



REQUEST FOR QUOTE

Filter Valve Replacement

Regional District of Central Kootenay

Issued: 07-03-2024

Closing Location:

Regional District of Central Kootenay
Box 590, 202 Lakeside Drive
Nelson, BC V1L 5R4

Closing Date and Time:

2:00pm (PST), July 17th, 2024

Stuart Durning

Facility Manager

PH: 236-532-2032

FX: (250) 428-5700

Email: sdurning@rdck.bc.ca

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PART 1 – INVITATION & INSTRUCTIONS TO BIDDERS

1 Invitation & Instructions to Bidders

The definitions set out in Section 3.1 apply throughout this document except when expressly stipulated or the context otherwise clearly indicates.

1.1 Executive Summary

The RDCK is seeking quotes to provide complete, fully tested and operational pool mechanical systems to meet requirements described herein, in complete accordance with applicable codes and ordinances

The RDCK is seeking Quotes for a Contract to supply the Services herein described on or before July 17th 2024.

1.2 Quote Documents

It is the responsibility of the Bidder to ascertain that they have received a full set of Quote documents. Upon submission of their Quote, the Bidder shall be deemed conclusively to have been in full possession of a full set of Quote Documents.

1.3 Intent to Submit

Bidders intending to submit a Quote should provide an email notification to the RDCK Representative.

A Bidder who does not submit an Intent to Submit email may not be sent any amendments or addenda.

No Bidder who sends an Intent to Submit email is obligated to submit a Quote.

1.4 Enquiries

All enquiries related to this Quote are to be directed, **in writing**, to the following person who is hereby designated as the RDCK Representative:

Stuart Durning
Facility Manager
Fax: 250-428-5700
Email: sdurning@rdck.bc.ca

Information about this Request for Quote or any matter pertaining to the Services that is obtained from any source other than the RDCK Representative is not official and should not be relied upon. Enquiries

that are directed to the RDCK Representative and responses will be recorded and **MAY** be distributed to all Bidders at the option of the RDCK.

1.5 Examination of Site(s) and Local Conditions

The Bidder must satisfy themselves as to the practicability of supplying the Services in accordance with the Contract, and shall be held to have satisfied themselves in every particular before submitting a Quote, by inquiry and by inspection of the Site(s) herein described.

If applicable, the Bidder should examine the Site(s) surroundings and, before submitting a Quote shall satisfy themselves as to the nature of the Site(s), the quantities and nature of the Services to be supplied and in general, shall obtain all relevant information as to risks, contingencies and other circumstances which may influence their Quote.

Bidders should make their own arrangements to visit the Site(s) indicated in Appendix A-Site Plan.

1.6 Quote Closing Time and Location

Quotes will be accepted until the Closing Time and the Closing Location indicated on the cover page.

1.7 Quote Submissions

Emailed and faxed Quotes will be accepted. Any Quote received after the Closing Time, or other than in the manner specified, will be considered disqualified and will be returned, unopened, to the Bidder.

A digital PDF format of the Proposal submission may be sent by e-mail to: sdurning@rdck.bc.ca

The RDCK email server has about a 10 mb file size limit. Bidders are to ensure that they have gotten a confirmation of receipt of email prior to the closing time. Larger submissions should be broken down into 2 or more emails or arrangements should be made ahead of time for file transfer by FTP.

Bidders wishing to deliver a Quote submission in paper format to the RDCK must submit one (1) bound and one (1) unbound copy of the Quote document in a **SEALED** envelope clearly labeled "**REQUEST FOR QUOTE – FILTER VALVE REPLACEMENT**".

The Bidder's name and full mailing address must be clearly marked on the outside of the response envelope.

Submissions should be accompanied by a clear indication of the anticipated schedule for the supply of the Services along with any other supporting pertinent information.

Quotes will be received until the Closing Time at the Closing Location indicated on the cover page.

Each Schedule of the Quote Form must be completed and signed by a person authorized to sign on behalf of the Bidder and authorized to bind the Bidder to any statements made in response to this Request for Quote.

1. The Bidder's name and full mailing address must be clearly marked on the outside of the response envelope.
2. The Quote must include the Quote Form.
3. The Quote must include a complete itemized pricing schedule (Schedule 2-Pricing Schedules).
4. The Quote must include a list of the equipment to be used, and in the event of a breakdown, the type of back-up equipment available (Schedule 3-Equipment List).
5. The Quote must include a list of proposed Sub-Contractors, if any (Schedule 4-Proposed Sub-Contractors).
6. The Quote must include a synopsis of all relevant experience. A list of references shall also be included with the Quote (Schedule 5-List of Previous Experience).

1.8 Ownership of Quote and Freedom of Information

All responses to this Request for Quote become the property of the RDCK. By submitting a Quote the Bidder agrees the RDCK has the right to copy the Quote Documents. Quotes will be held in confidence by the RDCK, subject to the provisions of the *Freedom of Information and Protection of Privacy Act* and any requirement for disclosure of all or a part of a Quote under that Act. The requirement for confidentiality shall not apply to any Quote that is incorporated into the Contract for the supply of the Services. Further, the RDCK may disclose all or part of any Quote to the RDCK Board at a public meeting of the RDCK Board of Directors, when making a recommendation for the award of the Contract.

1.9 RDCK's Right to Accept or Reject Quote

The lowest or any Quote will not necessarily be accepted. The RDCK reserves the right in its absolute discretion to: accept the Quote which it deems most advantageous and favourable in the interests of the RDCK; and waive informalities in, or reject any or all Quotes, in each case without giving any notice. In no event will the RDCK be responsible for the costs of preparation or submission of a Quote.

If there is only one compliant Quote received by the Closing Time, the RDCK reserves the right to accept the Quote or cancel the Quote process with no further consideration for the sole Quote. This includes the right to cancel this Request for Quote at any time prior to entering into the Contract with the Contractor. The RDCK reserves the right to cancel this Request for Quote at any time before execution of the Contract without being obligated to any Bidder regardless of whether there is one or more compliant Quotes.

Quotes that contain qualifying conditions or otherwise fail to conform to these Instructions to Bidders may be disqualified or rejected by the RDCK in its absolute discretion. The RDCK may at its sole discretion reject or retain for consideration Quotes which are non-conforming including Quotes that do not conform because they do not contain the content or form required by these Instructions to Bidders or because they have not complied with the process for submission set out herein.

1.10 No Claim for Compensation

Except as expressly and specifically permitted in these Instructions to Bidders, no Bidder shall have any claim for any compensation of any kind whatsoever, as a result of participating in the Request for Quote, and by submitting a Quote each Bidder shall be deemed to have agreed that it has no claim.

1.11 Conflict of Interest

By submitting a Quote, the Bidder warrants that neither it nor any of its officers or directors, or any employee with authority to bind the Bidder has any financial or personal relationship or affiliation with any elected official or employee of the RDCK or their immediate families which might in any way be seen (in the RDCK's sole and unfettered discretion) to create a conflict.

1.12 Anti-Collusion, Fraud & Corruption

The Bidder shall not communicate to any person prior to the opening of Quotes (other than to the RDCK through the delivery of a Quote in the prescribed manner) the amount of any Quote, or at any time adjust the amount of any Quote by arrangement with any other persons, make any arrangement with any other person about whether or not they or that other person should or should not submit a Quote or otherwise collude with any other person in any manner whatsoever in the Quote process.

Any breach of this provision or non-compliance on the part of a Bidder shall, without affecting the Bidder's liability for such breach or non-compliance, result in the Quote's disqualification.

1.13 Confidentiality

Confidential information about the RDCK obtained by Bidders must not be disclosed unless authorized to do so, in writing, by the RDCK. The Bidder agrees that their obligation of confidentiality will survive the termination of any Contract awarded under this Quote process.

1.14 Irrevocability and Acceptance of Quote

After the Closing Time, all Quotes are irrevocable. By submission of a Quote, the Bidder agrees that should its Quote be successful the Bidder will enter into the Contract with the RDCK for the supply of the Services. The Contract shall be on the terms and conditions set out in this Request for Quote and as set out in Appendix B. Each Quote will be irrevocable and open for acceptance by the RDCK for a period of ninety (90) calendar days from the day following the Quote Closing Time, even if the Quote of another Bidder is accepted by the RDCK.

By submission of a clear and detailed written notice the Bidder may amend or withdraw its Quote PRIOR to the Closing Time. Notice in writing must be submitted to the RDCK Representative.

1.15 Irregularities and Informalities

The RDCK reserves the right, at its sole discretion to waive irregularities and informalities in any Quote and to seek clarification or additional information on any area of any Quote when it is in the best interest of the RDCK to do so.

1.16 Discrepancies or Omissions

Bidders finding discrepancies or omissions in the Specifications or other documents or having any doubts on the meaning or intent of any part thereof should immediately request, in writing, clarification from the RDCK Representative who will send written instructions or explanations to all parties having a set of the Quote Documents in accordance with section 1.4. Any work on a Quote done by the Bidder after the discovery of discrepancies, errors or omissions, which the Bidder fails to seek clarification about, shall be done at the Bidder's risk.

1.17 Modification of Terms/Addenda

The RDCK reserves the right to modify the terms of this Request for Quote at any time before the Closing Time in its sole discretion. Written Addenda are the only means of amending or clarifying any of the information contained in the information package. The RDCK may amend or clarify the information package by issuing an Addendum. No employee or agent of the RDCK is authorized to amend or clarify the content of the information package or any Addenda except by issuing an Addendum. The RDCK makes no guarantee as to the timely delivery of any Addendum. Addenda issued prior to closing of this Invitation to Quote shall become a part of the Quote Documents.

1.18 Liability for Errors

While the RDCK has used considerable efforts to ensure an accurate representation of information in this Request for Quote, the information contained in this Request for Quote is supplied solely as a guideline for Bidders. The information is not guaranteed or warranted to be accurate by the RDCK, nor is it necessarily comprehensive or exhaustive. Nothing in this Request for Quote is intended to relieve the Bidders from forming their own opinions and conclusions with respect to the matters addressed in this Request for Quote.

1.19 Basis of Contract Award

Bidders are hereby notified that the RDCK intends to review and enter into the Contract for the supply of the Services based not only on the Quote price, but the Bidder's experience and qualifications considered essential by the RDCK to provide the Services requested and any other criteria the RDCK considers relevant in its absolute discretion, including the following:

- a) the qualifications and experience necessary for the satisfactory performance of the assignment;
- b) the capacity of the Bidder to supply the Services promptly;

- c) the performance of the Bidder on similar projects, record of compliance with all statutes, regulations, and bylaws affecting the Bidder's previous supply of Services;
- d) a positive reference referral from previous experience;
- e) lowest price to the RDCK of having the Services supplied in accordance with the Request for Quote documents;
- f) proposed rebate for commodity value to the RDCK, including comprehensiveness, transparency, ease of tracking price fluctuations, and ease of verifying Contractor's invoice information;
- g) environmental attributes of a Bidder's Quote;
- h) conformity of the Quote to the requirements set forth in the description of Services; and
- i) conformance with the timing provided for in the Description of Services.

The RDCK, when considering the award of the Contract, will take the above prerequisites and the Quote schedules into consideration.

Bidders shall be competent and capable of supplying the Services. Bidders may be required to provide further evidence of previous experience and financial responsibility as outlined in Schedule 5-List of Previous Experience. A reference check on past experience may be performed.

The evaluation process will be conducted solely at the discretion of the RDCK. The RDCK may decide to utilize other criteria in the review of Quotes other than those set forth above; in particular, the price to supply the Services may not be the only or primary criterion that will be utilized by the RDCK. The RDCK reserves the right to make inquiries regarding any or all Quotes and to verify all information submitted by Bidders.

The RDCK reserves the right, at its discretion, to negotiate with any Bidder that the RDCK believes has the most advantageous Quote or with any other Bidder or Bidders concurrently. In no event will the RDCK be required to offer any modified terms to any other Bidder prior to entering into the Contract with the successful Bidder, and the RDCK shall incur no liability to any other Bidder as a result of such negotiations or modifications.

Bidders are advised that, after receipt of Quotes and prior to award of Contract, Bidders may be required to provide the RDCK with additional information concerning the Bidder or their Quote including, but not limited to, a further breakdown of relevant components of the proposed prices.

The RDCK reserves the right to reject any Quotes of a company that is, or whose principals are, at the time of submitting a Quote, engaged in a lawsuit against the RDCK in relation to the supply of goods or services.

The RDCK reserves the right to reject any Quotes of a company that owes, or whose principals owe, monies to the RDCK at the time of submitting a Quote.

1.20 Definition of Contract

This Request for Quote should not be construed as an Agreement or Contract to purchase goods or services. The RDCK is not bound to enter into the Contract with the Bidder who submits the lowest priced Quote or with any Bidder. The RDCK will be under no obligation to receive further information, whether written or oral, from a Bidder after the Quote Closing Time.

Neither the acceptance of a Quote nor the execution of the Contract will constitute approval of any activity or development contemplated in any Quote that requires any approval, permit or license pursuant to any federal, provincial, regional district or municipal enactments.

Notice in writing to a Bidder that it has been identified as the Contractor and the subsequent full execution of a written agreement will constitute the Contract for the supply of the Services and no Bidder will acquire any legal or equitable rights or privileges relative to the supply of the Services until the occurrence of both such events.

1.21 Powers Preserved

Except as expressly set out in this Agreement, nothing in this Request for Quote shall prejudice or affect the rights and powers of the RDCK in the exercise of its powers, duties or functions under the Community Charter or the Local Government Act or any of its bylaws, all of which may be fully and effectively exercised as if this Agreement had not been executed and delivered.

1.22 Form of Contract

By submission of a Quote, the Bidder agrees that, should it be identified as the successful Bidder, it is willing to enter into the Contract detailed in Appendix B with the RDCK within fifteen (15) days of the date of the Notice of Award. The Contract will include of all documents listed below:

- Notice to Proceed
- Contract Agreement
- Part 2 - Description of the Services
- Part 3 - General Contract Conditions
- Part 4 - Payment Clauses
- Part 5 - Contract Form
- Schedule 1 - Description of Services
- Schedule 2 - Pricing Schedules
- Schedule 3 - Equipment List
- Schedule 4 - Proposed Sub-Contractors
- Schedule 5 - List of Previous Experience (Contracts)
- Schedule 6 - Schedule of Addenda
- Schedule 7 - Environmental Attributes
- Certificates of Insurance

WorkSafe BC Clearance Letter

By submission of a Quote, the Bidder agrees that, should it be identified as the Contractor, it is willing provide to the RDCK the necessary Insurance Policies and WorkSafe BC Clearance Letter within fifteen (15) days of the date of the Notice of Award.

PART 2 – DESCRIPTION OF SERVICES

2 Description of the Services

This Part shall be read with and shall form part of the Contract to be executed by the parties.

2.1 Services Required

The Services to be supplied to the RDCK consist of the following: Removal and Replacement of the Lap and Leisure Filter Valve assemblies as per AME Drawings and Spec. A detailed description of the Services and relevant Specifications is set out in Schedule 1.

2.2 Personnel

The Contractor shall, at all times during the term of the Contract, employ a Supervisor charged with the responsibility of supervising the operations of the Contractor. The Supervisor shall represent the Contractor for the supply of the Services, and directions given to him by the RDCK shall be held to have been given to the Contractor. Contact information for the Supervisor shall be given to the RDCK, and the Supervisor shall respond promptly to all requests by the RDCK.

The Contractor shall employ properly qualified and trained equipment operators, labourers and supervisory staff to supply the Services. The Contractor acknowledges that its employees, agents and sub-contractors may come into contact with the public in the execution of the Contract and that it is of primary importance to the RDCK that excellent relations with the public be maintained. All personnel performing work under the Contract shall conduct themselves in a courteous and polite manner towards the public. All Contractor personnel shall wear reflective safety vests and approved safety footwear (or a garment with similar reflective qualities) at all times while performing work under the Contract.

All Contractor personnel shall respond appropriately to environmental management issues that arise during performance of their duties in respect of the supply of the Services (responding to spills, managing found hazardous materials, etc.).

2.3 Contractor's Control of Supply of Services

The Contractor shall have complete control in respect of the supply of the Services and shall effectively direct and supervise the supply of the Services using its best skill and attention. The Contractor shall be solely responsible for all means, methods, techniques, sequences and procedures required for the supply of the Services and for coordinating all parts of the supply of the Services under the Contract.

The Contractor shall carefully examine the Contract Documents and shall promptly report to the RDCK Representative any error, inconsistency or omission they may discover. Although the RDCK may agree to special methods of supplying the Services, the Contractor will not be relieved of their responsibility for

the result. The RDCK's agreement with such special methods shall not constitute ground for claims for the Contractor for any additional payment, nor for relief of their responsibility for the methods used.

2.4 Contractor's Responsibilities

All equipment, labour, materials and associated costs for the supply of the Services will be the responsibility of the Contractor. The Contractor shall have the required expertise to supply the Services in a competent manner. The Contractor's responsibilities shall include, but not be limited to the following:

- a) The Contractor shall safeguard workers by ensuring clean, functional clothing, protective gloves and footwear, in accordance with Worker's Compensation Board regulations, is worn during the performance of the Contract.
- b) The Contractor shall present a positive image to residents by using clean, attractively painted, well maintained vehicles. The Contractor's vehicles shall be maintained in a clean, functional and operational condition with reference to relevant health or sanitary regulations.
- c) The Contractor shall prominently display their name, telephone number and vehicle identification number on each vehicle to be used in the performance of the Contract.

PART 3 – GENERAL CONTRACT CONDITIONS

3 General Conditions of Contract

This Part shall be read with and shall form part of the Contract to be executed by the parties.

3.1 Definition of Terms

The following words and terms, unless the context dictates otherwise, shall have the following meanings. Words having a singular number include the plural and vice versa. References to the male gender refer to the female gender as well when appropriate.

“Addenda” or “Addendum” means any addenda or addendum to this Request for Quote pursuant to section 1.17.

“Agreement” or “Contract” means the written Agreement resulting from this Request for Quote to be executed by the RDCK and the successful Bidder as Contractor as described in section 1.22 and on the terms set out in this Request for Quote and Appendix B.

“Bidder” means the individual, partnership, corporation or combination thereof, including joint ventures, who or which sign the Quote submission.

“Closing Location” means the location described in section 1.6 of these Instructions to Bidders.

“Closing Time” means the Closing date and time described in section 1.6 of these Instructions to Bidders.

“Contract Documents” means the Contract, the Contractor’s Quote Documents, the Request for Quote documents and such other documents as listed in the Contract, including all amendments and addenda agreed to between the parties.

“Contract Price” means the price to be paid by the RDCK for the supply of Services under the Contract.

“Contractor” means the successful Bidder who may be an individual, partnership, corporation or combination thereof, including joint venture, who or which executes the resulting Contract.

“Force Majeure” shall mean any event or circumstance, excluding lack of funds and labour disruptions, not within the reasonable control of the party claiming the

Force Majeure, which prevents or delays that party from meeting an obligation hereunder, and which that party has not been able to overcome by the exercise of due diligence, and including:

- (a) acts of God, including wind, ice and other storms, lightning, floods, earthquakes, volcanic eruptions and landslides;
- (b) epidemics, war (whether or not declared), blockades, acts of public enemies, acts of sabotage or terrorism, civil insurrections, riots and civil disobedience;
- (c) explosion or fire;

“G.S.T”	means the Good and Services Tax administered under the <i>Excise Tax Act</i> (Canada) and any successor tax or levy in force from time to time.
“Instructions to Bidders”	means all instructions, requirements, terms and conditions of this Request for Quote and any addenda thereto.
“Intent to Submit”	means the email notification to the RDCK described in section 1.3 of this Request for Quote.
“Irrevocable Commercial Letter of Credit”	means the Irrevocable Commercial Letter of Credit described in section 3.26.
“Notice of Award”	means the notice of award of the Contract to the Bidder under this Request for Quote.
“Notice to Proceed”	means the notice described in section 3.10.
“P.S.T”	means British Columbia Provincial Sales Tax and any successor tax or levy in force from time to time, including but not limited to the Services and Services Tax.
“Quote”	means the Bidder’s submission.
“RDCK”, “Regional District”	means the Regional District of Central Kootenay, a corporation under the <i>Local Government Act</i> having its offices and postal address at Box 590, 202 Lakeside Drive, Nelson, BC V1L 5R4.
“RDCK Representative”	means the person designated in section 1.4 of this Request for Quote.
“Requirements”	means all of the requirements set out in the Request for Quote and Instructions to Bidders, Description of Services, General Contract

Conditions, Payment Clauses and elsewhere in the Agreement that describes the requirements for the supply of the Services.

“Services” means all goods or services to be supplied under this Request for Quote and all else necessary for the execution, completion and fulfillment of the Requirements and as described in section 2.1 of this Request for Quote.

“Site(s)” means, if applicable, the place where the Services are to be supplied or undertaken by the RDCK, namely Creston & District Community Complex, as shown in Appendix A.

“Specifications” means the requirements for and technical descriptions of the Services as detailed in Schedule 1.

“Sub-Contractor” means any sub-contractor of the Bidder, including those Sub-Contractors listed in Schedule 4.

“Supervisor” means the supervisor employed by the Contractor pursuant to section 2.2.

3.2 Period of Contract

The Contract to be awarded as a result of this Request for Quote shall commence on the agreed upon date between both parties.

The aforesaid Contract shall terminate on December 31, 2024.

The Contract may be extended for up to [# of year/months] by mutual agreement of both parties.

3.3 Assignment

The Contractor shall not sublet, sell, transfer, assign, or otherwise dispose of the Contract, any portion thereof, or their right, title, or interest therein, or their obligations there under without written consent of the RDCK which consent may be withheld unreasonably, except for an assignment to a bank of the payments to be received by the Contractor from the RDCK.

3.4 Insurance

Any Contract resulting from this RFP will require that the Contractor, without limiting its obligations or liabilities and at its own expense, provide **and maintain throughout the Contract term**, the following insurances and such other insurance coverage as the RDCK may reasonably require with insurers licensed in the Province of British Columbia. The Contractor must have their broker complete the RDCK

Standard Certificate of Insurance form and provide the completed form to the RDCK, confirming proof of the insurance requirements below upon execution of this Agreement.

- (a) Automobile Liability (third party) insurance with a minimum limit of \$5,000,000.
- (b) comprehensive commercial general liability insurance against claims for bodily injury, death or property damage arising out of this Agreement or the provision of the Services in the amount of \$ **5,000,000 dollars per occurrence** with a **maximum deductible of \$5,000**;

Such insurance will:

- (i) name the Regional District, its elected officials, employees, officers, agents and others as an additional insured;
 - (ii) include the Contractor's Blanket contractual liability;
 - (iii) include a Cross Liability clause;
 - (iv) include occurrence property damage;
 - (v) include personal injury;
 - (vi) include premises & operations insurance;
 - (vii) include a Waiver of Subrogation clause in favor of the RDCK whereby the insurer, upon payment of any claim(s), waives its right to subrogate against the RDCK for any property loss or damage claim(s);
 - (viii) be primary in respect to the operation of the named insured pursuant to the contract with the RDCK. Any insurance or self-insurance maintained by the RDCK will be in excess of such insurance policy (policies) and will not contribute to it;
 - (ix) require the insurer not cancel or materially change the insurance without first giving the RDCK thirty days' prior written notice; provided that if the Contractor does not provide or maintain in force the insurance required by this Agreement, the Contractor agrees that the RDCK may take out the necessary insurance and the Contractor shall pay to the RDCK the amount of the premium immediately on demand.
- (c) course of construction/builders risk coverage in the amount of the full replacement value of project plus 10% with a maximum \$10,000 deductible;
 - (d) all risk property coverage in an amount sufficient to cover the cost of the contractor's equipment and tools needed for this contract, as well as work product in progress prior to delivery.

The Contractor shall provide proof of insurance coverage on each anniversary date of the Contract.

3.5 Indemnity

The Contractor shall indemnify and save harmless, the RDCK, from and against any and all losses and all claims, demands, payments, losses, costs, damages suits, actions, recoveries, and judgments brought or recovered against them and/or the RDCK by reason of this Request for Quote or any act or omission of the Contractor, its Sub-Contractors, agents, or employees, in the supply or provision of the Services and otherwise in the performance of or failure to perform the Contract, which shall include protecting the Services and protecting the public from hazards arising out of the supply of the Services.

The obligation of the Contractor under this Section shall apply only to the extent that losses, claims, demands, payments, costs, damages suits, actions, recoveries, and judgment claims do not arise solely out of a negligent act or omission of the RDCK, other Contractors or Representatives of the RDCK, as duly appointed by the RDCK.

3.6 Compliance with *Workers Compensation Act*

The Contractor shall ensure compliance, on their part and on the part of all of their Sub-Contractors, with the *Workers Compensation Act* and the Occupational Health and Safety Regulations thereunder.

Prior to supplying any of the Services in the Contract, the Contractor must provide the RDCK with the Contractor's WorkSafe BC number, and must pay and keep current during the term of the Contract, all assessments required by WorkSafe BC in relation to the supply of the Services or the Contract Price. In any case where pursuant to the provisions of the *Workers Compensation Act*, an order is given to the Contractor, or one of their Sub-Contractors in respect to their operations under the Contract to cease operations because of failure to install or adopt safety devices or appliances or methods as directed, or required by the *Workers Compensation Act* or Regulations there under, or because conditions of immediate danger exist that would be likely to result in injury to any person, and the Contractor is not available or capable of removing the danger to life or equipment resultant from the Contractor's operations then the RDCK may issue a Written Notice to the Contractor and may immediately arrange for the removal of this danger and the Contractor shall be liable for the costs of such arrangements, but such act by the RDCK shall not relieve the Contractor of responsibility for injury, loss of life, or damage which may occur in that situation.

In the event that the Contractor refuses or fails to comply with an order under the *Workers Compensation Act* or Regulations thereunder, so that the supply of the Services is stopped, the RDCK may, upon written notice, terminate the Contract and proceed in accordance with Section 3.12-RDCK's Right to Terminate the Contract.

The Contractor shall, during the term of the Contract, maintain Workers Compensation Insurance in order to fully protect both its employees and the RDCK as may be required by law during the term of the Contract and shall on each anniversary date of the Contract, provide the RDCK with proof of payment of claims in good standing with WorkSafe BC by way of a WorkSafe BC Clearance Letter.

3.7 Health and Safety

The Contractor shall be solely and completely responsible for ensuring safety of all persons and property during the supply of the Services. This requirement shall apply during the Contract period and not be limited to normal working hours.

The Contractor shall be liable for any and all injury or damage which may occur to persons or to property due to any act, omission, neglect or default of the Contractor, or of their employees, workmen or agents.

The Contractor shall satisfy the Manager that a safety program has been developed in accordance with the Occupational Health and Safety Regulations, and Safe Work Practices and Procedures of WorkSafe BC and shall incorporate all of the RDCK's operating requirements and restrictions.

The Contractor shall assign an individual responsible and authorized to supervise and enforce compliance with all safety regulations required in the supply of the Services.

3.8 Intent of Contract Documents

The intent of the Contract Documents is that the Contractor shall provide all materials, supervision, labour, equipment and all else necessary for or incidental to the proper supply of the Services described in the Specifications and all incidental work to supply the Services. This is not an Agreement of employment. The Contractor is an independent Contractor and nothing herein shall be construed to create a partnership, joint venture or agency and neither party shall be responsible for the debts or obligations of the other.

3.9 RDCK Representative's Authority

The RDCK Representative will observe the supply of the Services in progress on behalf of the RDCK. The RDCK Representative will have the authority to stop the supply of the Services whenever such stoppage may be necessary, in their opinion, to ensure the proper supply of the Services in accordance with the provisions of the Contract.

3.10 Notice to Proceed

Following the execution of the Contract by the Contractor and the provisions of the required Irrevocable Commercial Letter of Credit and insurance policies, a written Notice to Proceed with the supply of the Services will be given to the Contractor by the RDCK. The Contractor shall supply the Services at the time specified in the Contract or, if applicable, begin supplying the Services on the first day of the Term and shall proceed with the supply of the Services regularly and without interruption thereafter throughout the Term, unless otherwise directed in writing by the Manager or RDCK.

3.11 RDCK's Right to Obtain Services from Other Suppliers

If the Contractor should refuse or fail to supply adequate workmanship, products, or machinery and equipment for the scheduled supply of the Services, or neglects to supply the Services properly, or fails to perform any of the provisions of the Contract, then the RDCK, without prejudice to any of its other rights under the Contract, may notify the Contractor in writing, that the Contractor is in default of their contractual obligations, and instruct him to correct the default within forty-eight (48) hours.

If the correction of the default cannot be completed within forty-eight (48) hours as specified, the Contractor shall be considered to be in compliance with the RDCK's instruction if it commences the correction of the default within the specified time, and in addition provides the RDCK with a schedule that is acceptable to the RDCK in its sole discretion for such correction and completes the corrections in accordance with such schedule.

If the Contractor fails to comply with the provisions of this section the RDCK may, without prejudice to any other right or remedy they may have, obtain the supply of Services from another supplier and may deduct the cost thereof from the payment then or thereafter due the Contractor, or may without notice to the Contractor deduct the cost from the amount secured under the Irrevocable Commercial Letter of Credit.

3.12 RDCK's Right to Terminate the Contract

If the Contractor should:

- a) be adjudged bankrupt, or make a general assignment for the benefit of creditors, or if a receiver is appointed on account of their insolvency, or
- b) fail to make sufficient payments due to their Sub-Contractors, or suppliers, or
- c) disregard laws or regulations that apply to the supply of the Services, or the RDCK's instructions, or
- d) abandon the supply of the Services, or
- e) otherwise violate the conditions of the Contract, the RDCK shall, by written notice, instruct the Contractor to correct the default within forty-eight (48) hours.

If the default is not corrected within forty-eight (48) hours, then the RDCK may, without prejudice to any other right or remedy they may have, terminate the Contract. If notice has been given to the Contractor under Article 3.11-RDCK's Right to obtains Services from other suppliers, then a further notice and time to correct the default is not required and that in addition to correcting the default RDCK may without further notice proceed to terminate the Contract.

If the RDCK terminates the Contract under the conditions set out above, the RDCK shall be entitled to:

- a) obtain the supply of the Services by whatever method is deemed expedient but without undue delay or expense;
- b) withhold any further payments to the Contractor until the supply of the Services is finished;

- c) upon completion of the supply of the Services, determine the full cost of obtaining the supply of the Services including compensation to the RDCK for this additional service and a reasonable allowance to cover the costs of any corrections required under the guarantee, and charge the Contractor the amount by which the full cost exceeds the unpaid balance of the Contract Price; or if such cost of obtaining the supply of the Services is less than the unpaid balance of the Contract Price, pay the Contractor the difference; or if such cost of finishing the supply of the Services is greater than the unpaid balance deduct the difference from the Irrevocable Commercial Letter of Credit.

It is also understood and agreed by and between the parties to the Contract, that in the event of a strike or lockout of the employees of the RDCK taking place during the term of the Contract, during which the supply of the Services may be interrupted or blocked, that the provisions of the Contract requiring payment by the RDCK to the Contractor shall be renegotiated on the basis of the Contractor's actual proven costs for the period.

It is also understood and agreed by and between the parties to the Contract, that in the event of a strike or lockout of the employees of the Contractor taking place during the term of the Contract, during which the supply of the Services may be interrupted or blocked, that the RDCK shall at its option and without penalty or further payment to the Contractor, have the right to unilaterally terminate the Contract, and to remove the Contractor, their employees and equipment from the Site.

3.13 Contractor's Right to Stop Supply of Services or Terminate the Contract

If the supply of the Services should be stopped or otherwise delayed for a period of ninety (90) days or more under an order of any court, or other public authority, and provided that such order was not issued as the result of any act or fault of the Contractor or of anyone directly or indirectly employed by him, the Contractor may, without prejudice to any other right or remedy they may have, by giving the RDCK written notice, hold the RDCK in default.

The Contractor may notify the RDCK in writing that the RDCK is in default of its contractual obligations if the RDCK, subject to requirements of these Contract General Conditions fails to pay to the Contractor when due, any amount due and owing to the Contractor under the Contract. Such written notice shall advise the RDCK that if such default is not corrected within thirty (30) calendar days from the receipt of the written notice the Contractor may, without prejudice to any other right or remedy it may have, stop the supply of the Services and terminate the Contract.

If the Contractor terminates the Contract under the conditions set out above, they shall be paid for all Services supplied and for any loss sustained upon products and construction machinery and equipment, with reasonable profit up to the time that the Contract is terminated. If the Contractor terminates the Contract this is their sole remedy and the RDCK will not be liable for any additional costs or for any loss of profit following termination.

3.14 Sub-Contractors

The Contractor agrees to preserve and protect the rights of the RDCK with respect to any supply of Services or work performed under the Contract and shall:

- a) enter into Contracts or written Agreements with the Sub-Contractors requiring them to supply Services and perform work in accordance with and subject to the terms and conditions of the Contract Documents; and
- b) be as fully responsible to the RDCK for acts and omissions of the Sub-Contractors and of persons directly or indirectly employed by them as for acts and omissions of persons directly employed by the Contractor.

The Contractor therefore shall incorporate all terms and conditions of the Contract General Conditions into all Sub-Contract Agreements they enter into with their Sub-Contractors, insofar as they are applicable.

The Contractor agrees to employ only those Sub-Contractors proposed by him in writing in Schedule 4-Proposed Sub-Contractors, and accepted by the RDCK for such portions of the supply of the Services as may be designated.

The RDCK may, for reasonable cause, object to the use of a proposed Sub-Contractor and require the Contractor to employ another that is acceptable to the RDCK. Under these circumstances, the RDCK will advise the Contractor, in writing, of its objection to a Sub-Contractor. The Contractor shall provide the names of alternate Sub-Contractors for that part of the supply of the Services, each of whom must be acceptable to the RDCK. The Contractor and the RDCK will then agree as to which new Sub-Contractor shall be used.

Nothing contained in the Contract General Conditions shall create any contractual obligation between any Sub-Contractor and the RDCK.

Sub-Contractors shall not further sub-contract any portion of the supply of the Services that is the subject of their sub-contract without prior written approval of the RDCK, which may not be withheld unreasonably.

3.15 Private Land

If applicable, it shall be the Contractor's responsibility to ascertain the boundaries within which the supply of Services must be confined. The Contractor shall not enter upon lands other than those provided by the RDCK for any purpose without obtaining prior written permission of the land-owners and occupiers. A copy of the written permission is to be provided to the RDCK prior to entry upon private lands.

The Contractor shall not enter upon lands owned by others on which the RDCK has easements or rights-of-entry without having received the prior written authorization of the RDCK for such entry. It shall be

the Contractor's responsibility to ascertain from the RDCK the conditions on which easements of rights-of-entry have been granted on private lands and to abide by these conditions throughout.

3.16 Dispute Resolution

All claims, disputes or issues in dispute between the RDCK and the Contractor shall be decided by mediation or arbitration if the parties agree, or failing agreement, in a court of competent jurisdiction within the Province of British Columbia. All procedures for the resolution of disputes arising in relation to the Contract shall be governed by the laws of British Columbia, Canada.

In the event that the parties agree to arbitration, the arbitration shall be governed by the rules of the British Columbia International Arbitration Centre, except that the Arbitrator(s) shall be agreed upon by the parties, and failing agreement by the parties, shall be appointed by a court of competent jurisdiction within the Province of British Columbia, Canada.

Arbitration will take place in the Southern Interior of British Columbia and be governed by the laws of the Province of British Columbia, Canada.

3.17 Taxes and Duties

The Contractor shall pay all government sales taxes, customs duties and excise taxes with respect to the Contract including but not limited to any GST or PST. The Contractor is required to identify any applicable tax separately on all invoices and the RDCK is liable to pay this amount to the Contractor. Where an exemption of government sales taxes, custom duties or excise taxes is applicable to the Contract by way of the Contractor filing claims for, or cooperating fully with the RDCK and the proper authorities in seeking to obtain such refunds, the procedure shall be established in a Supplementary Condition.

3.18 Staff Resources and Management

The Contractor shall, at all times during the term of the Contract, have a Supervisor charged with the responsibility of supervising the operations of the Contractor and shall maintain a local office at all times and a telephone staffed during all working hours throughout the duration of the Contract.

The Contractor shall employ properly qualified and trained equipment operators, labourers and supervisory staff for the operation of the Contract and shall make available a sufficient number of staff to complete the supply of the Services. Failure or delay in the performance of the Contract due to the Contractor's inability to obtain personnel of the number and skill required shall constitute a default of the Contract.

The Contractor shall ensure that no person will be discriminated against because of race, colour, sex, age, religion or origin. Wages and hours of labour employed shall be in accordance with all applicable federal, provincial and municipal enactments. The Contractor shall, at all times, enforce discipline and good order among their employees, and shall not employ on the Site any unfit person or anyone not skilled in the

work assigned to them. Any persons employed on the Site, who become intoxicated, intemperate, disorderly, incompetent or willfully negligent, shall, at the written request of the RDCK Representative, be removed from the Site and shall not be employed again in any portion of the supply of the Services without the approval of the RDCK Representative.

3.19 Right to Audit

Upon reasonable notice the Contractor and/or any Sub-Contractors shall provide the RDCK and its internal auditors, external auditors, its regulators and such other entities/persons as the RDCK may designate, with unrestricted access at reasonable times to the data and records relating to the supply of the Services, including but not limited to the Contractor's marketing and sale of the recyclable material, the amounts charged to the RDCK by the Contractor, and the amounts of any commodity value rebates that are payable. Such access will be provided in order to verify the accuracy of charges and invoices for the Services supplied.

3.20 Change in the Services

The RDCK, without invalidating the Contract, may make changes by altering, adding to, or deducting from the Services. The Contractor shall proceed with the supply of the Services as changed and the Services shall be supplied under the provisions of the Contract. No changes shall be undertaken by the Contractor, without written order from the RDCK, except in an emergency endangering life or property, and no claims for additional compensation shall be valid unless the change in writing was so ordered.

If such changes affect the requirements of the Contract, they will be so specified at the time of ordering the changes. The value of the addition or deduction from the Contract Price, and the method of determining such value, shall be by unit prices or combinations of unit prices as specified in Schedule 2- Pricing Schedules, or use one of more of the following methods in deciding such value:

- a) by unit prices submitted in the Quote
- b) by unit prices submitted by the Contractor and accepted by the RDCK
- c) by lump sum on the Contractor's estimate and accepted by the RDCK
- d) on a force account basis as specified hereinafter.

3.21 Contract Performance Reviews

From time to time as deemed necessary, the Manager may request that the Contractor participate in a Contract performance review. Documented performance arising from such reviews may be used as basis for alteration of the description of Services or suspension/termination of the Contract.

3.22 Rights of Waiver

A waiver of any breach of or provision of the Contract will not constitute or operate as a waiver or any other breach of any other provision, nor will any failure to enforce any provision herein operate as a waiver of such provisions or of any other provisions.

3.23 Duty of Care

The Contractor acknowledges that the RDCK, in the preparation of the Contract documents, provision of oral or written information to Bidders, review of Quotes or the carrying out of the RDCK's responsibilities under the Contract, does not owe a duty of care to the Contractor and the Contractor waives for itself and its successors, and waives the right to sue the RDCK in tort for any loss, including economic loss, damage, cost or expense arising from or connected with any error, omission or misrepresentation occurring in the preparation of the Contract documents, provision of oral or written information to Bidders, review of Quotes or the carrying out of the RDCK's responsibilities under the Contract.

3.24 Severability

All sections of the Contract are severable one from the other. Should a court of competent jurisdiction find that any one or more sections herein are void the validity of the remaining paragraphs hereof will not be affected.

3.25 Compliance with Permits, Laws and Regulations

The laws and regulations of the place where the Services are supplied shall govern.

The Contractor shall give all required notices and comply with all laws, ordinances, regulations, codes and orders of all authorities having jurisdiction relating to the supply of the Services, to preservation of public health, and to construction safety. If the Contractor observes anything in the Contract Documents to be at variance with the foregoing, they shall promptly notify the RDCK, in writing, and await the RDCK instructions. If the Contractor supplies any Services or performs any work, knowing it to be contrary to such laws, ordinances, regulations, codes or orders, and without giving notice requesting instructions from the RDCK, they shall bear all costs arising there from.

The Contractor shall, at their own expense, procure all permits, licenses and certificates required by law for the supply of the Services.

The Contractor will give all notices and obtain all the licenses and permits required to supply the Services. The Contractor will comply with all laws applicable to the supply of the Services and performance of the Contract.

Any Contract resulting from this Request for Quote will be governed by and will be construed and interpreted in accordance with the laws of the Province of British Columbia.

3.26 Security for Supply of Services

~~Unless otherwise agreed in writing by the RDCK may, in its absolute discretion, the Contractor shall provide to the RDCK security for the performance of its obligations under the Contract in the form of an~~

~~Irrevocable Commercial Letter of Credit in the amount of [%Amount]% of the Contract Price detailed in Schedule 2 of this Request for Quote, which security shall be issued by a financial institution within the RDCK that is acceptable to the RDCK in its absolute discretion and in form and substance approved by the RDCK.~~

3.27 Force Majeure

In the event that either party is rendered wholly or partly unable to perform its obligations hereunder as a result of an event of Force Majeure, then subject to the RDCK's right of termination under Article 3.12- RDCK's Right to Terminate, the Contract, that party will be excused from whatever performance is affected by the event of Force Majeure, to the extent so affected, provided that:

- a) the non-performing party promptly after the occurrence of the event of Force Majeure gives the other party notice describing the particulars of the occurrence;
- b) the suspension of performance is of no greater scope and of no longer duration than is required by the event of Force Majeure;
- c) the non-performing party uses reasonable commercial efforts to remedy its inability to perform; and
- d) when the non-performing party is able to resume performance of its obligations hereunder, that party will give the other party written notice thereof.

PART 4 – PAYMENT CLAUSES

4 Payment Clauses

This Part shall be read with and shall form part of the Contract.

4.1 Payment for Services

This Part sets out the method of measurement and payment to compensate the Contractor for the supply of the Services.

Payment will be made by the RDCK to the Contractor within thirty (30) days of submission by the Contractor of complete service detail for the Services supplied in the previous month during the term of the Contract.

4.2 Goods and Services Tax

The Contractor shall identify the GST as separate line item on all invoices.

4.3 Payment Withheld or Deducted

The RDCK may withhold payment on any Progress Payment as may be necessary or prudent to protect itself from loss on account of:

- a) the Contractor is not making satisfactory progress with the supply of the Services;
- b) defective Services which are not remedied;
- c) if applicable, there are claims of lien, or liens (or a lien) filed against any premises of which the Services are supplied or being supplied, or reasonable evidence of the probable filing of such claims of lien or of filing or registration of liens (or a lien) as a result of the failure of the Contractor to make payment properly to Sub-Contractors or for materials, labour, or otherwise;
- d) damages caused to another party by the Contractor;
- e) any other evidence of loss or danger of loss on the part of the RDCK, resulting from of the Contractor's operations.
- f) the RDCK has corrected deficiencies under section 3.11-RDCK's Right to Obtain Services from other suppliers.

4.4 Monies Due to the RDCK

The Contractor's payment for any commodity value to the RDCK, if any is required by the Contract, will be provided to the RDCK monthly.

All monies payable to the RDCK by the Contractor under any stipulation herein or as provided in section 3.11-RDCK's Right to obtain Services from other suppliers, or section 4.5-Liquidated Damages, may be

retained by the RDCK out of any monies due, or which may become due, from the RDCK to the Contractor under this or any other Contract with the RDCK, or the RDCK may demand payment to the RDCK by the Contractor, or the RDCK may deduct monies from the Irrevocable Commercial Letter of Credit. The RDCK shall have full authority to withhold any amount or estimated amount, if circumstances arise which may indicate the advisability of so doing, though the final sum to be retained may be unascertained.

The RDCK may also, at its discretion, calculate into the monies due to the RDCK, the RDCK's staff time plus a 10% overhead in any event where the RDCK has had to correct deficiencies as per section 3.11-RDCK's Right to Obtain Services from other suppliers.

4.5 Liquidated Damages

In case the Contractor fails to commence or complete the supply of the Services in accordance with the Contract, and to the satisfaction of the Manager, within the time or times specified, the Contractor shall pay to the RDCK a sum of the annual Contract Price divided by 365 for each and every day that the Services have not been supplied after the times specified; which sum or sums, in view of the difficulty of ascertaining the losses which the RDCK will suffer by reason of delay in the supply of Services, is hereby agreed upon and fixed as a reasonable measure of the RDCK's costs and determined by the parties hereto as the liquidated damages that the RDCK will suffer by reason of said delay and default, and not as a penalty. The RDCK may deduct and retain the amounts of such liquidated damages as per section 4.4-Monies Due to the RDCK.

4.6 Negotiations During Contract Term

If the RDCK requires changes to the supply of the Services, negotiations for payment to the Contractor for Services not specified herein shall be based on a comparison of similar Services that are specified herein, and as specifically measured by the increase or decrease in process time required, manpower, equipment, etc., each of which will be specifically identified, fully itemized, and at the discretion of the Manager, justified. If similar comparison is not practical, then the item will be specifically negotiated, based on time required, manpower, equipment, etc., each of which will be specifically identified and fully itemized.

QUOTE FORM



REQUEST FOR QUOTE

Filter Valve Replacement

CLOSING DATE & TIME: 2:00pm, July 12th, 2024

COMPANY NAME: _____

MAILING ADDRESS: _____

CITY/POSTAL CODE: _____

EMAIL ADDRESS: _____

DATED: _____

TO: Regional District of Central Kootenay
Box 590, 202 Lakeside Drive
Nelson, BC V1L 5R4

The Bidder has carefully examined the Site(s) where the Services will be supplied or used and the Contract Documents for the Filter Valve Replacement.

The undersigned Bidder understands the conditions under which the Services are to be supplied and offers to provide all necessary labour, machinery, tools, equipment, apparatus and other means of construction and do all work and furnish all materials called for by the Contract Documents in the manner prescribed herein and in accordance with the Regional District's requirements, for the rates quoted in Schedule 2- Pricing Schedules and in accordance with the other Schedules of this Quote.

The immediately following schedules, entitled Schedules 1 to 6, shall be read with and form part of this Quote as if embodied herein. The Quote includes all addenda numbers _____ to _____ inclusive.

The Bidder understands and agrees that:

- a) the proposed rates specified in Schedule 2-Pricing Schedules include all taxes, duties and all other additional charges on any materials, equipment and labour, except the GST which shall be charged separately;
- b) payment will be made only for the supply of Services specified in the Contract. Payment will be made according to the rates proposed in Schedule 2-Pricing Schedules;
- c) The lowest or any Quote will not necessarily be accepted. The RDCK reserves the right in its absolute discretion to: accept the Quote which it deems most advantageous and favorable in the interests of the RDCK; and waive informalities in, or reject any or all Quotes, in each case without giving any notice. In no event will the RDCK be responsible for the costs of preparation or submission of a Quote;

If there is only one compliant Quote received by the Closing Time, the RDCK reserves the right to accept the Quote or cancel the Quote process with no further consideration for the sole Quote. This includes the right to cancel this Request for Quote at any time prior to entering into the Contract with the Contractor. The RDCK reserves the right to cancel at any time before award of the Contract without being obliged to any Bidder – not just where there is only one compliant Quote; and

- d) The RDCK reserves the right, at its sole discretion to waive irregularities and informalities in any Quote and to seek clarification or additional information on any area of any Quote when it is in the best interest of the RDCK to do so. The RDCK, however, may at its sole discretion reject or retain for consideration Quotes which are non-conforming because they do not contain the content or form required by these Instructions to Bidders or because they have not complied with the process for submission set out herein.

The Bidder agrees as follows:

- a) If the undersigned is notified in writing of the acceptance of their Quote, it agrees that within fifteen (15) days of the date of the Notice of Award they will enter into an Agreement and execute the Contract for the supply of the Services and guarantees completion of the Contract in accordance with the Contract Documents;
- b) Within fifteen (15) days from the date of the Notice of Award of this Quote, to furnish to the Regional District, the specified insurance and WorkSafe BC clearance letter for the performance of the Contract;
- c) To begin supply of the Services on the date specified in the Notice to Proceed;
- d) Except as expressly and specifically permitted in these Instructions to Bidders, no Bidder shall have any claim for any compensation of any kind whatsoever, as a result of participating in this Request for

Quote, and by submitting a Quote each Bidder shall be deemed to have agreed that it has no claim; and

- e) The RDCK reserves the right, at its discretion, to negotiate with any Bidder that the RDCK believes has the most advantageous Quote or with any other Bidder or Bidders concurrently. In no event will the RDCK be required to offer any modified terms to any other Bidder prior to entering into the Contract with the successful Bidder, and the RDCK shall incur no liability to any other Bidder as a result of such negotiations or modifications.

Signature of Bidder

Authorization

I/we hereby certify that the prices and dates and other information contained in this Quote are correct, and that the signatures below are those of duly authorized officers of our company having the power necessary to make such a Quote.

It is hereby agreed that once the Quotes for the Contract have been opened, this Quote and the offer constituted thereby shall not be revoked before EITHER acceptance thereof by the Regional District OR the expiration of ninety (90) calendar days after the opening of Quotes for the Contract, whichever shall first occur.

SIGNED, SEALED AND DELIVERED by:

Name of Bidder (Company)

In the presence of:

Name (printed)

Witness Name (printed)

Authorized Signature

Witness Signature

Address (printed)

Address (printed)

Address (printed)

Address (printed)

Telephone Fax

Telephone Fax

DATED at _____ this _____ day of _____, 20_____.

SCHEDULES

- Schedule 1 - Description of Services
- Schedule 2 - Pricing Schedules
- Schedule 3 - Equipment List
- Schedule 4 - Proposed Sub-Contractors
- Schedule 5 - List of Previous Experience (Contracts)
- Schedule 6 - Schedule of Addenda
- Schedule 7 - Environmental Attributes

SCHEDULE 1 – DESCRIPTION OF SERVICES

Recommended Site Visit July 8th at 10:00am

Work Must Be completed on: Lap pool Between August 26 – 28th 2024
 Leisure Pool Between August 26 – 30th 2024

Contractor will remove and replace Lap and Leisure Pool Filter Valve Assembly and Piping As per AME specs below and Drawings in Appendix A

2.1 Piping Material

- .1 Pool Piping and fittings (including hydro-air piping)
- .1 Below Grade – Concrete Encased, PVC Schedule 40 to CSA-B137.3.
- .2 Above Grade - PVC Schedule 80 to CSA-B137.3.

2.2 Joints & Fittings

- .1 Solvent weld for PVC: to ASTM D2564.
- .2 Solvent weld for ABS: to ASTM D2235.
- .3 Compression fitting for Polyethylene tubing
- .4 Galvanized Pipe - Teflon tape: for threaded joints.
- .5 Copper Pipe - Solder: 95/5 - tin copper alloy: lead free.
- .6 Flanged connections to all equipment or dissimilar materials
- .7 Saddle tees not to be use below or above grade.

2.3 Valves

- .2 Butterfly Valves:
 - .1 75 mm to 300 mm
 - .1 Wafer style bodies one piece molded, with a full set of ANSI class 150 flange locating bolt holes.
 - .2 Discs shall be solid PVC; complete have double EPDM O-ring seals at the top and bottom assuring that the shaft is non-wetted.
 - .3 Shaft shall be one-piece high tensile stainless steel having an engagement over the full length of the disc with no disc screws.
 - .4 Seat shall be removable EPDM and shall provide 100% bubble tight closure all sizes, with two concentric convex molded rings on flanged face to function as a low torque gasket. Seal shall effectively isolate the body and shaft from the fluid media.
 - .5 75 mm to 150 mm shall have hand lever molded of polypropylene over a steel core and have a polycarbonate 13-position lock.

.6 200 mm to 600 mm are to be supplied with baked epoxy coated waterproof gear operator, with PVC covered handwheel shaft and O-ring seal, SS fasteners, sealed visual position indicator and open/close travel stops which allows adjustment for seat wear.

.7 Provide chain-operator for frequent-use valves placed at high level.

.8 One-piece molded PVC bodies, are to be made of Type 1, Grade 1, cell classification 12454-A, with minimum suffix "B" designation for chemical resistance as per ASTM D-1784.

.9 PVC, compound and EPDM seals shall meet CSA Standard B-137.0 Para 5.2.1 environmental requirements for toxicity.

.10 Lug style butterfly valves are allowed.

.2 Acceptable Manufacturer:

.1 Chemline

.2 Hayward

.3 Georg Fischer

2.5 Hangers & Supports

.1 General Requirements:

.1 Construct pipe hanger and support to manufacturer's recommendations utilizing manufacturer's regular production components, parts, and assemblies.

.2 Base maximum load ratings on allowable stresses prescribed by ASME B31.1 or MSS SP58.

.3 Ensure that supports, guides, anchors do not transmit excessive quantities of heat to building structure.

.4 Design hangers and supports to support systems under conditions of operation, allow free expansion and contraction, prevent excessive stresses from being introduced into pipework, or connected equipment.

.5 Provide for vertical adjustments after erection and during commissioning. Amount of adjustment in accordance with MSS SP58.

.6 Provide seismic restraints for all piping. Retain seismic engineer to approve restraint of pool piping systems. Refer to section 23 05 48 – Vibration and Seismic Control for Mechanical.

.7 Restrain piping against water hammer as experienced under any operating conditions, using appropriate restraints.

.8 Hangers and restraints located in the aquatic area, aquatic storage rooms, and basement and main floor mechanical rooms shall be epoxy coated.

.2 Finishes:

.1 Provide epoxy marine grade coating on all supports located in aquatic area, aquatic storage rooms, basement and main floor mechanical rooms.

.4 Upper attachment to concrete:

.1 Ceiling: carbon steel welded eye rod, clevis plate, clevis pin, and cotters with weldless forged steel eye nut. Ensure eye 6-mm minimum greater than rod diameter.

.2 Concrete inserts: wedge shaped body with knockout protector plate UL listed to MSS SP69.

.6 Hanger rods: threaded rod material to MSS SP58:

.1 Ensure that hanger rods are subject to tensile loading only.

.2 Provide linkages where lateral or axial movement of pipework is anticipated.

3.1 Installation

.1 Install in accordance with Provincial Plumbing Code and BC Health code. Contractor to make assessment of documents bearing in mind good industry practices for pool mechanical systems and requirements of a complete mechanical system. Contractor to note potential discrepancies or omissions plans and note at time of tender and prior to equipment installation.

.2 Provide all required pipe fittings, straight pipe runs, and other connections required by controls contractor. Coordinate equipment types and locations prior to installation of pipelines.

.5 Provide identification flow arrows and adhesive stencil labels using full-word descriptions of piping systems.

3.2 Pool Piping & Connections

.1 All piping shall be stored above grade and covered for protection from weather. Piping sitting on the ground will be marked & will not be allowed to be installed. Unprotected piping creates bacterial growth when the systems are filled and heated. Plastic piping is not to be exposed to sunlight.

.2 All gluing, welding or cementing of piping shall be done at temperatures exceeding 5C. Temporary hording will not be considered as meeting the above requirement. .3 For graded piping and structural penetrations, verify inverts and pipe position allows maintaining a pipe run underground or through a mechanical room area, prior to setting sleeves or waterstop penetrations.

.8 Support piping upon or against structure prior to encasement with mechanical supports as required. Restrain against movement prior to concrete pour.

.9 Mechanical room piping layout to allow ready access to critical/regularly used valves by operator. Verify status of particular with consultant prior to beginning installation if in question.

.12 Provide Flange connections when connecting to equipment.

.13 Provide Flange connections when changing materials.

.14 All unions to be S-80 PVC, c/w EPDM O-rings. All unions to be by one manufacturer to ensure easy resupply of o-rings.

.15 Apply silicone grease to all system o-rings and union threads to ensure ease of assembly.

.16 Provide seismic restraints as per direction of seismic engineer and provide additional restraints against water hammer in piping as may be required.

.17 All Flange bolts and washers shall be suitable for a corrosive environment. Acceptable materials are stainless steel or equal.

.18 Torque all flange bolts, observing flange torque requirements, prior to system start-up to ensure long-term water tightness of system.

.19 Maintain clearance to allow flange bolt removal.

.20 Use spigot flanges where required to reduce equipment layout dimensions where necessary.

.23 P.V.C. pipe shall not be threaded on site. Use tees for large differential connections. Bolton and wedge-lock saddles are acceptable. Gear clamp saddles are not acceptable. Drill and tapping of pipe shall be used as a last resort under the following conditions:

.1 No drill and tapping whatsoever shall be used under slab. Drill and tap in mechanical room space on the mechanical room side of all isolation valves only.

.2 Where possible, tap one size larger and required and install thread x thread reducing bushing to strengthen tapping installation.

.3 Only use Sch-80 pipe for tapping. Locate tappings as required for equipment installation.

.4 In mechanical room only, drill and tap for equipment where reducing tees prevent proper device installation (i.e. flow switches and temperature sensors) and where:

.5 Threads \leq 25mm diameter are tapped into pipes \geq 150mm diameter. For larger tappings or smaller pipes, use reducing tees. Do not tap pipes $<$ 150mm diameter EXCEPT in case of chemical injection points, which require exposure to centre of flow within pipeline.

.6 Tap, thread, glue, and epoxy all tapped connections except quipment/chemical injection points. Repair all leaks after pressure testing as required.

.24 Pipe Fastening

- .1 P.V.C. hot air welding in strict accordance with manufacturers recommendations shall be allowed only for non-leak flanges or back welding of glued fittings, or by permission of the Engineer.
- .2 Obtain manufacturers procedure literature before welding of pipe. Submit this literature to engineer as part of shop drawings. Have the procedures on site during installation of all piping.
- .3 When welding is allowed, the contractor shall demonstrate to the engineer his ability to properly weld P.V.C. piping prior to welding finished products.
- .4 All cementing shall be done at temperatures exceeding 5C. Submit manufacturers written procedures if welding at colder temperatures.
- .5 Piping must be cut square and all burrs removed from inside and outside of cut end of pipe.
- .6 All piping shall be cleaned prior to cementing.
- .7 Following manufacturers published literature for priming and gluing of pipe ensuring the use of correct size of brush and that fittings are twisted 90 prior to glue setting.
- .8 For pipes over 300 mm, joints shall be clamped for specified curing time.
- .9 Copper ring compressor piping to be provided with flange connections to PVC.

3.3 Valves

- .2 Butterfly Valves:
 - .1 Connect butterfly valves with flanges. Maintain upstream/downstream pipe alignment and tension to prevent unequal or excessive compression of valve components.
 - .2 Provide chain operators for regularly-used butterfly valves located at high level.

3.4 Supports & Hangers

- .1 Refer to Section 23 05 29 – Hangers & Supports for Mechanical Piping & Equipment for additional information.
- .2 Hangers to be epoxy coated in all mechanical rooms.
- .3 Provide all required reinforcing bar, blocking, straps for proper support and concrete coverage when concrete encasing piping.

Maximum Spacing (mm) Pipe size	25 mm	30mm	40mm	50mm	65mm	75mm	100mm	150mm	250-300mm
Temp Range Up to 27 C	0.9 m	1.5 m	1.5 m	1.5 m	1.8 m	2.1 m	2.4 m	2.7 m	2.1 m

Between 27C – 37C	0.9 m	1.2 m	1.2 m	1.2 m	1.5 m	1.8 m	2.1 m	2.4 m	2.1 m
Over 37C	0.9 m	.09 m	1.2 m	1.2 m	1.2 m	1.5 m	1.5 m	1.8 m	2.1 m
Hanger Rod Diameter	10 mm	10 mm	10 mm	10 mm	10 mm	10 mm	12 mm	12 mm	15 mm

.4 Minimum one hanger per section of pipe.

.5 Install hangers a maximum 300mm away from an elbow. Support on both sides of elbows.

.6 Provide seismic restraints as per direction of seismic engineer.

.7 Provide restraints against water hammer in particular piping locations as required and determined at time of equipment startup.

SCHEDULE 2 – PRICING SCHEDULES

This section shall be read with and shall form part of the Contract Form. The Bidder hereby proposes the following prices to provide all materials, supervision, labour, equipment and all else necessary for the proper supply of the Services. Costs of a general nature that do not pertain to any one item shall be pro-rated among all items. No claim for extra payment on the grounds that the Services supplied could not be properly charged to items within the Description of Services will be considered.

[Enter required pricing schedule/tables]

Signature of Bidder

SCHEDULE 5 – LIST OF PREVIOUS EXPERIENCE (CONTRACTS)

The Bidder shall fill in details below of the most recent contracts they have undertaken with the supply of Services of a nature similar to this proposed Contract.

It is the intention of Regional District of Central Kootenay to use the information given below to assess the experience of the Bidder in the appropriate supply of Services. The RDCK may contact the references given below before awarding the Contract.

Bidder's Experience on Projects of a Similar Nature

Project: _____ Value: _____

Owner: _____ Phone Number: _____

Description: _____

Project: _____ Value: _____

Owner: _____ Phone Number: _____

Description: _____

Project: _____ Value: _____

Owner: _____ Phone Number: _____

Description: _____

Signature of Bidder

SCHEDULE 6 - ADDENDA

It is herewith acknowledged that the following Addenda have been received and form part of the Quote.

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

Signature of Bidder

SCHEDULE 7 – ENVIRONMENTAL ATTRIBUTES

The Regional District of Central Kootenay has committed to reducing corporate emissions and achieving carbon neutral operations under the provisions of the Provincial Climate Action Charter. Bidders are requested to provide details on what, if any, environmental attributes they will incorporate into the supply of the Services. Consideration of environmental attributes will form part of the overall evaluation of Quotes.

Examples of environmental attributes include but are not limited to:

- Bidder’s corporate efforts to reduce greenhouse gas emissions;
- Bidder’s use of alternative fuels in transportation operations;
- Bidder’s use of cleaner burning diesel engines in vehicles; and
- Bidder’s effort to limit the carbon footprint.

(If additional space is required use reverse side of this page.)

Signature of Bidder

APPENDIX A – SITE PLAN

See Attached.

APPENDIX B – CONTRACT



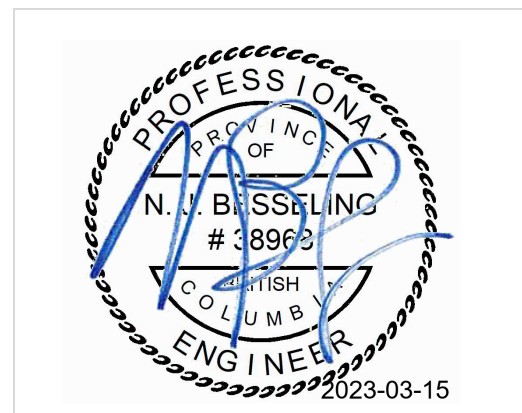
CRESTON & DISTRICT COMMUNITY COMPLEX

PROJECT NO.: 512c-001-22

MECHANICAL SPECIFICATION

Issued for Tender
March 15, 2023

Address Postal Code
T Phone



PROFESSIONAL'S SEAL & SIGNATURE

Section No.	Section Title
Division 13	
13 40 00	Swimming Pool General Conditions
13 40 01	Swimming Pool Piping

1. General

1.1 CONFORMANCE

- .1 Conform to Division I, General Requirements.

1.2 General Requirements

- .1 Provide complete, fully tested and operational pool mechanical systems to meet the requirements described herein, in complete accordance with applicable codes and ordinances.
- .2 Install in accordance with British Columbia Plumbing Code and British Columbia Health code, British Columbia Guidelines for Swimming Pool Design, British Columbia Building Code and electrical codes describe minimum standards of installation only and may be superseded by contract document requirements.
- .3 Contract documents of this Division and Drawings are diagrammatic and approximately to scale unless detailed otherwise. They establish scope, material and installation quality and are not detailed installation instructions.
- .4 Follow manufacturer's recommended installation details and procedures for equipment, supplemented by requirements of Contract Documents.
- .5 Install equipment generally in locations and routes shown close to building structure with minimum interference with other services or free space. Remove and replace improperly installed equipment to satisfaction of the Consultant at no extra cost. Coordinate with other trades prior to installing piping or equipment. If conflicts are found, notify consultant for instruction. Extras for improper coordination and removal of equipment to permit remedial work shall not be allowed.
- .6 Should inconsistencies exist such as the drawings disagreeing within them or with the specifications, the better quality and/or greater quantity of work or materials shall be estimated upon, performed and furnished unless otherwise clarified by the Consultant in writing during the bidding period.
- .7 Connect to equipment specified in other Sections and to equipment supplied and installed by other Contractors or by the Owner. Uncrate equipment, move in place and install complete, start-up and test. Include all field assembly of loosely/separately packaged accessories
- .8 The project is required to be completed by the end of the planned pool shutdown in September. It is the contractor's responsibility to provide a construction schedule that meets this requirement within the shutdown period of 3 weeks.
- .9 There will be a mandatory bidders walkthrough scheduled by the City.
- .10 The contractor is responsible for hiring a electrical contractor and engineer as required with a design build contract, such that the electrical connections required to implement this project are included in this project scope.

1.3 RELATED WORK SPECIFIED IN OTHER SECTIONS

.1 13 40 01 Swimming Pool Piping Division 13

1.4 Scope of Work

- .1 The project consists of replacement of:
 - .1 Replacement of Filter Existing Face Piping and appropriate valve accessories (Valves & gauges) for all 6 pool filters with new piping and butterfly valves.
 - .2 Contractor is responsible for any lifts or cranes required to complete this.
 - .3 Provide new isolation valves at face pool piping and connect to existing per drawings.
 - .4 Provide new pressure gauges, coupling and all associated piping components.
 - .5 Provide adequate support to renovated pool piping.

1.5 MATERIALS

- .1 Materials and equipment installed shall be new, full weight and of quality specified. Use same brand or manufacturer for each specified application.
- .2 Statically and dynamically balance rotating equipment for minimum vibration and low operating noise level.
- .3 Each major component of equipment shall bear manufacturer's name, address, catalogue and serial number in a conspicuous place.

1.6 CUTTING AND PATCHING

- .1 Provide holes and sleeves, cutting and fitting required for mechanical work. Relocate improperly located holes and sleeves.
- .2 Drill for expansion bolts, hanger rods, brackets, and supports.
- .3 Obtain written approval from Consultant before cutting or burning structural members. This work shall be carried out by the specialist trade only.
- .4 Provide openings and holes required in precast members for mechanical work. Cast holes larger than 100mm in diameter tight to columns shall not exceed 200mm in diameter. Cast or field cut holes smaller than 100mm.
- .5 Water stop all penetrations through pool tank, backwash tank and surge tank. Provided gasket type water stop on manufactured paneled structure. Refer to details for water stopping in concrete.
- .6 Repair building where damaged from equipment installation, improperly located holes etc. by this section of the work. This repair work shall be carried out by the specialist trade at the expense of this section of work. Use matching materials as specified in the respective sections.

1.7 SHOP DRAWINGS

- .1 Shop drawings will be submitted in electronic format which will be converted to pdf Hyper-link documents for the maintenance manuals.
- .2 Identify materials and equipment by manufacturer, trade name and model number. Include copies of applicable brochure or catalogue material. Do not assume applicable

- catalogues that are available in the Consultant's office. Maintenance and operating manuals are not suitable submittal material.
- .3 Clearly mark submittal material using arrows, underlining or circling to show differences from specified, e.g. ratings, capabilities and options being proposed. Cross out non-applicable material. Specifically note on the submittal specified features such as special tank linings, pumps, seals, material, or painting.
 - .4 Include dimensional and technical data sufficient to check if equipment meets requirements. Include wiring, piping, and service connection data and motor sizes.
 - .5 Installed materials and equipment shall meet specified requirements regardless of whether or not shop drawings are reviewed by the Consultant.
 - .6 Shop drawings not requested for review by contractor will not be reviewed and processed by the Consultant.
 - .7 Do not order equipment or material until the Consultant has reviewed and returned shop drawings.
 - .8 Shop drawings shall be reviewed by the Trade contractor indicating that the shop drawings have been reviewed, co-ordinated with the work and that the shop drawings are submitted without qualifications. Shop drawings shall bear the 'reviewed' stamp dated and initialled by the trade contractor prior to submitting the shop drawings to the consultant. Shop drawings which do not bear the trade contractors 'reviewed' stamp, initials and date will be rejected and sent back as 'not reviewed'.
 - .9 Submit weights of all major equipment for review such that the loads can be reviewed by the appropriate Consultant.
 - .10 Submit as a shop drawing, an electrical equipment list for any equipment supplied by the mechanical contractor or his/her subtrades. The list is to be submitted in a timely fashion so that the electrical contractor can utilize the list as a final check prior to ordering motor control centres, starters, or disconnects. The list is to indicate the following:
 - .1 The horsepower size and number of motors.
 - .2 The minimum circuit amps (MCA) for packaged equipment.
 - .3 The voltage and phase of the motors.
 - .4 Whether or not a starter or disconnect is included as part of the package.
 - .11 Acquire and review shop drawings of mechanical equipment supplied by other divisions but connected to by this division. Note any conflicts with installation methods described in drawings and specification sections of this scope at time of shop drawing review.

1.8 STANDARDS OF MATERIALS, EQUIPMENT AND INSTALLATION

- .1 Equipment used shall not exceed space limitations in any dimension. Replace any equipment or apparatus which does not meet this Specification at no cost. Assume full responsibility for the expense of redesign and adjustment to other parts of the building when proposing the use of acceptable equal or alternate equipment. It is the contractors responsibility to confirm all quantities. Dimensions, performance and accessories required for all equipment, including matching "standard" and operational accessories between "equal" and "acceptable" products/suppliers/manufacturers.

- .2 Provide equipment from the approved manufacturers list covered in each section. Those manufacturers not listed are considered as alternatives. All mechanical equipment shall have the manufacturers name permanently affixed to it. It is the responsibility of both the 'named' product/supplier as well as the following listed "acceptable" products/suppliers to ensure that they meet or exceed the scheduled performance and are suitable for the intended use.
- .3 Alternate manufacturers may be shown along with savings if so desired, however these alternatives must be shown in addition to a manufacturer from the acceptable list.
- .4 Equipment on acceptable manufacturers list must be equal or better in quality and performance of the model specified. Equipment which is not equal will be replaced with the specified equipment at no cost to the Owner. Should an item not have an approved manufacturers list the above note will be required.
- .5 If shop drawings are rejected technically after 3 submissions, the Contractor at no additional expense to the Owner shall revert to the specified product and manufacturer for this project.

1.9 PERFORMANCE VERIFICATION OF INSTALLED EQUIPMENT

- .1 Installed mechanical equipment whose performance is questioned by the Consultant, may be subject to performance verification as specified herein.
- .2 When performance verification is requested, equipment shall be tested to determine compliance with specified performance requirements.
- .3 The Consultant will determine by whom testing shall be carried out. When requested, the contractor shall arrange for services of an independent testing agency.
- .4 Testing procedures shall be reviewed by the Consultant.
- .5 Maintain building comfort conditions when equipment is removed from service for testing purposes.
- .6 Promptly provide the Consultant with all test reports.
- .7 Should test results reveal that originally installed equipment meets specified performance requirements, Owner will pay all costs resulting from performance verification procedure.
- .8 Should test results reveal that equipment does not meet specified performance requirements, equipment will be rejected and the following shall apply:
 - .1 Remove rejected equipment. Replace with equipment which meets requirements of Contract Documents including specified performance requirements.
 - .2 Replacement equipment will be subject to performance verification as well, using same testing procedures on originally installed equipment.
 - .3 Contractor shall pay all costs resulting from performance verification procedure.

1.10 OPERATING AND MAINTENANCE DATA

- .1 Instruct the building operators in the operation and preventative maintenance of each piece of equipment and system supplied and installed. Complete and turn over documentation prior to substantial performance.

- .2 2% of the pool contract will be held back until a draft copy of the Operational & Maintenance Manuals, As Builts and commissioning documents have been submitted and approved by the consultant.
- .3 Provide operation and maintenance data as required under this section.
- .4 Secure and assemble all necessary literature describing the operation and maintenance of all equipment provided. Complete and transmit documentation for review to Consultant prior to Substantial inspection.
 - .1 Information shall be developed in the most current pdf format with Hyper-linked table of contents capability.
 - .2 Table of contents to be sectioned into each Tab sub-category. (example each shop drawing product to be tabbed)
 - .3 Within the manual provide digital copy of a keyed building plan with links to photographs of all equipment and service locations.
 - .4 Each submitted manual will have a revision number to be documented within the title block.
- .5 Once Final document has been approved, provide (1) One @ 216 mm x 280 mm capacity, expanding spine catalogue binders, bound with heavy fabric, hot stamped lettering front and spine.
 - .1 Load the entire pdf Hyper-link document c/w final As-builts onto the BMS – PC.
 - .2 Provide owner demonstration on how the manuals work within the BMS software environment.
 - .3 Provide pdf Hyper-link document to consultant on a transferable stick drive
- .6 Index Division 13 of maintenance manuals according to the following index system.
- .7 Tab 1.0 Pool Systems:
 - .1 Provide title page with clear plastic cover.
- .8 The front title page shall include the cover information in addition to:
 - .1 The Owner
 - .2 The Engineer
 - .3 The Construction Manager
 - .4 The Pool Contractor
 - .5 The Agency preparing the Manuals
 - .6 The addresses, phone and fax numbers for the above will be shown adjacent to their name.
- .9 Tab 1.1 List of Mechanical Drawings.
- .10 Tab 1.2 Description of Systems:

- .1 Provide Pool data sheets as part of the System description
- .2 Provide complete description of each system.
- .3 Include detailed system description and components comprising that system, explanation of how each component interfaces with others to complete the system, location of each control device as well as operating set points.
- .4 Describe the Filtration backwash process with cross reference of valve numbers.
- .5 Describe a Pool draining process with cross reference of valve numbers.
- .6 Describe a pool fill process (Manual and automatic) with cross reference of valve numbers.
- .7 Describe shut down, by-pass and start up procedures for preventative maintenance equipment such as strainer cleaning, UV, pumps, heat exchangers, chemical controllers and filters.
- .8 Provide a complete description of emergency shut-down and start-up procedures for all major equipment, systems and controls, including power failure mode, back-up equipment/systems operation.
- .11 Tab 1.3 Operating Division:
 - .1 Provide complete and detailed operation of each major component.
 - .2 Include starting procedure, exact switch and / or valve and control location. Description should also include how to by-pass the device while maintaining pool operation.
 - .3 Describe trouble shooting sequence when set points cannot be maintained.
 - .1 Pool Level Controllers
 - .2 Pool Level Setting: High and low
 - .3 Maintain Surge tank level
 - .4 Maintaining pool turnover rates: High and low
 - .5 Maintaining pool chemistry
 - .1 PH High – PH Low
 - .2 Chlorine level High & Low
 - .3 Alkalinity High – Low
 - .4 Calcium Hardness level High - Low
 - .4 Describe safeguards to check if equipment goes off line.
- .12 Tab 1.4 Maintenance and Lubrication Division:
 - .1 Provide detailed preventative maintenance and lubrication schedule for each of the major components including daily, weekly, monthly, semi-annual and yearly checks and tasks.

- .1 Pool Level controller
 - .2 Pumps
 - .3 Pressure and temperature gauges
 - .4 Pump Strainers
 - .5 Filters
 - .6 Pool controls such as flow switches, temperature sensors, flow meters
 - .7 Chemical Controller
 - .8 Chemical controller probes
 - .9 UV
 - .10 Chlorine Feed System
 - .11 pH Feed System
 - .12 CO2 Detection System
 - .13 Bulk Feed System (If part of project)
 - .14 Surge tank
- .2 Provide an “enhanced” version of the Manual including a digital copy with hyperlinked table of contents, and a keyed building plan with links to photographs of all equipment and service locations.
- .1 Each piece of equipment shall have all preventative maintenance requirements. Provide individual tables for Daily, weekly, Monthly, quarterly, Seasonal and Yearly requirement.
 - .2 Describe the procedure or cross reference sections via hyper-link within the manuals so the contractor understands the procedures in detail.
- .3 Describe lubrication and maintenance procedure for equipment components such as bearings, drives, motors, and filter backwashing, probe cleaning and / or replacing, UV bulb cleaning and / or replacing, acid and chlorine treatment maintenance.
- .4 Compile this information for each piece of equipment.
- .13 Tab 1.5 List of Equipment Suppliers:
- .1 Provide complete list of Equipment Suppliers and Sub-contractors, including address and telephone number.
 - .2 Outline procedures for purchasing parts and equipment.
 - .3 Provide a parts list and repair manual for each piece of complete equipment specified.

- .4 Provide a warranty list for all items that extend beyond the standard one year contractor's warranty period. Indicate the start date of the one year contractor's warranty period.
- .14 Tab Certification (2.0, 2.1, etc.) Include copies of:
 - .1 Hydrostatic and air tests performed on piping systems.
 - .2 Equipment alignment certificates.
 - .3 Balancing reports of pool water systems.
 - .4 Valve tag identification. Schedule including location, service and normal position.
 - .5 Pipe colour code.
 - .6 Health Inspection approval certificates systems.
 - .7 Start-up reports of equipment
 - .8 Guarantee certificate.
- .15 Tab Shop Drawings (3.0, 3.1, etc.):
 - .1 Include copy of all reviewed only Shop Drawings.
 - .1 Shop drawing must have all assembly and wiring components within each piece of equipment
 - .2 Refer to shop drawing section for all final information required to be part of the manual.
 - .2 Include reduced record control drawings (8½" x 11" or 11" x 14" fold out).
- .16 The divider tabs shall be laminated mylar plastic, and coloured according to Section. The colouring is as follows: Mechanical Systems - 1.0 - 1.5 - Orange, Certification 2.0 - 2.4 - Green, Shop Drawings and Maintenance 3.0 - 3.17 - Yellow. Plastic tabs with typed insertions will not be accepted.

1.11 RECORD DRAWINGS

- .1 Refer to this section for as-built format and requirements.
- .2 Submit record drawings identifying location of pool piping and components.
- .3 The Trade Contractor shall be responsible for and keep one set of white prints, including revision drawings, in job site office. Backfilling will not be allowed until underground service dimensions are marked on plans. Set of white prints shall be maintained in constant up-to-date condition by each trade (as-built conditions marked in red pencil). The white set of prints will be provided to the contractor by the Owner.
- .4 The "Record Drawings shall include, but not be limited to, the following changes and shall be recorded daily.
- .5 Size, location, arrangement, route and extent of ductwork, piping, conduit, terminal units, equipment, fixtures, cleanouts, valves, rough-in, etc., above and below grade inside the building, including dimensioned locations of buried piping from building walls.

- .6 Piping Elevations
 - .1 Under-ground pool piping: All pool lines. Invert elevations and type of piping material used and locations to be given at each junction, changes of direction horizontally and vertically and at every 30 M of run.
 - .2 All services located below ground level and in or below a building slab.
- .7 Location, tagging and numbering of all valves except individual plumbing fixtures or equipment isolation valves.
- .8 The as-built daily marked-up prints shall conform to the standards of the contract drawings and shall include all details from revision drawings, supplementary drawings, change orders, addenda and site revisions, etc.
- .9 Each white print drawing sheet shall be marked: "We hereby certify that these drawings represent the building, as built" with signatures immediately below of authorized personnel of this Sub-Contractor.
- .10 At substantial completion, employ a competent drafts person specializes in Auto-cadd Revet BIM Modeling, to transfer all deviations, including those called up by addenda, revisions, clarifications, shop drawings, and change orders, on a copy of tender CADD files converted from Revet. From these files plot a set of reproducible drawings to be signed. Drafting quality shall be same as original drawings.
- .11 The BIM Model may be borrowed from the Consultant. Prior to releasing the BIM Model, the contractor shall sign all waivers releasing the consultant from all liability from the information provided within the BIM Model. Each "as-built" drawing shall bear the Contractor's identification, the date of record and the notation "We hereby certify that these drawings represent the As-Built Record of Construction." The Contractor's signature and company seal shall be placed below that notation. Contractor to sign release agreement before consultant shall provide drawings.
- .12 Should the contractor not have drafting capability then they may choose to retain the consultant. The cost per drawing sheet for transferring information to the record drawings by the Consultant shall be \$400.00 per drawing. Should the Contractor undertake major re-routing of services where the original layout is appropriate or should major changes in the scope of work occur, additional charges may apply. Costs for printing and transferring into pdf is included.

1.12 FIRE-STOPPING

- .1 Fire-stop all pipe, duct, conduit and wire penetrations through floors and walls, designated as fire and/or smoke separations. The contractor is required to coordinate with the architectural drawings to contractual rated wall types and installation details.
- .2 Submit shop drawings of systems before installation for approval by the Engineer of Record.
- .3 Refer to section 13 40 00 for additional scopes of work.

1.13 IDENTIFICATION

- .1 Clean all exposed bare metal surfaces supplied by the Trade Contractor by removing all dirt, dust, grease and millscale.

- .2 Repaint all marred factory finished equipment, which is not scheduled to be repainted, to match the original factory finish.
- .3 Pipe Markers and Direction Arrows
 - .1 This piping identification system leads itself to commercially available pipe markers having standard sizes of lettering and colours. Standard colours designate classes of materials as follows, and are consistent with those specified by the CSA and the USASI.

Yellow:	Dangerous Materials
Blue:	Protective Materials
Green:	Safe Materials
 - .2 The pipe markers and direction arrows shall be applied in accordance with the manufacturer's instructions, and shall be applied by the mechanical trade.
 - .3 Pipe markers and direction arrows shall be made of a vinyl film material that becomes permanent after curing in place for 24 hours.
 - .4 Pipe markers and direction arrows shall be suitable for continuous operating temperatures between -40°F and 120°F.
 - .5 Pipe marker letters are to be 50mm high for pipes 75mm and larger outside diameter (including insulation) and not less than 15mm high for smaller diameters.
 - .6 Pipe marker direction arrows are to be 150mm long by 50mm wide for pipes 75mm and larger outside diameters (including insulation) and 60mm long by 15mm wide for smaller diameters. Mini-markers are to be used for very small diameter pipes.
 - .7 When it is necessary to use lettering that is not factory printed, the lettering shall be done to sign painting standards on black pipe markers.
- .4 Location of Pipe Markers and Direction Arrows:
 - .1 Pipe marker and direction arrow shall be placed side by side in the bottom quarter of the pipe to be identified.
 - .2 Adjacent to all major changes in direction.
 - .3 At least once in each room that the pipe passes through.
 - .4 Where piping passes through walls, partitions, or floors, identify piping on both sides of the section.
 - .5 Where piping is concealed in a chase, shaft, gallery or other confined space then identify the piping at the points of entry and leaving, and at each access opening.
 - .6 At the beginning and end points of each run; and, at each piece of equipment in each run.
 - .7 On long straight runs of horizontal piping in open areas of buildings, galleries, or tunnels, locate markers and arrows so that at least one identification is clearly visible from any point of view in operating areas or walking aisles. In no case shall the distance between markers (and arrows) be more than 8M.
 - .8 Locate markers and arrows at all major valves in a system at a point as close as is practical to the upstream side of the valve.

- .5 Equipment:
 - .1 Each piece of equipment shall be identified by lamocoid lettering at least 25mm high and shall be governed by the size of the equipment.
 - .2 An identification logic should be developed and followed consistently throughout the project. Some acceptable examples are:
 - .3 Main Pool filter designate as PF-1, etc.
 - .4 Filtration Pump: designate as PP-001, etc.
 - .5 The nomenclature for identification of equipment shall be consistent with the designations in the plans and specifications.
- .6 Valve Tags:
 - .1 All valves, except convector hand valves and individual plumbing fixture stop valves, shall be provided with 50mm x 30mm brass tags with stamped numbers, secured by chains to the valve concerned. Numbers shall be prefixed by the letter "PF" indicating that the valve is on pool filtration service.
 - .2 Each trade shall prepare a list detailing the valves, location; normal position, and purpose served. Trades shall co-operate in preparing a white print chart showing location of all valves.
 - .3 Chart lists shall be approved by the Architect, subsequent to which one copy of each shall be provided in a non-glare glazed frame, mounted to the Architect's direction, and one copy of each shall be inserted in each Maintenance Manual.
- .7 Chemical Storage Rooms:
 - .1 Provide proper CSA approved labeling for doors and within the room for the storage and handling of the pool chemical.
 - .2 Refer to WHIMIS for product safety requirements.
 - .3 Labeling to match – signage requirement specifications.

1.14 POOL CONTROLS:

- .1 Installation:
 - .1 All Pool equipment specified in Division 13 shall be installed by the pool contractor.
 - .2 Provide new DDC control points compatible and connected to the existing facility system. Points as follows, for each individual pump and each filter system
 - .1 Filter Pumps:
 - .1 Pump Status
 - .2 Pump Start/Stop
 - .3 Pump Speed
 - .4 Flow Meter Flow Rate
 - .3 Provide new interface for these points.

- .2 Wiring of Pool Controls:
 - .1 Line voltage wiring for line voltage power source to equipment shall be by the electrical contractor.
 - .2 Line and low voltage wiring between pool devices shall be by pool contractor. Scope of work to include:
 - .1 Wiring of flow meters from Sensor to wall mounted control panel
 - .2 Wiring of Chemical controller to flow cell assembly probes and flow switch.
 - .3 Wiring of UV controls from control panel to UV filter.
 - .4 Wiring from Pool level transmitter to remote control panel.
 - .3 Contractor is responsible for hiring a registered electrical contractor to complete all line voltage wiring.
 - .4 All DDC controls installation to be carried out by mechanical controls contractor under division 25. This includes all control wiring from DDC system to pool control components. Refer to Pool control points for scope of work.
- .3 Commissioning and verification shall be by a Pool commissioning agent and / or factory representative as outlined in section 13 40 05 Pool Commissioning.

1.15 EQUIPMENT PROTECTION AND CLEAN-UP

- .1 Protect equipment and material in storage on site and after installation until final acceptance. Leave factory covers in place. Take special precautions to prevent entry of foreign material into working parts of piping and equipment systems.
- .2 All mechanical equipment stored on site shall be kept in a dry, heated and ventilated storage area. No equipment is allowed to be stored outdoors without proper protection like a storage container.
- .3 Operate, drain and flush out bearings and refill with new change of oil, before final acceptance. At substantial equipment must have a "NEW" finish to all piping & equipment. Dirt, concrete, glue and other construction materials sprayed onto the piping and equipment MUST be cleaned.
- .4 Thoroughly clean piping, and equipment of dirt, cuttings, and other foreign material.
- .5 Protect bearings and shafts during installation. Grease shafts and sheaves to prevent corrosion. Supply and install necessary extended nipples for lubrication purposes.
- .6 All piping stored outdoors shall sit above ground and be protected against warping, dirt or water egress and UV damage at all times.

1.16 ELECTRICAL MOTORS

- .1 Supply mechanical equipment complete with electrical motors with the Minimum certified motor efficiency as outlined in ASHRAE 90.1 : 2010

- .2 Provide motors to CEMA and CSA standards for hard, continuous service, designed to limit temperature rise to 130°F for open housing and 148°F for drip proof housing, and operate 1200 or 1800 r/min unless otherwise specified. Do not use air over ratings.
- .3 Motors shall have ball or roller type bearings with grease lubrication fittings.
- .4 Where equipment has been specified in Division 13 to be complete with starters, disconnects and/or control panels, this contractor shall provide any required control wiring and conduit between the equipment and the above items. All power wiring to the units and between devices shall be by Division 16 Electrical.
- .5 Refer to electrical specification for voltage, phase and cycle.
- .6 Motors of 15 HP and greater shall have soft start, capacitor and thermistor over heat protection. Motor noise criteria shall not exceed NC-60.
- .7 Be responsible for the protection and maintenance of the work of this Section until the work has been completed and accepted by the Owner for storing materials inside and out of the way, and for cleaning up all refuse caused by this work to the Consultant's approval.
- .8 On completion of the work, all tools and surplus and waste materials shall be removed and the work left in a clean and perfect condition.

1.17 GUARANTEE WARRANTY

- .1 This Trade Contractor shall furnish a written warranty stating that all work executed under this Division will be free from defects of material and workmanship for a period of one (1) year from the date of substantial performance, which shall include one (1) complete summer and one (1) complete winter of uninterrupted operation. Warranty shall include any part of equipment, units or structures furnished hereunder that show defects in the works under normal operating conditions and/or for the purpose of which they were intended.
- .2 The above parties further agree that they will at their own expense promptly investigate any mechanical or control malfunction, and repair or replace all such defective work, and all other damages thereby which becomes defective during the time of the guarantee-warranty.

1.18 SUBSTANTIAL PERFORMANCE INSPECTION

- .1 Prior to the Trade Contractor requesting an inspection for substantial performance all the following items must be provided to permit beneficial use by the Owner.
 - .1 Comply with requirements within division 13 and 22
 - .2 Preliminary Maintenance and Operating Manuals to be submitted and approved.
 - .3 Preliminary Record drawings.
 - .4 Balancing reports (flow and chemistry)
 - .5 Confirmation that the pools have been commissioned. Confirmation must come from the Consultant and/or Construction Manager and/or Owners representative.
 - .6 All motor name plate ratings and actual operating amps and voltages.

- .7 All systems shall be certified in writing by the Contractor as complete and fully operational.
- .8 Instructions to the Owner's operating personnel shall be provided in accordance with the specifications. A signed statement to this effect, countersigned by the Owner, shall be submitted to the Construction Manager.
- .9 A complete list of items which the Trade Contractor has not finished, or are deficient shall be provided, by the trades contractor. If, in the opinion of the Consultant, this list indicates the project is excessively incomplete, a substantial completion inspection will not be performed.
- .10 The Trade Contractor shall be fully responsible for obtaining all necessary data from Sub-trades and suppliers and for presenting this data in an acceptable format for the approval by the Construction Manager.

2. Products:

2.1 NOT USED

3. Execution

3.1 NOT USED

END OF SECTION

1. GENERAL

1.1 Summary

.1 Section Includes:

- .1 The installation of pool piping above & below grade.
- .2 Installation of valves and accessories.

.2 Related sections

- .1 Read in conjunction with all architectural front-end documents. Note any discrepancies at time of bid.
- .2 21 05 01 – Common Work Results for Mechanical
- .3 22 51 13 – Swimming Pool Piping
- .4 22 51 16 – Swimming Pool Pumps
- .5 22 51 19 – Swimming Pool Treatment
- .6 22 51 25 – Swimming Pool Commissioning
- .7 23 05 29 – Hangers and Supports for Mechanical Piping & Equipment
- .8 23 05 48 – Vibration and Seismic Control for Mechanical
- .9 23 05 53 – Identification for Mechanical Piping and Equipment
- .10 22 07 11 – Firestopping
- .11 25 09 01 – Control Systems
- .12 25 90 00 – Integrated Automation Control Sequences
- .13 25 90 01 – Integrated Automation Control Points

1.2 References

- .1 American Society for Testing and Materials International, (ASTM).
 - .1 ASTM D 1784, Rigid Poly (Vinyl-Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
 - .2 ASTM D 2564, Solvent Cement for Poly (Vinyl-Chloride) (PVC) Plastic Piping Systems.
- .2 Canadian Standards Association (CSA International).
 - .1 CSA-B137.3, Rigid PVC Pipe for Pressure Applications.
 - .2 CSA-B137.6, CPVC Pipe, Tube & Fittings.
 - .3 CSA B137.4 HDPE High Density Poly-ethylene

1.3 Maintenance

.1 Extra Materials:

- .1 Furnish following spare parts:
 - .1 Butterfly Valves: one per size installed.
 - .2 Ball Valves: One per size installed.
 - .3 Valve handles: two of each size.
 - .4 Gaskets for flanges: one for every ten flanges.

2. PRODUCTS

2.1 Piping Material

- .1 Pool Piping and fittings (including hydro-air piping)
 - .1 Below Grade – Concrete Encased, PVC Schedule 40 to CSA-B137.3.
 - .2 Above Grade - PVC Schedule 80 to CSA-B137.3.
- .2 PVC Custom Fabricated Headers
 - .1 Custom factory constructed of Schedule 80 PVC materials by qualified fabrication facility.
 - .2 All spigots to be mitred, and set level and square to header body. Header ends to be capped with ½" PVC plate.
 - .3 All joints to be factory hot-gas welded (min 4 passes) and factory fibreglass wrapped using proper surface preparation, isophthalic resin, and a minimum 2 layers chop strand fibreglass and minimum 2 layers roving mat fibreglass.
 - .4 Provide final gelcoat finish.
- .3 Chemical Feed Piping up to 25mm Diameter:
 - .1 Suction Side of Pump Polyethylene to CSA B 137.1-M
 - .2 Discharge side of Pump – PVC Sch. 80 / PVC Sch. 80 Double Containment piping. To ASTM D2467 specifications for pressure piping.
 - .3 Bulk feed piping: PVC Schedule 80 to CSA-B137.3
 - .4 CO2 micro-bulk system piping: as per manufacturer requirements.
- .4 Pool Piping from Pool Circulation line To / From Heat Exchanger:
 - .1 Copper per section 23 21 15 – Hydronic Systems: Copper
 - .2 CPVC Schedule 80 to CSA-B137.3.
- .5 Pool Gravity Gutter Drain:
 - .1 PVC – Schedule 40 to CSA B137.3
- .6 Pool Fill Line: Downstream of Backflow Preventer
 - .1 Copper Type "L"
 - .2 PVC Schedule 80 to CSA-B137.3

2.2 Joints & Fittings

- .1 Solvent weld for PVC: to ASTM D2564.
- .2 Solvent weld for ABS: to ASTM D2235.
- .3 Compression fitting for Polyethylene tubing
- .4 Galvanized Pipe - Teflon tape: for threaded joints.
- .5 Copper Pipe - Solder: 95/5 - tin copper alloy: lead free.
- .6 Flanged connections to all equipment or dissimilar materials
- .7 Saddle tees not to be use below or above grade.

2.3 Valves

- .1 Ball Valves:

- .1 Pool water up to 50 mm:
 - .1 All PVC ball valves are to be "Safe-Bloc" (or equal) with EPDM seals and cushioned Teflon ball seats.
 - .2 Carriers for Teflon seats will be screw-in type internally adjustable from both ends.
 - .3 PVC compound will be Type I, Grade 1, cell classification 12454-A, with minimum suffix "B" designation for chemical resistance as per ASTM D-1784.
- .2 Chemical Injection:
 - .1 PVDF to 50 mm - All PVDF ball valves are to be "Safe-Bloc" (or equal) with Teflon seals and cushioned Teflon ball seats.
 - .2 Carriers for Teflon seats will be screw-in type internally adjustable from both ends.
- .3 Acceptable Manufacturer:
 - .1 Chemline
 - .2 Hayward
 - .3 Georg Fischer
- .2 Butterfly Valves:
 - .1 75 mm to 300 mm
 - .1 Wafer style bodies one piece molded, with a full set of ANSI class 150 flange locating bolt holes.
 - .2 Discs shall be solid PVC; complete have double EPDM O-ring seals at the top and bottom assuring that the shaft is non-wetted.
 - .3 Shaft shall be one-piece high tensile stainless steel having an engagement over the full length of the disc with no disc screws.
 - .4 Seat shall be removable EPDM and shall provide 100% bubble tight closure all sizes, with two concentric convex molded rings on flanged face to function as a low torque gasket. Seal shall effectively isolate the body and shaft from the fluid media.
 - .5 75 mm to 150 mm shall have hand lever molded of polypropylene over a steel core and have a polycarbonate 13-position lock.
 - .6 200 mm to 600 mm are to be supplied with baked epoxy coated waterproof gear operator, with PVC covered handwheel shaft and O-ring seal, SS fasteners, sealed visual position indicator and open/close travel stops which allows adjustment for seat wear.
 - .7 Provide chain-operator for frequent-use valves placed at high level.
 - .8 One-piece molded PVC bodies, are to be made of Type 1, Grade 1, cell classification 12454-A, with minimum suffix "B" designation for chemical resistance as per ASTM D-1784.
 - .9 PVC, compound and EPDM seals shall meet CSA Standard B-137.0 Para 5.2.1 environmental requirements for toxicity.
 - .10 Lug style butterfly valves are allowed.
 - .2 Acceptable Manufacturer:
 - .1 Chemline
 - .2 Hayward

- .3 Georg Fischer
- .3 Wafer Check Valves
 - .1 40mm to 600mm:
 - .1 Polypropylene wafer check valves 40 mm to 600 mm with 316SS disc springs and with EPDM O-ring disc seal.
 - .2 Valve will be wafer type designed to fit between ANSI Class 150 flanges
 - .3 Provide required companion spacer for installation of check valve.
 - .4 Provide flange gaskets between valve and flange and companion spacer and flange.
 - .5 Required flange gaskets will be full face Class 150, raised face low torque type of solid EPDM (or Teflon PTFE bonded EPDM).
 - .6 Polypropylene shall conform to ASTM D-4101 material requirements
 - .7 All valves shall be custom tagged with manufacturer's inspection number to provide traceability.
 - .2 Acceptable Manufacturer:
 - .1 Chemline
 - .2 Hayward
 - .3 Braukmann
 - .4 Georg Fischer
- .4 Pressure Regulating Valves
 - .1 12mm to 50mm:
 - .1 All PVC pressure regulating valves, 12 mm to 50 mm are to be fully field adjustable for 100kPa to 900kPa pressure.
 - .2 Solvent-weld union ends 12 mm to 50 mm shall be Schedule 80 and conform to ASTM D-2464.
 - .3 65 mm to 100 mm
 - .1 All PVC, fully adjustable between 100kPa and 621kPa through the exchange or springs. Stem seal will be Teflon PTFE bellows to assure reliable operation. Static seals will be Viton.
 - .2 Flanged ends 65 mm to 100 mm shall be ANSI Class 150, All PVC flanged bodies will be one piece molded.
 - .4 Acceptable Manufacturer:
 - .1 Chemline
 - .2 Hayward
- .5 Air Release Valve
 - .1 12 mm \varnothing air release valve. Static seals will be Viton.
 - .2 Acceptable Manufacturer:
 - .1 Chemline
 - .2 Hayward
 - .3 Braukmann
- .6 Flow Control Valves:

- .1 25mm polyethylene plate drilled with single orifice suitable to produce restricted flowrate in given system application.
 - .2 Plate to be installed between flanges and gaskets. Plate to be drilled to ANSI #150 bolt pattern suitable to diameter of pipeline installation.
- .7 Foot Valves:
- .1 12 mm \varnothing to 50 mm \varnothing
 - .2 All PVDF body and ball with Teflon coated viton seals.
 - .3 Large capacity strainer with 3 mm perforations.

2.4 Pressure Gauges

- .1 Gauges shall be 70 mm diameter 1% accuracy cast aluminum case, aluminum ring, phosphor bronze bourdon tube, brass movement, front re-calibrator, and glass window. Gauges to be liquid filled.
- .2 Dials shall read metric units kPa as well as imperial units PSI.
- .3 For gauges on liquid service, provide a bronze pulsation damper and needle valve. Provide snubbers against liquid and debris infiltration into gauge.
- .4 Supply compound vacuum/pressure gauges on suction side of all circulation pumps and pressure gauges on discharge sides of all pumps and at equipment as shown on schematic. Provide pressure gauges only at all bypass pumps. Gauges are not required on chemical feed pumps with exception of bulk feed pump.
- .5 Ensure a ball type isolation valve is installed for each pressure gauge.

2.5 Hangers & Supports

- .1 General Requirements:
 - .1 Construct pipe hanger and support to manufacturer's recommendations utilizing manufacturer's regular production components, parts, and assemblies.
 - .2 Base maximum load ratings on allowable stresses prescribed by ASME B31.1 or MSS SP58.
 - .3 Ensure that supports, guides, anchors do not transmit excessive quantities of heat to building structure.
 - .4 Design hangers and supports to support systems under conditions of operation, allow free expansion and contraction, prevent excessive stresses from being introduced into pipework, or connected equipment.
 - .5 Provide for vertical adjustments after erection and during commissioning. Amount of adjustment in accordance with MSS SP58.
 - .6 Provide seismic restraints for all piping. Retain seismic engineer to approve restraint of pool piping systems. Refer to section 23 05 48 – Vibration and Seismic Control for Mechanical.
 - .7 Restrain piping against water hammer as experienced under any operating conditions, using appropriate restraints.
 - .8 Hangers and restraints located in the aquatic area, aquatic storage rooms, and basement and main floor mechanical rooms shall be epoxy coated.
- .2 Finishes:
 - .1 Provide epoxy marine grade coating on all supports located in aquatic area, aquatic storage rooms, basement and main floor mechanical rooms.

- .2 Painting by qualified trade or factory supplied with cost incurred by this contract. Paint before installing hangers.
- .3 Provide fiberglass unistrut-channel or PVC angle supports in pool surge tanks/submerged areas.
- .4 All metal anchors in pool surge tanks/submerged areas to be hot dipped galvanized, epoxy coated.
- .5 Ensure steel hangers in contact with copper piping are copper plated or epoxy coated.
- .6 All hangers, rod, and supports required for un-encased pool piping below grade to be stainless steel.
- .3 Upper attachment structural: suspension from upper flange of I-Beam:
 - .1 Cold piping NPS 2 maximum: ductile iron top-of-beam C-clamp with hardened steel cup point setscrew, locknut, and carbon steel retaining clip, UL listed to MSS SP69.
 - .2 Cold piping NPS 2 1/2 or greater, hot piping: malleable iron top-of-beam jaw-clamp with hooked rod, spring washer, plain washer, and nut UL listed.
- .4 Upper attachment to concrete:
 - .1 Ceiling: carbon steel welded eye rod, clevis plate, clevis pin, and cotters with weldless forged steel eye nut. Ensure eye 6-mm minimum greater than rod diameter.
 - .2 Concrete inserts: wedge shaped body with knockout protector plate UL listed to MSS SP69.
- .5 Shop and field-fabricated assemblies:
 - .1 Trapeze hanger assemblies.
 - .2 Steel brackets:
- .6 Hanger rods: threaded rod material to MSS SP58:
 - .1 Ensure that hanger rods are subject to tensile loading only.
 - .2 Provide linkages where lateral or axial movement of pipework is anticipated.

3. EXECUTION

3.1 Installation

- .1 Install in accordance with Provincial Plumbing Code and BC Health code. Contractor to make assessment of documents bearing in mind good industry practices for pool mechanical systems and requirements of a complete mechanical system. Contractor to note potential discrepancies or omissions plans and note at time of tender and prior to equipment installation.
- .2 Provide all required pipe fittings, straight pipe runs, and other connections required by controls contractor. Coordinate equipment types and locations prior to installation of pipelines.
- .3 Firestopping: provide firestopping at all penetrations between basement and main floor mechanical room, and main floor and upper mechanical rooms.
- .4 Identification: provide lamocoids for identification of all equipment. Adhere lamocoids to equipment. Where equipment does not present even surfaces to create a durable bond, use non-metal strapping to attach lamocoids to equipment.
- .5 Provide identification flow arrows and adhesive stencil labels using full-word descriptions of piping systems.

- .6 Identify all circulation piping and water feature piping by name as well as number. Provide labels system labels in all rooms.

3.2 Pool Piping & Connections

- .1 All piping shall be stored above grade and covered for protection from weather. Piping sitting on the ground will be marked & will not be allowed to be installed. Unprotected piping creates bacterial growth when the systems are filled and heated. Plastic piping is not to be exposed to sunlight.
- .2 All gluing, welding or cementing of piping shall be done at temperatures exceeding 5°C. Temporary hording will not be considered as meeting the above requirement.
- .3 For graded piping and structural penetrations, verify inverts and pipe position allows maintaining a pipe run underground or through a mechanical room area, prior to setting sleeves or waterstop penetrations.
- .4 All buried pool piping shall be encased in concrete with a minimum of 75 mm of cover. Suitable reinforced concrete cover with re-bar @ 300 mm O.C. or as required by the Structural Engineer. Maintain hydrostatic pipe test when encasing pipe in concrete. (Coordinate this with structural).
- .5 Underslab piping to be left un-encased by explicit direction of Mechanical consultant only. Pipes to be braced against water hammer using rigid supports if necessary.
- .6 All acid and chlorine feed piping shall be double containment type to protect facility operator from potential leaks. IPEX Double containment piping or equal.
- .7 All piping that penetrates the pool, including piping encased monolithically with pool structure, large tanks, or gutter walls, shall be protected with a water stop flange. Minimum flange size shall be 75 mm minimum larger than pipe.
- .8 Support piping upon or against structure prior to encasement with mechanical supports as required. Restrain against movement prior to concrete pour.
- .9 Mechanical room piping layout to allow ready access to critical/regularly used valves by operator. Verify status of particular with consultant prior to beginning installation if in question.
- .10 Provide shop drawings for PVC header.
- .11 Use custom PVC headers to ensure alignment of associated pipe penetrations of walls prior to concrete pour, where applicable.
- .12 Provide Flange connections when connecting to equipment.
- .13 Provide Flange connections when changing materials.
- .14 All unions to be S-80 PVC, c/w EPDM O-rings. All unions to be by one manufacturer to ensure easy resupply of o-rings.
- .15 Apply silicone grease to all system o-rings and union threads to ensure ease of assembly.
- .16 Provide seismic restraints as per direction of seismic engineer, and provide additional restraints against water hammer in piping as may be required.
- .17 All Flange bolts and washers shall be suitable for a corrosive environment. Acceptable materials are stainless steel or equal.
- .18 Torque all flange bolts, observing flange torque requirements, prior to system start-up to ensure long-term water tightness of system.
- .19 Maintain clearance to allow flange bolt removal.
- .20 Use spigot flanges where required to reduce equipment layout dimensions where necessary.

- .21 It is the Pool contractor's responsibility to plumb the pool fill lines from the backflow preventer to the connection points. Refer to drawings for exact locations.
- .22 Provide gear operated valves for all pool fill manual bypass piping to prevent water hammer.
- .23 P.V.C. pipe shall not be threaded on site. Use tees for large differential connections. Bolt-on and wedge-lock saddles are acceptable. Gear clamp saddles are not acceptable. Drill and tapping of pipe shall be used as a last resort under the following conditions:
 - .1 No drill and tapping whatsoever shall be used under slab. Drill and tap in mechanical room space on the mechanical room side of all isolation valves only.
 - .2 Where possible, tap one size larger and required and install thread x thread reducing bushing to strengthen tapping installation.
 - .3 Only use Sch-80 pipe for tapping. Locate tappings as required for equipment installation.
 - .4 In mechanical room only, drill and tap for equipment where reducing tees prevent proper device installation (i.e. flow switches and temperature sensors) and where:
 - .5 Threads \leq 25mm diameter are tapped into pipes \geq 150mm diameter. For larger tappings or smaller pipes, use reducing tees. Do not tap pipes $<$ 150mm diameter EXCEPT in case of chemical injection points, which require exposure to centre of flow within pipeline.
 - .6 Tap, thread, glue, and epoxy all tapped connections except equipment/chemical injection points. Repair all leaks after pressure testing as required.
- .24 Pipe Fastening
 - .1 P.V.C. hot air welding in strict accordance with manufacturers recommendations shall be allowed only for non-leak flanges or back welding of glued fittings, or by permission of the Engineer.
 - .2 Obtain manufacturers procedure literature before welding of pipe. Submit this literature to engineer as part of shop drawings. Have the procedures on site during installation of all piping.
 - .3 When welding is allowed, the contractor shall demonstrate to the engineer his ability to properly weld P.V.C. piping prior to welding finished products.
 - .4 All cementing shall be done at temperatures exceeding 5°C. Submit manufacturers written procedures if welding at colder temperatures.
 - .5 Piping must be cut square and all burrs removed from inside and outside of cut end of pipe.
 - .6 All piping shall be cleaned prior to cementing.
 - .7 Following manufacturers published literature for priming and gluing of pipe ensuring the use of correct size of brush and that fittings are twisted 90° prior to glue setting.
 - .8 For pipes over 300 mm, joints shall be clamped for specified curing time.
 - .9 Copper ring compressor piping to be provided with flange connections to PVC.

3.3 Valves

- .1 Ball Valves:
 - .1 Socket weld ball valves. Maintain upstream/downstream pipe alignment and tension to prevent unequal or excessive compression of valve components.
 - .2 Locate valves (whenever possible) at easy accessible elevations.

- .3 Lubricate o-rings and threads with minimal silicone-grade grease.
- .2 Butterfly Valves:
 - .1 Connect butterfly valves with flanges. Maintain upstream/downstream pipe alignment and tension to prevent unequal or excessive compression of valve components.
 - .2 Provide chain operators for regularly-used butterfly valves located at high level.
- .3 Check Valves:
 - .1 Install check valves on parallel pump systems.
 - .2 Install check valves to protect flow from reversing. Refer to drawings.
 - .3 Align check valves to ensure proper operation and to prevent valve jamming in open position.
 - .4 Install a check valve at the tee of the chemical feed injector and main filtration pipe.
- .4 Pressure Regulating Valves:
 - .1 Pressure regulating valves are to be used to protect pumps from dead heading. Install regulator on a by-pass line to re-circulate flow into the suction side of the pump.
- .5 Air Release Valves:
 - .1 Install air release valves @ all high points in the system.
- .6 Flow Control Valves:
 - .1 Install flow control valves on water feature systems to assure constant flow to the feature regardless of pump flow or pressure.
- .7 Foot Valves:
 - .1 Install foot valves in chemical mixing tanks to assure pump is always primed.
 - .2 Tubing to be run within perforated PVC pipe to ensure foot valve remains vertical.

3.4 Supports & Hangers

- .1 Refer to Section 23 05 29 – Hangers & Supports for Mechanical Piping & Equipment for additional information.
- .2 Hangers to be epoxy coated in all mechanical rooms.
- .3 Provide all required reinforcing bar, blocking, straps for proper support and concrete coverage when concrete encasing piping.

PVC Pipe Supports										
Maximum Spacing (mm) Pipe Size	25 mm	30 mm	40 mm	50 mm	65 mm	75 mm	100 mm	150 mm	200 mm	250-300mm
Temp Range										
Up to 27c	0.9 m	1.5 m	1.5 m	1.5 m	1.8 m	1.8 m	2.1 m	2.4 m	2.7 m	2.1
Between 27c – 37c	0.9 m	1.2 m	1.2 m	1.2 m	1.5 m	1.8 m	1.8 m	2.1 m	2.4 m	2.1
Over 37c	0.9 m	0.9 m	1.2 m	1.2 m	1.2 m	1.5 m	1.5 m	1.8 m	2.1 m	2.1
Hanger Rod Diameter	10mm	10mm	10mm	10mm	10mm	10mm	10mm	12mm	12mm	15mm

- .4 Minimum one hanger per section of pipe.

- .5 Install hangers a maximum 300mm away from an elbow. Support on both sides of elbows.
- .6 Provide seismic restraints as per direction of seismic engineer.
- .7 Provide restraints against water hammer in particular piping locations as required and determined at time of equipment startup.

3.5 Firestopping

- .1 Refer to specification section 22 07 11 for additional requirements.
- .2 Shop drawings to show:
 - .1 Material specification including CSA or ULC reference numbers.
 - .2 Installation details for various types of piping materials.
 - .3 Operating and maintenance requirements.
- .3 Engage an experienced Installer who is certified, licensed, or otherwise qualified by the firestopping manufacturer as having been provided the necessary training to install manufacturer's products per specified requirements. A manufacturer's willingness to sell its firestopping products to the Contractor or to an Installer engaged by the Contractor does not in itself confer qualification on the buyer.
- .4 A manufacturer's direct representative (not distributor or agent) to be on-site during initial installation of firestop systems to train appropriate contractor personnel in proper selection and installation procedures. This will be done per manufacturer's written recommendations published in their literature and drawing details.
- .5 Firestop System installation must meet requirements of CAN4-S115-M or ULC S-115-M tested assemblies that provide a fire rating.

3.6 Testing

- .1 Pressure test buried systems before concrete encasing. Maintain under reduced pressure during concrete encasing.
- .2 Allow for all required pressure test caps at various transitions in construction phases.
- .3 Pressure test above grade piping, including all equipment, as a whole prior to system startup.
- .4 All pool related piping shall be tested to a minimum of 1.5 times system dead head pressure, or 517 kPa, whichever is greater, for a period of eight hours.
- .5 Test equipment with lesser pressure ratings at lower test pressure. Isolate prior to testing remainder of equipment and piping at higher pressure if applicable.
- .6 Complete two Cycle pressure tests for mechanical room piping. Test is intended to ensure all mechanical connections endure pressure changes.
- .7 All PVC pipe pressure tests shall be with water or glycol. Air pressure tests are not permitted.
- .8 All underground pool piping shall be tested and passed prior to encasing piping in concrete. Maintain test during pipe encasement and piping will be tested again four days after concrete encasement.
- .9 Pool filters shall be tested to 344 kPa for a period of eight hours. Test filters prior to introduction of sand media.
- .10 All piping or equipment that fails tests will be replaced at no cost to the owner.
- .11 All pressure tests to be documented and placed into maintenance manuals. Document to indicate what is being tested, start/finish times of test, pressure start pressure, finish pressure and witness.

.12 The pool mechanical Consultant will be unable to inspect all underground pool piping. Photos must be taken of piping roughed in, reinforcement in place and during the encasement concrete pour. The following procedure concerning remote inspection of pipe installation will be followed:

.1 Below slab piping:

- .1 Prior to encasement, submit photos of piping sections to be covered. Include description of portion of systems to be tested.
- .2 Submit pressure test report, including start/end pressures and independent witness verification. Report to include brief explanation of piping to be encased, referencing line types and gridlines.
- .3 Pictures and pressure test report to be submitted to Consultants minimum 36 hours prior to covering piping to allow proper consultant verification of installation. RECEIPT OF PRESSURE TEST REPORTS AND SUPPLEMENTAL PICTURES OF INSTALLATION PRIOR TO ENCASEMENT IS MANDATORY.

3.7 Flushing & Cleaning

.1 Cleaning procedures:

- .1 Provide detailed report outlining proposed cleaning procedures at least 2 weeks prior to proposed starting date. Report to include:
 - .1 Cleaning procedures, flow rates, elapsed time.
 - .2 Chemicals and concentrations used.
 - .3 Specific requirements for completion of work.
 - .4 Special precautions for protecting piping system materials and components.
 - .5 Complete analysis of water used to ensure water will not damage systems or equipment.

.2 Conditions at time of cleaning of systems:

- .1 Systems: free from construction debris, dirt and other foreign material.
- .2 Strainers: clean prior to initial fill.

.3 Report on Completion of Cleaning:

- .1 When cleaning is completed, submit report, complete with certificate of compliance with specifications of cleaning component supplier.

3.8 Filling & Treating

.1 The structural engineer and Architect shall outline the allowable temperature rise and fill time to protect the structure and tile work from shrinkage and cracking.

.2 Fill pool high enough to maintain pump circulation assuring no air will enter into the suction of the system. Remove all air in system. Run water through filter and heat exchanger.

.3 Once pool is filled and water is clear, commence into super chlorination to remove any bacteria that may have gathered in the system.

- .1 Raise the chlorine level to 25mg/L free chlorine. While circulating the pool with all by-pass systems online. Test minimum 8 areas of the pool to assure that the entire pool will not have less than 25mg/L of chlorine. Test shall run for a minimum of 24 hours.
- .2 Reduce chlorine levels to 10mg/L and run test for another 24 hours.
- .3 Reduce chlorine levels to 3mg/L and balance pools to Langlier Index.

3.9 Balancing

- .1 Obtain from the pool fitting supplier, balancing information for all inlet and adjustable fittings and set fitting as required to specified flow rates.
- .2 Balance all equipment when the filter is fully loaded. All by-pass lines to be balanced per equipment selections. Re-check bypass flow rates when filter is cleaned confirming if system is within design range. Provide all data to consultants for review.
- .3 Submit Balance reports per section 22 51 25 – Swimming Pool Commissioning.

3.10 Performance Verification

- .1 Dye Testing:
 - .1 Once the specified temperature has been achieved contractor shall set up a system dye “test” for the Leisure & Lap pools. The purpose of the dye test is to confirm the effectiveness of water distribution.
 - .2 Eriochrome black T (0.2 g/m³ of circulation) dye is recommended. Before purchasing dye, verify that the dye does not stain or attack the pool tank, fittings, tiles, and grout.
 - .3 De-chlorinate the pool water using sodium thiosulphate or equal. Do not expose chemical controller probes to sodium thiosulphate.
 - .4 Close off the by-pass to the treatment systems and filters. Assure that the flow rate matches whether entire system is online.
 - .5 Turn circulation system off and add dye. Dye maybe added through the bulk feed pump. Resume normal circulation rate.
 - .6 Time how long it takes for the pool water to become evenly covered. If the pool is entirely covered in ½ the turnover rate then test is passed. If it takes longer than ½ the turnover period, rebalance system to assure proper flow distribution.
 - .7 Remove dye by turning chlorine dosing systems to 5ppm. Verify that it takes the same time for the dye to remove as a second test.
 - .8 Take photos of any problem areas.

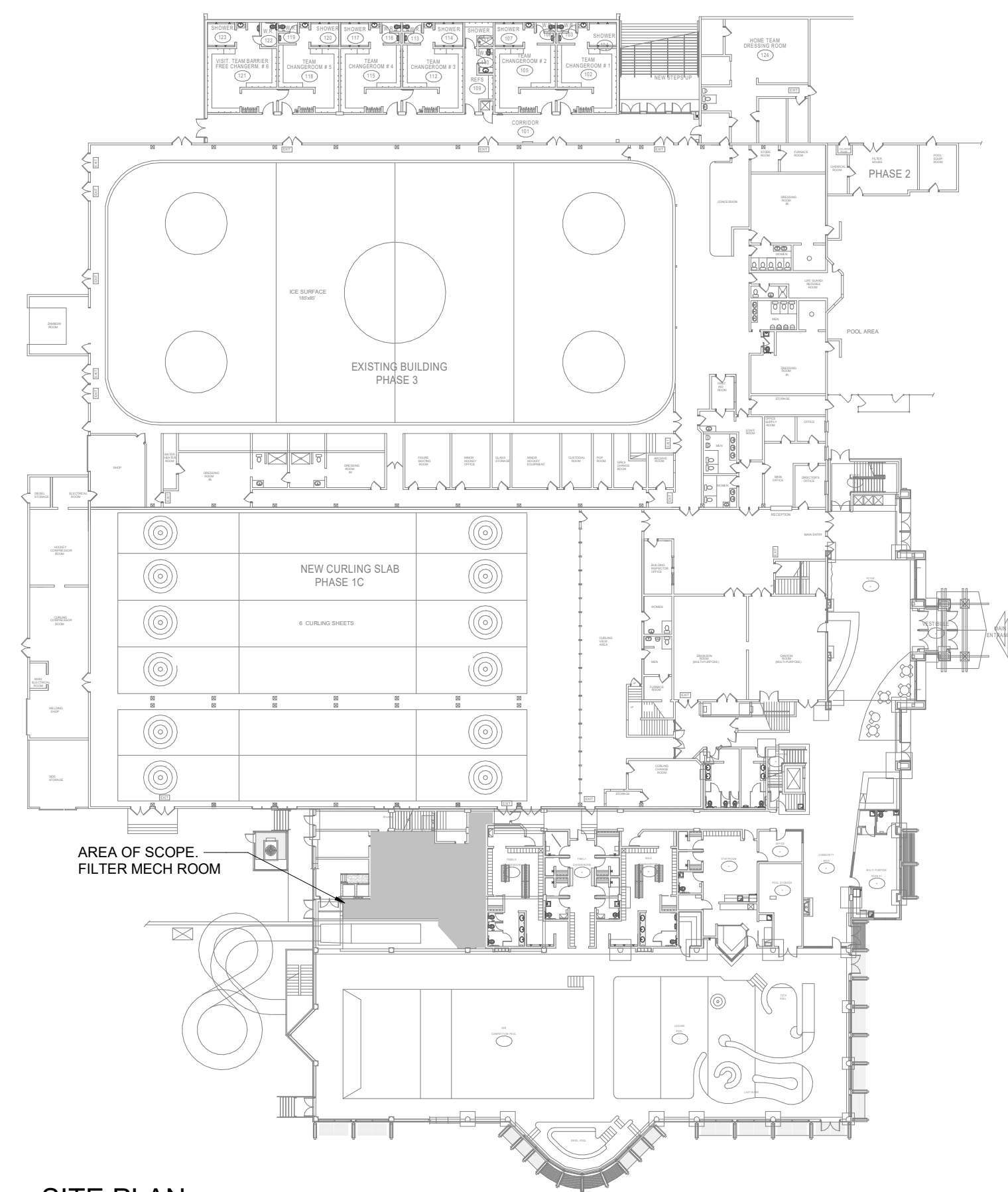
END OF SECTION

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THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ALL ERRORS AND OMISSIONS TO THE CONSULTANT PRIOR TO COMMENCING THE WORK.

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1	2-9-2023	ISSUED FOR REVIEW
2	3-15-2023	ISSUED FOR TENDER



1 SITE PLAN
M000 SCALE: 1 : 500

SYMBOL SCHEDULE	
PIPING	DUCTWORK
<ul style="list-style-type: none"> --- DOMESTIC COLD WATER (DCW) - - - DOMESTIC HOT WATER (DHW) ... DOMESTIC HOT WATER (DHW) - . - . - DOMESTIC TEMPERED WATER (DTW) - - - V - - - SANITARY VENT - - - SAN - - - SANITARY SEWER ABOVE GRADE - - - SAN - - - SANITARY SEWER BELOW GRADE - - - HI - - - PIPE CLEAN-OUT - - - C - - - PIPE CLEAN-OUT TO GRADE - - - STW - - - STORM SEWER ABOVE GRADE - - - STW - - - STORM SEWER BELOW GRADE - - - X - - - DRAIN TILE - - - F - - - FIRE LINE - - - SP - - - SPRINKLER LINE - - - DSP - - - DRY SPRINKLER LINE - - - IR - - - IRRIGATION LINE - - - HWS - - - HYDRONIC HEATING WATER SUPPLY - - - HWR - - - HYDRONIC HEATING WATER RETURN - - - CHWS - - - CHILLED WATER SUPPLY - - - CHWR - - - CHILLED WATER RETURN - - - HPS - - - HEAT PUMP SUPPLY - - - HPR - - - HEAT PUMP RETURN - - - RHS - - - RADIANT HEATING SUPPLY - - - RHR - - - RADIANT HEATING RETURN - - - RS - - - REFRIGERANT SUCTION(GAS) - - - RL - - - REFRIGERANT LIQUID - - - SWS - - - SOLAR WATER SUPPLY - - - SWR - - - SOLAR WATER RETURN - - - G - - - GAS LINE - - - C - - - CONDENSATE DRAIN 	<ul style="list-style-type: none"> ☐ SUPPLY AIR DUCT UP ☐ SUPPLY AIR DUCT DOWN ☐ RETURN AIR DUCT UP ☐ RETURN AIR DUCT DOWN ☐ EXHAUST AIR DUCT UP ☐ EXHAUST AIR DUCT DOWN ☐ OUTSIDE AIR DUCT UP ☐ OUTSIDE AIR DUCT DOWN ☐ TURNING VANES ☐ ACOUSTIC INSULATION ☐ BALANCING DAMPER ☐ BACKDRAFT DAMPER ☐ MOTORIZED DAMPER ☐ FIRE DAMPER - VERTICAL ☐ FIRE DAMPER - HORIZONTAL ☐ DUCT CAP-OFF ☐ UNDER-CUT DOOR
FITTINGS AND VALVES	FIRE PROTECTION
<ul style="list-style-type: none"> → DIRECTION OF FLOW ○ PIPE DROP ○ PIPE RISE ○ PIPE TEE UP ○ PIPE TEE DOWN PIPE UNION ISOLATION VALVE (NORMALLY OPEN) ISOLATION VALVE (NORMALLY CLOSED) ∇ CHECK VALVE ∇ 2-WAY CONTROL VALVE ∇ 3-WAY CONTROL VALVE ∇ BALANCING VALVE ∇ STRAINER ∇ PRESSURE REDUCING VALVE ∇ PRESSURE INDEPENDENT VALVE ∇ SOLENOID VALVE ∇ BACKFLOW PREVENTOR ASSEMBLY ∇ PRESSURE RELIEF VALVE ∇ AUTOMATIC AIR VENT ∇ EMERGENCY GAS SHUTOFF ∇ SEISMIC GAS SHUTOFF ∇ PUMP ∇ HEAT TRACE 	<ul style="list-style-type: none"> ⊗ WALL MOUNTED FIRE EXTINGUISHER ⊗ RECESSED FIRE EXTINGUISHER ⊗ FREE STANDING FIRE DEPT. CONNECTION ⊗ RECESSED FIRE DEPT. CONNECTION ⊗ PENDANT SPRINKLER HEAD ⊗ EXT. COVERAGE PENDANT SPRINKLER HEAD ⊗ UPRIGHT SPRINKLER HEAD ⊗ EXT. COVERAGE UPRIGHT SPRINKLER HEAD ⊗ UP & DN SPRINKLER HEAD ⊗ EXT. COVERAGE UP & DN SPRINKLER HEAD ⊗ SIDEWALL SPRINKLER HEAD ⊗ EXT. COVERAGE SIDEWALL SPRINKLER HEAD
OUTLETS AND DRAINS	SYSTEM MONITORING
<ul style="list-style-type: none"> ○ MANHOLE ○ OPEN DRAIN ○ HOSE-BIBB ○ FLOOR DRAIN ○ FUNNEL FLOOR DRAIN / HUB DRAIN ○ ROOF DRAIN ○ AREA DRAIN 	<ul style="list-style-type: none"> ⊗ ROOM TEMPERATURE SENSOR ⊗ REVERSE ACTING TEMPERATURE SENSOR ⊗ SWITCH ⊗ HUMIDISTAT ⊗ THERMOSTAT WITH COVER ⊗ HEAT DETECTOR ⊗ SMOKE DETECTOR ⊗ CO₂ SENSOR ⊗ CO SENSOR
	EQUIPMENT TAGS
	<ul style="list-style-type: none"> ⊗ EQUIPMENT / FIXTURE TYPE ⊗ QTY ⊗ GRILLE TYPE ⊗ NECK / GRILLE SIZE ⊗ AIR VOLUME (L/S) ⊗ QTY ⊗ LINEAR DIFFUSER TYPE ⊗ DIFFUSER LENGTH ⊗ NECK / GRILLE SIZE ⊗ AIR VOLUME (L/S) ⊗ M- DETAIL NUMBER ⊗ DRAWING NUMBER
	RENOVATION
	<ul style="list-style-type: none"> ▨ EXISTING MECHANICAL SERVICE ▨ DEMOLISH

DRAWINGS NO.	DESCRIPTION
M000	SITE PLAN
M001	DEMO LOW LEVEL POOL FILTER ROOM
M002	DEMO HIGH LEVEL POOL FILTER ROOM
M003	RENO LOW LEVEL POOL FILTER ROOM
M004	RENO HIGH LEVEL POOL FILTER ROOM
M005	STANDARD DETAILS

SEAL:

 V. J. BESSEING
 # 38965
 2023-03-15
 ENGINEER

PROJECT TITLE:
CRESTON & DISTRICT COMPLEX FILTER VALVE REPLACEMENT

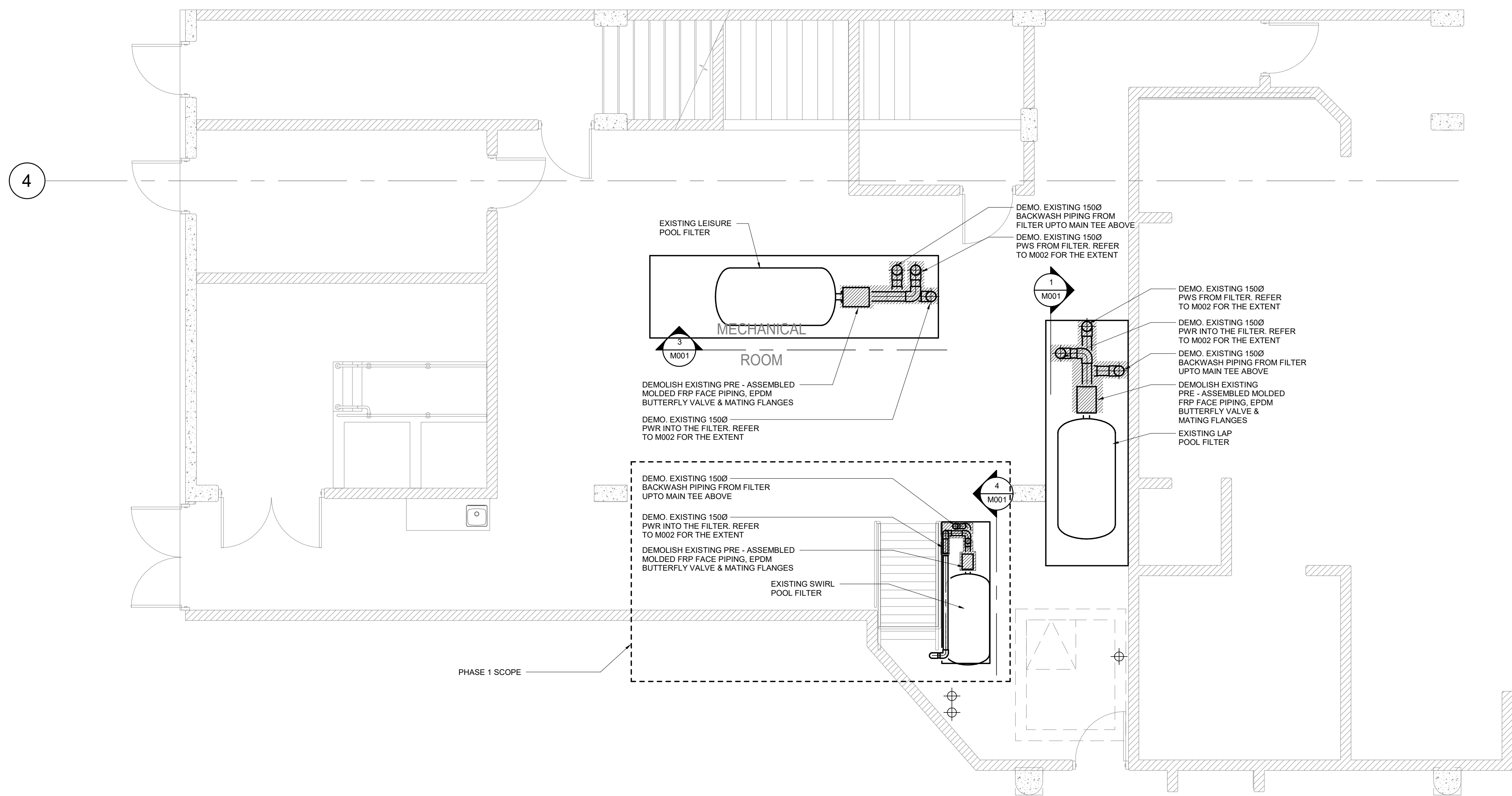
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 CRESTON , BC
 V0B1G5

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SCALE 1 : 500
DATE 3/15/2023

DRAWING TITLE:
SITE PLAN

PROJECT NO. 512c-001-22
DRAWING NO. M000

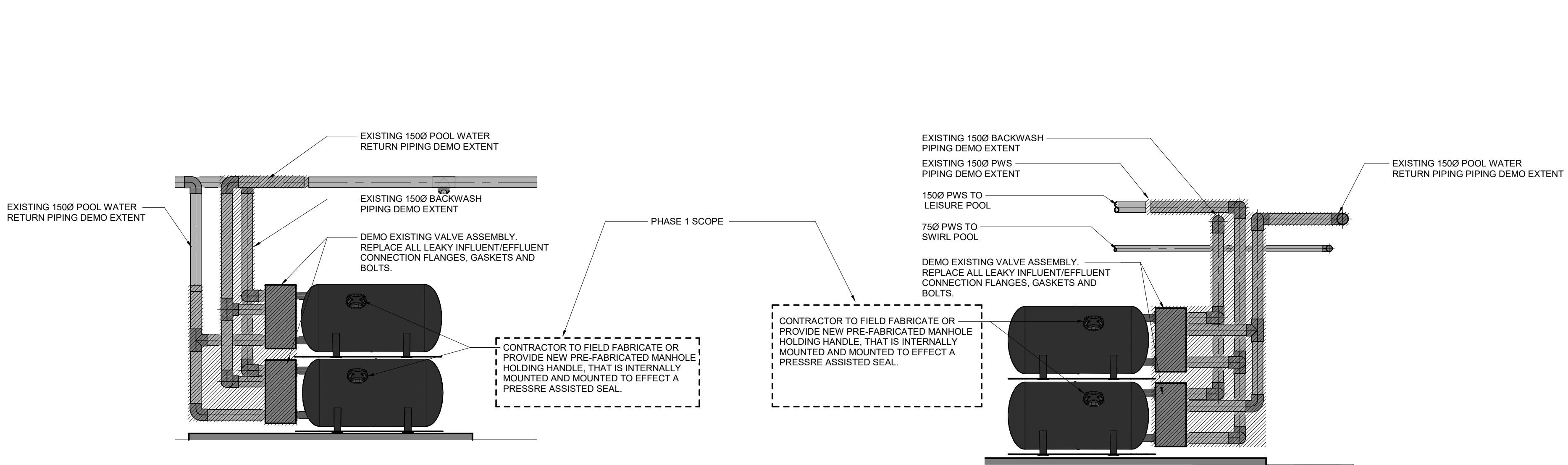
REV.	DATE	DESCRIPTION
1	2-9-2023	ISSUED FOR REVIEW
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GENERAL NOTES

1. PROJECT TO BE CARRIED OUT IN PHASES PER CLIENT REQUEST AND TO BE CARRIED OUT AT DIFFERENT TIMELINES. PHASE 1 INCLUDES DEMO/RENO FOR SCOPE RELATED TO SWIRL POOL PIPING ONLY WITH ADDITION OF REPLACEMENT OF FILTER MANHOLE HANDLES FOR ALL SIX FILTERS. PHASE 1 IS CLEARLY SHOWN IN SCOPED BOUNDARY AND ANYTHING EXCLUDING THIS PHASE 1 SCOPE BOUNDARY IS NEXT PHASE. PROVIDE SEPERATE PRICING BOTH PHASES.

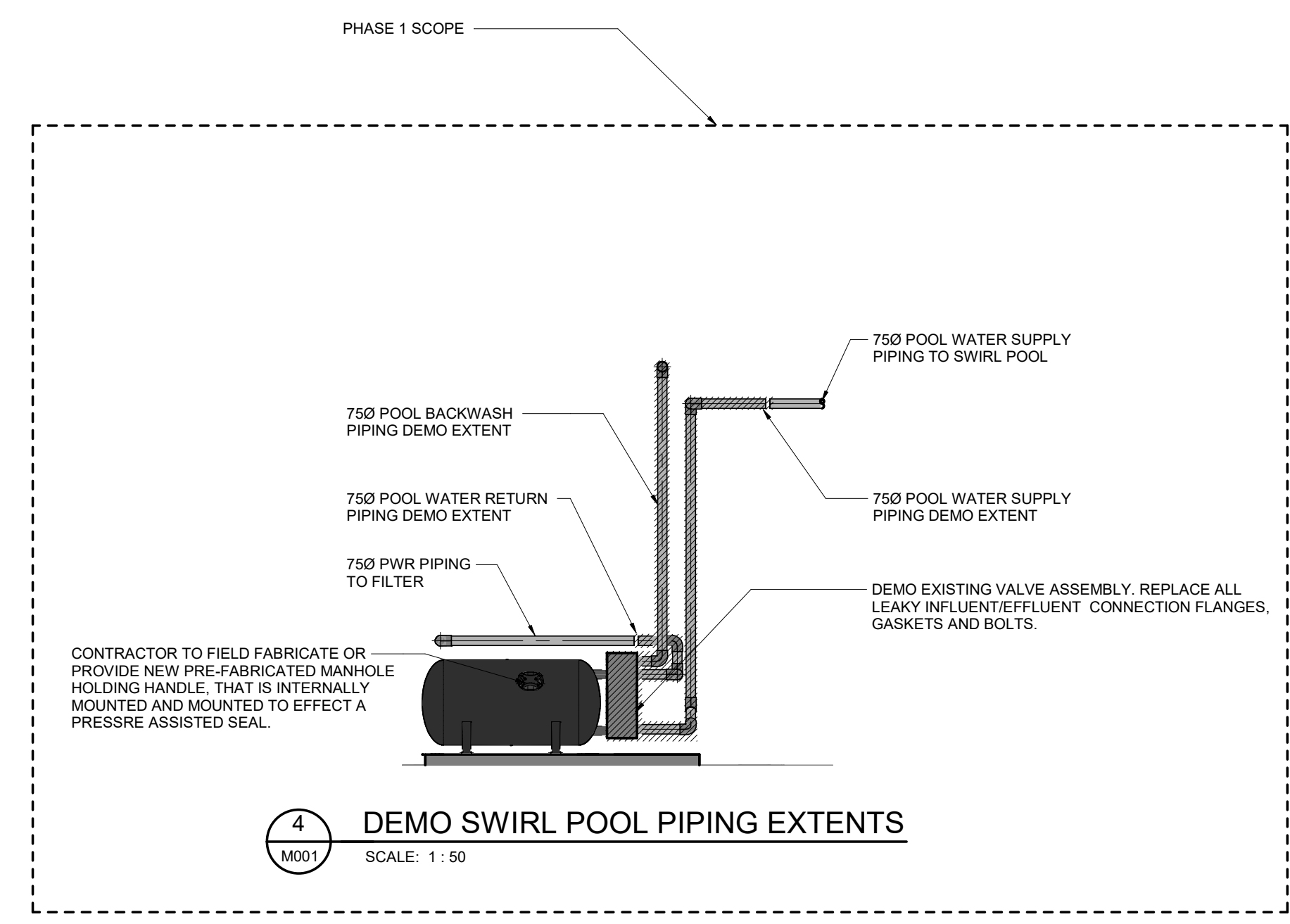
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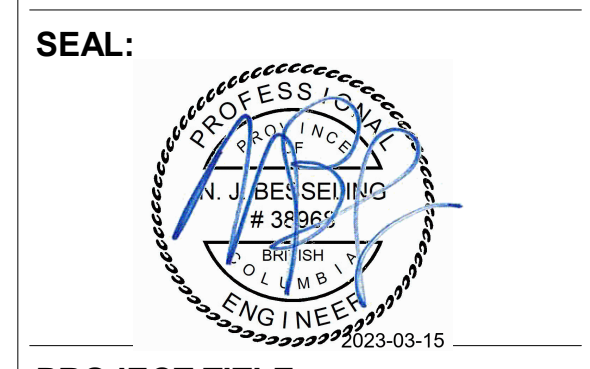
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SCALE: 1:50

3 DEMO LEISURE POOL FILTER PIPING EXTENTS
SCALE: 1:50

4 DEMO SWIRL POOL PIPING EXTENTS
SCALE: 1:50



CONSULTANT:
Mechanical : AME Group
Consulting Mechanical Engineers



PROJECT TITLE:
CRESTON & DISTRICT COMPLEX
FILTER VALVE REPLACEMENT

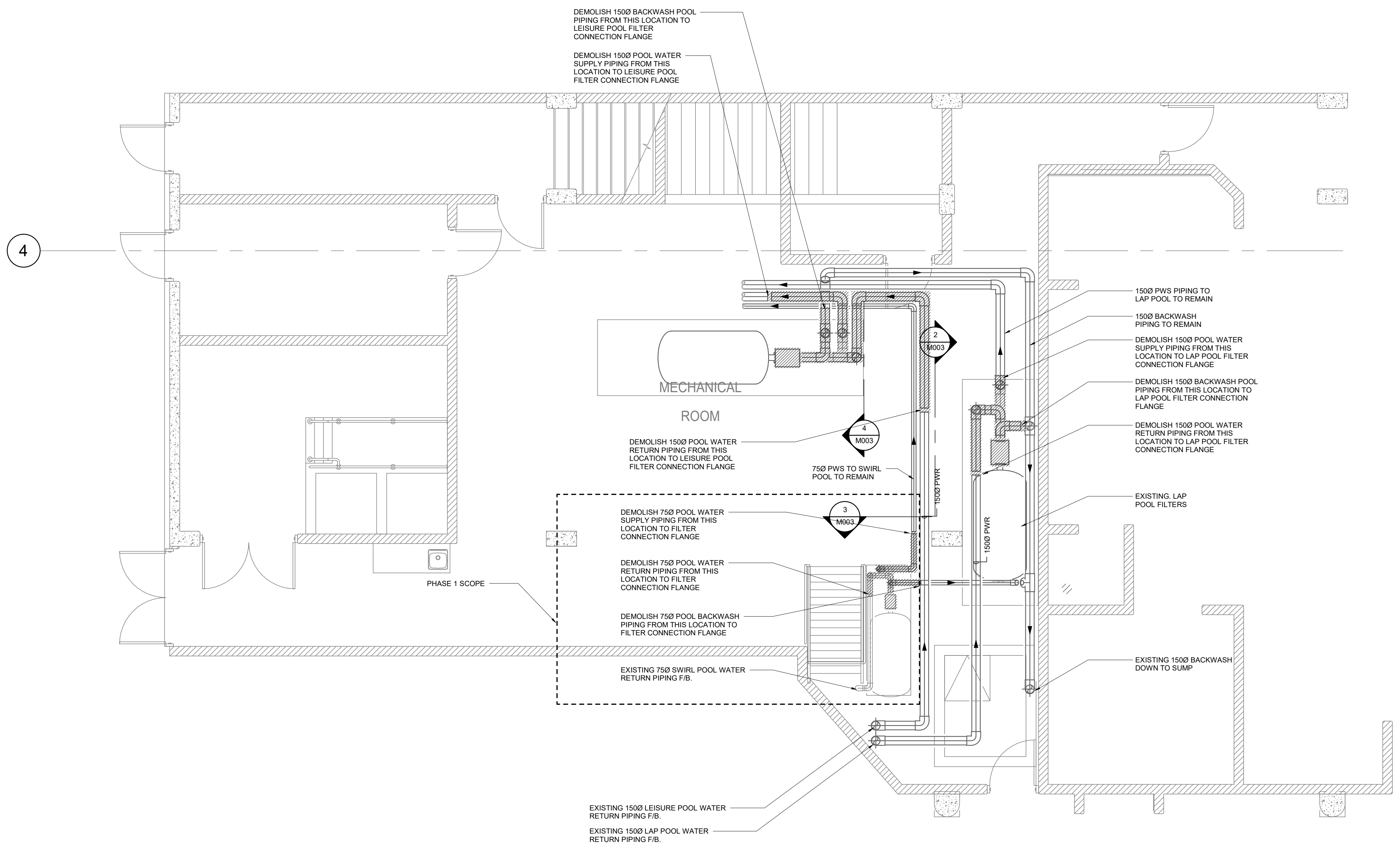
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DATE 3/15/2023

DRAWING TITLE:
DEMO LOW LEVEL
POOL FILTER ROOM

PROJECT NO. 512c-001-22
DRAWING NO. M001

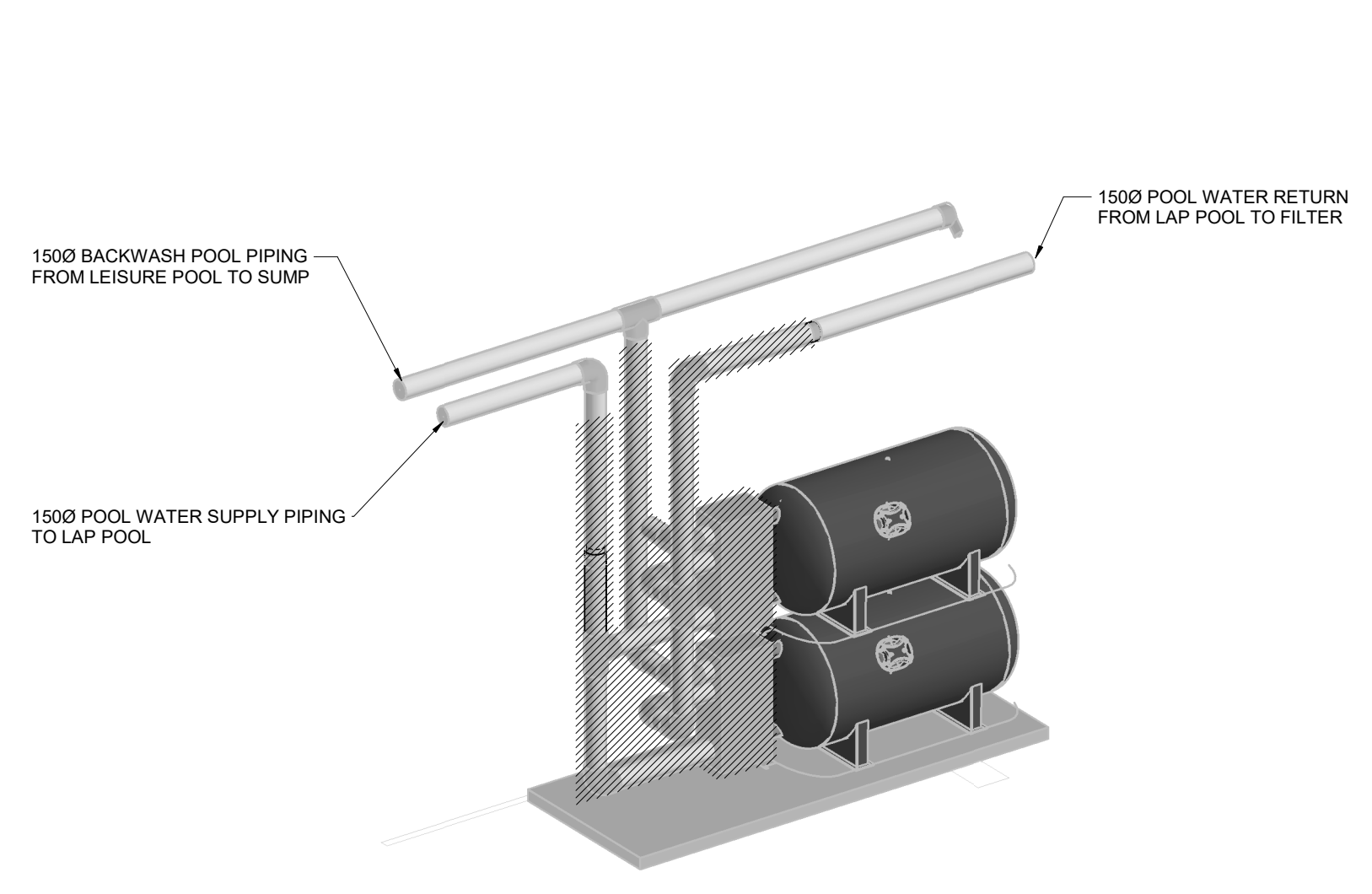
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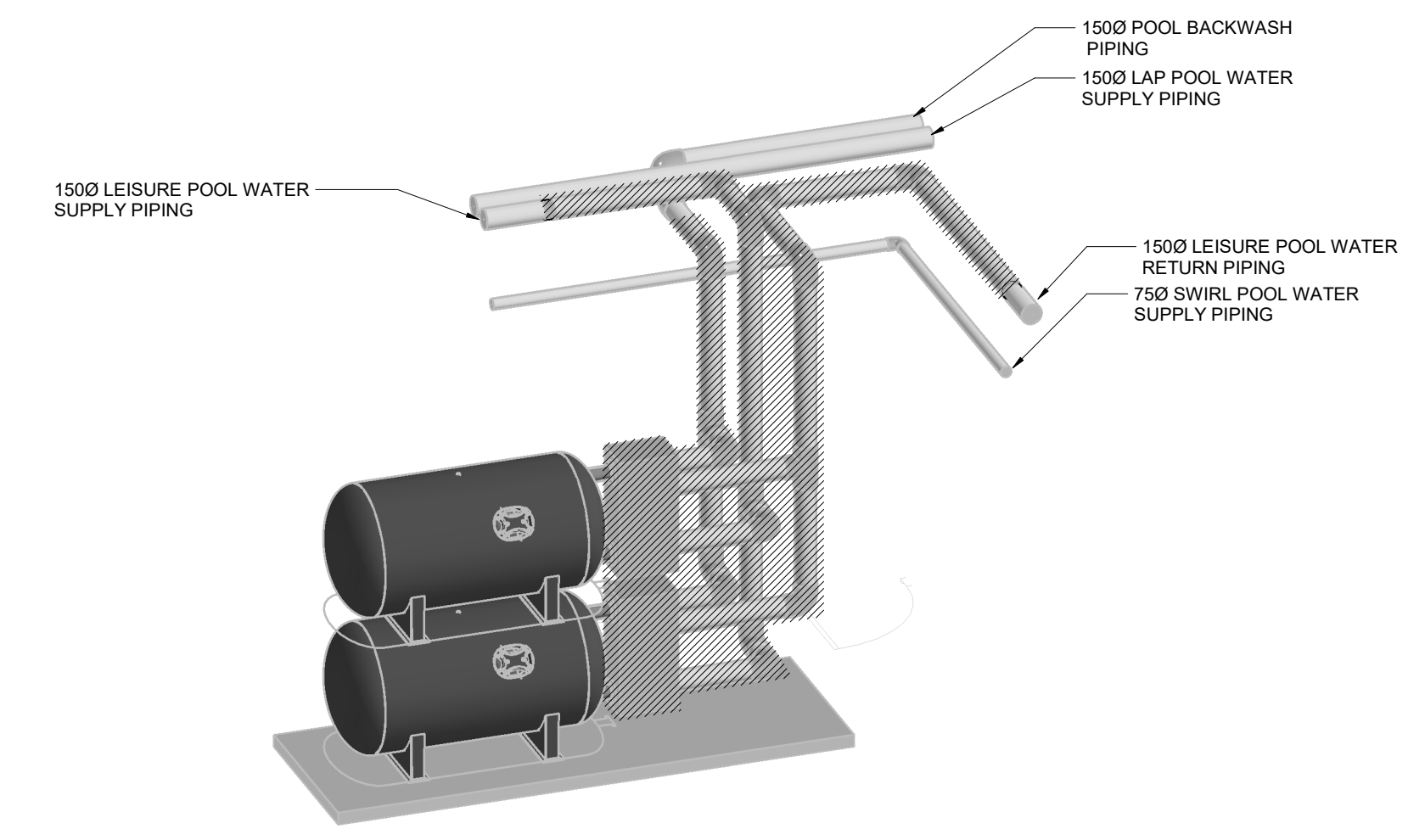
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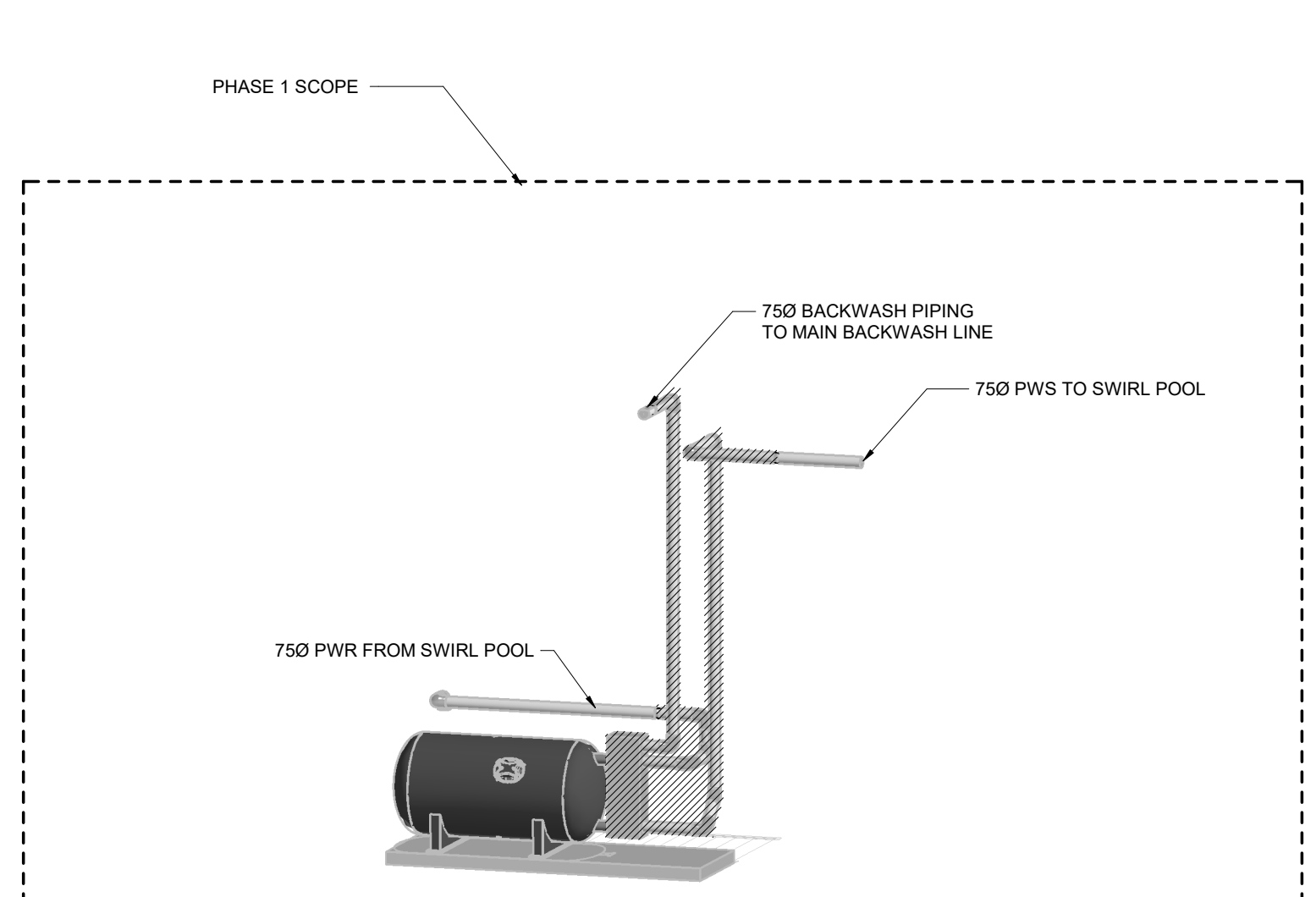
1 DEMO HIGH LEVEL
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2 DEMO LAP POOL PIPING
SCALE:



3 DEMO LEISURE POOL PIPING
SCALE:



4 DEMO SWIRL POOL PIPING
SCALE:

CONSULTANT:
Mechanical : AME Group
Consulting Mechanical Engineers

SEAL:



PROJECT TITLE:
CRESTON & DISTRICT COMPLEX
FILTER VALVE REPLACEMENT

PROJECT ADDRESS:
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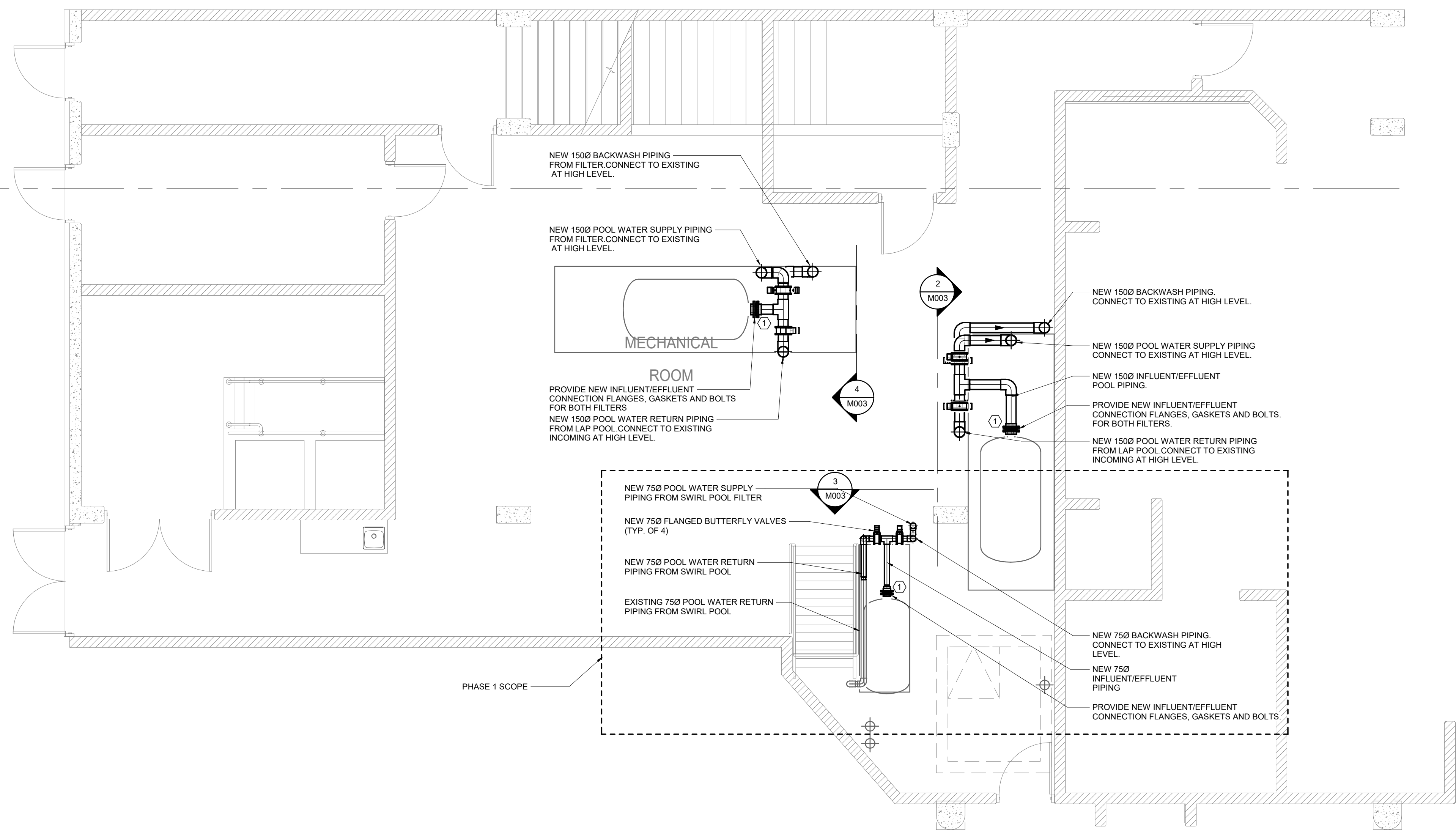
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DATE	3/15/2023

DRAWING TITLE:
DEMO HIGH LEVEL
POOL FILTER ROOM

PROJECT NO.	DRAWING NO.
512c-001-22	M002

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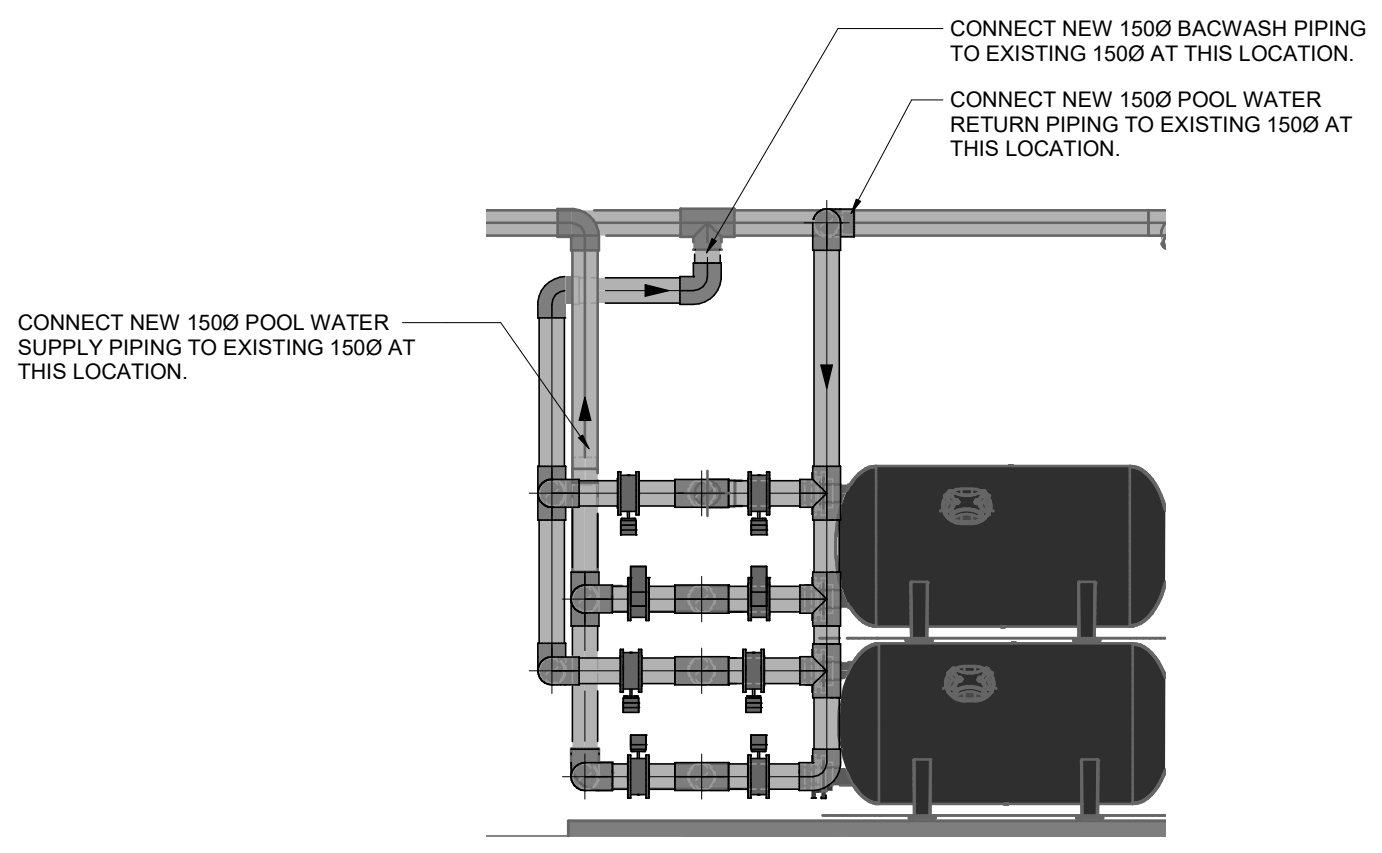
GENERAL NOTES

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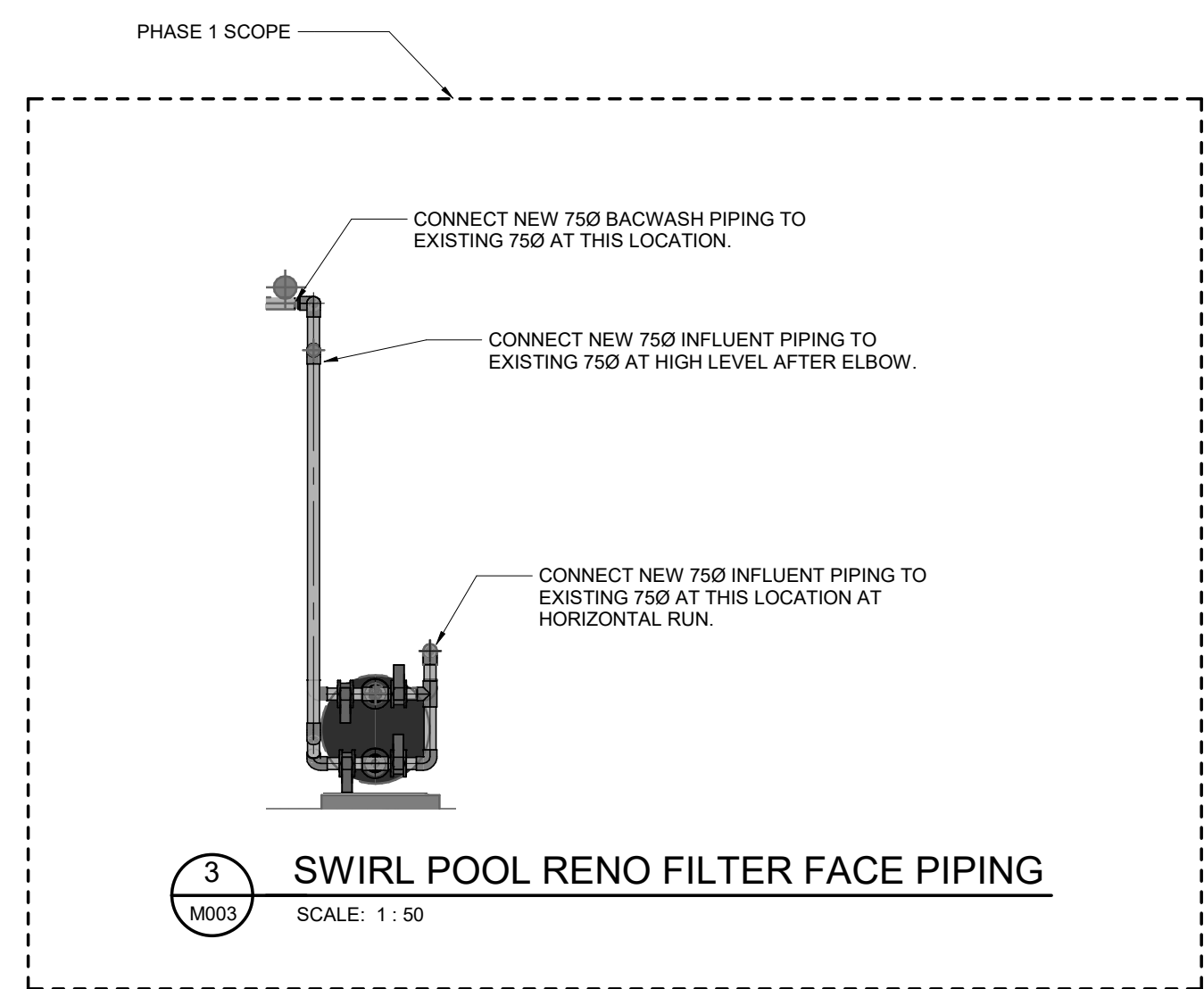
KEYNOTES

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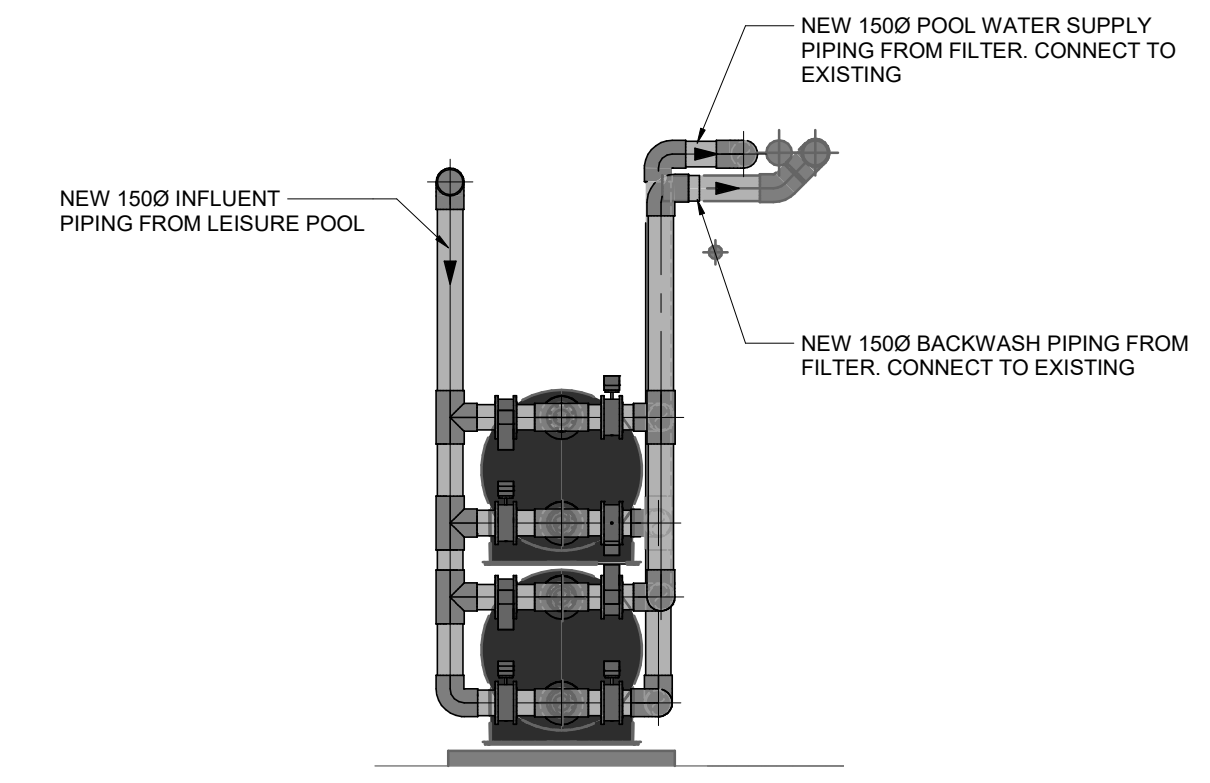
① RENO LOW LEVEL
SCALE: 1 : 50



② LAP POOL RENO FILTER FACE PIPING
SCALE: 1 : 50

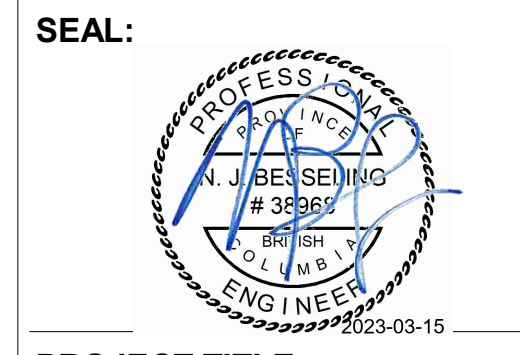


③ SWIRL POOL RENO FILTER FACE PIPING
SCALE: 1 : 50



④ RENO LEISURE POOL FILTER FACE PIPING
SCALE: 1 : 50

CONSULTANT:
Mechanical : AME Group
Consulting Mechanical Engineers



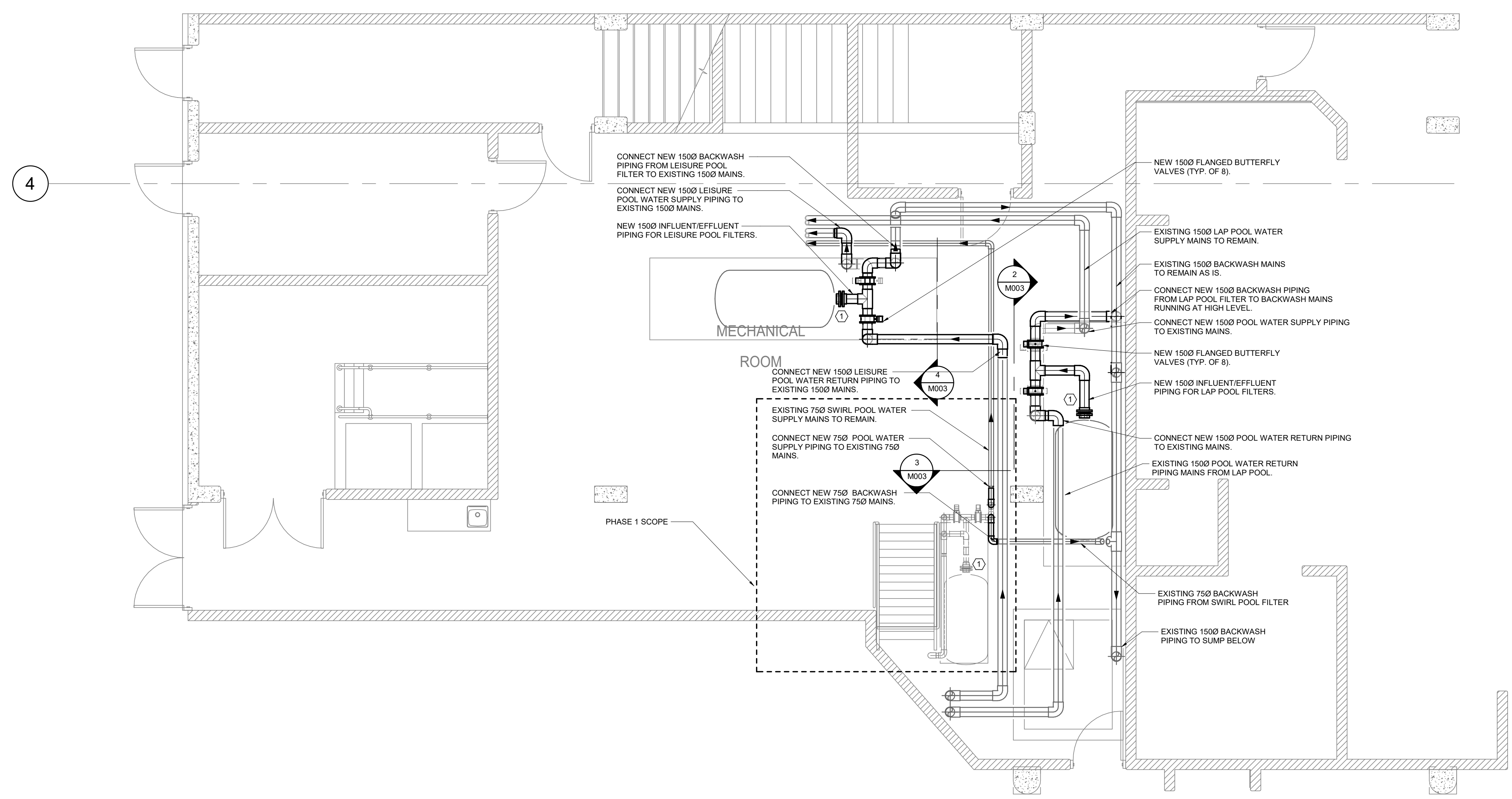
PROJECT TITLE:
CRESTON & DISTRICT COMPLEX
FILTER VALVE REPLACEMENT

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V0B1G5

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DRAWING TITLE:
RENO LOW LEVEL
POOL FILTER ROOM

REV.	DATE	DESCRIPTION
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2	3-15-2023	ISSUED FOR TENDER



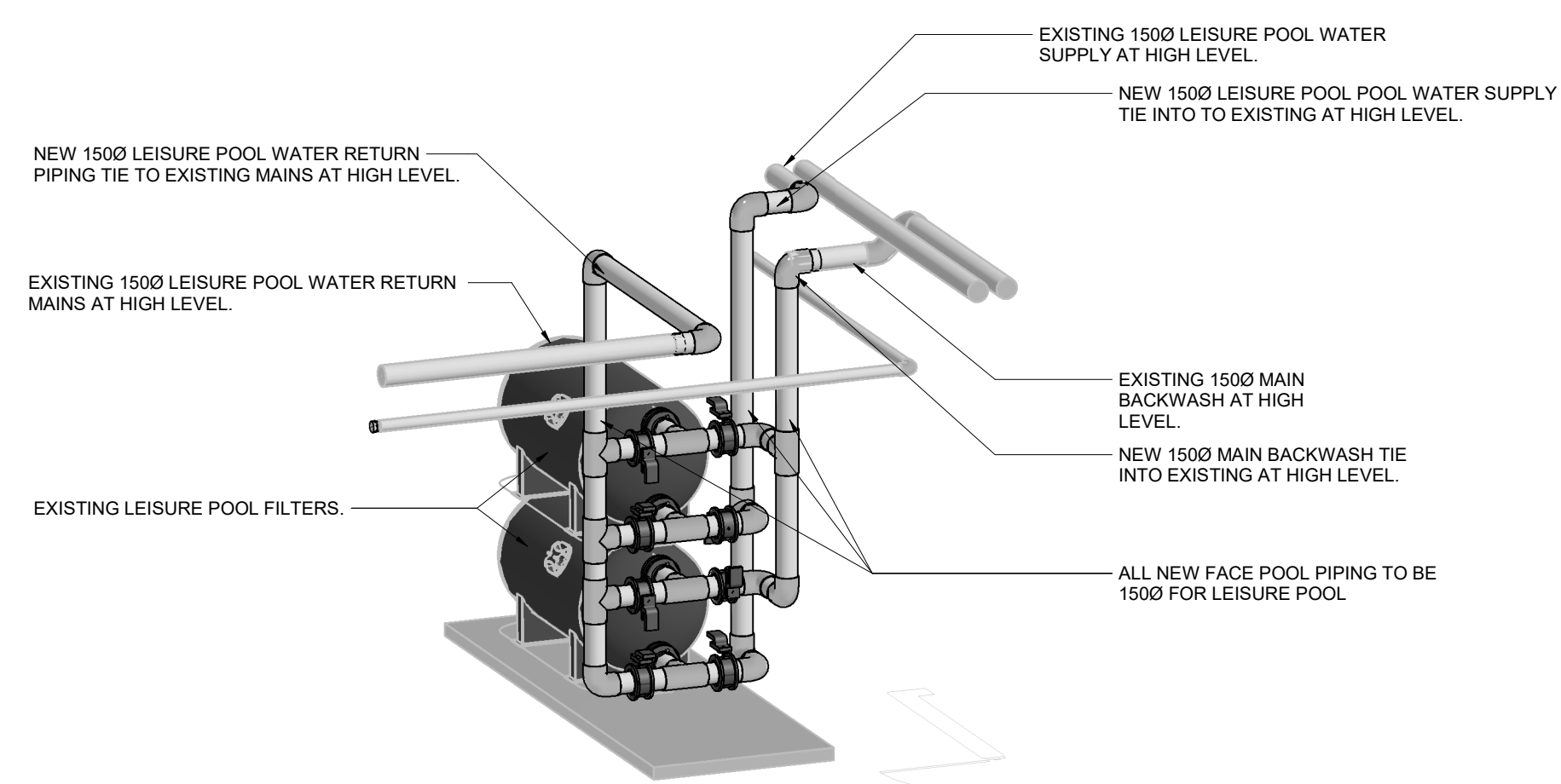
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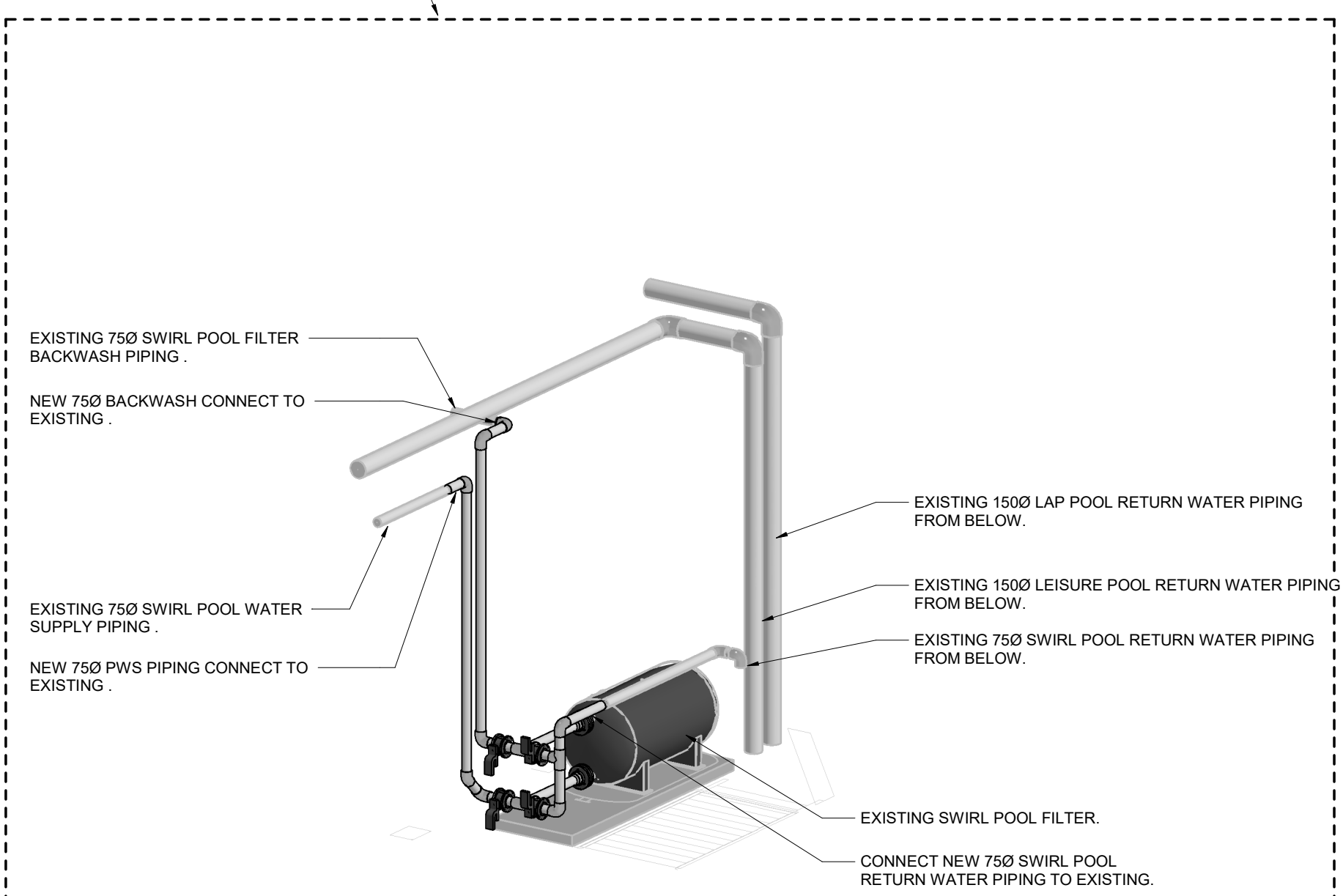
KEYNOTES

- PROVIDE NEW PRESSURE DIFFERENTIAL GAUGES BETWEEN FILTER INLET & OUTLET PIPING FOR EACH FILTER.

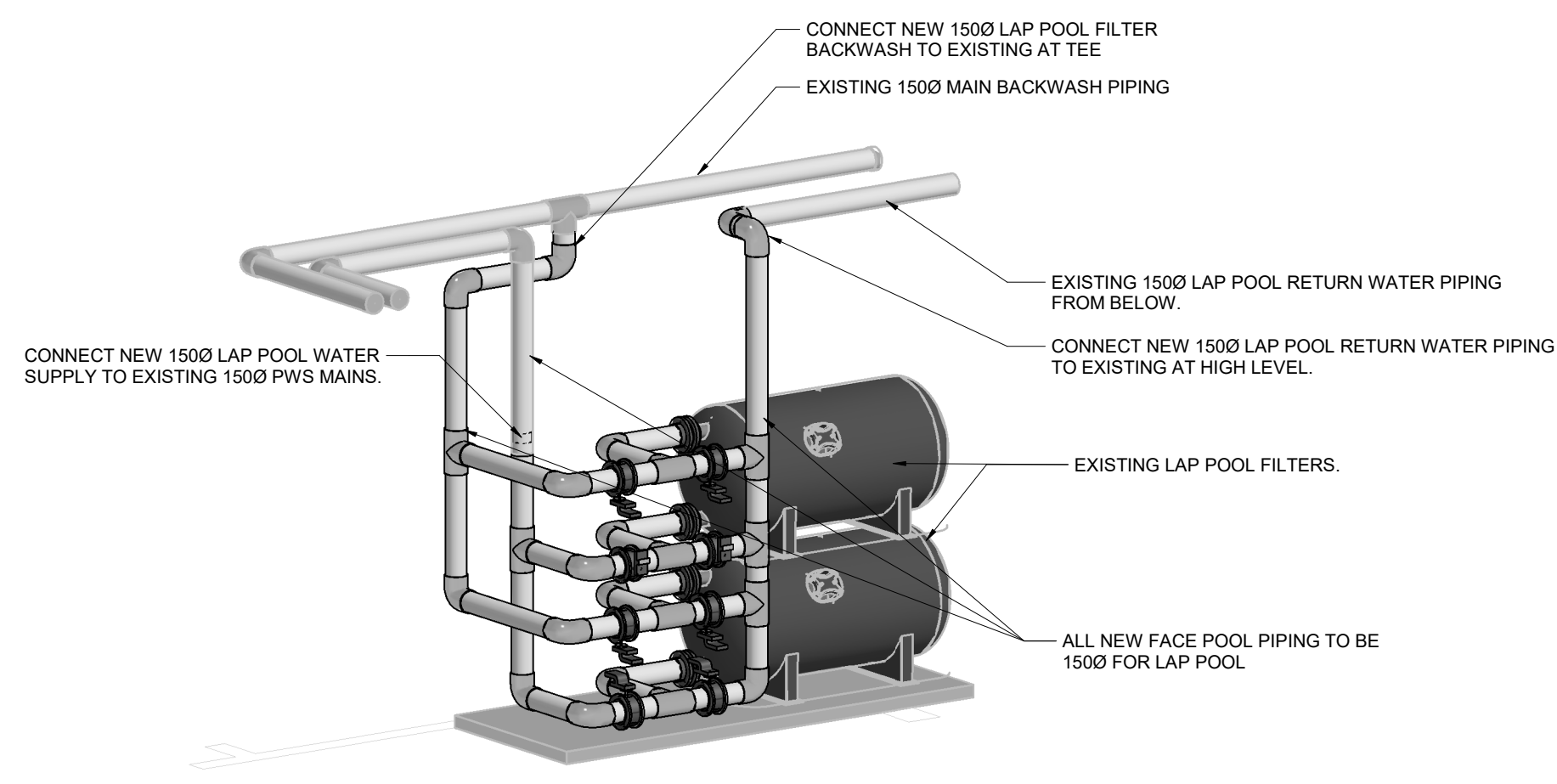
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2 LEISURE POOL FACE PIPING RENO
SCALE:

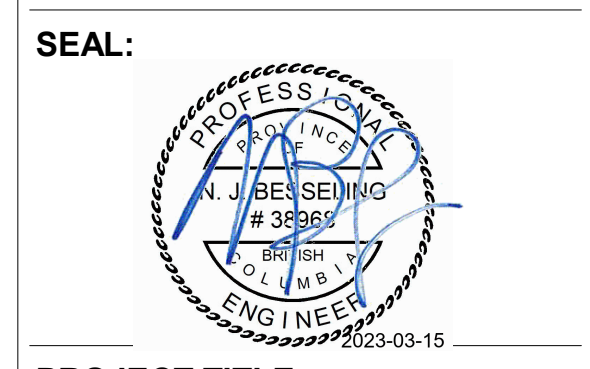


3 RENO SWIRL POOL FILTER PIPING
SCALE:



4 RENO LAP POOL FILTER PIPING
SCALE:

CONSULTANT:
Mechanical : AME Group
Consulting Mechanical Engineers



PROJECT TITLE:
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FILTER VALVE REPLACEMENT

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RENO HIGH LEVEL
POOL FILTER ROOM

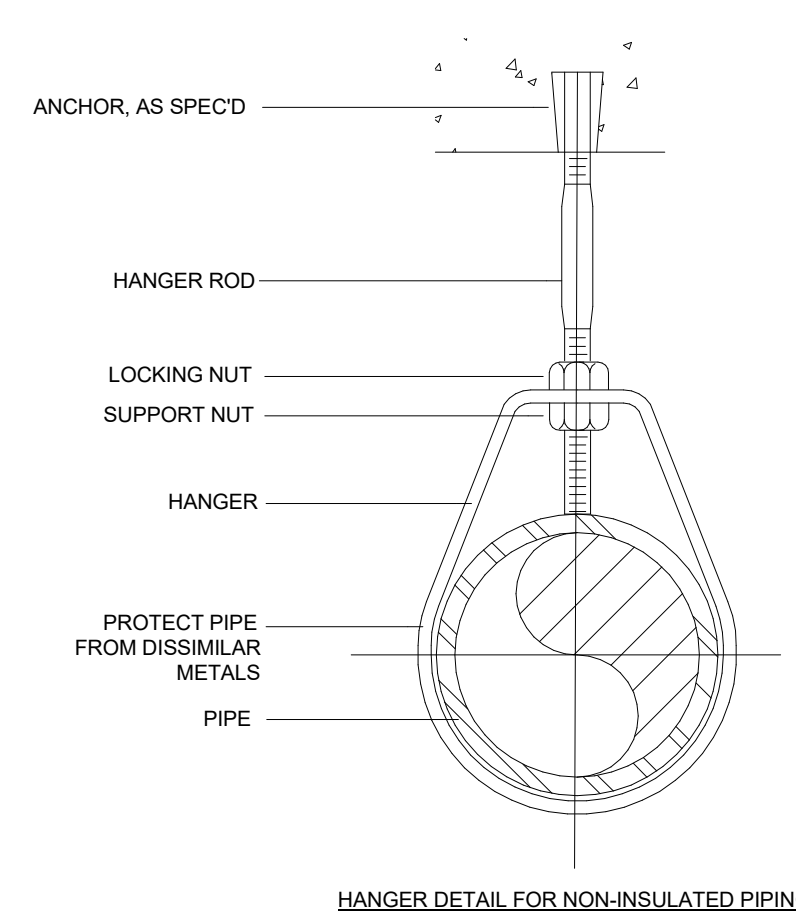
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DRAWING NO. M004

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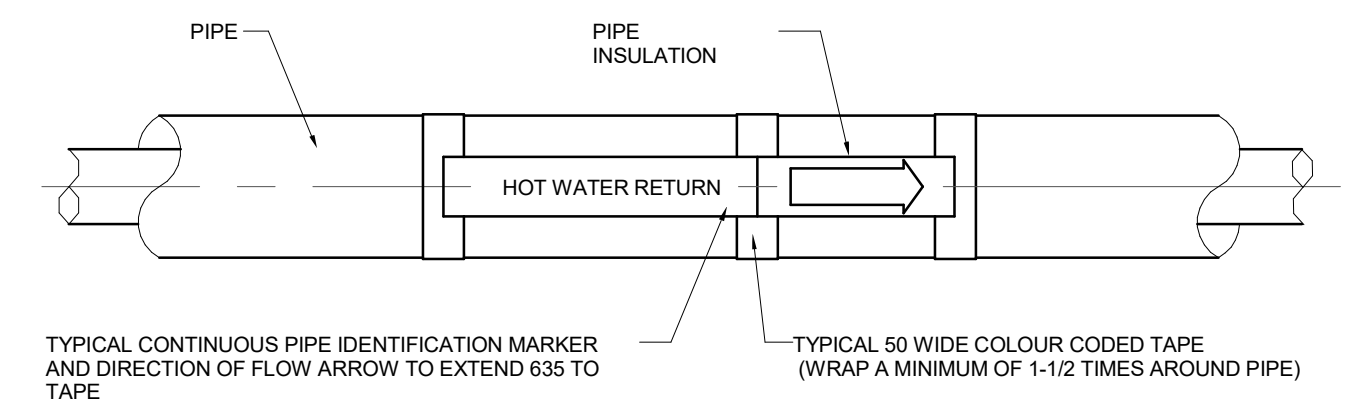
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1 NON-INSULATED PIPE HANGER DETAIL
M005 NOT TO SCALE

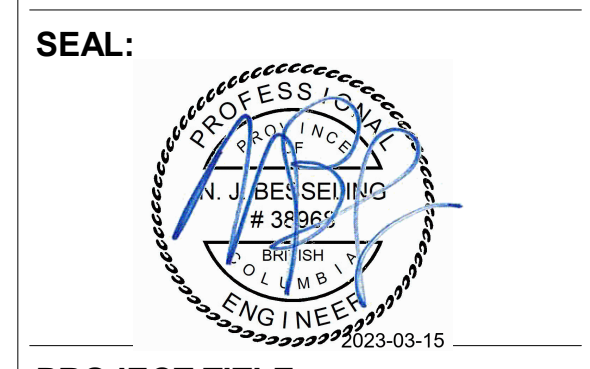


DETAIL NOTES

- ALL DIMENSIONS IN MM.
- APPLY A CONTINUOUS COATING OF CONTACT CEMENT TO THE LABEL TO ENSURE PERMANENT ADHESION.
- REFER TO SPECIFICATION FOR COLOUR CODING OF SERVICES.
- INSTALL AT 15000 INTERVALS (MAXIMUM) AND AT EACH CHANGE DIRECTION.

2 PIPE IDENTIFICATION
M005 NOT TO SCALE

CONSULTANT:
Mechanical : AME Group
Consulting Mechanical Engineers



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DRAWING TITLE:
STANDARD DETAILS