

BECKER & FRONDORF
Construction Cost Consulting • Project Management

William P. Becker
John R. Frondorf

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Frank A. Francisco
John R. Howard

Letter of Transmittal

To: Mr. Muscoe Martin

Date: November 7, 2007

M2 Architecture

Project: Okehocking Nature Center

Project Number: 07142

Mail _____ Fax _____ Email Hand _____

Overnight _____ Courier _____ Pick-up _____

Copies:

Date:

Description:

1

6 Nov 07

Estimate - Schematic

For Your Use

As Requested

For Approval _____

Reply Requested _____

Remarks: _____

Copy To: Bookkeeping

Signed: _____


John Frondorf

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Preliminary Construction Cost Estimate

Project Name: Okehocking Nature Center Number: 07142E1

Estimate Date: November 6, 2007

Phase: Schematic

Project Location: Willistown Township, PA

Start Date: Autumn 2007

Project Size/Area: 8,860

Description: New nature center and gardens

Architect/Engineer: M2 Architecture

Project Documents: Schematic set, floor plans, elevations, building section, 13 Sept 07; site plan,
Not to scale, 7 Oct07; architectural notes, 14 Oct 07; MEP BOD, 25 Sept 07.

Comments: This estimate is based on preliminary assumptions, which must be updated as
design and documentation progresses.

Becker & Frondorf notes that every effort has been made to provide an estimated quantity survey that is as accurate as the documents provided permit, subject to the time available and other stipulations in our agreement. In addition, Becker & Frondorf notes that while the estimated pricing is reflective of current costs, contractor, subcontractor, and supplier bids may vary with market factors prevailing at bid date, including, but not limited to, market competition, construction escalation, general inflation, business volume, bid volume, strikes, and wage rate changes.

Project: Okehocking Nature Center
Number: 07142E1
Client: M2 Architecture
Date: November 6, 2007
Phase: Schematic

BECKER & FRONDORF
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ESTIMATE SUMMARY

CODE	DESCRIPTION	8,680	SF	COST
A	Foundations & Framing			\$506,810
B	Exterior Envelope			\$722,530
C	Interior Construction			\$649,170
D	Mechanical & Electrical			\$681,250
E	Sitework			\$1,273,450
	Subtotal			\$3,833,210
	General Conditions / O. H. & P.		17.5%	\$670,790
	Bond		1.0%	\$45,000
	Contingency		10.0%	\$455,000
	Total			\$5,004,000

Notes

Costs are current, for Autumn 2008; escalation is not included.

ESTIMATE

Proj: Okehocking Nature Center
Date: November 6, 2007

CODE	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
A	Foundations & Framing				
A1	Earthwork - Assume 50% Cut @ Lower Level	800	CY	35.00	28,000
A2	- Cut @ Footings	1	LS	10,000.00	10,000
A3	- Rock	1	LS	-	NIC
A4	Foundation - Wall Footing	370	LF	35.00	12,950
A5	- Column Footings	24	EA	800.00	19,200
A6	- Chimney Foundation	1	EA	5,000.00	5,000
A7	- Foundation Wall/CMU/2' H	470	SF	20.00	9,400
A8	- Slab-on-grade	4,340	SF	7.50	32,550
A9	- Elevator Pit	1	EA	10,000.00	10,000
A10	- Basement Retaining Wall/Conc. & WP	1,890	SF	40.00	75,600
A11	- Perimeter Insulation	1,470	SF	1.50	2,210
A12	- Perimeter Drainage	370	LF	25.00	9,250
A13	Framing - Steel Cols/Girders @ Upper Lev/6 LB/SF	13	TN	5,000.00	65,000
A14	- Wood Framing/Subfloor @ Upper Level	4,340	SF	10.00	43,400
A15	- Heavy Timber/Exposed @ LR/Vest/Meeting	2,940	SF	30.00	88,200
A16	- Pre-eng. Trusses @ Office/Kitchen	1,400	SF	7.50	10,500
A17	- SIPs Panels	6,130	SF	10.00	61,300
A18	- Canopy @ North/Framing/Deck	170	SF	50.00	8,500
A19	- Stair/Circular/Wood & Metal	21	R	750.00	15,750
A20	Exterior Deck - Wood/Trex	1	LS	-	w/ Sitework
A21	Entry Plaza - Bluestone	1	LS	-	w/ Sitework
A22					0
A23					0
A24					0
A25					0
A26					0
A27					0
A28					0
A29					0
A30					0
A31					0
A32					0
A33					0
A34					0
A35					0
A36					0
A37					0
A38					0
A39					0
A40					0
A41					0
A42					0
A43					0
A44					0
A45					0
A46					0
	Subtotal				506,810

ESTIMATE

Proj: Okehocking Nature Center
Date: November 6, 2007

CODE	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
B	Exterior Envelope				
B1	Roofing - Metal/Standing Seam	5,430	SF	35.00	190,050
B2	- Green Roof & Membrane	870	SF	30.00	26,100
B3	- Insulation	5,210	SF	-	w/ SIPs
B4	- Flashing/Misc.	1	LS	7,500.00	7,500
B5	- Gutters/Downspouts	500	LF	20.00	10,000
B6	Exterior Wall - Stone Veneer	1,200	SF	50.00	60,000
B7	- Wood Siding	6,470	SF	20.00	129,400
B8	- Backup/Studs & Sheathing	7,670	SF	8.50	65,200
B9	- Insulation	7,670	SF	2.50	19,180
B10	Glazing - Storefront	1,480	SF	70.00	103,600
B11	- Windows/10x6	2	EA	3,900.00	7,800
B12	- Windows/8x6	2	EA	3,100.00	6,200
B13	- Windows/6x6/5x6	5	EA	2,300.00	11,500
B14	- Windows/4x2	6	EA	600.00	3,600
B15	- Clerestory	100	SF	70.00	7,000
B16	Doors - Glazed/Double	2	PR	5,000.00	10,000
B17	- Glazed/Single	1	EA	2,750.00	2,750
B18	- Misc/Double	1	PR	2,900.00	2,900
B19	- Misc/Single	4	EA	1,500.00	6,000
B20	Sliding Panels/Louvered Wood/8x14	2	EA	8,400.00	16,800
B21	Louwer - Alum/4x3	1	EA	700.00	700
B22	Chimney - Stone/CMU	580	SF	62.50	36,250
B23					0
B24					0
B25					0
B26					0
B27					0
B28					0
B29					0
B30					0
B31					0
B32					0
B33					0
B34					0
B35					0
B36					0
B37					0
B38					0
B39					0
B40					0
B41					0
B42					0
B43					0
B44					0
B45					0
B46					0
	Subtotal				722,530

ESTIMATE

Proj: Okehocking Nature Center
Date: November 6, 2007

CODE	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
C	Interior Construction				
C1	Drywall - Partitions	700	LF	125.00	87,500
C2	- Furring @ Perimeter Walls	7,670	SF	3.00	23,010
C3	- Ceilings @ Heavy Timber	2,940	SF	10.00	29,400
C4	Doors/Hdw/Frames - Single	29	EA	1,500.00	43,500
C5	- Double	2	PR	2,900.00	5,800
C6	Floor Finishes - Bluestone	590	SF	35.00	20,650
C7	- Wood @ Meeting/Corr/Offices/Living Room	2,690	SF	15.00	40,350
C8	- Quarry Tile @ Toilets/Kitchen	680	SF	15.00	10,200
C9	- Linoleum @ Classrooms	3,130	SF	7.50	23,480
C10	- Sealed Conc. @ Mech/Storage	1,010	SF	0.75	760
C11	- No Work @ Future Expansion	580	SF	-	NIC
C12	Base - Wood	1,250	LF	12.50	15,630
C13	- Tile	250	LF	10.00	2,500
C14	Wall - Tile @ Toilets	1,280	SF	12.50	16,000
C15	- Wood Wainscot/Rough/4' @ Class/Living	1,600	SF	40.00	64,000
C16	- Wood Wainscot/Rough/8' @ Vest.	400	SF	40.00	16,000
C17	- Fabric/Homasote @ Classrooms/5' H	1,350	SF	20.00	27,000
C18	- Paint	9,300	SF	1.50	13,950
C19	Ceiling - Paint DW	2,940	SF	1.50	4,410
C20	- Tectum Panels/30%	880	SF	10.00	8,800
C21	- Wood/Rough @ Kitchen/Toilets	680	SF	40.00	27,200
C22	- ACT	2,590	SF	4.00	10,360
C23	- Paint Deck @ Mech/Storage	1,010	SF	2.00	2,020
C24	- No Work @ Future Expansion	580	SF	-	NIC
C25	Casework - Counter/Base Cabinets	47	LF	300.00	14,100
C26	- Wall Cabinets	24	LF	150.00	3,600
C27	Fireplace/Mantle/Trim & Equip.	1	LS	5,000.00	5,000
C28	FE Cabinets	2	EA	500.00	1,000
C29	Appliances - Kitchen/Assume Residential	1	LS	5,500.00	5,500
C30	Toilet Specialties - Partitions	6	EA	1,500.00	9,000
C31	- Mirrors/Towel Disp/TP Disp/Etc.	1	LS	4,400.00	4,400
C32	Movable Partition/11' H	280	SF	75.00	21,000
C33	Walk-off Mat/Not Shown/6x6	2	EA	900.00	1,800
C34	Window Treatment - Meeting/Classroom	650	SF	25.00	16,250
C35	Elevator - 2 Stop/Hyd.	1	EA	75,000.00	75,000
C36					0
C37					0
C38					0
C39					0
C40					0
C41					0
C42					0
C43					0
C44					0
C45					0
C46					0
	Subtotal				649,170

ESTIMATE

Proj: Okehocking Nature Center
 Date: November 6, 2007

CODE	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
D	Mechanical & Electrical				
D1	Sprinklers	8,680	SF	-	NIC
D2	Plumbing - Allowance per Fixture	11	EA	5,000.00	55,000
D3	- Composting Toilets	7	EA	1,500.00	10,500
D4	- Waterless Urinals	2	EA	1,000.00	2,000
D5	- Solar HW/Panels	64	SF	150.00	9,600
D6	- Solar HW/Heat Exchanger/Piping/Pumps/Etc.	1	LS	6,400.00	7,500
D7	- Rainwater Cistern/Assume 2000 Gal.	1	LS	5,000.00	5,000
D8	HVAC - Geothermal Well Field	4,800	LF	20.00	96,000
D9	- Piping/Headers/Etc.	1	LS	10,000.00	10,000
D10	- Circulation Pumps/90 GPM	2	EA	3,500.00	7,000
D11	- VFDs	2	EA	2,000.00	4,000
D12	- Heat Pump/4 & 5 TN	3	EA	5,000.00	15,000
D13	- Heat Pump/2 & 3 TN	4	EA	3,500.00	14,000
D14	- Ventilation	1	LS	15,000.00	15,000
D15	- Energy Recovery	1	LS	15,000.00	15,000
D16	- Ductwork/Sheetmetal/Assume 1 LB/SF	8,700	LB	10.00	87,000
D17	- Ductwork/Insulation/Assume 1 LB/SF	5,800	SF	4.00	23,200
D18	- GRD	8,680	SF	1.00	8,680
D19	- Balancing	1	LS	7,500.00	7,500
D20	- Controls	8,680	SF	5.00	43,400
D21	New Service - Service Entry/Allowance	1	LS	3,500.00	3,500
D22	- New Main Panel/400 A	1	EA	7,500.00	7,500
D23	- Feeders/Not Shown	100	LF	35.00	3,500
D24	- Branch Panels	2	EA	4,000.00	8,000
D25	- Branch Wiring	8,680	SF	5.00	43,400
D26	- Convenience Switches/Outlets/Devices	8,680	SF	2.50	21,700
D27	- Equipment Connections	15	EA	750.00	11,250
D28	- Lighting Allowance/Meeting/Vest/Living Room	2,940	SF	12.50	36,750
D29	- Lighting Allowance/Office/Classrooms/Misc.	4,150	SF	8.00	33,200
D30	- Lighting Allowance/Storage/Mech/Future	1,590	SF	6.00	9,540
D31	- Emergency Lighting/Battery Packs	6	EA	500.00	3,000
D32	Special Systems - FA System Allowance	8,680	SF	1.75	15,190
D33	- Tele/Data/Conduit Only	8,680	SF	0.50	4,340
D34	- Tele/Data/System	8,680	SF	-	By Owner
D35	- Security System/Conduit & Main Panel	1	LS	7,500.00	7,500
D36	- Security System	1	LS	-	By Owner
D37	- PV Array	250	SF	150.00	37,500
D38					0
D39					0
D40					0
D41					0
D42					0
D43					0
D44					0
D45					0
D46					0
	Subtotal				681,250

ESTIMATE

Proj: Okehocking Nature Center
Date: November 6, 2007

CODE	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
E	Sitework	2.5			
E1	Site Clearing	1	LS	25,000.00	25,000
E2	Earthwork - No Scope/Allowance	1	LS	-	50,000
E3	Paving/Scope Not Clear - Maintenance Road	1	LS	-	Existing to Remain
E4	- Garrett House Drive	1	LS	-	Existing to Remain
E5	- Wooded Grove Parking	1	LS	-	Existing to Remain
E6	- New Drive/Parking/Porous Asphalt	2,300	SY	36.00	82,800
E7	- Parking/Grass Pavers	6,100	SF	8.00	48,800
E8	- Sidewalk/Walkway/Conc.	2,300	SF	6.50	14,950
E9	- Promontory/Bluestone & Conc.	900	SF	40.00	36,000
E10	- Entry Plaza/Bluestone & Conc.	440	SF	40.00	17,600
E11	- Trails @ Gardens/Amphi/Comp. Agg.	1,700	LF	14.00	23,800
E12	- Curb/Concrete @ Driveway	1,600	LF	15.00	24,000
E13	Steps & Rails - Main Walkway/5 R per Group	7	EA	2,600.00	18,200
E14	Wall - Stone @ Promontory	50	LF	400.00	20,000
E15	Amphitheater Allowance	1	LS	100,000.00	100,000
E16	Pavilion/15x15 - Allowance	1	LS	34,000.00	34,000
E17	Tent Plaza/20x20 - Allowance	1	LS	20,000.00	20,000
E18	Exterior Deck - Foundations/Not Shown	1	LS	5,000.00	5,000
E19	- Decking/Framing/Trex	1,570	SF	35.00	54,950
E20	- Stairs/4' W	13	R	250.00	3,250
E21	- Stairs/12' W	4	R	650.00	2,600
E22	- Railings	200	LF	150.00	30,000
E23	Constructed Wetland & Teaching Grove	1	LS	50,000.00	50,000
E24	- Wet Garden	6,600	SF	5.00	33,000
E25	Landscape Allowances - Parking Areas	9,000	SF	5.00	45,000
E26	- Amphitheater Area	13,700	SF	5.00	68,500
E27	- Mast Grove	2,600	SF	10.00	26,000
E28	- Butterfly Garden	1,900	SF	10.00	19,000
E29	- Residential Meadow	2,100	SF	5.00	10,500
E30	- Tactile Garden	2,200	SF	10.00	22,000
E31	- Edible Garden	1,600	SF	10.00	16,000
E32	- Shade Garden	1,200	SF	10.00	12,000
E33	- Rain Garden	2,800	SF	15.00	42,000
E34	- Flowering Hedgerow	6,100	SF	10.00	61,000
E35	- Vegetable Garden	2,200	SF	10.00	22,000
E36	- Wooded Grove	14,100	SF	5.00	70,500
E37	Site Drainage	1	LS	-	TBD
E38	Site Lighting	1	LS	50,000.00	50,000
E39	Utility Connections - Electrical Service	500	LF	165.00	82,500
E40	- Water Service	500	LF	65.00	32,500
E41	- Fire Service	1	LS	-	NIC
E42	- Sewer	1	LS	-	TBD
E43					0
E44					0
E45					0
E46					0
Subtotal					1,273,450

WILLISTOWN OKEHOCKING NATURE CENTER

ARCHITECTURAL NOTES

October 14, 2007

Structural System: Concrete foundation walls, timber frame.

Roof: 10" SIP panels w/gyp board interior.

Exterior Wall System:, 2 X 6 framing with foam insulation, sheathing.

Exterior siding: wood clapboard siding, (locust or hemlock)

Punched Windows: Aluminum clad wood windows, insulated, low-e, argon filled glazing, true divided lights.

Larger windows and exterior Entrance Doors: Aluminum storefront, thermally broken, 1" insulated glass, low-e, argon filled glazing, .

Exterior Doors at service entries: insulated, galvanized hollow metal, painted.

Roofing: Standing seam, Galvalume finish.

Vegetated roof system where indicated: 6" thick growing medium with "roof meadow" planting.

Waterproofing at below grade walls: sheet waterproofing.

Exterior deck: pressure treated ("Wolmanized L3 Outdoor wood") structure,, Trex decking, Guard rails and handrails: treated wood posts and top rail with stainless steel cable guards.

Interior partitions: metal studs, sound insulation, synthetic gypsum board 5/8".

Architectural woodwork (kitchens, classrooms): Recycled plastic countertops ("100 percent" by 3-form, for example) on Medite (formaldehyde-free MDF) cabinets.

Interior Doors: "PrimeBoard" Solid core, wood veneer, FSC-certified, clear finish, typical.

Fire Extinguishers in recessed cabinets. Assume 1 per floor.



Movable partition at Meeting Room: Modernfold 932 SERIES.

Provide recessed floor mat at main entrances.

Window Treatments: provide insulating, room darkening pull-down shades at all windows in Meeting Room and classrooms.

FINISHES

Vestibule at upper level:

Floor: bluestone paving

Base: wood

Walls: rough-sawn wood board wainscot to 8'.

Ceiling: Synthetic Gyp board, painted, with Tectum panels. Assume 30% of exposed ceiling is tectum

Meeting Room:

Floor: wood, maple, FSC certified.

Base: wood

Walls: rough-sawn wood board wainscot to 4', gyp board above.

Feature wall: Salvaged barn wood (owner furnished)

Ceiling: Gyp board, painted, with Tectum acoustic panels. Assume 30% of exposed ceiling is tectum

Toilet rooms:

Floor: recycled quarry tiles

Base: tile

Walls: recycled content ceramic tiles, full height

Ceiling: rough-sawn, wood

Kitchen:

Floor: recycled quarry tiles

Base: tile

Walls: Synthetic Gyp Board, painted.

Ceiling: rough-sawn, wood

Corridor and Offices:

Floor: wood, maple, FSC certified

Base: wood

Walls: Gyp board, painted.

Ceiling: Acoustic Ceiling Tile: tegular grid



Classrooms and Class Prep:

Floor: linoleum on slab on grade

Base: wood

Walls (frame): rough-sawn wood board wainscot to 4', fabric wrapped homasote panels above.

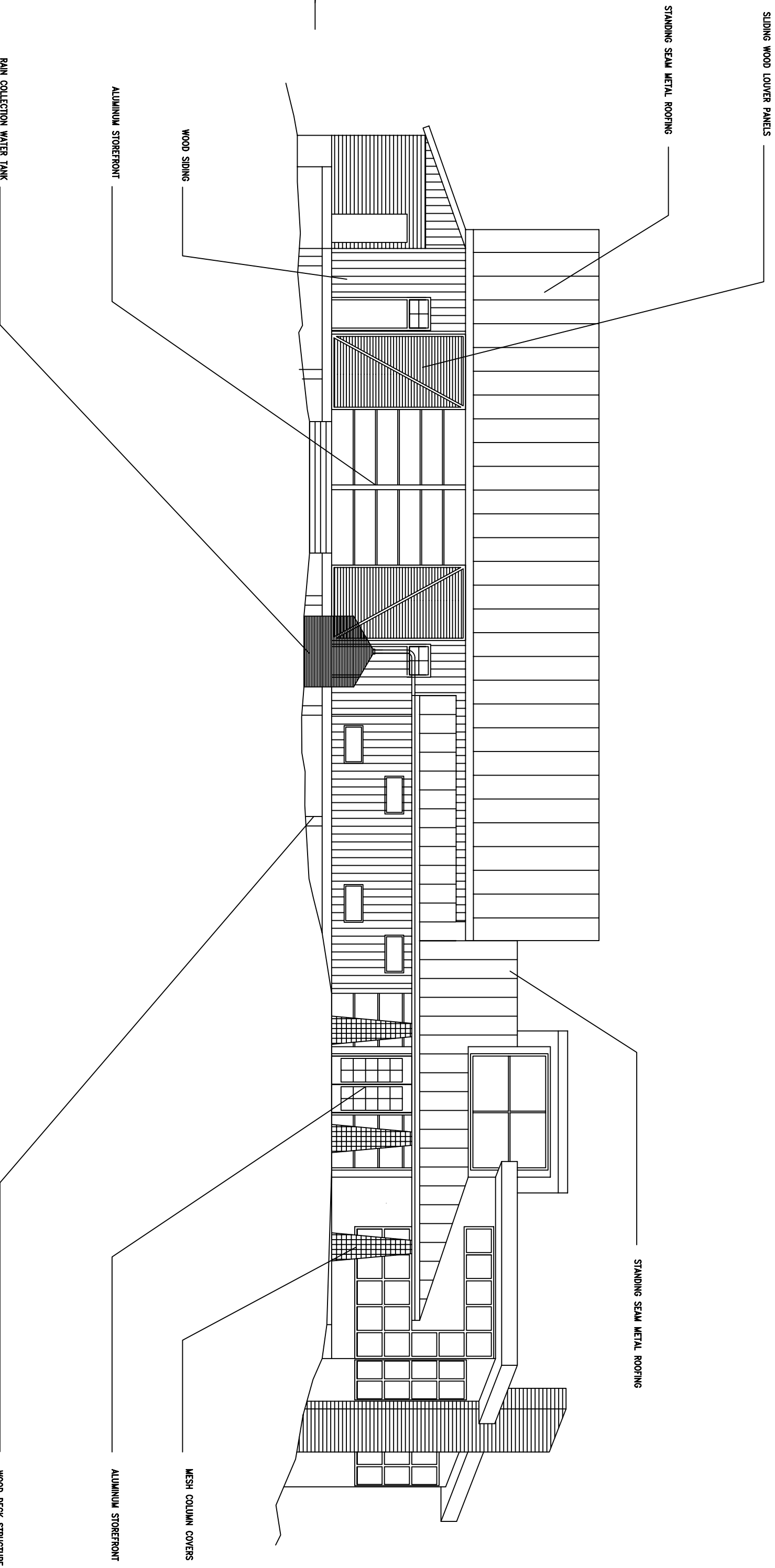
Ceiling: Acoustic Ceiling Tile: tegular grid

Mechanical & Storage Lower level:

Floor: sealed concrete

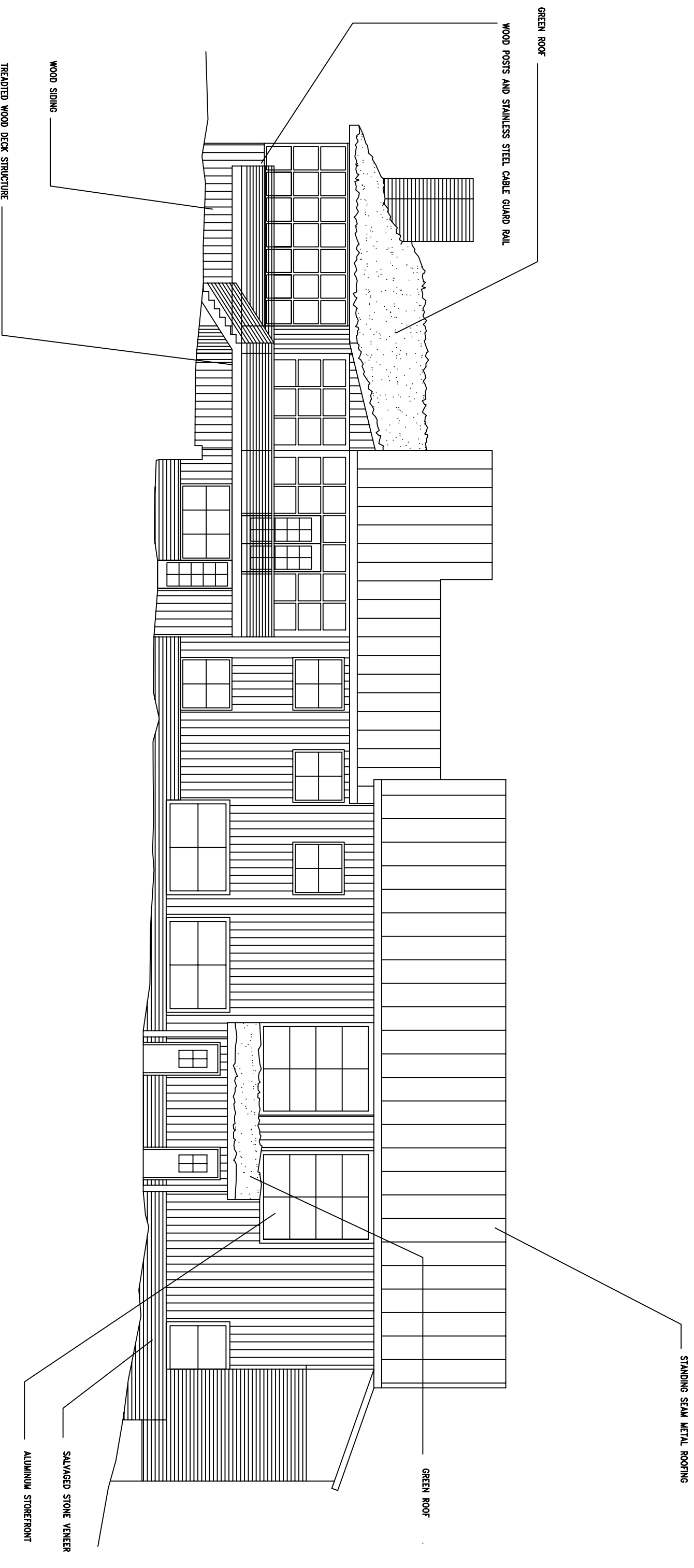
Walls: painted CMU

Ceiling: Gyp board, painted



Okehocking

SOUTH ELEVATION
SCALE 3/32" = 1'-0"
October 7, 2007

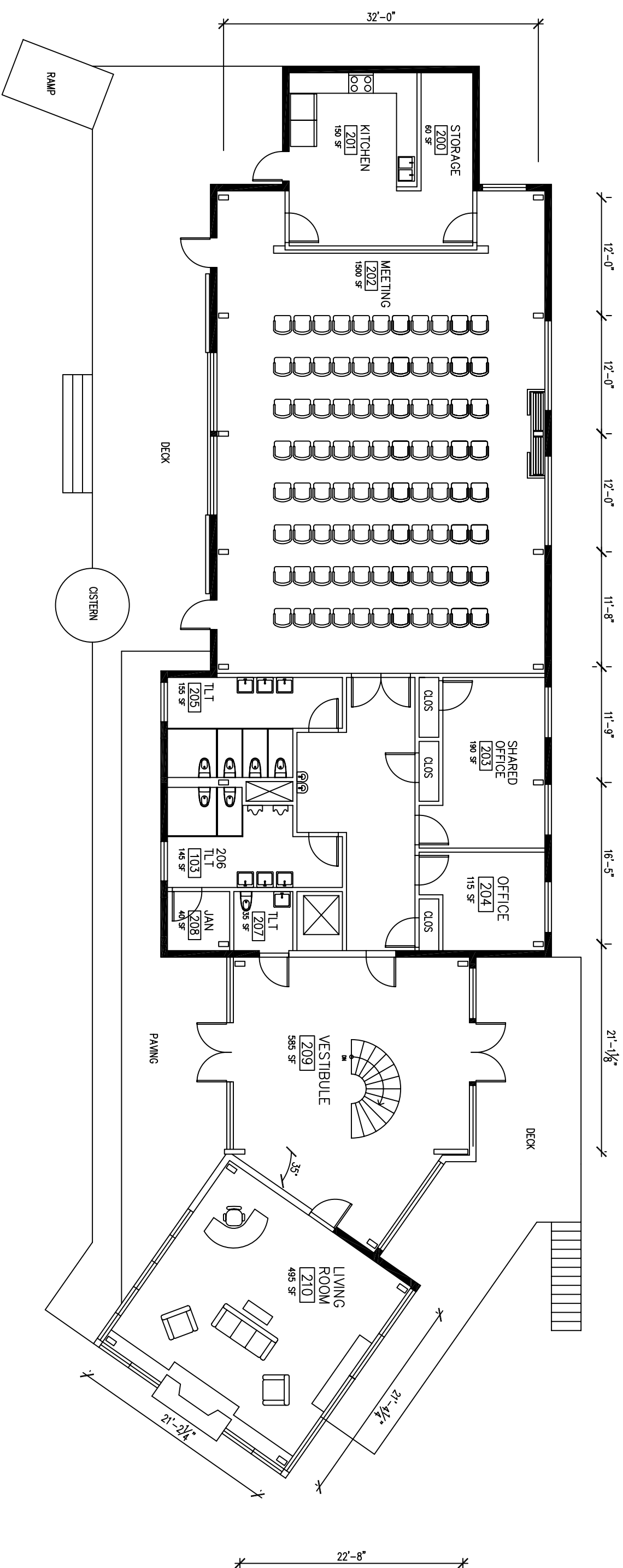


Okehocking

NORTH ELEVATION

SCALE 3/32" = 1'-0"

October 7, 2007

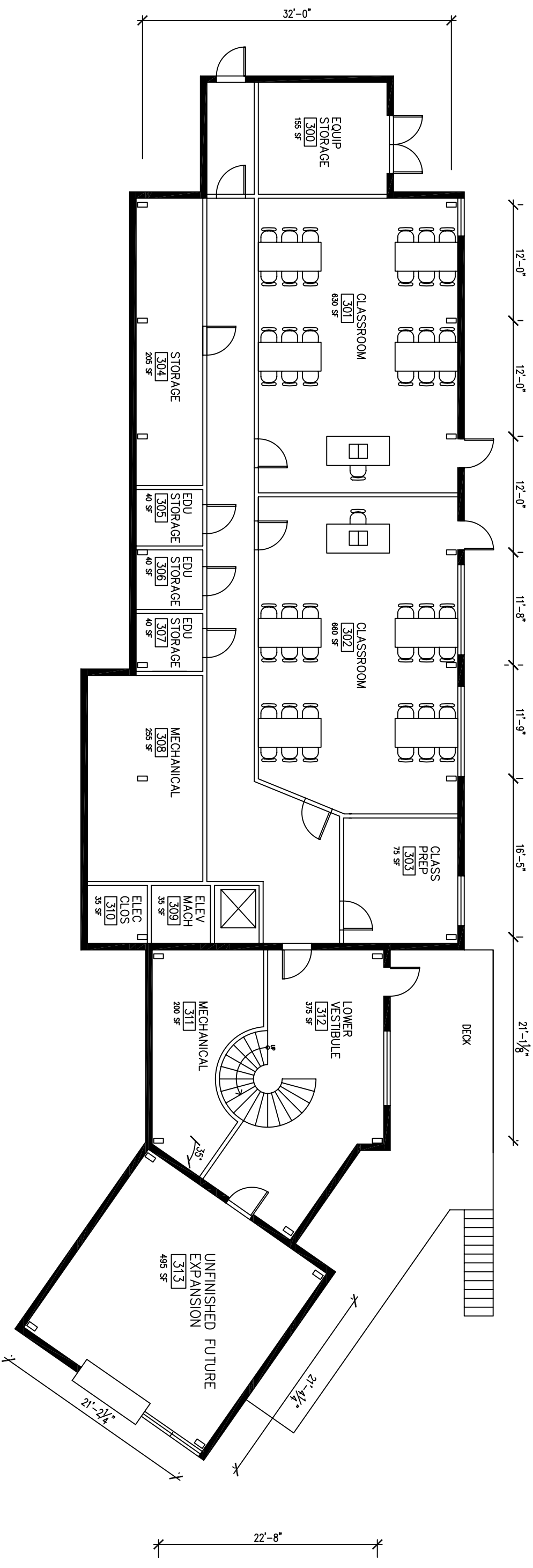


Okehocking

UPPER LEVEL

SCALE 3/32" = 1'-0"

October 7, 2007

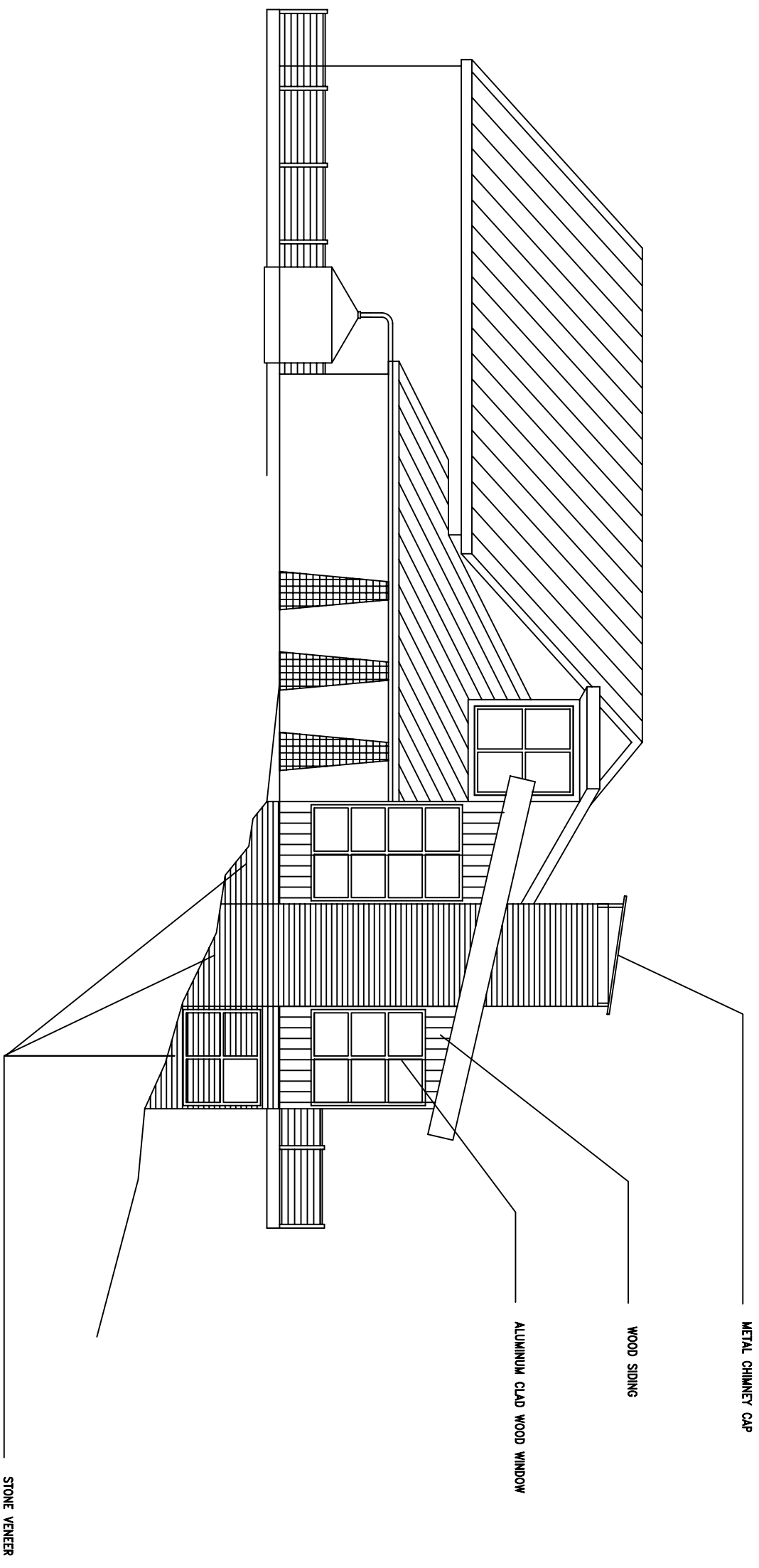


Okehocking

LOWER LEVEL

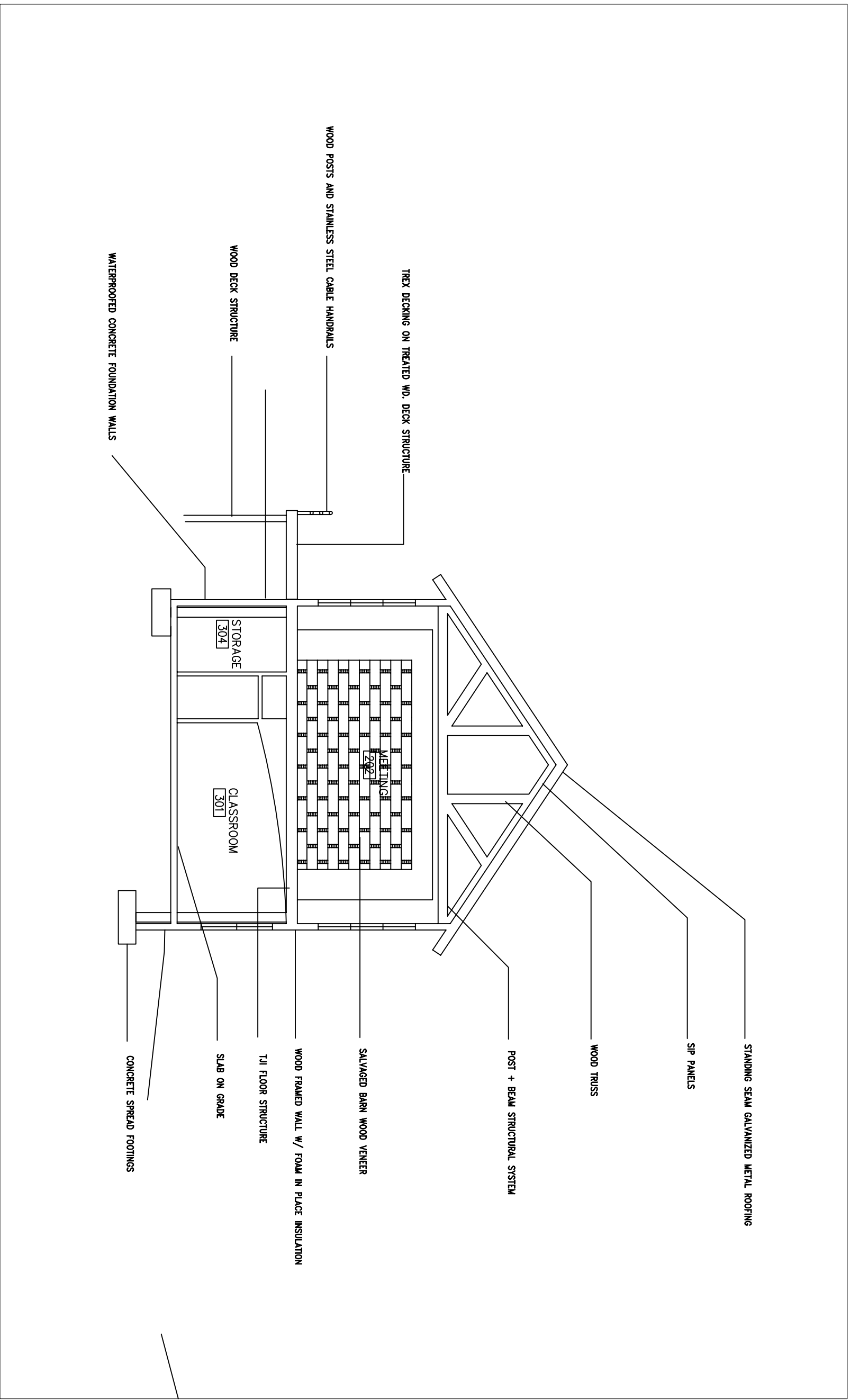
SCALE 3/32" = 1'-0"

October 7, 2007



Okehocking

EAST ELEVATION
SCALE 3/32" = 1'-0"
October 7, 2007



STANDING SEAM GALVANIZED METAL ROOFING

SIP PANELS

WOOD TRUSS

POST + BEAM STRUCTURAL SYSTEM

SALVAGED BARN WOOD VENEER

WOOD FRAMED WALL W/ FOAM IN PLACE INSULATION

TJI FLOOR STRUCTURE

SLAB ON GRADE

CONCRETE SPREAD FOOTINGS

TREX DECKING ON TREATED WD. DECK STRUCTURE

WOOD POSTS AND STAINLESS STEEL CABLE HANDRAILS

WOOD DECK STRUCTURE

WATERPROOFED CONCRETE FOUNDATION WALLS

STORAGE
304

MEETING
292

CLASSROOM
301

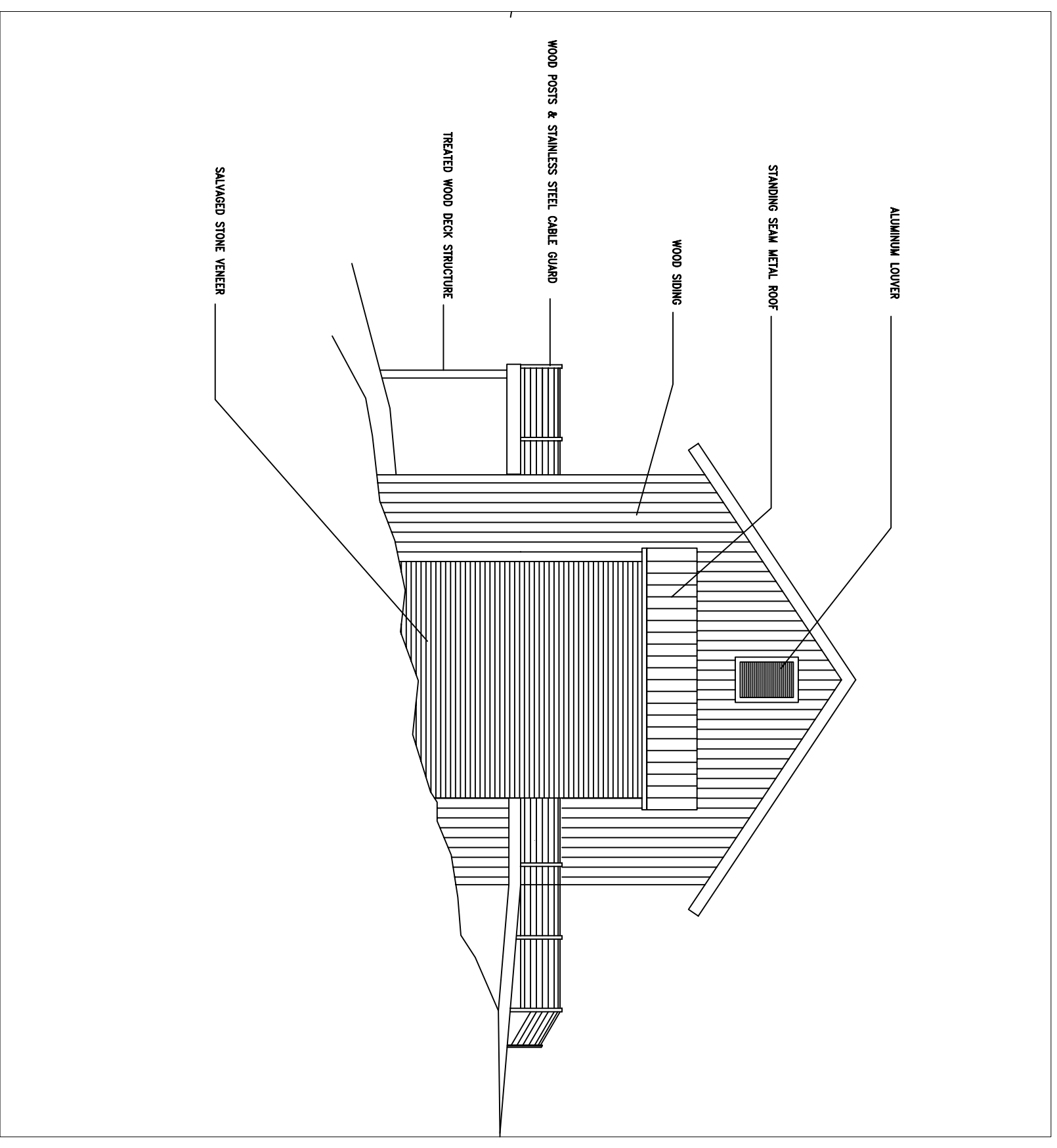
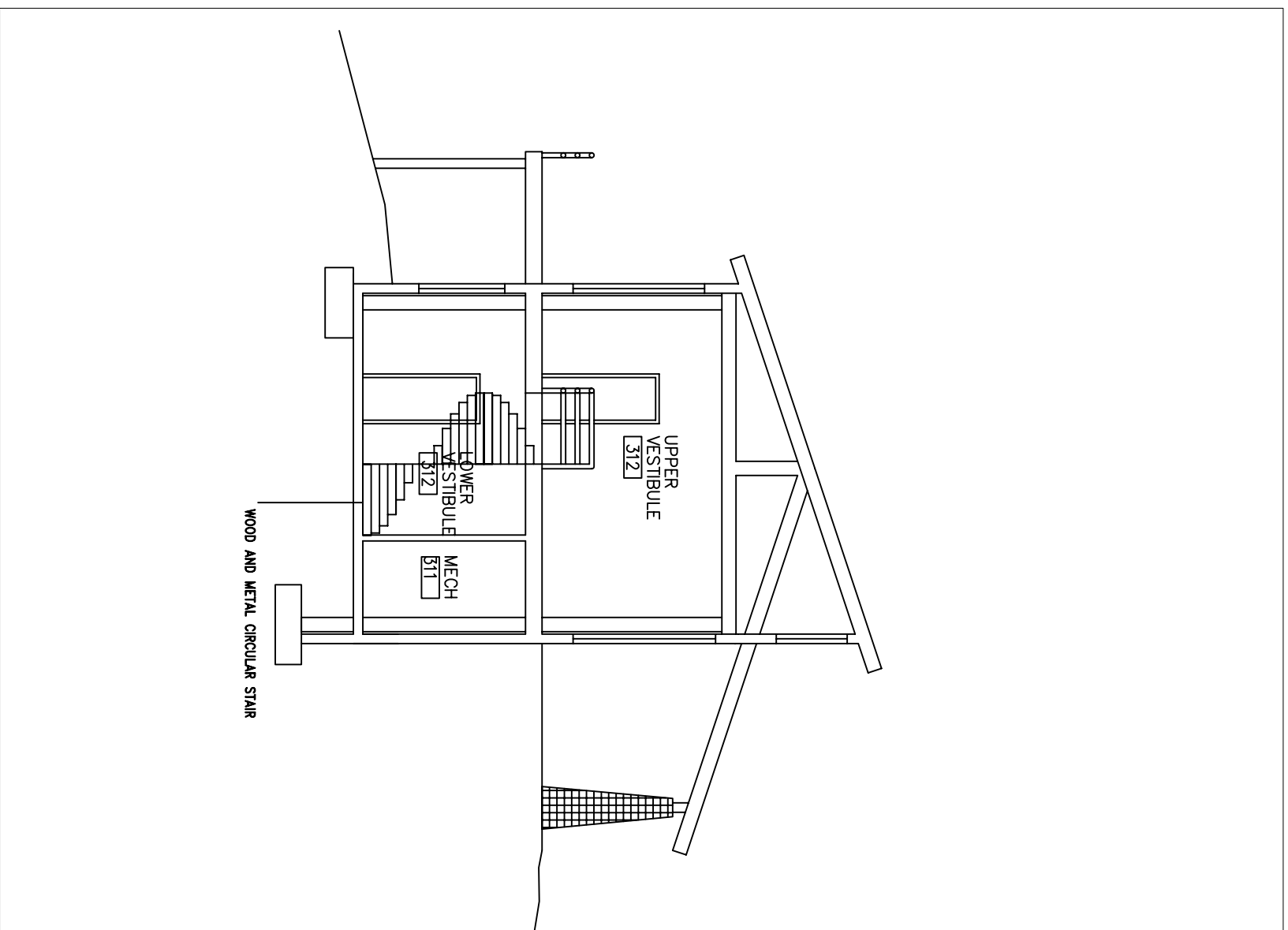
Okehocking

SECTION THROUGH VESTIBULE

WEST ELEVATION

SCALE 3/32" = 1'-0"

October 7, 2007



Okehocking

SECTION THROUGH VESTIBULE

WEST ELEVATION

SCALE 3/32" = 1'-0"

October 7, 2007