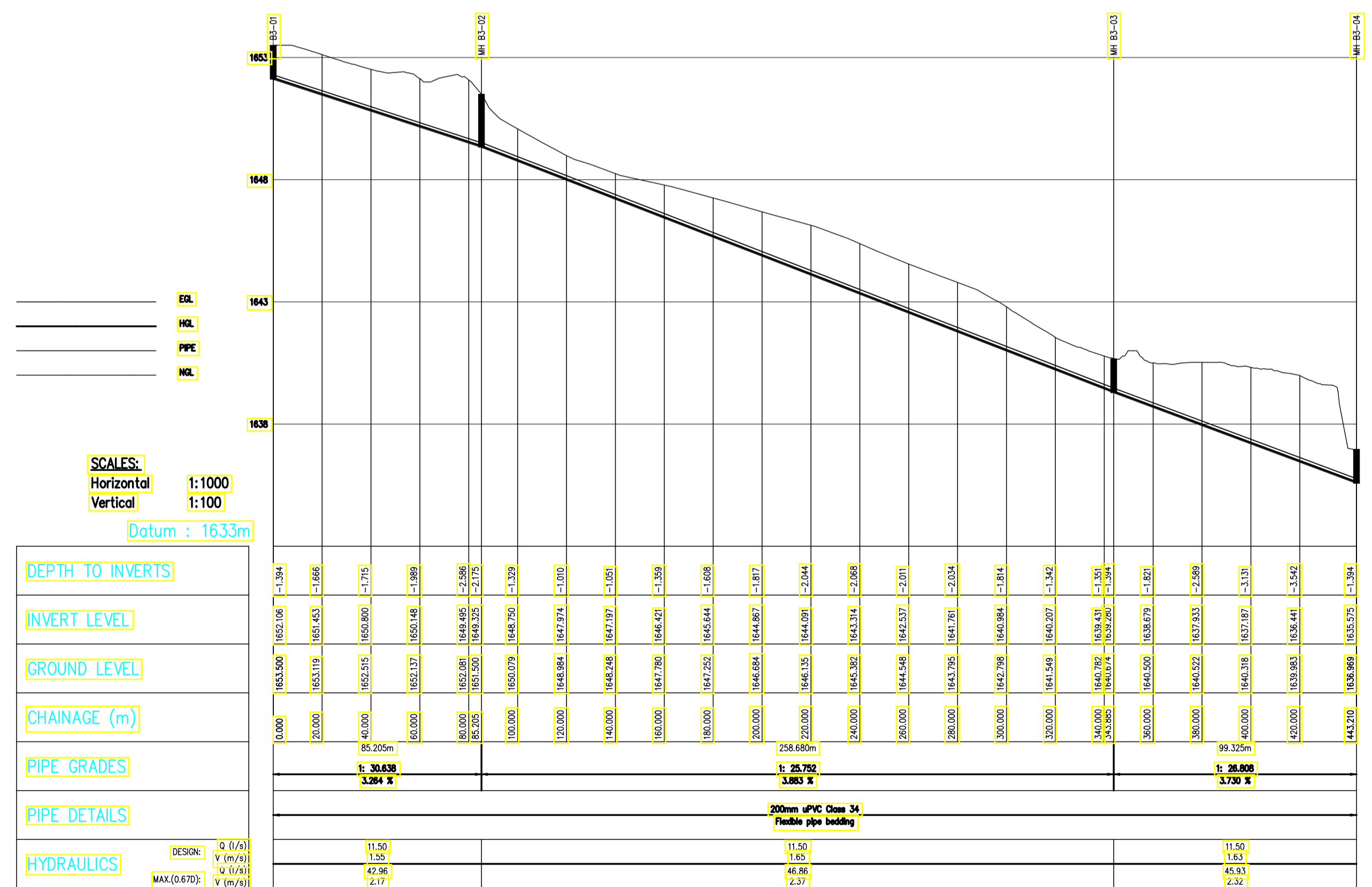


MH B3-01 - MH B3-04
Branch: Kinross Bulk Outfall1003

COORDINATE LIST		
Lo 29		
Kinross Bulk Outfall2		
MH No.	YLo	XLo
Constant:		
MH B4-01	-6294.467	2920630.709
MH B4-02	-6366.574	2920670.641
MH B4-03	-6438.681	2920710.574
MH B4-04	-6510.788	2920750.507
MH B4-05	-6582.894	2920790.440
MH B4-06	-6655.001	2920830.372
MH B4-07	-6727.108	2920870.305
MH B4-08	-6799.214	2920910.238
MH B4-09	-6871.321	2920950.170
MH B4-10	-6943.428	2920990.103

PIPE DATA LIST			
MH - MH	Distance	Diam.	
Kinross Bulk Outfall2			
	(m)	(mm)	
MH B4-01 - MH B4-02	82.426	250mm uPVC Class 34	
MH B4-02 - MH B4-03	82.426	250mm uPVC Class 34	
MH B4-03 - MH B4-04	82.426	250mm uPVC Class 34	
MH B4-04 - MH B4-05	82.426	250mm uPVC Class 34	
MH B4-05 - MH B4-06	82.426	250mm uPVC Class 34	
MH B4-06 - MH B4-07	82.426	250mm uPVC Class 34	
MH B4-07 - MH B4-08	82.426	250mm uPVC Class 34	
MH B4-08 - MH B4-09	82.426	250mm uPVC Class 34	
MH B4-09 - MH B4-10	82.426	250mm uPVC Class 34	

TOTAL LENGTHS OF PIPING		
MH Centre to MH Centre		
Diameter (mm)	Length (m)	
250mm uPVC Class 34	741.83	
Total :	741.83	



MH B3-01 - MH B3-04
Branch: Kinross Bulk Outfall1003

LEGEND:	
	Cadastral Boundary
	Proposed Sewerline
	Sewer Manhole
	200mm Sewer uPVC Pipe
	Contour Line

No	Description	Date	By
00	Issued for Council Approval	08 Dec. 2021	TS

REVISIONS	
Approved by	Date
Drawn T Sondayi	Designed A.M
Checked A.M	Engineer T - Sondayi
Client App.	Date 08 Dec. 2021



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Title
KINROSS EXT 33 & 34 BULK
SEWER RETICULATION 01 -
SEWER LONGSECTIONS 02

CIVIL SEWER DRAWINGS	
Project No	DHS/231/24/MP
Drawing No	SEWER 110
Rev No	00

Coordinate List		
Lo 29		
Kinross Bulk Pump1		
Node	YLo	XLo
W200	-5 583.440	2 920 806.266
W201	-5 648.460	2 920 806.502
W202	-5 518.544	2 920 818.480
W203	-5 266.510	2 920 893.663
W204	-5 256.525	2 920 925.027

Pipe Data List					
Node	Node	Length (m)	Dia. (mm)	MATERIAL	CLASS
Kinross Bulk Pump1					
W200	W201	65.02	200	uPVC	12
W200	W202	66.04	200	uPVC	12
W202	W203	263.01	200	uPVC	12
W203	W204	32.91	200	uPVC	12

PIPE MATERIAL LIST		
Diameter (mm)	Class	Length (m)
200	12	426.98
Total length :		426.98

Coordinate List		
Lo 29		
Kinross Bulk Pump2		
Node	YLo	XLo
W208	-6 064.715	2 920 509.086
W209	-5 971.177	2 920 531.636
W210	-6 141.299	2 920 549.627
W211	-6 217.883	2 920 590.168
W212	-6 294.467	2 920 630.709

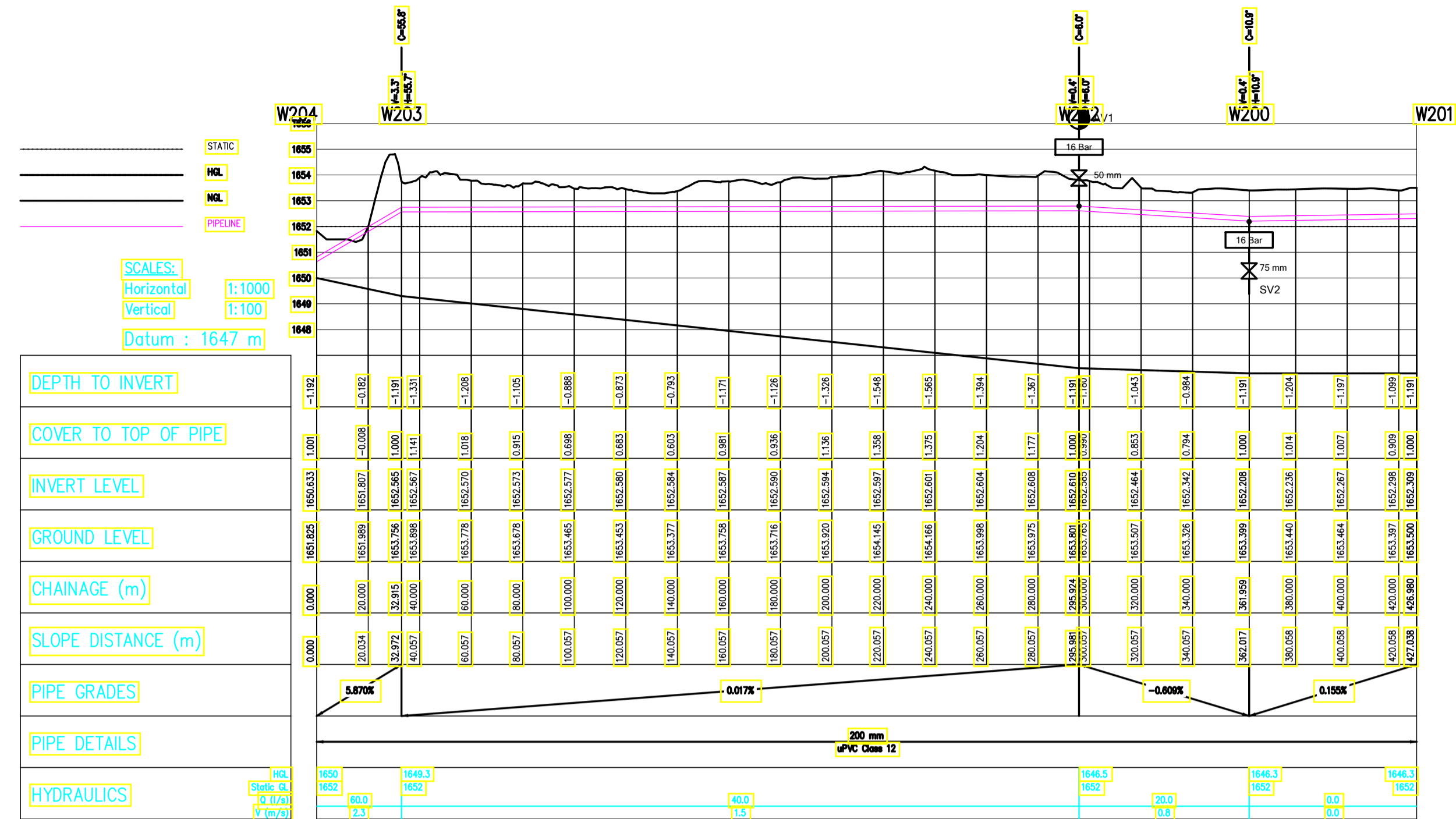
Pipe Data List					
Node	Node	Length (m)	Dia. (mm)	MATERIAL	CLASS
Kinross Bulk Pump2					
W208	W209	96.22	200	uPVC	12
W208	W210	86.65	200	uPVC	12
W210	W211	86.65	200	uPVC	12
W211	W212	86.65	200	uPVC	12

PIPE MATERIAL LIST		
Diameter (mm)	Class	Length (m)
200	12	356.18
Total length :		356.18

Coordinate List		
Lo 29		
kinross bulk pump3-1		
Node	YLo	XLo
W241	-6 943.417	2 920 990.112
W242	-6 941.254	2 920 995.157
W243	-6 927.979	2 921 026.026
W244	-6 910.445	2 921 042.054
W245	-6 870.916	2 921 047.572
W246	-6 825.480	2 921 094.502
W247	-6 756.643	2 921 129.844
W248	-6 716.208	2 921 193.104
W249	-6 675.774	2 921 256.363
W250	-6 635.339	2 921 319.623

Pipe Data List					
Node	Node	Length (m)	Dia. (mm)	MATERIAL	CLASS
kinross bulk pump3-1					
W241	W242	5.49	250	uPVC	12
W242	W243	33.60	250	uPVC	12
W243	W244	23.75	250	uPVC	12
W244	W245	39.91	250	uPVC	12
W245	W246	65.32	250	uPVC	12
W246	W247	77.38	250	uPVC	12
W247	W248	75.08	250	uPVC	12
W248	W249	75.08	250	uPVC	12
W249	W250	75.08	250	uPVC	12

PIPE MATERIAL LIST		
Diameter (mm)	Class	Length (m)
250	12	470.69
Total length :		470.69

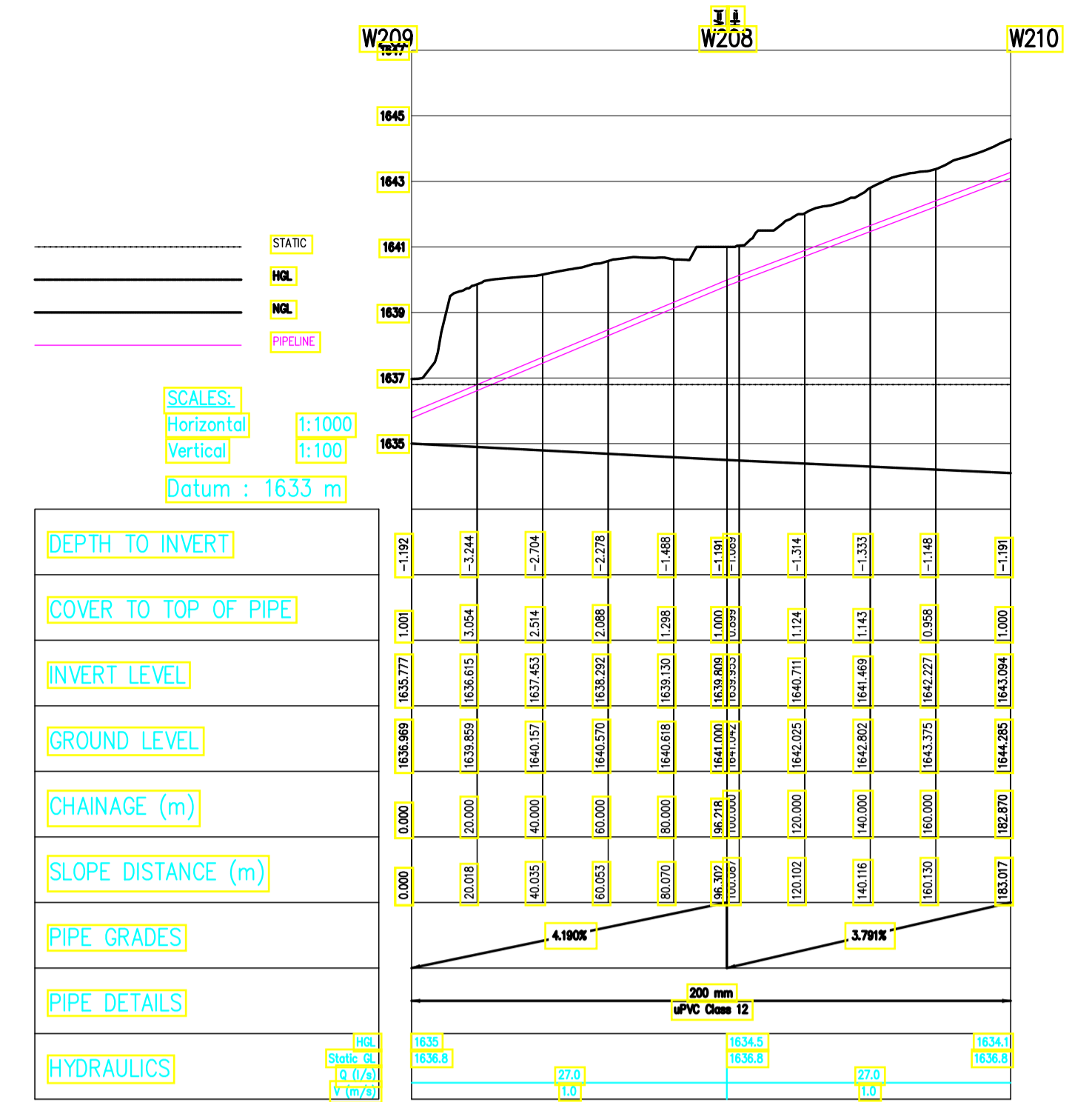


Air Valves Schedule				
No	Diameter (mm)	Pressure (Bar)	Model	Description
1	50	16	AV1	

Scour Valves Schedule				
No	Diameter (mm)	Pressure (Bar)	Model	Description
1	75	16	SV2	

Kinross Bulk Sewer Pump 1

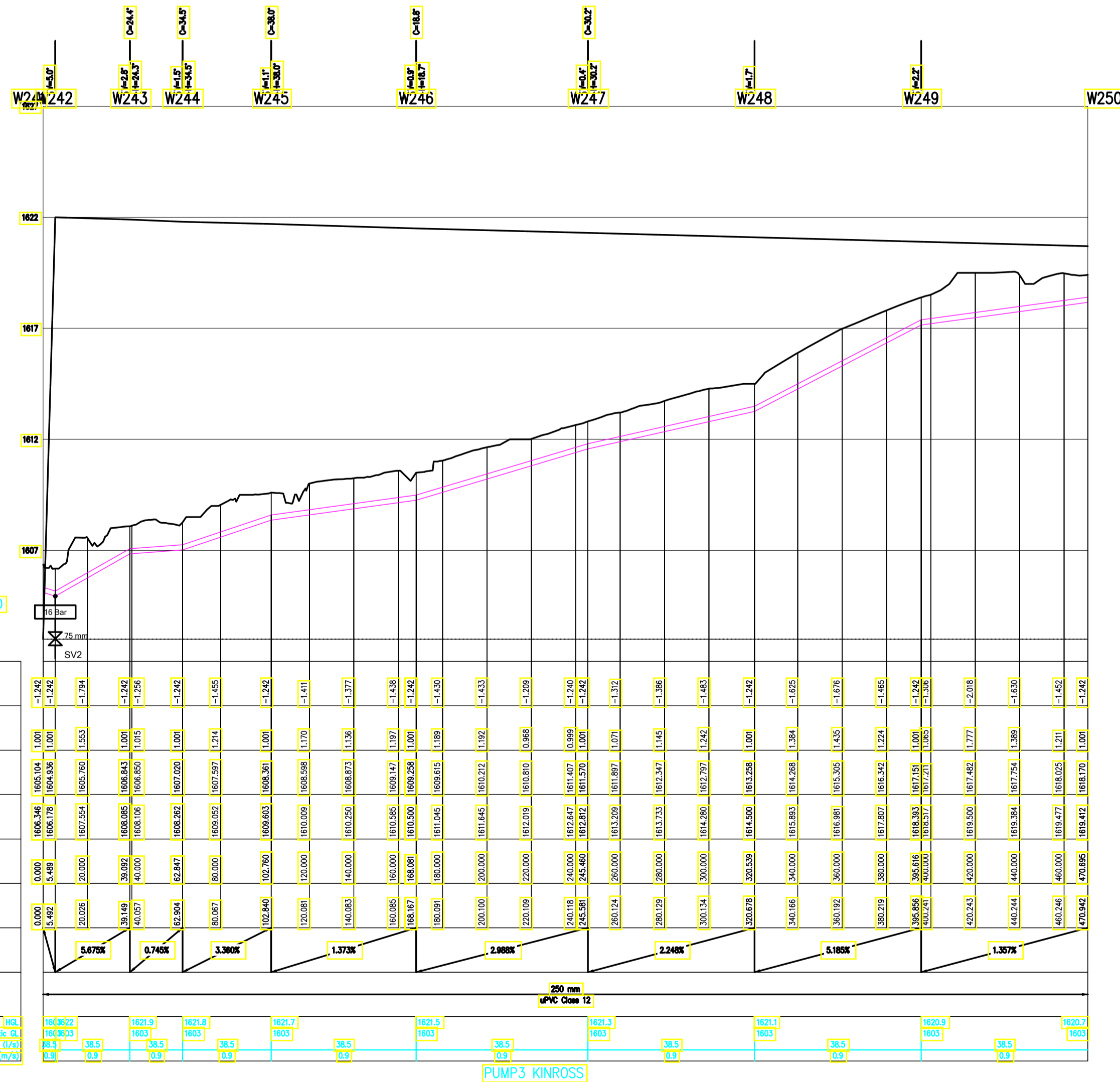
Pipe Bends Schedule (>3.0 Deg)			
CH	Diameter1 (mm)	Diameter2 (mm)	Angle (Deg)
32 915	200	200	55.8
295 924	200	200	6.0
361 959	200	200	10.9



Scour Valves Schedule				
No	Diameter (mm)	Pressure (Bar)	Model	Description
1	75	16	SV2	

Pipe Bends Schedule (>3.0 Deg)			
CH	Diameter1 (mm)	Diameter2 (mm)	Angle (Deg)
96 218	200	200	41.4

Kinross Bulk Sewer Pump 2



Scour Valves Schedule				
No	Diameter (mm)	Pressure (Bar)	Model	Description
1	75	16	SV2	

Pipe Bends Schedule (>3.0 Deg)			
CH	Diameter1 (mm)	Diameter2 (mm)	Angle (Deg)
5 489	250	250	5.0
39 992	250	250	24.4
62 847	250	250	34.5
102 760	250	250	38.0
168 081	250	250	18.8
245 460	250	250	30.2

LEGEND:	
	Cadastral Boundary
	Proposed Sewerline
	Sewer Manhole
	200mm Sewer uPVC Pipe
	Contour Line

No	Issued for Council Approval	Date	TS
00	Issued for Council Approval	08 Dec. 2021	TS

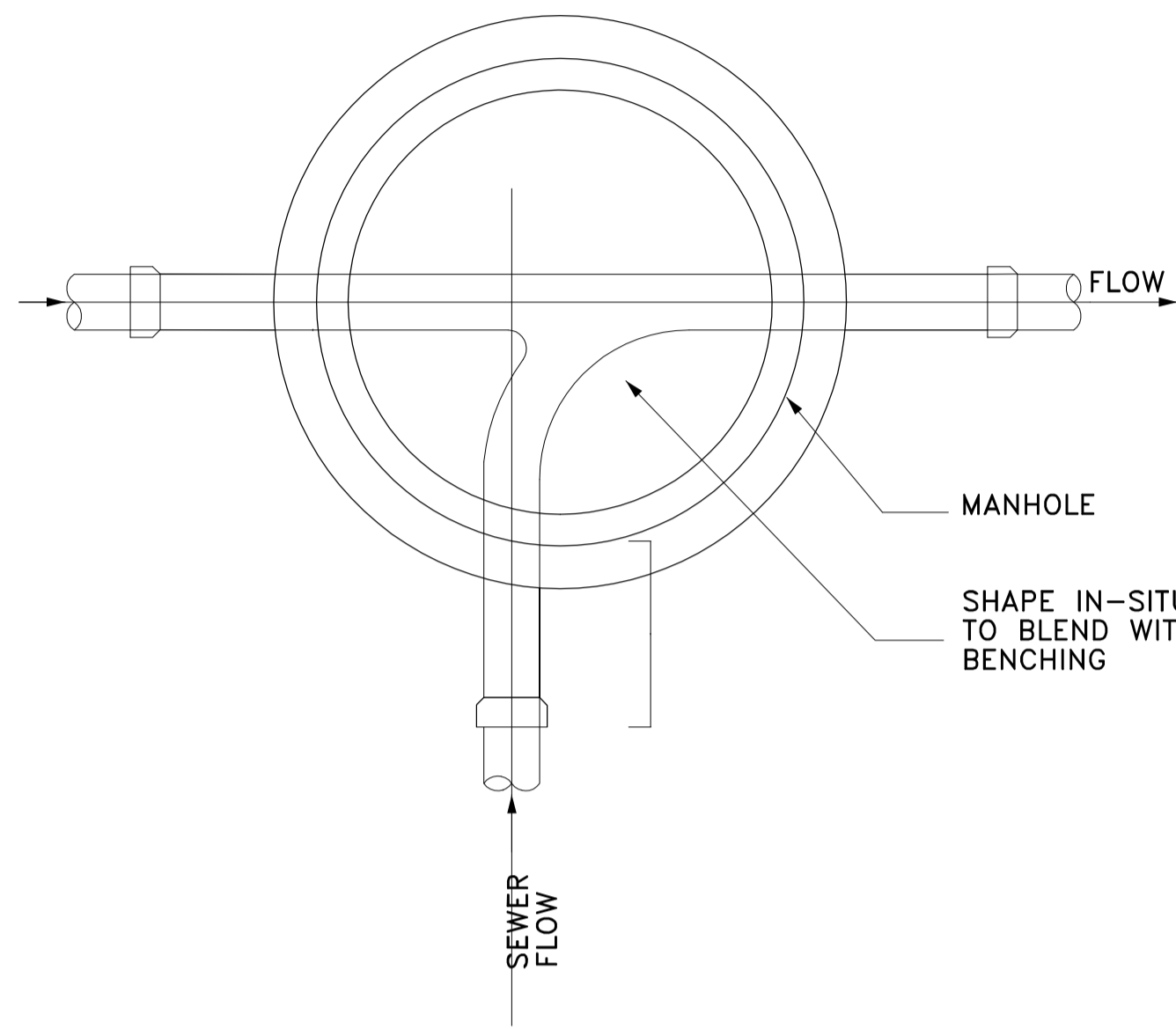
REVISIONS			
Approved by	Date	Designed	
T Sondayi		A.M	
Checked		Engineer	
A.M		T - Sondayi	
Client App.		Date	08 Dec. 2021

FT Consultants
Civil & Structural Engineers

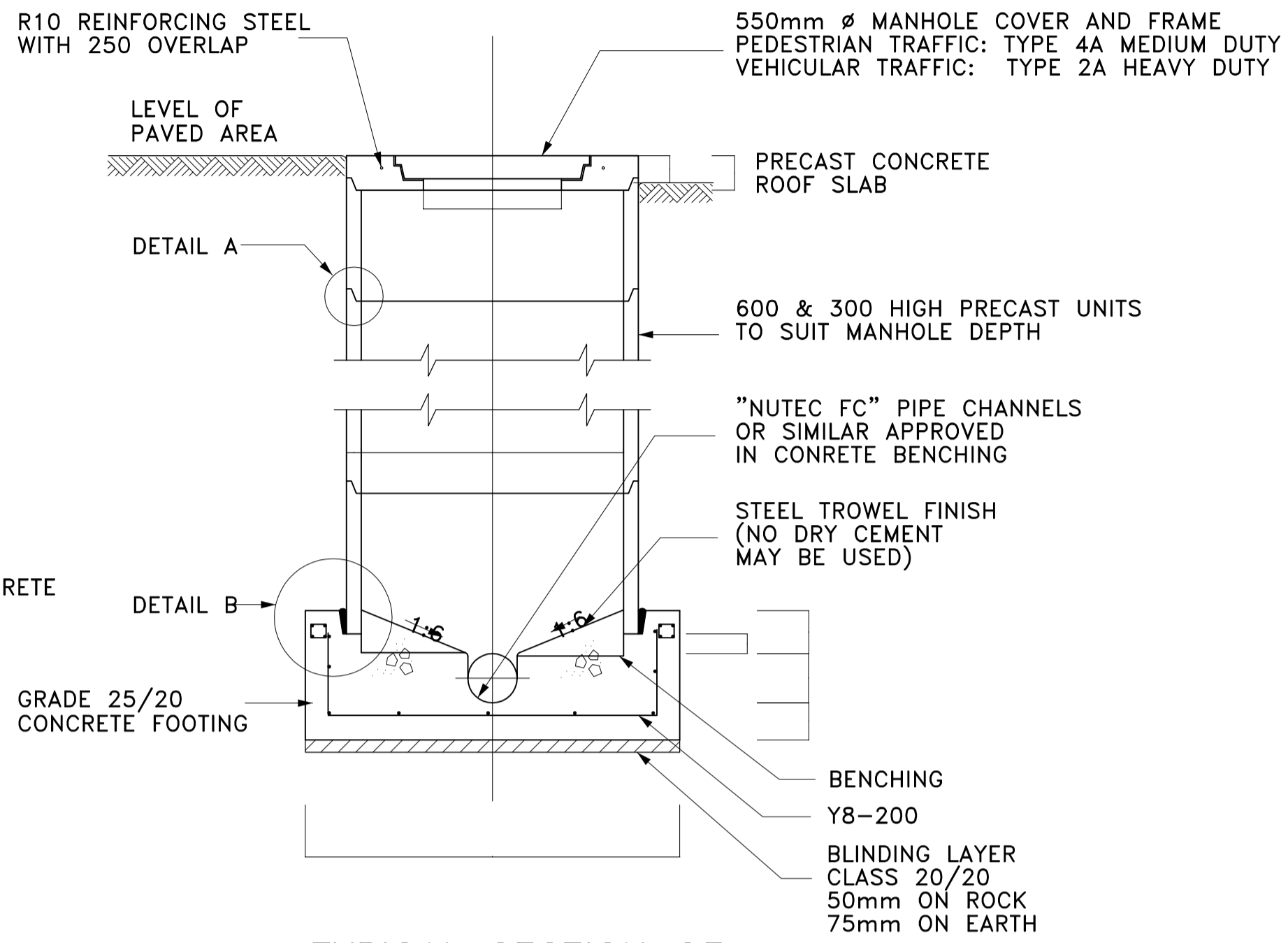
No. 7 Ehme Steet
Nelspruit 1200

Tel: +27(078) 986 1380

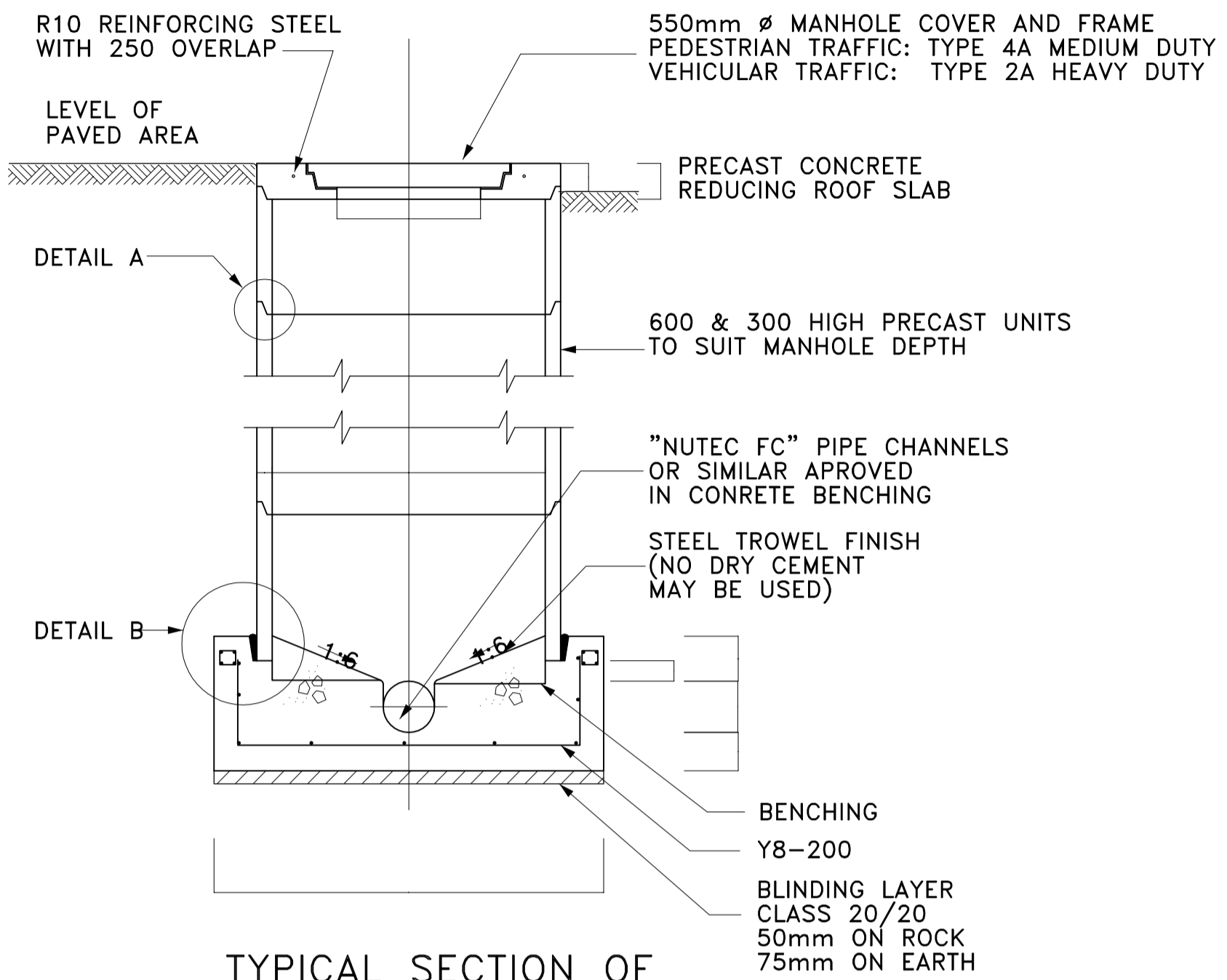
KINROSS EXT 33 & 34 BULK
SEWER RETICULATION 01 -
SEWER LONGSECTIONS .03



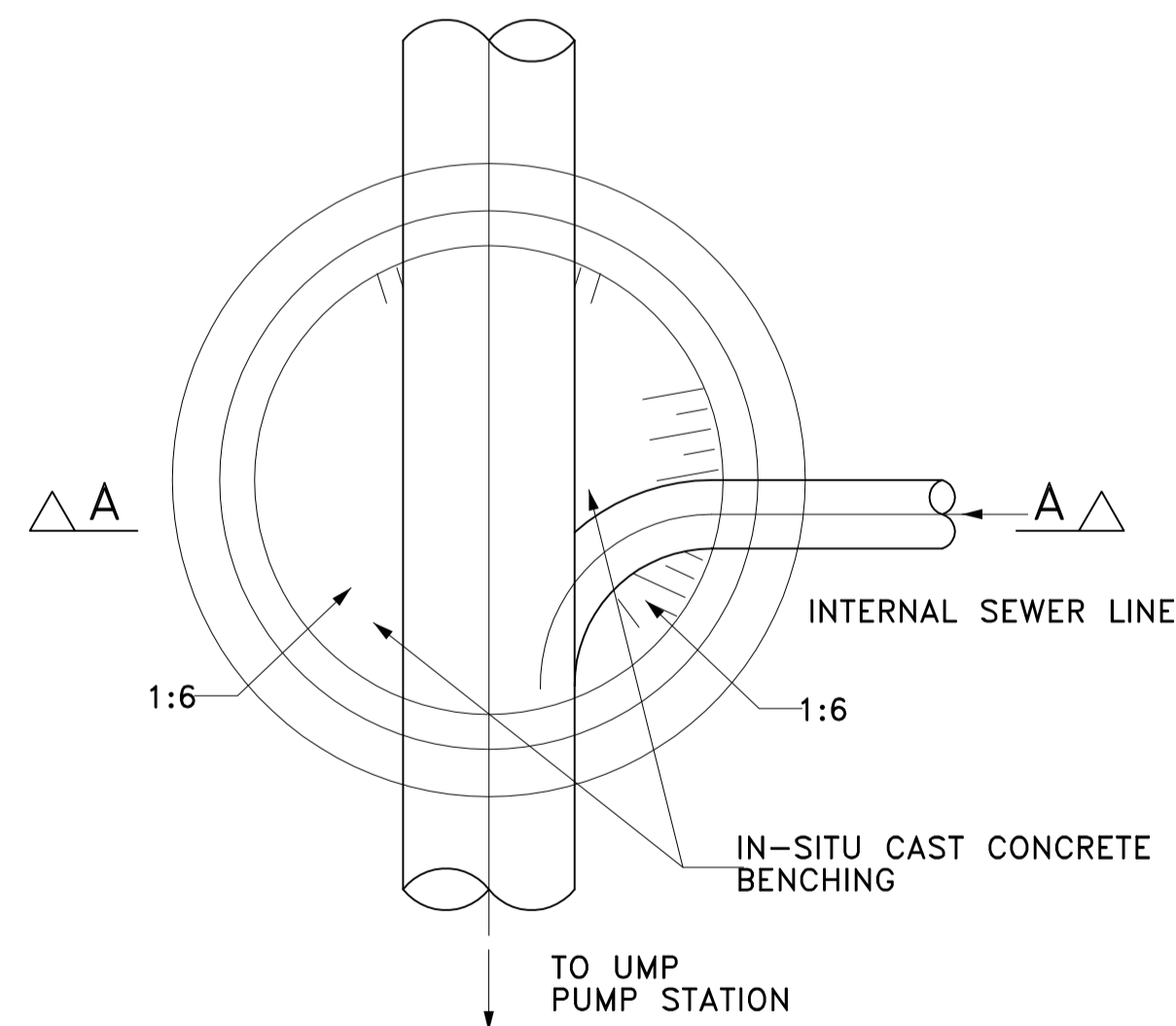
TYPICAL MANHOLE PLAN LAYOUT
NOT TO SCALE



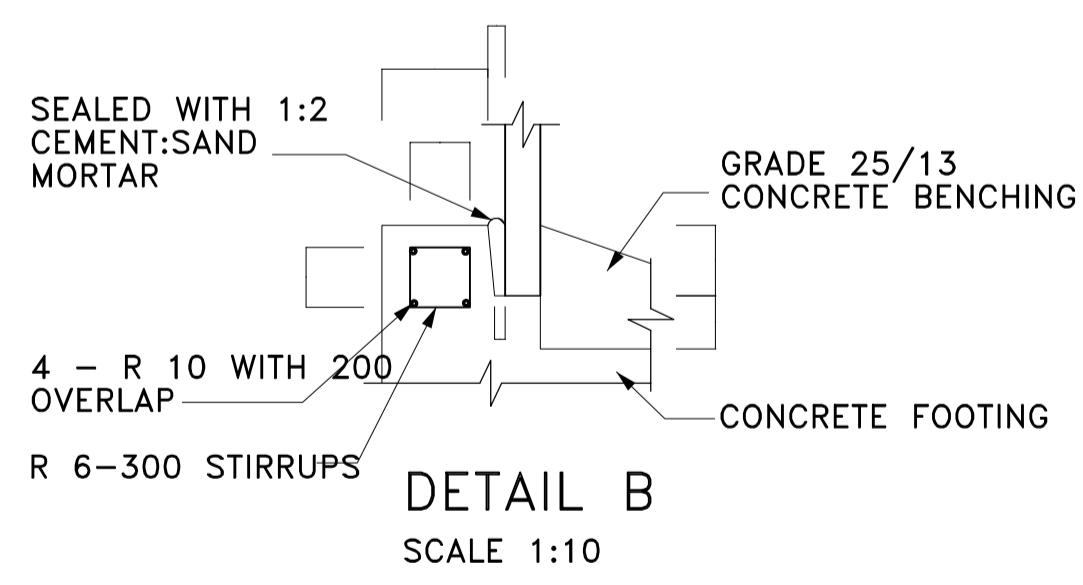
TYPICAL SECTION OF PRECAST MANHOLE:
DEPTH UP TO 3m
NOT TO SCALE



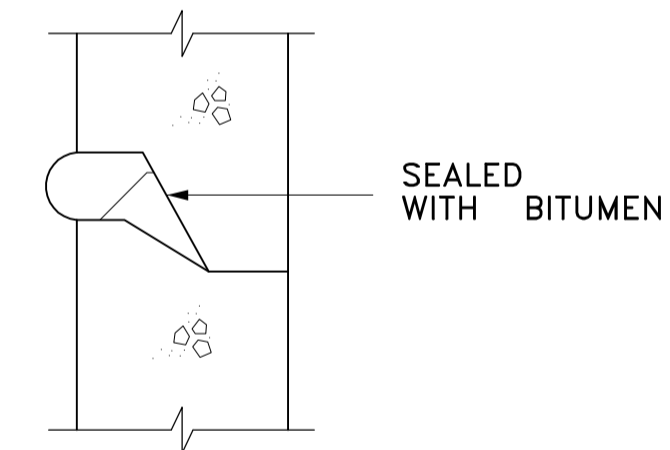
TYPICAL SECTION OF PRECAST MANHOLE:
DEEPER THAN 3m
NOT TO SCALE



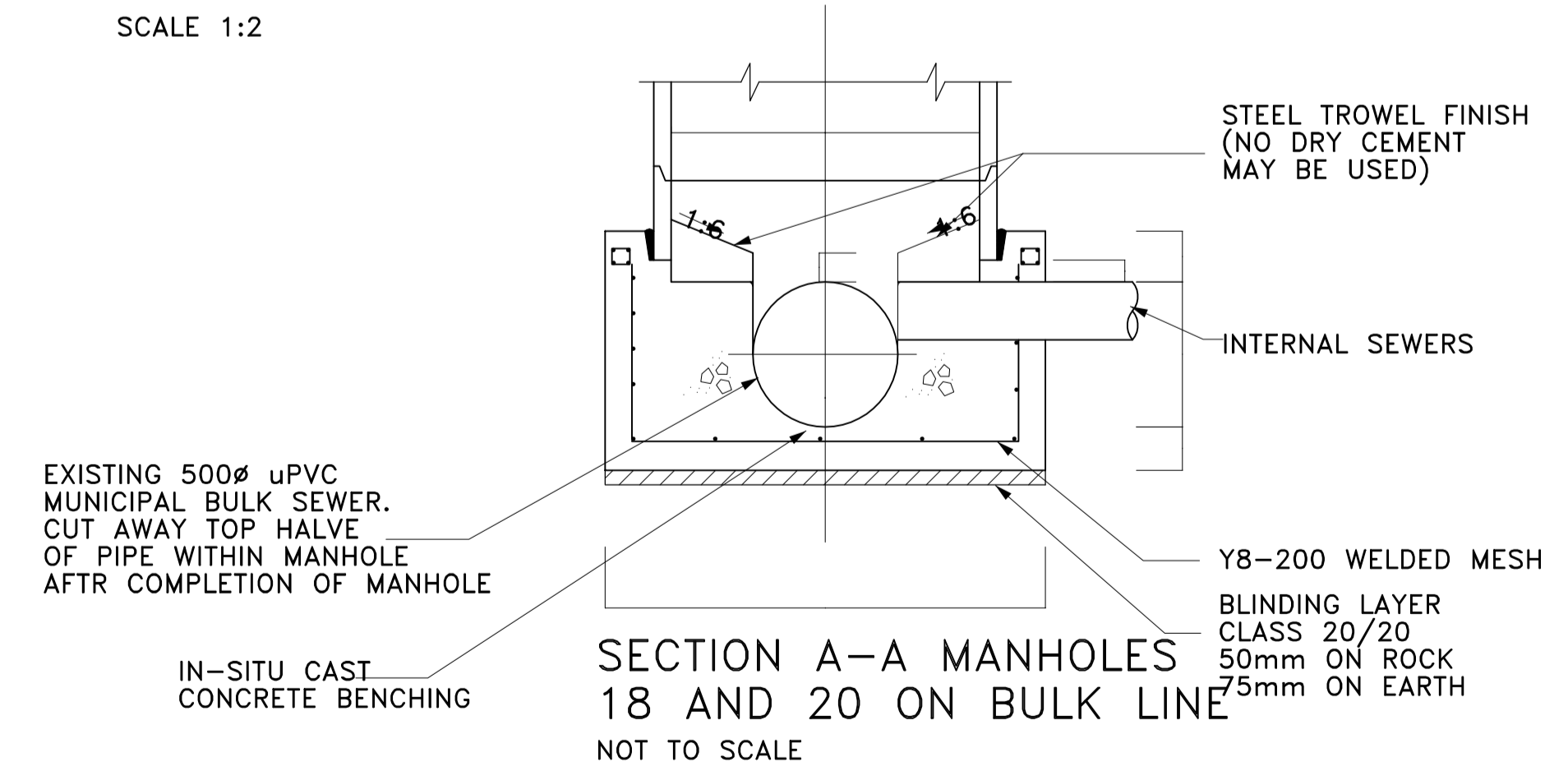
PLAN OF NEW MH NO 18 AND 20 ON
EXISTING MUNICIPAL BULK LINE
SCALE 1:20



DETAIL B
SCALE 1:10



DETAIL A
SCALE 1:2



SECTION A-A MANHOLES
18 AND 20 ON BULK LINE
NOT TO SCALE

No	Description	Date	By

REVISIONS			
No	Description	Date	By

Scale: As shown

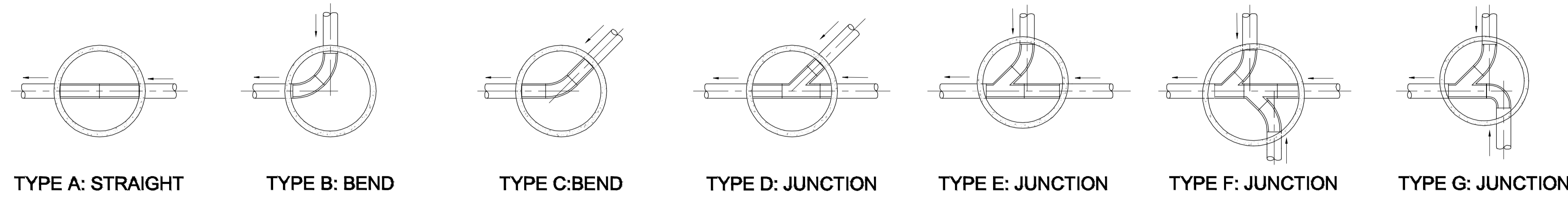
FT Consultants
Civil & Structural Engineers
FT CONSULTANTS PTY LTD
7 Emke Street
Nelspruit
1200

Title
KINROSS EXT 33 SEWER
RETICULATION - LONG-SECTION
SEWER 3

CIVIL SEWER DRAWINGS

Project No
DHS/231/24/MP

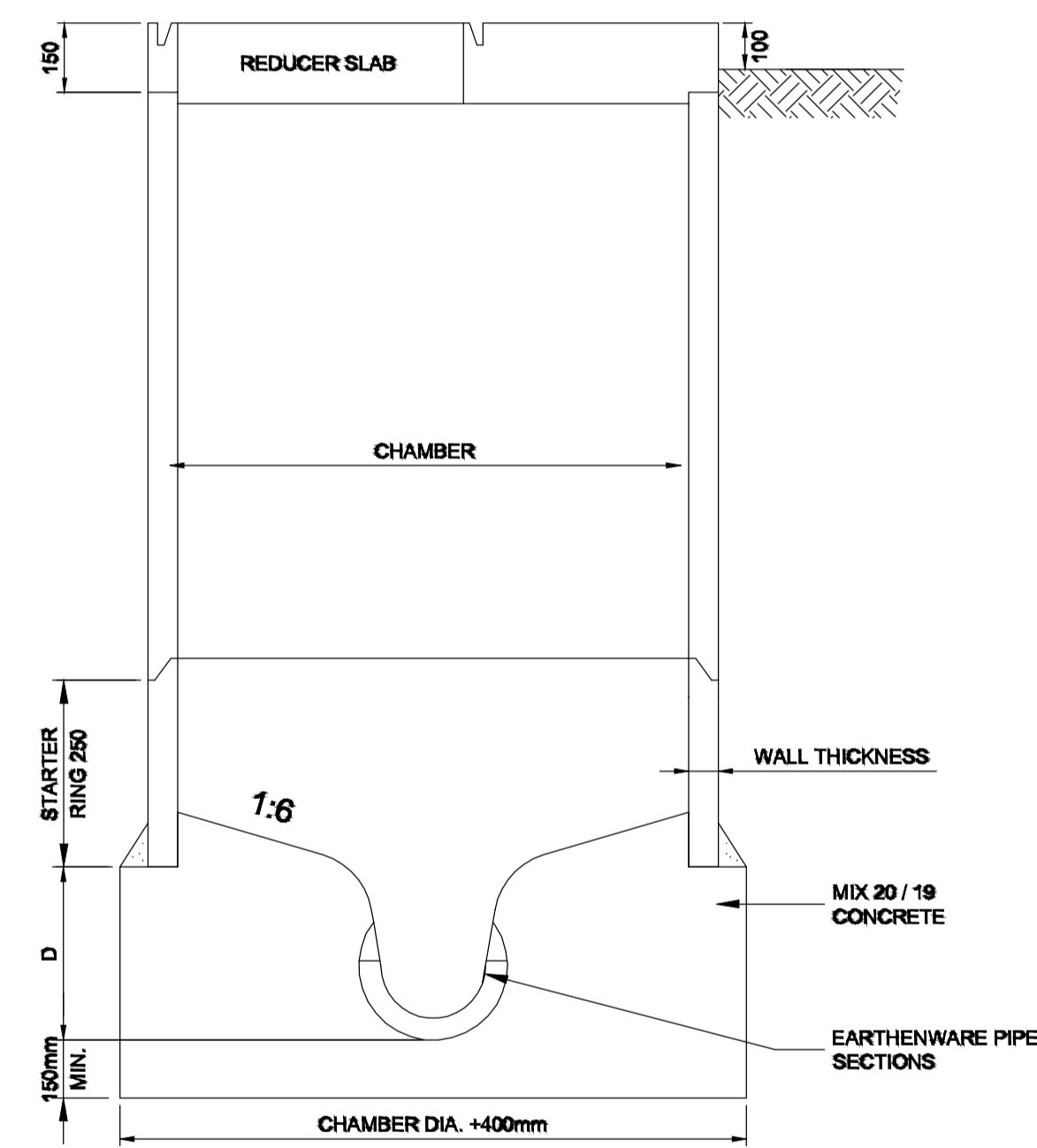
Drawing No
SEWER 125
Rev No. **00**



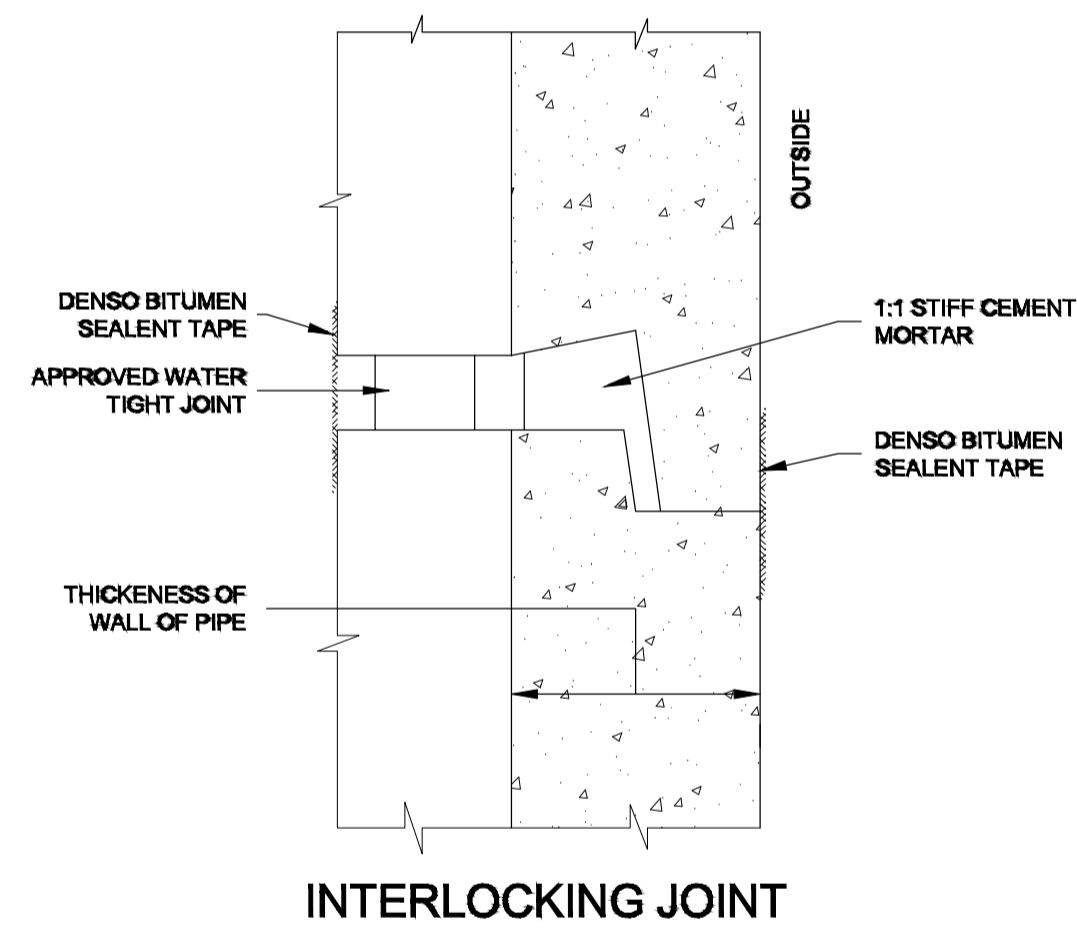
NOTE:
CHANNEL JUNCTIONS AND BENDS SHALL BE CUT BACK TO SUIT INCOMING PIPE ARRANGEMENT TO FORM FLOW CHANNELS INSIDE MANHOLES.

- NOTES:
- MANHOLE TYPES - SALBERG OR SIMILAR APPROVED ROAD RESERVE:
HEAVY DUTY COVER & FRAME WITH ROUND SPACER & ADAPTER SLABS (136kN TEST LOAD).
MID BLOCKS:
MEDIUM DUTY COVER & FRAME WITH ROUND SPACER & ADAPTER SLABS (40kN TEST LOAD).
 - IN ROADWAYS, MANHOLE COVERS SHALL BE FLUSH WITH THE FINISHED ROAD SURFACE, OTHER COVERS SHALL PROTRUDE 100mm ABOVE THE NATURAL GROUND LEVEL.
 - BENCHING SHALL BE FINISHED WITH A 20mm GRANULITHIC LAYER, PLACED WHILE THE CONCRETE IS STILL GREEN, & STEEL TROWEL TO A SMOOTH FINISH.
 - JOINTS OF PRECAST MANHOLE RINGS TO BE SEALED WITH DENSO "BITUMEN SEALANT" TAPE (INSIDE & OUTSIDE).
 - PRECAST SECTIONS TO BE 1000mm DIA. FOR MANHOLES WITH DEPTHS UP TO 3000mm, AND 1500mm DIA. WITH DEPTHS BETWEEN 3000mm AND 6000mm.
 - SPECIAL APPROVAL TO BE OBTAINED FOR MANHOLES BETWEEN 3000mm AND 5000mm DEEP.
 - PIPE SIZES AS SHOWN ON LONGITUDINAL SECTIONS.
 - ALL STRUCTURAL CONCRETE FOR MANHOLES TO BE 25 / 19 MPa.
 - ALL CONCRETE TO HAVE A SMOOTH FINISH.
 - MINIMUM COVER TO STEEL TO BE 30mm.
 - A MINIMUM OF 3 SPACER SLABS TO BE PLACED BELOW MANHOLE COVERS IN THE ROAD RESERVES.
 - NO STEP IRONS IN MANHOLES.

TYPICAL ARRANGEMENT OF CHANNELS IN CIRCULAR PRECAST MANHOLES

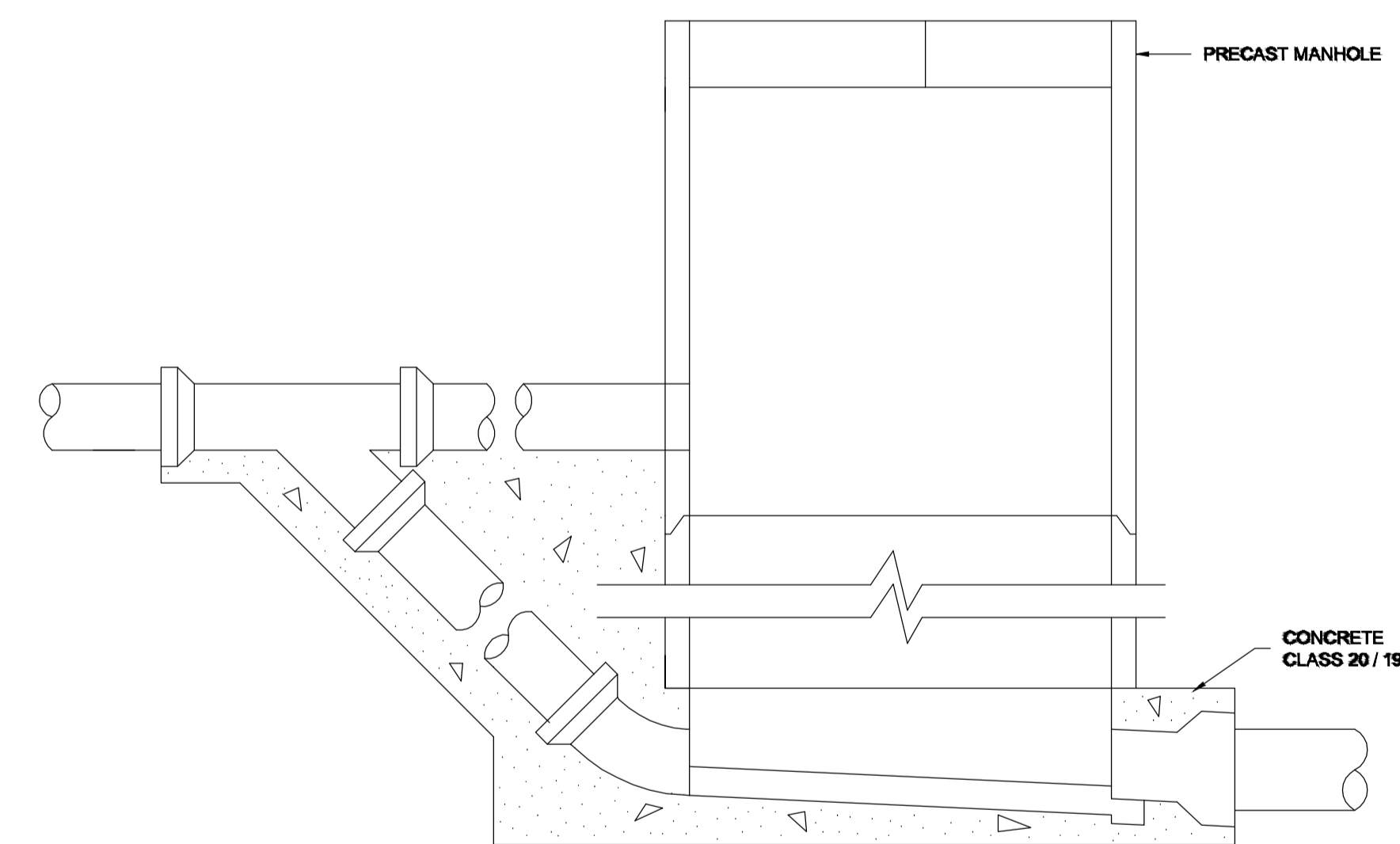


PRECAST CONCRETE MANHOLE FOR SEWER
NOT TO SCALE



INTERLOCKING JOINT

CHAMBER AND SHAFT SECTIONS		
TYPE OF SECTION	CHAMBER	CHAMBER
NOMINAL DIAM., mm	1 000	1 500
STANDARD LENGTH, mm.	250, 500, 1000	250, 500, 1000
WALL THICKNESS mm, MIN.	65	85
DEPTH	0-3 m	3-5 m



CONVENTIONAL DROP CONNECTIONS
NOT TO SCALE

No	Description	Date	By

REVISIONS	
Approved by	Date
Drawn T Sundayi	Designed A.M
Checked A.M	Engineer T - Sundayi
Client App.	Date 20 Apr. 2020

Scale: As shown

FT CONSULTANTS
Civil & Structural Engineers
PRACTICE COMPANY NO. 1234

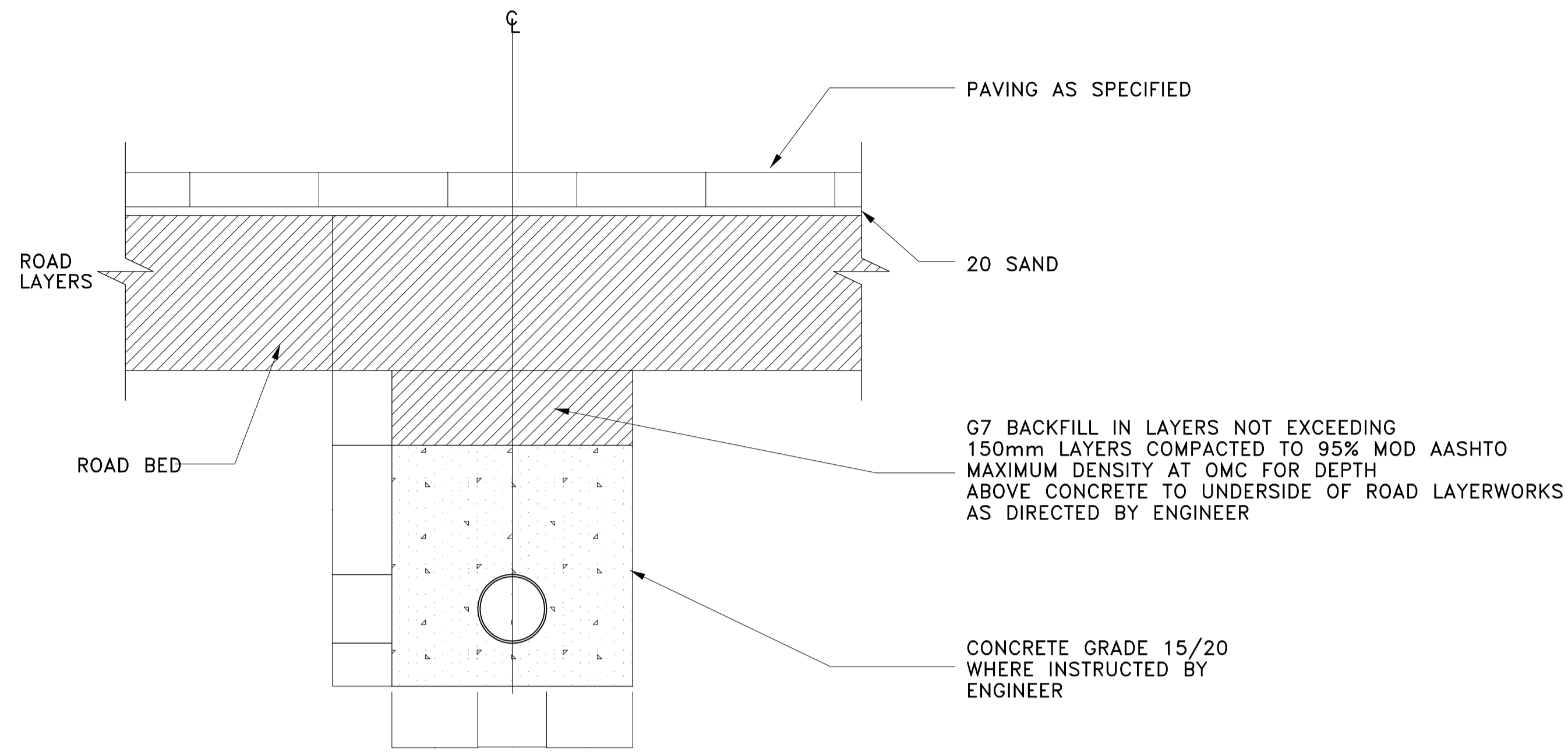
FT CONSULTANTS PTY LTD
7 Enke Street
Nelspruit
1200

Title
KINROSS EXT 33 SEWER
RETICULATION - LONG-SECTION
SEWER 3

CIVIL SEWER DRAWINGS

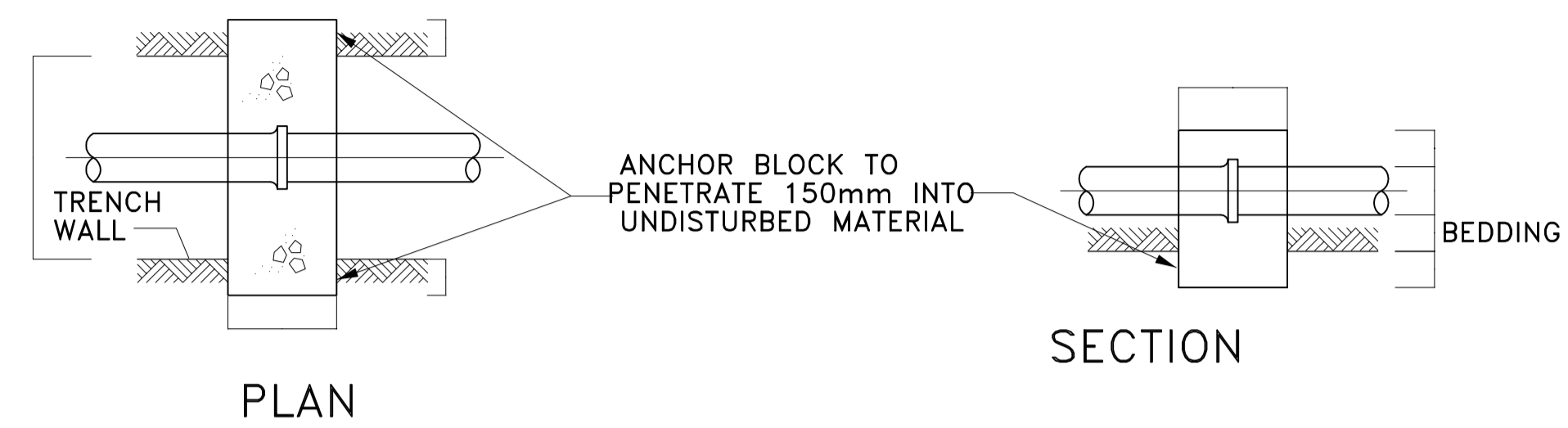
Project No
DHS/231/24/MP

Drawing No
SEWER 126
Rev No. 00



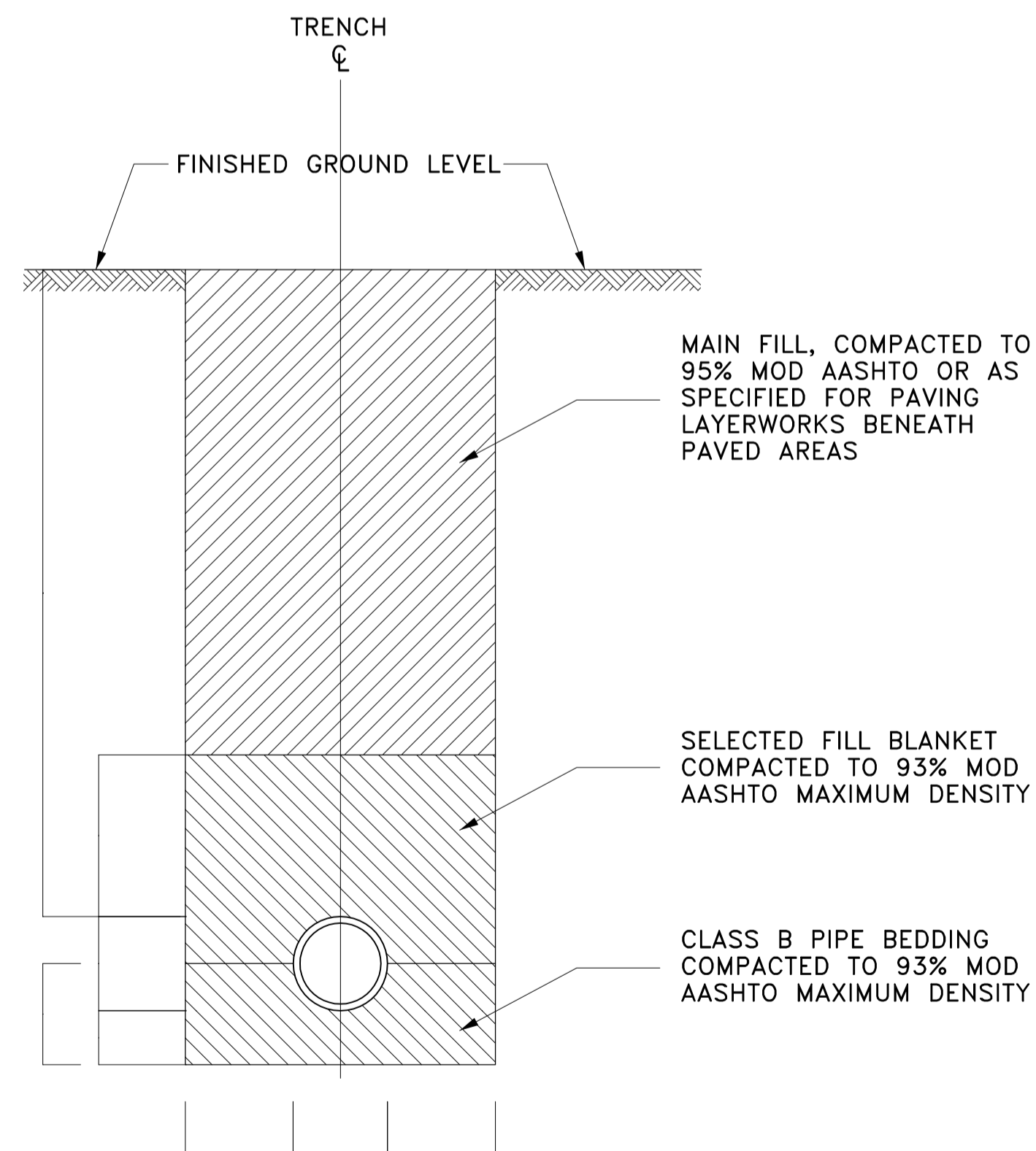
TYPICAL SECTION THROUGH SHALLOW SEWER LINE UNDER ROAD SURFACES

SCALE 1:10



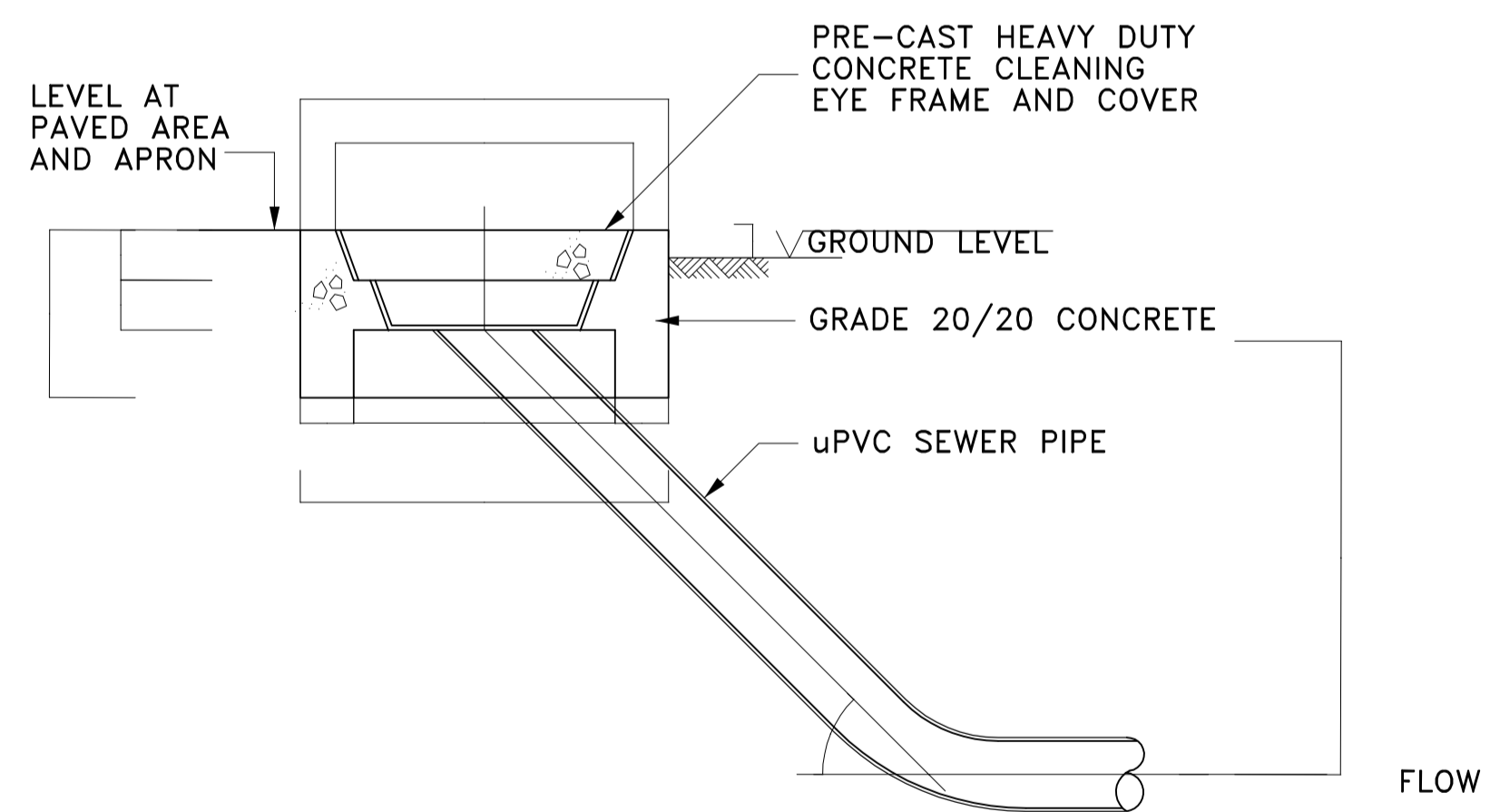
ANCHOR BLOCKS ON SLOPES STEEPER THAN 1:10
NOT TO SCALE

ANCHOR BLOCK NOTES:
FOR SPACING OF ANCHOR BLOCKS,
REFER TO NOTES.



TYPICAL SECTION THROUGH SEWER LINE

SCALE 1:10



TYPICAL SECTION THROUGH CLEANING EYE
SCALE 1:10

No	Description	Date	By

REVISIONS

Approved by	Date
Drawn T Sundayi	Designed A.M
Checked A.M	Engineer T - Sundayi
Client App.	Date 20 Apr. 2020

Scale: As shown

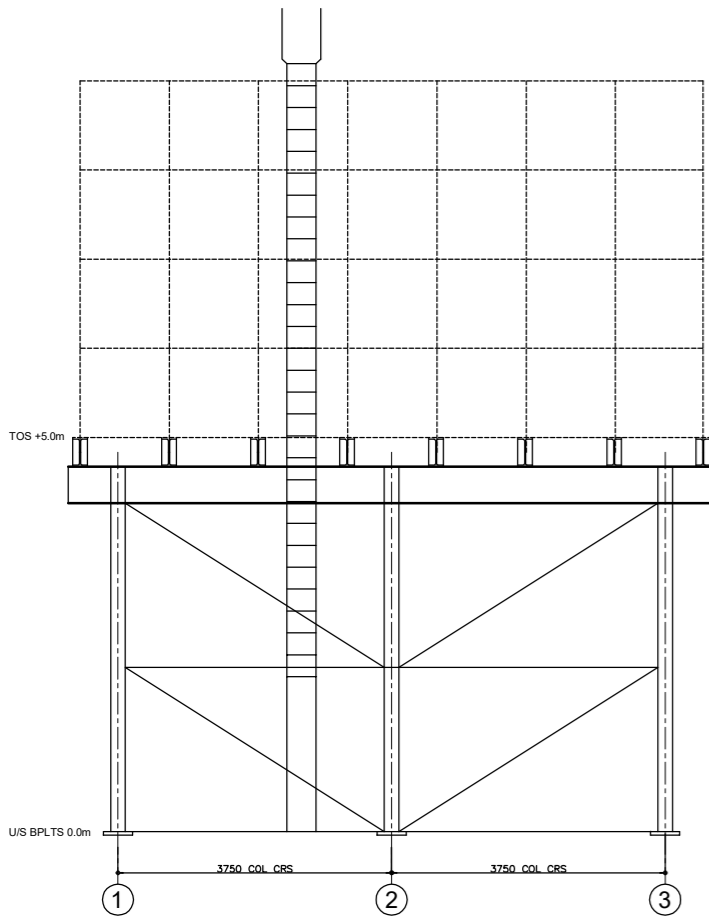
FT Consultants
Civil & Structural Engineers
7 Emke Street
Nelspruit
1200

Title
KINROSS EXT 33 SEWER
RETICULATION - LONG-SECTION
SEWER 3

CIVIL SEWER DRAWINGS

Project No
DHS/231/24/MP

Drawing No
SEWER 127
Rev No. 00



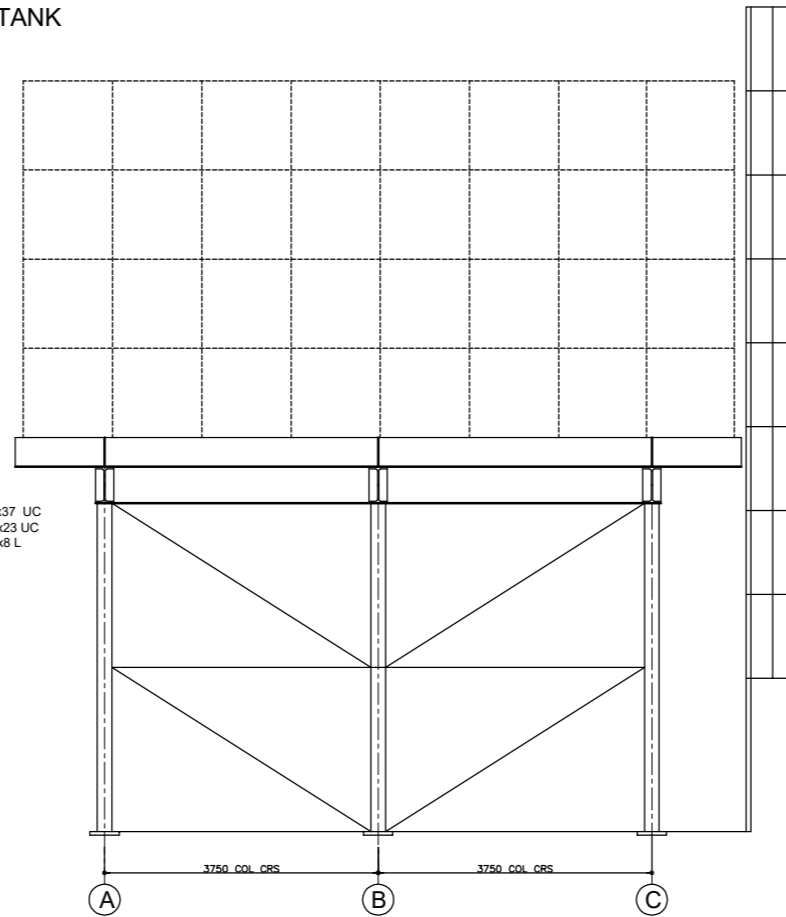
FRONT ELEVATION

**PRESSED STEEL TANK
9760X854X4880**

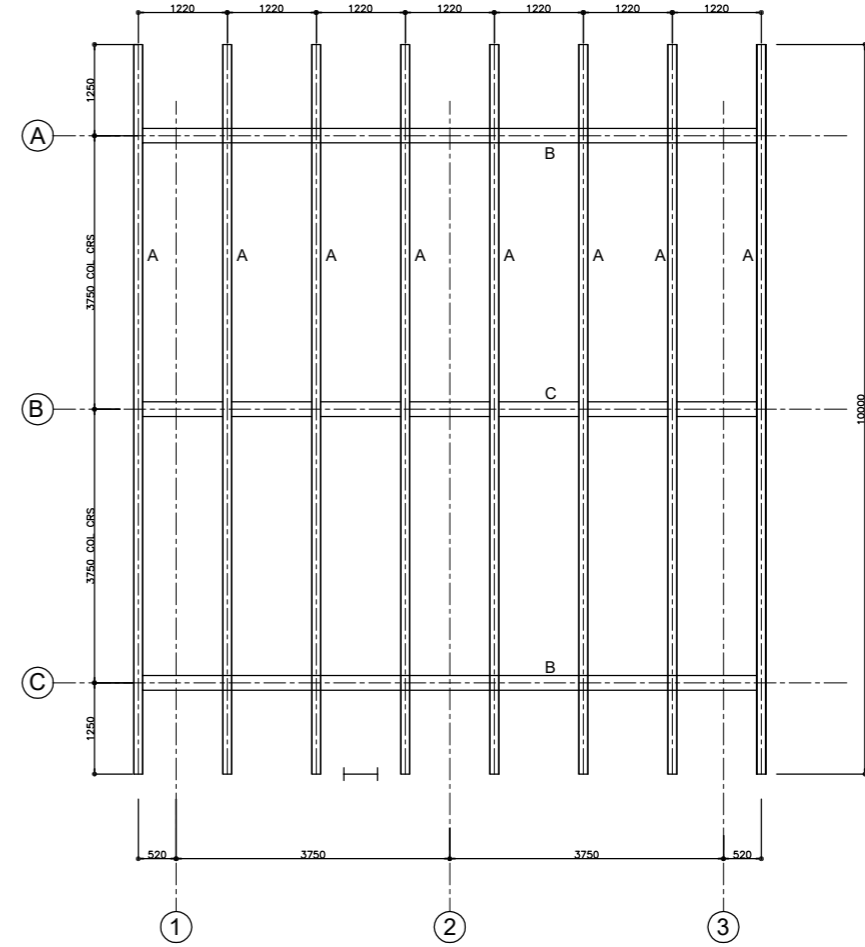
U10 THK PLTS
4-M20 BOLTS

TOWER MATERIAL
COLUMNS (UON) -162x154x37 UC
COLUMNS "A1.3 & C1&3" -152x152x23 UC
BRACES HORIZ -100x100x8 L
STANDARD CATLADER

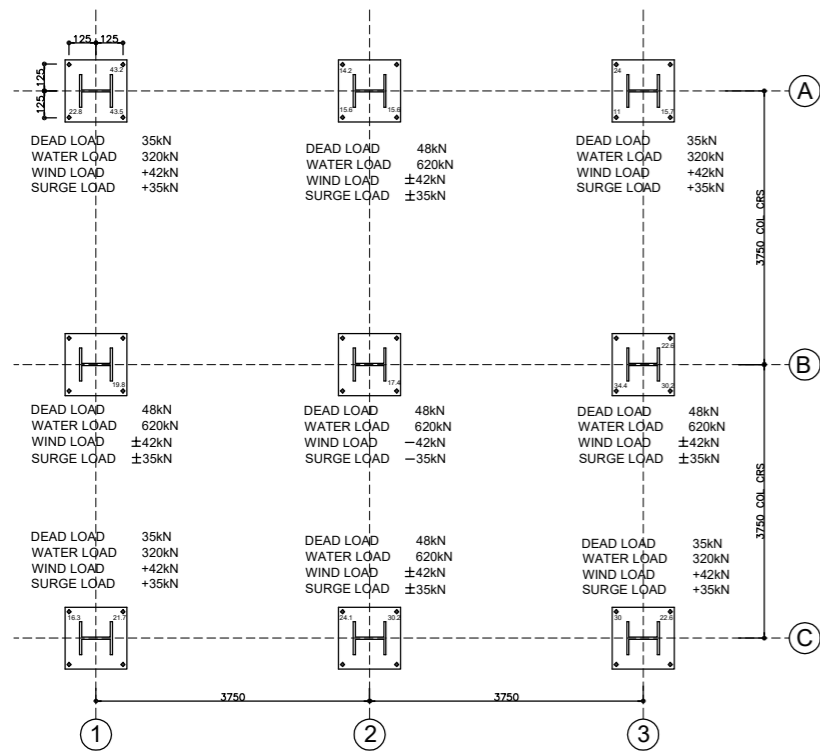
OF COLUMNS ARE BRACED AS
NOTE
ALL THREE LINES AND ROWS



SIDE ELEVATION

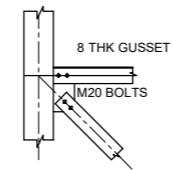


PLAN OF GRILLAGE



**PLAN ON BASEPLATES
ALL LOADS UNFACTORED**

SHOWN ON ELEVATION DRAWN



Member	No of member	Bars per member	Dia	Length	Total number of bar	Mark	SC	A	B	C	D
	9	13	Y20	3400	117	01	35	3000			
	9	13	Y20	3400	117	02	35	3000			
	9	4	Y20	2350	36	03	54	250	2000	200	
	9	12	R12	1500	108	04	60	340	340		
	9	8	Y16	2000	72	05	20	2000			
	9	20	Y16	2250	180	06	72	360	600		

GRILLAGE MATERIAL
BEAM "A" -313x102x33 UB + 50x6 FLT STIFFTS
BEAM"B" -409x179x67 UB +85x8 FLT STIFFTS
BEAM"C" -413x180x75 UB +85x8 FLT STIFFTS

FOUNDATION NOTES
350x30 BASE PLT x350 LG
4-Ø28 HLS FOR M24 H.D.BOLTS
100x100x12 PLT WASHERS
125 PROJECTION 400 EMBEDMENT
ERECTOR TO LEAVE 50 GAP FOR GROUT
COLUMN/BASE PLT WELD-8 C.F

No	Description	Date	By

REVISIONS

Approved by	Date
Drawn T Sondayi	Designed T Sondayi
Checked T S Lebohang	Engineer T - Sondayi
Client App.	Date 20 Apr. 2020

Scale: As shown

FT Consultants
Civil & Structural Engineers

FT CONSULTANTS PTY LTD
7 Emke Street
Nelspruit
1200

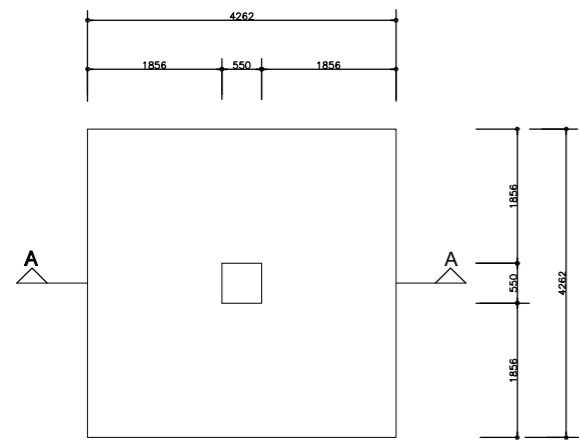
Title
ABECO TANK TYPICAL DETAIL

CIVIL & STRUCTURAL DRAWINGS

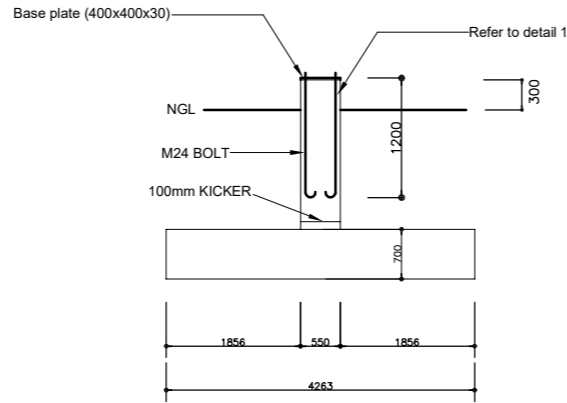
Project No
DHS/231/24/MP

Drawing No
101
Rev No
00

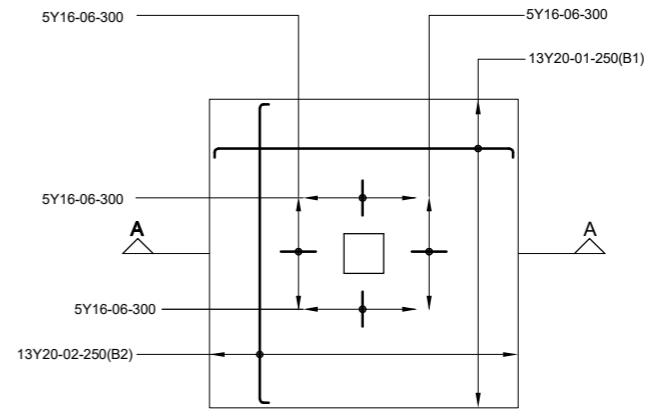
ELEVATED STEEL TANK



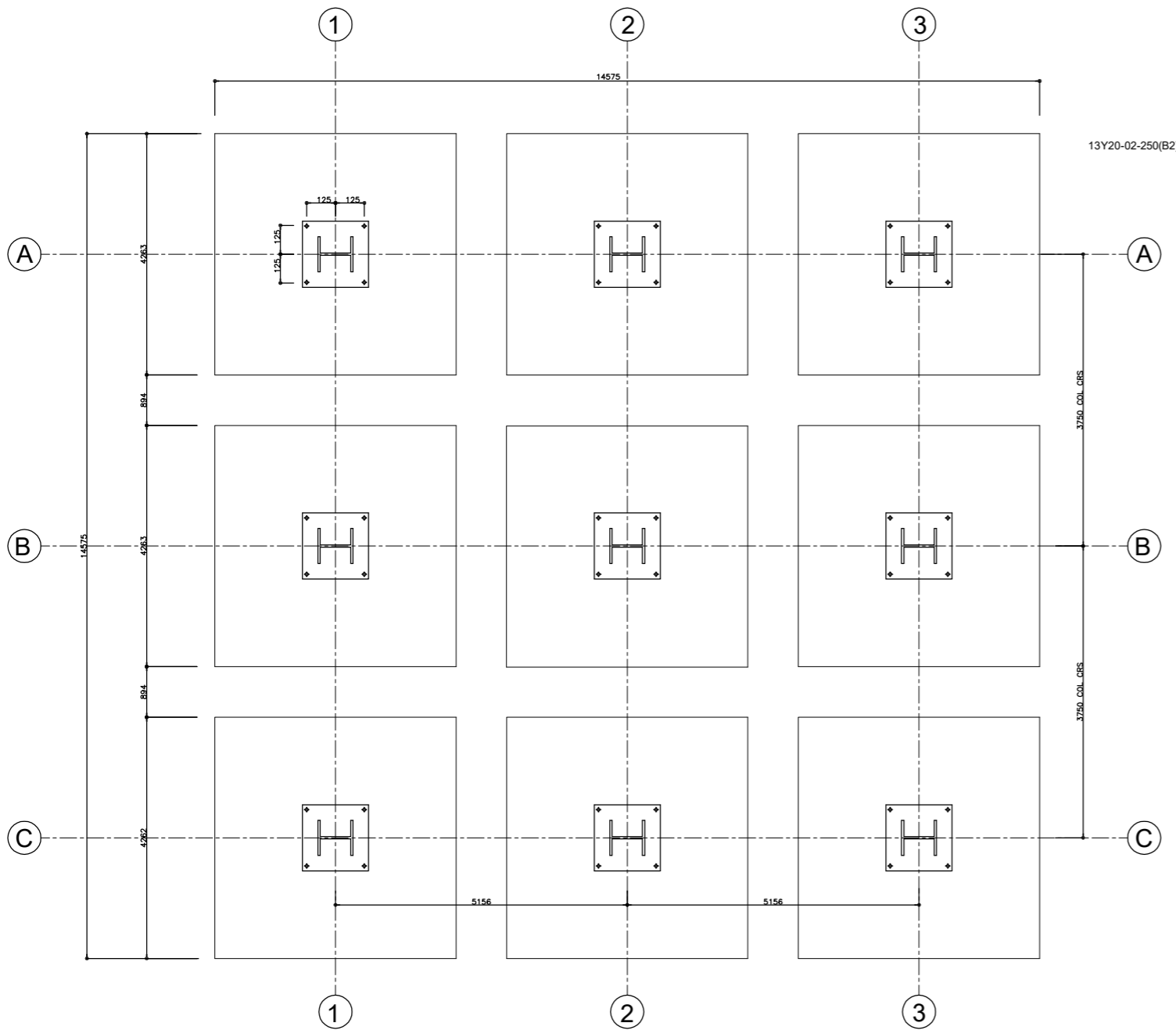
PLAN BASE
SCALE 1:100



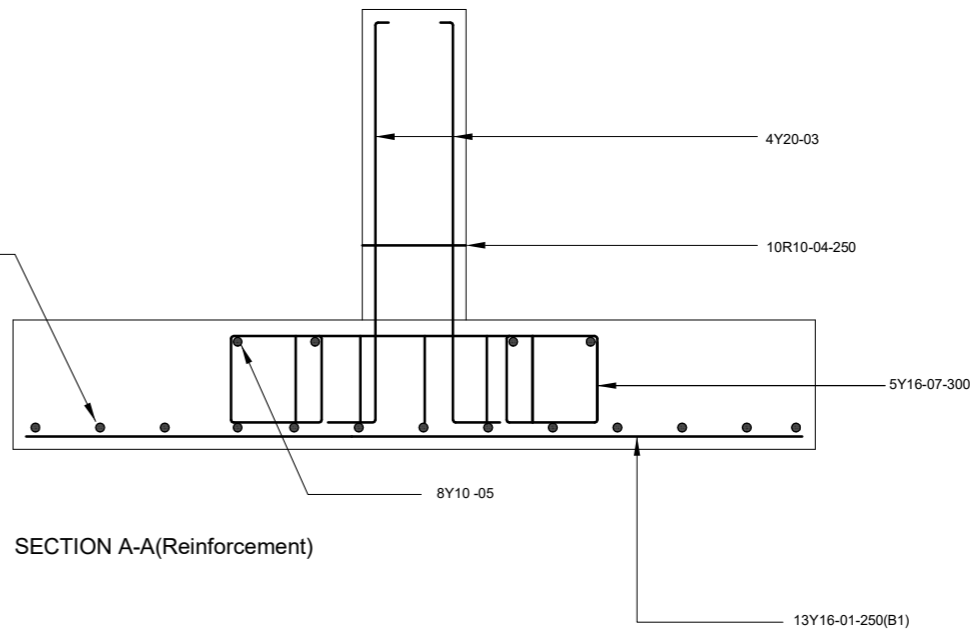
SECTION A-A BASE
SCALE 1:100



PLAN BASE(Reinforcement)
SCALE 1:100

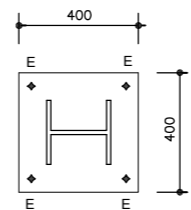


ELEVATED STEEL TANK FOUNDATION LAYOUT

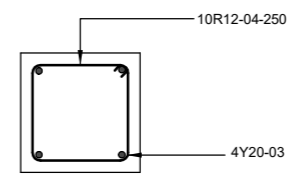


SECTION A-A(Reinforcement)

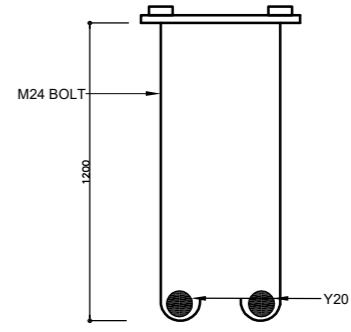
COVER
Bottom :50mm
Top :50mm
Side :30mm



PLAN BASE PLATE
SCALE 1:50



PLAN BASE PLATE(Reinforcement)
SCALE 1:50



DETAIL 1
SCALE 1:10

- All concrete to be grade 30mpa, unless otherwise shown.
- Read all drawings in conjunction with bending schedules & relevant architectural drgs.
- Cover to all reinforcement to be 50mm for bases and 25mm for columns unless otherwise shown.
- All concrete is to be properly vibrated.
- An allowable foundation bearing pressure of 200kpa on soil is assumed.
- All storm/rain water pipes passing under the structure are to be encased in concrete.
- All work to be in accordance with national building regulations.
- All work to be checked by supervising engineer or appointed representative prior to pouring of concrete (min. 24 hours notice).

EXCAVATION FOR FOUNDATION

-The elevations of the bottom of the foundations shown on the drawing are approximately only, and the ENG may order such changes as are deemed necessary to provide a secure foundation.
-Special care shall be taken not to disturb the bottom of the excavation and final removal of foundation material to grade shall not be made until just before the footing is placed.
-Where the material below the bottom of footings not supported by piles has been disturbed, it shall be removed and the entire space filled with concrete not less than 15MPa at the contractor's expense.
-Boulders, roots and any other objectionable material encountered in excavation shall be removed. The excavated foundation shall be cleared of all loose material and cut to a firm surface.
-The contractor shall be solely responsible for the safety and stability of the excavation and shall provide all protective supports, bracing and shoring as required.
-No footings, bedding material or structures shall be placed in any foundation until the Engineer has inspected and approved the depth of excavation and the foundation material.

BLINDING

-All surfaces against which concrete is to be placed shall be covered with a layer of blinding concrete approximately 50mm thick.
-The class of blinding concrete should not be less than 15MPa.
-The class of blinding shall be spread and shall be worked thoroughly into all irregularities to the surface.

FOUNDATION NOTES

400x30 base pit x400 lg
4-Ø28 his for m24 h.d bolts
100x100x12 pit washers
125 projection, 400 embedment
erector to leave 50 gap for grout
column/base pit weld-Ø c/f

No	Description	Date	By

REVISIONS

Approved by	Date
Drawn T.Sondayi	Designed T.Sondayi
Checked T.S. Lebohng	Engineer T.Sondayi
Client App.	Date 20 Apr. 2020

Scale: As shown

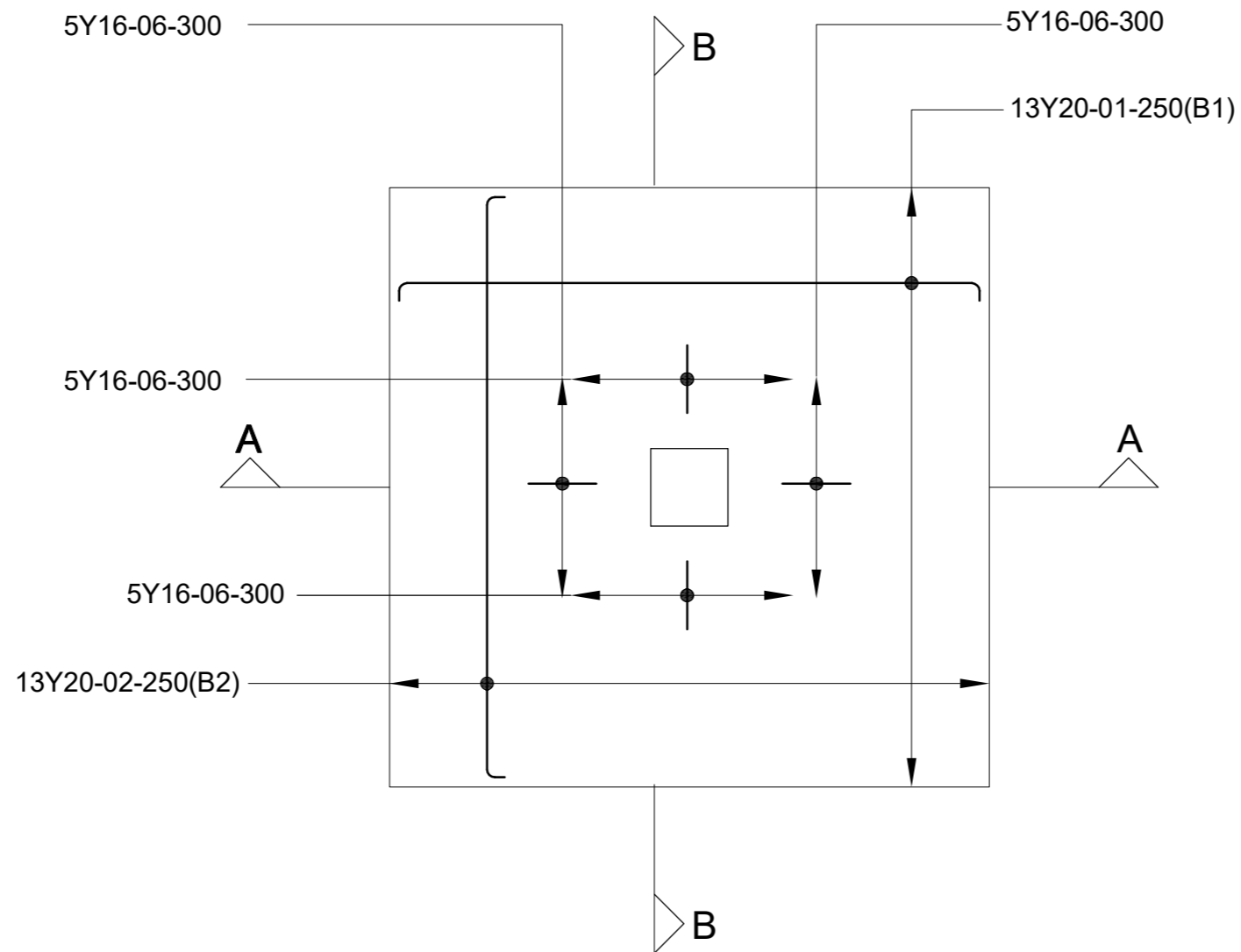
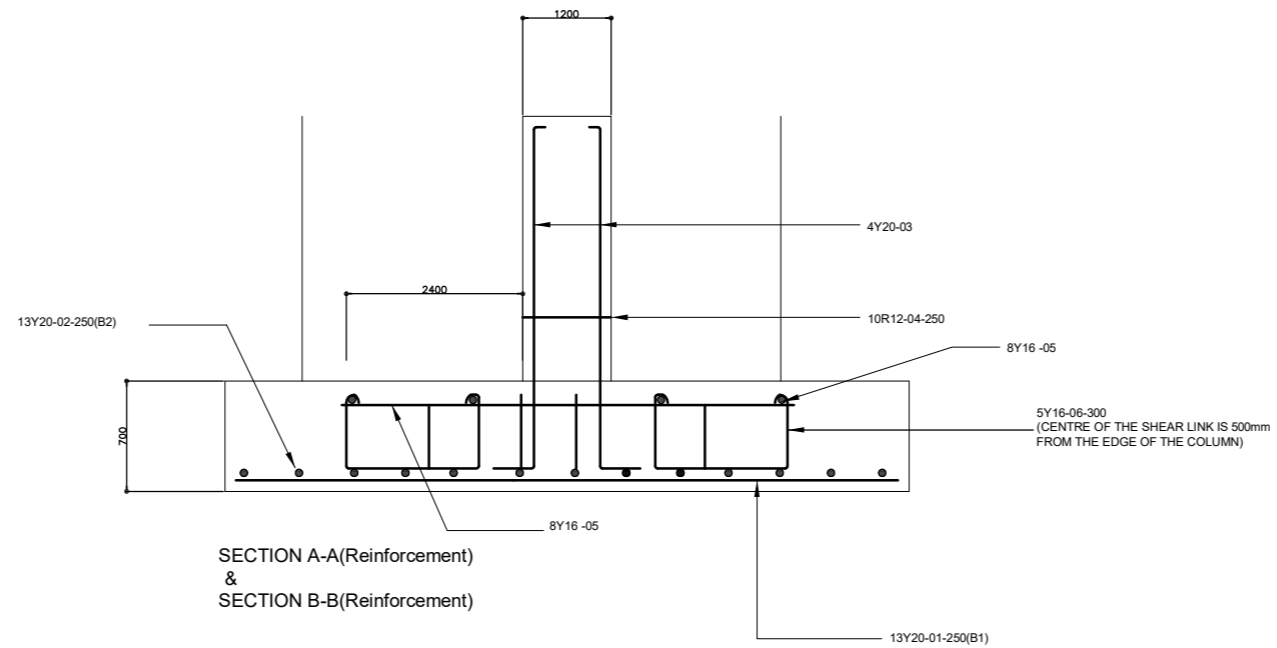
FT Consultants
Civil & Structural Engineers
7 Emke Street
Nelspruit
1200

Title
CONSTRUCTION OF 0.5MI ELEVATED RESERVOIR AT KINROSS EXT 33

STRUCTURAL DRAWINGS

Project No
DHS/231/24/MP

Drawing No
102
Rev No
00



PLAN BASE(Reinforcement)
SCALE 1:100

1. All concrete to be grade 30mpa, unless otherwise shown.
2. Read all drawings in conjunction with bending schedules & relevant architectural drgs.
3. Cover to all reinforcement to be 50mm for bases and 25mm for columns unless otherwise shown.
4. All concrete is to be properly vibrated.
5. An allowable foundation bearing pressure of 200kpa on soil is assumed.
6. All storm/rain water pipes passing under the structure are to be encased in concrete.
7. All work to be in accordance with national building regulations.
8. All work to be checked by supervising engineer or appointed representative prior to pouring of concrete (min. 24 hours notice).

EXCAVATION FOR FOUNDATION

- The elevations of the bottom of the foundations shown on the drawing are approximately only, and the ENG may order such changes as are deemed necessary to provide a secure foundation.
- Special care shall be taken not to disturb the bottom of the excavation and final removal of foundation material to grade shall not be made until just before the footing is placed.
- Where the material below the bottom of footings not supported by piles has been disturbed, it shall be removed and the entire space filled with concrete not less than 15MPa at the contractor's expense.
- Boulders, roots and any other objectionable material encountered in excavation shall be removed. The excavated foundation shall be cleared of all loose material and cut to a firm surface.
- The contractor shall be solely responsible for the safety and stability of the excavation and shall provide all protective supports, bracing and shoring as required.
- No footings, bedding material or structures shall be placed in any foundation until the Engineer has inspected and approved the depth of excavation and the foundation material.

BLINDING

- All surfaces against which concrete is to be placed shall be covered with a layer of blinding concrete approximately 50mm thick.
- The class of blinding concrete should not be less than 15MPa.
- The class of blinding shall be spread and shall be worked thoroughly into all irregularities to the surface.

FOUNDATION NOTES

- 400x30 base pit x400 lg
- 4-Ø28 Hls for m24 h,d bolts
- 100x100x12 pit washers
- 125 projection 400 embedment
- erector to leave 50 gap for grout
- column/base pit weld-8 c.f

No	Description	Date	By

REVISIONS

Approved by	Date
Drawn T.Sondaji	Designed T.Sondaji
Checked T.S.Lebhang	Engineer T.Sondaji
Client App.	Date 20 Apr. 2020

Scale: As shown

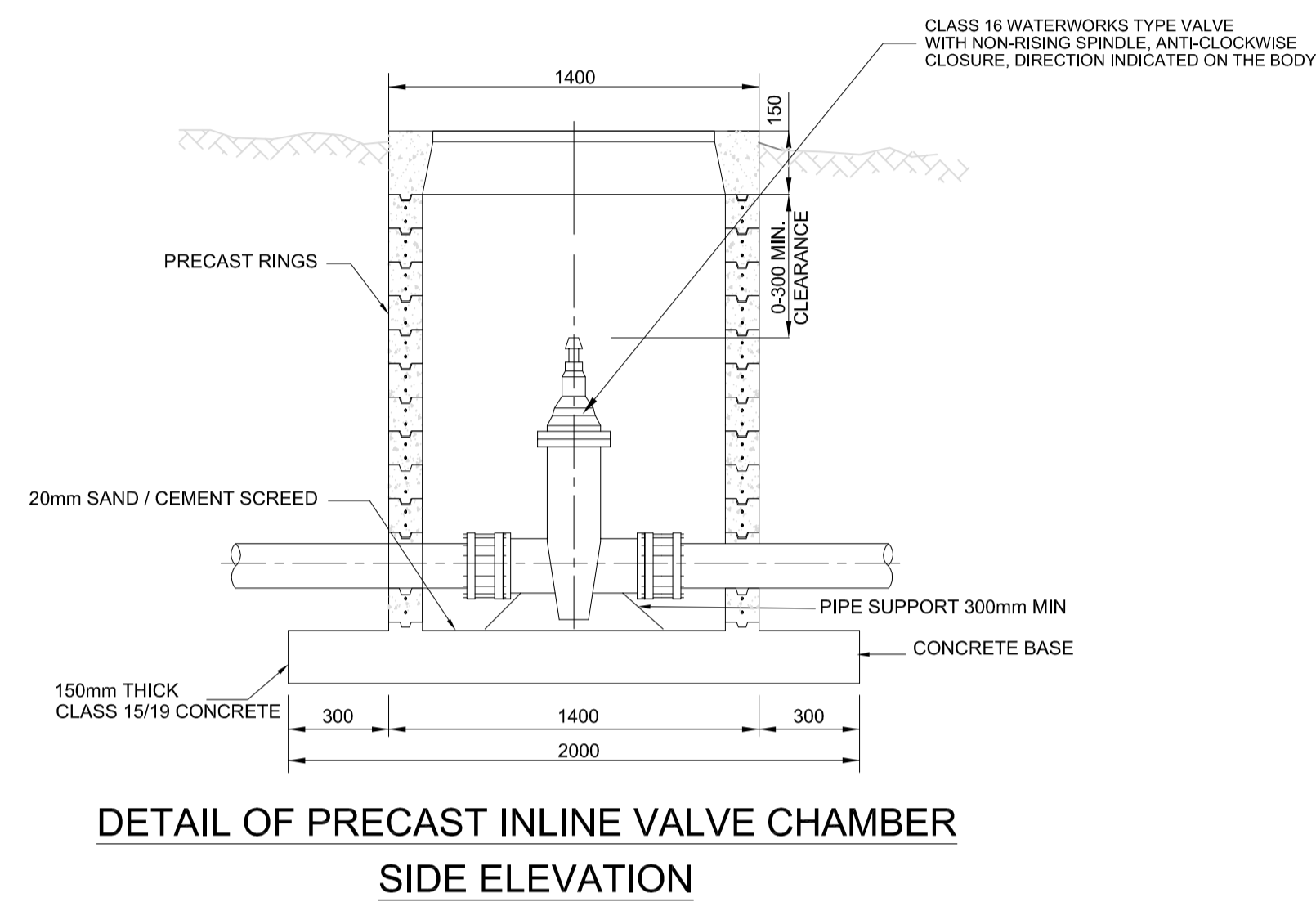
FT CONSULTANTS PTY LTD
7 Emke Street
Nelspruit
1200

Title
CONSTRUCTION OF 0.5MI ELEVATED RESERVOIR AT KINROSS EXT 33

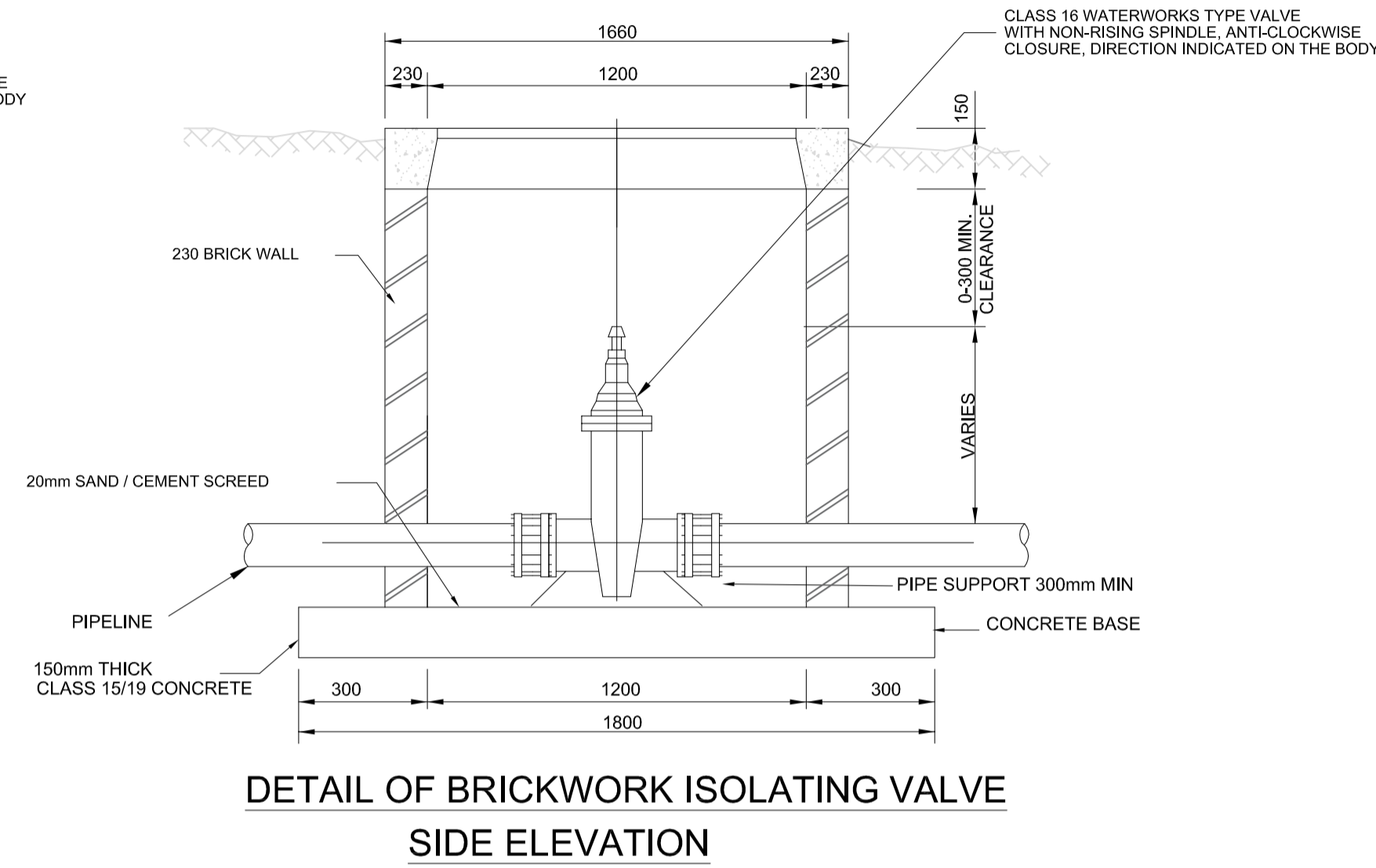
STRUCTURAL DRAWINGS

Project No
DHS/231/24/MP

Drawing No
101
Rev No
00



DETAIL OF PRECAST INLINE VALVE CHAMBER
SIDE ELEVATION

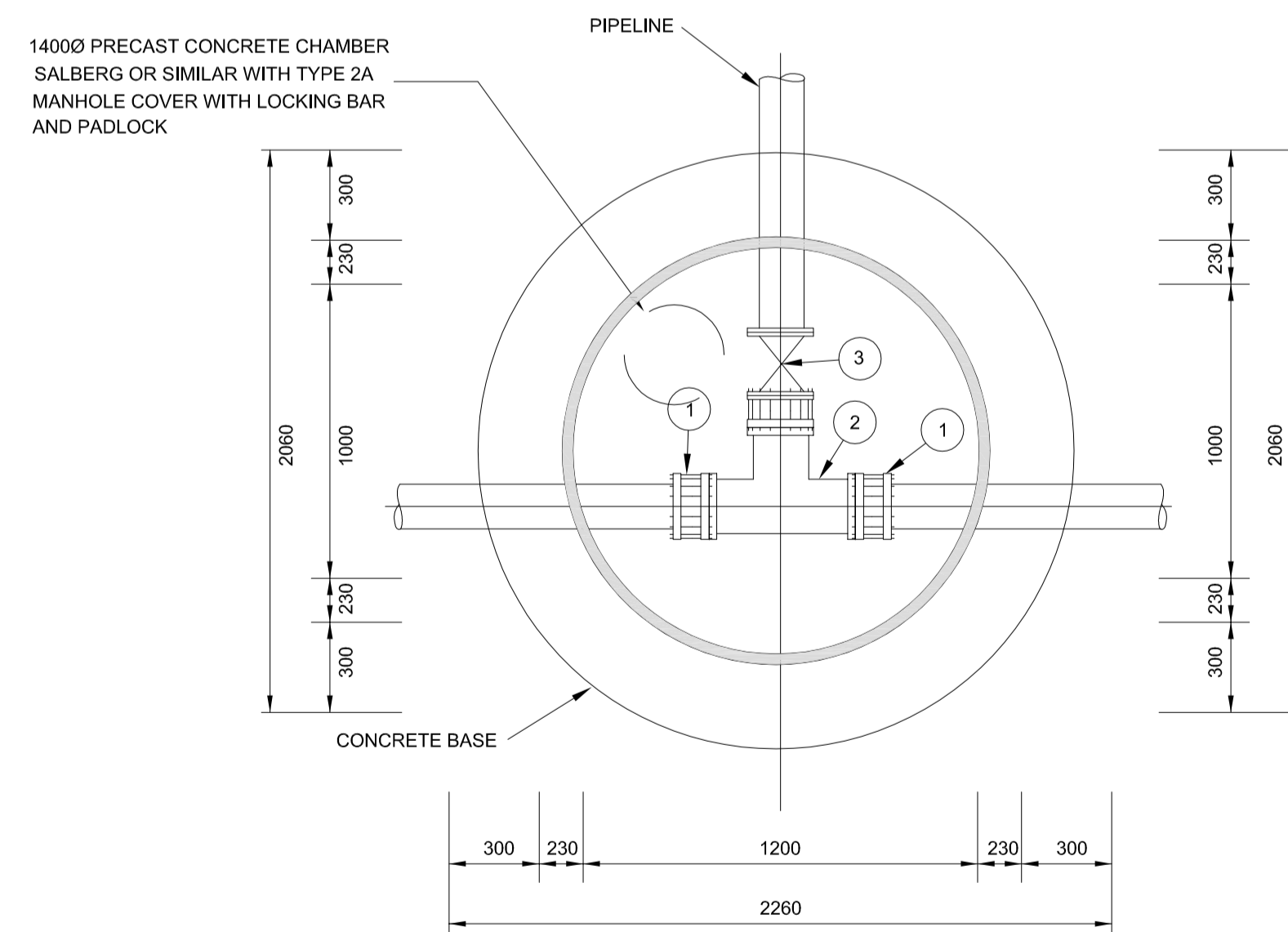


DETAIL OF BRICKWORK ISOLATING VALVE
SIDE ELEVATION

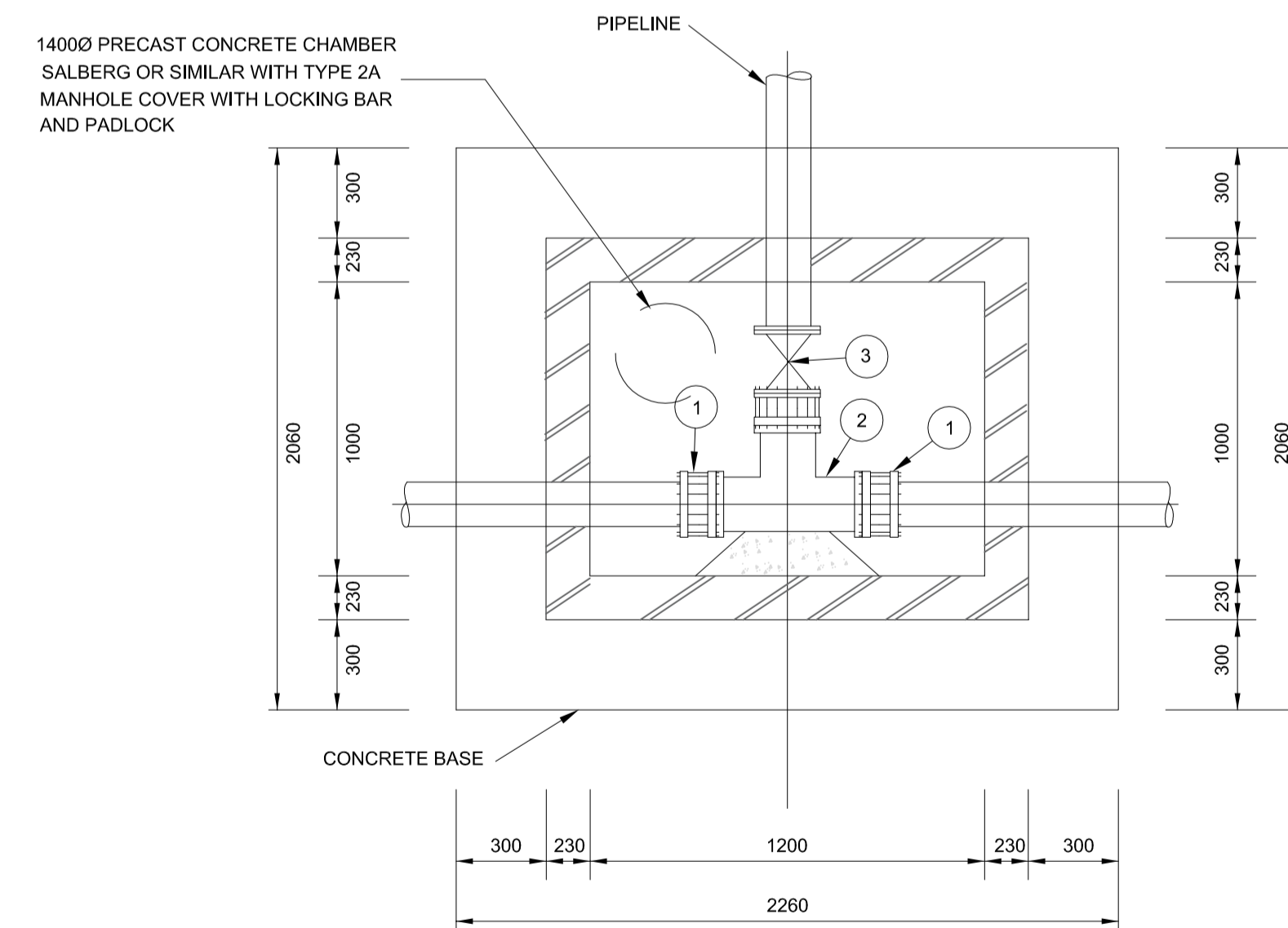
ITEM	DESCRIPTION TO SUIT PIPE SIZES	No OFF
1	VIKING JOHNSON COUPLING TO SUIT PIPE	3
2	FLANGED EQUAL TEE	1
3	CLASS 16 WATERWORKS TYPE VALVE	1
4	FLANGED EQUAL TEE	1
5	VIKING JOHNSON COUPLING TO SUIT PIPE	3
6	REDUCER & ASSOCIATED FITTINGS	1

GENERAL NOTES

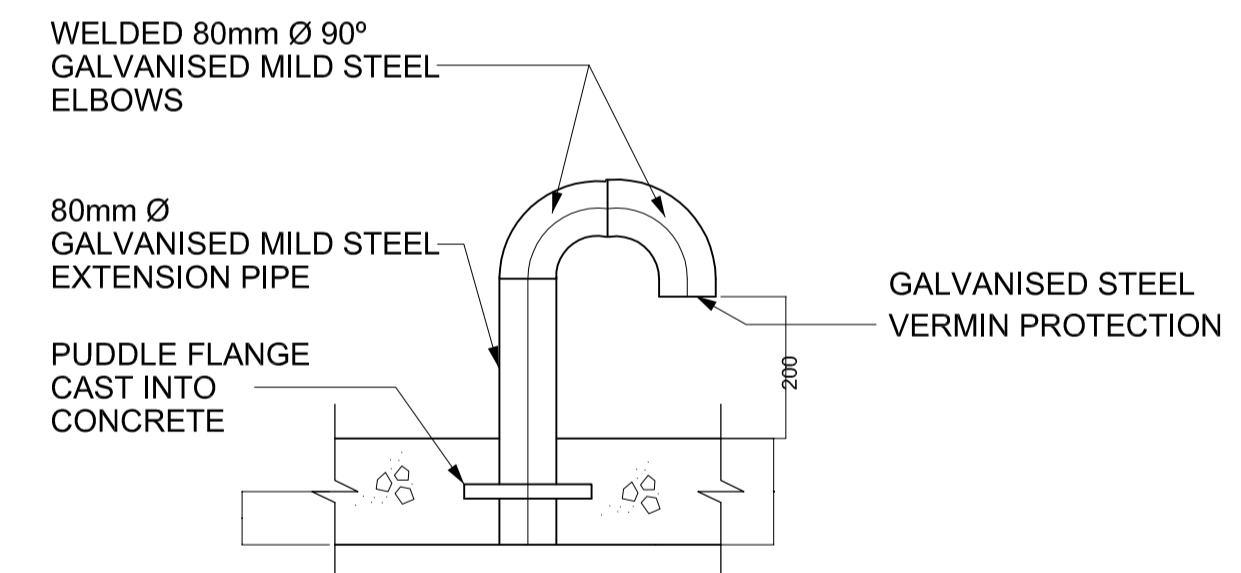
- CONTRACTOR TO PROVIDE VALVE AND SPECIAL'S MANUFACTURER'S DETAILS TO CONFIRM APPROVAL PRIOR TO CONSTRUCTION.
- DETAIL TO BE CONSTRUCTED, REGARDING THE BRICKWORK OR PRE-CAST ARRANGEMENT, MUST BE CONFIRMED BEFORE CONSTRUCTION COMMENCES.



DETAIL OF PRECAST PLAN



DETAIL OF BRICKWORK PLAN



AIR VENT DETAIL
SCALE 1:10

NOTE:
UNIT GALVANISED
AFTER WELDING

LEGEND:

- PI SETTING OUT POINT OF WATER PIPE LINE
- ⊗ ISOLATING VALVE/RSV
- SCOUR VALVE
- ⊕ DOUBLE AIR VALVE

No	Description	Date	By

REVISIONS

Approved by	Date
Drawn T Sondayi	Designed A.M
Checked A.M	Engineer T - Sondayi
Client App.	Date 20 Apr. 2020

Scale: As shown

FT CONSULTANTS
Civil & Structural Engineers

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7 Emke Street
Nelspruit
1200

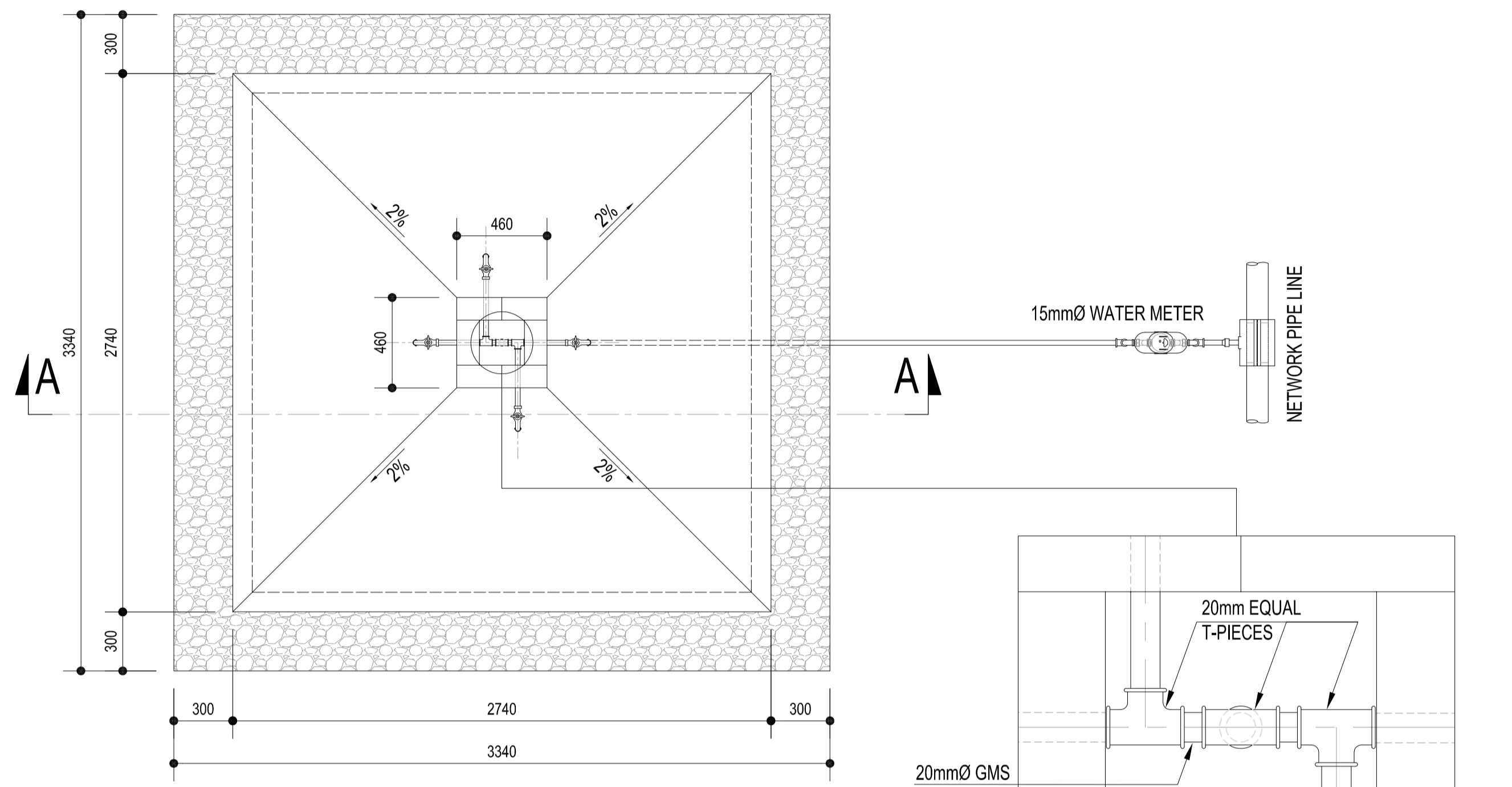
Title

KINROSS EXT 33 WATER TYPICAL
ISOLATINGVALVES PRECAST AND
BRICKWORK ARRANGEMENT

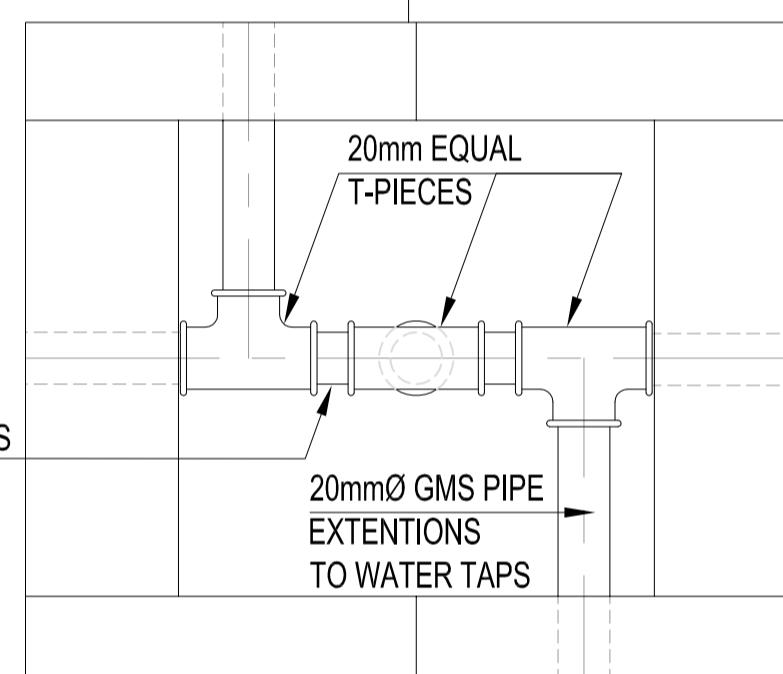
CIVIL WATER DRAWINGS

Project No
DHS/231/24/MP

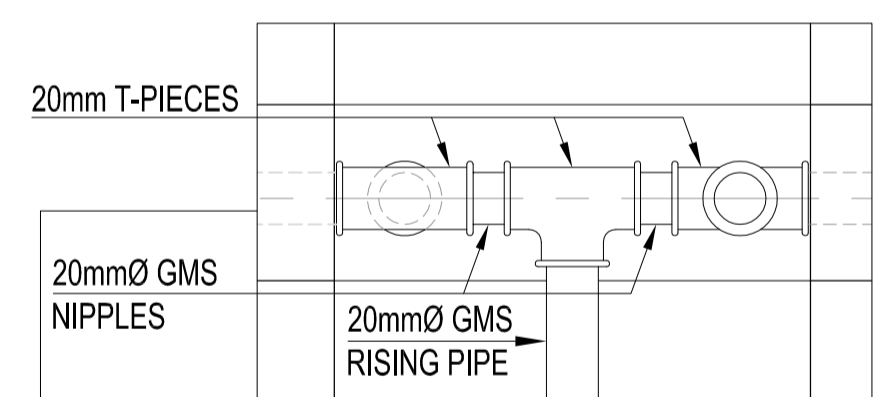
Drawing No
WATER 200
Rev No. 00



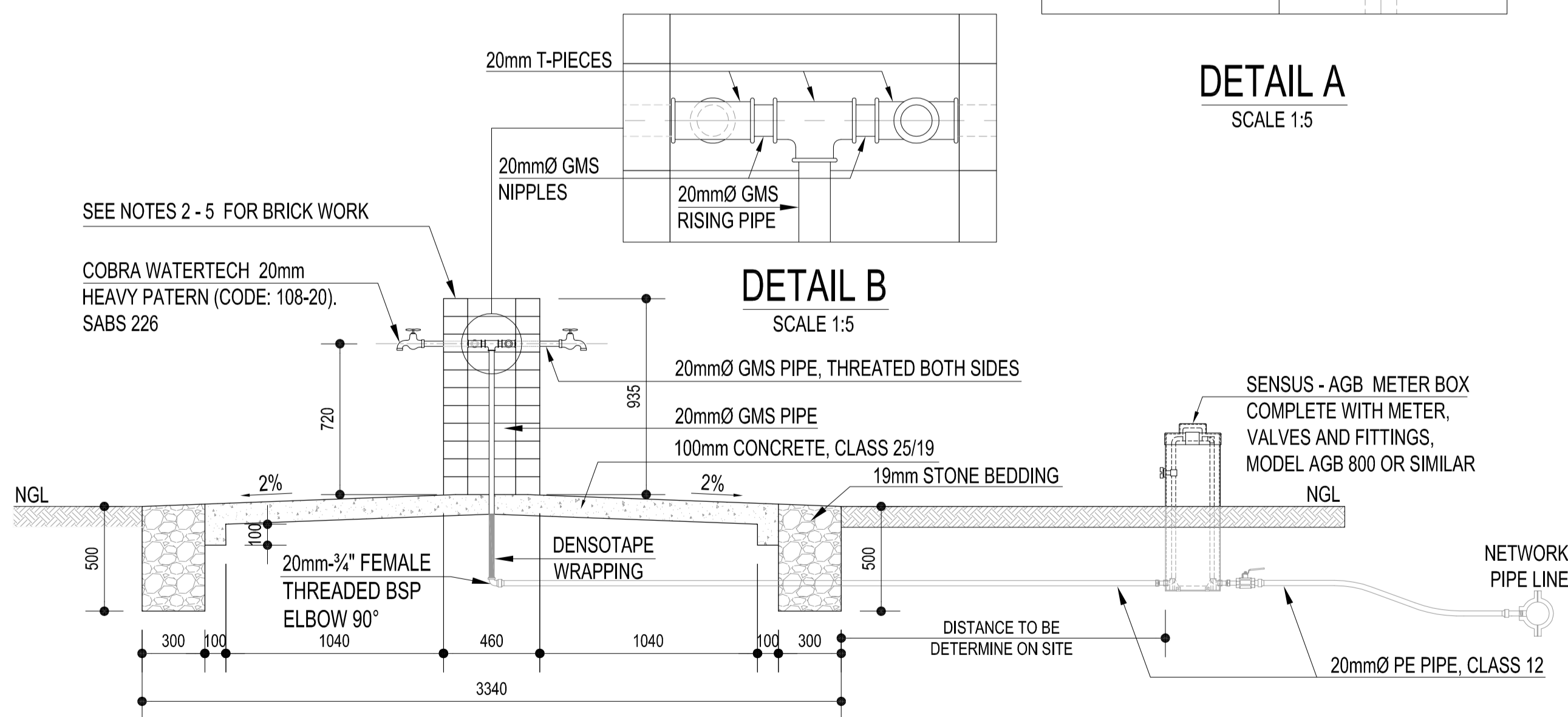
PLAN VIEW OF STAND PIPE
SCALE 1:30



DETAIL A
SCALE 1:5

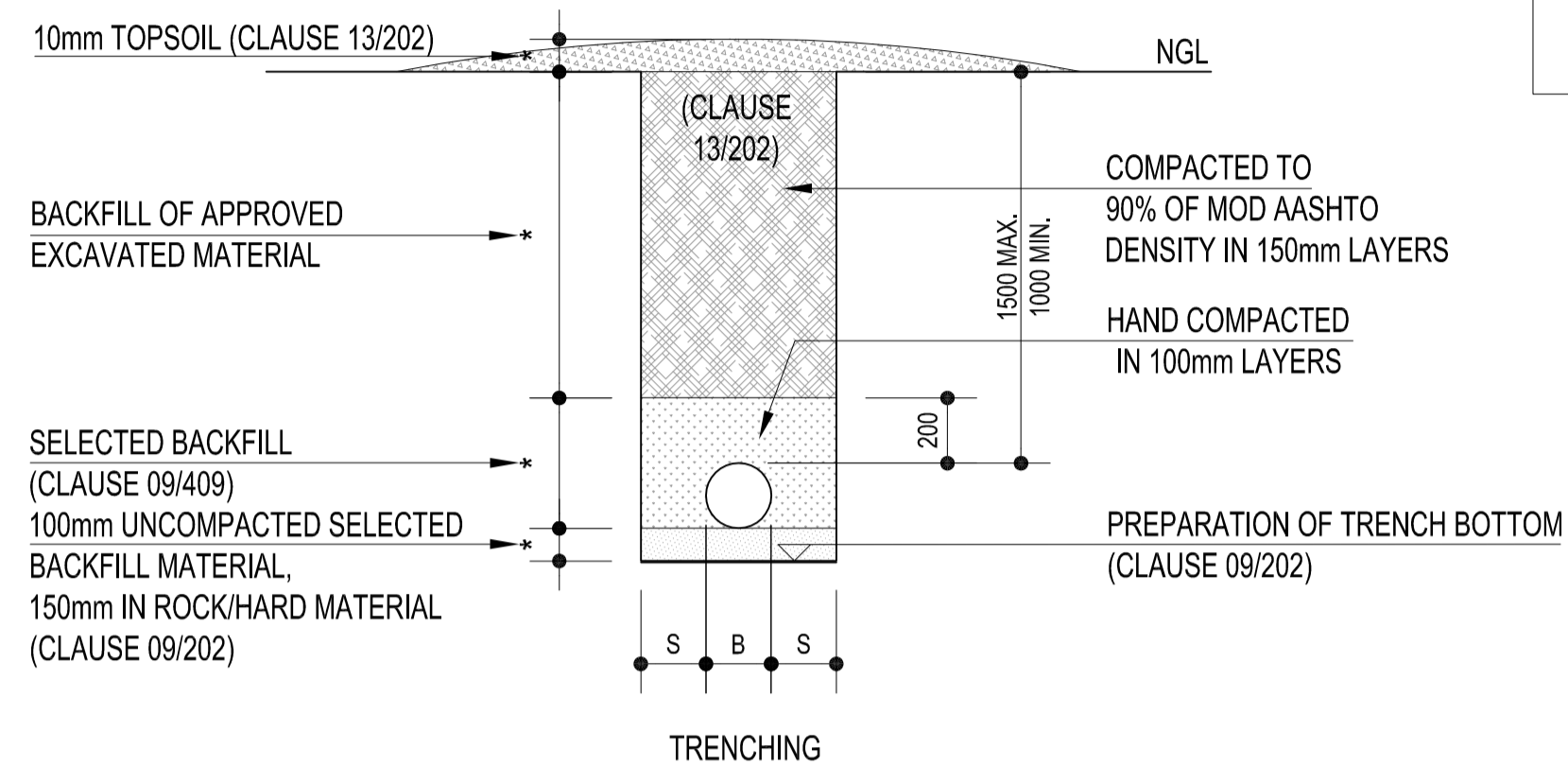


DETAIL B
SCALE 1:5

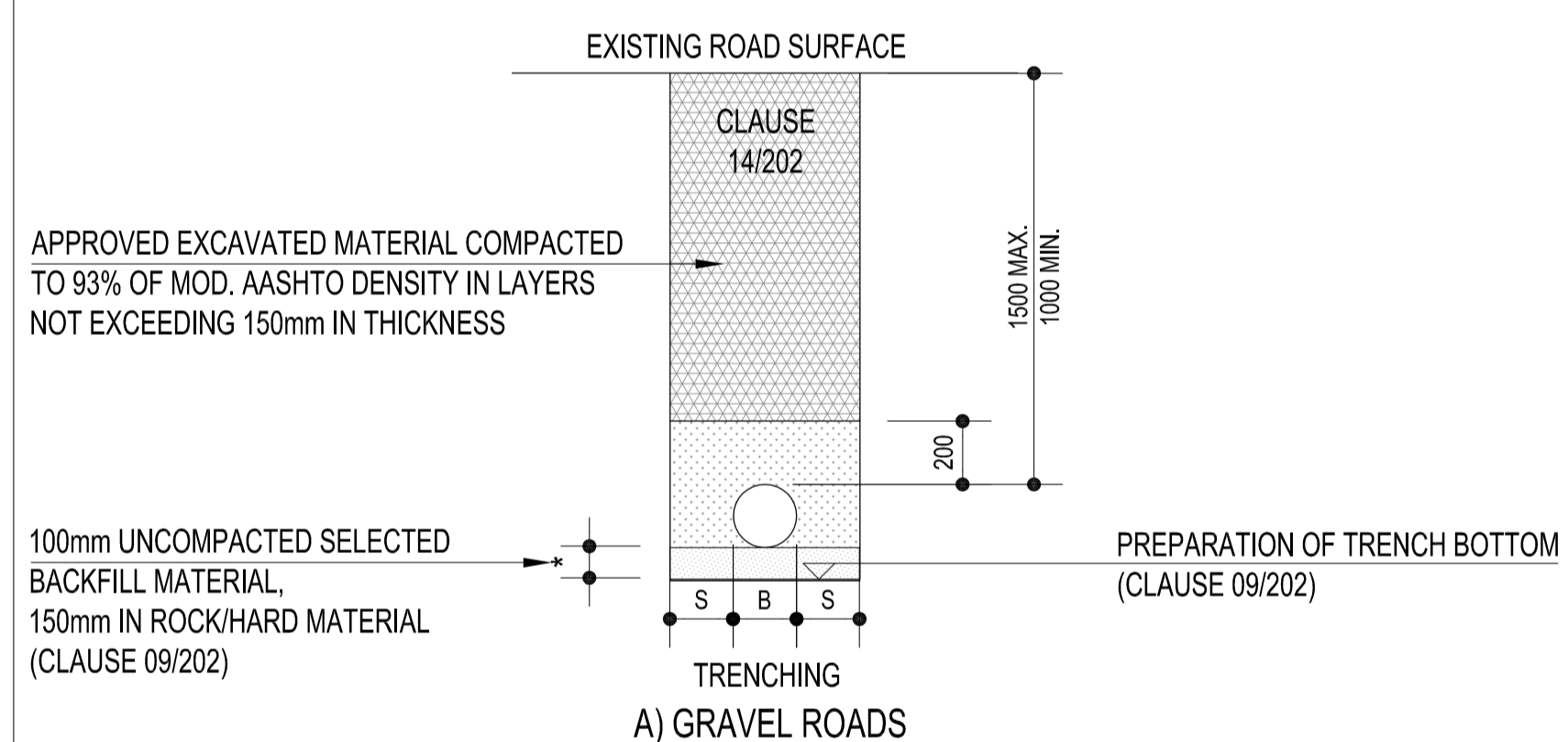


SECTION A-A
SCALE 1:30

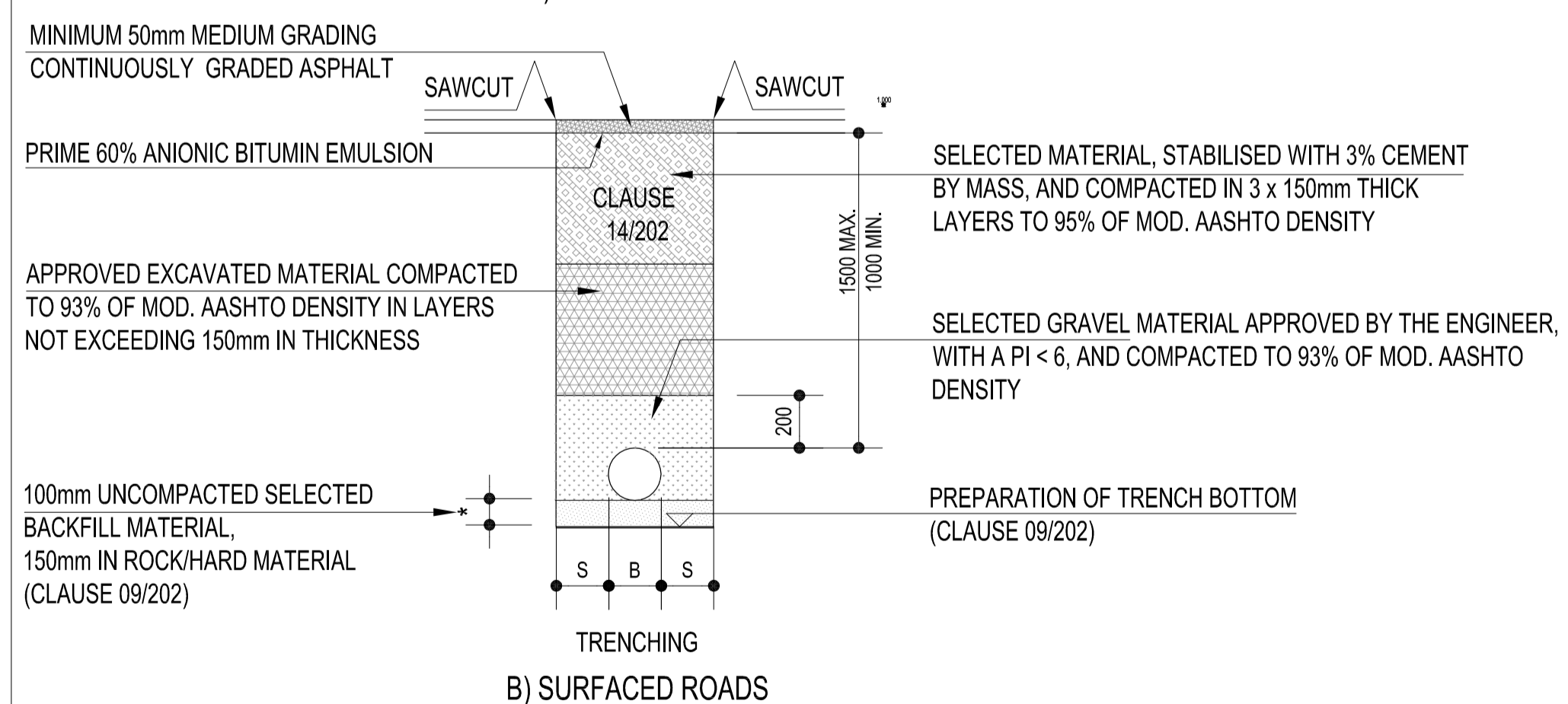
- NOTES :**
1. STEEL PIPES AND FITTINGS BELOW GROUND SHALL BE WRAPPED WITH DENSOTAPE OR SIMILAR, 30% OVERLAP.
 2. BRICKWORK TO BE IN ACCORDANCE WITH SANS 0164 : PART 1 - 1980.
 3. CLASS II MORTAR TO BE USED. (1 CEMENT CEM 1 : 5 SAND).
 4. BRICKS TO HAVE A CHARACTERISTIC COMPRESSIVE STRENGTH OF 14MPa.
 5. PROVIDE BRICKFORCE EVERY SECOND LAYER.



TYPICAL BEDDING AND BACKFILL DETAILS FOR WATER PIPES - SIDE WALKS
SCALE 1:30



A) GRAVEL ROADS



B) SURFACED ROADS

TYPICAL BEDDING AND BACKFILL DETAILS FOR WATER PIPES - ROAD CROSSINGS
SCALE 1:30

- LEGEND:**
- S = WORKING SPACE EACH SIDE OF PIPE, MIN. 200mm CLAUSE 04.01/202
 - B = OD OF PIPE.
 - CLAUSE 00/999 = REFERENCE IN STANDARD SPECIFICATION (CLAUSE NUMBER / SECTION NUMBER)

LEGEND:

- PI SETTING OUT POINT OF WATER PIPE LINE
- ⊗ ISOLATING VALVE/RSV
- ⊕ SCOUR VALVE
- ⊕ DOUBLE AIR VALVE

No	Description	Date	By

REVISIONS

Approved by		Date	
Drawn	T Sondayi	Designed	A.M
Checked	A.M	Engineer	T - Sondayi
Client App.		Date	20 Apr. 2020

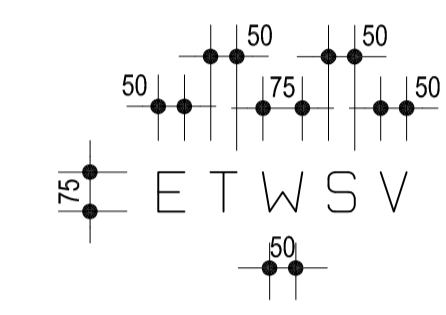
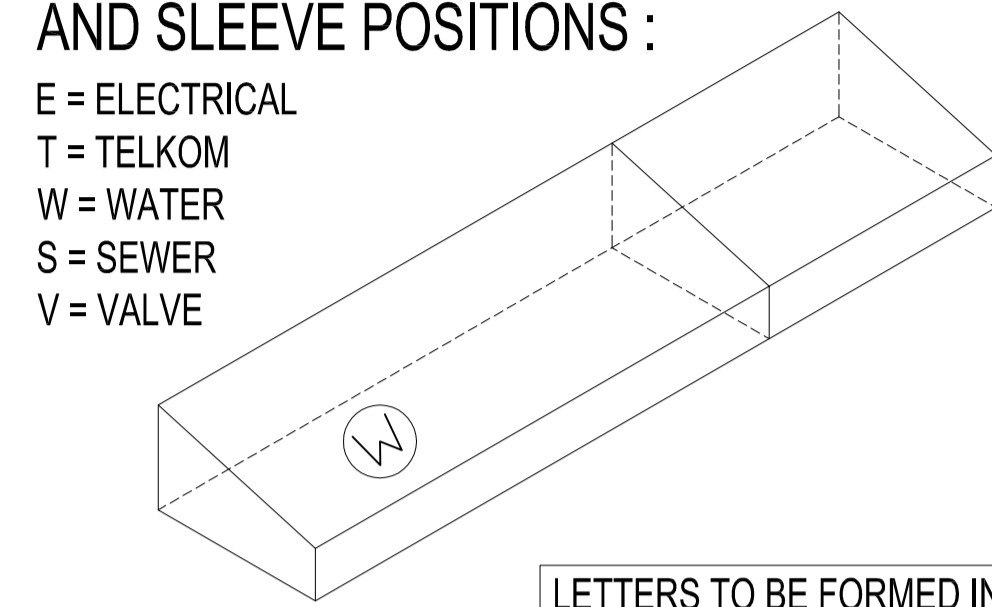
Scale: As shown

Title
KINROSS EX 33 WATER STAND PIPE WITH SINGLE WATER METER & TYPICAL BEDDING AND BACKFILL DETAILS FOR WATER PIPES

CIVIL WATER DRAWINGS	
Project No	DHS/231/24/MP
Drawing No	WATER 200
Rev No	00

IDENTIFICATION OF PIPE AND SLEEVE POSITIONS :

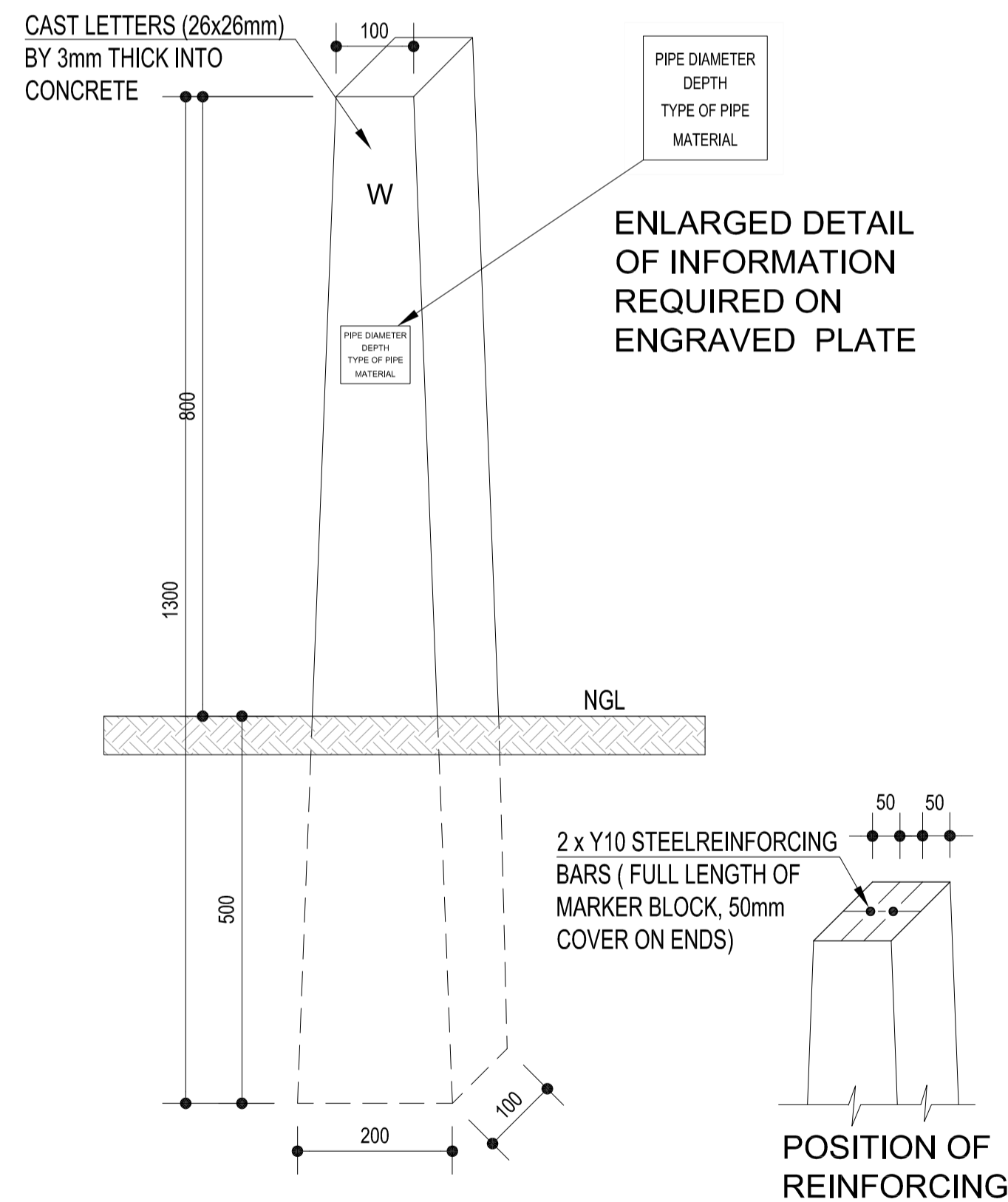
E = ELECTRICAL
T = TELKOM
W = WATER
S = SEWER
V = VALVE



LETTERS TO BE FORMED IN CONCRETE BEFORE IT SETS.
LETTERS TO BE 5mm WIDE AND DEEP

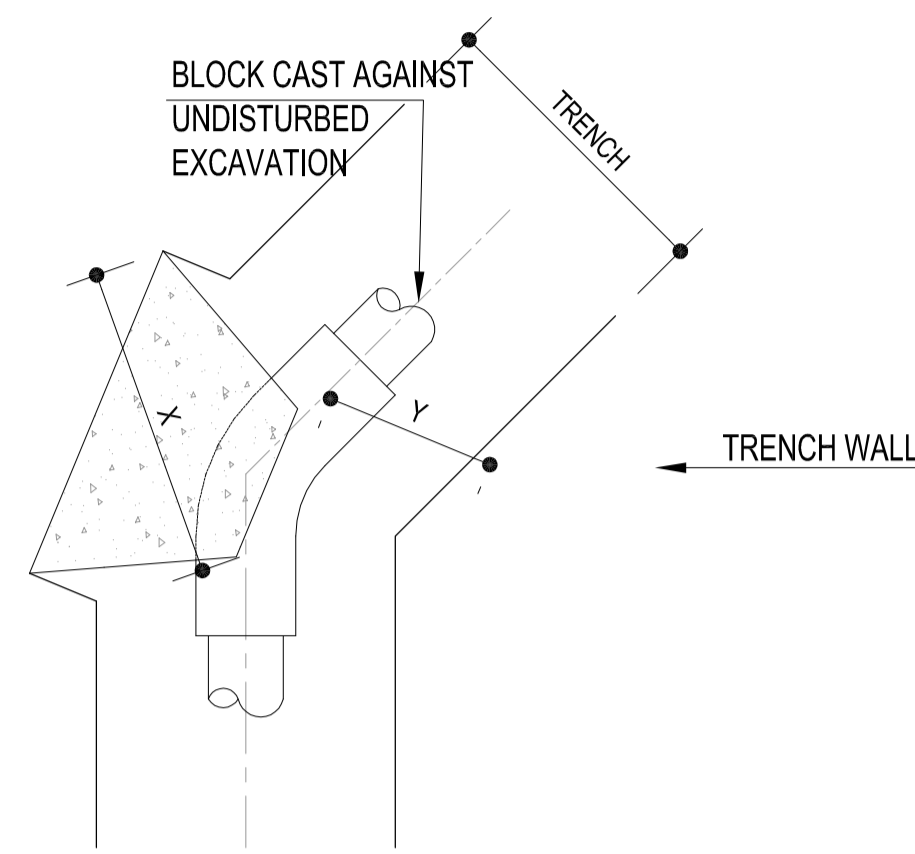
MARKERS ON CONCRETE KERBS

SCALE 1:10



CONCRETE MARKER BLOCK

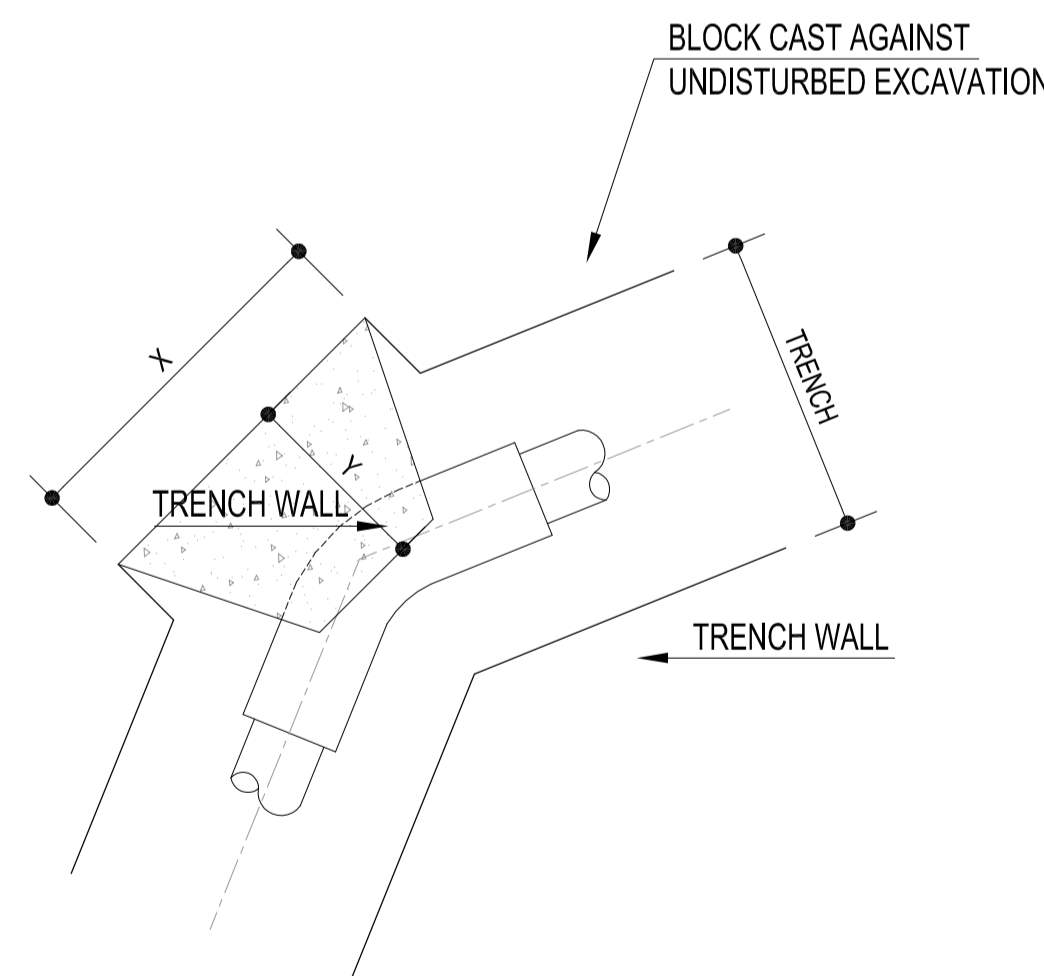
SCALE 1:10



THRUST BLOCK FOR 45° BEND

SCALE 1:30

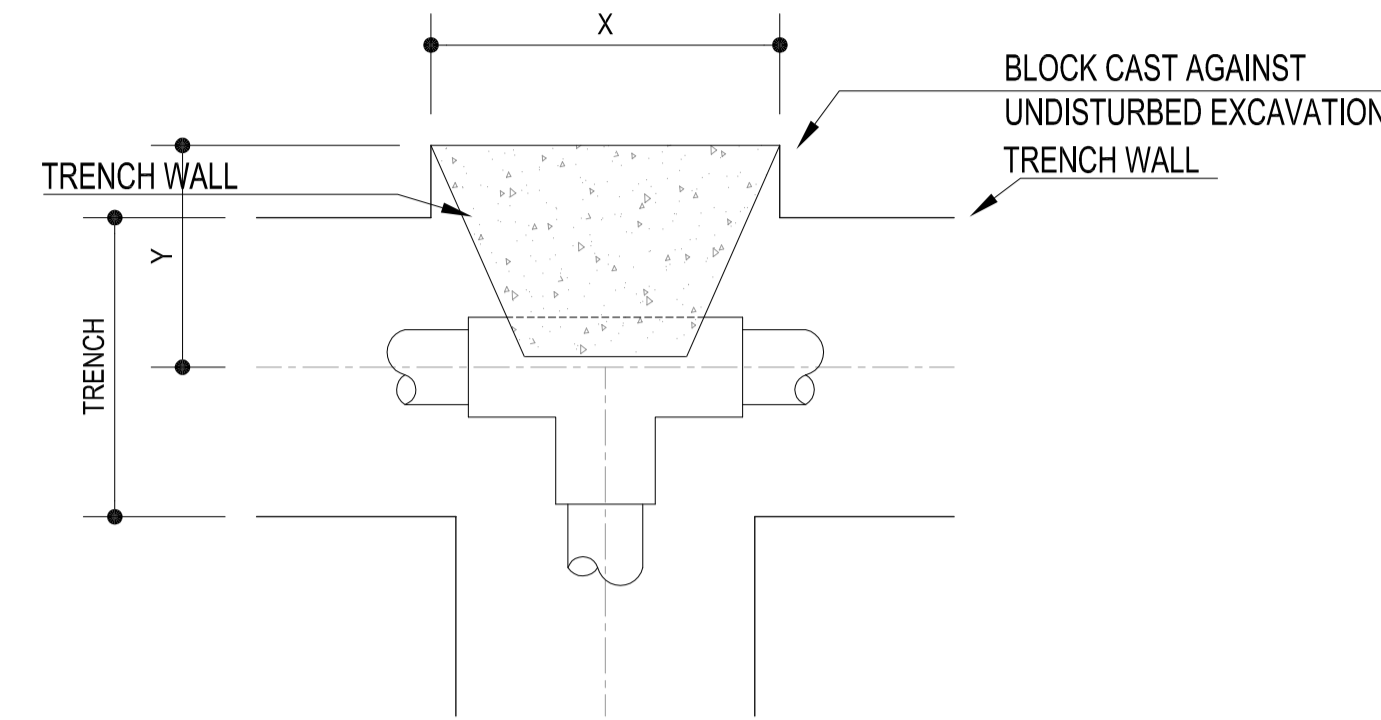
NOMINAL PIPE DIAMETER ϕ (mm)	AREA REQUIRED m ²	DIMENSIONS (mm)				AREA PROVIDED m ²	VOL (m ³)
		D	Z	X	Y		
75	0.061	800	400	450	225	0.180	0.040
100	0.109	1 000	500	500	250	0.250	0.060
150	0.245	1 000	500	1000	500	0.500	0.250
200	0.435	1 200	600	1400	700	0.840	0.590
250	0.680	1 300	650	2000	1000	1.300	1.300
300	0.979	1 400	700	2600	1300	1.820	2.370
300+	SEE NOTE 5						



THRUST BLOCK FOR 22½° BEND

SCALE 1:10

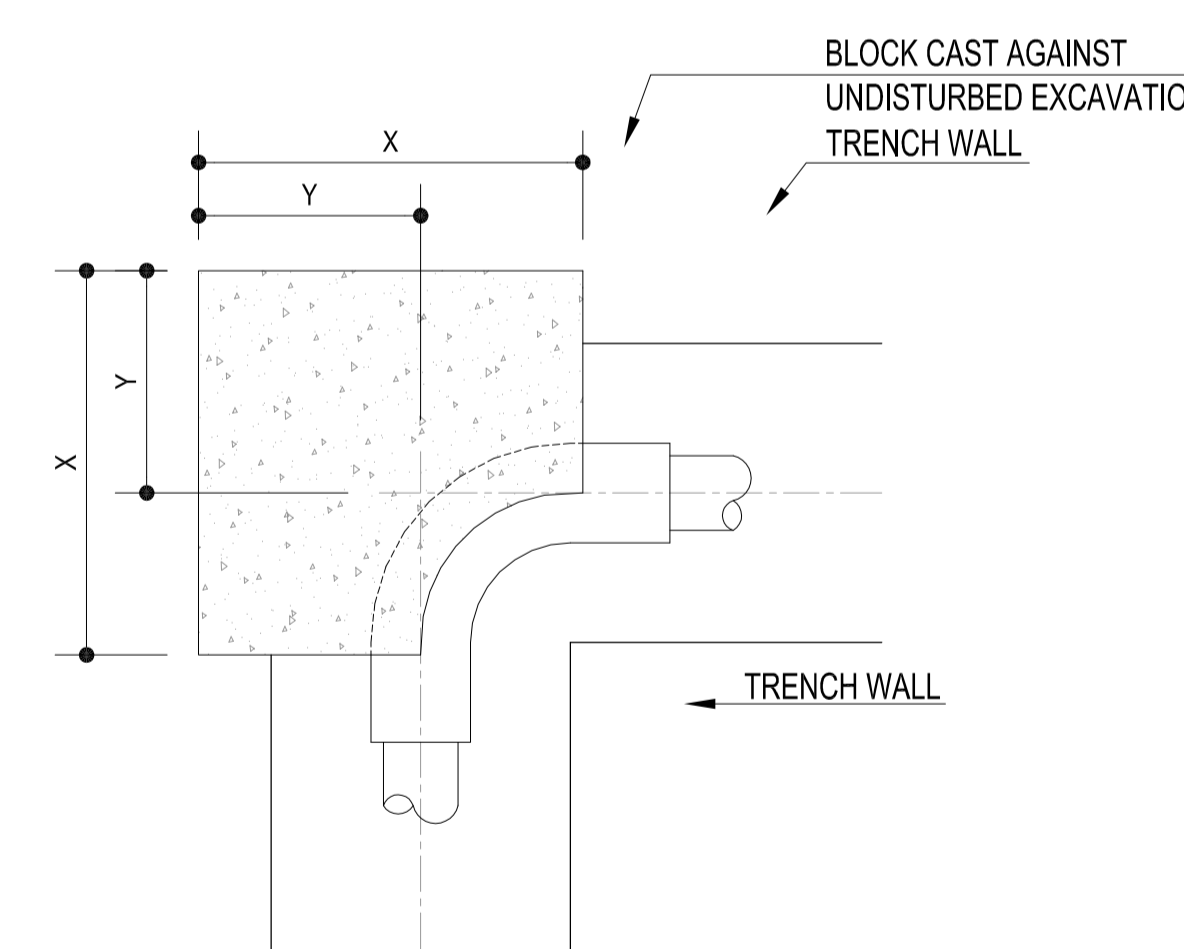
NOMINAL PIPE DIAMETER ϕ (mm)	AREA REQUIRED m ²	DIMENSIONS (mm)				AREA PROVIDED m ²	VOL (m ³)
		D	Z	X	Y		
75	0.031	800	400	400	200	0.1600	0.032
100	0.055	1 000	500	500	250	0.2500	0.063
150	0.124	1 000	500	500	250	0.2500	0.063
200	0.220	1 200	600	600	300	0.3600	0.108
250	0.344	1 300	650	650	325	0.4225	0.137
300	0.496	1 400	700	800	400	0.5600	0.224
300+	SEE NOTE 5						



THRUST BLOCK FOR TEE-PIECE

SCALE 1:30

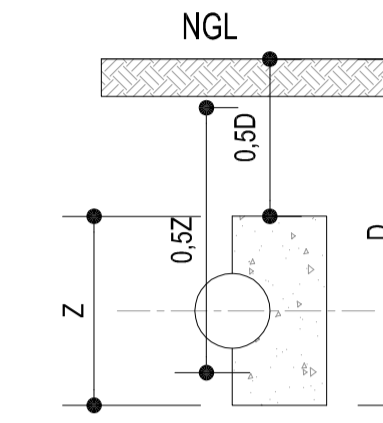
NOMINAL PIPE DIAMETER ϕ (mm)	AREA REQUIRED m ²	DIMENSIONS (mm)				AREA PROVIDED m ²	VOL (m ³)
		D	Z	X	Y		
75	0.080	800	400	400	200	0.160	0.032
100	0.141	1 000	500	500	250	0.250	0.063
150	0.318	1 000	500	700	350	0.350	0.123
200	0.565	1 200	600	1000	500	0.600	0.300
250	0.883	1 300	650	1400	700	0.910	0.637
300	1.272	1 400	700	1900	950	1.330	1.264
300+	SEE NOTE 5						



THRUST BLOCK FOR 90° BEND

SCALE 1:30

NOMINAL PIPE DIAMETER ϕ (mm)	AREA REQUIRED m ²	DIMENSIONS (mm)				AREA PROVIDED m ²	VOL (m ³)
		D	Z	X	Y		
75	0.113	800	400	450	225	0.18	0.065
100	0.201	1 000	500	500	250	0.25	0.100
150	0.451	1 000	500	1 000	500	0.50	0.402
200	0.803	1 200	600	1 400	700	0.84	0.945
250	1.254	1 300	650	2 000	1000	1.30	2.089
300	1.806	1 400	700	2 600	1 300	1.82	3.803
300+	SEE NOTE 5						



TYPICAL SECTION

SCALE 1:30

NOTES :
CONCRETE THRUST BLOCKS

- THRUST BLOCK DIMENSIONS ON THIS DRAWING ARE ONLY APPLICABLE UNDER THE FOLLOWING CONDITIONS:
* UNDISTURBED SAND-GROUND MIXTURES OR DENSE UNIFORM SAND WITH A BEARING CAPACITY OF AT LEAST 150kPa.
* UNSUBMERGED CONDITIONS.
* MAXIMUM INTERNAL PIPE PRESSURE OF 18 Bar.
IF THE CONTRACTOR IS NOT IN A POSITION TO IDENTIFY THE ABOVE CONDITIONS, USE SHALL BE MADE OF AN ENGINEERING GEOLOGIST OR ENGINEER. IN ALL OTHER CONDITIONS THE ACTUAL INSITU BEARING PRESSURE SHALL BE CALCULATED AND THE THRUST BLOCK DESIGNED BY THE ENGINEER.
- USE 10 MPa CONCRETE.
- HALF THE DEPTH OF THE THRUST BLOCK TO BE PLACED BELOW THE PIPE AXIS.
- KEEP CONCRETE AWAY FROM THE COUPLINGS & THE PIPE JOINTS.
- THRUST BLOCKS FOR PIPE ϕ LARGER THAN 300mm & HIGHER TEST PRESSURES THAN 18 BAR SHALL BE DESIGNED BY THE ENGINEER.
- THRUST BLOCKS AT PUDDLE FLANGES SHALL BE REINFORCED & DESIGNED BY THE ENGINEER.

CONCRETE MARKER BLOCKS

- PLATE TYPE AND SIZE TO BE USED:
80 x 80 x 2mm ALUMINIUM PLATE.
- CONCRETE STRENGTH TO BE 25 MPa.

LEGEND:

- PI SETTING OUT POINT OF WATER PIPE LINE
- ⊗ ISOLATING VALVE/RSV
- ⊗ SCOUR VALVE
- ⊗ DOUBLE AIR VALVE

No	Description	Date	By

REVISIONS

Approved by		Date	
Drawn T. Sundayi	Designed A.M		
Checked A.M	Engineer T - Sundayi		
Client App.	Date 20 Apr. 2020		

Scale: As shown



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Nelspruit
1200

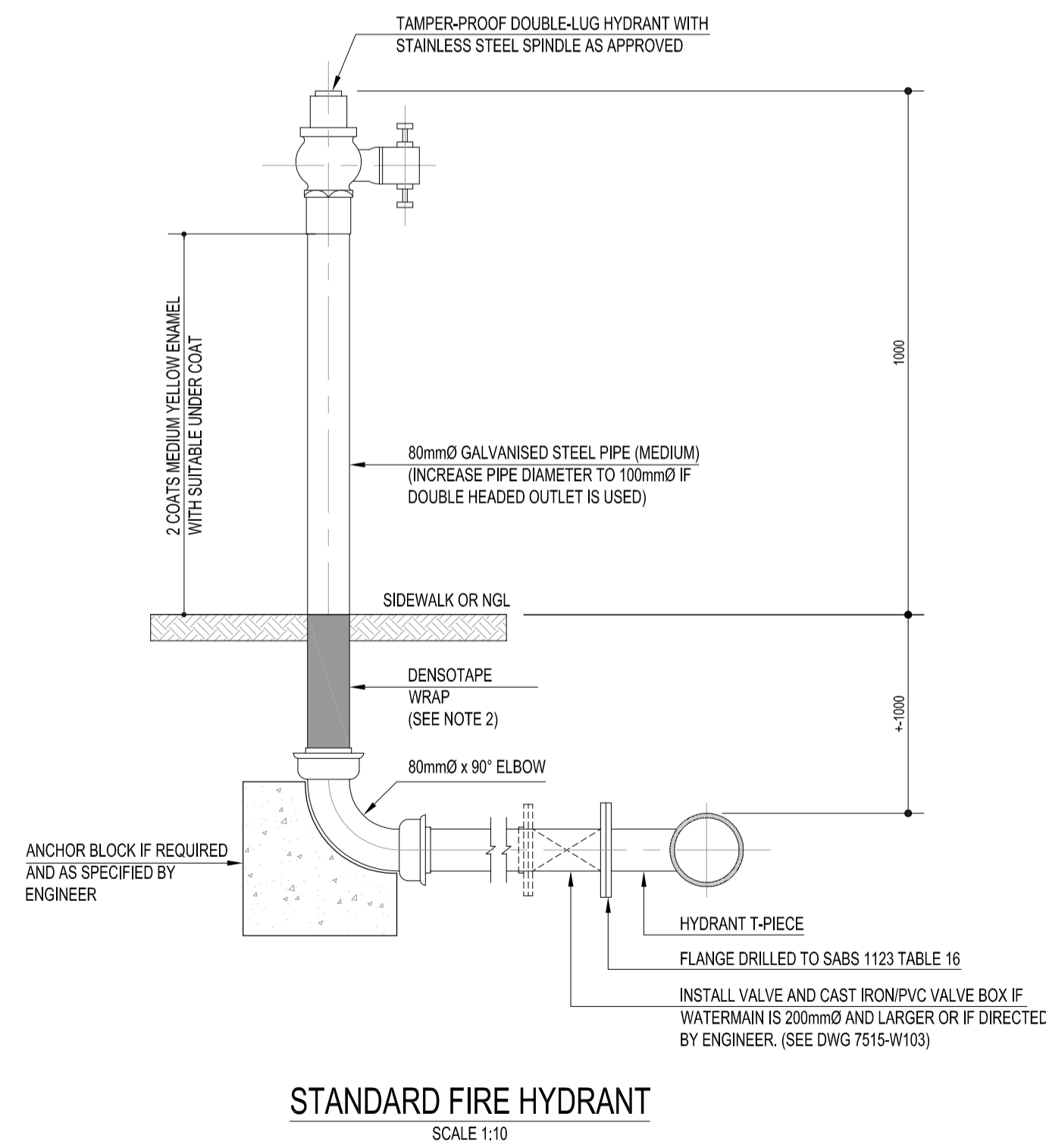
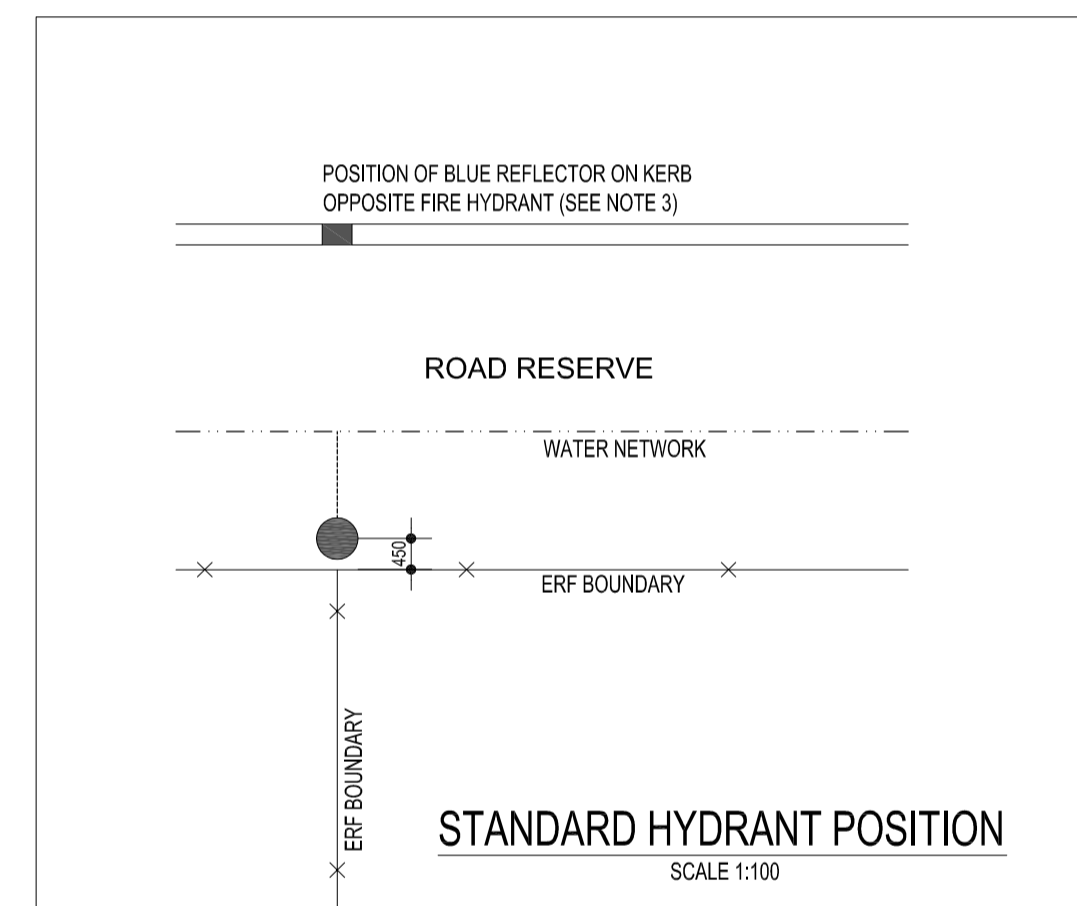
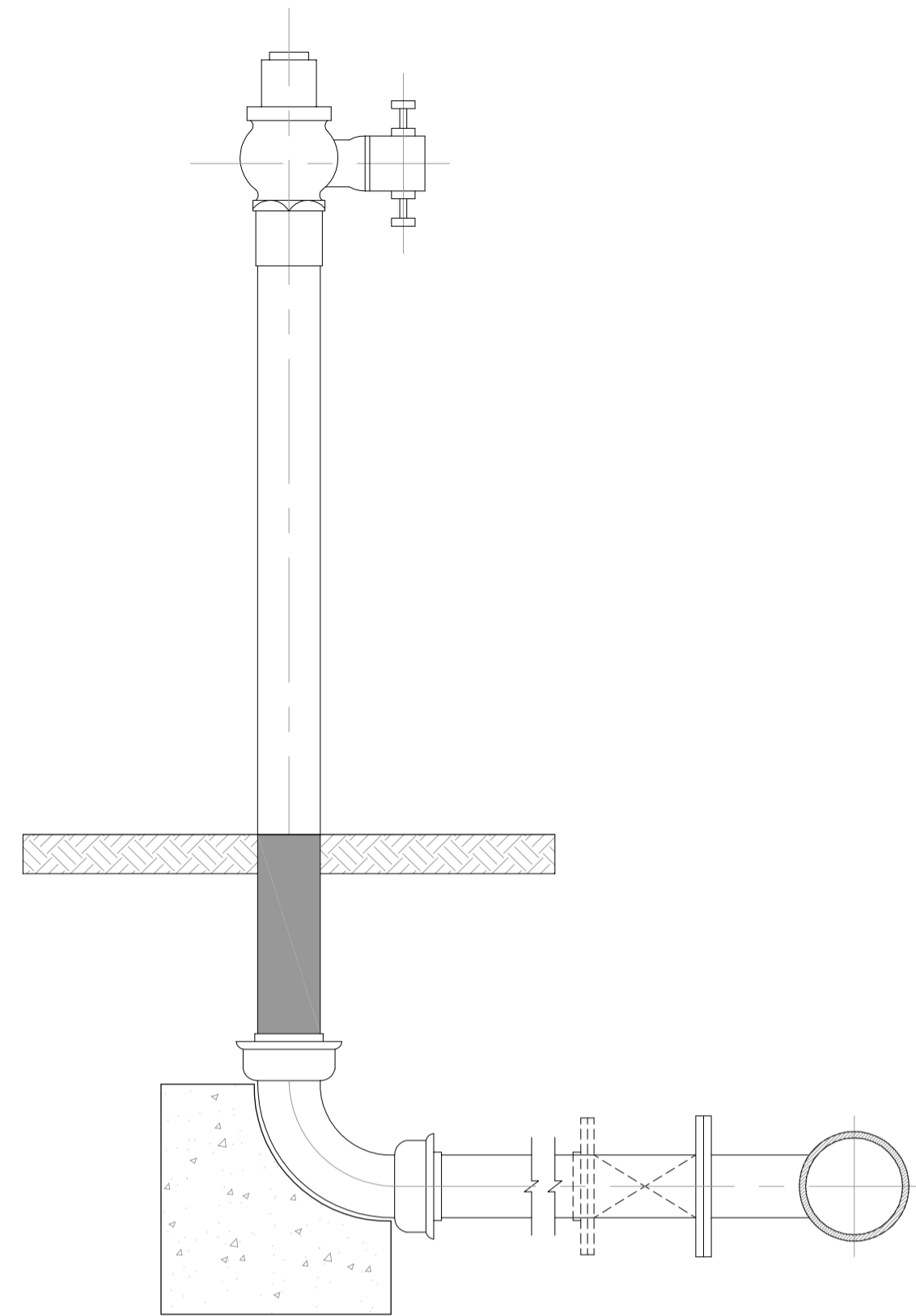
Title
KINROSS EXT 33 WATER THRUST BLOCKS AND MARKERS

CIVIL WATER DRAWINGS

Project No
DHS/231/24/MP

Drawing No
WATER 200

Rev No
00



- NOTES :**
- HYDRANTS MUST BE LOCATED IN COLLABORATION WITH THE CITY ELECTRICAL ENGINEERS DEPT. TO PRECLUDE CLASHES WITH ELECTRICAL HOUSE CONNECTION BOXES.
 - STEEL PIPES AND FITTINGS BELOW GROUND SHALL BE WRAPPED WITH DENSOTAPE OR SIMILAR, 30% OVERLAP.
 - POSITION OF REFLECTOR CAN VARY TO AFFORD BEST VISIBILITY.

LEGEND:

- P| SETTING OUT POINT OF WATER PIPE LINE
- ⊗ ISOLATING VALVE/RSV
- ⊗ SCOUR VALVE
- ⊕ DOUBLE AIR VALVE

No	Description	Date	By

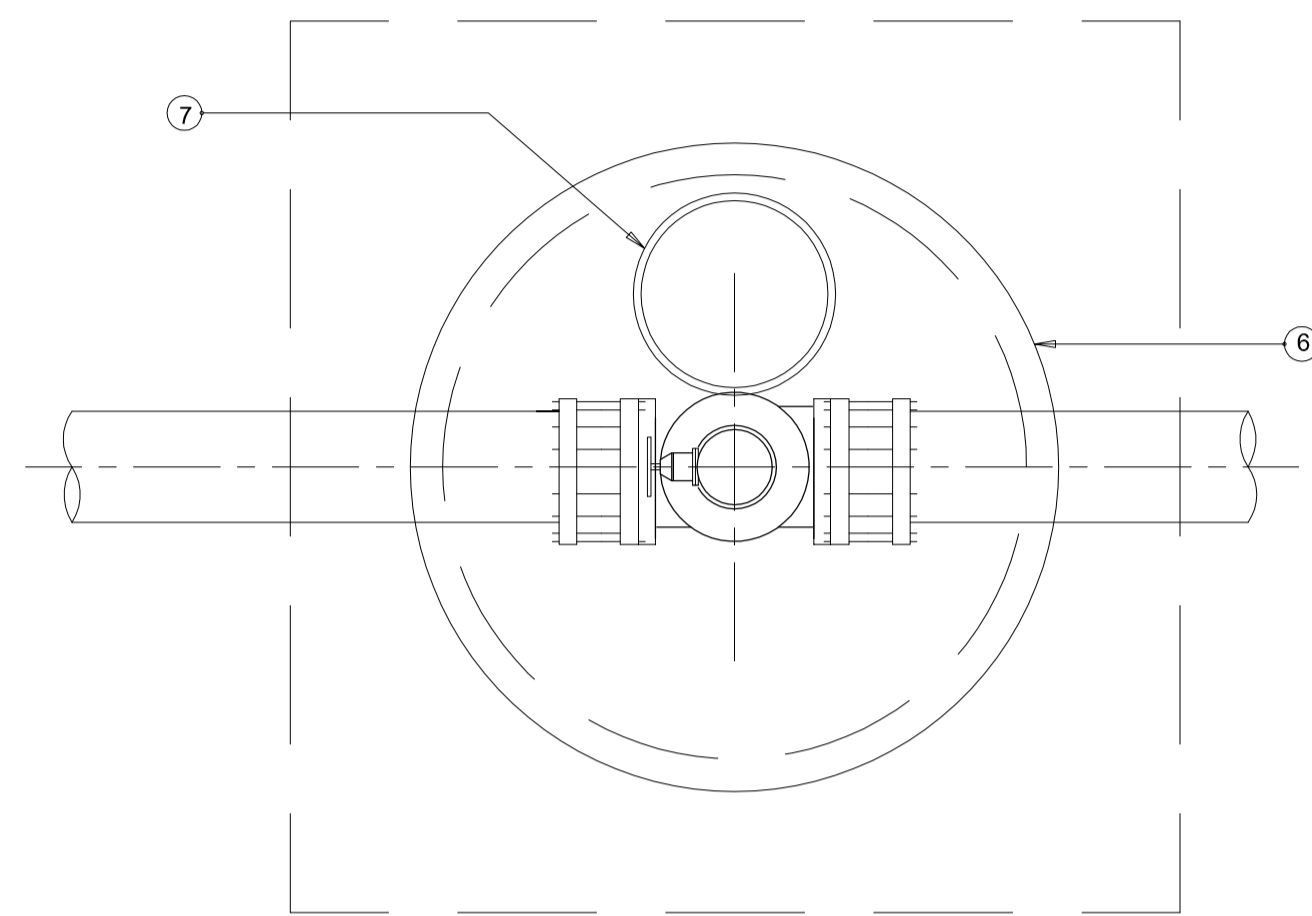
REVISIONS

No	Description	Date	By

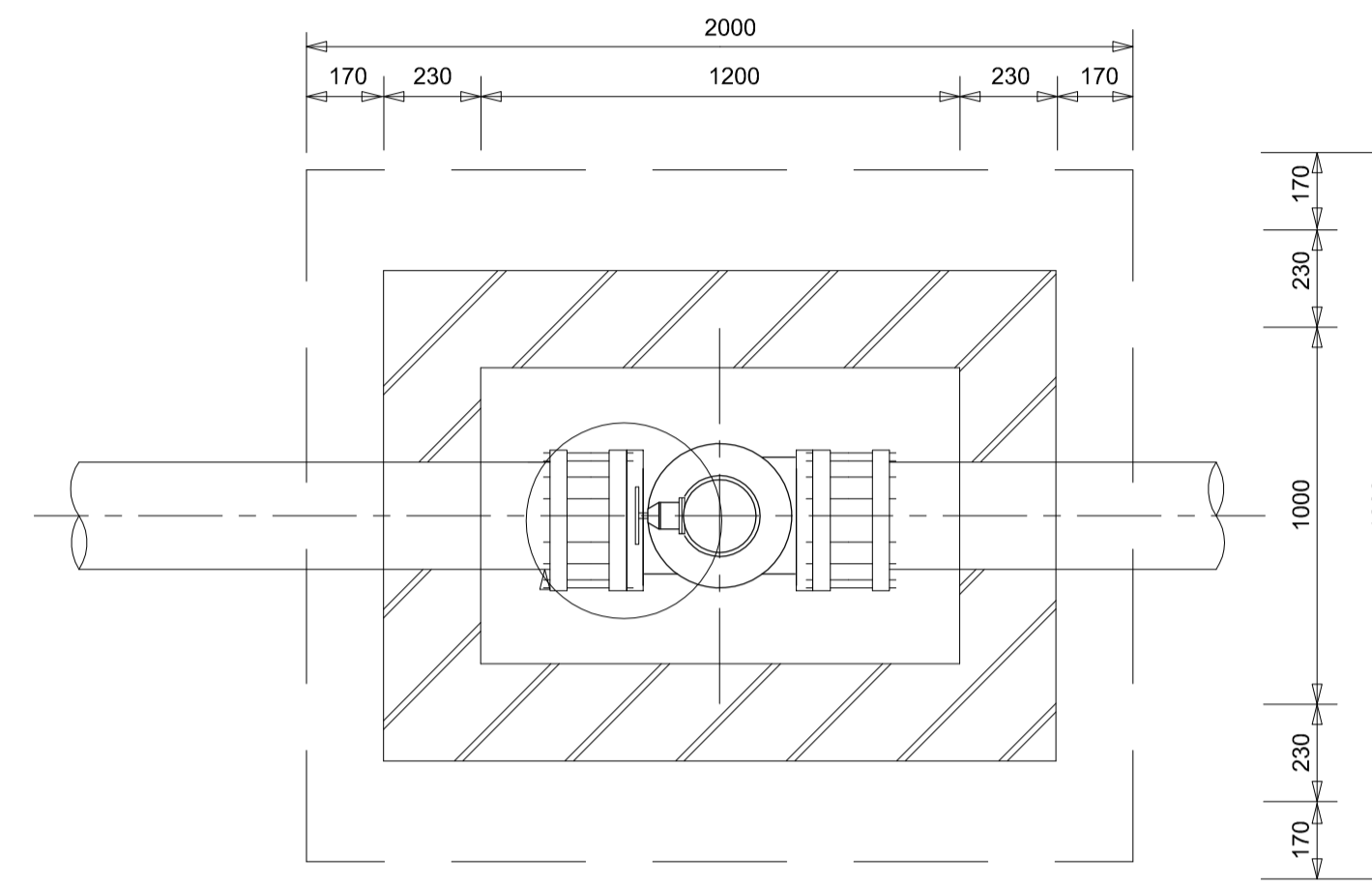
Scale: As shown

Title
**KINROSS EXT 33 WATER
STANDARD FIRE HYDRANTS**

CIVIL WATER DRAWINGS
Project No: DHS/231/24/MP
Drawing No: WATER 200
Rev No: 00



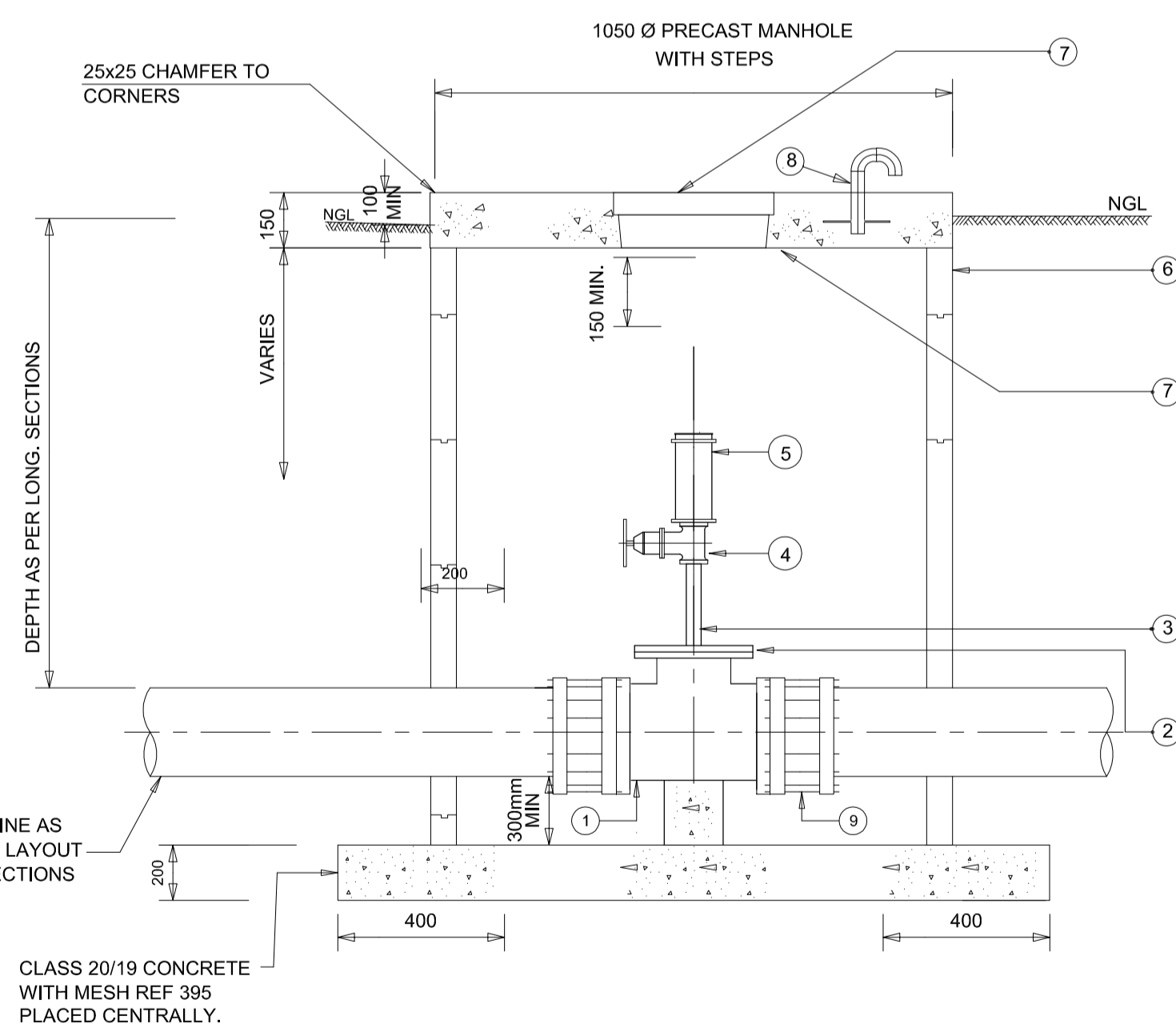
PLAN ELEVATION



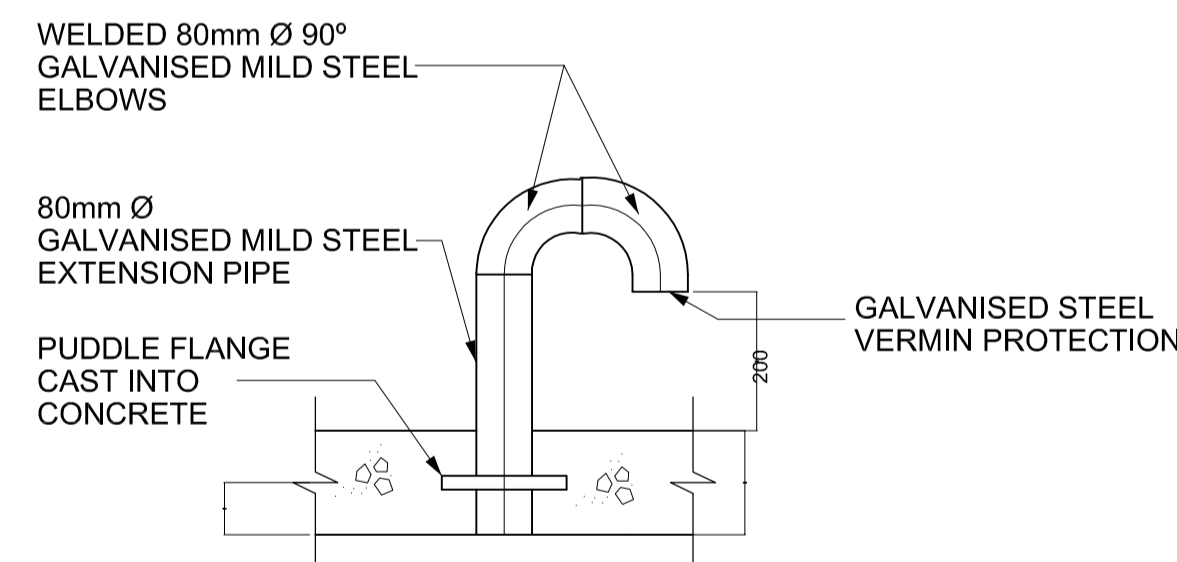
PLAN ELEVATION

SCHEDULE OF FITTINGS

1. IN-LINE REDUCING TEE: FLANGED BRANCH LARGER THAN 60% OF MAIN SUPPLY LINE WITH END PREPARATION TO SABS 1123 TABLE 1000/3
2. BLANK FLANGE TAPPED FOR * mm DIA. GALVANISED MILD STEEL PIPE, DIAMETER OF FLANGE SAME AS FOR TEE OUTLET FLANGE
3. * ND GALVANISED MILD STEEL PIPE THREADED BOTH ENDS: LENGTH TO SUIT, SCREWED INTO BLANK FLANGE
4. * ND SCREWED BSB FULLWAY GATE VALVE : CLASS 10 BAR
5. ND 'VENT-O-MAT' SERIES RBX OR SIMILAR APPROVED.
6. PRECAST MANHOLE RINGS
7. SABS 558-1978 TYPE 2A MANHOLE FRAME SET IN REINFORCED CONCRETE SLAB WITH A TYPE B ROUND REPLACEMENT CONCRETE COVER WITH LIFTING EYES
8. AIR VENT
9. VIKING JOHNSON COUPLING TO SUIT FLANGES DRILLED TO SABS 1123 TABLE 1000/3

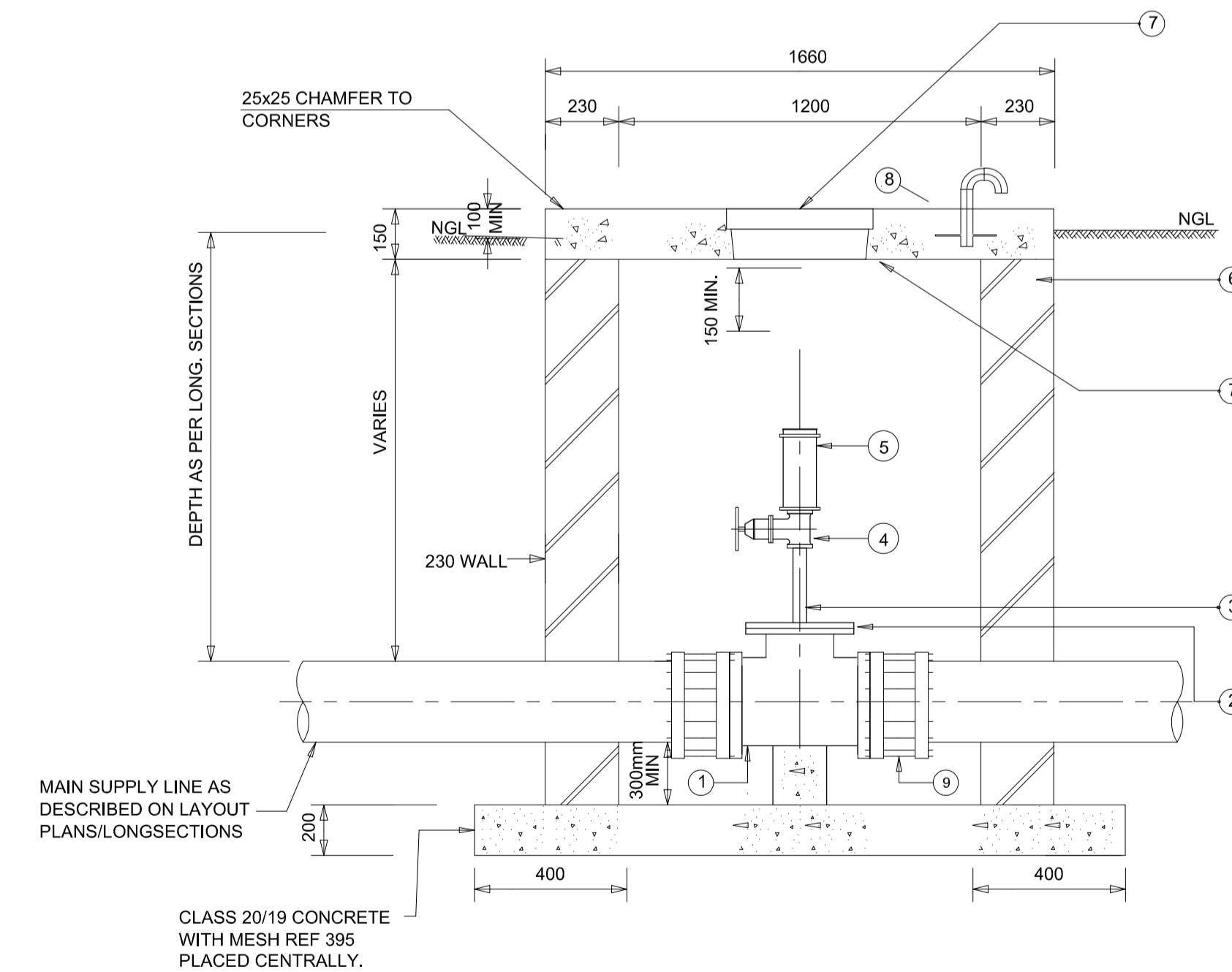


PRECAST ARRANGEMENT SECTIONAL VIEW



AIR VENT DETAIL
SCALE 1:10

NOTE:
UNIT GALVANISED
AFTER WELDING



BRICKWORK ARRANGEMENT SECTIONAL VIEW

GENERAL NOTES

1. CONTRACTOR TO PROVIDE VALVE AND SPECIAL'S MANUFACTURER'S DETAILS TO CONFIRM APPROVAL PRIOR TO CONSTRUCTION.
2. DETAIL TO BE CONSTRUCTED, REGARDING THE BRICKWORK OR PRE-CAST ARRANGEMENT, MUST BE CONFIRMED BEFORE CONSTRUCTION COMMENCES.

LEGEND:

- PI SETTING OUT POINT OF WATER PIPE LINE
- ⊗ ISOLATING VALVE/RSV
- ⊕ SCOUR VALVE
- ⊕ DOUBLE AIR VALVE

No	Description	Date	By

REVISIONS

Approved by		Date	
Drawn	T Sondayi	Designed	A.M
Checked	A.M	Engineer	T - Sondayi
Client App.		Date	20 Apr. 2020

Scale: As shown



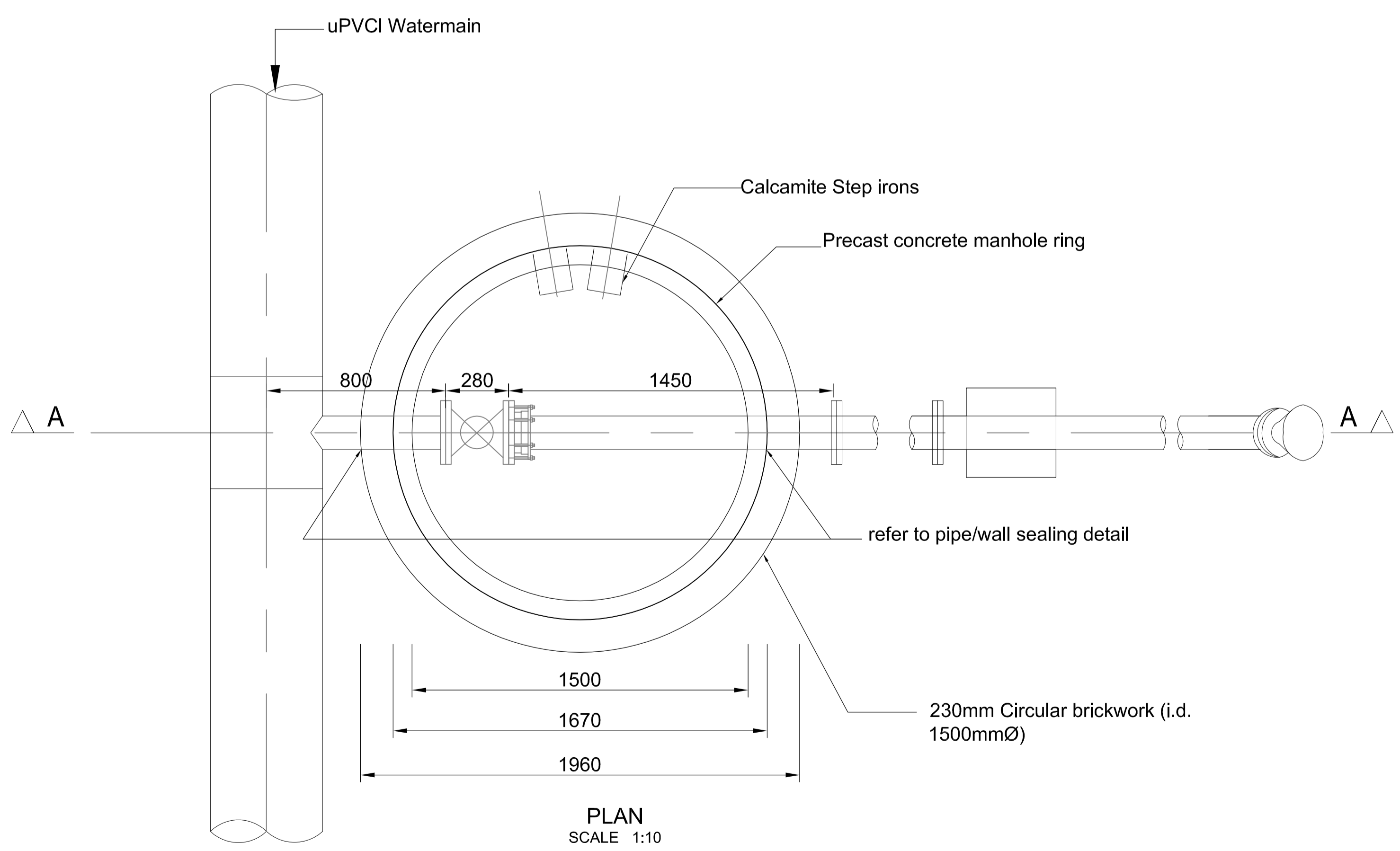
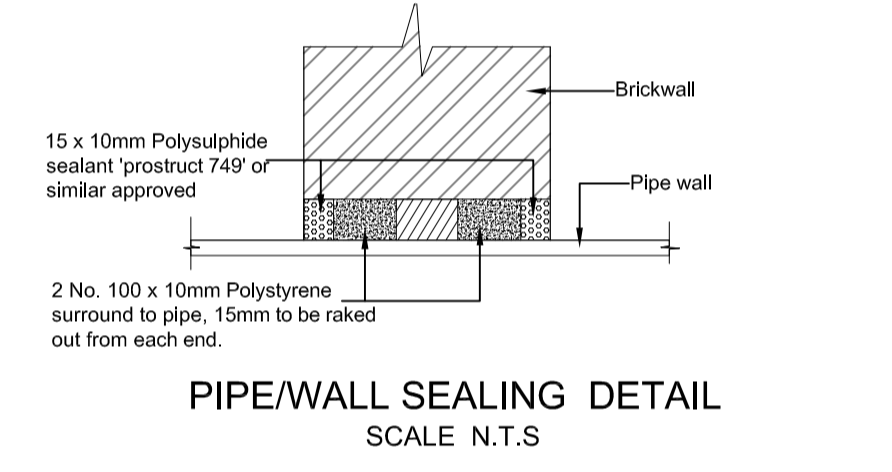
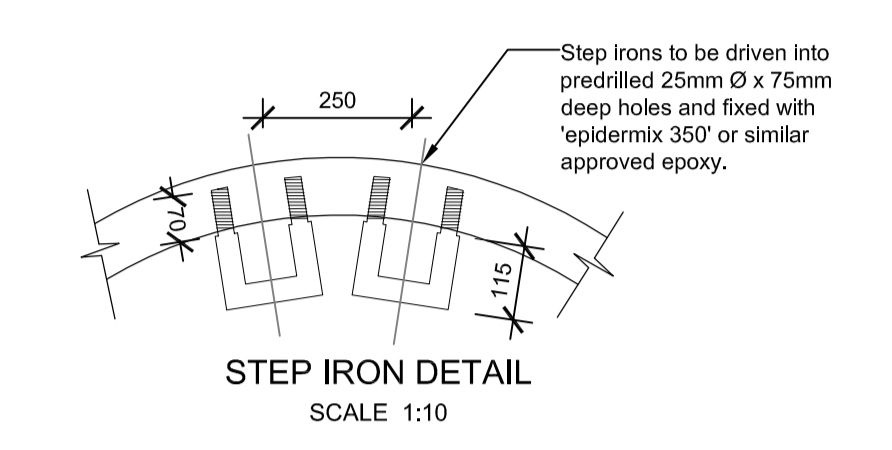
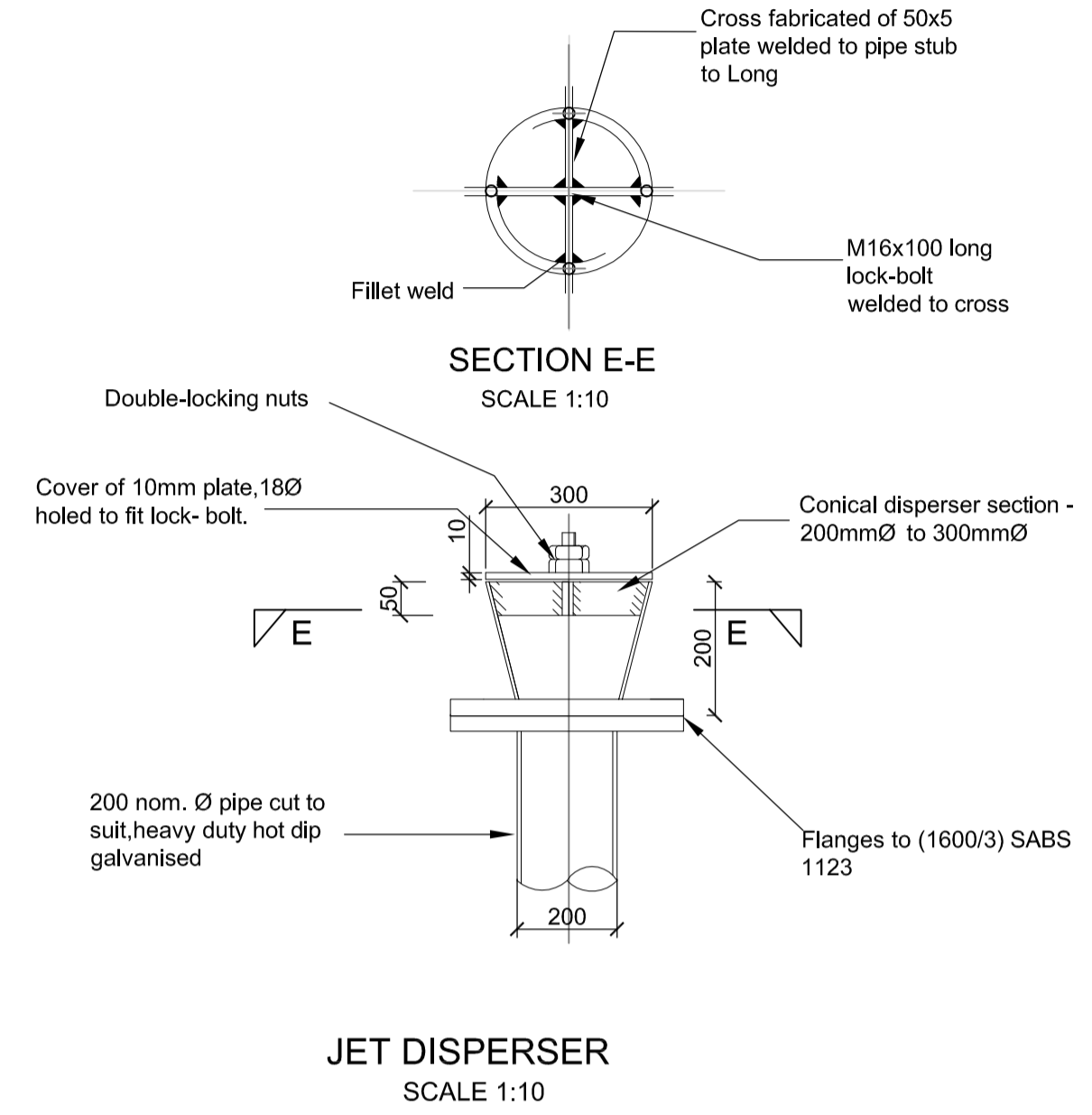
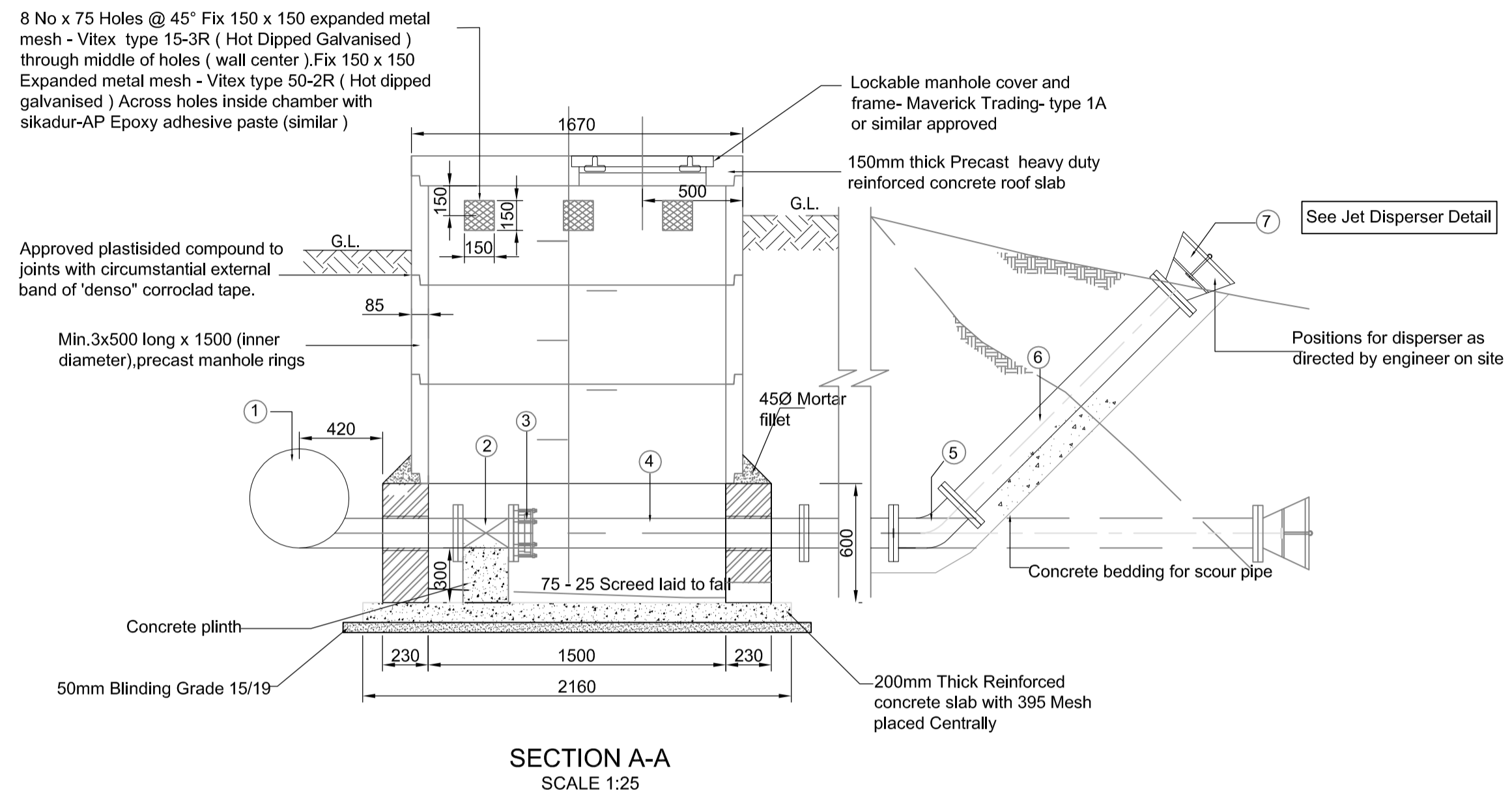
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Nelspruit
1200

Title
KINROSS EXT 33 WATER TYPICAL AIR VALVE PRECAST AND BRICKWORK ARRANGEMENT

CIVIL WATER DRAWINGS

Project No
DHS/231/24/MP

Drawing No
WATER 200
Rev No. 00



NOTE:
All joints between manhole rings to be sealed with 'expandix butyl 300' with root inhibitor or similar approved.

LEGEND:

- PI SETTING OUT POINT OF WATER PIPE LINE
- ⊗ ISOLATING VALVE/RSV
- SCOUR VALVE
- ⊥ DOUBLE AIR VALVE

No	Description	Date	By
REVISIONS			
Approved by		Date	
Drawn T Sondayi	Designed A.M		
Checked A.M	Engineer T - Sondayi		
Client App.	Date 20 Apr. 2020		

Scale: As shown

FT CONSULTANTS PTY LTD
7 Emke Street
Nelspruit
1200

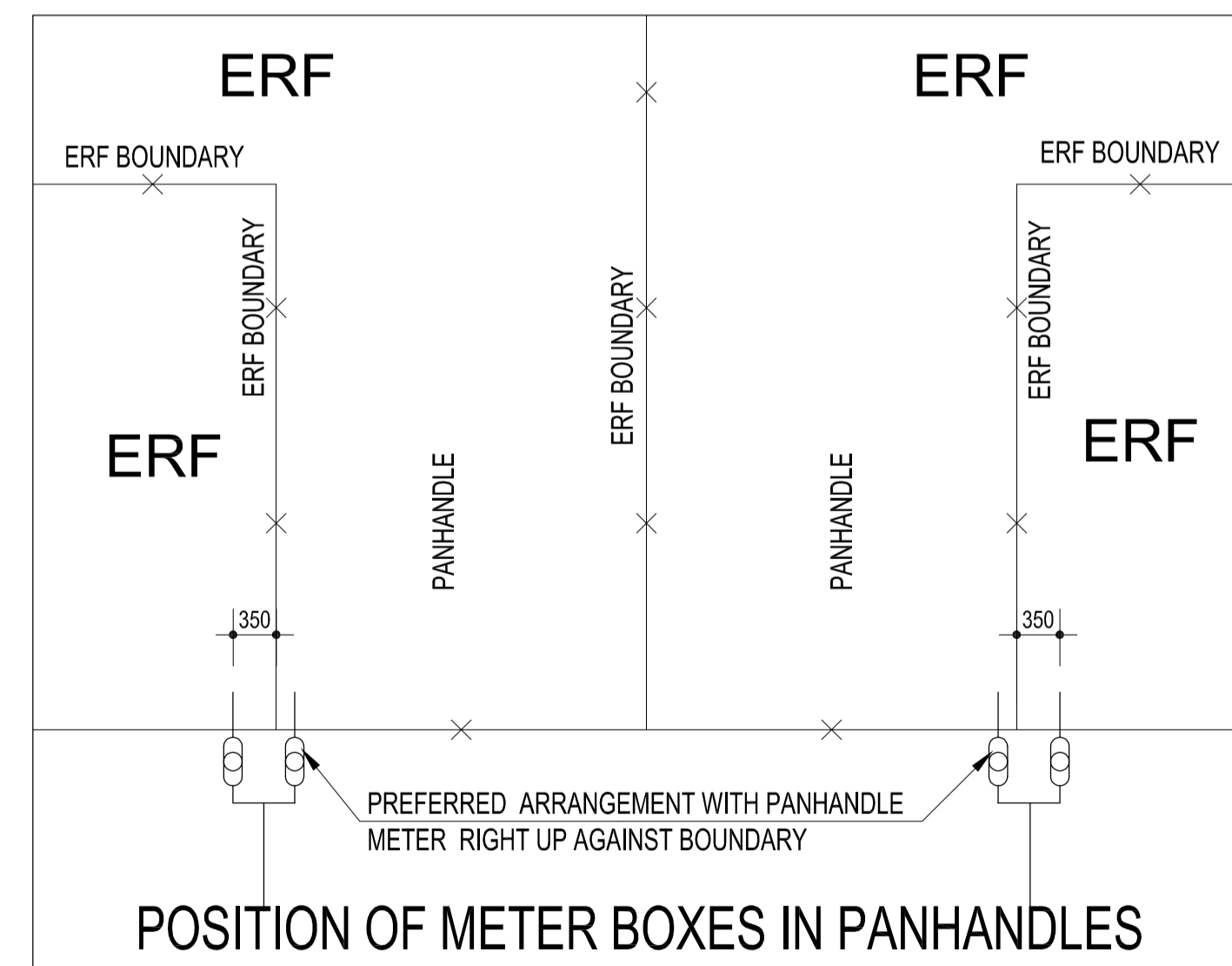
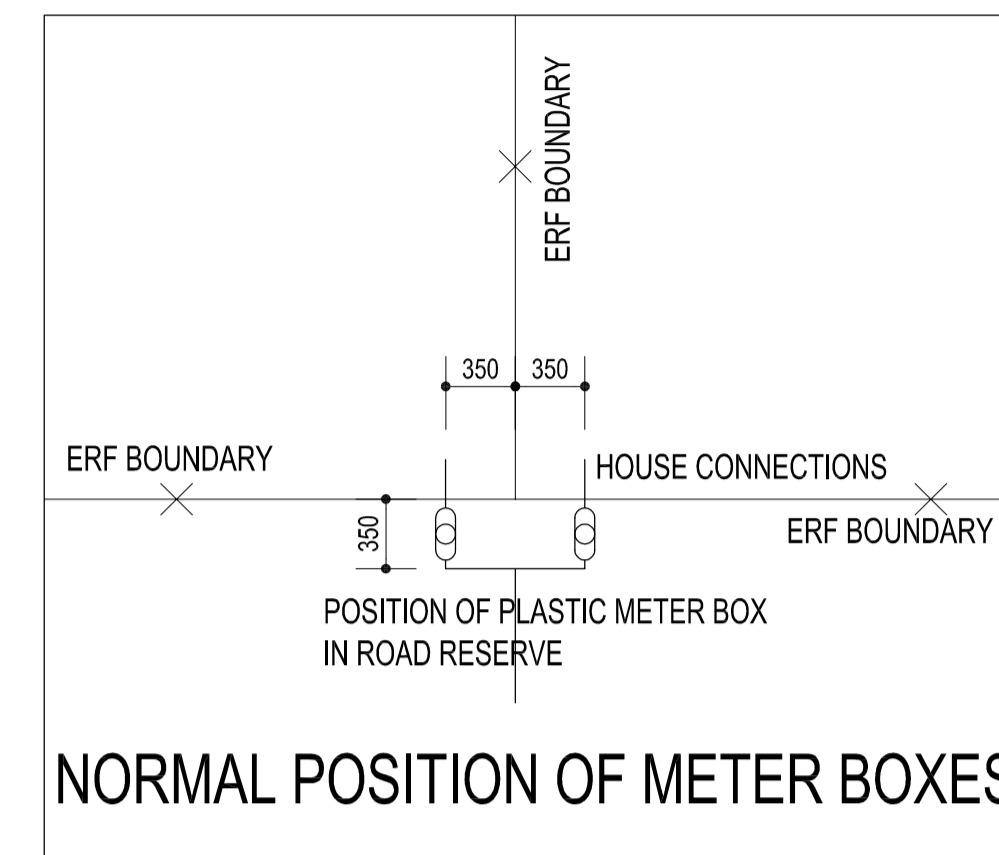
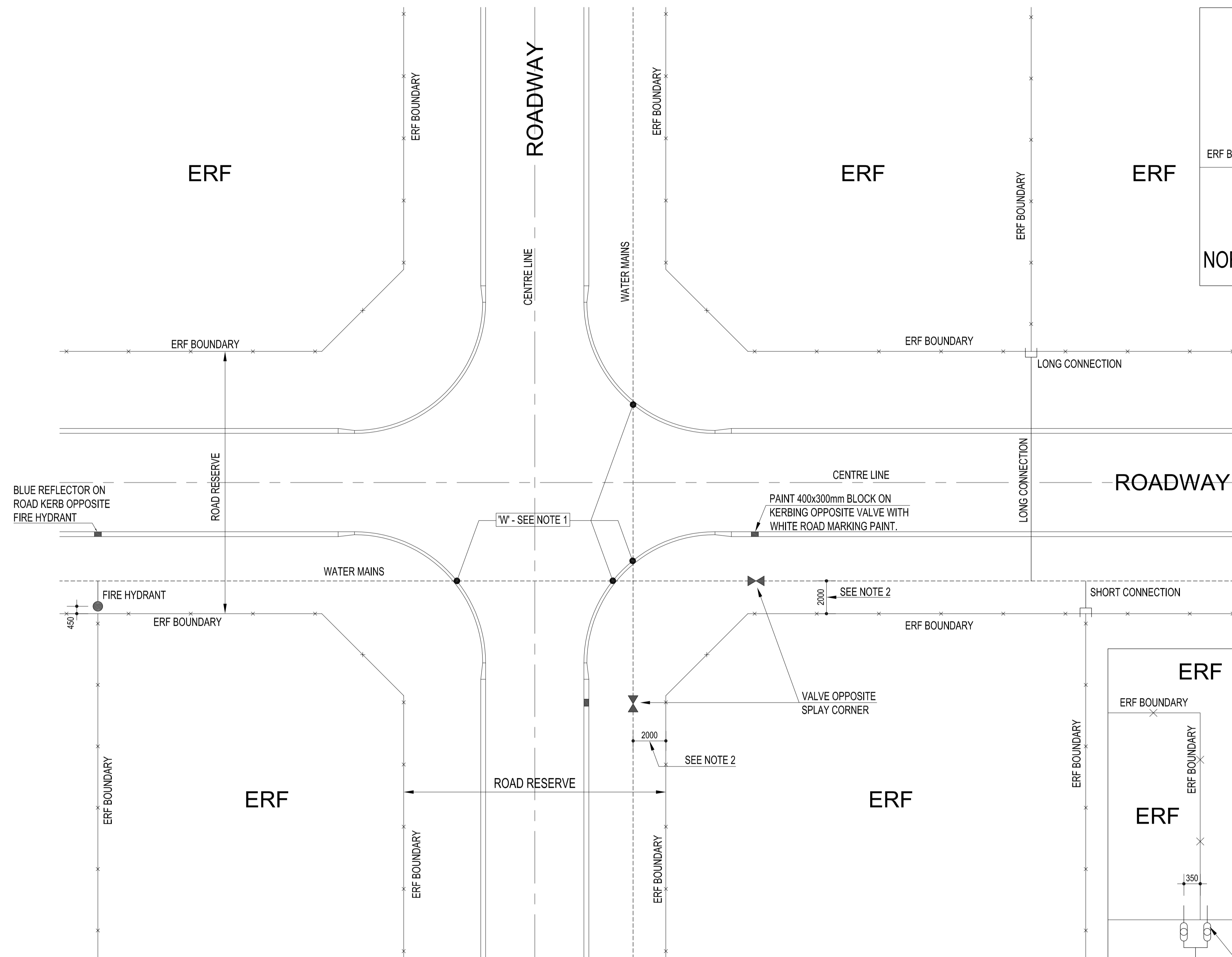
Title
KINROSS EXT 33 WATER TYPICAL SCOUR ARRANGEMENT

CIVIL WATER DRAWINGS

Project No
DHS/231/24/MP

Drawing No
WATER 200
Rev No
00

ITEM	DESCRIPTION TO SUIT PIPE SIZES
1	Scour tee with flanged branch, 800mm C/F to suit
2	NB Wedge Gate Valve with handwheel
3	V.J Flange Adaptor
4	Steel Pipe, 600mm long F/F, one end flange, the other end plain with puddle flange
5	45° Flanged Bend to suit site
6	Steel pipe F/F, Flanged ends, length to suit site
7	Jet Disperser



- NOTES:**
1. THE LETTER "W" IS TO BE FORMED IN THE CONCRETE KERB OF ALL NEW ROADS TO IDENTIFY THE POSITION OF WATER RETICULATION PIPELINES.
 2. WHEN ROAD RESERVE IS LESS THAN 13m. WATER PIPES ARE PLACED 0,75m FROM ROAD RESERVE BOUNDARY.

LEGEND:

- P1 SETTING OUT POINT OF WATER PIPE LINE
- ⊗ ISOLATING VALVE/RSV
- SCOUR VALVE
- ⊕ DOUBLE AIR VALVE

No	Description	Date	By

REVISIONS	
Approved by	Date
Drawn T Sundayi	Designed A.M
Checked A.M	Engineer T - Sundayi
Client App.	Date 20 Apr. 2020

Scale: As shown

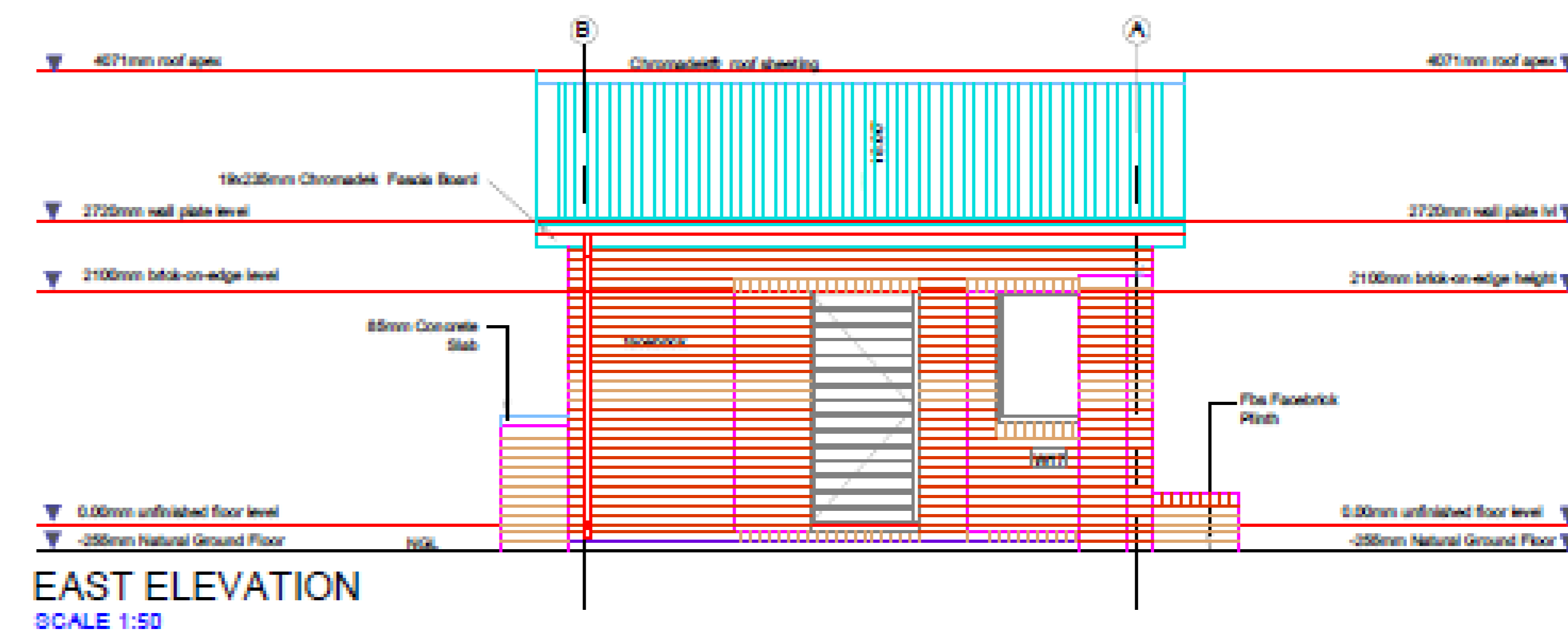
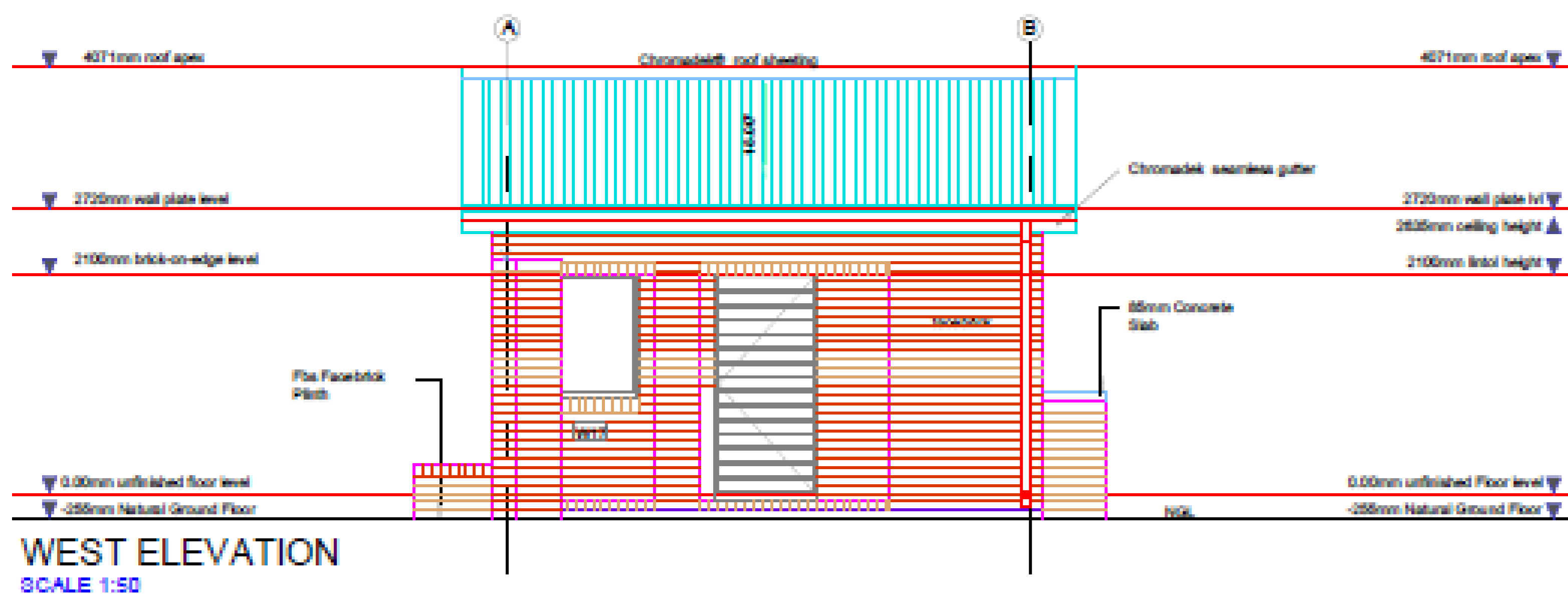
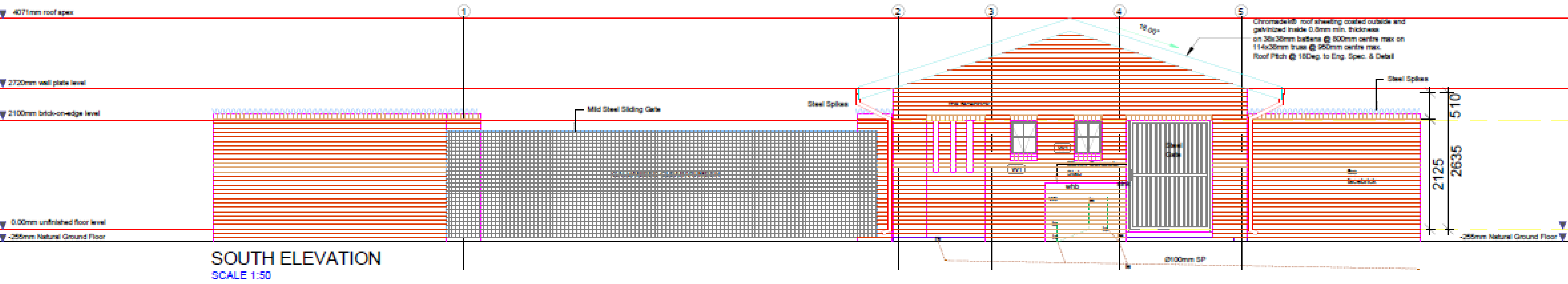
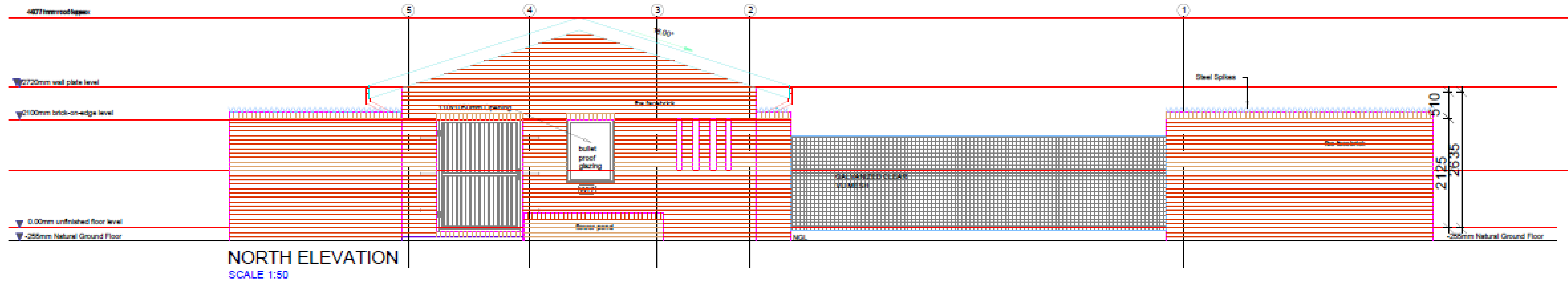
Title
KINROSS WATER
PLACING OF HYDRANTS, VALVES, HOUSE CONNECTIONS AND MARKERS

CIVIL WATER DRAWINGS

Project No
DHS/231/24/MP

Drawing No
WATER 200

Rev No
00



NO.	DESCRIPTION	DATE	BY

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SCALE: AS SHOWN

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 Civil & Structural Engineers
 REG NO. CK 2004/ 107051/23 VAT NO. 4710215635

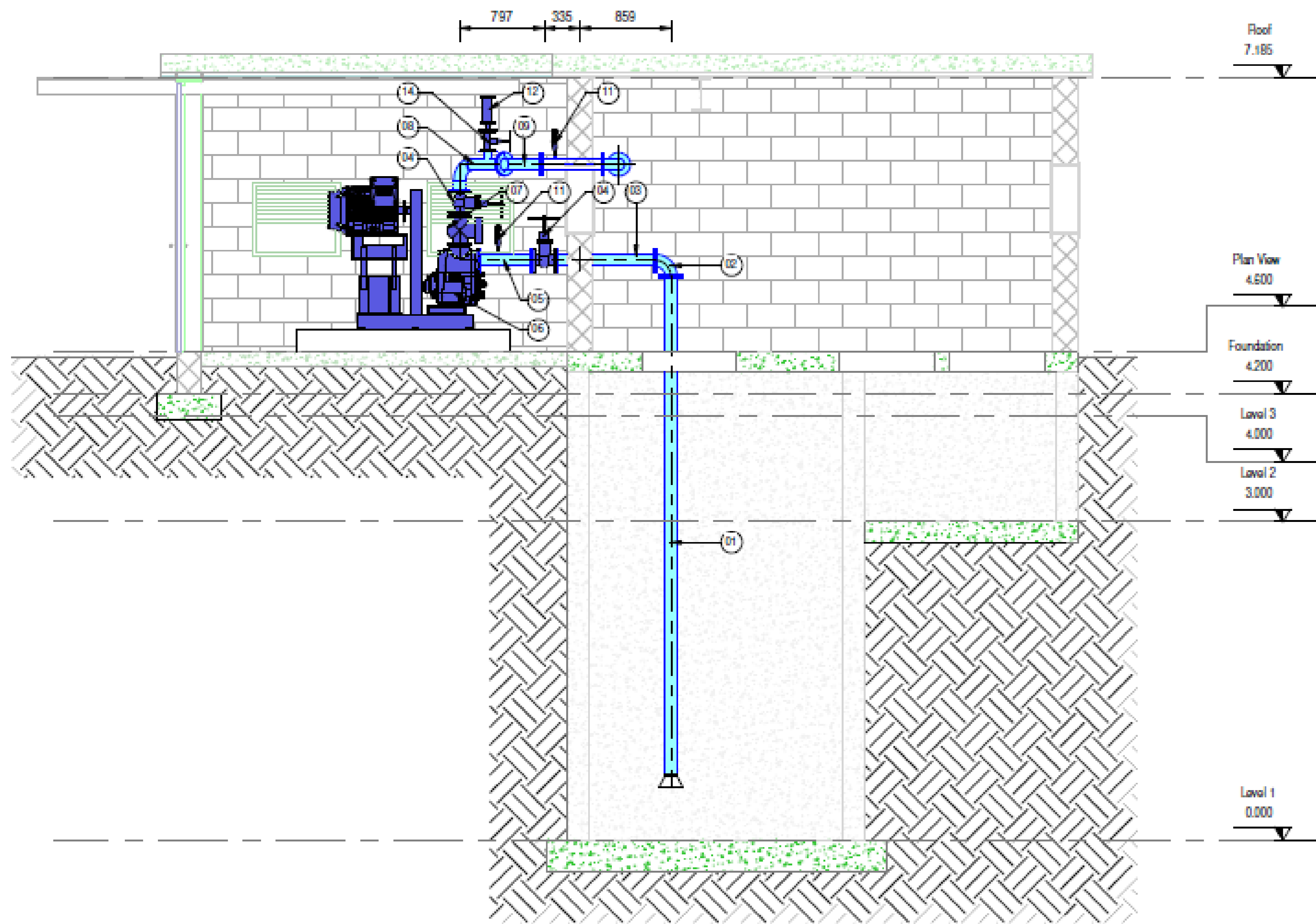
FT CONSULTANTS PTY LTD
 7 EMKE STREET
 NELSPRUIT
 1200

KINROSS EXT. 33 ROADS NETWORK

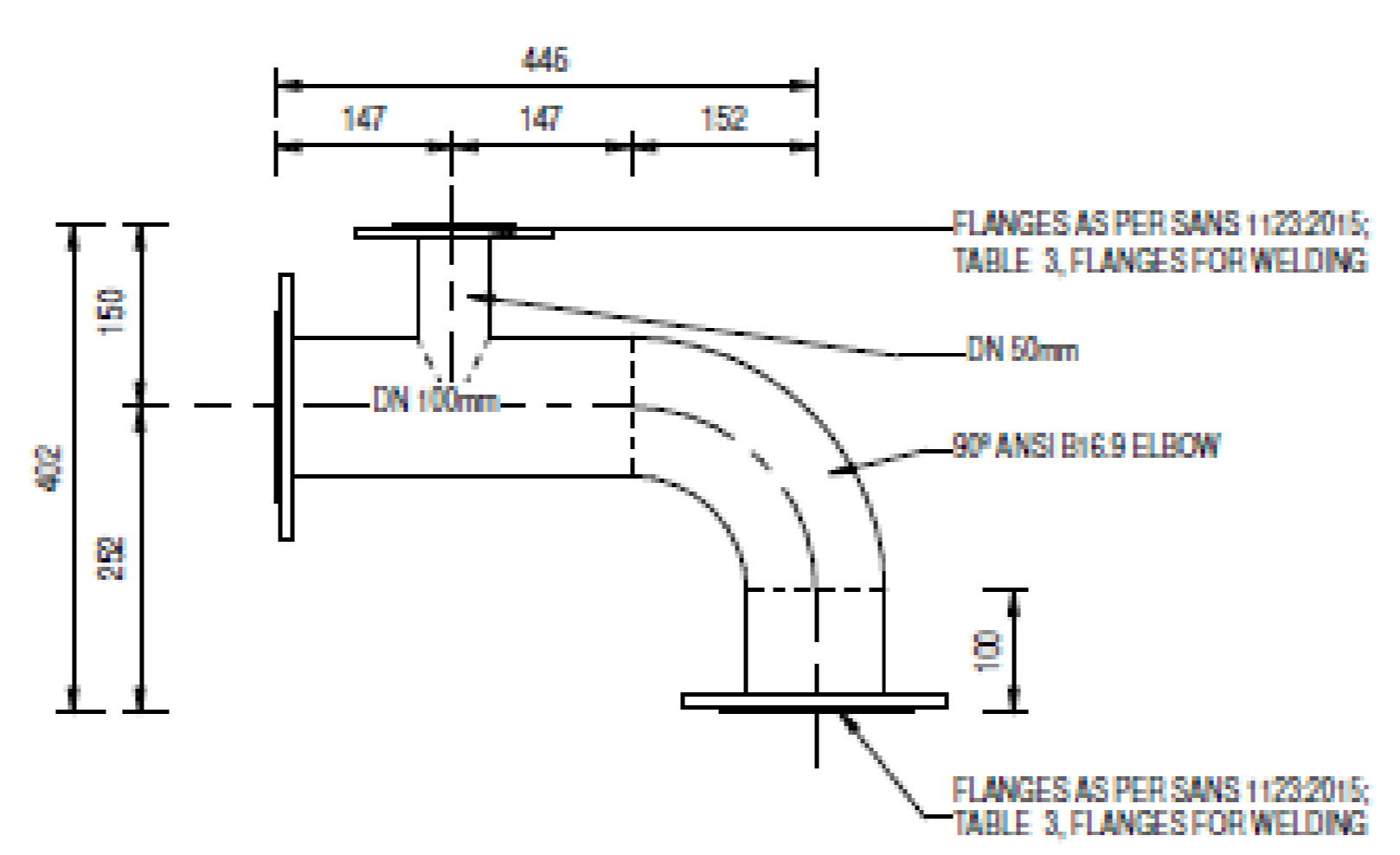
DRAWING NAME
 GUARD HOUSE - ELEVATIONS

PROJECT NO.
 DHS/231/24/MP

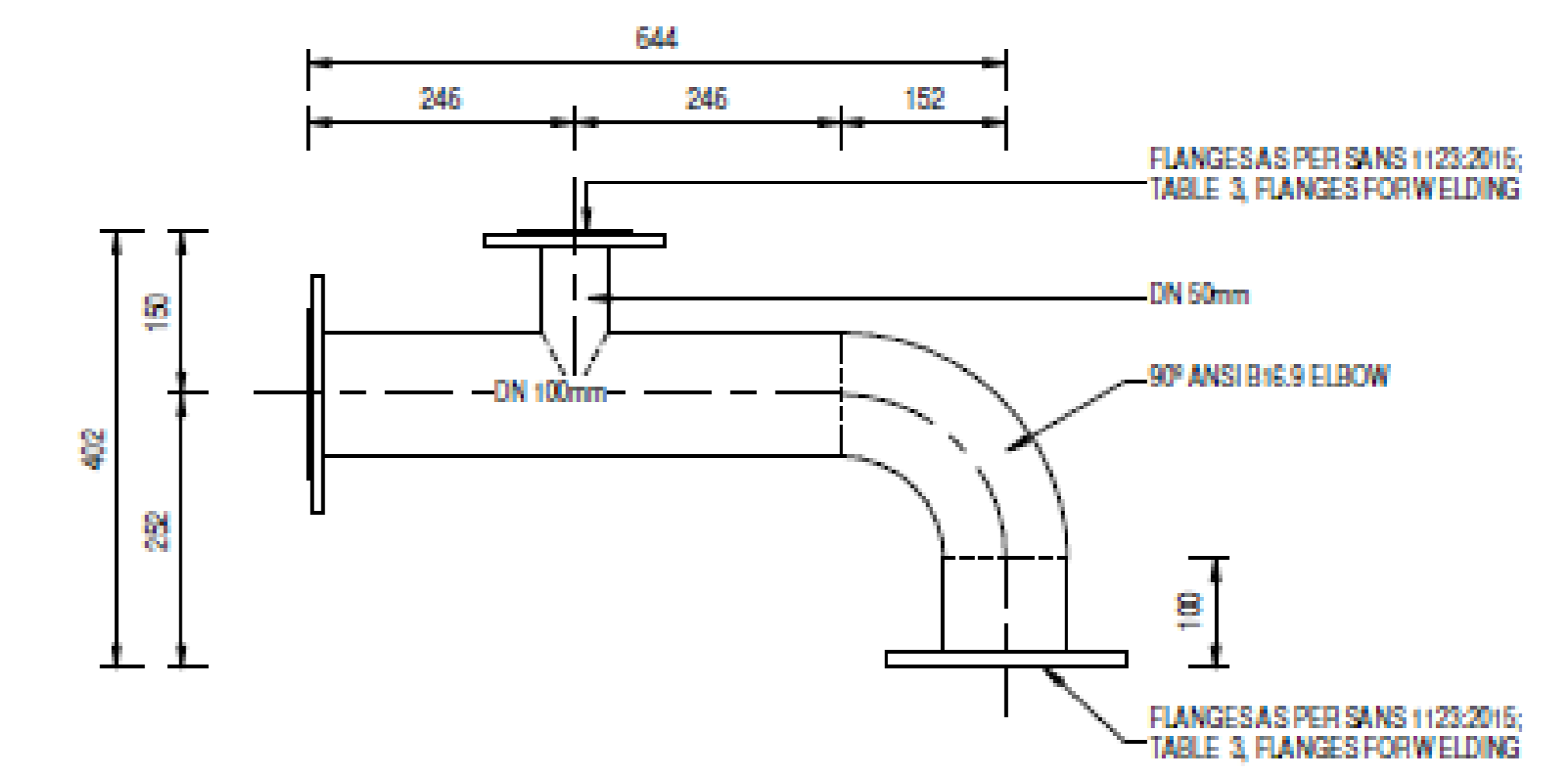
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 MP - 231 - 24/202



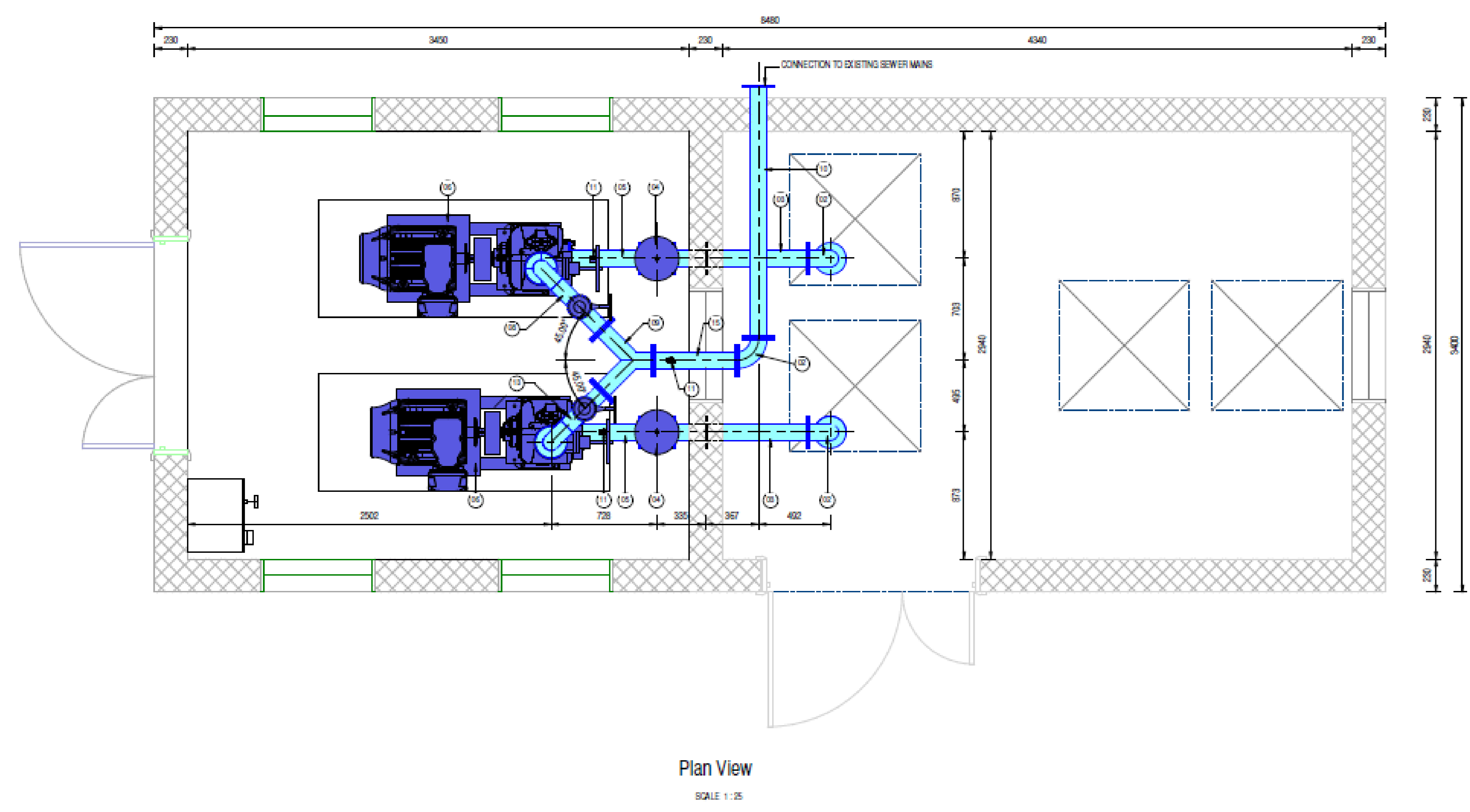
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ITEM NO.	SIZE	No. OF	DESCRIPTION	LENGTH	MATERIAL	REMARKS
01	NO 100mm	2	ONE END FLANGED PIPE SECTION, OTHER END BELLMOUTH	480mm RF	SANS 716:2007 GRADE B - 4.5mm WALL THICKNESS	SANS 1123: 2015 T10003 FLANGES
02	NO 100mm	2	ALL ENDS FLANGED 90° LONG RADIUS ELBOW	152.4mm QF	ANSI B16.9	SANS 1123: 2015 T10003 FLANGES
03	NO 100mm	2	ALL ENDS FLANGED PIPE SECTION, 90° LONG RADIUS ELBOW, REFER TO DETAIL ON SHEET	50mm RF	SANS 716:2007 GRADE B - 4.5mm WALL THICKNESS	SANS 1123: 2015 T10003 FLANGES
04	NO 100mm	4	RESILIENT GATED GATE VALVE, PN 10	STANDARD	SANS 655	SANS 1123: 2015 T10003 FLANGES
05	NO 100mm	2	ALL ENDS FLANGED PIPE SECTION	50mm RF	SANS 716:2007 GRADE B - 4.5mm WALL THICKNESS	SANS 1123: 2015 T10003 FLANGES
06	NO 100mm	2	SEWAGE PUMP, 40N SPL, 10.5x @ 5m	-	-	FLANGES AS PER PUMP SPECIFICATION
07	NO 100mm	2	SWING CHECK VALVE, PN 10	-	AS PER MANUFACTURERS SPECIFICATION	SANS 1123: 2015 T10003 FLANGES
08	NO 100mm	1	ALL ENDS FLANGED PIPE SECTION WITH 90° LONG RADIUS ELBOW, REFER TO DETAIL ON SHEET	440mm QF	SANS 716:2007 GRADE B - 4.5mm WALL THICKNESS	SANS 1123: 2015 T10003 FLANGES
09	NO 100mm	1	ALL ENDS FLANGED 90° Y PEECE	-	SANS 62	SANS 1123: 2015 T10003 FLANGES
10	NO 100mm	1	ALL ENDS FLANGED PIPE SECTION	970mm RF	SANS 716:2007 GRADE B - 4.5mm WALL THICKNESS	SANS 1123: 2015 T10003 FLANGES
11	NO 25mm	3	PRESSURE GAUGE AND BALL VALVE	-	-	-
12	NO 50mm	2	AIR VALVE, PN 10	-	AS PER MANUFACTURERS SPECIFICATION	SUITABLE FOR WASTE WATER
13	NO 100mm	1	ALL ENDS FLANGED PIPE SECTION WITH 90° LONG RADIUS ELBOW, REFER TO DETAIL ON SHEET	645mm QF	SANS 716:2007 GRADE B - 4.5mm WALL THICKNESS	SANS 1123: 2015 T10003 FLANGES
14	NO 50mm	2	RESILIENT GATED GATE VALVE, PN 10	STANDARD	SANS 655	SANS 1123: 2015 T10003 FLANGES



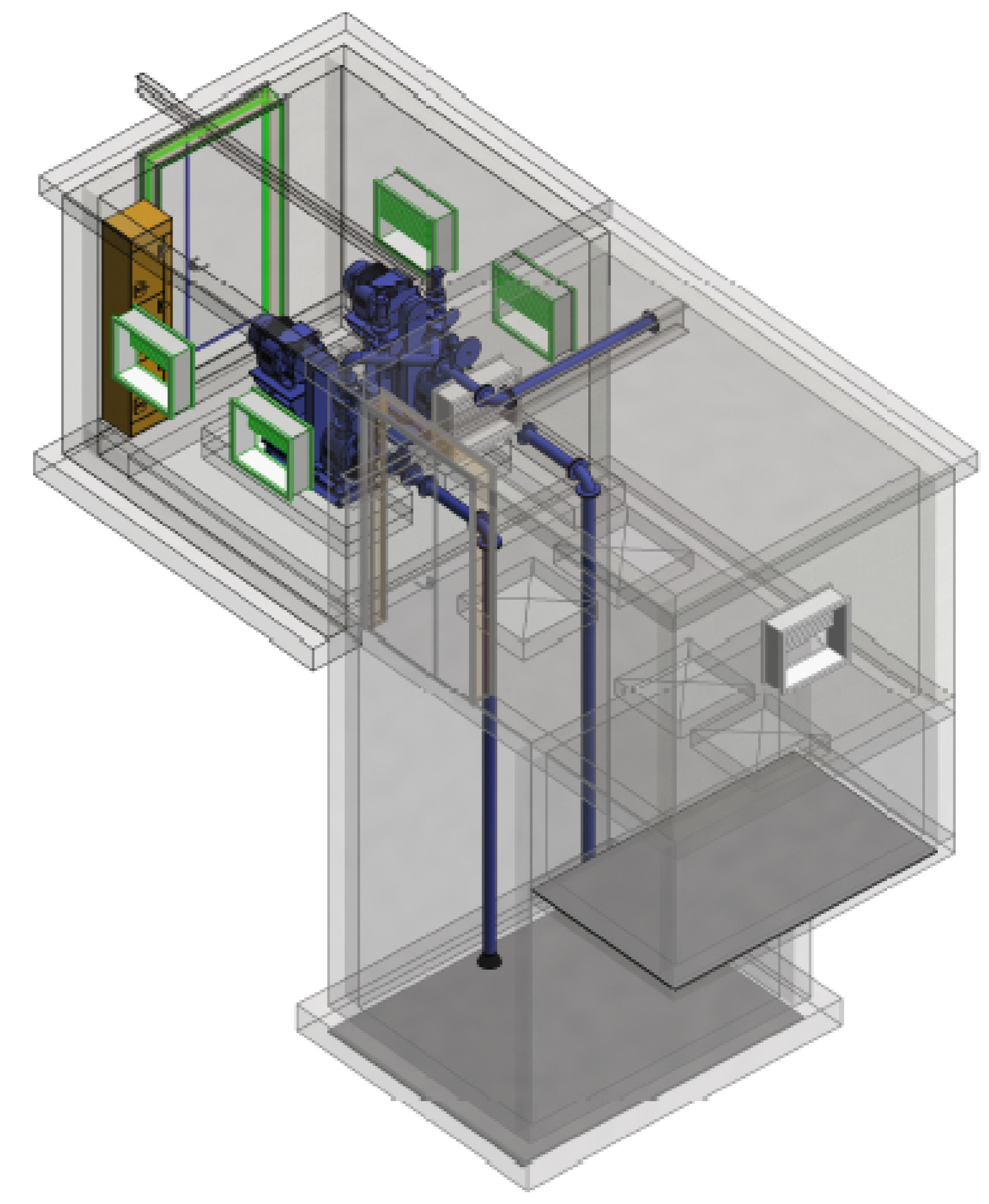
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SCALE 1 : 10



ITEM No. 13
SCALE 1 : 10



Plan View
SCALE 1 : 25



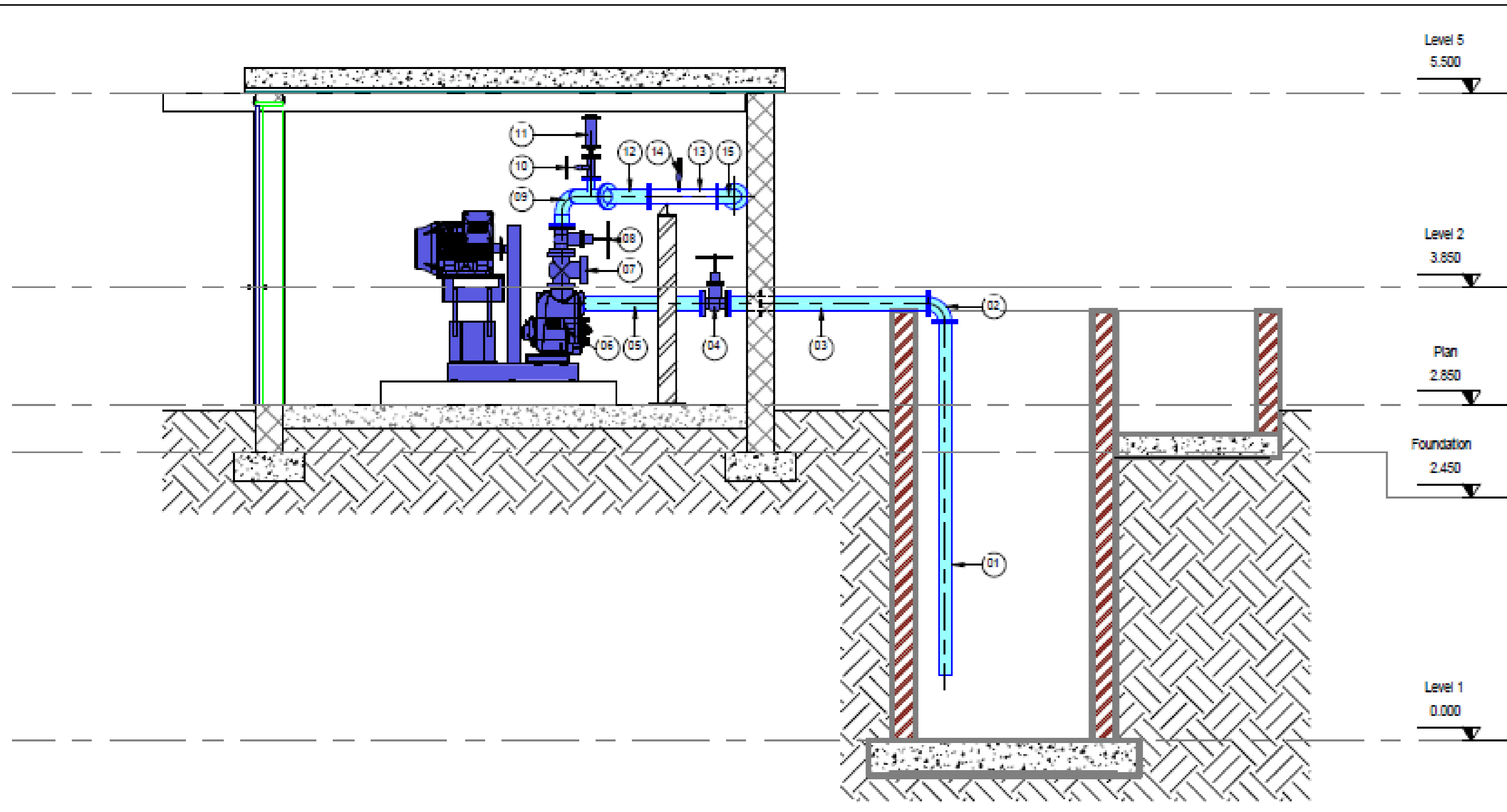
ISOMETRIC VIEW
SCALE

NO.	DESCRIPTION	DATE	BY
REVISIONS			
APPROVED BY:	DATE:		
DRAWN BY:	DESIGNED BY:		
CHECKED BY:	ENGINEER:		
CLIENT APP.	DATE:		
2024/04/08			
SCALE: AS SHOWN			

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FT Consultants
 Civil & Structural Engineers
 REG NO. CK 2004/ 107051/23 VAT NO. 4710215635

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7 EMKE STREET
NELSPRUIT
1200

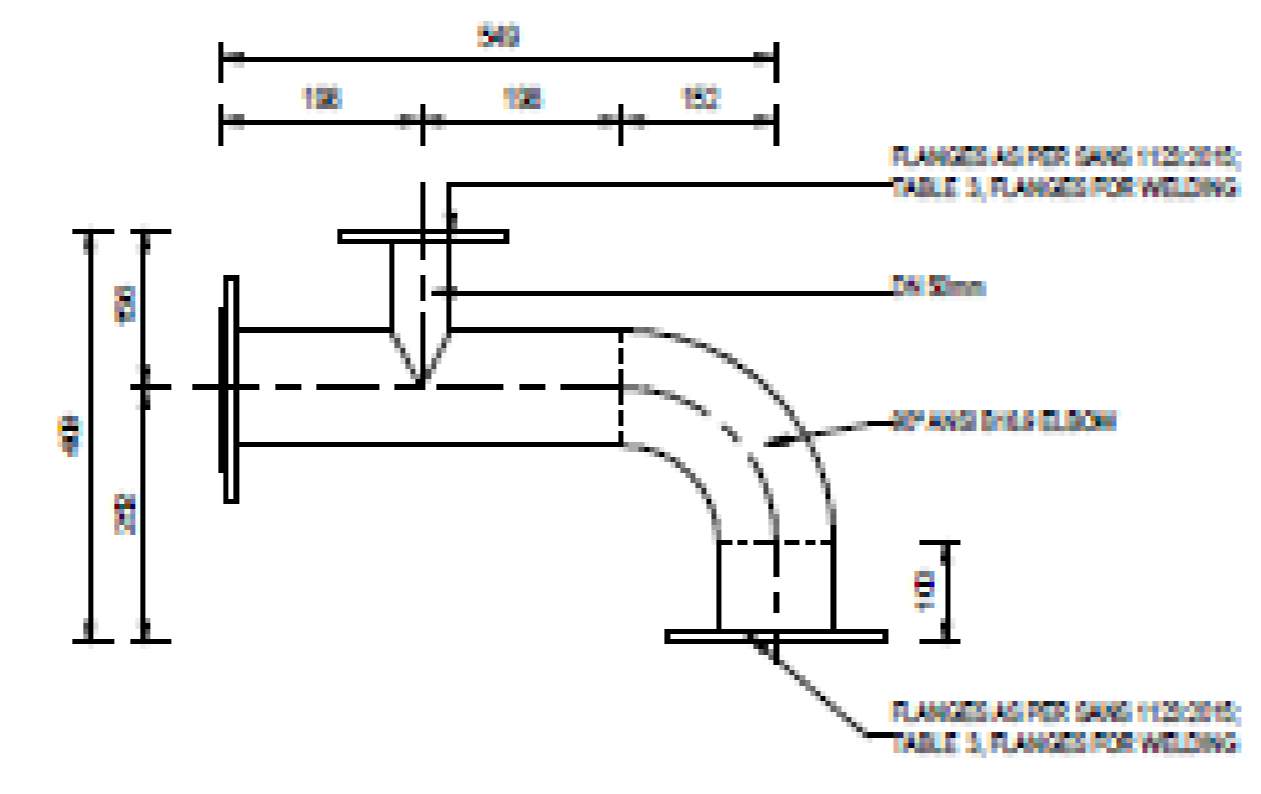
KINROSS EXT. 33 ROADS NETWORK	
DRAWING NAME	SUMP STATION 1
PROJECT NO.	DHS/231/24/MP
DRAWING NO.	MP - 231 - 24/301



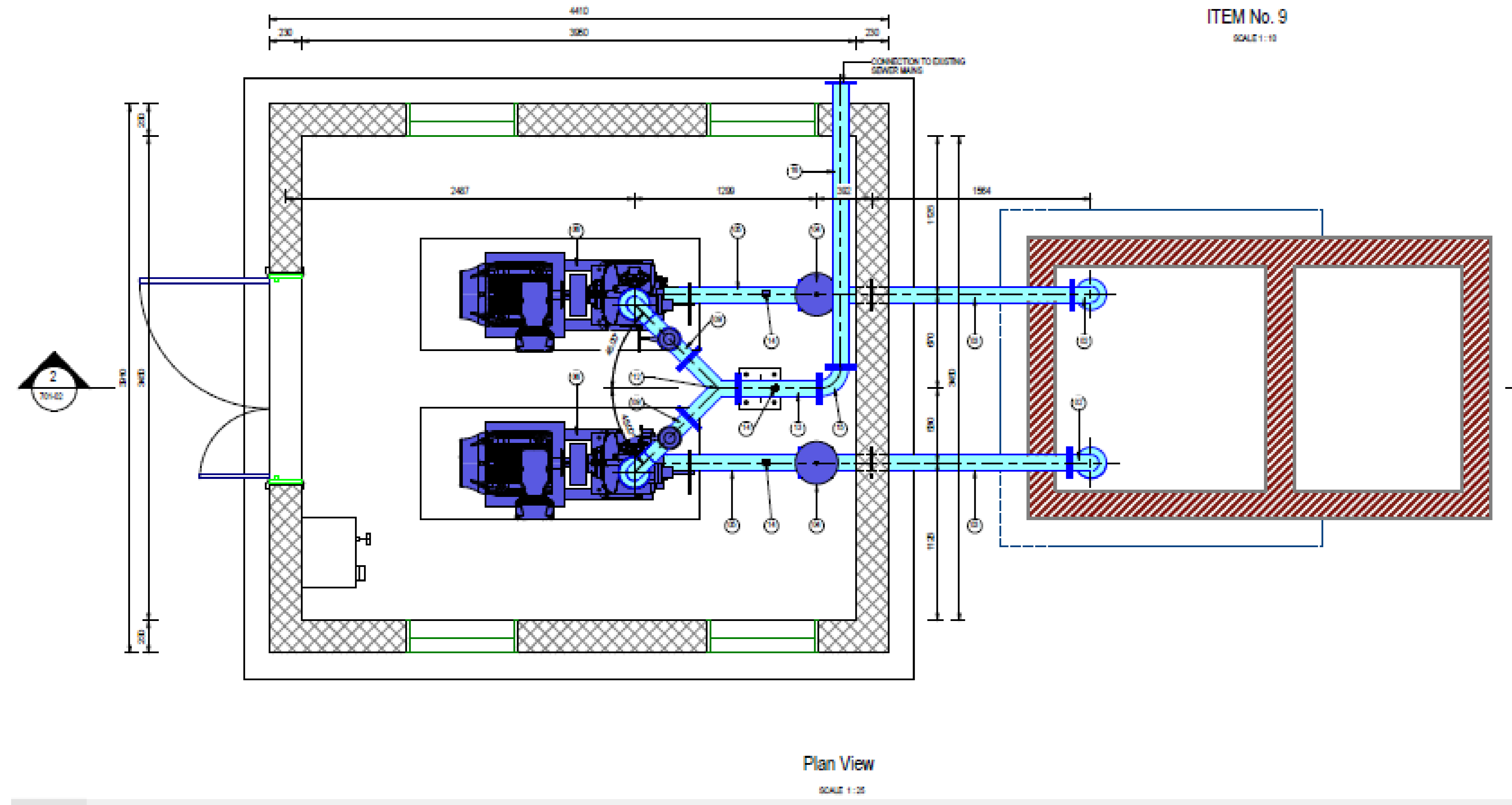
Section 1
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2
701-02

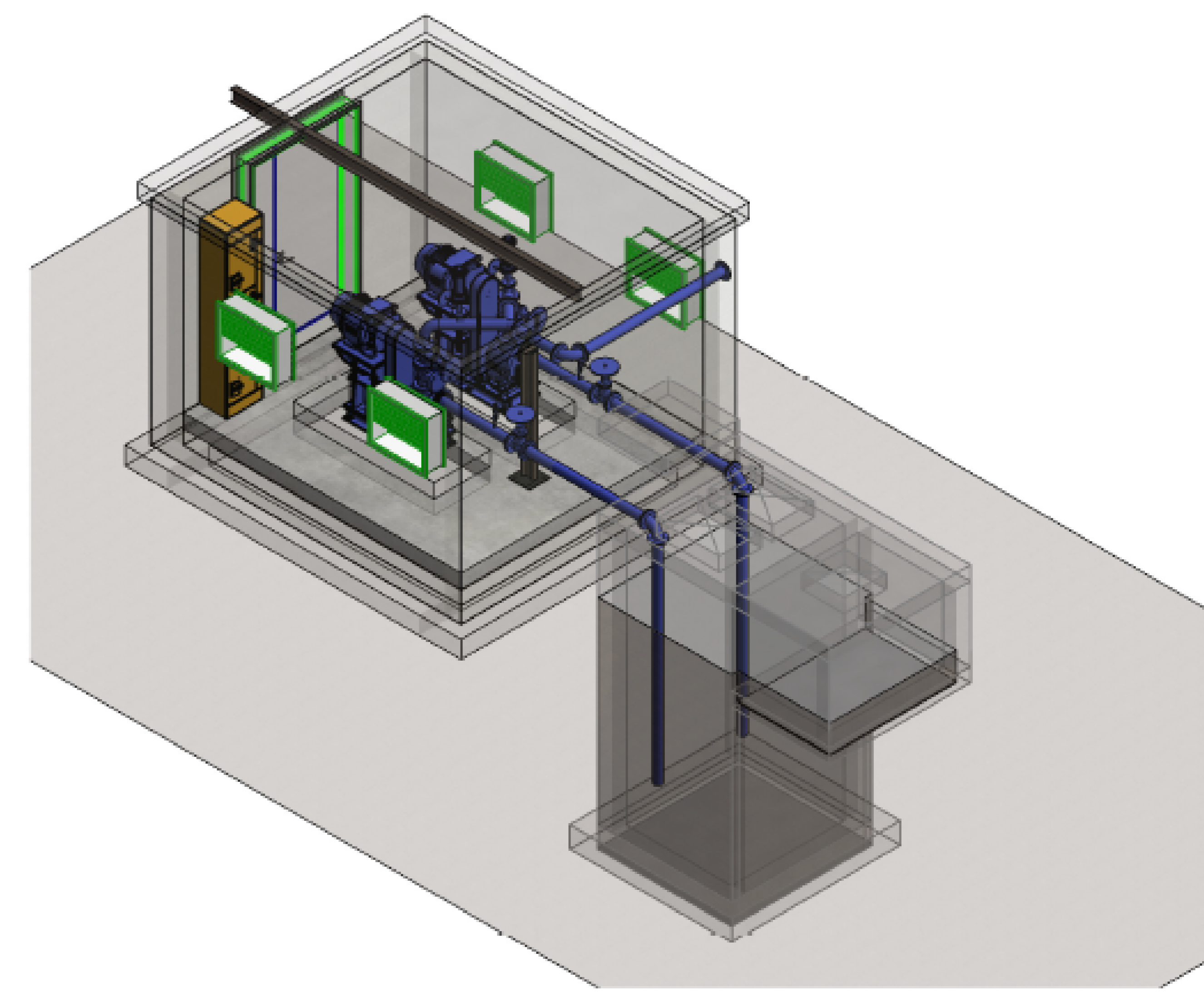
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02	ND 100mm	2	ALL ENDS FLANGED 90° LONG RADIUS ELBOW	152.4mm CF	AND B16.9	SAND 1123 : 2015 T10003 FLANGED
03	ND 100mm	2	ALL ENDS FLANGED PIPE SECTION, 220mm FF, PIP 220mm FROM END	1700mm FF	SAND 719-2007: GRADE B - 4.5mm WALL THICKNESS	SAND 1123 : 2015 T10003 FLANGED
04	ND 100mm	2	RESILIENT SEATED GATE VALVE, PN 10	STANDARD	SAND 665	SAND 1123 : 2015 T10003 FLANGED
05	ND 100mm	2	ALL ENDS FLANGED PIPE SECTION	1000mm FF	SAND 719-2007: GRADE B - 4.5mm WALL THICKNESS	SAND 1123 : 2015 T10003 FLANGED
06	ND 100mm	2	SEWAGE PUMP, 400V 50Hz, 20L/s @ 70m	-	-	FLANGES AS PER PUMP SPECIFICATION
07	ND 100mm	2	SWING CHECK VALVE, PN 16	-	AS PER MANUFACTURER'S SPECIFICATION	SAND 1123 : 2015 T16003 FLANGED
08		2	RESILIENT SEATED GATE VALVE, PN 16	STANDARD	SAND 665	SAND 1123 : 2015 T16003 FLANGED
09	ND 100mm	2	ALL ENDS FLANGED PIPE SECTION WITH 90° LONG RADIUS ELBOW, REFER TO DETAIL ON SHEET	900mm CF	SAND 719-2007: GRADE B - 4.5mm WALL THICKNESS	SAND 1123 : 2015 T16003 FLANGED
10	ND 50mm	2	RESILIENT SEATED GATE VALVE, PN 16	STANDARD	SAND 665	SAND 1123 : 2015 T16003 FLANGED
11	ND 50mm	2	AIR VALVE, PN10	-	AS PER MANUFACTURER'S SPECIFICATION	SUITABLE FOR WASTE WATER
12	ND 100mm	1	ALL ENDS FLANGED, 90° Y PIECE	-	SAND 62	SAND 1123 : 2015 T16003 FLANGED
13	ND 100mm	1	ALL ENDS FLANGED PIPE SECTION	580mm FF	SAND 719-2007: GRADE B - 4.5mm WALL THICKNESS	SAND 1123 : 2015 T16003 FLANGED
14	ND 25mm	3	PRESSURE GAUGE AND BALL VALVE	-	-	-
15	ND 100mm	1	ALL ENDS FLANGED 90° LONG RADIUS ELBOW	152.4mm CF	AND B16.9	SAND 1123 : 2015 T16003 FLANGED
16	ND 100mm	1	ALL ENDS FLANGED PIPE SECTION	2100mm FF	SAND 719-2007: GRADE B - 4.5mm WALL THICKNESS	SAND 1123 : 2015 T16003 FLANGED
17						



ITEM No. 9
SCALE 1:10



Plan View
SCALE 1:25



Isometric View
SCALE

NO.	DESCRIPTION	DATE	BY
REVISIONS			
APPROVED BY:	DATE:		
DRAWN BY:	DESIGNED BY:		
CHECKED BY:	ENGINEER:		
CLIENT APP:	DATE:		
2024/04/08			
SCALE: AS SHOWN			

FASTRACK CONSULTANTS cc T/A
FT Consultants
Civil & Structural Engineers
REG NO. GK 2004/ 107051/23 VAT NO. 4710215635

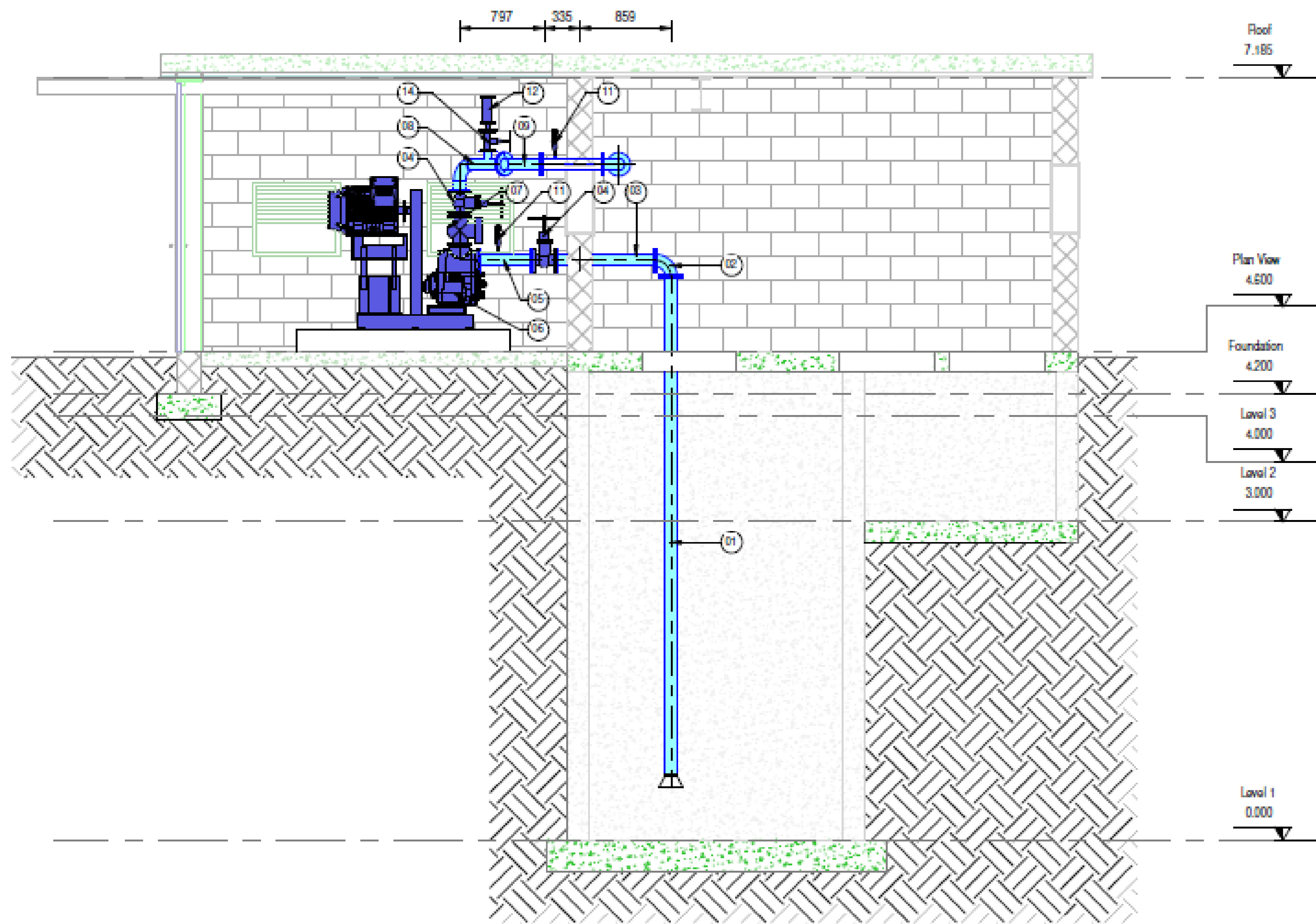
FT CONSULTANTS PTY LTD
7 EMKE STREET
NELSPRUIT
1200

KINROSS EXT. 33 ROADS NETWORK

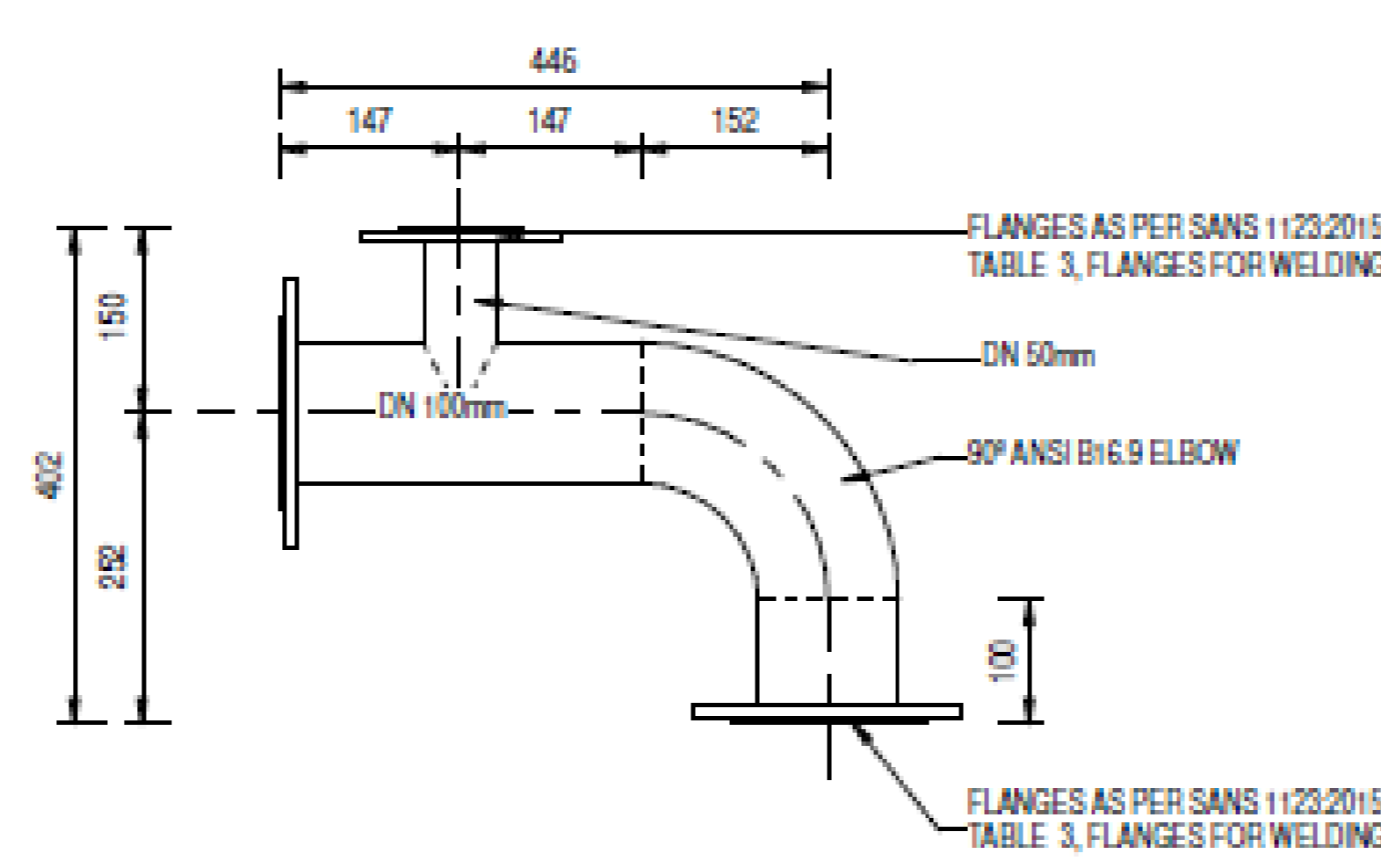
DRAWING NAME
SUMP STATION 2

PROJECT NO.
DHS/231/24/MP

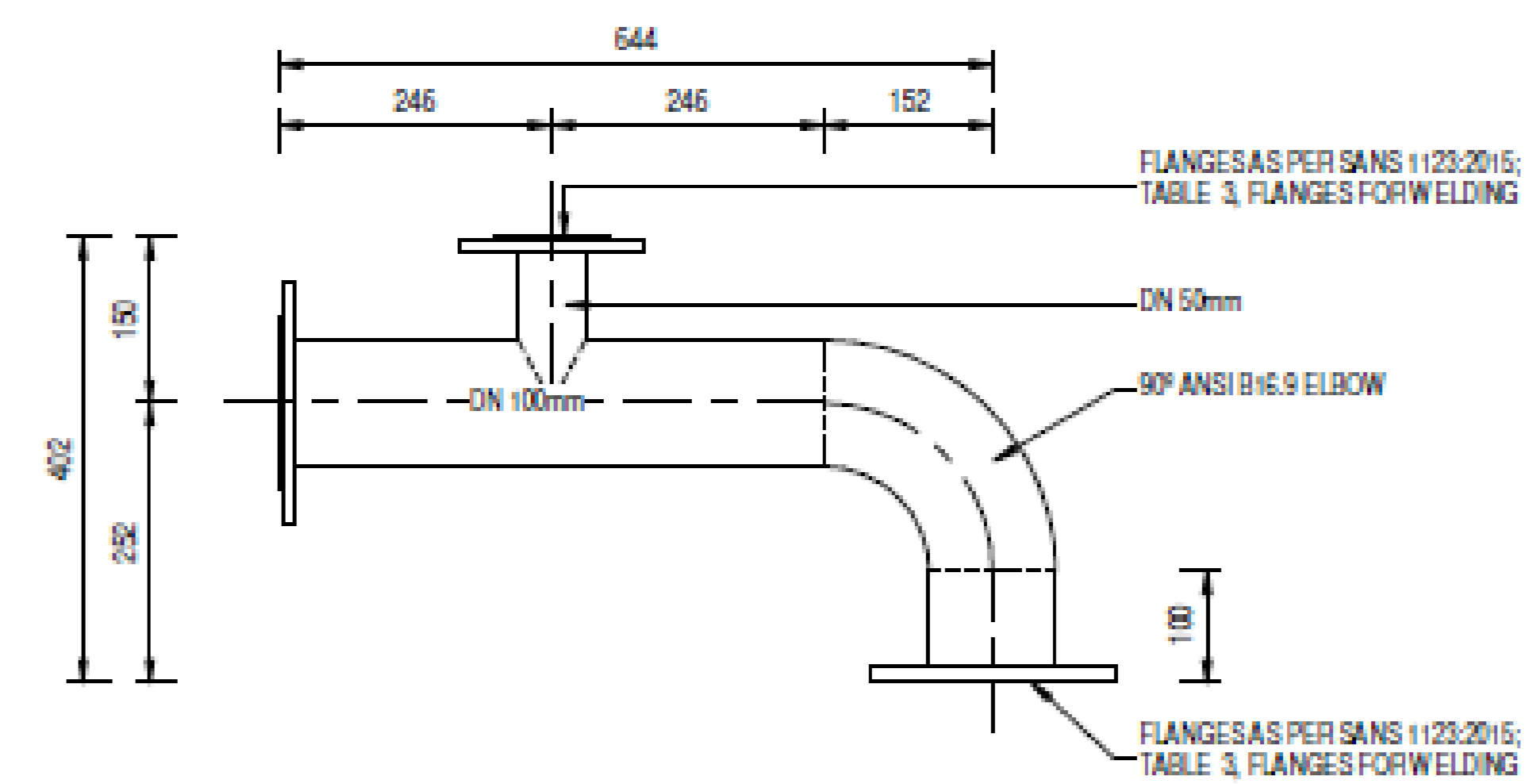
DRAWING NO.
MP - 231 - 24/302



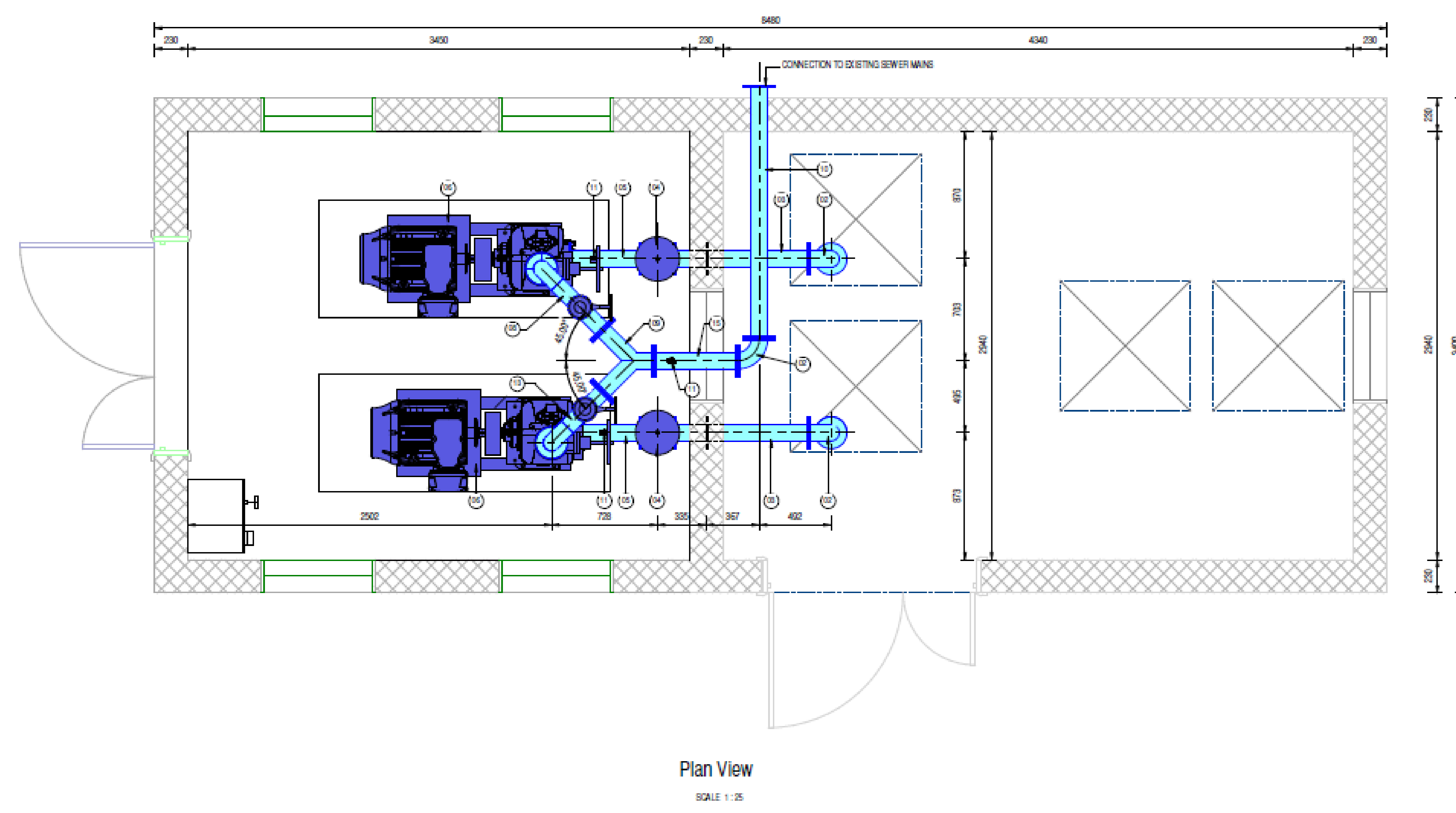
MATERIAL SCHEDULE FOR PUMP STATION 1						
ITEM NO.	SIZE	No. OF	DESCRIPTION	LENGTH	MATERIAL	REMARKS
01	NO 100mm	2	ONE END FLANGED PIPE SECTION, OTHER END BELLMOUTH	480mm RF	SANS 716:2007 GRADE B - 4.5mm WALL THICKNESS	SANS 1123: 2015 T10003 FLANGES
02	NO 100mm	2	ALL ENDS FLANGED 90° LONG RADIUS ELBOW	152.4mm QF	ANSI B16.9	SANS 1123: 2015 T10003 FLANGES
03	NO 100mm	2	ALL ENDS FLANGED PIPE SECTION, 90° LONG RADIUS ELBOW, REFER TO DETAIL ON SHEET	50mm RF	SANS 716:2007 GRADE B - 4.5mm WALL THICKNESS	SANS 1123: 2015 T10003 FLANGES
04	NO 100mm	4	RESILIENT GATED GATE VALVE, PN 10	STANDARD	SANS 655	SANS 1123: 2015 T10003 FLANGES
05	NO 100mm	2	ALL ENDS FLANGED PIPE SECTION	50mm RF	SANS 716:2007 GRADE B - 4.5mm WALL THICKNESS	SANS 1123: 2015 T10003 FLANGES
06	NO 100mm	2	SEWAGE PUMP, 40N SPL, 10.5x @ 5m	-	-	FLANGES AS PER PUMP SPECIFICATION
07	NO 100mm	2	SWING CHECK VALVE, PN 10	-	AS PER MANUFACTURERS SPECIFICATION	SANS 1123: 2015 T10003 FLANGES
08	NO 100mm	1	ALL ENDS FLANGED PIPE SECTION WITH 90° LONG RADIUS ELBOW, REFER TO DETAIL ON SHEET	440mm QF	SANS 716:2007 GRADE B - 4.5mm WALL THICKNESS	SANS 1123: 2015 T10003 FLANGES
09	NO 100mm	1	ALL ENDS FLANGED 90° Y PEECE	-	SANS 62	SANS 1123: 2015 T10003 FLANGES
10	NO 100mm	1	ALL ENDS FLANGED PIPE SECTION	970mm RF	SANS 716:2007 GRADE B - 4.5mm WALL THICKNESS	SANS 1123: 2015 T10003 FLANGES
11	NO 25mm	3	PRESSURE GAUGE AND BALL VALVE	-	-	-
12	NO 50mm	2	AIR VALVE, PN 10	-	AS PER MANUFACTURERS SPECIFICATION	SUITABLE FOR WASTE WATER
13	NO 100mm	1	ALL ENDS FLANGED PIPE SECTION WITH 90° LONG RADIUS ELBOW, REFER TO DETAIL ON SHEET	645mm QF	SANS 716:2007 GRADE B - 4.5mm WALL THICKNESS	SANS 1123: 2015 T10003 FLANGES
14	NO 50mm	2	RESILIENT GATED GATE VALVE, PN 10	STANDARD	SANS 655	SANS 1123: 2015 T10003 FLANGES



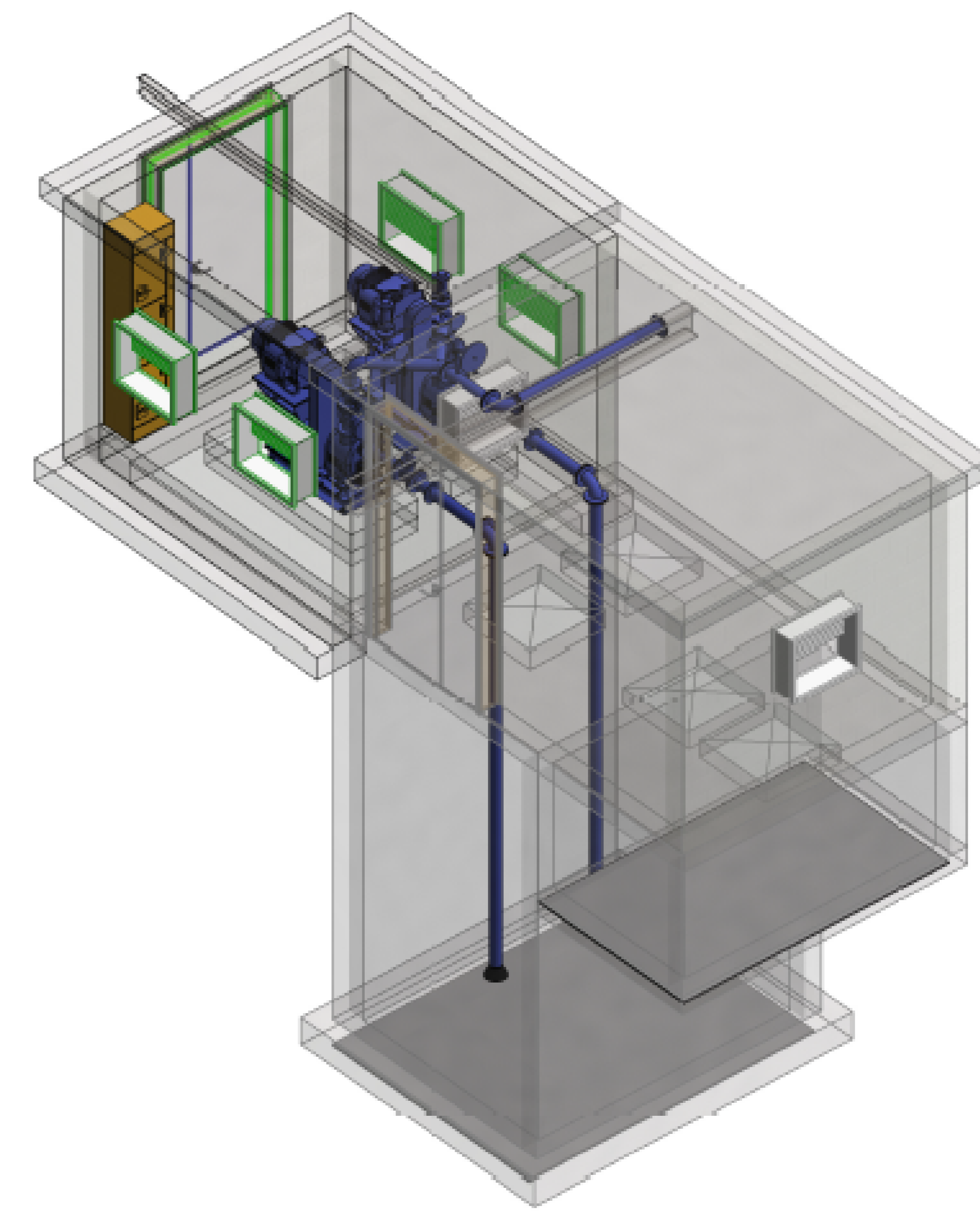
ITEM No. 8
SCALE 1 : 10



ITEM No. 13
SCALE 1 : 10



Plan View
SCALE 1 : 25



ISOMETRIC VIEW
SCALE

NO.	DESCRIPTION	DATE	BY
REVISIONS			
APPROVED BY:	DATE:		
DRAWN BY:	DESIGNED BY:		
CHECKED BY:	ENGINEER:		
CLIENT APP.	DATE:		

SCALE: AS SHOWN

FASTRACK CONSULTANTS cc T/A

FT Consultants

Civil & Structural Engineers

REG NO. CK 2004/ 107051/23 VAT NO. 4710215635

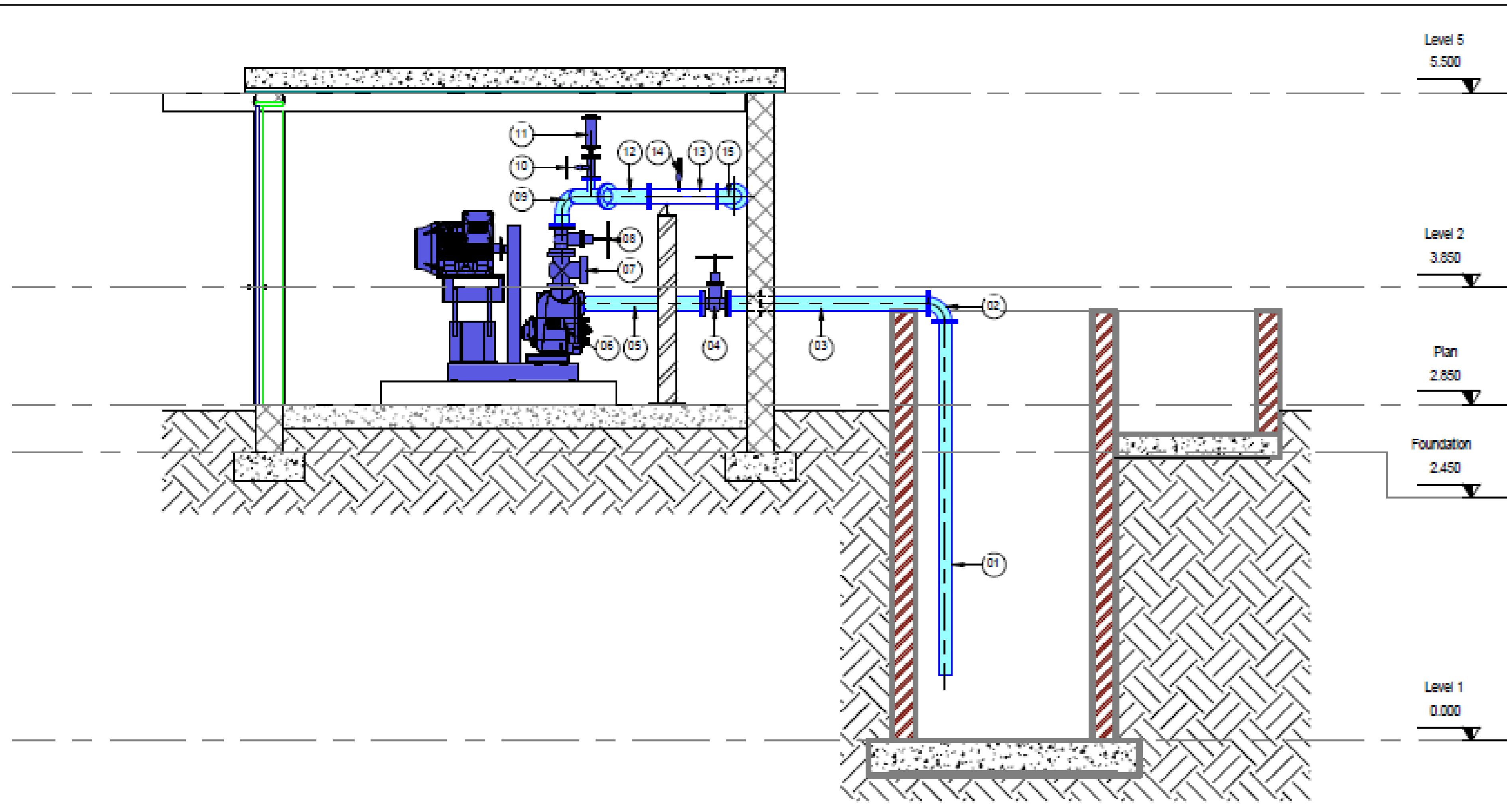
FT CONSULTANTS PTY LTD
7 EMKE STREET
NELSPRUIT
1200

KINROSS EXT. 33 ROADS NETWORK

DRAWING NAME
SUMP STATION 3

PROJECT NO.
DHS/231/24/MP

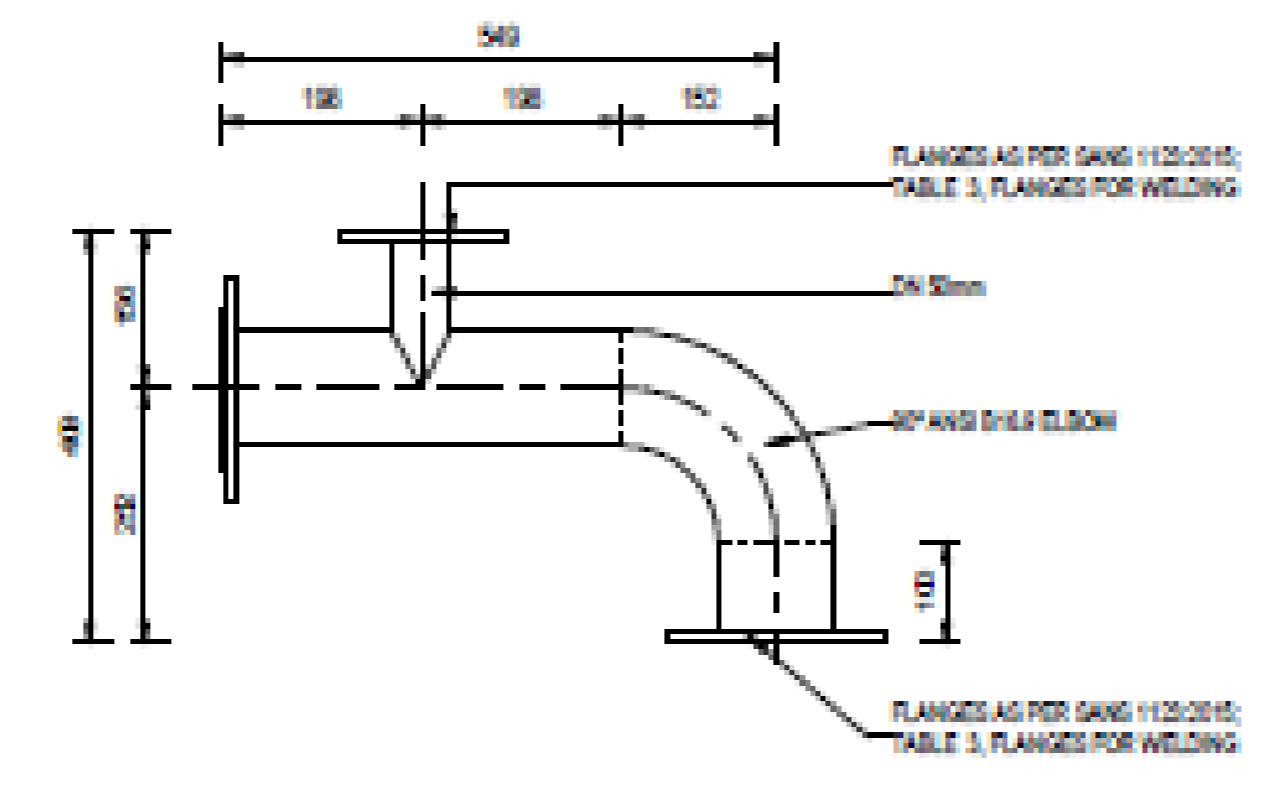
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MP - 231 - 24/303



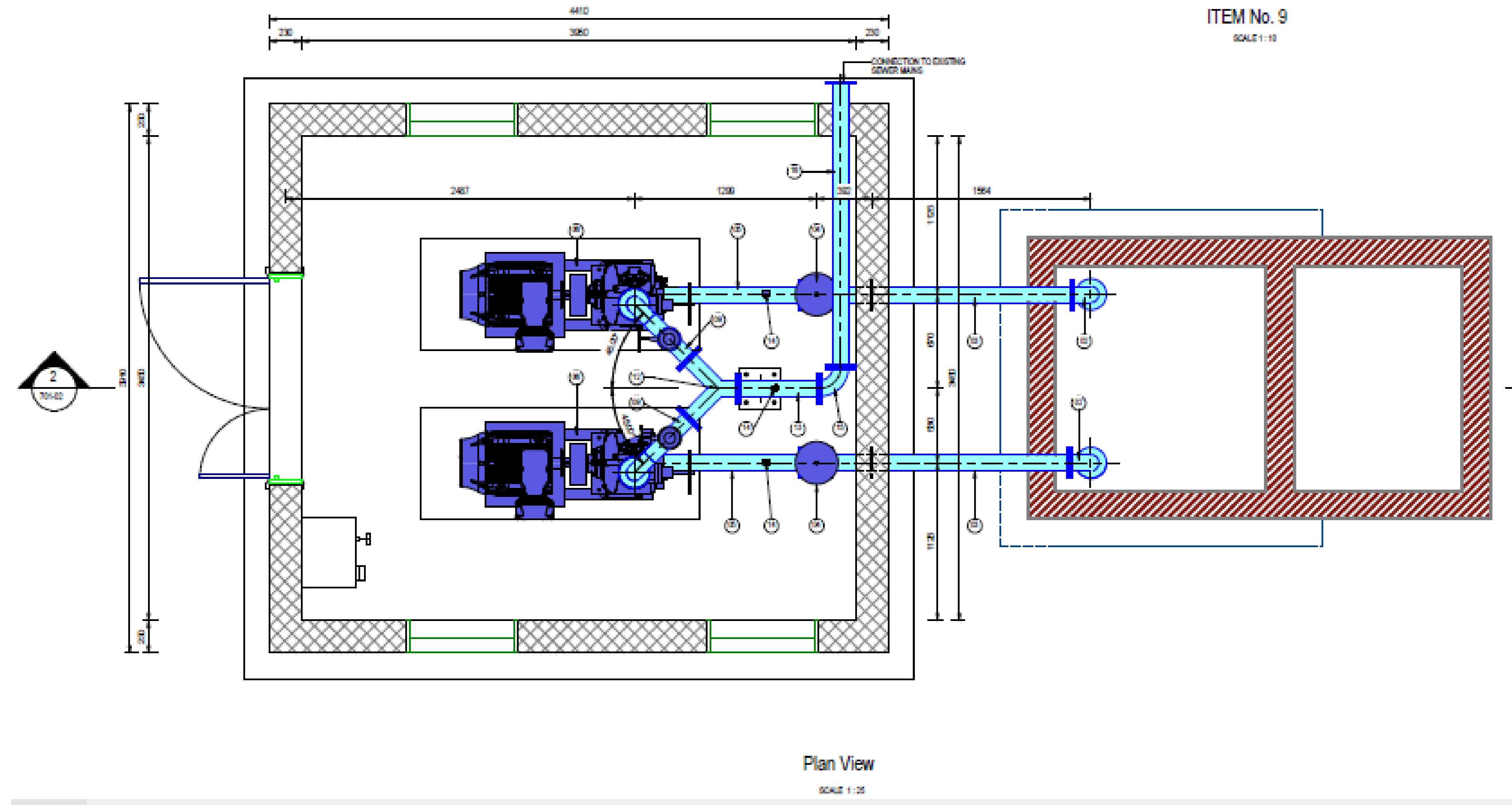
Section 1
SCALE 1:50

2
701-02

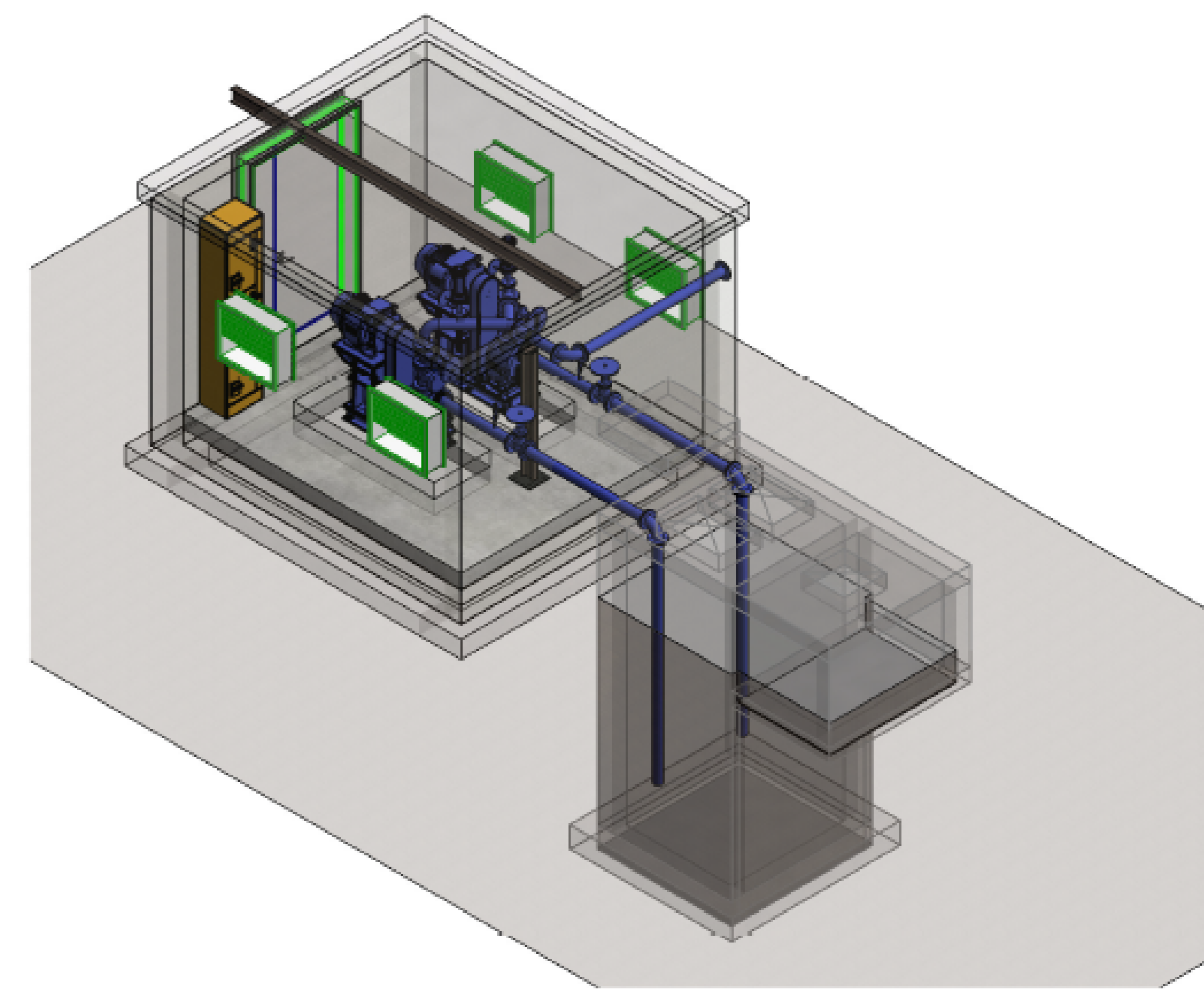
MATERIAL SCHEDULE FOR PUMP STATION 2						
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01	ND 100mm	2	ONE END FLANGED PIPE SECTION, OTHER END BELLMOUTH	3000mm FF	SAND 719-2007: GRADE B - 4.5mm WALL THICKNESS	SAND 1123 : 2015 T10003 FLANGED
02	ND 100mm	2	ALL ENDS FLANGED 90° LONG RADIUS ELBOW	152.4mm CF	AND B16.9	SAND 1123 : 2015 T10003 FLANGED
03	ND 100mm	2	ALL ENDS FLANGED PIPE SECTION, 220mm FF, PIP 220mm FROM END	1700mm FF	SAND 719-2007: GRADE B - 4.5mm WALL THICKNESS	SAND 1123 : 2015 T10003 FLANGED
04	ND 100mm	2	RESILIENT SEATED GATE VALVE, PN 10	STANDARD	SAND 665	SAND 1123 : 2015 T10003 FLANGED
05	ND 100mm	2	ALL ENDS FLANGED PIPE SECTION	1000mm FF	SAND 719-2007: GRADE B - 4.5mm WALL THICKNESS	SAND 1123 : 2015 T10003 FLANGED
06	ND 100mm	2	SEWAGE PUMP, 400V 50Hz, 20L/s @ 70m	-	-	FLANGES AS PER PUMP SPECIFICATION
07	ND 100mm	2	SWING CHECK VALVE, PN 16	-	AS PER MANUFACTURER'S SPECIFICATION	SAND 1123 : 2015 T16003 FLANGED
08		2	RESILIENT SEATED GATE VALVE, PN 16	STANDARD	SAND 665	SAND 1123 : 2015 T16003 FLANGED
09	ND 100mm	2	ALL ENDS FLANGED PIPE SECTION WITH 90° LONG RADIUS ELBOW, REFER TO DETAIL ON SHEET	900mm CF	SAND 719-2007: GRADE B - 4.5mm WALL THICKNESS	SAND 1123 : 2015 T16003 FLANGED
10	ND 50mm	2	RESILIENT SEATED GATE VALVE, PN 16	STANDARD	SAND 665	SAND 1123 : 2015 T16003 FLANGED
11	ND 50mm	2	AIR VALVE, PN10		AS PER MANUFACTURER'S SPECIFICATION	SUITABLE FOR WASTE WATER
12	ND 100mm	1	ALL ENDS FLANGED, 90° Y PIECE	-	SAND 62	SAND 1123 : 2015 T16003 FLANGED
13	ND 100mm	1	ALL ENDS FLANGED PIPE SECTION	580mm FF	SAND 719-2007: GRADE B - 4.5mm WALL THICKNESS	SAND 1123 : 2015 T16003 FLANGED
14	ND 25mm	3	PRESSURE GAUGE AND BALL VALVE	-	-	-
15	ND 100mm	1	ALL ENDS FLANGED 90° LONG RADIUS ELBOW	152.4mm CF	AND B16.9	SAND 1123 : 2015 T16003 FLANGED
16	ND 100mm	1	ALL ENDS FLANGED PIPE SECTION	2100mm FF	SAND 719-2007: GRADE B - 4.5mm WALL THICKNESS	SAND 1123 : 2015 T16003 FLANGED
17						



ITEM No. 9
SCALE 1:10



Plan View
SCALE 1:25



Isometric View
SCALE

NO.	DESCRIPTION	DATE	BY
REVISIONS			
APPROVED BY:	DATE:		
DRAWN BY:	DESIGNED BY:		
CHECKED BY:	ENGINEER:		
CLIENT APP:	DATE:		
2024/04/08			
SCALE: AS SHOWN			

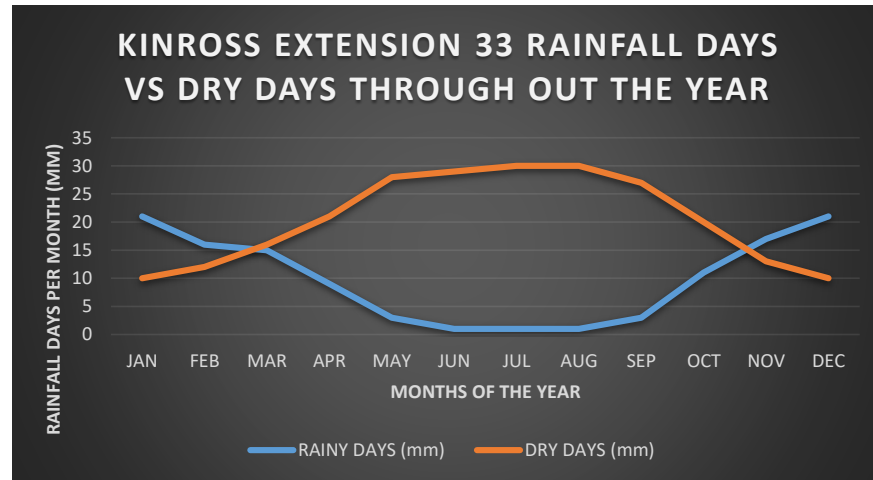


KINROSS EXT. 33 ROADS NETWORK	
DRAWING NAME SUMP STATION 4	
PROJECT NO. DHS/231/24/MP	
DRAWING NO. MP - 231 - 24/304	



PROJECT NUMBER	DHS / 231 / 24 / MP
PROJECT	BULK INFRASTRUCTURE FOR INTERNAL SETTLEMENT IN KINROSS @ 33 UNDER GOVAN MBEKI - CONSTRUCTION OF MUNICIPAL ENG. SRVS
IMPLEMENTING	GOVAN MBEKI MUNICIPALITY & FT CONSULTANTS
DATE	

MONTHS	RAINY DAYS (mm)	DRY DAYS (mm)
JAN	21	10
FEB	16	12
MAR	15	16
APR	9	21
MAY	3	28
JUN	1	29
JUL	1	30
AUG	1	30
SEP	3	27
OCT	11	20
NOV	17	13
DEC	21	10



MONTHS	PRECIPITATION (mm)
JAN	80
FEB	56
MAR	41
APR	16
MAY	6
JUN	1
JUL	1
AUG	1
SEP	8
OCT	48
NOV	67
DEC	85

