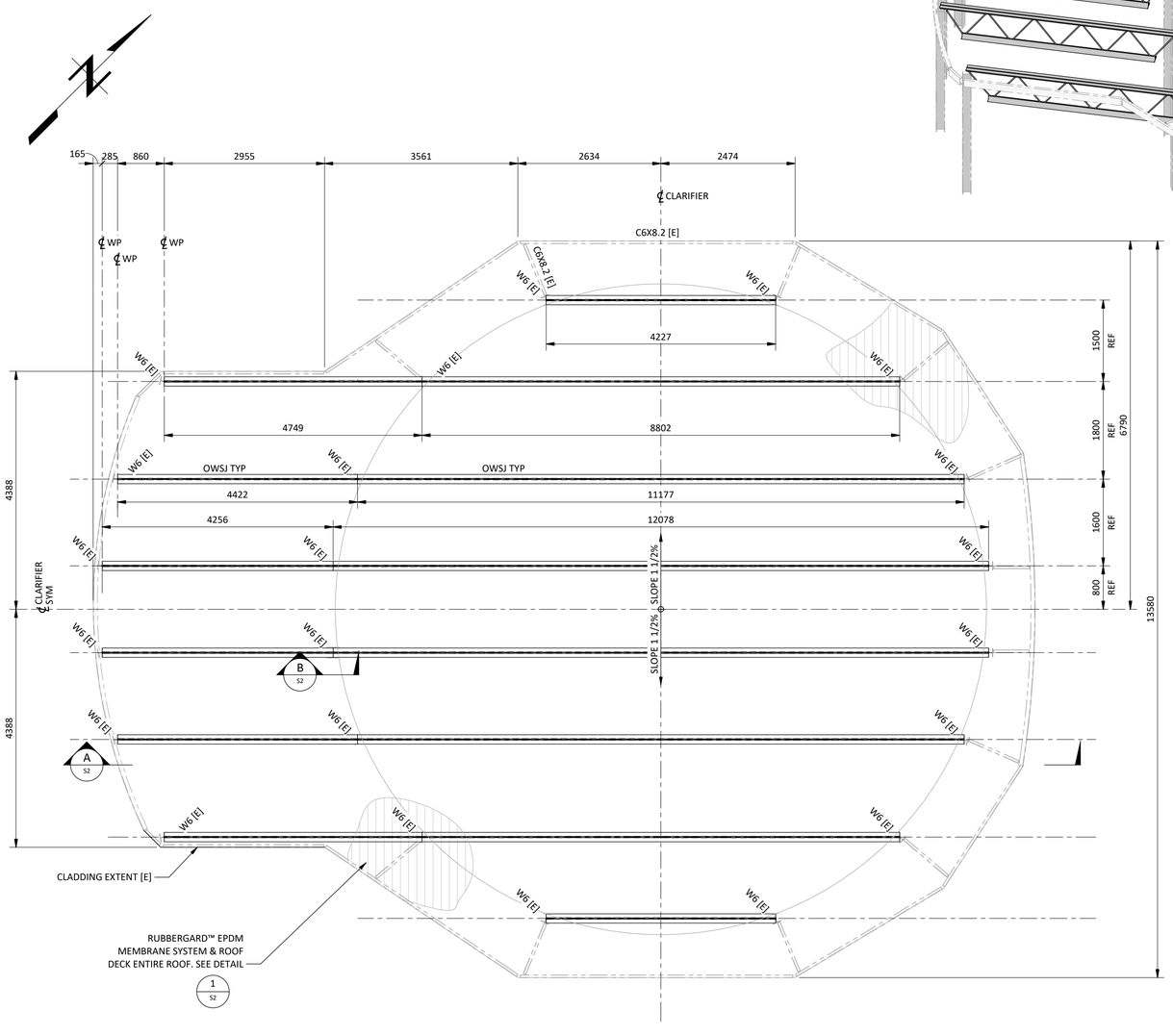
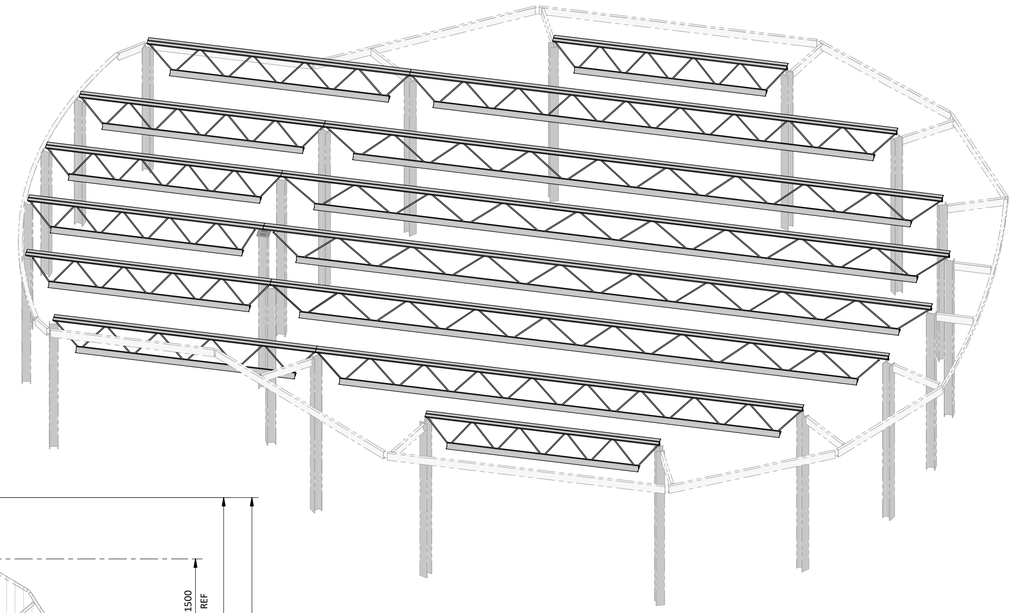


PLAN - ROOF

SCALE - 1 : 50



ISOMETRIC

STRUCTURAL STEEL

PART 1 - GENERAL

THE 'ENGINEER' REFERS TO DYMACO INC.

1.1 GENERAL REQUIREMENTS

1. DESIGN AND CONSTRUCTION SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING CODES AND STANDARDS
   - ONTARIO BUILDING CODE
   - CSA-S16: LIMIT STATES DESIGN OF STEEL STRUCTURES
   - CSA-S136: COLD FORMED STEEL STRUCTURAL MEMBERS
   - OCCUPATIONAL HEALTH AND SAFETY ACTS AND REGULATIONS (AS APPLICABLE).
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE AND NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCY, ERROR OR OMISSION PRIOR TO PROCEEDING WITH WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE WORK WITH ALL OTHER CONTRACTORS AND SUB CONTRACTORS.
4. FLOOR AND ROOF DESIGN LOADS SHOWN ON PLAN VIEWS ARE UNFACTORED.
5. FORCES SHOWN ON DRAWINGS FOR THE DESIGN OF CONNECTIONS ARE FACTORED LOADS.

1.2 QUALITY ASSURANCE AND SUBMITTALS

1. SUBMIT TO ENGINEER, ELECTRONIC COPY OF SHOP DRAWINGS INCLUDING FABRICATION AND ERECTION DOCUMENTS MATERIALS LIST AND MANUFACTURER'S SPECIFICATIONS FOR THE RECORDS.
2. CONNECTIONS SHALL BE DESIGNED BY A QUALIFIED ENGINEER LICENSED IN THE LOCATION OF THE PROJECT.
3. SUBMIT CERTIFIED TEST REPORTS SHOWING COMPLIANCE WITH SPECIFIED PERFORMANCE CHARACTERISTICS AND PHYSICAL PROPERTIES.

PART 2 - PRODUCTS

2.1 MATERIALS

1. WELDING RODS: E49XX, 490MPa ULTIMATE TENSILE STRESS.
STEEL DECK: ASTM A653M SS GRADE 230 MINIMUM.

PART 3 - EXECUTION

3.1 GENERAL

1. STRUCTURAL STEEL WORK IN ACCORDANCE WITH CSA-S16 OR CSA-S136 AND APPROVED SHOP DRAWINGS.

3.2 FABRICATION

1. WELDING IN ACCORDANCE WITH CSA W59.
2. COMPANIES TO BE CERTIFIED UNDER DIVISION 1 OR 2 OF CSA W47.1 FOR FUSION WELDING OF STEEL STRUCTURES AND/OR CSA W55.3 FOR RESISTANCE WELDING OF STRUCTURAL COMPONENTS.

3.3 STEEL DECK

1. IMMEDIATELY AFTER DECK IS PERMANENTLY SECURED IN PLACE, TOUCH UP METALLIC COATED TOP SURFACE WITH COMPATIBLE PRIMER WHERE BURNED BY WELDING OR OTHERWISE DAMAGED.
2. STEEL DECKING TO BE FASTENED TO STRUCTURAL STEEL MEMBERS AS FOLLOWS UNLESS NOTED OTHERWISE:
   - FOR TOP FLANGES BETWEEN 3-10mm (1/8-3/8"), USE HILTI X-HSN24 FASTENER @ 300 (12") O/C.
   - FOR TOP FLANGES EQUAL TO OR THICKER THAN 6mm (1/4"), USE THE HILTI X-ENP-19 L15 FASTENER @ 300 (12") O/C.
   - FOR TOP FLANGES LESSER THAN 3mm (1/8"), USE HILTI S-MD 12-24x1-5/8 M HWH5 RACING TIP FASTENERS @ 300 (12") O/C.
   - SIDELAP CONNECTORS TO CONNECT STEEL DECK UNITS AT OVERLAPS, USE HILTI SLC 01 FOR GAUGES 18-26 OR HILTI SLC 02 FOR GAUGES 16-22 @ 600 (24") O/C.
3. LAP ENDS 51mm (2") MINIMUM.
4. SINGLE SPAN SECTIONS OF DECK ARE NOT PERMITTED WITHOUT WRITTEN APPROVAL FROM THE ENGINEER UNLESS SHOWN ON STRUCTURAL DRAWINGS.

3.4 GALVANIZING

1. GALVANIZING SHALL BE IN ACCORDANCE WITH CAN/CSA -G164.
2. GALVANIZING OF ELEMENTS OR MEMBERS SHALL BE PERFORMED AFTER FABRICATION WHEN POSSIBLE.
3. OWSJ SHALL BE HOT DIPPED GALVANIZED.

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PART 4 - PAINT SPECIFICATION

4.1 GENERAL

1. STRUCTURAL STEEL PAINT FINISH COLOUR SHALL BE SPECIFIED BY THE OWNER.
2. HANDRAILS, GUARDS, AND KICKPLATES SHALL BE PAINTED SAFETY YELLOW.
3. MECHANICAL WIRE BRUSH CLEAN ALL CONNECTIONS, FIELD WELDS, BURNED, SCRATCHED OR DAMAGED SURFACES AND FIELD TOUCH UP AS REQUIRED UPON COMPLETION OF STEEL ERECTION.
4. STRIPE COATS SHALL BE APPLIED TO ALL WELDS, LAP JOINTS, PLATE EDGES, CORNERS, SHARP EDGES AND ANY OTHER AREAS WHERE SPRAY APPLICATION OF THE OVERALL COATING SYSTEM MAY PROVE DIFFICULT RESULTING IN LOW DRY FILM THICKNESS.
5. OLD COATINGS SHOULD BE TESTED FOR LIFTING. IF LIFTING OCCURS, REMOVE THE COATING. OTHERWISE, SCUFF SAND GLOSSY AREAS AND AGED EPOXY COATINGS. CLEAN AGED EPOXY OR URETHANE COATINGS WITH DEVPREP 88 CLEANER. REMOVE CRACKED AND PEELING PAINT. IF THINNING IS REQUIRED, USE INTERNATIONAL GTA007 ONLY WHEN USED OVER AGED ALKYD COATINGS.
6. SURFACE PREPARATION TO SSPC-SP3 POWER TOOL CLEAN
7. IN ADDITION TO THIS SPECIFICATION, ALWAYS REFER TO THE MANUFACTURERS SPECIFICATION AND METHODS OF APPLICATION.

4.2 HIGH PERFORMANCE COATING SYSTEMS

1. TWO COATS (PRIMER & TOP COAT) EPOXY

APPLICATION:

COAT TYPE	PRODUCT	VS%	DFT(Mils)
PRIMER	BAR-RUST 235	68	4
FULL COAT	BAR-RUST 235	68	6

DESIGN CRITERIA:

SNOW:
$I_s = 1.25$
$S_s = 2.6$ kPa
$S_r = 0.3$ kPa

SCOPE OF WORK:

1. REMOVE EXISTING ROOF CLADDING
2. REMOVE EXISTING OPEN WEB STEEL JOISTS
3. PAINT EXISTING COLUMNS AND BRACING
4. INSTALL NEW OPEN WEB STEEL JOISTS
5. INSTALL ROOF DECKING
6. INSTALL RUBBERGARD EPDM MEMBRANE SYSTEM
7. V-FORCE VAPOR BARRIER
8. 4" ISOGARD GL PLUS
9. TAPERED ISOGARD GL PLUS
10. ISOGARD HD
11. RUBBERGARD EPDM
12. INSTALL PERIMETER FLASHING BETWEEN ROOF AND WALLS

FOR CONSTRUCTION

REFERENCE DRAWINGS

REF DWG No.	REFERENCE DRAWING TITLE

REVISIONS

REV	DESCRIPTION	DATE	BY	CHECK	APPR.
1	ADDED PAINT SPEC TO NOTES AREA OF DRAWING	17 OCT 25	AMP	DAG	DAG

LICENSED PROFESSIONAL ENGINEER
D. A. F. GEROW
100142391
2025-10-17
PROVINCE OF ONTARIO

RED LAKE
Opportunity...it's our Nature

DYMACO

DESIGNED BY: A. PEDERSON
DRAWN BY: A. PICTON
CHECKED BY: D. GEROW
APPROVED BY: D. GEROW

CLIENT: MUNICIPALITY OF RED LAKE
PROJECT / LOCATION: SEWAGE TREATMENT PLANT / BALMERTOWN, ON
TITLE: GENERAL
GENERAL ARRANGMENT
WASTE POLUTION CONTROL PLANT ROOF
PLAN & ISOMETRIC

DATE	SCALE	PROJ. NO.	DWG. NO.	REV. NO.
11 JUN 25	AS NOTED	24251	24251-S1	1