

DIVERSITECH CORP.

QSWB STEEL MECHANICAL EQUIPMENT 'QUICKSLING' WALL BRACKET
HVHZ / NON-HVHZ

NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. A DESIGN PROFESSIONAL SHALL BE RESPONSIBLE FOR CERTIFYING THE APPLICATION OF THIS INFORMATION TO ANY SITE-SPECIFIC LOCATION.

DESIGN CRITERIA:

FLORIDA BUILDING CODE 8TH EDITION (2023) ASCE 7-22 LOAD COMBINATIONS

1. DEAD LOADING
 - 1.1. (SEE MECHANICAL UNIT WEIGHTS IN DESIGN SCHEDULES)
2. WIND LOADING INPUTS
 - 2.1. (SEE DESIGN SCHEDULES FOR MAXIMUM ALLOWABLE LATERAL AND UPLIFT PRESSURES)
3. SEISMIC LOADS
 - 3.1. SEISMIC DESIGN CATEGORY..... A & B
 - 3.1.1. (SEISMIC DESIGN DOES NOT CONTROL)

DESIGN, CODES. AND CALCULATIONS

DESIGN NOTES:

1. ALLOWABLE DESIGN PRESSURES UTILIZED IN THIS DOCUMENT HAVE BEEN CALCULATED PER THE REQUIREMENTS OF THE CODES AND STANDARDS STATED HEREIN USING ASCE 7-22 ALLOWABLE STRESS DESIGN METHODOLOGY WITH THE CRITERIA AS OUTLINED HEREIN. THE CONTRACTOR SHALL CONTACT THE AUTHORITY HAVING JURISDICTION TO ENSURE APPROPRIATE CRITERIA TO BE USED BEFORE CONSTRUCTION BEGINS.
2. DIMENSIONS ARE SHOWN TO ILLUSTRATE DESIGN FORCES AND OTHER DESIGN CRITERIA. IN SOME CASES, DETAILS MAY BE INTENTIONALLY ALTERED FOR PRESENTATION PURPOSES. DO NOT SCALE DIMENSIONS ELECTRONICALLY OR OTHERWISE. FIELD INSTALLATION MAY VARY SLIGHTLY BUT MUST REMAIN WITHIN 5% OF THE INTENDED DESIGN. CONTRACTOR IS TO VERIFY ALL FIELD DIMENSIONS PRIOR TO INSTALLATION.
3. THIS DRAWING SET IS PREPARED AS A GENERIC DESIGN AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT.
4. THE INTEGRITY OF ANY EXISTING STRUCTURE HAS NOT BEEN VERIFIED BY THIS ENGINEER. THESE PLANS ARE NOT TO BE USED FOR CONSTRUCTION UNTIL A DESIGN PROFESSIONAL APPROVES THE HOST STRUCTURE AS BEING ABLE TO ACCOMMODATE THE NEW DESIGN.
5. THIS DOCUMENT IS INTENDED TO CERTIFY THE FOLLOWING TO RESIST WIND AND DEAD LOADS ONLY:
 - 5.1. THE STRUCTURAL INTEGRITY THE MECHANICAL UNIT STANDS AS NOTED.
 - 5.2. THE STRUCTURAL INTEGRITY OF THE CONNECTION OF THE MECHANICAL UNIT STANDS TO THE HOST STRUCTURE AS NOTED.
6. THE STRUCTURAL INTEGRITY OF THE MECHANICAL UNITS DESCRIBED HEREIN IS NOT INCLUDED IN THE CERTIFICATION. IF REQUIRED BY THE AUTHORITY HAVING JURISDICTION, THE MECHANICAL UNIT INTEGRITY TO RESIST WIND, IMPACT OR ANY OTHER LOADS SHALL BE CERTIFIED BY OTHERS.

CODES & STANDARDS

1. THIS SYSTEM HAS BEEN DESIGNED AND SHALL BE FABRICATED IN ACCORDANCE WITH THE REQUIREMENTS OF BUILDING CODES LISTED IN THE DESIGN CRITERIA. DESIGN CRITERIA OR SPANS BEYOND STATED HEREIN MAY REQUIRE ADDITIONAL SITE SPECIFIC SEALED ENGINEERING.
2. CONTRACTOR SHALL INVESTIGATE AND CONFORM TO ALL LOCAL BUILDING CODE AMENDMENTS WHICH MAY APPLY. DESIGN CRITERIA BEYOND AS STATED HEREIN MAY REQUIRE ADDITIONAL SITE-SPECIFIC SEALED ENGINEERING.

CALCULATIONS

1. NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN

TERMINOLOGY:

THE FOLLOWING ABBREVIATIONS APPEAR IN THIS APPROVAL: "ER" FOR "END RETENTION", "NER" FOR "NON-END RETENTION", "INC." FOR "INCORPORATION", "CORP." FOR "CORPORATION", "ALUM" FOR "ALUMINUM", "ASD" FOR "ALLOWABLE STRESS DESIGN", "ASTM" FOR "AMERICAN SOCIETY FOR TESTING AND MATERIALS", "CS" FOR "CARBON STEEL", "CONN" FOR "CONNECTION", "EMBED" FOR "EMBEDMENT", "DIST." FOR "DISTANCE", "GA" FOR "GAUGE", "HVHZ" FOR "HIGH-VELOCITY HURRICANE ZONE", "LB" FOR "POUND", "MAX" FOR "MAXIMUM", "N.T.S." FOR "NOT TO SCALE", "PSF" FOR "POUNDS PER SQUARE FOOT (lb/ft²)", "SPECS" FOR "SPECIFICATIONS", "&" FOR "AND", "MAX" FOR "MAXIMUM", "W/" FOR "WITH", "EXIST" FOR "EXISTING", "STRUCT" FOR "STRUCTURE", "CONC." FOR "CONCRETE". CONTACT ENGINEERING EXPRESS FOR ADDITIONAL ABBREVIATION/TERMINOLOGY CLARIFICATIONS.

USED IN THE DESIGN OF THIS SYSTEM.

2. ANY EXISTING HOST STRUCTURE MUST BE CAPABLE OF SUPPORTING THE LOADED SYSTEM AS VERIFIED BY THE ENGINEER & OR ARCHITECT OF RECORD, et.al. THE HOST STRUCTURE WHICH IS DESIGNED, CERTIFIED, AND INSPECTED BY OTHERS MUST PROVIDE SUFFICIENT CAPACITY FOR THE SYSTEM & REACTIONS DETAILED HEREIN. NO WARRANTY OR GUARANTEE TO THESE CONDITIONS, EITHER EXPRESSED OR IMPLIED, IS OFFERED WITH THIS CERTIFICATION.

STRUCTURAL MATERIALS & CONNECTIONS

1. ALL STEEL MEMBERS/COMPONENTS SHALL BE AS FOLLOWS AND SHALL BE FABRICATED AND ERECTED ACCORDING TO THE GOVERNING BUILDING CODE AND MATERIAL STANDARDS REFERENCED ON THIS SHEET (U.N.O):
 - 1.1. STRUCTURAL MEMBERS: AISI 1045 (Fy=59 KSI MIN.)
 - 1.2. FASTENERS: SAE GR 2 MIN OR 316 STAINLESS STEEL
2. ALL FASTENER CONNECTIONS TO METAL SHALL PROVIDE 2xDIAMETER EDGE DISTANCE AND 3xDIAMETER SPACING. PROVIDE (5) PITCHES MINIMUM PST THREAD PLAN FOR SCREW CONNECTIONS.
3. BOLT HOLES SHALL BE DRILLED THE SAME NOMINAL DIAMETER AS THE BOLT + 1/16".
4. SELF-DRILLING SCREWS SHALL BE TEK BRAND / ALL POINTS FASTENERS OR EQUIVALENT OF SIZE #12 MINIMUM UNLESS OTHERWISE NOTED.
5. THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
6. ELECTRICAL GROUND, WHEN REQUIRED, TO BE DESIGNED & INSTALLED BY OTHERS.
7. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE AS NOTED HEREIN. MINIMUM EMBEDMENT AND EDGE DISTANCE ARE DEPTHS INTO SOLID SUBSTRATE AND DO NOT INCLUDE THICKNESS OF ANY HOST SUBSTRATE FINISHES. ALL CONCRETE ANCHORS SHALL BE INSTALLED TO NON-CRACKED CONCRETE UNLESS NOTED OTHERWISE.
8. ANCHOR QUANTITIES INDICATED IN DETAILS ARE FOR GRAPHICAL PURPOSES ONLY. DO NOT SCALE DIAMETER,LENGTH, OR PENETRATION(S). HEAD STYLE(S) ARE FREELY INTERCHANGEABLE.
9. ALL WELDING MUST BE DONE BY AN AWS CERTIFIED WELDER OR SHALL CONFORM TO AISC STEEL CONSTRUCTION MANUAL 15TH ED & AWS D1.1. "STRUCTURAL WELDING CODE-STEEL", LATEST EDITION AS INSPECTED AND VERIFIED BY OTHERS.
10. ALL WELDS SHALL BE MADE USING LOW HYDROGEN ELECTRODES WITH MINIMUM TENSILE STRENGTH PER AWS D1.1 (MINIMUM 70 KSI, E70XX).
11. MIN. WELD IS 1/8" FULL FILLET WELD (U.N.O.). ALL WELDS NOT OTHERWISE IDENTIFIED SHALL BE CONTINUOUS.

NON-STRUCTURAL ELEMENTS:

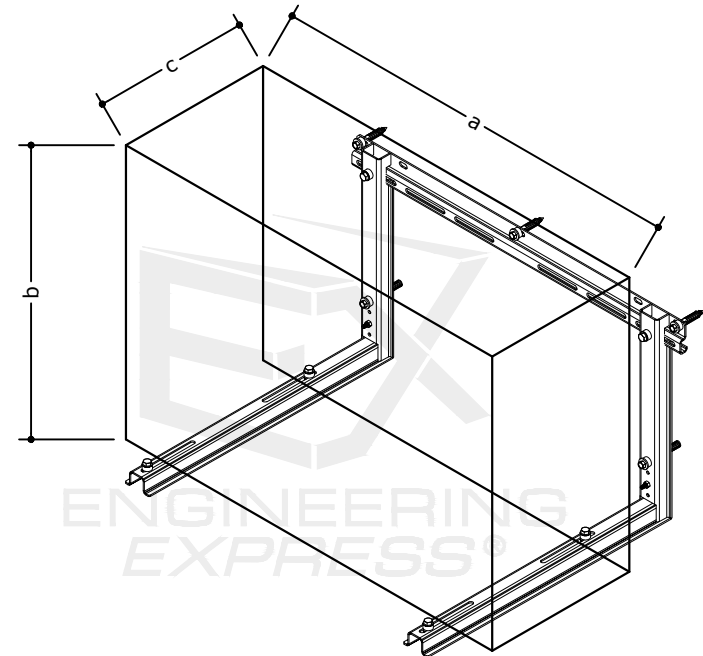
1. THE INSTALLATION OF ANY ACCESSORIES THAT DO NOT AFFECT THE STRUCTURAL INTEGRITY OF THE STRUCTURE ARE OUTSIDE THE SCOPE OF THIS CERTIFICATION AND NOT REQUIRED TO BE CERTIFIED UNDER THIS STRUCTURAL DRAWING. THEY MAY BE INSTALLED WITHIN LIMITATIONS STATED HEREIN AND AS DESIRED PER MFR. SPECIFICATIONS. DETAILS PROVIDED HEREIN ARE FOR REFERENCE ONLY

GENERAL NOTES & DISCLAIMERS:

1. DIMENSIONS ARE SHOWN TO ILLUSTRATE DESIGN FORCES AND OTHER DESIGN CRITERIA. THEY MAY VARY SLIGHTLY, BUT SHALL REMAIN IN CONFORMANCE WITH THE LIMITATIONS OF THIS PLAN. THE CONTRACTOR IS TO VERIFY ALL FIELD

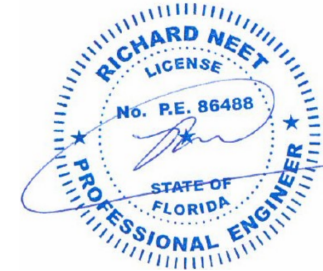
DIMENSIONS PRIOR TO INSTALLATION, AND VERIFY THAT
PROPOSED DIMENSIONS AND FIELD CONDITIONS AGREE WITH
THIS PROPOSED PLAN.

2. USE OF THIS DOCUMENT CONSTITUTES ACCEPTANCE OF THE PROPOSED SYSTEM LAYOUT, COMPONENTS SELECTED, AND INSTALLATION. THESE DRAWINGS ARE NOT INTENDED TO BE USED AS FABRICATION OR SHOP DRAWINGS.
3. ENGINEER SEAL AFFIXED HERETO VALIDATES STRUCTURAL DESIGN AS SHOWN ONLY. USE OF THIS SPECIFICATION BY CONTRACTOR, et. al. INDEMNIFIES & SAVES HARMLESS THIS ENGINEER FOR ALL COST & DAMAGES INCLUDING LEGAL FEES & APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, & CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE, & FEDERAL CODES & FROM DEVIATIONS OF THIS PLAN.
4. ALTERATIONS, ADDITIONS, HIGHLIGHTING, OR OTHER MARKINGS TO THIS DOCUMENT ARE ONLY PERMITTED TO SHOW SITE-SPECIFIC CONDITIONS, HOWEVER ANY CHANGES, ALTERATIONS OR ADDITIONS MADE TO THE CONTENT OF THIS DOCUMENT WILL INVALIDATE THIS CERTIFICATION.
5. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED DRAWING INDEX



TYPICAL QSWB WALL BRACKET SYSTEM

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SCALE: NTS UNLESS NOTED

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