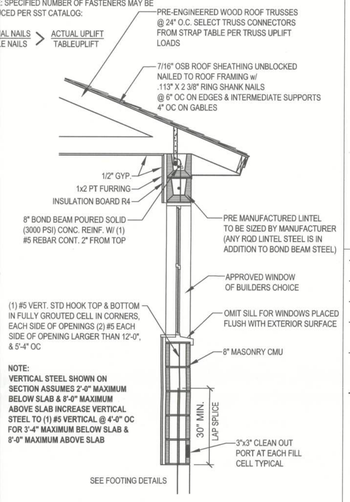
MU EMBEDED TRUSS STRAP TABLE

AIN UPLIFT REQUIREMENTS FROM TRUSS
UFACTURER'S ENGINEERING

IFT LBS.	TRUSS CONNECTOR MASONRY *	
< 1040	META20	7–10d, 1 1/2"
< 1490	META20	10–10d, 1 1/2"
< 1735	HETA24	14–10d, 1 1/2"
< 1780	LGT2	7 — 1/4"x2 1/4" TITEN IN BLOCK 14 — 16d SINKER IN GIRDER
< 1900	(2) META22	9–10d, 1 1/2" EA.
< 2130	HHETA20	17–10d, 1 1/2"
< 2310	HHETA24	21–10d, 1 1/2"
< 3965	MGT	16–10d TO TRUSS 5/8" x 14" THD ROD w/ 12" EMBEDMENT IN FILLED CELL

nnectors are Simpson Strongtie (u.n.o.)
: SPECIFIED NUMBER OF FASTENERS MAY BE
CED PER SST CATALOG:

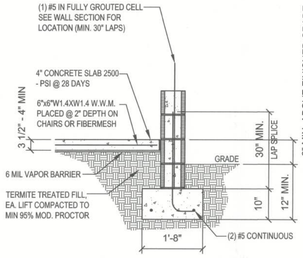
AL NAILS > ACTUAL UPLIFT
E NAILS TABLEUPLIFT



NOTE:
VERTICAL STEEL SHOWN ON SECTION ASSUMES 2'-0" MAXIMUM BELOW SLAB & 8'-0" MAXIMUM ABOVE SLAB INCREASE VERTICAL STEEL TO (1) #5 VERTICAL @ 4'-0" OC FOR 3'-4" MAXIMUM BELOW SLAB & 8'-0" MAXIMUM ABOVE SLAB

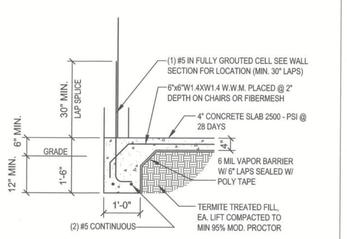
W6 - SINGLE - STORY CMU WALL SECTION

SCALE: 1/2"=1'-0" REV-08-JAN-05



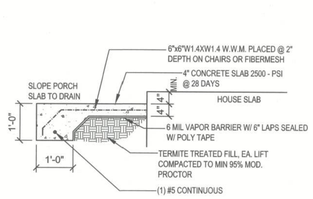
F14 - CMU WALL FOOTING - FLOATING SLAB

SCALE: 1/2"=1'-0" REV-08-JAN-05



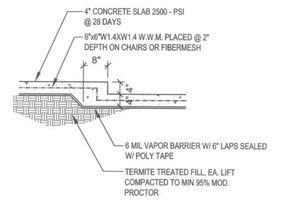
F15 - ALT. CMU WALL FOOTING - MONOLITHIC SLAB

SCALE: 1/2"=1'-0" REV-28-Jul-04



F2 - PORCH SLAB

SCALE: 1/2"=1'-0" REV-22-AUG-03



F12 - NON - BEARING STEP FOOTING

SCALE: 1/2"=1'-0" REV-08-JAN-05

N9-DOOR & WINDOW BUCK ATTACHMENT

TAPCON IN FACE OF CMU
2 1/2" MIN. EDGE DISTANCE
1 1/4" MIN. EMBEDMENT
3" MIN. EDGE SPACING

WINDOWS & DOORS UP TO 6'X8'

3/16" TAPCONS @ 2' O.C.
1/4" TAPCONS @ 3' O.C.

WINDOWS & DOORS UP TO 8'X12'

3/16" TAPCONS @ 16" O.C.
1/4" TAPCONS @ 24" O.C.

SLIDERS UP TO 8'0X20'W

3/16" TAPCONS @ 12" O.C.
1/4" TAPCONS @ 18" O.C.

GARAGE DOOR UP TO 10'W

(2) 3/16" TAPCONS @ 16" O.C.
(2) 1/4" TAPCONS @ 24" O.C.

GARAGE DOOR UP TO 18'W

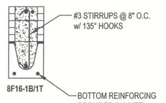
(2) 3/16" TAPCONS @ 8" O.C.
(2) 1/4" TAPCONS @ 12" O.C.
(1) 1/2" BOLT @ 32" O.C.
(1) 5/8"x6" TAPCON @ 32" O.C.

MASONRY NOTES:

MASONRY CONSTRUCTION AND MATERIALS FOR THIS PROJECT SHALL CONFORM TO ALL REQUIREMENTS OF "SPECIFICATION FOR MASONRY STRUCTURES" (ACI 530.1/ASCE 6/TMS 602). THE CONTRACTOR AND MASON MUST IMMEDIATELY, BEFORE PROCEDING, NOTIFY THE ENGINEER OF ANY CONFLICTS BETWEEN ACI 530.1-02 AND THESE DESIGN DRAWINGS. ANY EXCEPTIONS TO ACI 530.1-02 MUST BE APPROVED BY THE ENGINEER IN WRITING.

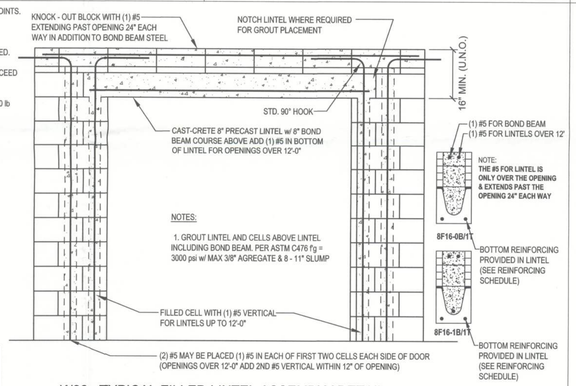
	ACI530.1-02 Section	Specific Requirements
1.4A	Compressive strength	8" block bearing walls F'm = 1500 psi
2.1	Mortar	ASTM C 270, Type N, UNO
2.2	Grout	ASTM C 476, admixtures require approval
2.3	CMU standard	ASTM C 90-02, Normal weight, Hollow, medium surface finish, 8"x8"x16" running bond and 12"x12" or 16"x16" column block
2.4	Reinforcing bars, #3 - #11	ASTM 615, Grade 60, Fy = 60 ksi, Lap splices min 48 bar dia. (30" for #5)
2.4F	Coating for corrosion protection	Anchors, sheet metal ties completely embedded in mortar or grout, ASTM A525, Class G60, 0.60 oz/ft2 or 304SS
2.4F	Coating for corrosion protection	Joint reinforcement in walls exposed to moisture or wire ties, anchors, sheet metal ties not completely embedded in mortar or grout, ASTM A153, Class B2, 1.50 oz/ft2 or 304SS
3.3.E.2	Pipes, conduits, and accessories	Any not shown on the project drawings require engineering approval.
3.3.E.7	Movement joints	Contractor assumes responsibility for type and location of movement joints if not detailed on project drawings.

- SET PRECAST LINTEL IN FULL HEAD & BED JOINTS.
- GROUT ALL REINFORCED CELLS
- PLACE BOTTOM REBAR IN LINTEL IF REQUIRED.
- AVERAGE TRUSS GRAVITY LOAD NOT TO EXCEED 1900 lb FOR OPENINGS TO 16'-0"
- MAXIMUM TRUSS LOAD NOT TO EXCEED 3000 lb W/O ENGINEERING DESIGN OF LINTEL
- **STIRRUPS NOT REQUIRED IF ABOVE CONDITIONS ARE MET. IF THE ABOVE CONDITIONS ARE NOT MET SEE DETAIL BELOW AND PLAN**



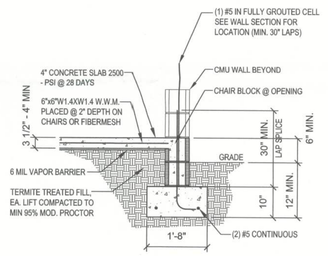
REINFORCING SCHEDULE

LENGTH	BOTTOM STEEL
UP TO 5'-10"	(2) - #3 REBAR
UP TO 10'-8"	(2) - #4 REBAR
UP TO 14'-0"	(2) - #5 REBAR
UP TO 19'-4"	(2) - 7/16 STRAND



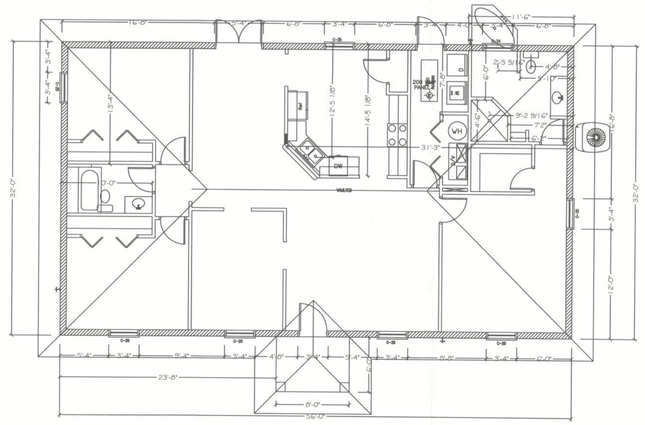
W22 - TYPICAL FILLED LINTEL ASSEMBLY DETAIL

SCALE: 1/2"=1'-0" REV-08-JAN-05



F28 - CMU WALL FOOTING @ OPENING

SCALE: 1/2"=1'-0" REV-24-Jul-04



N2-GENERAL NOTES:

FOUNDATION: FOR POINT LOADS GRATER THAN 5000 lb OR REPETITIVE TRUSS LOADS GRATER THAN 2000 lb PER TRUSS PROVIDE A THICKENED SLAB OR PAD FOOTING 1'-0"D X 1 sq ft. FOR EVERY 1000 lb OF BEARING REINFORCE WITH #5 @ 8" O.C. EACH WAY

CONCRETE: MINIMUM COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE F'c = 3000 PSI. WHERE EXCESS WATER IS ADDED TO THE CONCRETE SO THAT ITS SERVICABILITY IS DEGRADED, THE ATTAINMENT OF REQUIRED STRENGTH SHALL NOT RELEASE THE CONTRACTOR FROM PROVIDING SUCH MODIFICATIONS AS MAY BE REQUIRED BY THE ENGINEER TO PROVIDE A SERVICEABLE MEMBER OR SURFACE. ALL CONCRETE SHALL BE VIBRATED. NO REPAIR OR RUBBING OF CONCRETE SURFACES SHALL BE MADE PRIOR TO INSPECTION BY AND APPROVAL OF THE ENGINEER, OWNER OR HIS REPRESENTATIVE.

WELDED WIRE REINFORCED SLAB: 6" x 6" W1.4 x W1.4, FB = 85KSI, WELDED WIRE REINFORCEMENT FABRIC (W.W.M.) CONFORMING TO ASTM A185; LOCATED IN MIDDLE OF THE SLAB; SUPPORTED WITH APPROVED MATERIALS OR SUPPORTS AT SPACINGS NOT TO EXCEED 3'.

FIBER CONCRETE SLAB: CONCRETE SLABS ON GROUND CONTAINING SYNTHETIC FIBER REINFORCEMENT. FIBER LENGTHS SHALL BE 1/2 INCH TO 2 INCHES IN LENGTH. DOSAGE AMOUNTS SHALL BE FROM 0.75 TO 1.5 POUNDS PER CUBIC YARD IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SYNTHETIC FIBERS SHALL COMPLY WITH ASTM C 1116. THE MANUFACTURER OR SUPPLIER SHALL PROVIDE CERTIFICATION OF COMPLIANCE WITH ASTM C 1116 WHEN REQUESTED BY THE BUILDING OFFICIAL.

CONTROL JOINTS: WHERE SPECIFIED, SAWN CONTROL JOINTS IN SLAB-ON-GRADE SHALL BE CUT IN ACCORDANCE WITH ACI 302. JOINTS SHALL BE CUT WITHIN 12 HOURS OF SLAB PLACEMENT. THE LENGTH / WIDTH RATIOS OF SLAB AREAS SHALL NOT EXCEED 1.5 AND TYPICAL SPACING OF CUTS TO BE 12FT. DO NOT CUT WWM OR REINFORCING STEEL. (RECOMMENDED LOCATION OF CONTROL JOINTS IS SUBJECT TO OWNER AND CONTRACTOR'S APPROVAL. THE CONTROL JOINTS ARE NOT INTENDED TO PREVENT CRACKS BUT RATHER TO ENCOURAGE THE SLAB TO CRACK ON A GIVEN LINE.)

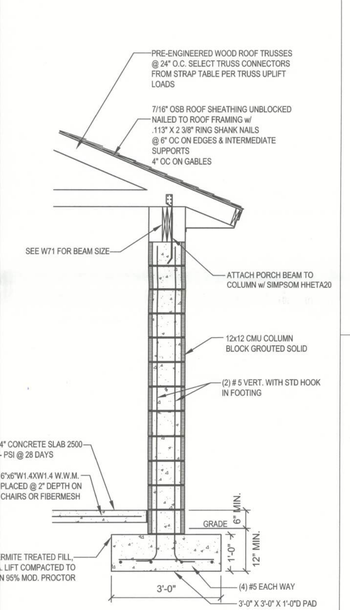
REBAR: ASTM A 615, GRADE 60, DEFORMED BARS, FY = 60 KSI. ALL LAPS SPLICES 48 * db (30" FOR #5 BARS); UNO. ALL REINFORCEMENT SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH ACI 315-95 WITH ACI 315-96 UNLESS NOTED OTHERWISE. ALL TENSION DEVELOPMENT LENGTHS SHALL BE 30 INCHES.

STRUCTURAL CONNECTORS: MANUFACTURERS AND PRODUCT NUMBER FOR CONNECTORS, ANCHORS, AND REINFORCEMENT ARE LISTED FOR EXAMPLE NOT ENDORSEMENT. AN EQUIVALENT DEVICE OF THE SAME OR OTHER MANUFACTURER CAN BE SUBSTITUTED FOR ANY DEVICES LISTED IN THE EXAMPLE TABLES AS LONG AS IT MEETS THE REQUIRED LOAD CAPACITIES. MANUFACTURER'S INSTALLATION INSTRUCTIONS MUST BE FOLLOWED TO ACHIEVE RATED LOADS.

ANCHOR BOLTS: A-307 ANCHOR BOLTS WITH MINIMUM EMBEDMENT AS SPECIFIED IN DRAWINGS BUT NO LESS THAN 7" IN CONCRETE OR REINFORCED BOND BEAM OR 15" IN GROUTED CMU.

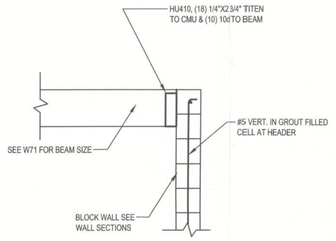
WASHERS: WASHERS USED WITH 1/2" BOLTS TO BE 2" x 2" x 9/64"; WITH 5/8" BOLTS TO BE 3" x 3" x 9/64"; WITH 3/4" BOLTS TO BE 3" x 3" x 9/64"; WITH 7/8" BOLTS TO BE 3" x 3" x 5/16", NO.

NAILS: ALL NAILS ARE COMMON NAILS UNLESS OTHERWISE SPECIFIED OR ACCEPTED BY FBC TEST REPORTS AS HAVING EQUAL STRUCTURAL VALUES.



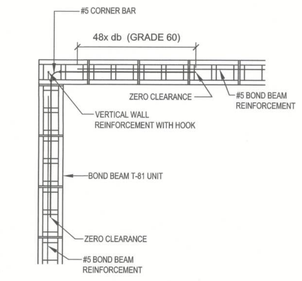
W51 - CMU PORCH COLUMN

SCALE: 1/2"=1'-0" REV-24-Jul-04



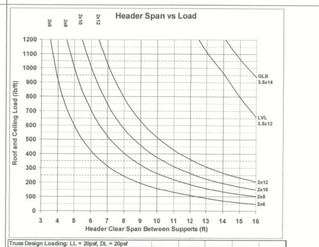
W30 - WOOD PORCH HEADER AT CMU WALL

SCALE: 1/2"=1'-0" REV-24-Jul-04



W21 - TYPICAL BOND BEAM CORNER DETAIL

SCALE: 1/2"=1'-0" REV-24-Jul-04



Truss Design Loading: LL = 20psf, DL = 20psf			
7' Jack Truss		220	Half of 7' truss span + 24" overhang
Porch width, 8'		240	Half of 8' truss span + 24" overhang
Garage width, 20'		460	Half of 20' truss span + 24" overhang
Garage width, 24'		500	Half of 24' truss span + 24" overhang
Main house width, 32'		720	Half of 32' truss span + 24" overhang
Main house width, 40'		880	Half of 40' truss span + 24" overhang
Main house width, 60'		1280	Half of 60' truss span + 24" overhang
Bonus Room, above garage		1025	Half of 24' truss span and 14' bonus room

Notes:
1. Deflection limits: TL=L/240, LL=L/180.
2. Duration factor, Cd = 1.25, applied to Fb and Fv. (No increase to E or Fc, for duration of load.)
3. 2x headers are SYP#2 with OSB fitch spacer and (2) 12x5 95°OC. (strength increased 5% for OSB)
4. 3.5" x 14" GLB is Anthony Power Header, 2600 Fb, 1.9 E, or GP (21.75-14 LVL, 2850 Fb, 2.0 E.
5. 3.5" x 12" LVL is Blue Linx - GP Lam, (2) 1.75" x 11.78" LVL, 2900 Fb, 2.0 E, 285 Fv.
6. Minimum bearing for SYP header, Fc = 565psi, 2500 lb per jack stud. (For SPF plate, Fc = 425psi, 2200 lb per
7. Shear strength is increased 50% for minimal splits and checks headers cut to size on site.
8. Deflection has not been adjusted for creep due to long term loading, Kcr = 1.0.
9. The chart is based on NDS2001 bending, horizontal shear, and deflection requirements.
10. Chart is for uniform loads only.
11. (For non-uniform loads sum the loads on the header, divide by header span, and multiply by 2.)

W71 - HEADER SPANS FOR ROOF/CEILING LOAD

N5 - TRUSS UPLIFT CONNECTOR TABLE

REV-18-NOV-04

All connectors are Simpson Strongtie, uno. Select top and bottom connections from this table or SST catalog to meet truss uplift. Use fasteners as specified.

Uplift SPF	Uplift SYP	Truss Connector	To Plate	To Truss / Rafter
320	455	H3	4-8d	4-8d
245	350	H5A	3-8d	3-8d
535	600	H2.5A	5-8d	5-8d
620	720	H10	6-10dx1½"	6-10dx 1½"
850	990	LTS12	8-8dx1¼"	8-8dx 1¼"
1245	1450	HTS20	10-10d or 12-10dx1½"	10-10d or 12-10dx 1½"
1265	1470	H16, H16-2	10-10dx1½"	2-10dx 1½"
1785	2050	LGT2	14-10d Sinker	16-16d Sinker
3655	4200	MGT	⅝" Thd.Rod	22-10d
SPF	**SYP**	**Strap Connector**	**To One Member**	**To Other Member**
760	885	SP4	6-10dx1½"	N/A
865	1005	CS20	9-8d or 7-10d	9-8d or 7-10d
1085	1265	LSTA18-24	7-10d	7-10d
1170	1360	SPH4	12-10dx1½"	N/A
420	455	SSP	4-10d	3-10d to double plate or 1-10d to single
600	825	DSP	8-10d	6-10d to double plate or 2-10d to single
1420	1650	CS16	14-8d or 11-10d	14-8d or 11-10d
SPF	**SYP**	**Column Anchor**	**To Foundation**	**To Column / Truss**
1160	1350	LTT19	⅝"x 16" AB	8-16d Sinkers
1985	2310	LTT31	⅝"x 16" AB	18-10dx 1½"
2385	2775	HD2A	⅝"x 16" AB	2-⅞" Bolts
3590	4175	HTT16	⅝"x 16" AB	18-16d
1975	2300	ABU66	⅝"x 16" AB	12-16d

Studs Supporting Trusses: The builder is responsible for gravity loads, but you should put an extra 2x4 stud under truss bearing location for each 3000 lb of reaction. Check the minimum bearing requirements of the truss and top plate (SPF, Fc=425psi=2230lb/sq.in).

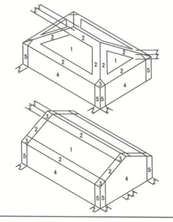
Manufacturer and product number are listed for example not endorsement. An equivalent device of the same or other manufacturer can be substituted for any devices listed in the example tables as long as it meets the required load capacities. Manufacturer's installation instructions must be followed to achieve rated loads. All connections exposed directly to the weather shall be hot dipped galvanized after fabrication. Loads are increased for wind duration. Strap uplift may be reduced proportionally to number of nails. See spec sheet for alternate nail sizes (10d=.84*16d, 10dx1½"=.80*10d, 10d=12d=16d sinker). SPF=.80*SYP

N4-WIND LOAD DESIGN DATA

WIND LOADS PER 2010 FLORIDA BUILDING CODE RESIDENTIAL, SECTION R301.2.1

Basic Wind Speed	130 MPH
Wind Exposure	C
Wind Importance Factor	1.0
Risk Category	II (MRI =700 YR)
Internal pressure Coefficient	N/A (Enclosed)
Building not in the high velocity hurricane zone	
Building not in the wind-borne debris region	
Mean Roof Height	< 30 ft
Roof Angle	10-45 degrees

Components And Cladding Wind Pressures (2010 FBC)



Zone	Effective Wind Area (ft2)			
	10			
4	43	-46		
5	43	-57		

	Transverse	Longitudinal
Required	25.5'	20.0'
Actual	57.3'	80.0'

N3-WINDLOAD ENGINEER'S SCOPE OF WORK: The wind load engineer is engineer of record for compliance of the structure to wind load requirements of 2010 FBC. If trusses are used, the wind load engineer is not engineer of record for the trusses and did not design the trusses or delegate to the truss designer.

BUILDER'S RESPONSIBILITY: The builder and owner are responsible for the following, which are specifically not part of the wind load engineer's scope of work.
* Confirm that the foundation design & site conditions meet gravity load requirements (assume 1500 PSF bearing capacity unless visual observation or soils test proves otherwise
* Provide materials and construction techniques, which comply with 2010 FBC requirements for the stated wind velocity and design pressures.
* Provide a continuous load path from roof to foundation. If you believe the plan omits a continuous load path connection, call the wind load engineer immediately.
* Verify the truss engineering includes truss design, placement plans, temporary and permanent bracing details, truss-to-truss connections, and load reactions for all bearing locations.
* Select uplift connections, walls, columns, and footings based on truss engineering bearing locations and reactions; including interior bearing walls.
* Size headers for gravity loads; headers sized by the builder for gravity loads will also satisfy wind loads.

DOCUMENT CONTROL and PRIORITY: Structural requirements on S-1 control unless the building code or architectural sheets have more stringent requirements. Non-structural requirements on architectural sheets control. Specific requirements take precedence over general requirements. Revision control is by the latest signature date and is the responsibility of the builder.

DIMENSIONS:
Stated dimensions supercede scaled dimensions. Refer all questions to Mark Disosway, P.E. for resolution. Do not proceed without clarification.

WINDLOAD ENGINEER: Mark Disosway, PE No.53915

CERTIFICATION: The attached plans and "Windload Engineering", sheet S-1, comply with R301.2.1, 2010 FBC, wind loads, to the best of my knowledge.

LIMITATION: This design is valid for one building, at specified location.
This drawing is not valid for construction unless raised seal is affixed.

REV-27-Jul-04

WINDLOAD ENGINEERING

"EVERYTHING YOU NEED FOR YOUR BUILDING PERMIT"

Mark Disosway P.E.

POB 868, Lake City, FL 32056 Phone: (386) 754-5419

Fax: (386) 269-4871 Email: windloadengineer@bellsouth.net

Location: Lot 16 Saddle Brook Estates Union County, Florida

Randy Randolph Residence

Builder: House Craft Homes

Designer: House Craft Homes

Approved: PLPE#53915 Revisions:

Sheet S-1 of 1 Sheet

Windload Engineering

Job #1203092

XMar12