

APPENDIX B



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October 11, 2013

McGowan Russell Group Inc.
825 St. Joseph Street
Winnipeg, MB
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Re: St. Vital Pool - Conditions of Existing Installation and Mechanical Scope of Work.
Our File: 33-202M

The following mechanical outline scope of work is based on non-invasive observations of the existing pool systems at the time of the site meeting on September 16, 2013. A review of the preliminary architectural drawing was conducted following the site visit. The comments are to be read in conjunction with the architectural and structural assessments, and include only mechanical work related to the proposed pool modifications.

Part A: Pool Systems Evaluation

Swimming Pool and Swimming Pool Service Building:

1. The existing pool systems are located in the mechanical room in the basement of the existing pool building. This room contains the pool pumps, chlorination system, and filtration system. It also contains the incoming water service, incoming natural gas service, domestic hot water heater, and domestic hot water storage tank.
 - a. The pool mechanical systems including pumps and filtration systems are in poor to fair condition with some components appearing to be beyond serviceable life.
 - b. The pool chlorination system appeared to be in good condition.
 - c. The domestic hot water heater and piping system appeared to be in fair condition, but is likely approaching the end of serviceable life.

2. The pool supply, skimmer, and vacuum lines, and a domestic water fill pipe are routed within the basement mechanical room into a utility tunnel (utilidor) open to the mechanical room on the north side of the pool. The utilidor is located beneath the pool deck and surrounds the pool. The lines are routed around the pool perimeter and connected to pool fixtures at various points.
 - a. The pool supply, skimmer, and vacuum piping located in the utilidor that could be observed appeared to be in good condition.
 - b. The domestic water fill piping, valving, and pool outlet appeared to be in fair condition.
 - c. The existing pool fixtures appeared to be in good condition.

3. Sanitary drains are located on the pool deck on all sides. The piping is hung within the utilidor and routed to a pit within the basement mechanical room.
 - a. The deck drains appeared to be in good condition.
 - b. The deck drainage piping hung in the utilidor appears to be in poor condition and are nearing the end of serviceable life. Several pipe hangers have failed completely such that the piping has disconnected from the drains. These hangers and piping need to be replaced.

4. A catch basin is located within the basement mechanical room adjacent to the utilidor entrance. The pool drain line from two pool drains is routed beneath the pool structure to the catch basin. Weeping tile from beneath the pool is routed to the catch basin. A pumped 100 mm (4") discharge line (force main) runs from the catch basin and discharges to the sanitary line present in the mechanical room.
 - a. The piping, valving, and pump in the catch basin appeared to be in fair condition.
 - b. The pump appeared to be in fair condition. No test of the functionality of the pump was conducted.
 - c. No evaluation of the underground piping could be conducted. It is recommended that the pipe be televised prior to the commencement of construction.

Wading Pool and Wading Pool Service Building:

1. A catch basin is located within the wading pool mechanical room. The wading pool drain line is routed beneath the pool structure to the catch basin. Weeping tile from beneath the wading pool is routed to the catch basin.
 - a. No evaluation of the underground piping could be conducted.

2. The wading pool and associated pump and filtration systems were not evaluated as per client request.

Part B: Site Services:

Pool Service Building:

1. A 150 mm (6") combined sewer line is run underground from the pool building basement mechanical room to the combined sewer main running parallel with Des Meurons street near the east side of the property. The 100 mm (4") force main from the catch basin in the basement mechanical room is run parallel to the combined sewer line and connects to the combined sewer main in a similar location.

2. A 50 mm (2") domestic water line is run underground from the main running parallel to Des Meurons street near the east side of the property to the basement mechanical room. The water meter assembly is located within the basement mechanical room.

3. A 38 mm (1-1/2") natural gas line is run from the main running parallel to Des Meurons street near the east side of the property to the basement mechanical room. The meter and regulator assembly are located on the exterior of the pool building on the east wall.

Wading Pool Service Building:

1. A 150 mm (6") line is routed from the wading pool catch basin to subsequent catch basin, and a 250 mm (10") line runs from this catch basin and connects to the combined sewer main at the end of Des Meurons.
2. A second 50 mm (2") domestic water service is run underground from the main running parallel to Des Meurons street to the wading pool service building. The water meter assembly is located within the wading pool service room at the south of the building.

Part C: Recommended Mechanical Work

1. The swimming pool mechanical systems including pumps and filtration systems should not be re-used.
2. The swimming pool chlorination system may be re-usable. New swimming pool contractor to evaluate condition and suitability for use with new pool mechanical system.
3. The domestic hot water heater should not be re-used.
4. The existing swimming pool supply, skimmer, vacuum, and domestic water piping located within the utilidor may remain. Terminations of existing pool system connections can be made at the north east and northwest corners of the utilidor to allow addition of beach entry.
5. The existing pool fixtures including supply jets, skimmers, and vacuum outlets may remain.
6. The existing deck drains and drainage piping, hangers, and associated components should be replaced.

Part D: New Mechanical Work:

Based on the proposed architectural swimming pool renovations, wading pool demolition, and splash pad additions:

New Service Building:

1. New HVAC and plumbing systems will be required for the new pool service building including exhaust ventilation, showers, washrooms, etc. A new mechanical service room will be provided to accommodate the HVAC and plumbing equipment, and new pool systems.

Site Services:

1. The existing incoming water services within the existing wading pool service building and swimming pool service building will be removed. A new 150 mm (6") domestic incoming water service will be provided within the new mechanical service room.
2. The existing natural gas service will be modified to suit the location of the new building. The meter and regulator assembly will be relocated to an exterior wall adjacent to the new mechanical service room.
3. A new catch basin will be provided within the new mechanical room c/w pumped discharge line. Existing swimming pool weeping tile, pool drainage, deck drainage piping, and buffer tank drain pipe will be routed to this basin. New splash pad drainage piping will also be routed to this basin. Existing catch basins and sanitary lines on the site will be removed/modified as required to suit the new catch basin installation.
4. A new 150 mm (6") sanitary line will run from the new services building and connect to the sanitary main on the east side of the property.

Pool and Splash Pad:

1. A new mechanical pool system will be provided within the mechanical service room. The system will serve the existing swimming pool with new beach entry and will include the required pumps, filtration, chlorination, and heating system components. Piping will run underground from the mechanical room to the existing swimming pool utilidor for connection to existing piping.
2. New mechanical splash pad system(s) will be provided within the mechanical service room. The system(s) will serve the new splash pad fixtures and will include the required pumps, filtration, chlorination, and heating system components. A new buffer water tank will be provided beneath the new mechanical room to serve the new splash pad(s). Piping will run underground from the mechanical room to the new splash pad(s) for connection to splash pad fixtures.
3. New drainage piping must be provided for the new pool deck area. The existing pool supply, skimmer, vacuum, and domestic water lines piping located within the existing utilidor will be extended to surround the new pool beach entry as proposed. All lines will be run to underground to the new mechanical room for connection to the new pool system.

Waterslide:

1. A new waterslide will be provided on the west side of the existing swimming pool. A pumping system will be provided within the mechanical service room. Piping will run underground from the mechanical service room within the utilidor to the waterslide.

Part D: Budget Pricing for Mechanical Work:

1. New Pool Service Building - Plumbing & HVAC work as described.
 - a. Approximately \$90,000.00 plus GST.

2. Site Services - Work as described.
 - a. Approximately \$150,000.00 plus GST.

3. Existing Pool - New pump / filter / heating system including piping for existing pool as described:
 - a. Approximately \$263,000.00 plus GST. **(Includes Electrical)**

4. Part A Splash Pad - New pump / filter / heating system including piping and splash pad fixtures:
 - a. Approximately \$450,000.00 plus GST. **(Includes Electrical)**

5. Part B Splash Pad - New pump / filter / heating system including piping and splash pad fixtures:
 - a. Approximately \$185,000.00 plus GST. **(Includes Electrical)**

6. New Waterslide - New pump system including piping and waterslide structure:
 - a. Approximately \$320,000.00 plus GST. **(Includes Electrical)**

Sincerely,

Nova 3 Engineering Ltd.

Per.
Mike Hollender, P.Eng.





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To: McGowan Russell Group Inc. 33-202EC
825 St. Joseph St. Winnipeg, MB

Attention: Jackie Wilkie

Subject: Conditions of Existing Pool Installation and Electrical Scope of Work -
King George Pool, Winnipeg, MB

Date: October 11, 2013

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Summary:

The following electrical outline scope of work is based on non-intrusive field observations of the existing outdoor pool and associated systems at the time of the site meeting September 16, 2013. Existing electrical drawings of the pool were made available, however their accuracy was not confirmed. These comments are to be read in conjunction with other discipline's reports and include only electrical work related to the proposed pool modifications.

Part A: Existing Pool Configuration/Condition:

1. The existing pool systems are located in the pool service room in the basement of the pool building.
2. The majority of the pool equipment appeared to be in fair condition.
3. The majority of the electrical in the building appears to be original equipment and is in fair to poor condition. Cabinets exhibit rust and are in poor condition.
4. The existing electrical drawings indicated lighting had once been installed within the pool, however no luminaires were observed at time of visit.
5. A service crawlspace (utilidor) is provided around the pool which houses mechanical and electrical piping. Electrical conduit in the utilidor was in poor condition. Conduits were rusty and not well supported.
6. Four(4) post lights were observed located around the pool perimeter. Flood lights are installed on the building. Light levels within and around the pool should be adequate for minimum code compliance.
7. Three(3) wooden post lights illuminate the parking lot. Parking lot lighting overall coverage would be poor.
8. The splash pad is currently fed from a separate stand alone building. Electrical feed is from the main pool building. Splash pad equipment appears to be in good condition.

Dan Zilinski, P. Eng.
Nova 3 Engineering Ltd.

Part B: Recommended Remedial Electrical Work

1. Any electrical within the utilidor that feeds equipment that will remain, should be replaced with new.
2. Pool grounding conductors within the utilidor should be reviewed and will likely need to be replaced due to poor condition.
3. The electrical equipment within the pool building that will be demolished should not be reused.
4. Parking lot lighting should be upgraded for better overall coverage.

Part C: New Electrical Work

Based on the proposed new pool building:

1. The new utilidor will be extended around the new pool perimeter. According to existing electrical drawings, the wiring to the post lights will be affected by this change. All existing underground utilities should be identified prior to excavation and rerouted to accommodate.
2. Pool grounding system will be required to be extended with expansion of pool area. In addition, all new drains, water slides and metallic objects within the pool or pool deck shall be bonded in accordance with the Winnipeg Electrical By-law, section 68.
3. Demolition of existing pool building.
4. Provision of new electrical for a new pool building including new electrical service, lighting, emergency lighting and exit signage, general power receptacles, connection of pool and mechanical equipment, connection of splash pad electrical, sound system, communication outlets, etc.

Part D: Budget Pricing for Electrical Work

1. New electrical work as described: Approximately \$60,000.00

Note: local market conditions, material price fluctuations, alterations to the present scope of work, etc. may contribute to a construction cost other than this estimate.

This report was produced for the exclusive use of the client to observe the existing conditions of the electrical facilities at the subject project specifically for the purpose of completing a feasibility report and is not to be used for any other purpose. The extent of review is limited to a field observation without testing or verification and limited to the best ability of the professional engineer. Any revisions contemplated to the electrical facility will require confirmation of existing conditions by the responsible professional engineer. The professional engineer does not assume responsibility for unobserved, unobservable (concealed) or post review unobserved maintenance items which could occur due to the age of the facility reviewed.