

DETAILED SCOPE OF WORK

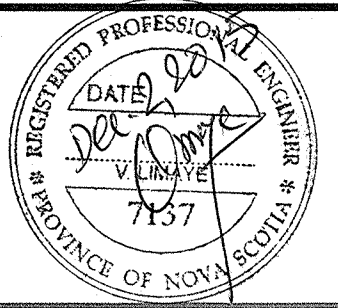
- REMOVE AND DISPOSE OFF-SITE EXISTING STEEL WIRE ROPES AND ROPE ANCHORS S4 (10-464), S7 (10-467)
- SUPPLY AND INSTALL NEW FENDER WIRE ROPES AND ROPE ANCHORS S4 (10-464), S5 (10-465), S17 (10-477)
- BOLLARD A AND BOLLARD B - S10 (10-470) (NORTH AND SOUTH)
 - REMOVE AND DISPOSE OFF-SITE EXISTING SHEAVES, BRONZE BUSHINGS, AND CAST STEEL PINS
 - SUPPLY AND INSTALL NEW SHEAVES AND BRONZE BUSHINGS, AND CAST STEEL PINS
 - REMOVE AND DISPOSE OFF-SITE EXISTING GREASING NIPPLES, TUBES AND STEEL PLATES
 - SUPPLY AND INSTALL NEW GREASING NIPPLES, TUBES AND STEEL CLAMP PLATES (8 SETS)
 - REPLACE ALL FASTENERS AND PINS
 - SANDBLAST, CLEAN AND INSPECT SHEAVE ASSEMBLY BLOCK.
 - SUPPLY AND APPLY AN EPOXY BASED, TWO COMPONENT MICROBIALY-INDUCED CORROSION RESISTANT COATING TO SHEAVE ASSEMBLY BLOCK. SPECIAL ATTENTION TO BE PAID TO INNER SURFACE OF YOKE, AND ROPE SHOES
 - SANDBLAST, CLEAN AND REINSTALL CABLE CLAMPS AND CLAMPING BLOCK
 - SANDBLAST/ AND CLEAN BOLLARD SHAFTS S15 (10-475), SUPPLY AND APPLY AN EPOXY BASED, TWO COMPONENT MICROBIALY-INDUCED CORROSION RESISTANT COATING TO LOWER SHAFT SURFACE
 - REMOVE CORRODED ANCHOR BOLTS AND NUTS FROM SHEAVE ASSEMBLY SUPPORT PLATES S3 (10-465)
 - SUPPLY AND INSTALL NEW ANCHOR BOLTS, NUTS, WASHERS TO REPLACE CORRODED AND MISSING ANCHOR BOLTS FOR SHEAVE ASSEMBLY SUPPORT PLATES S5 (10-465)
- BOOM LATCH MECHANISM - (NORTH AND SOUTH) S16 (10-476)
 - REMOVE AND DISPOSE OFF-SITE ENCLOSURE FOR BOOM LATCH MECHANISM
 - SUPPLY AND INSTALL NEW STEEL ENCLOSURE OVER BOOM LATCH UNIT
 - SUPPLY AND INSTALL 25 MM DIA. STEEL LINK PIPE BETWEEN THRUSTER UNIT AND BOOM LATCH
 - SUPPLY AND APPLY AN EPOXY BASED, TWO COMPONENT MICROBIALY-INDUCED CORROSION RESISTANT COATING TO BOOM LATCH ENCLOSURE AND 25 MM DIA. STEEL LINK PIPE BETWEEN THRUSTER UNIT AND BOOM LATCH
 - POWER-WASH WITH FRESH WATER AND CLEAN ALL INTERNAL SURFACES OF BOOM LATCH PITS, FILL CRACKS AND REPAIR CONCRETE SURFACE USING EPOXY BASED COMPOUND
 - REMOVE AND DISPOSE OFF-SITE EXISTING STEEL PLATE COVER OVER LATCH MECHANISM PITS
 - REMOVE DETERIORATED CONCRETE UP TO A DEPTH OF 300 MM, INSTALL DOWEL BARS AND CAST NEW CONCRETE.
 - SUPPLY AND INSTALL NEW GALVANIZED STEEL COVER OVER LATCH MECHANISM PITS WITH ACCESS HATCH OVER EXISTING STEEL LADDER
 - REPLACE CORRODED STEEL RUNGS WITH GALVANIZED STEEL RUNGS
- BOOM ASSEMBLY - SOUTH S7 (10-467), S8 (10-468), S9, (10-469)
 - REMOVE BOOM ASSEMBLY
 - PRESSURE WASH, SANDBLAST, AND INSPECT BOOM FRAME SEGMENTS INCLUDING ALL JOINTS
 - PROVIDE INSPECTION REPORT SHOWING LOCATION AND NUMBER OF JOINTS REQUIRING WELD AUGMENTATION OR REPLACEMENT
 - AUGMENT JOINT WELDS WHERE NEEDED (ESTIMATED 30%)
 - SUPPLY AND APPLY AN EPOXY BASED, TWO COMPONENT MICROBIALY-INDUCED CORROSION RESISTANT COATING SYSTEM TO BOOM ASSEMBLY OFF-SITE UNDER CONTROLLED CONDITIONS
 - HAND OVER REFURBISHED SOUTH BOOM UNIT, AS NEW SPARE, TO CANSO CANAL AUTHORITY IN KNOCKED-DOWN CONDITION STACKED ON 200x200x1200 PRESSURE TREATED TIMBER BLOCKS AS SHOWN ON DRAWINGS S8 AND S9
 - SUPPLY ALL NECESSARY FASTENERS IN AN AIRTIGHT CONTAINER
 - PRESSURE WASH, SANDBLAST, AND INSPECT EXISTING SPARE BOOM FRAME SEGMENTS INCLUDING ALL JOINTS
 - REPAIR DAMAGED AND DEFORMED MEMBERS OF EXISTING SPARE BOOM
 - AUGMENT JOINT WELDS WHERE REQUIRED (ESTIMATED 10%)

- CONTINUED:
 - SUPPLY AND APPLY AN EPOXY BASED, TWO COMPONENT MICROBIALY-INDUCED CORROSION RESISTANT COATING SYSTEM OFF-SITE UNDER CONTROLLED CONDITIONS
- INSTALL NEW FASTENERS
- REMOVE AND DISPOSE OFF-SITE CABLE CLAMP ASSEMBLIES INCLUDING STEEL PLATE HANGERS. RETAIN FIVE ASSEMBLIES REMOVED IN RELATIVELY BETTER CONDITION, CLEAN, SANDBLAST, COAT, AND HAND OVER TO CANSO CANAL STAFF AS SPARE
- INSTALL NEW CABLE CLAMP ASSEMBLIES INCLUDING STEEL PLATE HANGERS
- BOOM ASSEMBLY - NORTH S7 (10-467), S8 (10-468), S9 (10-469)
 - REMOVE AND DISPOSE OFF-SITE EXISTING BOOM ASSEMBLY
 - SUPPLY ONE NEW BOOM UNIT
 - SUPPLY AND APPLY AN EPOXY BASED, TWO COMPONENT MICROBIALY-INDUCED CORROSION RESISTANT COATING SYSTEM OFF-SITE UNDER CONTROLLED CONDITIONS
 - INSTALL NEW FASTENERS
 - INSTALL NEW CABLE CLAMP ASSEMBLIES INCLUDING STEEL PLATE HANGERS
- BOLLARD C - S13 (10-473)
 - REMOVE BOLLARD COVER CLEATS
 - CLEAN AND COAT BOLLARDS, CONNECTING MEMBERS, ANCHOR PLATES AND COVER CLEATS
 - REINSTALL BOLLARD COVER CLEATS USING NEW FASTENERS
- BOLLARD C, PIT - S4 (10-464), S5 (10-465)
 - REMOVE ACCUMULATED DEBRIS AND POWER WASH PIT
 - REPAIR CRACKS IN WALLS, BASE AND APPLY EPOXY/POLYMER BASED COMPOUND
 - REMOVE AND DISPOSE OFF-SITE EXISTING STEEL PLATE COVER OVER PIT
 - LEVEL AND FINISH TOP SURFACE OF PIT WALL
 - CLEAN AND COAT LADDER RUNGS
 - FABRICATE, SUPPLY AND INSTALL NEW GALVANIZED STEEL COVER WITH ACCESS HATCH OVER PIT (S3)
 - SUPPLY AND APPLY EPOXY-BASED, TWO-COMPONENT COATING SYSTEM AS PER NOTE 16 ON DRAWING S1
- BASCULE FRAME - S13 (10-473)
 - SANDBLAST/POWER WASH AND CLEAN ALL STRUCTURAL COMPONENTS
 - INSPECT ALL WELDS
 - REMOVE CORRODED WELDS FROM JOINTS AND RE-WELD
 - REPLACE CORRODED FASTENERS
 - REMOVE CORRODED ANCHOR BOLTS AND NUTS
 - INSTALL NEW ANCHOR BOLTS AND NUTS
 - REPLACE CORRODED STIFFENER PLATES FROM FRAME BASE MEMBERS AT NORTH BASCULE FRAME
 - INSPECT LOWER JOINTS OF DIAGONALS AT NORTH BASCULE FRAME AND RE-WELD AS NECESSARY
 - PROVIDE DRAIN HOLES AT LOWER DIAGONAL JOINTS
 - & k. SUPPLY AND APPLY AN EPOXY BASED, TWO-COMPONENT, MICROBIALY-INDUCED-CORROSION RESISTANT COATING TO LOWER FRAME, DIAGONALS, CROSS MEMBERS AND COLUMNS (GEAR RACK EXCLUDED) & UPPER STRUCTURAL MEMBERS

- BASCULE UNIT - S14 (10-474)
 - REMOVE AND DISPOSE OFF-SITE COVERS OVER BALANCING ROD RECESS HATCH
 - SUPPLY AND INSTALL NEW HATCH COVERS OVER BALANCING ROD ACCESS HATCH
 - REPLACE THROUGH BOLTS ATTACHING STEEL COUNTERWEIGHTS TO BASCULE UNITS (25 EA. NORTH UNIT, 25 EA. SOUTH UNIT)
 - REPLACE TRUNION BEARING HOUSING COVER PLATE AND ATTACHING BOLTS (2 EA. NORTH UNIT, 1 EA. SOUTH UNIT)
 - REPLACE NUTS, JAM NUTS, AND WASHERS OF BOOM ANCHOR BOLTS
 - REPLACE ALL OTHER CORRODED FASTENERS
 - GRIND AND WELD CRACK IN PIPE SLEEVE FOR BOOM ANCHOR IN SOUTH ARRESTOR (NORTH SLEEVE)
 - SAND BLAST BASCULE UNITS AND APPLY AN EPOXY BASED, TWO-COMPONENT COATING SYSTEM AS PER NOTE 16 ON DRAWING S1
- WORMGEAR ASSEMBLY - S4 (10-464), S12 (10-472)
 - REMOVE EXISTING SHEET METAL COVERS OVER WORM GEAR ASSEMBLY
 - SUPPLY AND INSTALL NEW SHEET METAL COVERS OVER WORM GEAR ASSEMBLY
 - REMOVE EXISTING BUTTON-HEAD GREASE NIPPLES UNDER SHEET METAL COVER OVER WORM GEARS SYSTEM. SUPPLY AND INSTALL NEW 90 DEGREE GREASING ELBOW AT EACH POINT AND REINSTALL EXISTING BUTTON-HEAD GREASE NIPPLES TO FACILITATE EASY ACCESS FOR GREASE GUN
 - SUPPLY AND APPLY AN EPOXY BASED, TWO-COMPONENT COATING SYSTEM AS PER NOTE 16 ON DRAWING S1 TO ALL EQUIPMENT EXTERIOR EXCEPT RUNNING/MOVING SEGMENTS
 - SEAL STEEL ROPE ENTRY DUCT BY INJECTING POLYURETHANE FOAM TO A DEPTH OF 300 MM AND SACRIFICIAL PLASTIC CAP OVER THE DUCT AFTER SATISFACTORY COMPLETION OF TESTING OF ARRESTOR (S3)
 - REMOVE AND DISPOSE OFF-SITE EXISTING GUARDRAIL
 - SUPPLY AND INSTALL NEW GALVANIZED STEEL GUARDRAIL TO MATCH EXISTING
- MACHINE ROOM - S11 (10-471)
 - REMOVE PAINT FROM TRANSFER GEAR SHAFT AT SOUTH ARRESTOR
 - CLEAN, SANDBLAST, PAINT AND INSTALL TWO PAIRS OF RETARDING BRAKE SHOES THAT WERE PREVIOUSLY REMOVED AND REMAIN UNINSTALLED AT SOUTH ARRESTOR (AVAILABLE IN MACHINE ROOM)
 - DEMONSTRATE SATISFACTORY FUNCTIONING OF TRANSFER GEARS AT NORTH AND SOUTH ARRESTORS.
 - CLEAN MACHINE ROOM INTERIOR AND PRESSURE WASH FLOOR AND STEPS AFTER COMPLETION OF ALL OTHER WORK
 - PAINT FLOOR AND STEPS TO MATCH EXISTING
- CANAL WALL CONCRETE REPAIR - S4 (10-464), S5
 - REMOVE DETERIORATED CONCRETE FROM CAVITY IN CANAL WALL NEAR WATER LINE
 - FILL CLEANED RECESS WITH APPROVED HIGH STRENGTH PATCHING MORTAR
 - FINISH SO FLUSH WITH CANAL WALL SURFACE

LEGEND
INDIVIDUAL
WORK ITEMS
IDENTIFIED THUS

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revisions		date

project
**BUILDING ENVELOPE
IMPROVEMENT PROJECT
CANSO CANAL
PORT HASTINGS
INVERNESS COUNTY, N.S.**

drawing
**LAYOUT OF FENDER NO.
2 AND DETAILED SCOPE
OF WORK**

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S2