8'-0" x 16'-0" (ACTUAL SIZE) 816 GUARDHOUSE Twin Modular Services Inc.

PROJECT: H&K Group Inc. 2052 Lucon Road Skippack, PA. 19474 1001 Lower Landing Road Suit 607, Blackwood, NJ

DESIGN BASIS			
State/Jurisdiction	Pennsylvania		
Building Code	International Building Code, 2009 Edition		
Plumbing Code	International Plumbing Code, 2009 Edition		
Electrical Code	National Electric Code NFPA 70, 2008 Edition		
Mechanical Code	International Mechanical Code, 2009 Edition		
Energy Code	International Energy Conservation Code, 2009 Edition		
Fire Code	International Fire Code, 2009 Edition		

	STRUCTURAL DES	SIGN CRITERIA	
GRAVITY LOADS		SEISMIC (IBC)	
Floor Live Floor Dead Roof Live Roof Dead	50 psf 10 psf 20 psf 10 psf	Seismic Design Category Site Class Importance Category Occupancy Category	B D 1.0
Exterior Wall Dead SNOW Ground Snow Load Flat-Roof Snow, P _f WIND Wind Speed (3 Second Gust) Exposure Category Internal Pressure, GC _{pl} Base Wind Pressure, P Mean Roof Height	40 psf 30.8 psf 90 mph C +/-0.18 15.0 psf 15 ft	Mapped Accelerations S _s S ₁ Spectral Response S _{Ds} S _{D1} Seismic Force Resisting System Design Base Shear Response Modification Factor Analysis Procedure	0.17 0.05 0.18 0.08 A13 0.03W 3.0 ASCE 7-05
10.0 poi		FLOOD Building shall not be located, in in a flood hazard area as establi authority having jurisdiction unle foundation designed in accordar ASCE/SEI 25. The flood resista shall be designed by a registere professional and constructed to loads without transferring loads structure.	shed by the ess set on a nce with ant foundation d design resist all flood

COMPONENTS AN	COMPONENTS AND CLADDING WIND LOADS			
Component	End Zone (psf)	Interior Zone (psf)		
Windows & Siding Doors Roof Cladding Roof Overhangs	+17.7/-23.7 +15.0/-18.4 +10.0/-44.6 -41.9	+17.7/-19.2 +15.0/-16.5 +10.0/-17.7 -25.5		

LIFE SAFETY SUMMARY			
	Sprink	nstruction type er Increase, I _S	VB 1.00
	Fronta Allowable Area Allowable Heigh		1.00 900 ft ² 2 stories 40 ft
LEVEL	OCCUPANCY	AREA	OCCUP
1	В	96 ft ²	

DRAWING INDEX

- Cover Sheet
- 1.1 General Notes1.2 Specifications
- Elevations
- 3. Floor Plan
- 3.1 Framing Details
- 3.2 Framing Details
 4. Electrical Plan
- Electrical Plan
 Cross Section
- Gross Section
 Blocking Plan

THIS PLAN MAY BE REVERSED OR MIRRORED.

ACCESSIBILITY EXCEPTIONS

1103.2.7 Raised areas. Raised areas used primarily for purposes of security, life safety, or fire safety including but not limited to, observation galleries, prison guard towers, fire towers or life guard stands are not required to be accessible or to be served by an accessible rout.

OCCUPANT LOAD

1103.2.10 Single occupant structures. Single occupant structures accessed only by passageways below grade or elevated above ground including but not limited to, toll booths that are accessed by underground tunnels are not required to be accessible.

Note: Single occupant guard structures will be placed on and elevated entrance island to the park that does not have an accessible rout.

SPECIAL LIMITATIONS

Adequate handicapped restroom facilities to handle this additional occupant load created by the addition of this building to a site shall be provided in an adjacent building on the same property. The local official having jurisdiction shall verify the existing facilities.

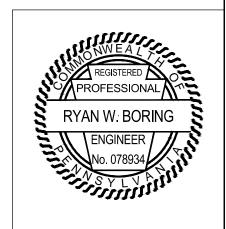
THERMAL ZONE

This buildings design complies with or exceeds the minimum requirements for thermal zone 5a.

ATTENTION LOCAL BUILDING OFFICIAL

All work to be completed on-site is to be in compliance with all state and local codes and is subject to review, approval, and inspection by the local authority having jurisdiction. This building is designed for installation on a permanent foundation and is not intended to be moved once installed. All on-site work shall be performed by a licensed contractor with experience in the setup of modular buildings. The following list is not all inclusive, nor does it limit the items of work or materials that may be required for complete installation.

- 1. Complete foundation support and anchorage system
- Ramps, stairs and general access to building.
- Electrical service connection (including feeders) to the building.



NTA, Inc., 305 N Oakland Ave Nappanee, Indiana 46550

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0104 2008-05-28

REVISIONS:	SCALE:	APPROVED BY:
	NTS	
	DATE:	DRAWN BY:
	06/07/2017	EAB

These drawings are applicable only to the elements and loading criteria specifically provided herein.

These drawings shall not be construed in any way to specify, certify or design any aspects of the

building not contained herein. Elements not contained herein are to be constructed in accordance with the prescriptive requirements of the adopted building code or designed by other registered design professionals, as applicable. Specified design criteria are based solely on information provided by the client and must be verified and approved by the local authority having jurisdiction. NTA, Inc. is not responsible for fabrication or erection. If it is suspected that these drawings have been modified, substituted or altered in any way, contact NTA, Inc. directly to obtain a file copy.

Twin Modular Services Inc.

TITLE:	JOB NO:
COVER SHEET	TMS060617-18
MODEL:	DRAWING NO:
816 GUARDHOUSE	1

WOOD FRAMING

- Structural sawn lumber shall be identified by a grade mark in accordance with DOC PS 20.
- Approved end-jointed lumber may be use interchangeably with solid-sawn member of the same species and grade except in fire rated assemblies.
- Structural sheathing shall be rated and labeled for compliance with DOC PS 1 or DOC PS 2.
- LVL members shall have the following minimum properties, E=2.0, F_x=2800 psi. unless noted otherwise.
- All wood shall have a moisture content of 19% or less at the time of construction.
- Wood framing members, including wood sheathing, that rest on exterior foundation walls and are less than 8" from exposed earth each shall be naturally durable or preservative treated.
- Wood members shall be cut and joined so no gap larger than 1/8" exists between members.
- Wood in contact with concrete or masonry shall be naturally durable or preservative treated in accordance with AWPA use category UC4C and properly identified as preservative treated.
- Nails and staples shall conform to ASTM F1667. Nails with shank diameters of 0.099" but not larger than 0.142" shall have a minimum average bending yield strength, F_{hv} = 100 ksi.
- Fasteners shall be installed to avoid splitting of the wood members.
 If splitting occurs, the connection shall be made by alternate means or otherwise reinforced under the direction of the design engineer.
- Fasteners shall be driven so their head or crown is flush with the surface of the wood member or sheathing. Overdriven fasteners shall be replaced.
- Bolts shall conform to ASTM A307 meeting the requirements of ANSI/ASME B18.2.1 for full-body diameter bolts. Screws and lag screws shall conform to ANSI B18.2.1 and ANSI B18.6.1, respectively.
- Bolt holes shall be at least a minimum of 1/32" and no more than a maximum of 1/16" larger than the bolt diameter.
- 14. Bolt nuts shall be finger-tight plus 1/3 to 1/2 turn with a hand wrench.
- Connection hardware shall be the brand and model specified.
 Alternate connectors shall be submitted to the design engineer for approval.
- Unless otherwise noted, connectors shall be installed with the maximum number and size of fasteners as required in the manufacturer's installation instructions.
- Prefabricated wood I-joist and structural composite lumber shall not be notched or drilled except where permitted by the manufacturer's recommendations.
- Plywood beams shall be detailed and fabricated in accordance with the latest edition of APA Plywood Design Specification Supplement 5
 Design & Fabrication of All-Plywood Beams.
- Douglas Fir, Hem Fir, or Southern Yellow Pine may be substituted for Spruce-Pine-Fir using an equal size and grade.

CORROSION PROTECTION

- Metal framing, connectors, fasteners, and flashing in contact with preservative treated or fire retardant treated wood members shall be hot-dipped zinc coated galvanized steel, stainless steel, silicon bronze, copper, or otherwise protected from the corrosive action of the wood member.
- A barrier between the treated members can be used when approved by the design engineer.
- Selection of the appropriate connector and fastener coating shall be based on the intended end use of the connector or fastener and the chemical preservative used in the the treatment of the member for which it is in contact.
- Where connection hardware is used, such as joint hangers, fasteners
 used shall be made of the same material as the connection
 hardware.
- Corrosion protection of metal connectors, fasteners, and flashing based on galvanized or stainless steel materials shall be in accordance with the table below.

Product Coatings	Hot Dipped Galvanized (ASTM A153)		Stainless	
Preservative	G90	G185	Steel	
Untreated Wood SBX/DOT CCA-C	Yes	Yes	Yes	
ACQ-C & ACQ-B CBA-A & CA-B NON-DOT No Ammonia and Not Rated For Ground Contact	No	Yes	Yes	
Unknown Preservative, Contains Ammonia, Rated For Ground Contact or ACZA	No	No	Yes	

SBX = DOT Sodium Borate, CCA-C = Chromated Copper Arsenate, ACQ-C & ACQ-D = Alkaline Copper Quat, CBA-A & CA-B = Copper Azote, Non-DOT = Other Borate, ACZA = Ammoniacal Copper Zinc Arsenate

COASTAL CORROSION PROTECTION

- The corrosion protection requirements in this sections shall apply to all structures located within 3000' landward of the mean high-tide waterline for all metal components or connectors not contained within the pressure envelope of the structure.
- Fasteners or bolts less than 5/8" in diameter shall be Type 316L stainless steel. Fasteners or bolts 5/8" or larger shall be hot dip galvanized per ASTM A653 or ASTM A153 with a zinc coating thickness of 1.85 oz of zinc per square foot of surface area (G185).
- 3. Connection hardware, such as pre-formed connectors, steel plates, or steel straps, exposed to weather and having a base metal thickness equal to or less than 1/8" shall be Type 303, 304, 305 or 316 stainless steel. Steel exposed to weather having a base metal thickness greater than 1/8" shall be hot dip galvanized per ASTM A653 or ASTM A153 with a zinc coating thickness of 1.85 oz of zinc per square foot of surface area (G185) or painted using one of the following formulations:
- A. Epoxy-polyamide
- B. Coal-tar epoxy-polyamide
- C. Zinc chormate-vinyl butyral primer with asphatic mastic
- Contact between dissimilar materials (stainless steel and carbon steel) shall be avoided.



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06 04 2007 06 4

 Twin Modular Services Inc.

Blackwood, NJ

		06.04 2007-06-19
TITLE:		JOB NO:
	GENERAL NOTES	TMS060617-18
MODEL:		DRAWING NO:
	816 GUARDHOUSE	1.1

Type: Perimeter Main Beam: 6" C Channel 8.2 lbs per foot Cross Members: 6" C Channel at 24" o.c. Paint: Marine Based 2 Part Epoxy-Black

FLOOR

Moisture Barrier: Tyvek or Equal Insulation: 2 Layers of 2" Ridged Insulation R-19 Decking: 3/4" Plywood, 24" o.c. Secured Directly to Steel Frame Trim: 4" Vinvl Cove Base - Black Covering: 1/8" Aluminum Tread Plate Over 3/4" Plywood

EXTERIOR WALLS

Studs: 2x4 Stud Grade SPF at 16" o.c. Bottom Plate: Single 2x4 #3 SPF Top Plate: Single 2x4 #3 SPF Steel Tube: 3"x3"x1/4" Steel Tube Beams and Corner Posts with 2"x2" Rigid Foam Board Insulation Exterior Sheathing: 7/16" OSB Sheathing 24/16 Wall Height: 8'-3" Finished Ceiling Height: 7'-9" AFF Insulation: R-13 Kraft-Backed Batts Interior Wall Covering: 1/4" Vinvl Covered Paneling Glued

and Stapled, Class C Finish

ROOF

Type: Rafter, 2x8 #3 SPF at 16" o.c. Bow Type Ceiling: 2'x4' T-Grid Drop Ceiling at 7'-9" AFF Insulation: R-30 Kraft Unfaced Fiberglass Batts Overhang: 3" On Each 16' Side and 6" On Each 8' Side Exterior Sheathing: 1/2" Exterior Grade Plywood 24/16

ENERGY PACKAGE

Exterior Light: (1) 120V LED 39 Watt Model FSL2030L with Photocell (Weather Proof) or Equal Interior Lights: (2) 2'x4' 120V LED with Prismatic Lens - Lithonia Type U889966

Main Distribution Panel: Exterior Surface Mount Below Window with 1-1/2" Conduit to Exterior, 100 Amp. Three Phase, 4 wire, 60 HZ Ground Raceway: Minimum #14/2 with Ground 90 Deg. C Type MC Copper

Interior Lights: See Above Energy Package Exterior Lights: See Above Energy Package Switches: 120V 15 Amp Duplex Recepts per Print Recepts: 20 Amp - 120V Duplex Recepts per Print Interior Recept: 20 Amp - 120V GFCI - per Print

Data Box: 4" Data Box Surface Mounted and Piped to Ceiling - Wiring by Others

Heating: (2) 230V, 20 Amp, 3,000 Watt Wall Mount, Dedicated Circuit Air Conditioning: 208/230V (Dedicated Circuit) 12,000 BTU Wall Mount Approx 75" AFF Optional: Wall Mount 11,600 BTU Air Conditioner with Electric Heat Strip

EXTERIOR WINDOWS AND DOORS

Doors: 36"x80" Steel Door with 22" x36" Window (Safety Glazed) Ball Hardware and Heavy Duty Closer Windows: 46"x39" Horizontal Slider, Vinyl Clad Thermal Pane Tempered Low-E Type 1 per Print 46"x39" Fixed Glazing, Vinyl Clad Thermal Pane Low-E Type 3 per Print 36"x39" Fixed Glazing, Vinyl Clad Thermal Pane Low-E Type 1 per Print

Optional: Film Tint Windows

Note: All Windows including Door Window to be Tempered
#4 Window -(1) 36" x 39" Vinyl Thermal Insulated Tempered Low Slid EXTERIOR FINISHES #5 Window -(1) 30"x39" Vinyl Thermal Insulated Siding: 0.19 Aluminum Light Gray Trim: 0.19 Aluminum Dark Gray Wall Sheathing: 7/16" OSB, 24/16 APA Span Index Rating Minimum

Roof Sheathing: 1/2" CDX Plywood, 32/16 Span Rating Minimum Roof: GAF TPO - White - Class C, 1/2" ISO Guard HD or Resista Window Trim: 2-1/2" Non Corrosive Solid Vinyl Painted White

FURNITURE

None

PLUMBING NON ADA

Water Closet: White Standard Gravity Flush Urinal: None
Lav: Wall Hung With Faucet
Water Heater: 120 Volt 20 Amp Direct Point
Supply: 3/4" Copper Water Feed- 1/2" Copper Water Feed
Waste: 3" schedule 40 Main Connection
Misc: Wall Hiung Mirror
Accessories: Toilet Paper Holder MISC: Wall Hlung Mirror
Accessories: Toilet Paper Holder
Fan: Exhaust In Bath
Soap Dispenser: Tough Guy #3FPN8-Push Oper
Paper Towel Dispenser: Georgia Pacific #543
8 any way, contact NTA, Inc. at (574) 773-7975 to obtain a file copy.

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PROFESSIONAL

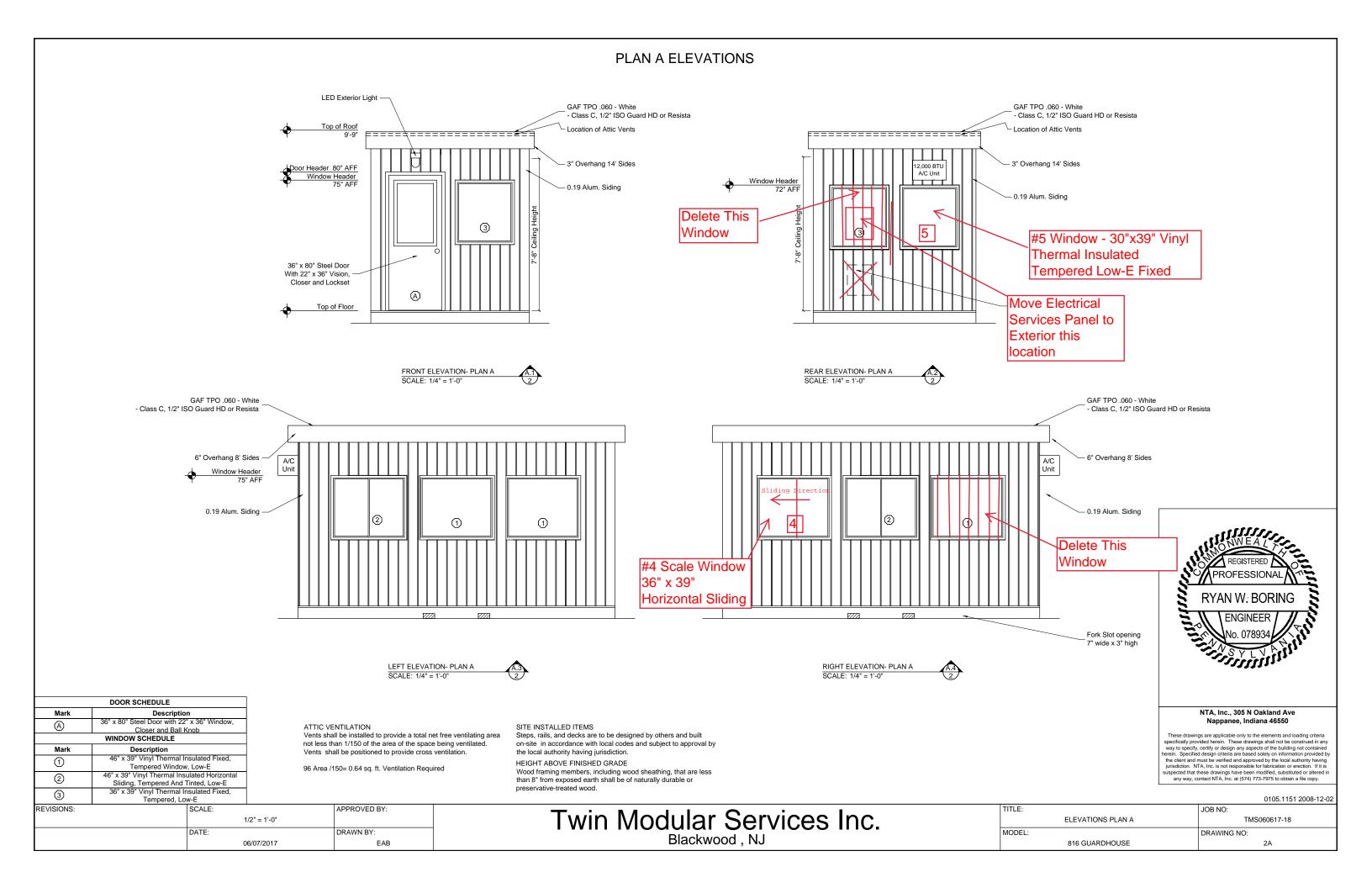
RYAN W. BORING

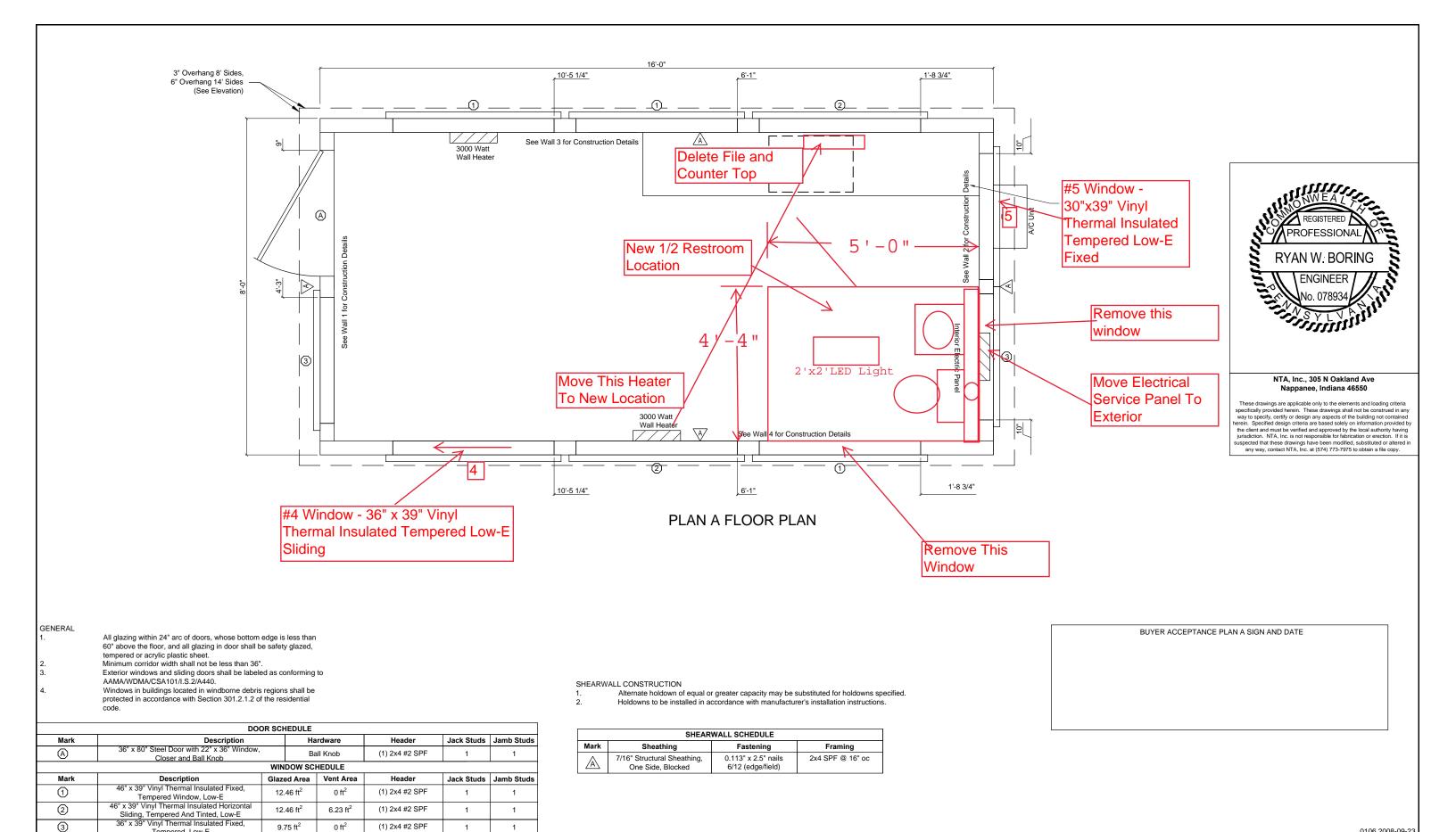
These drawings are applicable only to the elements and loading criteria

REVISIONS: SCALE: APPROVED BY: NTS DATE: DRAWN BY: 06/07/2017 EAB

Twin Modular Services Inc. Blackwood . NJ

	06.04 2007-06-19
TITLE:	JOB NO:
SPECIFICATIONS	TMS060617-18
MODEL:	DRAWING NO:
816 GUARDHOUSE	1.2





Twin Modular Services Inc. Blackwood . NJ

9.75 ft²

1/2" = 1'-0"

06/07/2017

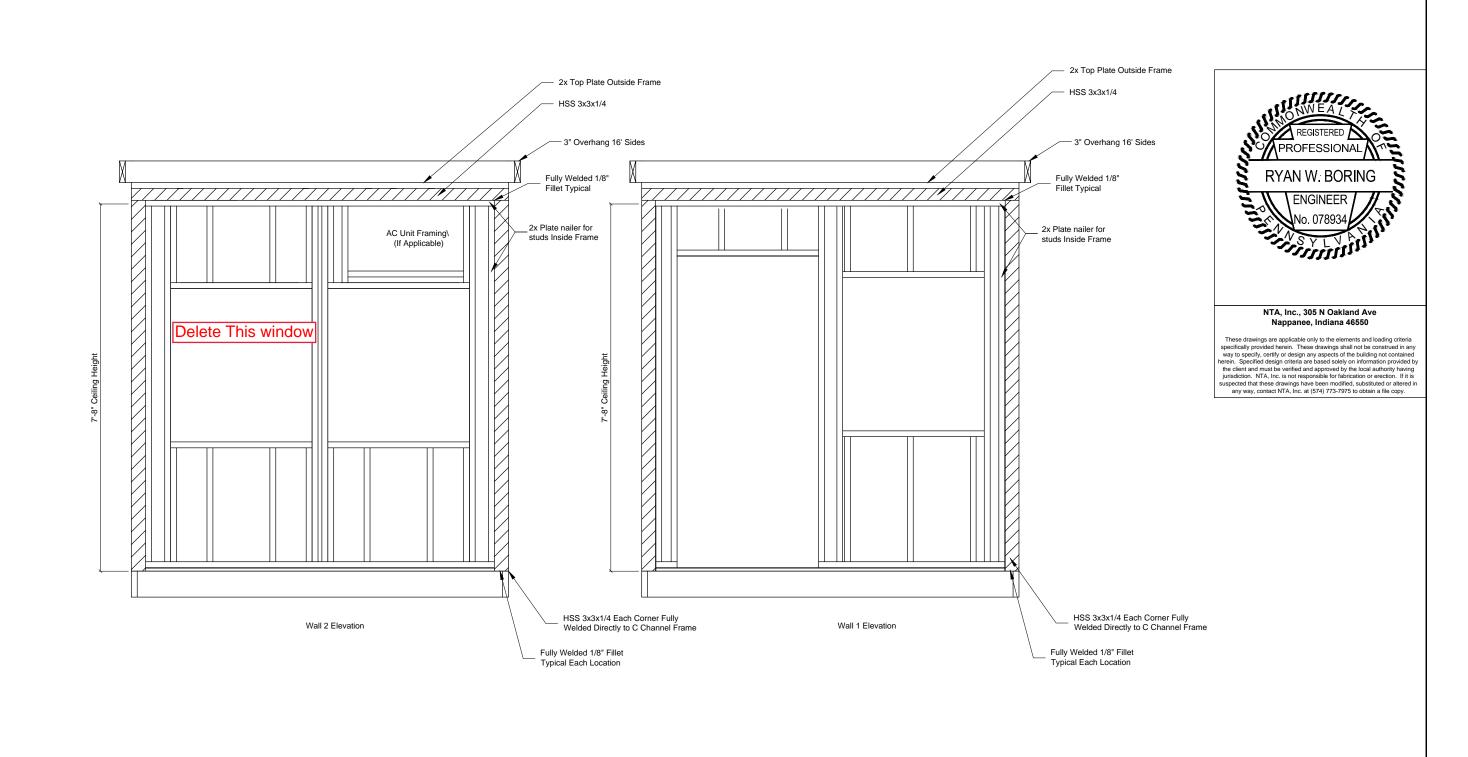
See Above For #4 & #5 Windows

APPROVED BY:

EAB

TITLE: JOB NO: FLOOR PLAN A TMS060617-18 MODEL: DRAWING NO: 816 GUARDHOUSE ЗА

0106 2008-09-23



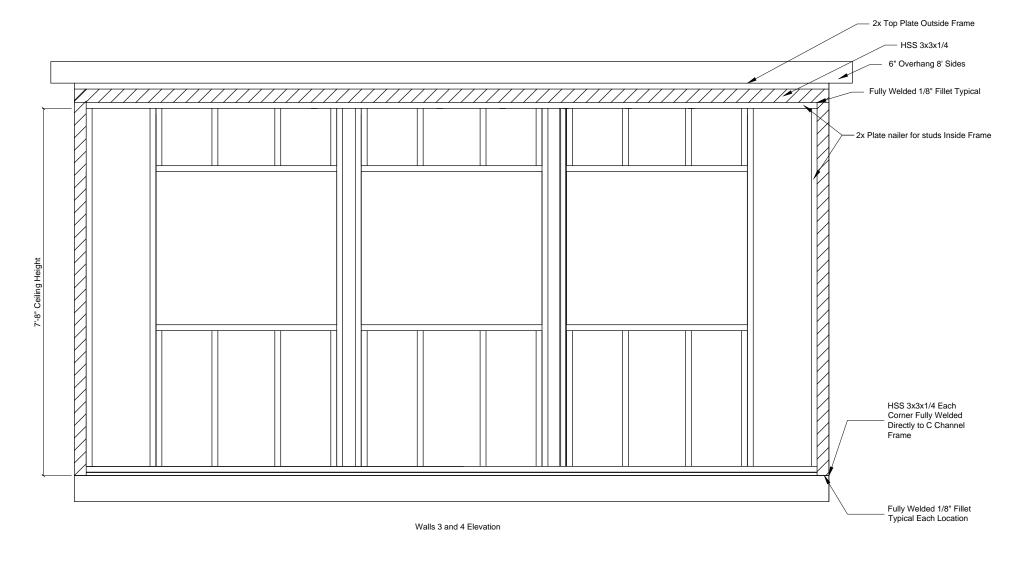
PLAN A WALL DETAILS

0106 2008-09-23 JOB NO:

REVISIONS:	SCALE:	APPROVED BY:
	1/2" = 1'-0"	
	DATE:	DRAWN BY:
	06/07/2017	EAB

Twin Modular Services Inc. Blackwood, NJ

IIILE:		JOB NO:
	FRAMING DETAILS	TMS060617-18
MODEL:		DRAWING NO:
	816 GUARDHOUSE	3.1



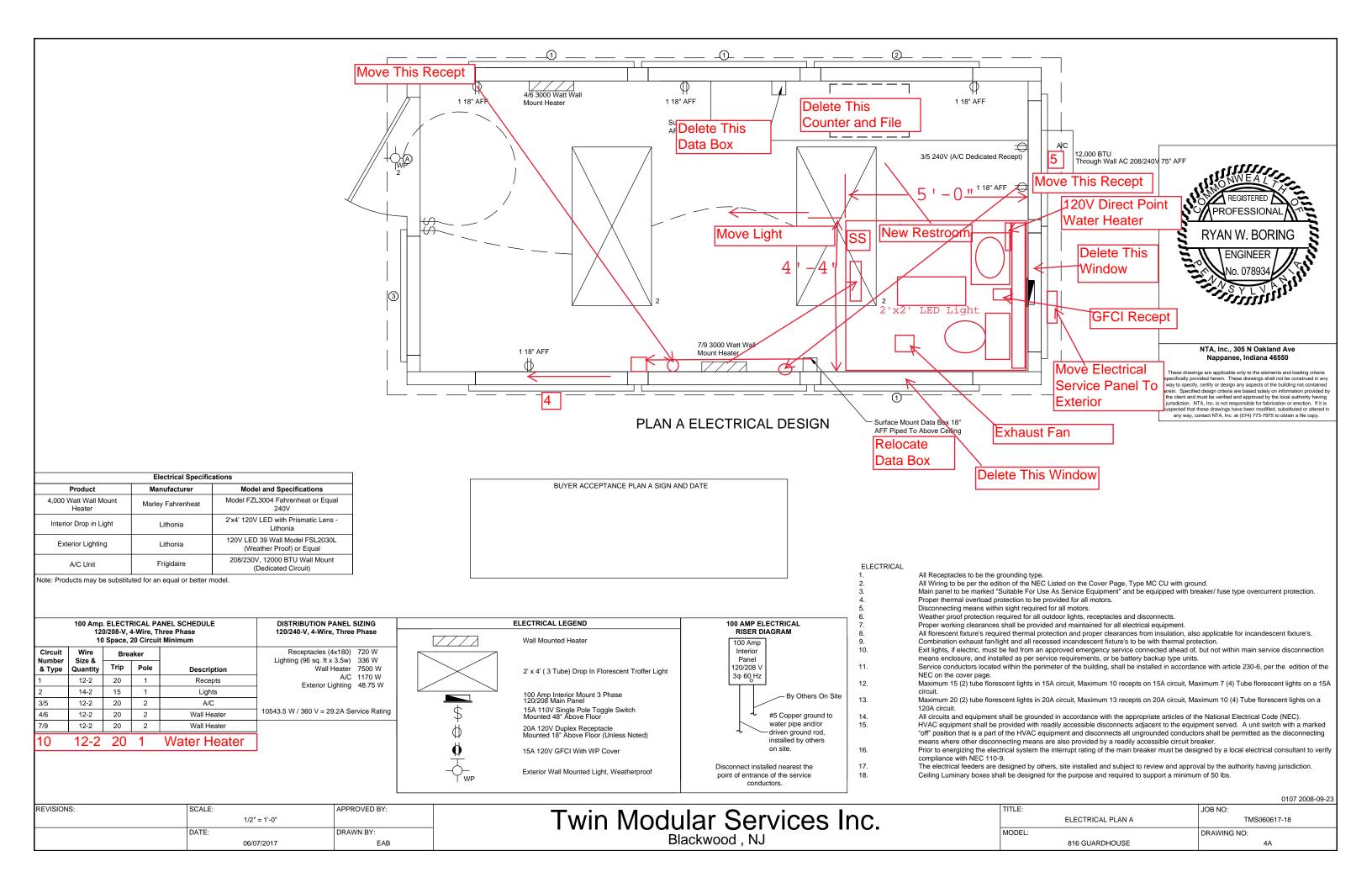


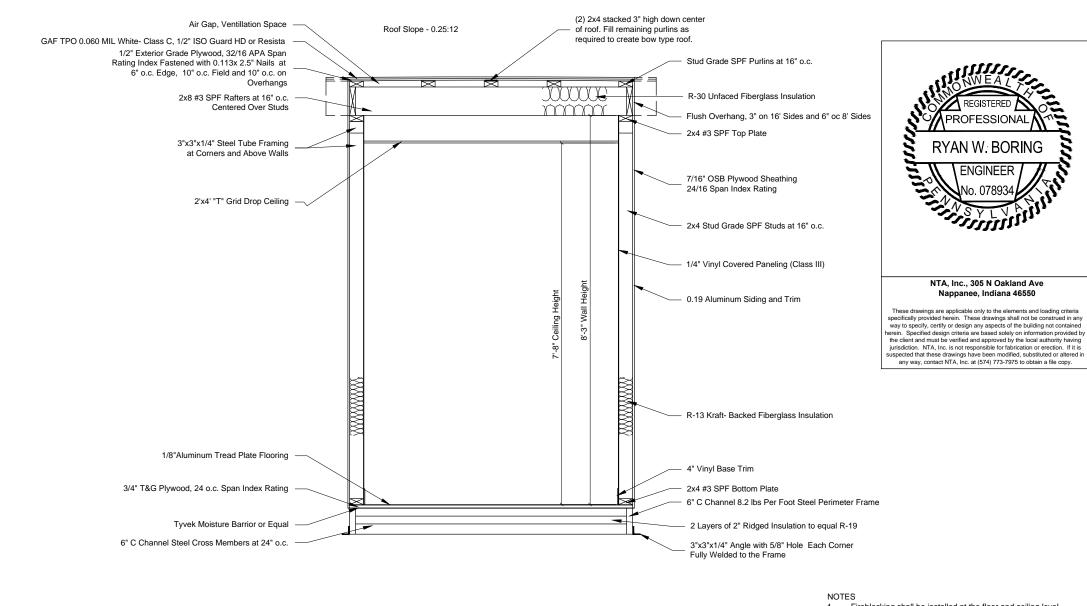
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PLAN A WALL DETAILS

					0106 2008	08-09-23
REVISIONS:	SCALE:	APPROVED BY:	T ' NA O '	TITLE:	JOB NO:	
	1/2" = 1'-0"		I win Modular Services Inc.	FRAMI	NG DETAILS TMS060617-18	
	DATE:	DRAWN BY:		MODEL:	DRAWING NO:	
	06/07/2017	EAB	Blackwood , NJ	816 GL	JARDHOUSE 3.2	





- Fireblocking shall be installed at the floor and ceiling level. Fireblocking material shall be as permitted in North Carolina Building Code Exterior joints in the building envelope that are sources of air leakage, such as floor and ceiling lines, door and windows, or any other penetrations through the building envelope shall be caulked, gasketed, weather-stripped, wrapped or otherwise sealed to limit uncontrolled air movement. Stopping materials installed on-site are subject to local review, approval and inspection.
- In all framed walls, floors and roof/ceiling comprising elements of the building thermal envelope, a vapor retarder shall be installed on the warm-in-winter side of the insulation with the following exceptions:

 A. Where the framed cavity or space is ventilated
 - to allow moisture to escape.
- 3. Where required, the vapor retarder shall be comprised of any material (kraft backing, polyethylene, spray applied) approved for such use and having a perm rating of 1 or less.
- 4. Additional connections per standard construction manual or calculations package

0110.1150 2008-12-02

REVISIONS.	SCALE.	AFFROVED BT.
	1/2" = 1'-0"	
	DATE:	DRAWN BY:
	06/07/2017	EAB

Twin Modular Services Inc. Blackwood . NJ

BUYER ACCEPTANCE SIGN AND DATE

TITLE:	JOB NO:	
CROSS SECTION	TMS060617-18	
MODEL:	DRAWING NO:	
816 GUARDHOUSE	5	

