

1. READ THE STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER PERTINENT CONTRACT DOCUMENTS.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED. THE CONTRACTOR SHALL VERIFY DIMENSIONS BEFORE CONSTRUCTION AND REPORT DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS.
3. THE DESIGN AND CONSTRUCTION WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA 1995 AND REFERENCED STANDARDS THEREIN.
4. REFER TO THE ARCHITECTURAL, PROCESS, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, SLEEVES AND OTHER BUILDING COMPONENTS NOT SHOWN IN THE STRUCTURAL DRAWINGS. REPORT DISCREPANCIES TO THE OWNER BEFORE PROCEEDING WITH THE WORK.
5. CONTRACTOR TO COORDINATE WITH EQUIPMENT SUPPLIERS DIMENSIONS AND ALL OTHER CRITICAL DETAILS PRIOR TO CONSTRUCTION. REPORT DISCREPANCIES AND OBTAIN APPROVAL PRIOR TO PROCEEDING WITH CONSTRUCTION.
6. DRAWINGS SHOW COMPLETED STRUCTURES ONLY. PROVIDE TEMPORARY BRACING FOR CONSTRUCTION. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN LOADS.
7. CONSTRUCTION METHODS REQUIRING TEMPORARY SHORING, OR BRACING, SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW. THE CONTRACTOR SHALL RETAIN A PROFESSIONAL TAKE RESPONSIBILITY FOR ANY SHORING OR OTHER DESIGNS REQUIRED TO COMPLETE THE CONSTRUCTION.
8. VERIFY LOCATION OF UNDERGROUND SERVICES AND BE RESPONSIBLE FOR DISRUPTIONS.

DESIGN LOADS

1. DEAD LOADS: STRUCTURE SELF WEIGHT PLUS:
ROOF LOAD 0.5 kPa
SUPERIMPOSED DEAD LOAD ROOF 1.0 kPa
2. LIVE LOADS:
1.) GROUND SNOW LOAD - $S_g = 2.7 \text{ kPa}$
 $S_r = 0.2 \text{ kPa}$ MODIFY FOR EXPOSURE
AND DRIFT PER AS NBC-1995. MODIFY
AS PER NBC 1995
2.) WIND LOAD $q(1:30) = 0.89 \text{ kPa}$
 $q(1:100) = 0.84 \text{ kPa}$
 $Z_A = 1.0$ $Z_V = 0$ $V = 0.05$
3.) SEISMIC
4.) NEW BUILDING FLOOR 4.8 kPa

EXCAVATION & BACKFILL

1. EXCAVATE TO LINES AND LEVELS NECESSARY TO PROPERLY COMPLETE THE WORK. MINIMUM SIDE SLOPES OF TEMPORARY EXCAVATIONS SHALL NOT EXCEED 1 TO 1. CONTROL EXCAVATION TO ENSURE BOTTOM OF EXCAVATION DOES NOT SETTLE DUE TO EXCESS MOISTURE.
2. ROCK EXCAVATION: SEE SPECIFICATION SECTION 02316
3. DO NOT PLACE BACKFILL ON FROZEN GROUND, NOR USE FROZEN MATERIAL.
4. DO NOT ALLOW COMPLETED WORK TO BE DAMAGED FROM FREEZING CONDITIONS
5. BACKFILL MATERIAL:
 1. UNDER INTERIOR GRADE SUPPORTED SLABS, USE 50mm MINUS GRISHED GRAVEL COMPACTED TO 98% SPD WITH LAYERS NOT EXCEEDING 150mm
 2. UNDER EXTERIOR GRADES SUPPORTED SLABS, USE NATIVE EXCAVATED MATERIAL OR EXCAVATED ROCK TO A MINIMUM OF 1/3 SLAB AND FILL WITH 50mm MINUS GRISHED GRAVEL COMPACTED TO 98% SPD FOR REMAINING 50mm. COMPACT TO 98% SPD IN LAYERS NOT EXCEEDING 150mm
 3. UNDER PIPE BEDS, FILL BOTTOM WITH CLEAN COARSE SAND TO WITHIN 300mm OF SURFACE. COMPACT TO 95% SPD WITH LAYERS NOT EXCEEDING 150mm. USE TYPE 1 FILL FOR TOP 300mm. COMPACT TO 98% SPD IN LAYERS NOT EXCEEDING 150mm.
 4. UTILIZE EXCAVATED GRANULAR MATERIAL FOR BACKFILL ONLY WHEN APPROVED BY THE OWNER.

FOUNDATION

1. ALL FOUNDATION CONSTRUCTION TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS GIVEN IN ENGINEERING REPORT - "GEO-TECHNICAL INVESTIGATION PROPOSED LIFT STATION #1, LOCALITY MUNAVUT" TROW ASSOCIATES INC. REPORT: 07C000018192A, DATED SEPTEMBER 9, 2005

CONCRETE

1. PROVIDE CONCRETE AND PERFORM WORK TO CSA CAN-423.1M90. THE CONTRACTOR SHALL HAVE A COPY OF THIS STANDARD ON SITE AT ALL TIMES.
2. TEST CONCRETE IN ACCORDANCE WITH CSA CAN-423.2-M90.
3. CONCRETE REQUIREMENTS:

TYPE	LOCATION	28 DAY STRENGTH $f_c'(MPa)$	CEMENT TYPE	AGGREG. (mm)	SUMP (mm)	TOTAL AIR (%)
1.	INTERIOR CONCRETE	30	10	25	70x20	NOM
2.	EXTERIOR CONCRETE	30	10	25	70x20	6-8%
4. SPECIFIED SLUMPS ARE PRIOR TO THE ADDITION OF ANY APPROVED PLASTICIZING ADJUTIVE. WHEN CONCRETE IS PLACED BY PUMPING, THE LISTED SLUMPS SHALL BE AT DISCHARGE.
5. ALL CONCRETE SHALL BE NORMAL WEIGHT 2400 KG/M3 UNLESS NOTED.
6. CONSTRUCTION JOINTS, KEPT AND DOWELED AS DIRECTED BY ENGINEER UNLESS DETAILED ON DRAWINGS. SUBMIT PROPOSED DETAIL AND LOCATION OF ALL CONSTRUCTION JOINTS NOT SHOWN ON DRAWINGS, TO OWNER FOR APPROVAL.
7. PROVIDE 20mm CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
8. VERIFY SIZE AND LOCATION OF ALL MECHANICAL OPENINGS, CURBS, EQUIPMENT PADS WITH MECHANICAL AND MECHANICAL CONTRACTOR. (JANON OPENINGS NOT SHOWN TO BE VERIFIED WITH ENGINEER).
9. CONCRETE COVER TO REINFORCING STEEL

ITEM COVERAGE (mm)

- | | |
|------------------------------------|----|
| OTHER INTERIOR SLABS, BEAMS, WALLS | 40 |
| EXTERIOR SLABS, BEAMS, WALLS | 50 |
| CONCRETE AGAINST EARTH | 75 |

CONCRETE ACCESSORIES

1. NON-TERRAZZO GROUT: PRE-MIXED, NON SHRINK, MASTER BUILDERS 713, STERNSON H-BED, GPO NON SHRINK GROUT, STEEL G GROUT, MINIMUM 35 MPa COMPRESSIVE STRENGTH, OR EPOXY GROUT STERNSON VALTROPOL.
2. EXPANSION ANCHORS: OF DIAMETER & PENETRATION SHOWN. CAPACITIES ARE BASED ON HLLT RMC BOLTS. SUBMIT ANCHOR LOAD RESISTANCE DATA FROM INDEPENDANT TESTING FIRM FOR REVIEW BY ENGINEER MIN 2 WEEKS PRIOR TO INTENDED USE.

3. EPOXY ANCHORS: OF DIAMETER & PENETRATION SHOWN. SHEAR AND TENSION CAPACITIES ARE BASED ON HLLT H750 + HIT-HAS SUPER HARDWARE. SUBMIT ANCHOR LOAD RESISTANCE DATA FROM INDEPENDANT TESTING FIRM FOR REVIEW BY ENGINEER MIN 2 WEEKS PRIOR TO INTENDED USE.
4. EPOXY BONDING AGENTS: TWO COMPONENT, WATER BASED, EPOXY RESIN / CEMENT BONDING AGENT
5. ACRYLIC BONDING AGENT: 930 ACRYLIC CONCRETE ADHESIVE, TARGESTES ACRYL 60, MANUFACTURED BY, LEBO FLEX-CON 710, MIXED WITH CEMENT AS RECOMMENDED BY MANUFACTURER.
6. VAPOR BARRIER: 0.25mm CLEAR OR BLACK POLYETHYLENE FILM UN-REINFORCED WITH SELF-ADHESIVE BACKING. USE FOR JOINTS, SURFACE FOR BELOW GRADE USE: LAP JOINTS & REPAIRS MIN 300mm
7. SEALANTS
 1. POLYURETHANE SEALANT (HORIZONTAL JOINT) WITHSTAND A MAXIMUM OF 25% JOINT MOVEMENT SHORTEL 12-52, PRC 6008, VALDEX 43.
 2. POLYURETHANE SEALANT (VERTICAL JOINT) WITHSTAND A MAXIMUM OF 25% JOINT MOVEMENT SHORTEL 19, PRC 270, VALDEX 116
 3. PRIMERS: AS SUPPLIED BY SEALANT MANUFACTURERS
 4. ADJUTIVES
 1. AIR ENTRAINMENT: CONFORMING TO CSA CAN 3-A268.1
 2. CHEMICAL: CONFORMING TO CAN 3-A268.2
 3. POZZOLANIC MINERAL: CONFORMING TO CAN/CSA-423.5
 4. WATER SEALING ADJUTIVE: WATER BASED, HIGH POLYMER DISPERSION SPECIFICALLY DESIGNED TO FORTIFY PORTLAND CEMENT COMPOSITIONS, ENHANCE WATER RESISTANCE CHARACTERISTICS AND REDUCE CONCRETE SHRINKAGE (VAPEX ADMIX OR APPROVED ALTERNATE)

CONCRETE REINFORCEMENT

1. DEFORMED BARS CONFORMING TO CSA G30.12M GRADE 400. TIES AND STIRRUPS TO CSA G40.21M GRADE 400.
2. REINFORCING WORK SHALL BE IN ACCORDANCE WITH CSA CAN-423.1 AND CSA CAN-423.3.
3. REINFORCING STEEL SHALL BE DETAILD IN ACCORDANCE WITH THE LATEST EDITION OF THE ACI DETAILING MANUAL OR THE REINFORCING STEEL INSTITUTE OF CANADA DETAILING MANUAL.
4. REINFORCING TO BE CONTINUOUS UNLESS NOTED. LAP TOP BARS AT MIDSPAN, BOTTOM BARS AT SUPPORTS. REINFORCING SHALL BE CLASS B TENSION SPICES, WHERE REINFORCEMENT LAPS ARE REQUIRED IN ADJACENT BARS, STAGGER LAPS MINIMUM 1200 UNLESS NOTED OTHERWISE.
5. CHAIR SLAB REINFORCING NOT FARTHER THAN 1.0 METRE IN EITHER DIRECTION. SUPPLY SUPPORT BARS, CHAIRS, AND CARRIERS AS NECESSARY.
6. DOWELS AND ANCHOR BOLTS SHALL BE SECURED IN POSITION BY MEANS OF TEMPPLATES BEFORE CONCRETE IS POURED.
7. 90° HOOKS AND 180° HOOKS WHERE SHOWN SHALL BE DETAILED AS STANDARD HOOKS UNLESS NOTED OTHERWISE.
8. MINIMUM REINFORCING AROUND OPENINGS LARGER THAN 300mm: 1-15M EACH SIDE AND EACH FACE OF OPENING, EXTENDED ROOMM PAST CORNERS.
9. PROVIDE DOWELS FROM CONCRETE BEAMS OR WALLS TO MATCH BLOCK REINFORCING.
10. UNLESS OTHERWISE NOTED, ALL DOWELS TO PROJECT A MINIMUM OF 40 BAR DIAMETERS INTO SLAB OR WALL FROM FACE OF SUPPORT.
11. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.

STRUCTURAL METAL FRAMING

1. FABRICATE AND ERECT STRUCTURAL STEEL TO CSA CAN-16.1-LATEST EDITION.
2. PROVIDE STRUCTURAL STEEL TO CSA G40.21-LATEST EDITION WITH THE FOLLOWING GRADES:

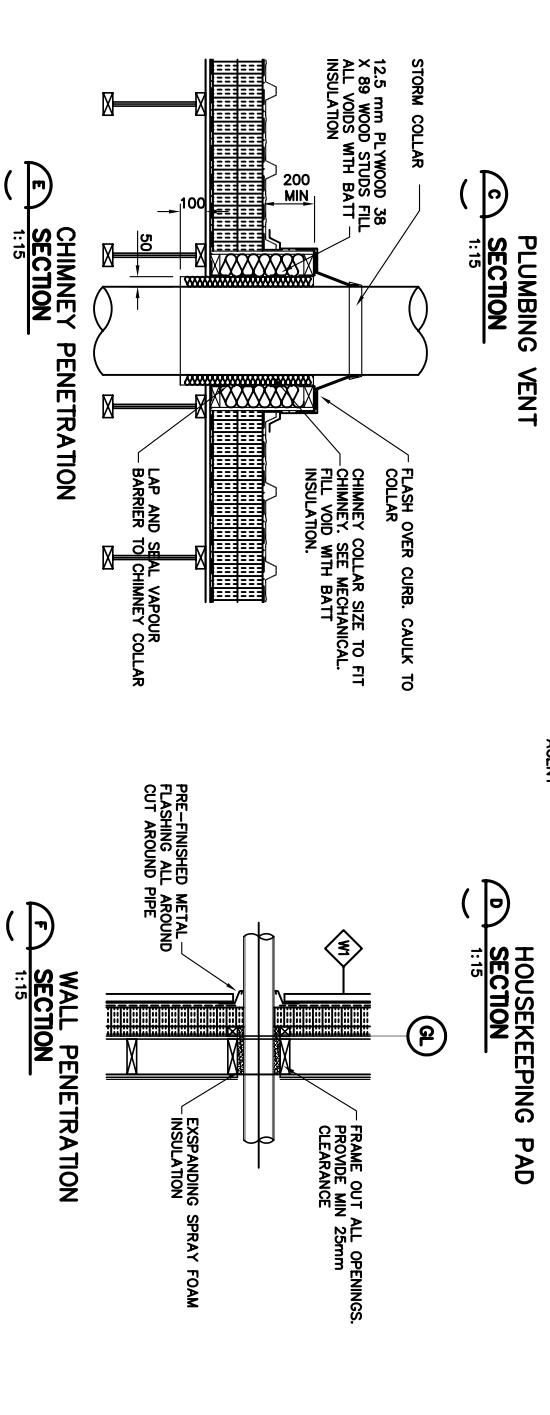
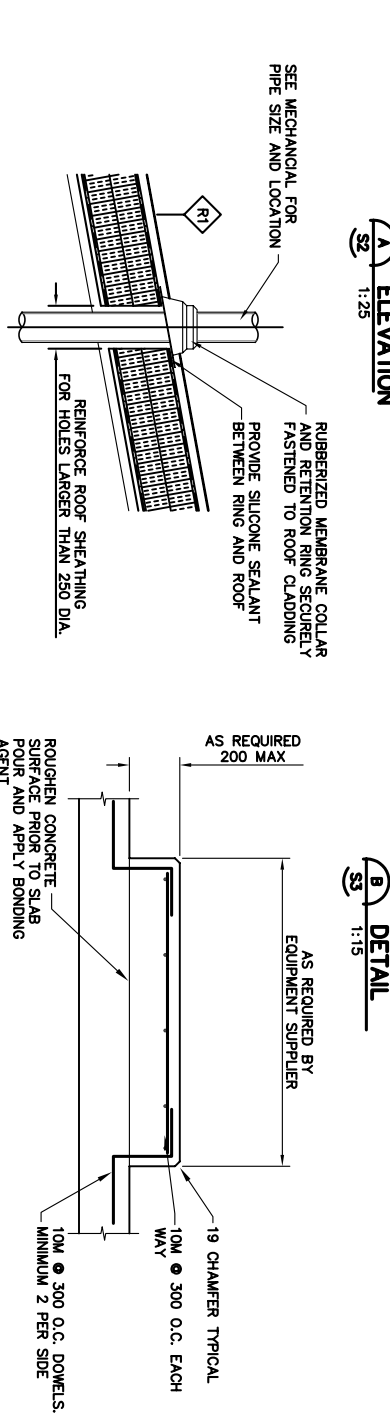
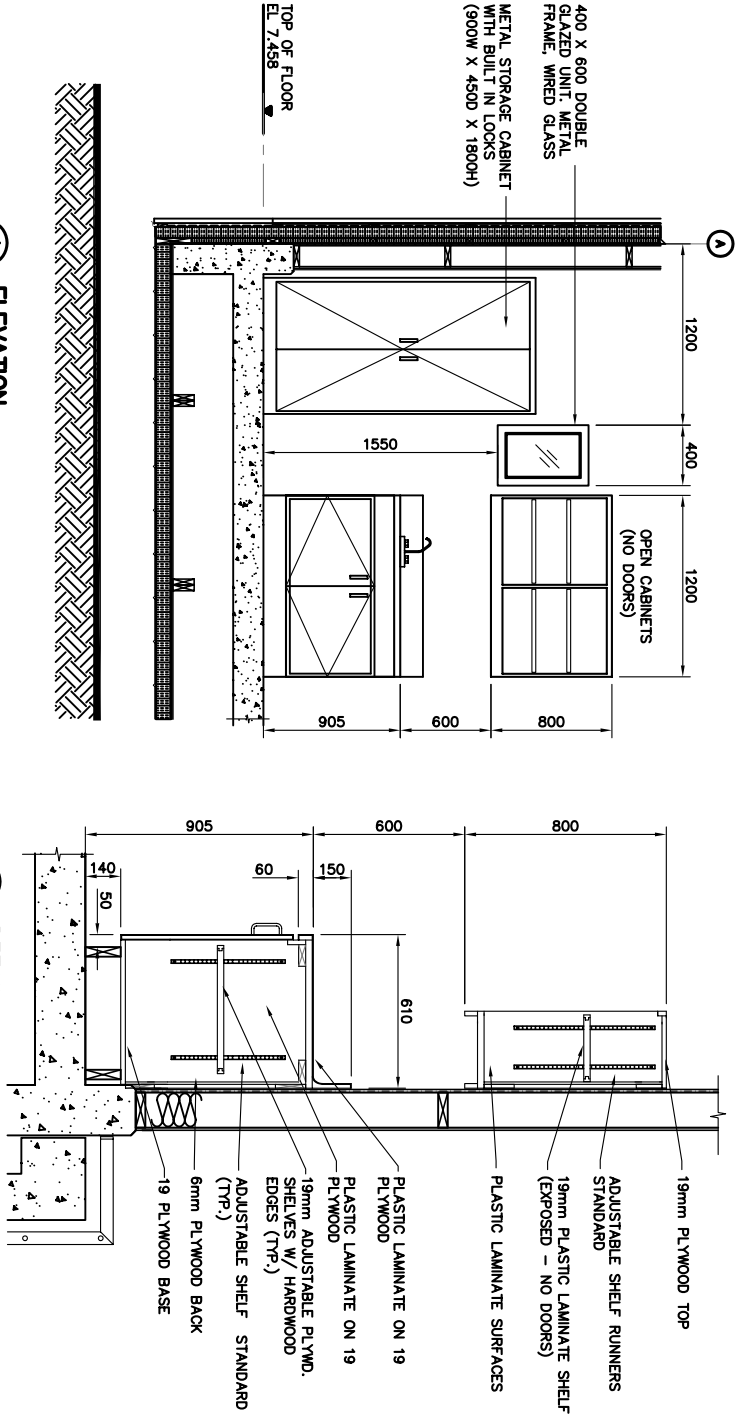
WIDE FLANGE, BEAMS	350 W
CHANNELS AND ANGLES	300 W
STANDARD SHAPES AND PLATES	300 W
MISCELLANEOUS STEEL	300 W
3. FABRICATOR TO BE CERTIFIED AS A DIVISION 1 OR 2 COMPANY UNDER CSA W47.1. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.
4. DIMENSIONS SHOWN ARE TO CENTER LINES OF SECTIONS AND TO BACK OF CHANNELS OR ANGLES. ELEVATIONS SHOWN ARE TO TOP OF STEEL U/LN.
5. WELD TO CSA W59-MBS BY FABRICATORS QUALIFIED TO CSA W47.1-83.
6. FIELD WELDING AND FIELD MODIFICATION OF STRUCTURAL STEEL SHALL NOT BE ALLOWED WITHOUT PRIOR REVIEW AND APPROVAL BY THE ENGINEER.
7. TEMPORARY BRACING DURING CONSTRUCTION TO BE DESIGNED BY CONTRACTOR. ERECTION BRACING SHALL BE REMOVED ONLY AFTER PERMANENT FLOOR DIAPHRAGMS, ROOF DIAPHRAGMS, SHEAR WALLS AND PERMANENT BRACING ARE COMPLETED.
8. PROVIDE BOLT HOLES IN STRUCTURAL STEEL WHERE SHOWN AND WHERE REQUIRED FOR THE ATTACHMENT OF BOLTED BLOCKING OR FASTENINGS BY OTHER TRADES.
9. CLEAN ALL STEEL PRIOR TO PAINTING TO SPEC SURFACE PREPARATION SPECIFICATION NO. 7. SURFACE PREPARATION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE COMPLETED STRUCTURE IN WHICH CASE CLEANING SHALL CONFORM TO SPEC SURFACE PREPARATION SPECIFICATION NO. 6 "COMMERCIAL BLAST CLEANING".

ROUGH CARPENTRY

1. TIMBER CONSTRUCTION SHALL CONFORM TO CSA 086-M80 AND PART 9 OF NBC 1995.
2. ROOF AND WALL SHEATHING TO BE DOUGLAS FIR PLYWOOD SHEATHING GRADE. USE H-CURPS AS REQUIRED.
3. JOIST HANGERS AND FRAMING ANCHORS CAPABLE TO SUPPORT LOADS INDICATED WITH A MINIMUM CAPACITY OF 750 LB. (3.5 kN) AND TO BE MINIMUM 18 GA. (1.2mm) GALVANIZED SHEET METAL MATERIAL. NAIL 11 MANUFACTURER'S INSTRUCTION. USE COATED SPIRAL NAILS TO CSA 8111.
4. WOOD FRAMING MATERIAL (UNLESS OTHERWISE SPECIFIED):

JOISTS, UNTELS, BUILT-UP BEAMS, D, PR-1, NO. 1/VNO, 2 (S-DRY)	
STRUCTURAL PARTITION WALL STUDS D, PR-1, NO. 1/VNO, 2 (S-DRY)	
PLYWOOD (TONGUE & GROOVE): DOUGLAS FIR	
5. ALL TRUSSES, JOISTS, FRAMING, AND DECKING DELIVERED TO THE SITE SHALL BE KEPT DRY. NO WARPED MATERIAL SHALL BE USED.
6. ALL LUMBER IN DIRECT CONTACT WITH MASONRY, CONCRETE, SOIL OR MORTURE SHALL BE PRESURE TREATED TO PM STANDARDS.
7. PLYWOOD FOR FLOOR TO BE TONGUE & GROOVE DOUGLAS FIR PLYWOOD TO CSA 0120. GULIE AND SCREW SUB-FLOOR TO SUPPORTING JOISTS.
8. PLYWOOD NAILING REQUIREMENTS (UNLESS NOTED OTHERWISE):

WALL SHEATHING	
● PANEL EDGES - 150mm O.C.	
● INTERMEDIATE FRAMING MEMBERS - 300mm O.C.	
ROOF OR FLOOR SHEATHING	
● PANEL EDGES - 150mm O.C.	
● INTERMEDIATE FRAMING MEMBERS - 300mm O.C.	
9. REFER TO PLANS, SECTIONS AND DETAILS FOR ADDITIONAL REQUIREMENTS. USE 65mm NAILS UNLESS OTHERWISE NOTED.



A Top International Ltd Company

11203 - 103rd Avenue
EDMONTON, ALBERTA
T5S 1A4 CANADA

1st: 780-488-6900
Fax: 780-488-2121
www.earthtech.ca

RECORD DRAWING

INFORMATION CONTAINED IN THESE DRAWINGS IS AS SUPPLIED BY:
KUDLAK CONSTRUCTION LTD.
THE COMPLETENESS AND ACCURACY OF THIS INFORMATION SHOULD BE VERIFIED AT THE ACTUAL LOCATION BEFORE USE.

No.	Date	Description
1	09/20	GENERAL REVISION
2	09/20	RECORD DRAWING
0	06/20	ISSUED FOR TENDER

REVISIONS

Design: RUG

Drawn: NV

Approved:

Checked:

Project Title: LIFT STATION NO. 1 UPGRADE

Drawing Title: STRUCTURAL GENERAL NOTES

Scale: AS NOTED

Project No.: 84454

Drawing No.: S1

Date: 13/04/05

Revision: 2