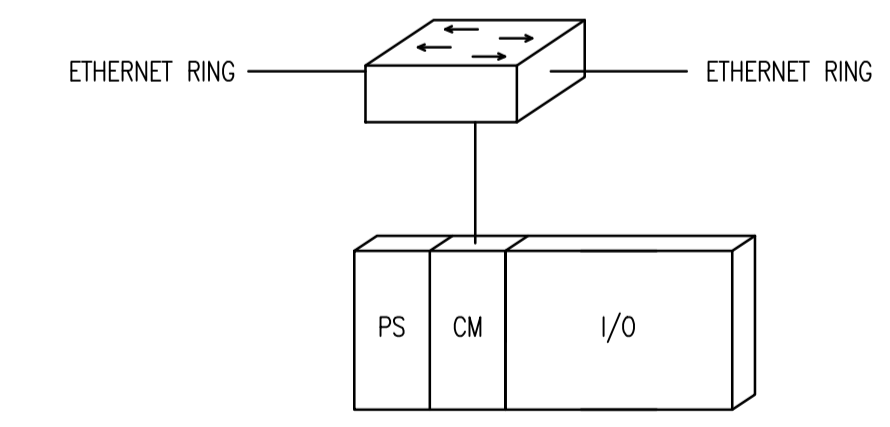


LEGEND:

| | |
|-------|---|
| CM | COMMUNICATION MODULE |
| CPU | PROGRAMMABLE CONTROLLER CENTRAL PROCESSING UNIT |
| FBUS | FIELDBUS |
| INST | INSTRUMENT |
| MS | MOTOR STARTER |
| NETW | NETWORK |
| PS | POWER SUPPLY |
| VFD | VARIABLE FREQUENCY DRIVE |
| Y | PROFIBUS REDUNDANCY MODULE |
| DP/PA | PROFIBUS DP TO PA CONVERTER |
| ① | INSTRUMENT |

I/O REQUIREMENTS

| NODE | DI-120VAC | DI-24VDC | DO-24VDC | AI 4-20mA | AI HART | AO 4-20mA | AO HART | NETW MS | NETW VFD | FBUS |
|------------|-----------|----------|----------|-----------|---------|-----------|---------|---------|----------|------|
| RIO NODE 1 | | 160 | 32 | 16 | 32 | 8 | 8 | | | |
| RIO NODE 2 | | 160 | 32 | 16 | 32 | 8 | 8 | | | |
| RIO NODE 3 | | 128 | 32 | 16 | 16 | | 8 | | | |
| RIO NODE 4 | | 128 | 32 | 16 | 16 | | 8 | | | |
| NETWORK | | | | | | | | 40 | 16 | |
| FIELDBUS | | | | | | | | | | 34 |



DETAIL 1 - ALTERNATE REMOTE I/O NETWORK CONNECTION

NOTES:

- ① THE CONFIGURATION SHOWN REPRESENTS THE GENERAL REQUIREMENTS FOR THE SYSTEM ARCHITECTURE. THE ACTUAL CONFIGURATION WILL VARY SLIGHTLY BASED UPON THE SPECIFIC VENDOR PROPOSAL.
- ② THE INTELLIGENT MCCS MUST BE CAPABLE OF COMMUNICATION WITH MULTIPLE PLC SYSTEMS SIMULTANEOUSLY.
- ③ A PROFIBUS DP/PA FIELDBUS IS SHOWN FOR CONNECTION OF FIELDBUS INSTRUMENTATION. A FOUNDATION FIELDBUS SOLUTION MAY BE PROPOSED, PROVIDED IT HAS A COMPARABLE LEVEL OF FUNCTIONALITY AND AVAILABILITY.
- ④ COMMUNICATION MODULES WITH INTEGRATED ETHERNET SWITCHES SHOWN. IF COMMUNICATION MODULES DO NOT HAVE INTEGRATED SWITCHES, PROVIDE ADDITIONAL ETHERNET SWITCHES AS SHOWN IN DETAIL 1.



| | | | | | | | |
|---|--|--|--|--|--|---|--|
| <p>SNC-LAVALIN INC. 148 Nature Park Way Winnipeg, MB, Canada R3P 0X7 204-786-8080</p> | | | | <p>ENGINEER'S SEAL</p> <p>PRELIMINARY NOT TO BE USED FOR CONSTRUCTION</p> | | <p>THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT</p> <p>WASTEWATER TREATMENT SYSTEM</p> <p>SYSTEM ARCHITECTURE PROGRAMMABLE CONTROLLER SYSTEM 2</p> | |
| <p>DESIGNED BY: C. REIMER</p> <p>DRAWN BY: M.J. PERSSON</p> <p>SCALE: NTS</p> <p>DATE: 2013/09/23</p> | | <p>CHECKED BY: B. CLEVEN</p> <p>APPROVED BY: C. REIMER</p> <p>RELEASED FOR CONSTRUCTION BY:</p> <p>DATE:</p> | | <p>CITY DRAWING NUMBER SK-A0005</p> | | <p>SHEET REV. SIZE 001 00 A1</p> | |
| <p>ISSUED FOR TENDER</p> <p>2013/10/30</p> | | <p>DATE DESIGN CHECK</p> <p>CJR BJC</p> | | <p>CONSULTANT NO.: 612620-0004-40DD-0005</p> | | <p>CONTRACT NO.: 612620-0004-40DD-0005</p> | |