

Boxley Grist Mill
1 mile North of Boxley on
Arkansas Highway 43
Buffalo National River
Ponca
Newton County
Arkansas

HAER No. AR-3

HAER
ARK,
51-PON,
1-

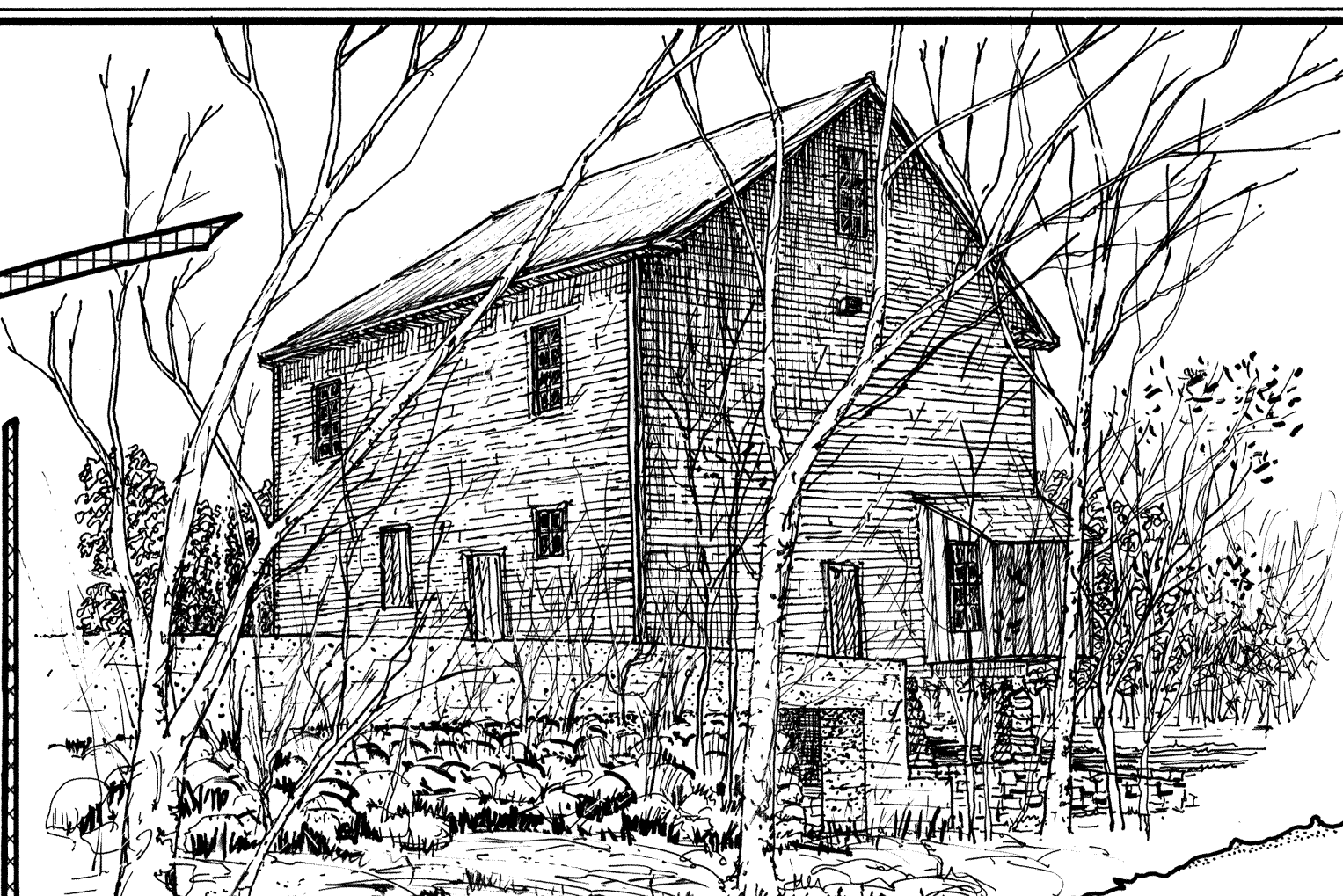
REDUCED COPIES OF MEASURED DRAWINGS

Historic American Engineering Record
U.S. Department of the Interior
National Park Service
Washington, D.C. 20013-7127

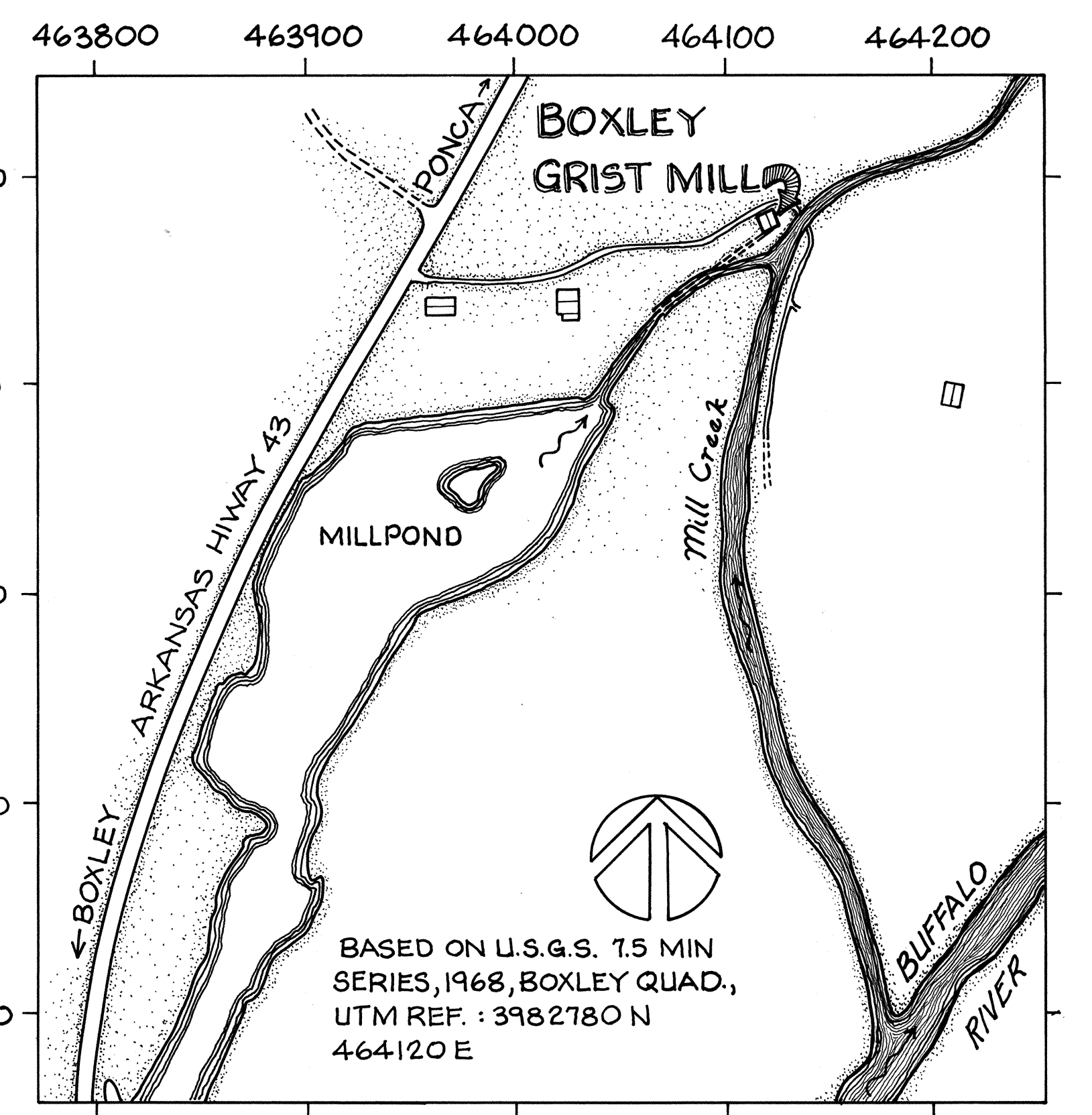
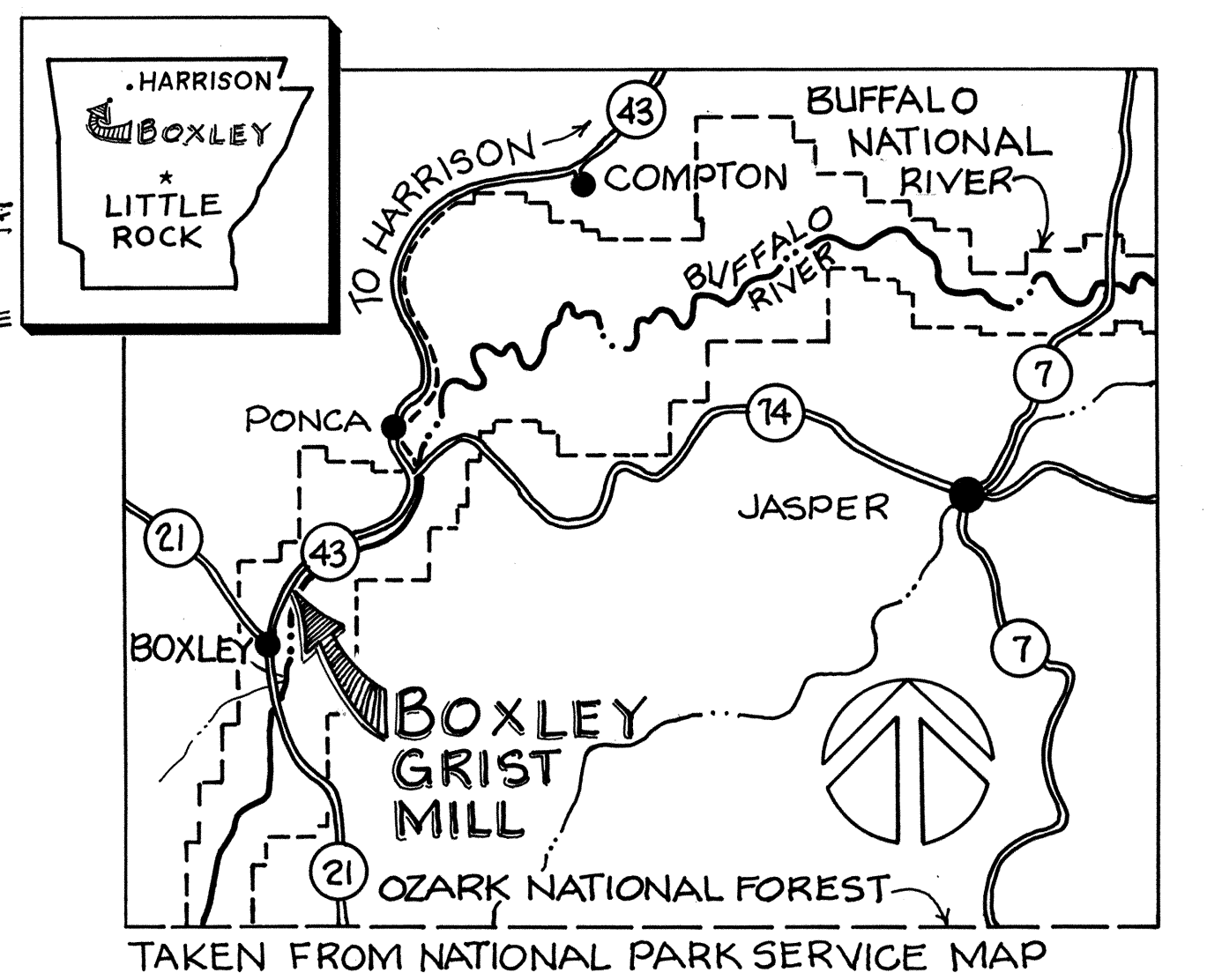
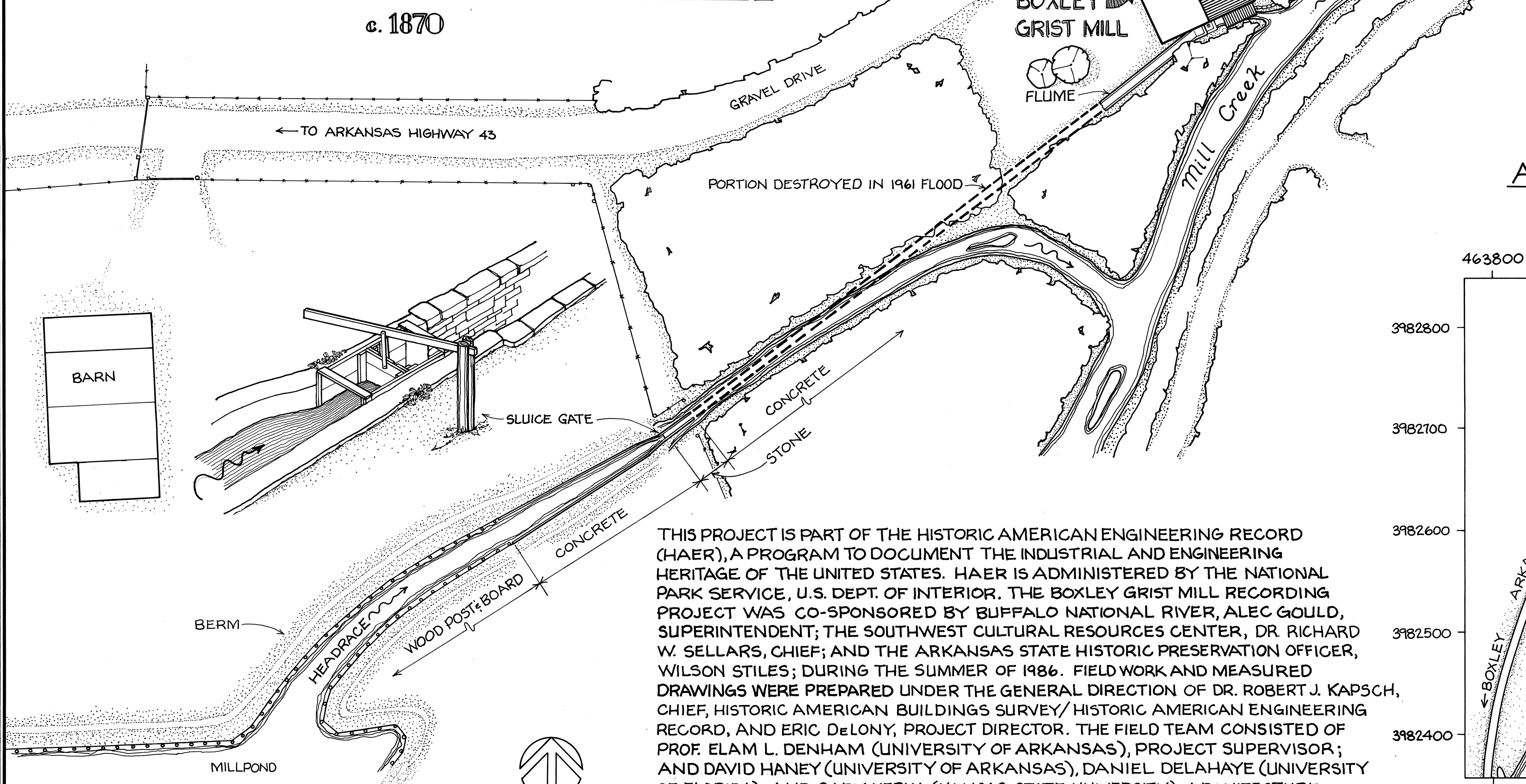
BOXLEY GRIST MILL

PONCA, ARKANSAS

c. 1870

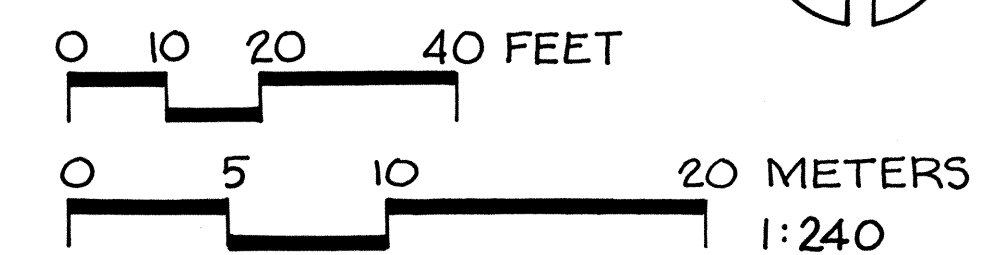


THE BOXLEY GRIST MILL IS AN EXAMPLE OF A ONCE COMMON INDUSTRY WHICH PROVIDED CUSTOM MILLING SERVICES IN RURAL AREAS. THE MILL, THOUGH DETERIORATED, STILL RETAINS THE MILLPOND, RACEWAYS, MACHINERY & EQUIPMENT NECESSARY FOR A SMALL BUT IMPORTANT MULTI-PURPOSE INDUSTRY. LIKE MOST MILLS, BOXLEY MILL WAS SUBSTANTIALLY MODIFIED OVER ITS 91 YEARS OF OPERATION. THE MILL EXTANT TODAY DATES FROM c. 1870 WHEN IT WAS REBUILT BY THE VILLINES FAMILY. A WOODEN, OVER-SHOT WATER WHEEL WAS REPLACED BY A METAL TURBINE WHEN THE MILL WAS CONVERTED TO A ROLLER MILL GRINDING PROCESS. A SINGLE PAIR OF MILLSTONES CONTINUED TO BE USED TO GRIND CORN MEAL UNTIL THE 1960'S WHEN THE MILLS HISTORY OF COMMUNITY SERVICE ENDED. AT THE TIME OF DOCUMENTATION THE MILL WAS BEING STABILIZED BY THE NATIONAL PARK SERVICE.



SITE PLAN

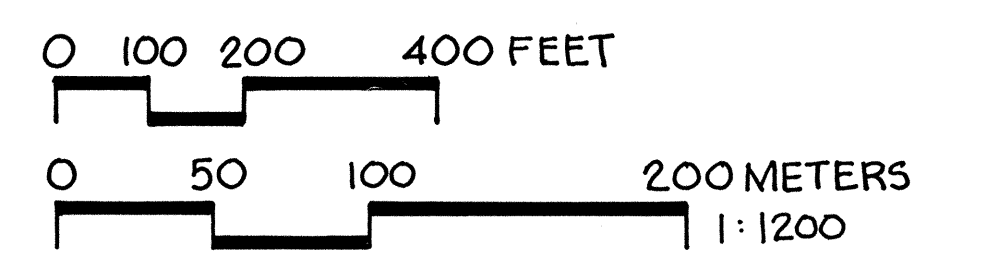
SCALE: 1"=20'-0"



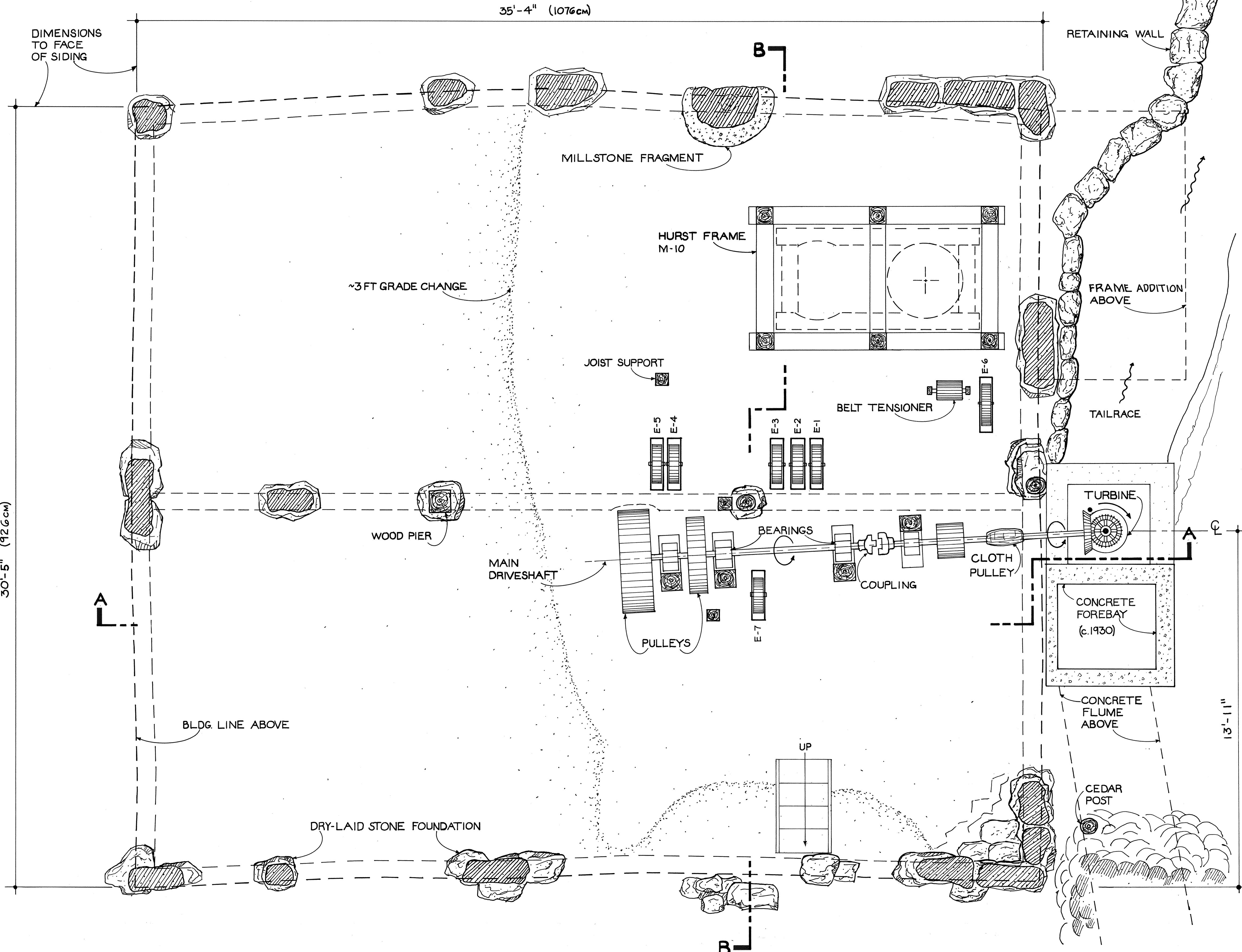
THIS PROJECT IS PART OF THE HISTORIC AMERICAN ENGINEERING RECORD (HAER), A PROGRAM TO DOCUMENT THE INDUSTRIAL AND ENGINEERING HERITAGE OF THE UNITED STATES. HAER IS ADMINISTERED BY THE NATIONAL PARK SERVICE, U.S. DEPT. OF INTERIOR. THE BOXLEY GRIST MILL RECORDING PROJECT WAS CO-SPONSORED BY BUFFALO NATIONAL RIVER, ALEC GOULD, SUPERINTENDENT; THE SOUTHWEST CULTURAL RESOURCES CENTER, DR. RICHARD W. SELLARS, CHIEF; AND THE ARKANSAS STATE HISTORIC PRESERVATION OFFICER, WILSON STILES; DURING THE SUMMER OF 1986. FIELD WORK AND MEASURED DRAWINGS WERE PREPARED UNDER THE GENERAL DIRECTION OF DR. ROBERT J. KAPSCH, CHIEF, HISTORIC AMERICAN BUILDINGS SURVEY/HISTORIC AMERICAN ENGINEERING RECORD, AND ERIC DeLONY, PROJECT DIRECTOR. THE FIELD TEAM CONSISTED OF PROF. ELAM L. DENHAM (UNIVERSITY OF ARKANSAS), PROJECT SUPERVISOR; AND DAVID HANEY (UNIVERSITY OF ARKANSAS), DANIEL DELAHAYE (UNIVERSITY OF FLORIDA), AND GARY KEPKA (KANSAS STATE UNIVERSITY), ARCHITECTURE TECHNICIANS. CHARLES HOWELL, MILLER, SLEEPY HOLLOW RESTORATIONS (TARRYTOWN, N.Y.), AND JEFFREY BROWN, HISTORIC STRUCTURES CONSULTANTS (CAMBRIDGE, MA) PROVIDED INVALUABLE CONSULTING SERVICES ON THE MILLING PROCESS AND STRUCTURAL FRAMING.

VICINITY MAP

SCALE: 1"=200'-0"



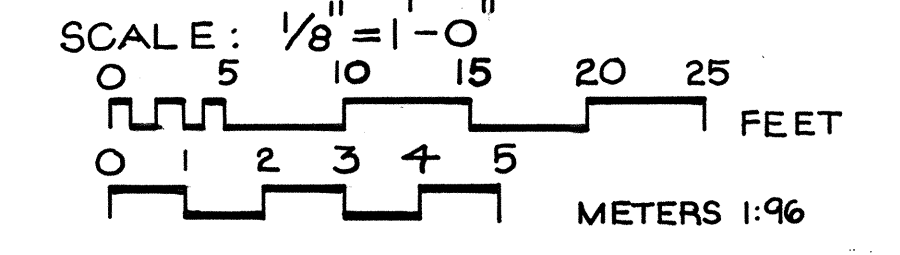
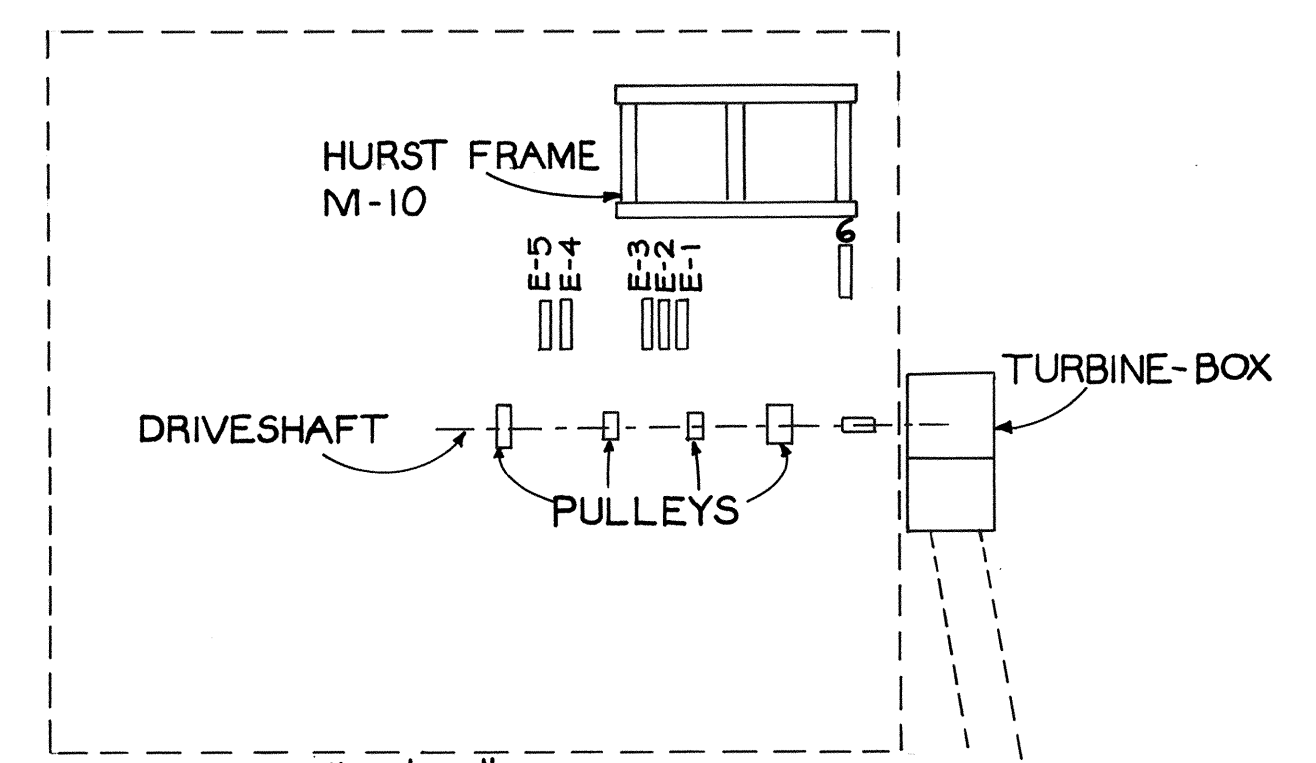
HISTORIC AMERICAN ENGINEERING RECORD AR-3
 SHEET 1 of 20
 ARKANSAS
 BOXLEY GRIST MILL c. 1870
 ONE MILE NORTH OF BOXLEY ON ARKANSAS HIGHWAY 43
 NEWTON COUNTY
 PONCA
 DELINEATED BY: GARY KEPKA, 1986
 BOXLEY GRIST MILL RECORDING PROJECT
 HISTORIC AMERICAN ENGINEERING RECORD
 UNITED STATES DEPARTMENT OF THE INTERIOR
 IF REPRODUCED, PLEASE CREDIT: HISTORIC AMERICAN ENGINEERING RECORD, NATIONAL PARK SERVICE, NAME OF DELINEATOR, DATE OF THE DRAWING



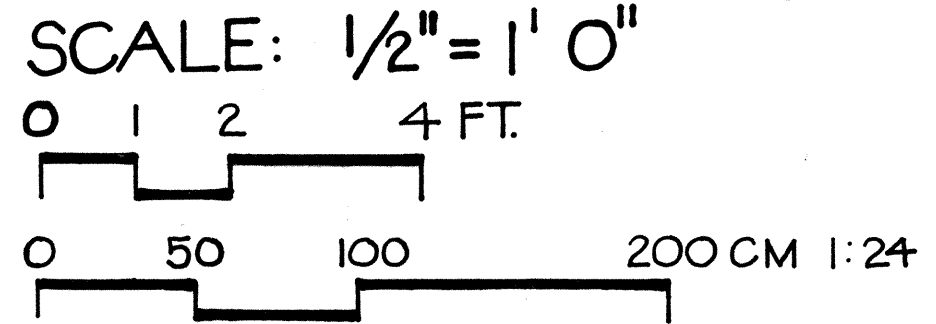
- EQUIPMENT KEY:**
- E-1 ELEVATOR-ROLLER PROCESS
 - E-2 ELEVATOR-ROLLER PROCESS
 - E-3 ELEVATOR-ROLLER PROCESS
 - E-4 ELEVATOR-ROLLER PROCESS
 - E-5 ELEVATOR-ROLLER PROCESS
 - E-6 ELEVATOR-CORN PROCESS
 - E-7 ELEVATOR-HAMMERMILL PROCESS
 - M-1 EUREKA WHEAT SCOURER-VERTICAL
 - M-2 EUREKA WHEAT SCOURER-HORIZONTAL
 - M-3 BREAK ROLLER STAND
 - M-4 REDUCTION ROLLER STAND
 - M-5 HEXAGONAL REEL BOLTER
 - M-6 HEXAGONAL REEL BOLTER
 - M-7 ROUND REEL BOLTER
 - M-8 ROUND REEL BOLTER
 - M-9 MILLSTONES
 - M-10 HURST FRAME
 - M-11 TURBINE
 - BIN-1 FLOUR
 - BIN-2 FLOUR
 - BIN-3 CLEAN WHEAT
 - BIN-4 CLEAN WHEAT
 - BIN-5 HUSK CORN
 - BIN-6 FEED
 - BIN-7 HAMMERMILL LOADER
 - BIN-8 HAMMERMILL SACKER

- LEGEND:**
- MISSING ELEMENT
 - - - - - RECONSTRUCTED OR OVERHEAD ELEMENT
 - FLOOR PATCH OR BOARD LINE
 - ▨ ELEVATOR SHAFTS OR CHUTES
 - ▩ OPENING IN FLOOR
 - ▧ WOOD STRUCTURAL MEMBER

SCHEMATIC RECONSTRUCTION PLAN ROLLER MILL EQUIPMENT (c. 1890)



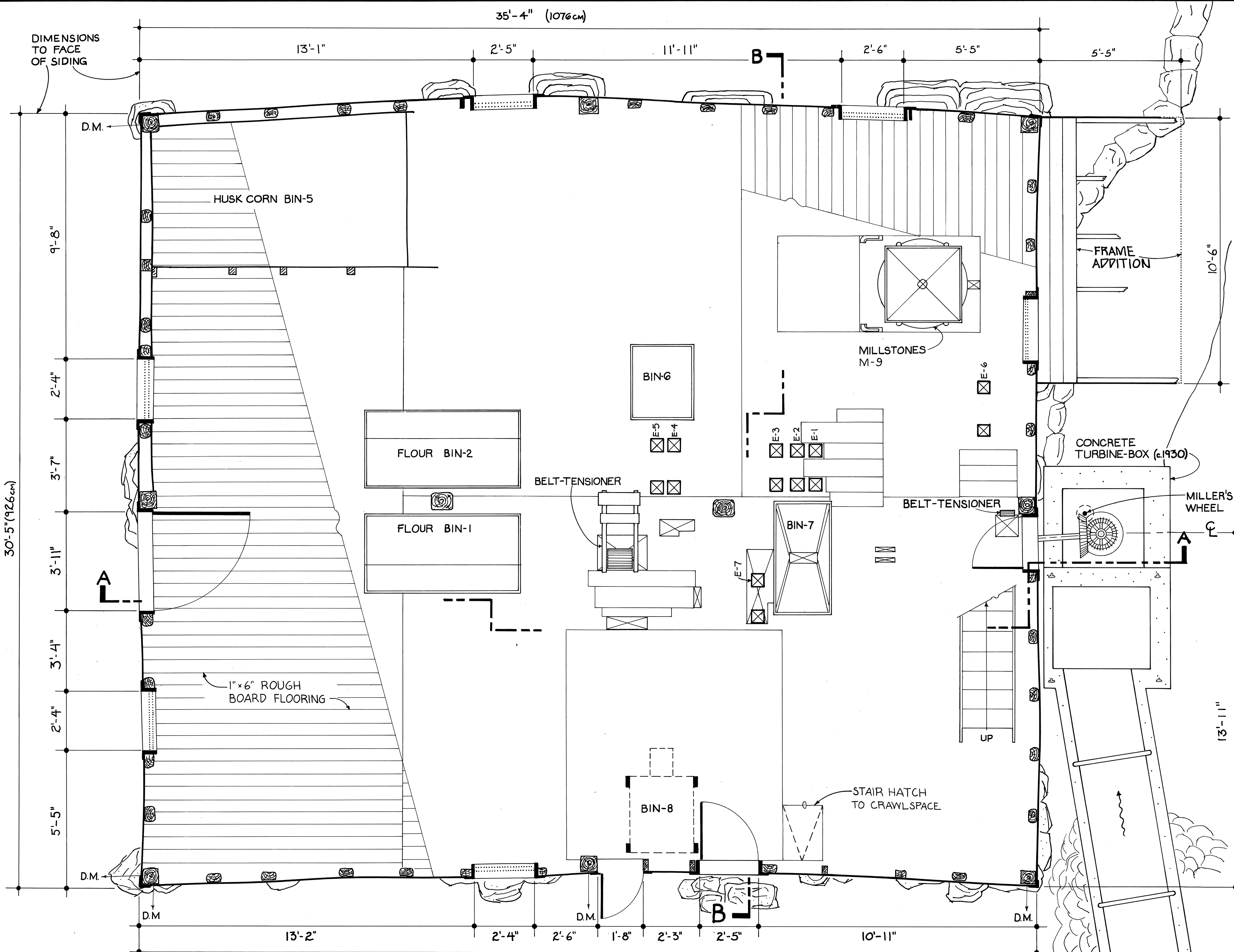
GROUND PLAN



30'-5" (926cm)

35'-4" (1076cm)

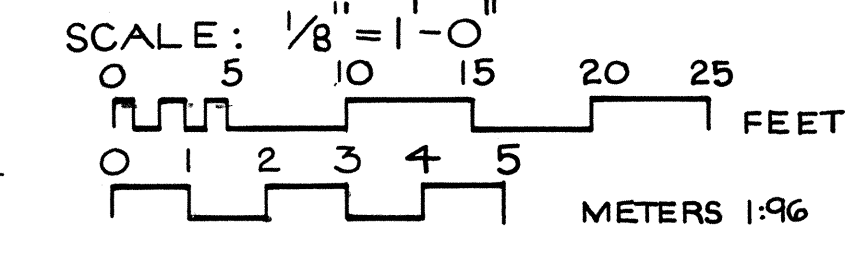
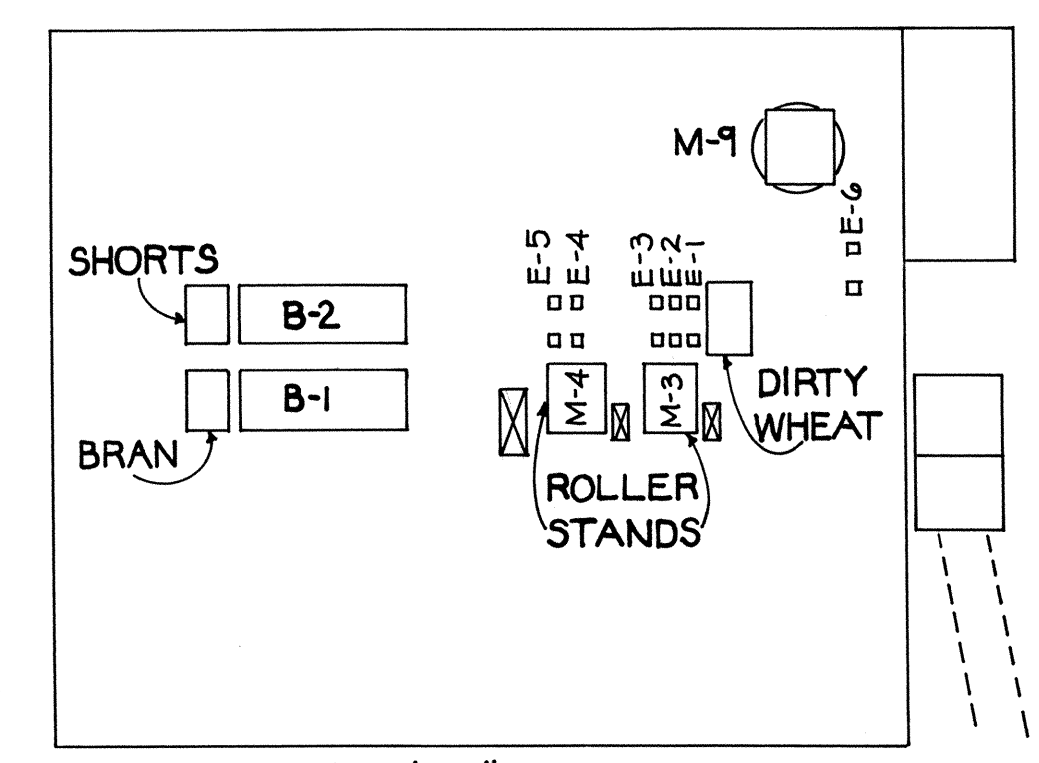
13'-11"



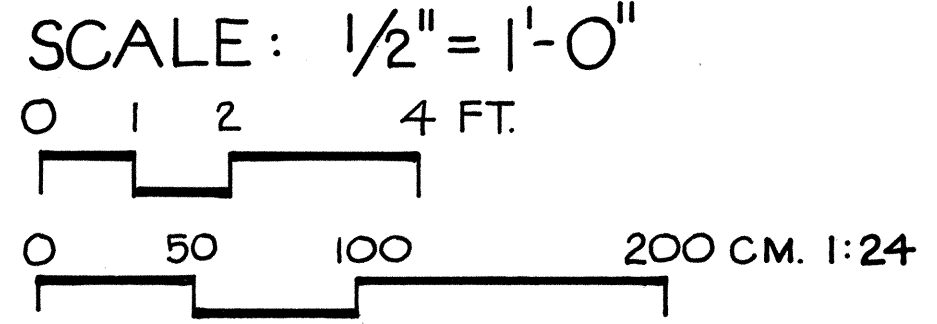
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 - ⊗ OPENING IN FLOOR
 - ⊗ WOOD STRUCTURAL MEMBER

SCHEMATIC RECONSTRUCTION PLAN
ROLLER MILL EQUIPMENT (c.1890)

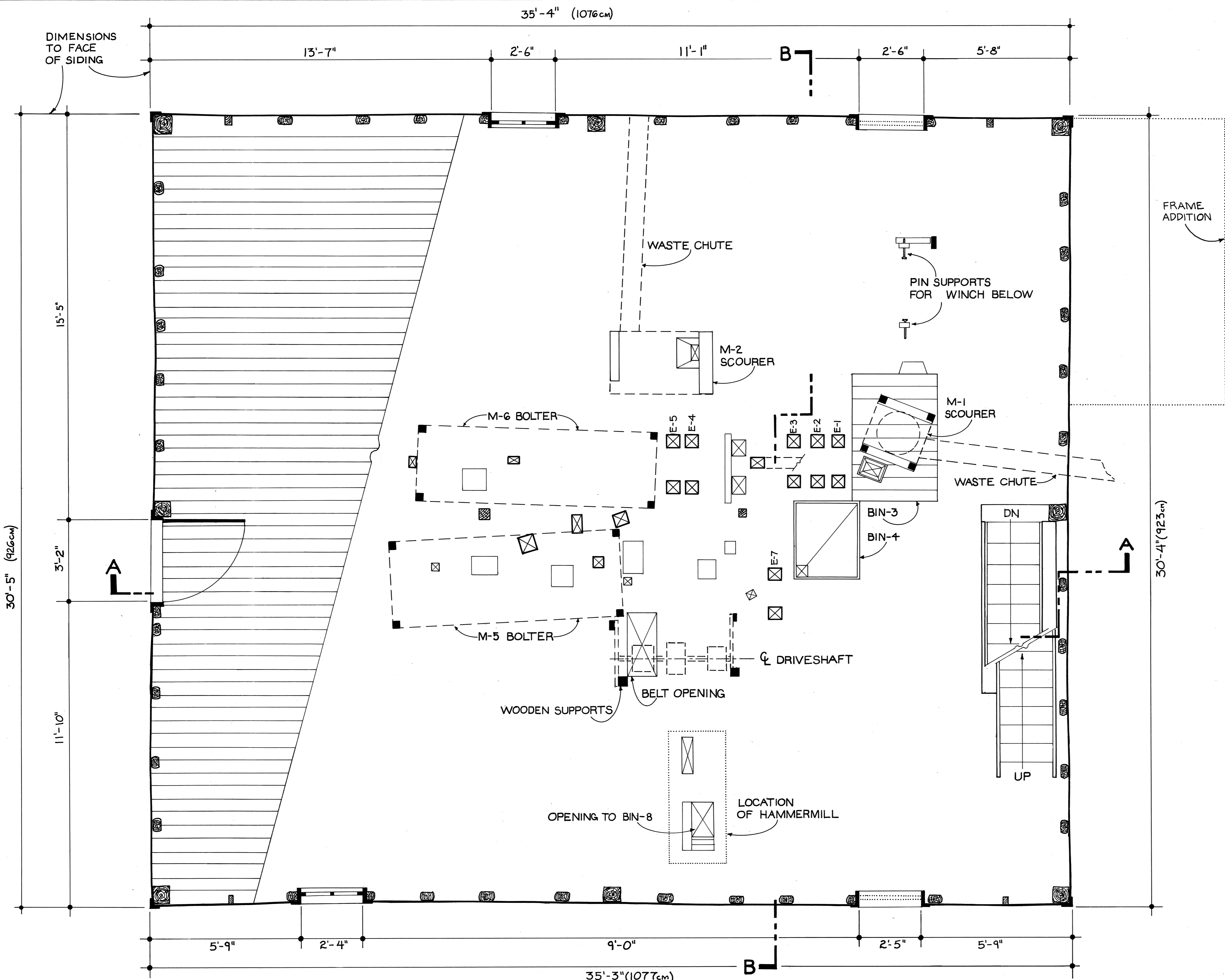


FIRST FLOOR PLAN



D.M. INDICATES THE GENERAL LOCATION OF CONCRETE DEADMEN TO WHICH WIRE CABLES ANCHORED THE MILL BUILDING TO THE GROUND.

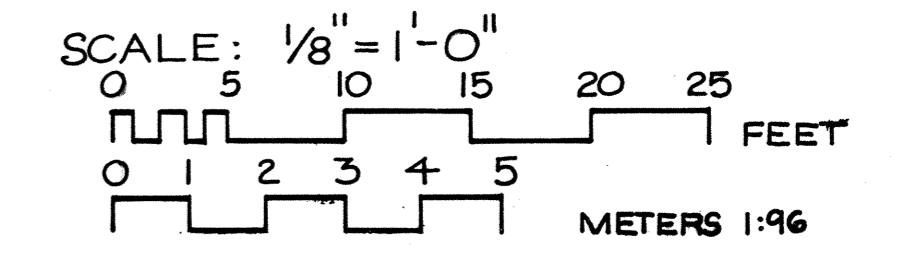
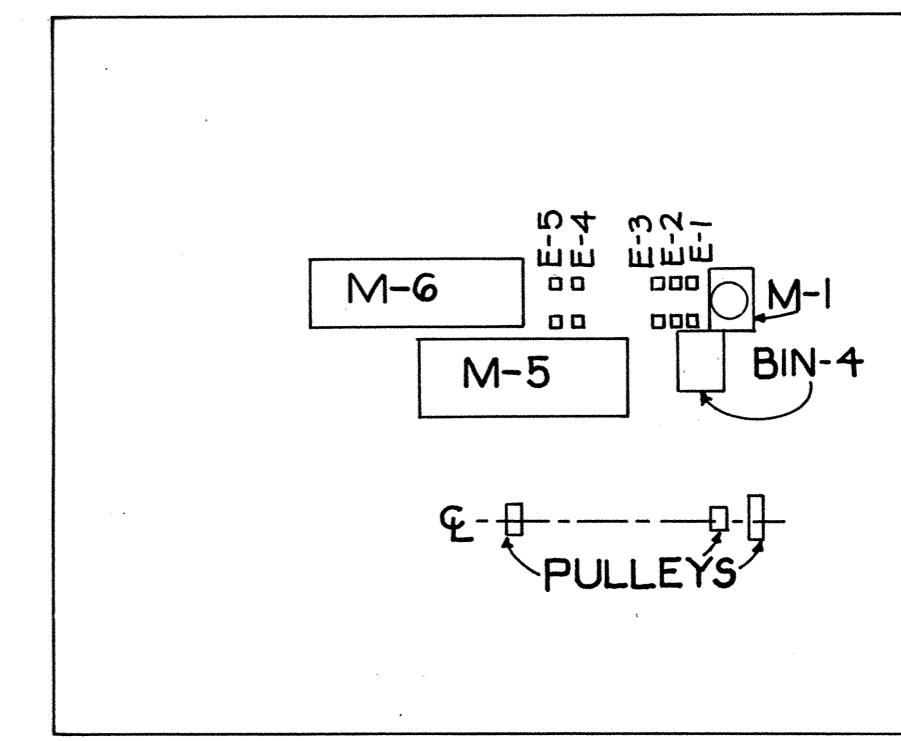
SIMULTANEOUS TO HAER DOCUMENTATION OF THE SITE, A TEAM FROM THE DIVISION OF CONSERVATION, SOUTHWEST CULTURAL RESOURCES CENTER, STABILIZED THE MILL. THIS WORK WAS COMPLETED UNDER THE SUPERVISION OF PRESERVATION SPECIALIST DOUG HICKS, AND HISTORICAL ARCHITECT TOM VITANZA.



- EQUIPMENT KEY:**
- | | | |
|-------|---------------------------------|--------------|
| E-1 | ELEVATOR—ROLLER | PROCESS |
| E-2 | ELEVATOR—ROLLER | PROCESS |
| E-3 | ELEVATOR—ROLLER | PROCESS |
| E-4 | ELEVATOR—ROLLER | PROCESS |
| E-5 | ELEVATOR—ROLLER | PROCESS |
| E-6 | ELEVATOR—CORN | PROCESS |
| E-7 | ELEVATOR—HAMMERMILL | PROCESS |
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| M-3 | BREAK | ROLLER STAND |
| M-4 | REDUCTION | ROLLER STAND |
| M-5 | HEXAGONAL | REEL BOLTER |
| M-6 | HEXAGONAL | REEL BOLTER |
| M-7 | ROUND | REEL BOLTER |
| M-8 | ROUND | REEL BOLTER |
| M-9 | MILLSTONES | |
| M-10 | HURST FRAME | |
| M-11 | TURBINE | |
| BIN-1 | FLOUR | |
| BIN-2 | FLOUR | |
| BIN-3 | CLEAN WHEAT | |
| BIN-4 | CLEAN WHEAT | |
| BIN-5 | HUSK CORN | |
| BIN-6 | FEED | |
| BIN-7 | HAMMERMILL LOADER | |
| BIN-8 | HAMMERMILL SACKER | |

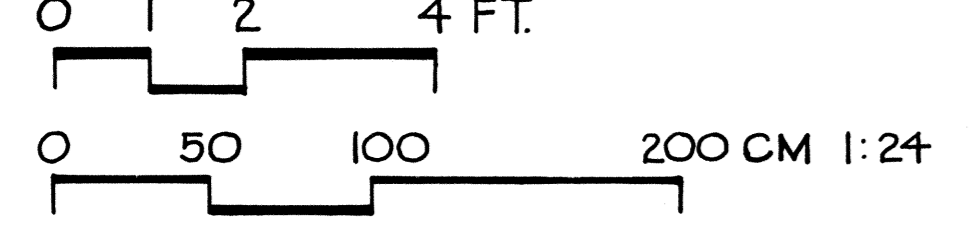
- LEGEND:**
- MISSING ELEMENT
 - - - - RECONSTRUCTED OR OVERHEAD ELEMENT
 - FLOOR PATCH OR BOARD LINE
 - ⊗ ELEVATOR SHAFTS OR CHUTES
 - ⊠ OPENING IN FLOOR
 - ▣ WOOD STRUCTURAL MEMBER

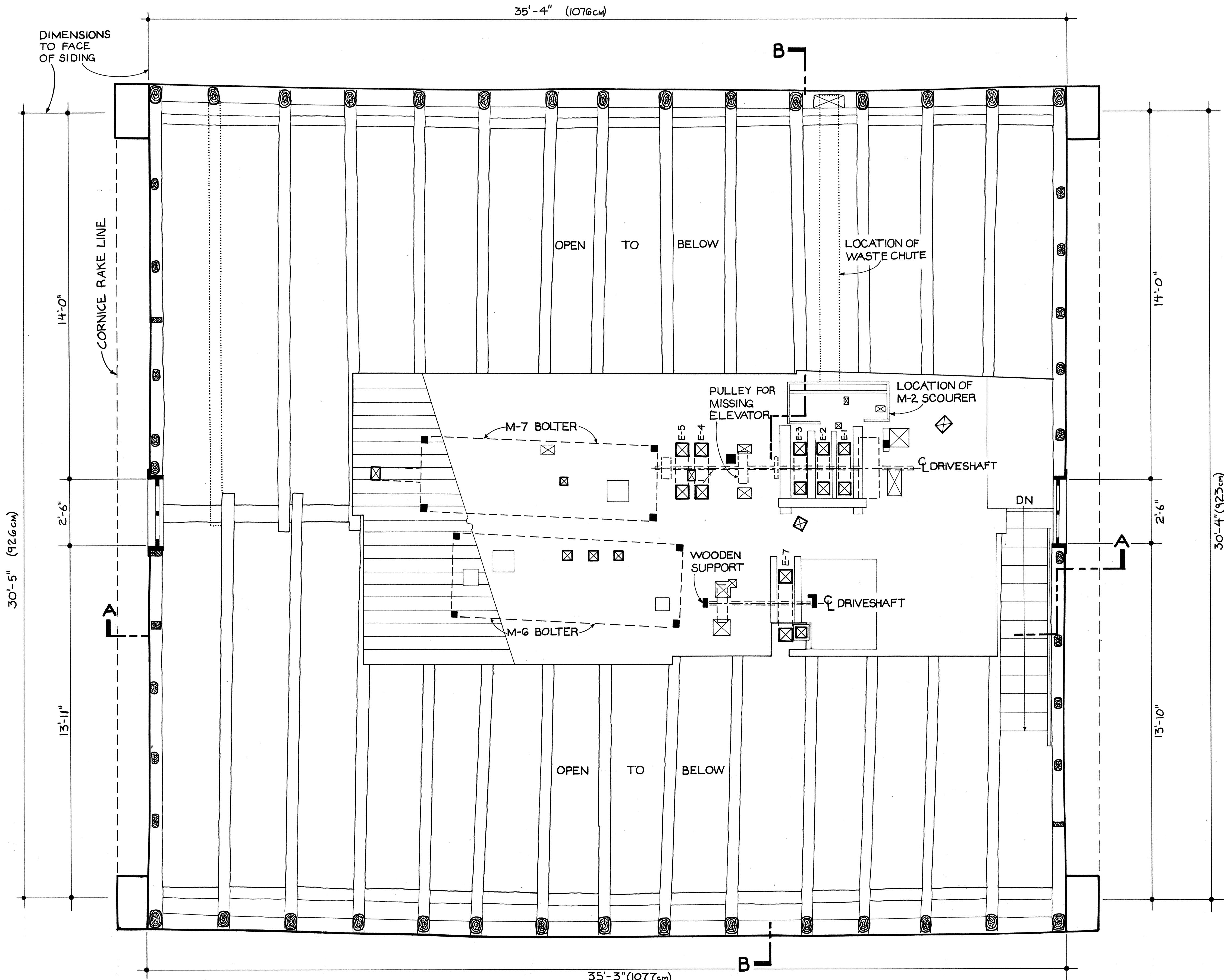
SCHEMATIC RECONSTRUCTION PLAN ROLLER MILL EQUIPMENT (c.1890)



SECOND FLOOR

SCALE: 1/2" = 1'-0"





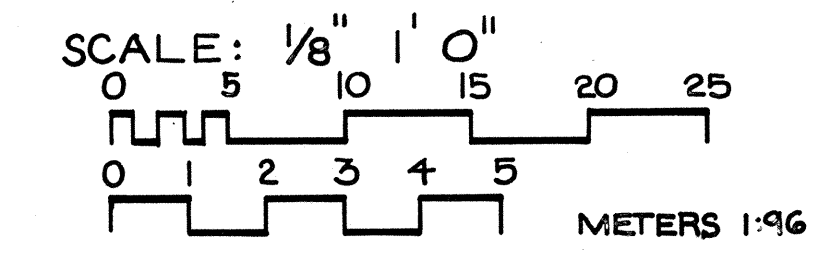
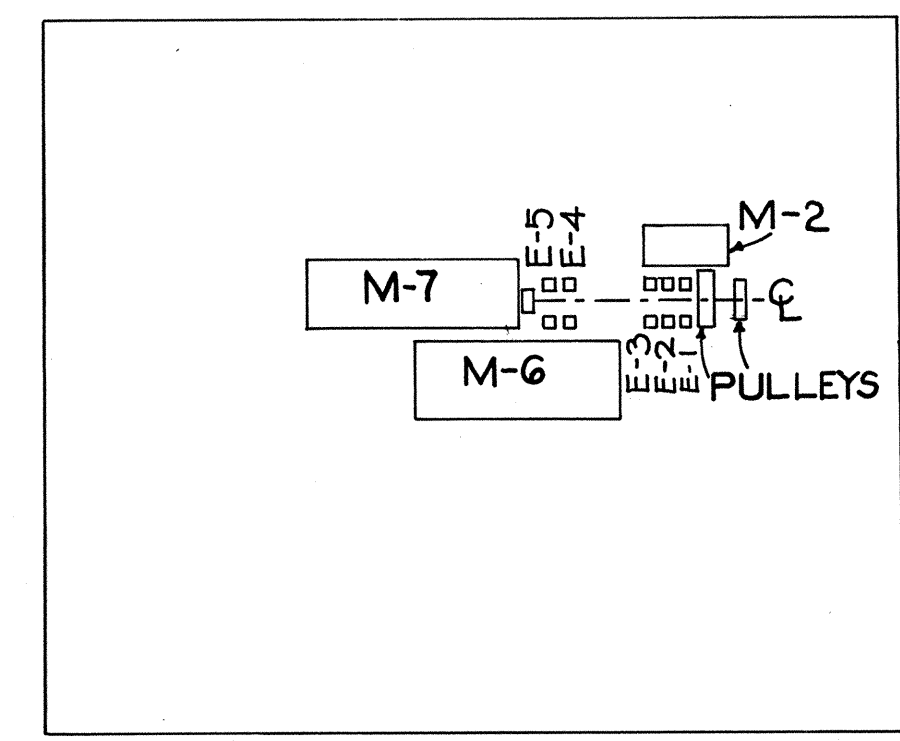
EQUIPMENT KEY

| | | |
|-------|----------------------|--------------|
| E-1 | ELEVATOR—ROLLER | PROCESS |
| E-2 | ELEVATOR—ROLLER | PROCESS |
| E-3 | ELEVATOR—ROLLER | PROCESS |
| E-4 | ELEVATOR—ROLLER | PROCESS |
| E-5 | ELEVATOR—ROLLER | PROCESS |
| E-6 | ELEVATOR—CORN | PROCESS |
| E-7 | ELEVATOR—HAMMERMILL | PROCESS |
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| M-7 | ROUND | REEL BOLTER |
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| BIN-6 | FEED | |
| BIN-7 | HAMMERMILL LOADER | |
| BIN-8 | HAMMERMILL SACKER | |

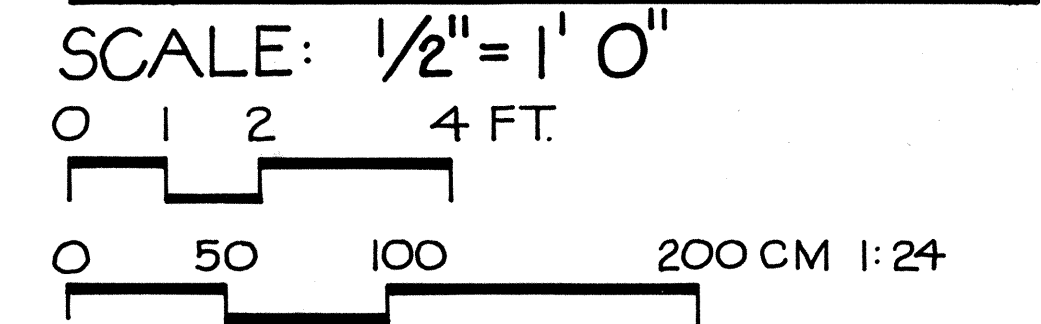
LEGEND:

- MISSING ELEMENT
- RECONSTRUCTED OR OVERHEAD ELEMENT
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- ⊗ ELEVATOR SHAFTS OR CHUTES
- ⊠ OPENING IN FLOOR
- ▣ WOOD STRUCTURAL MEMBER

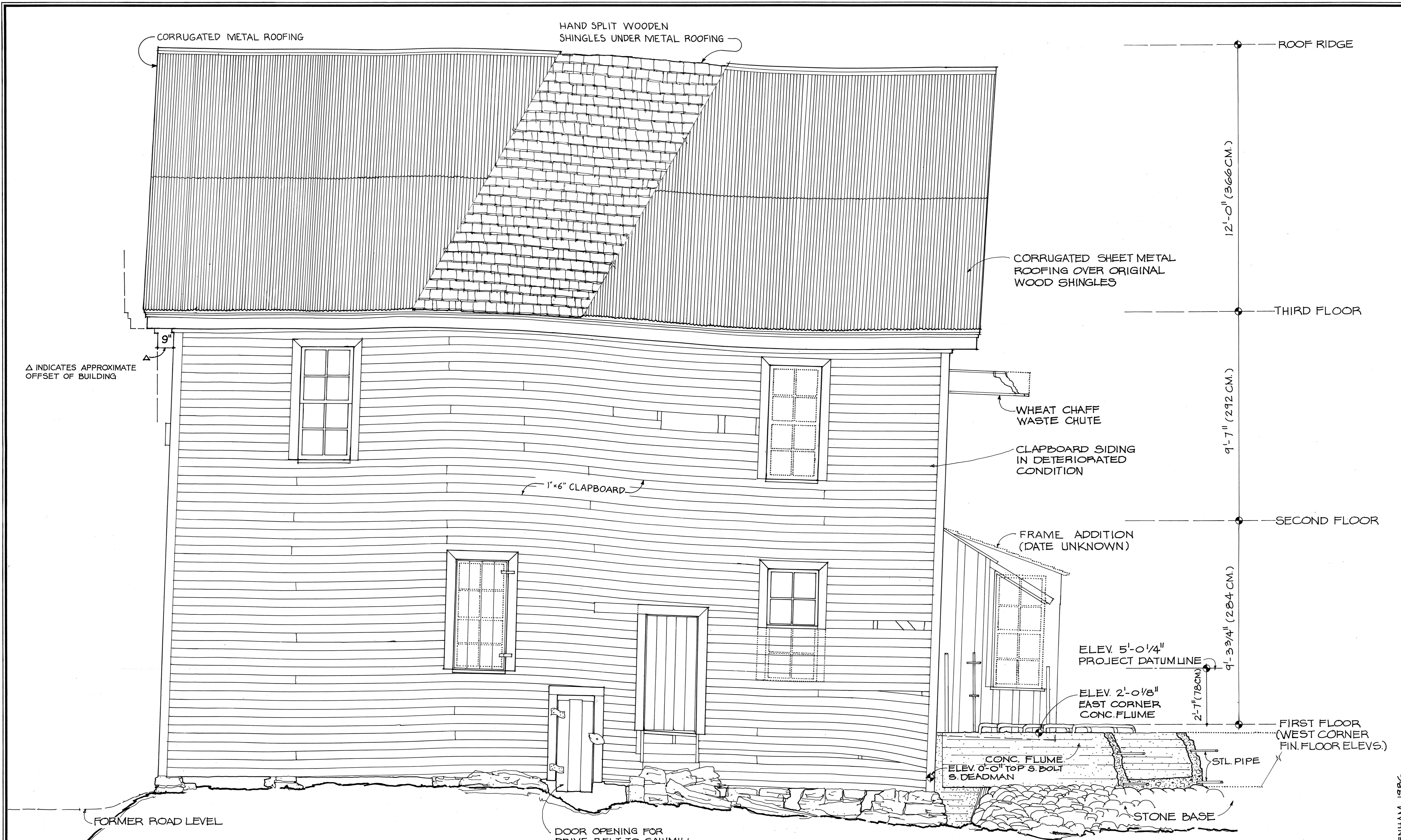
SCHEMATIC RECONSTRUCTION PLAN ROLLER MILL EQUIPMENT (c.1890)



THIRD FLOOR PLAN



DELINEATED BY: DAVID HANEY, 1986
 BOXLEY GRIST MILL RECORDING PROJECT
 HISTORIC AMERICAN ENGINEERING RECORD
 UNITED STATES DEPARTMENT OF THE INTERIOR
 P. ONCA
 BOXLEY GRIST MILL C. 1870
 ONE MILE NORTH OF BOXLEY ON ARKANSAS HIGHWAY 43
 NEWTON COUNTY ARKANSAS
 SHEET 5 OF 20
 HISTORIC AMERICAN ENGINEERING RECORD AR-3



Δ INDICATES APPROXIMATE OFFSET OF BUILDING

CORRUGATED METAL ROOFING

HAND SPLIT WOODEN SHINGLES UNDER METAL ROOFING

ROOF RIDGE

12'-0" (366CM.)

THIRD FLOOR

9'-7" (292CM.)

SECOND FLOOR

9'-3 3/4" (284CM.)

FIRST FLOOR (WEST CORNER FIN. FLOOR ELEV.)

ELEV. 5'-0 1/4" PROJECT DATUM LINE

ELEV. 2'-0 1/8" EAST CORNER CONC. FLUME

CONC. FLUME ELEV. 0'-0" TOP 3. BOLT & DEADMAN

STL. PIPE

STONE BASE

CORRUGATED SHEET METAL ROOFING OVER ORIGINAL WOOD SHINGLES

WHEAT CHAFF WASTE CHUTE

CLAPBOARD SIDING IN DETERIORATED CONDITION

FRAME ADDITION (DATE UNKNOWN)

1"x6" CLAPBOARD

9"

FORMER ROAD LEVEL

EXISTING ROAD LEVEL

DOOR OPENING FOR DRIVE BELT TO SAWMILL (EARLY 20TH C.)

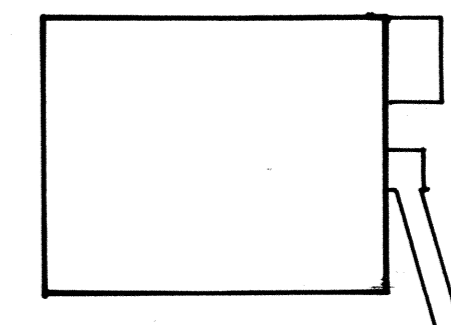
LEGEND:
..... MISSING ELEMENT

SOUTHWEST ELEVATION

SCALE: 1/2" = 1'-0"

0 1 2 4 FT.

0 50 100 200CM. 1:24



KEY PLAN

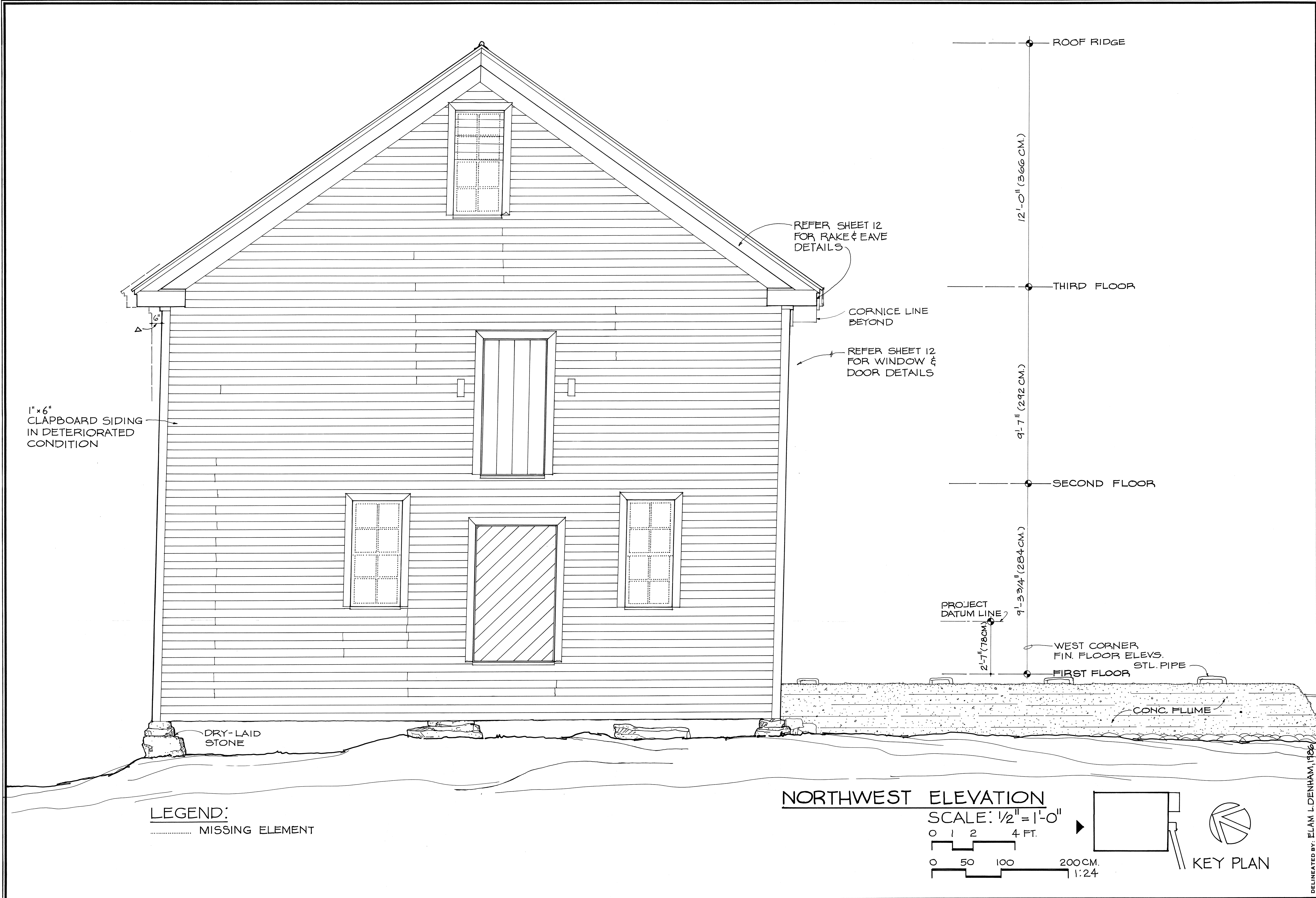
DELINEATED BY: ELAM L. DENHAM, 1986
BOXLEY GRIST MILL RECORDING PROJECT
HISTORIC AMERICAN ENGINEERING RECORD
UNITED STATES DEPARTMENT OF THE INTERIOR

BOXLEY GRIST MILL C. 1870
ONE MILE NORTH OF BOXLEY ON ARKANSAS HIGHWAY 43
NEWTON COUNTY ARKANSAS

SHEET 6 OF 20
HISTORIC AMERICAN ENGINEERING RECORD

AR-3

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LEGEND:
 MISSING ELEMENT

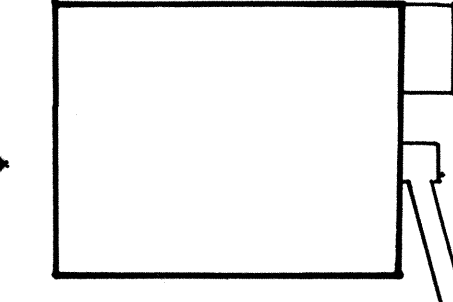
NORTHWEST ELEVATION

SCALE: 1/2" = 1'-0"

0 1 2 4 FT.

0 50 100 200 CM.

1:24



KEY PLAN

DELINEATED BY: ELAM L. DENHAM, 1266
 BOXLEY GRIST MILL RECORDING PROJECT
 HISTORIC AMERICAN ENGINEERING RECORD
 UNITED STATES DEPARTMENT OF THE INTERIOR
 PONCA
 BOXLEY GRIST MILL C. 1870
 ONE MILE NORTH OF BOXLEY ON ARKANSAS HIGHWAY 43
 NEWTON COUNTY ARKANSAS
 SHEET 7 OF 20
 HISTORIC AMERICAN ENGINEERING RECORD
 AR - 3

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ROOF RIDGE

12'-0" (366 CM.)

THIRD FLOOR

9'-7" (292 CM.)

SECOND FLOOR

9'-5 3/4" (284 CM.)

FIRST FLOOR
WEST CORNER
FIN. FLOOR ELEV.

CONC. FLUME

FRAME ADDITION
(DATE UNKNOWN)

BOARD &
BATTEN
SIDING

PROJECT
DATUM LINE

2'-7" (78 CM.)

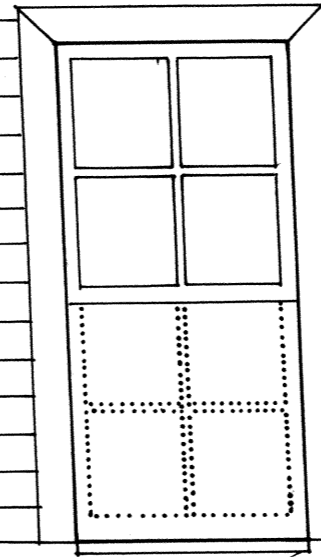
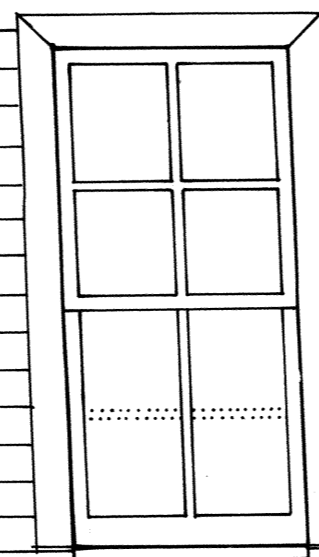
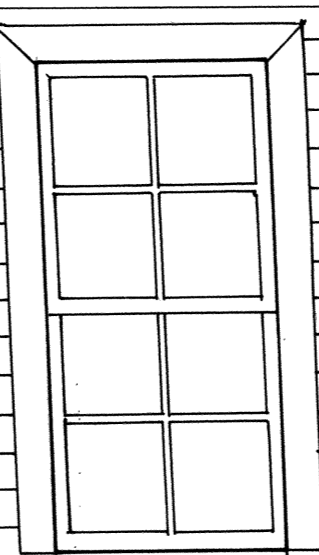
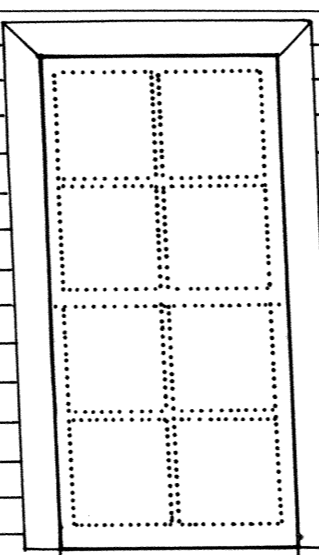
BEVEL GEARS

TURBINE BOX

WHEAT CHAFF
WASTE CHUTE

WHEAT CHAFF
WASTE CHUTE

CORNICE LINE
BEYOND



CHAFF WASTE CHUTE

CORRUGATED SHEET
METAL ROOFING
OVER ORIGINAL
WOOD SHINGLES

CLAPBOARD
SIDING IN
DETERIORATED
CONDITION

HURST
FRAME

DRY-LAID
STONE

MILLSTONE
FRAGMENT

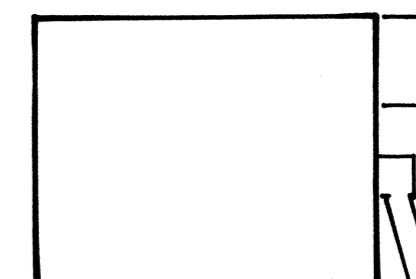
LEGEND:
..... MISSING ELEMENT

NORTHEAST ELEVATION

SCALE: 1/2" = 1'-0"

0 1 2 4 FT.

0 50 100 200 CM.
1:24



KEY PLAN

DELINEATED BY: ELAM L. DENHAM, 1986

BOXLEY GRIST MILL RECORDING PROJECT
HISTORIC AMERICAN ENGINEERING RECORD
UNITED STATES DEPARTMENT OF THE INTERIOR

BOXLEY GRIST MILL C. 1870
ONE MILE NORTH OF BOXLEY ON ARKANSAS HIGHWAY 43
NEWTON COUNTY

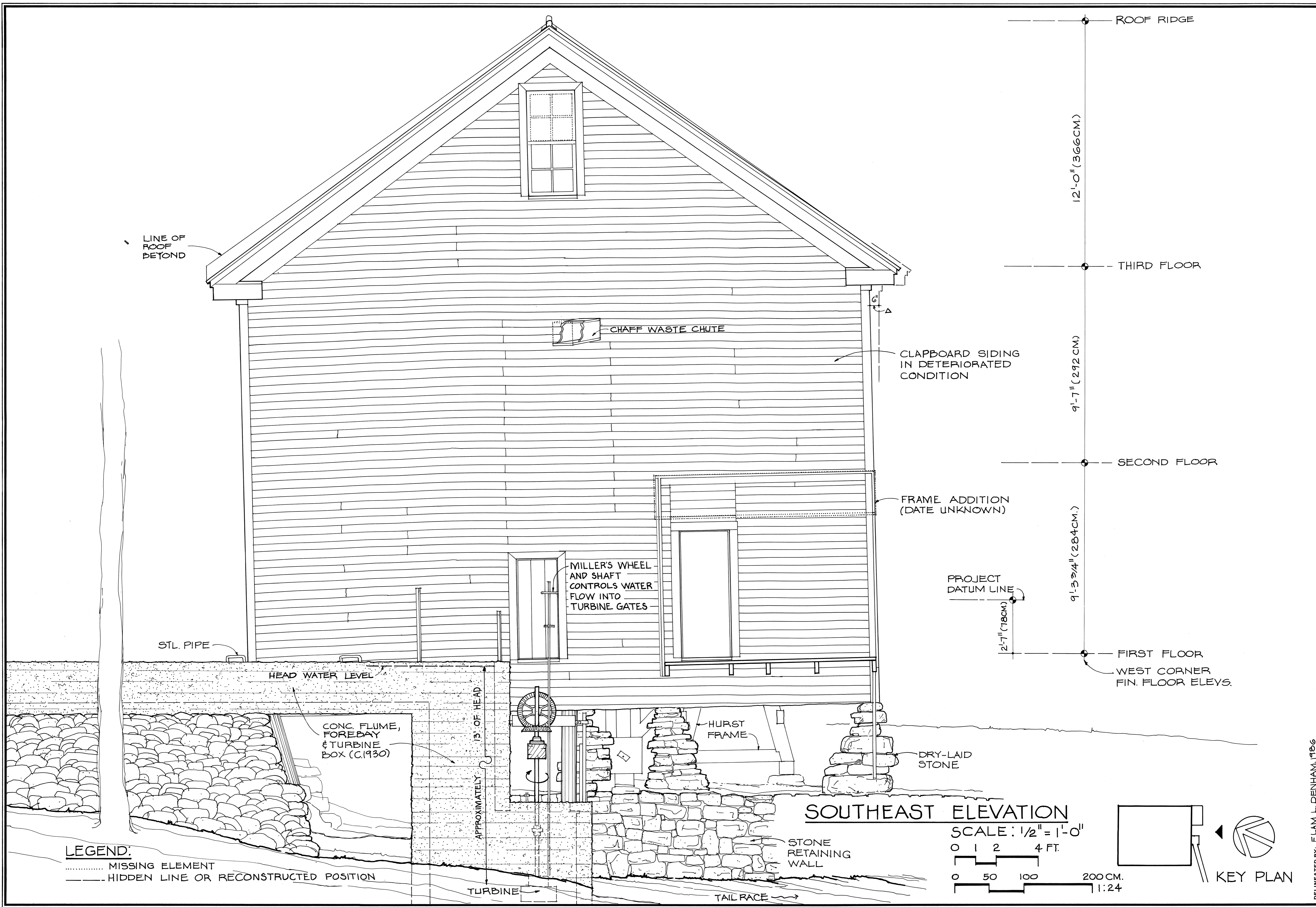
PONCA

ARKANSAS

SHEET
8 OF 20

HISTORIC AMERICAN
ENGINEERING RECORD
AR-3

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LINE OF ROOF BEYOND

CHAFF WASTE CHUTE

CLAPBOARD SIDING IN DETERIORATED CONDITION

FRAME ADDITION (DATE UNKNOWN)

MILLER'S WHEEL AND SHAFT CONTROLS WATER FLOW INTO TURBINE GATES

PROJECT DATUM LINE

STL. PIPE

HEAD WATER LEVEL

CONC. FLUME, FOREBAY & TURBINE BOX (C.1930)

APPROXIMATELY 1/3 OF HEAD

HURST FRAME

DRY-LAID STONE

STONE RETAINING WALL

TURBINE

TAIL RACE

ROOF RIDGE

12'-0" (366CM)

THIRD FLOOR

9'-7" (292CM)

SECOND FLOOR

9'-3 3/4" (284CM)

FIRST FLOOR

WEST CORNER FIN. FLOOR ELEV.

2'-7" (78CM)

LEGEND:

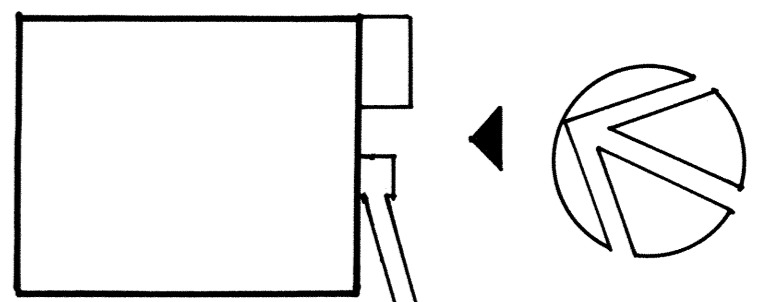
- MISSING ELEMENT
- HIDDEN LINE OR RECONSTRUCTED POSITION

SOUTHEAST ELEVATION

SCALE: 1/2" = 1'-0"

0 1 2 4 FT.

0 50 100 200 CM. 1:24



KEY PLAN

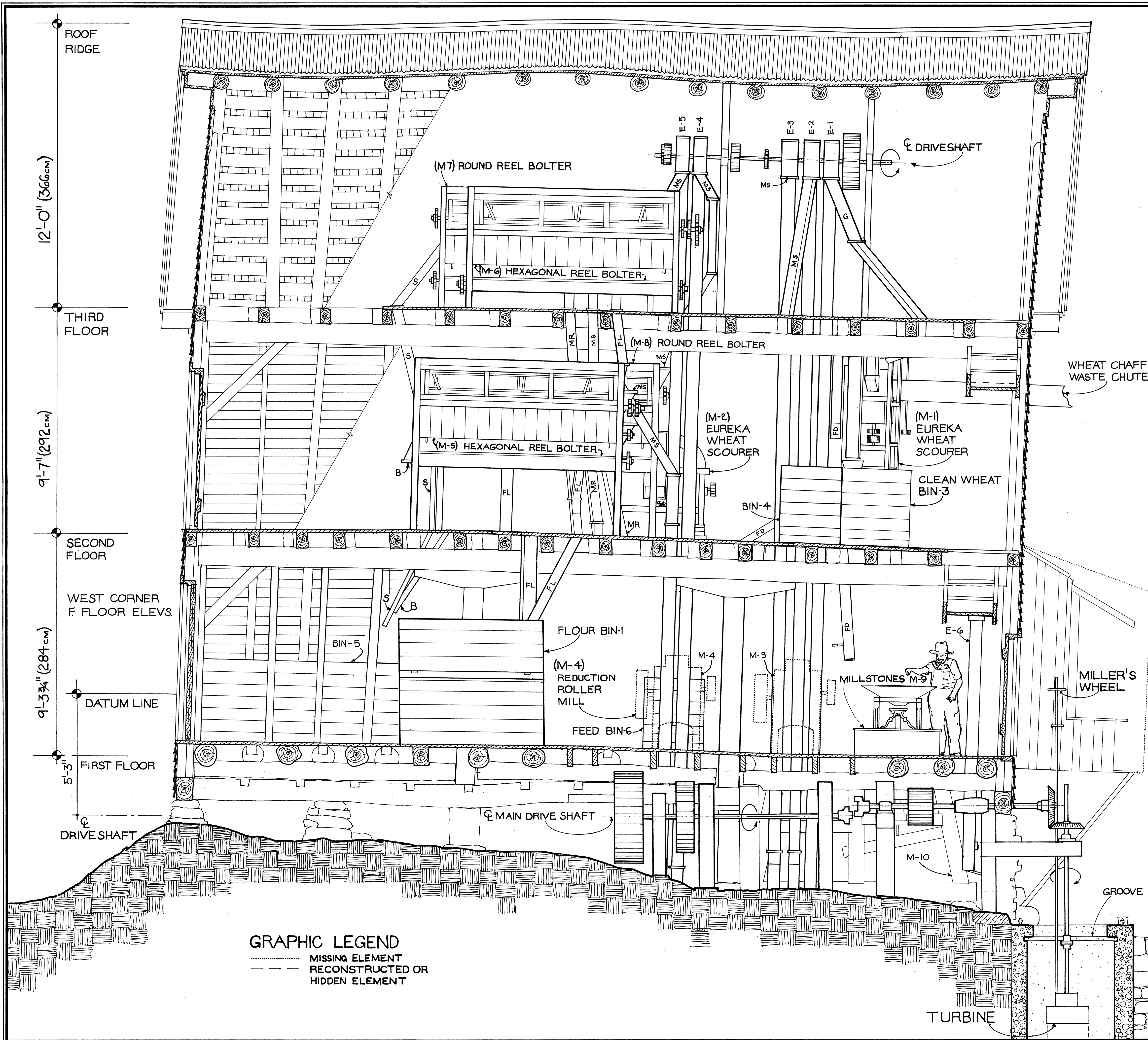
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ONE MILE NORTH OF BOXLEY ON ARKANSAS HIGHWAY 43
NEWTON COUNTY ARKANSAS

SHEET 9 OF 20
HISTORIC AMERICAN ENGINEERING RECORD
AR-3

IF REPRODUCED, PLEASE CREDIT: HISTORIC AMERICAN ENGINEERING RECORD, NATIONAL PARK SERVICE, NAME OF DELINEATOR, DATE OF THE DRAWING



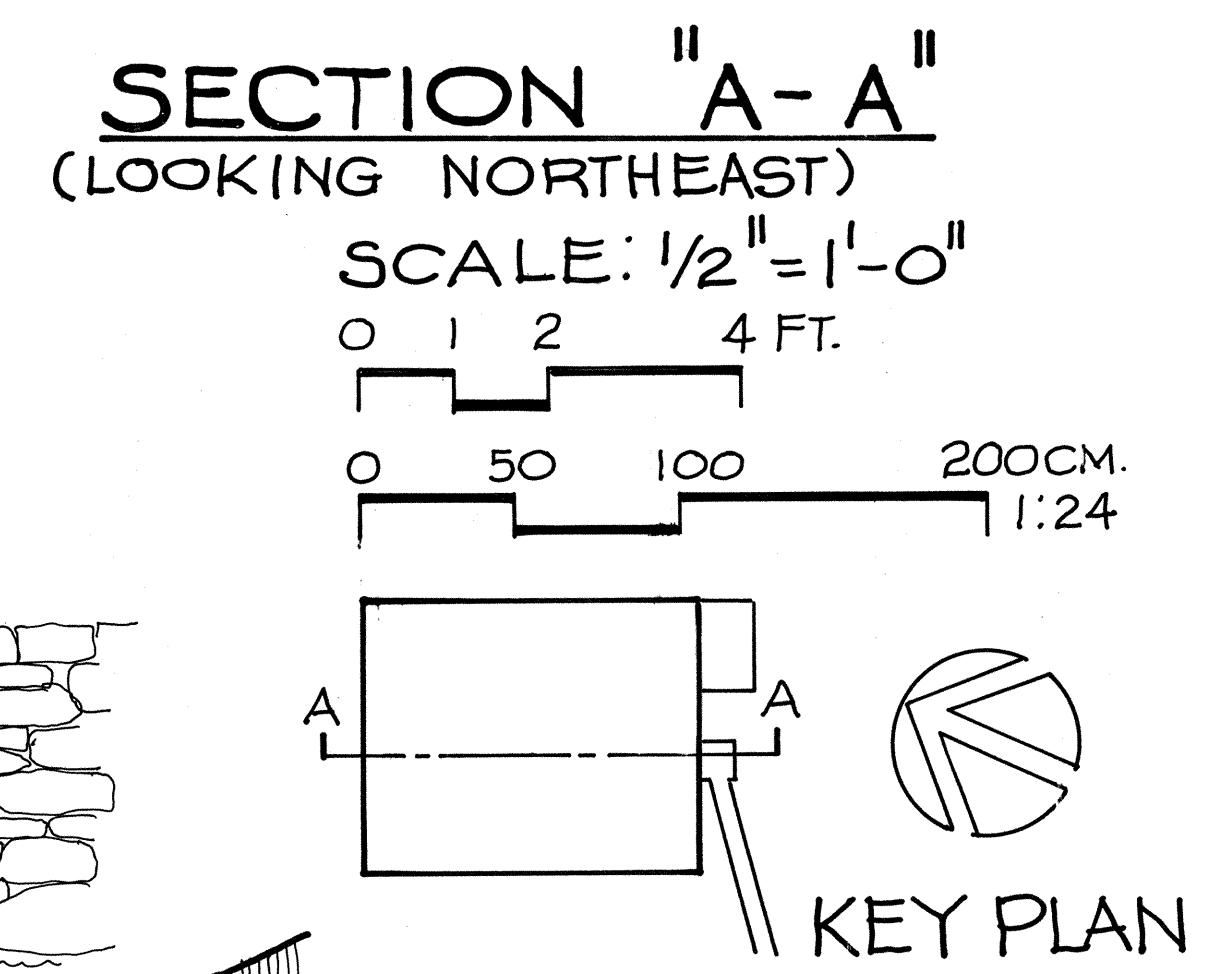
EQUIPMENT KEY:

| | | |
|-------|---------------------------------|---------|
| E-1 | ELEVATOR—ROLLER | PROCESS |
| E-2 | ELEVATOR—ROLLER | PROCESS |
| E-3 | ELEVATOR—ROLLER | PROCESS |
| E-4 | ELEVATOR—ROLLER | PROCESS |
| E-5 | ELEVATOR—ROLLER | PROCESS |
| E-6 | ELEVATOR—CORN | PROCESS |
| E-7 | ELEVATOR—HAMMERMILL | PROCESS |
| M-1 | EUREKA WHEAT SCOURER—VERTICAL | |
| M-2 | EUREKA WHEAT SCOURER—HORIZONTAL | |
| M-3 | BREAK ROLLER—STAND | |
| M-4 | REDUCTION ROLLER—STAND | |
| M-5 | HEXAGONAL REEL BOLTER | |
| M-6 | HEXAGONAL REEL BOLTER | |
| M-7 | ROUND REEL BOLTER | |
| M-8 | ROUND REEL BOLTER | |
| M-9 | MILLSTONES | |
| M-10 | HURST FRAME | |
| M-11 | TURBINE | |
| BIN-1 | FLOUR | |
| BIN-2 | FLOUR | |
| BIN-3 | CLEAN WHEAT | |
| BIN-4 | CLEAN WHEAT | |
| BIN-5 | HUSK CORN | |
| BIN-6 | FEED | |
| BIN-7 | HAMMERMILL LOADER | |
| BIN-8 | HAMMERMILL SACKER | |

CHUTE LEGEND:

| | |
|-----|-------------------------|
| B | BRAN |
| C | CHAFF, WASTE |
| F D | FEED |
| FL | FLOUR |
| G | GRAIN |
| MR | MIDLINGS TO BE REGROUND |
| MS | MIDLINGS TO BE SIFTED |

- NOTES:**
- 1 INTERIOR WALL ELEVATIONS SHOWN ONLY IN PART FOR GRAPHIC CLARITY OF EQUIPMENT.
 - 2 REFER TO SHEET 19 FOR ROLLER PROCESS SCHEMATIC RECONSTRUCTION.
 - 3 REFER TO SHEET 20 FOR ROLLER PROCESS POWER TRANSMISSION SYSTEM RECONSTRUCTION.
 - 4 ROLLER MILL STANDS CURRENTLY REMOVED. ALL OTHER EQUIPMENT SHOWN IN CURRENT POSITION.
 - 5 REFER TO PLAN SHEETS FOR SCHEMATIC RECONSTRUCTION OF ROLLER PROCESS EQUIPMENT LAYOUT.

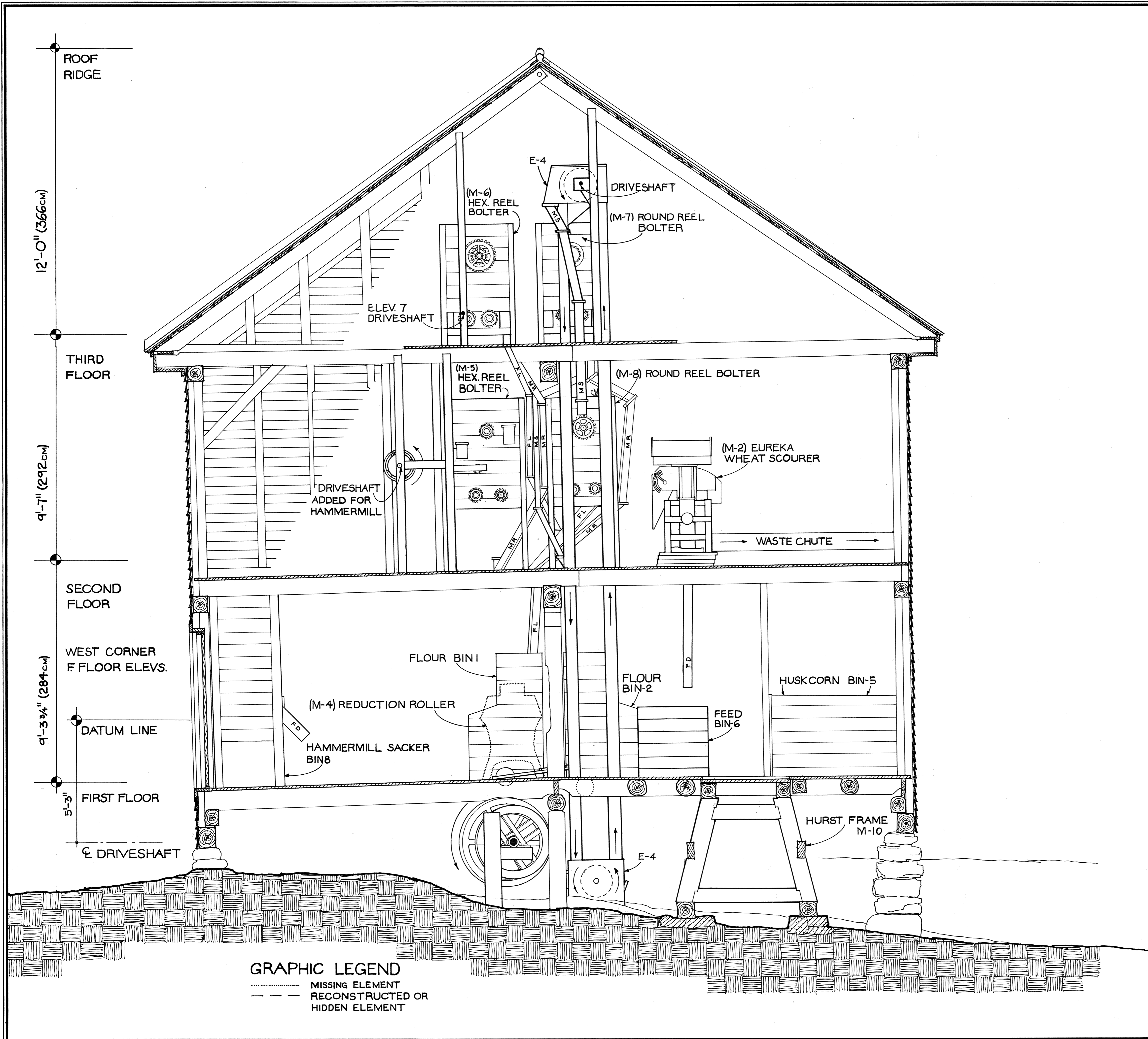


GRAPHIC LEGEND

..... MISSING ELEMENT

----- RECONSTRUCTED OR HIDDEN ELEMENT

DELINEATED BY: DAVID HANEY, ELAM L. DENHAM, 1986
 BOXLEY GRIST MILL RECORDING PROJECT
 HISTORIC AMERICAN ENGINEERING RECORD
 UNITED STATES DEPARTMENT OF THE INTERIOR
 P ONCA
 BOXLEY GRIST MILL C. 1870
 ONE MILE NORTH OF BOXLEY ON ARKANSAS HIGHWAY 43
 NEWTON COUNTY ARKANSAS
 SHEET 10 OF 20
 HISTORIC AMERICAN ENGINEERING RECORD
 AR-3



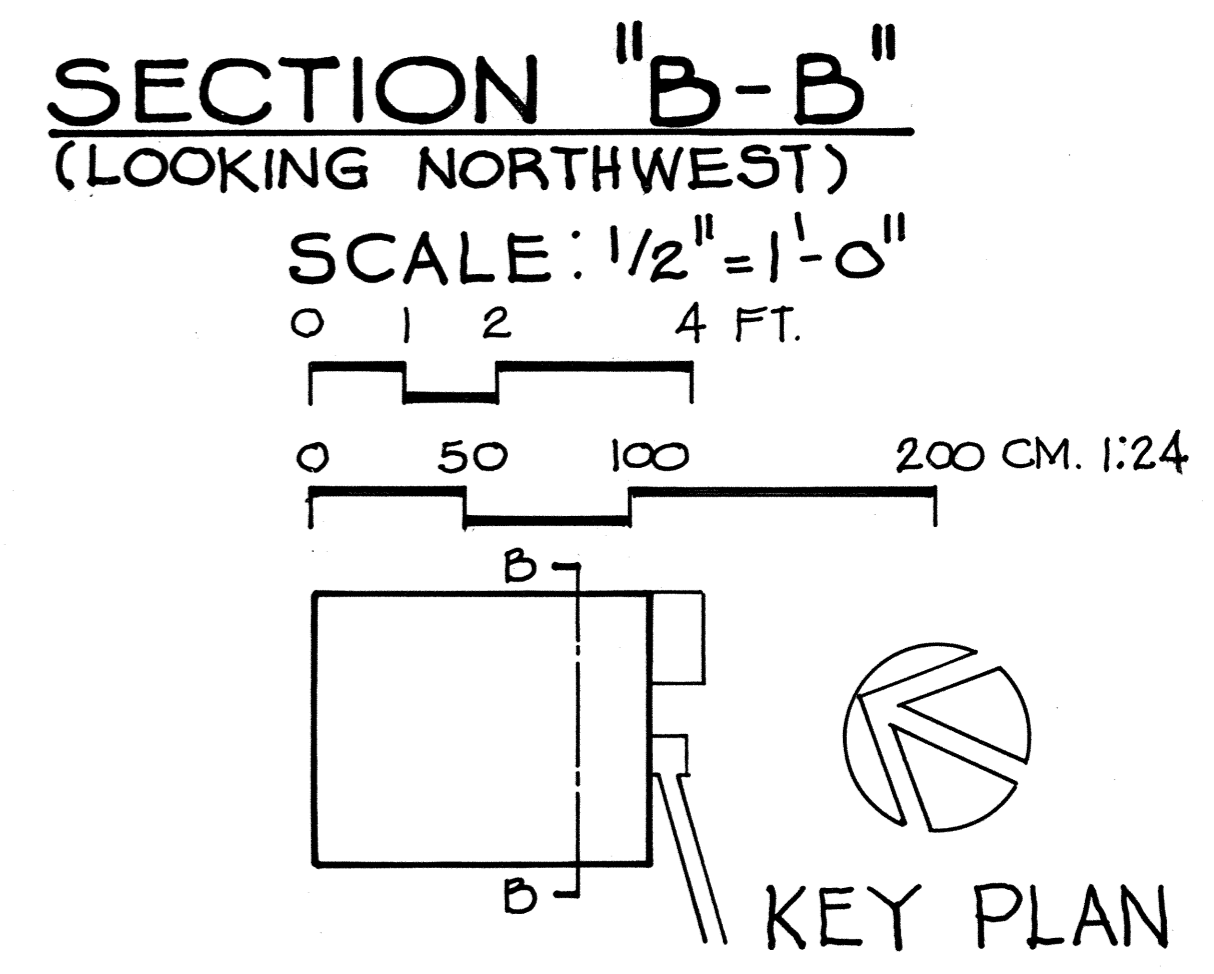
EQUIPMENT KEY

| | | |
|-------|---------------------------------|---------|
| E-1 | ELEVATOR—ROLLER | PROCESS |
| E-2 | ELEVATOR—ROLLER | PROCESS |
| E-3 | ELEVATOR—ROLLER | PROCESS |
| E-4 | ELEVATOR—ROLLER | PROCESS |
| E-5 | ELEVATOR—ROLLER | PROCESS |
| E-6 | ELEVATOR—CORN | PROCESS |
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| M-1 | EUREKA WHEAT SCOURER—VERTICAL | |
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| BIN-6 | FEED | |
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| BIN-8 | HAMMERMILL SACKER | |

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GRAPHIC LEGEND

..... MISSING ELEMENT

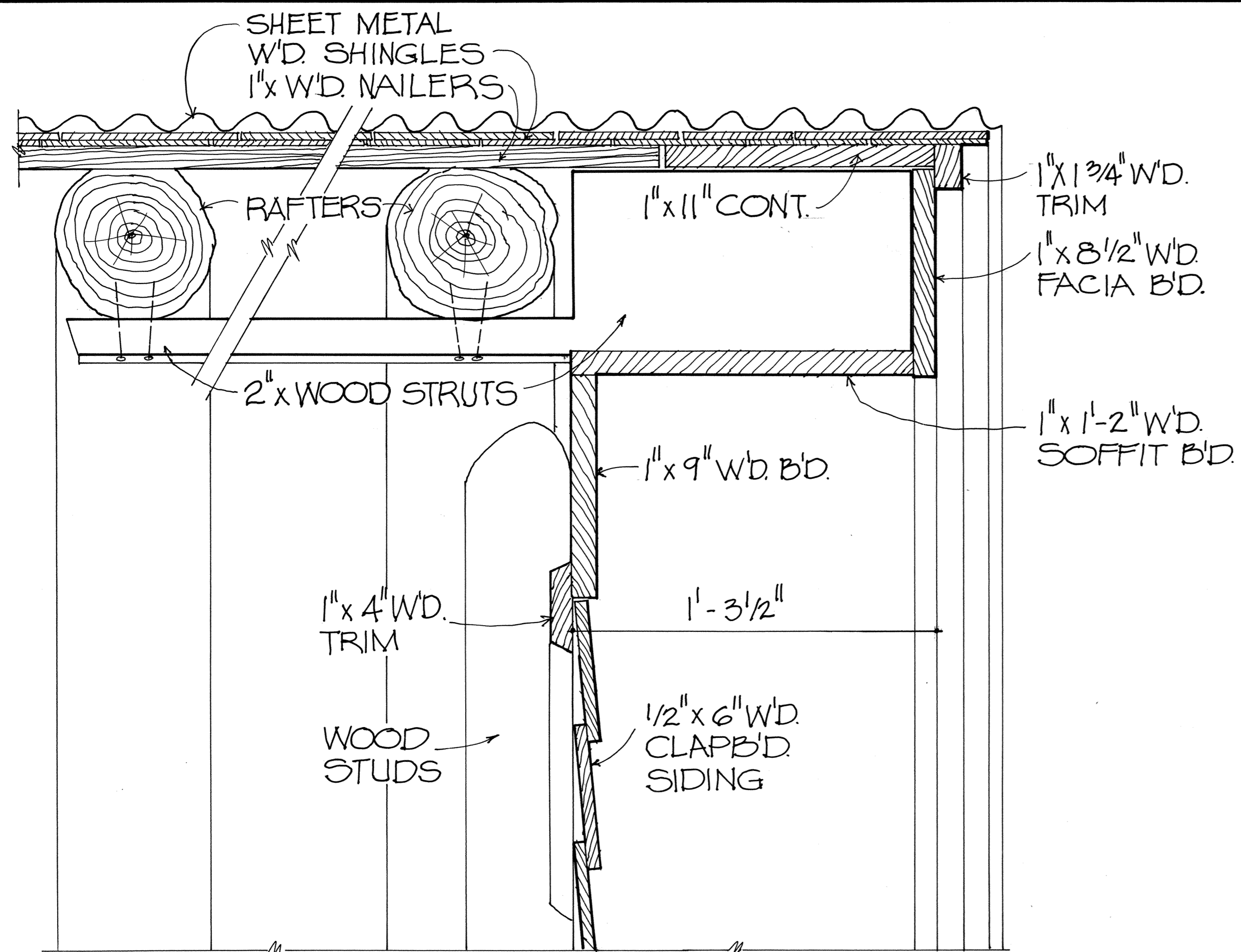
--- RECONSTRUCTED OR HIDDEN ELEMENT

DELINEATED BY: DAVID HANEY, ELAM L. DENHAM, 1986
 BOXLEY GRIST MILL RECORDING PROJECT
 HISTORIC AMERICAN ENGINEERING RECORD
 UNITED STATES DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT
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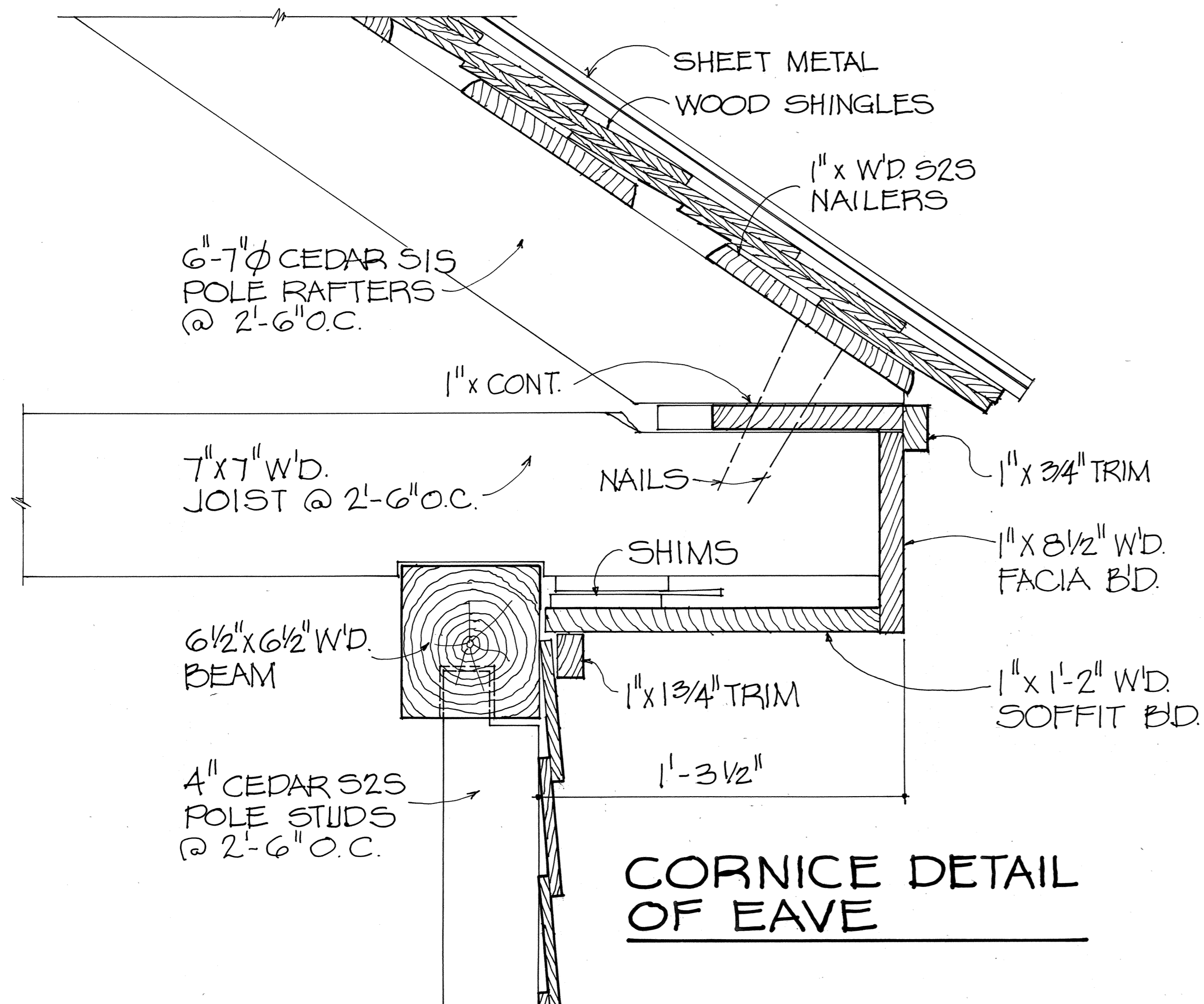
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ARKANSAS
 SHEET 11 OF 20
 HISTORIC AMERICAN ENGINEERING RECORD
 AR-3

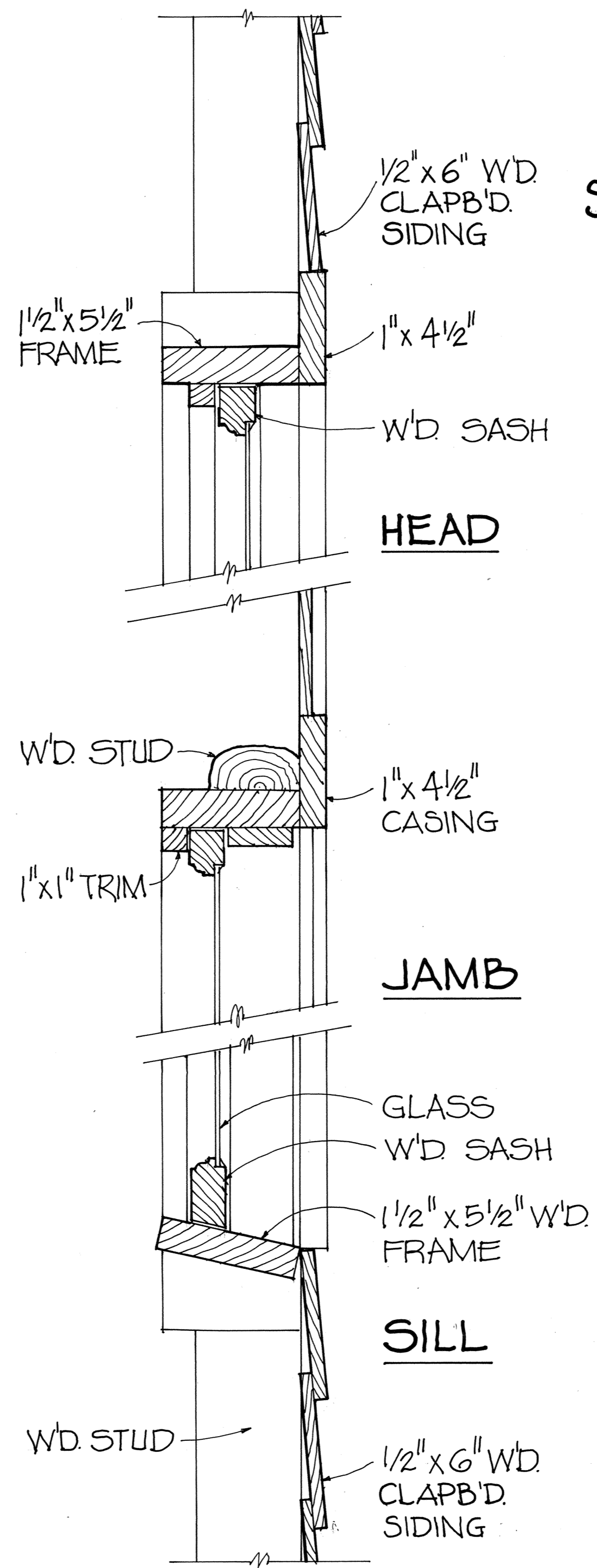
BOXLEY GRIST MILL C. 1870
 ONE MILE NORTH OF BOXLEY ON ARKANSAS HIGHWAY 43
 NEWTON COUNTY



CORNICE DETAIL OF RAKE

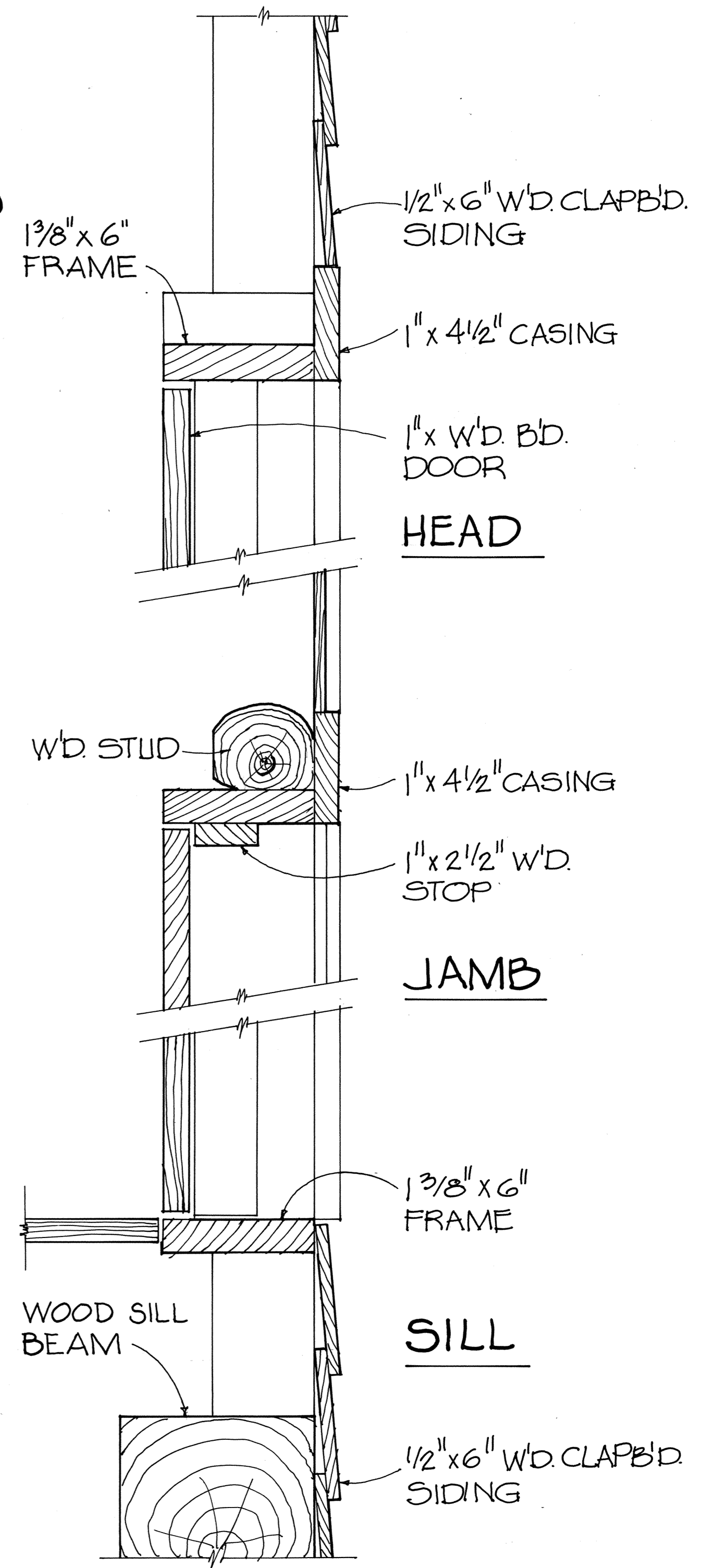
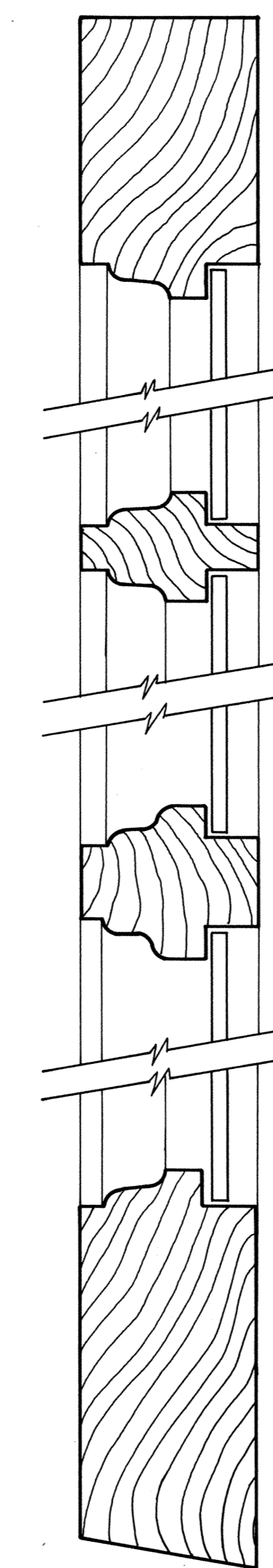


CORNICE DETAIL OF EAVE

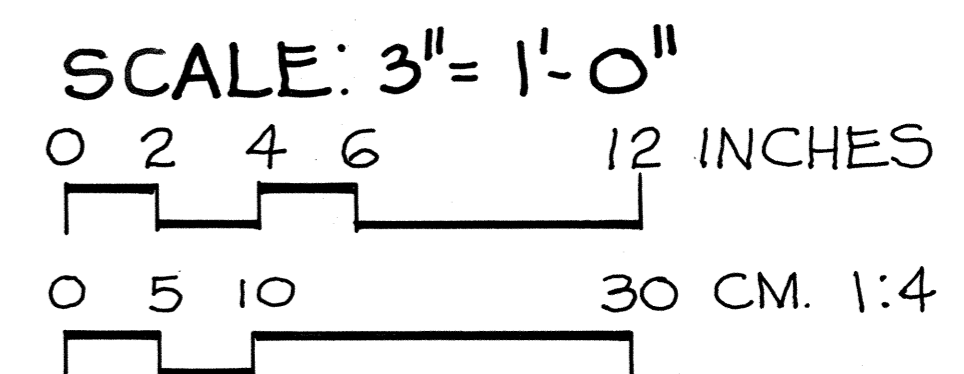


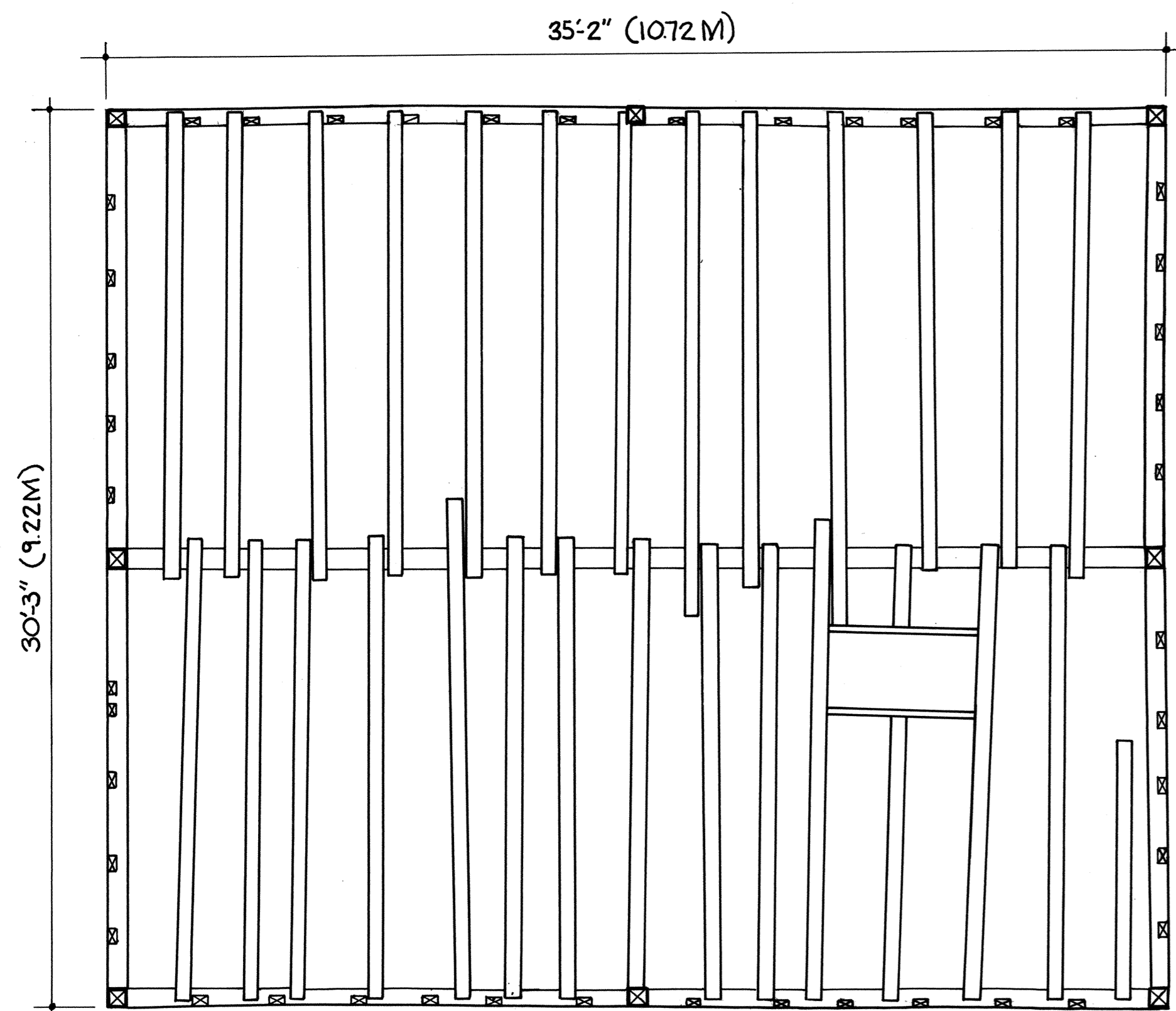
WOOD DOUBLE-HUNG WINDOW DETAILS

SASH DETAILS FULL SIZE

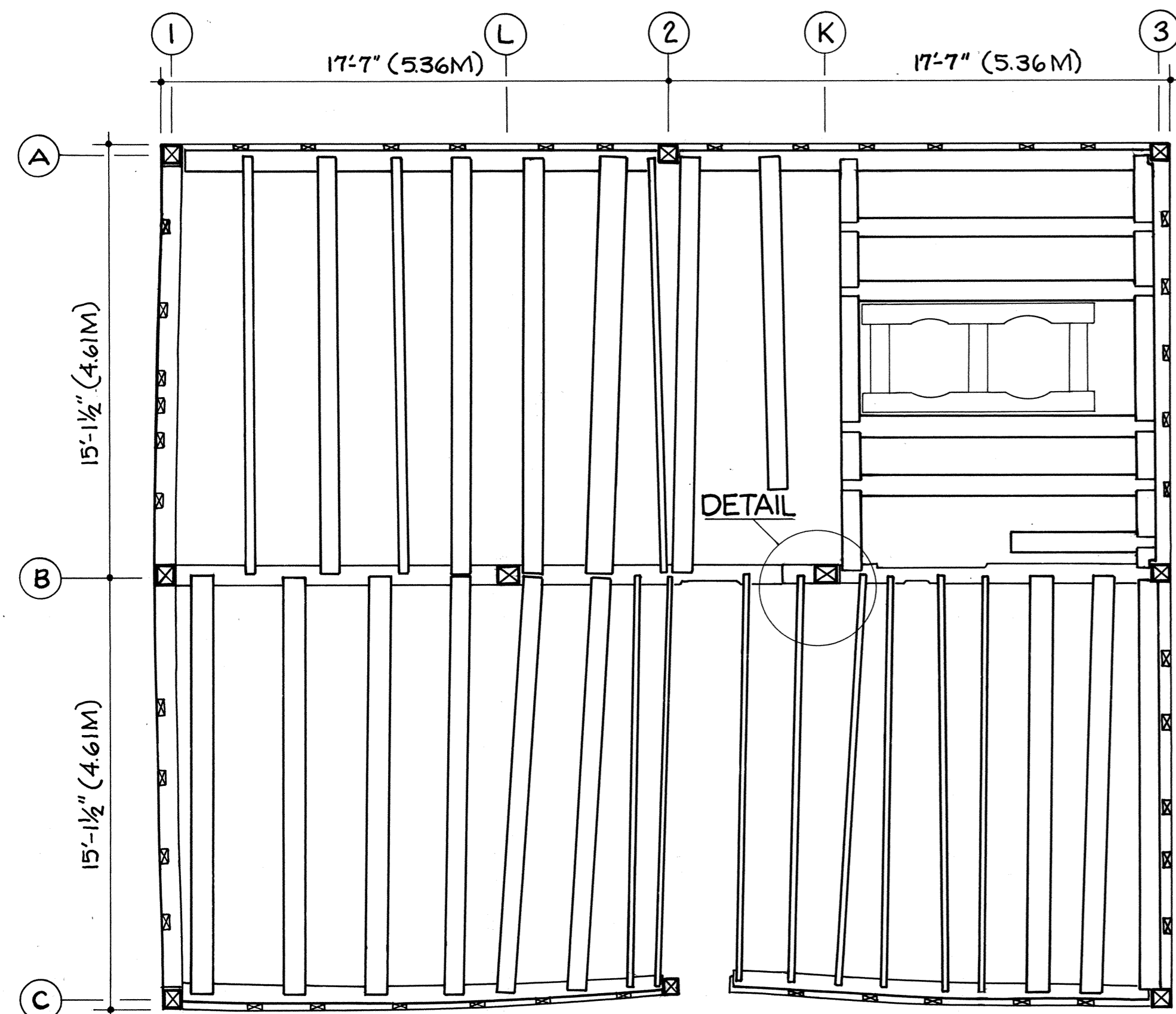


WOOD DOOR DETAILS (S.W. WALL)





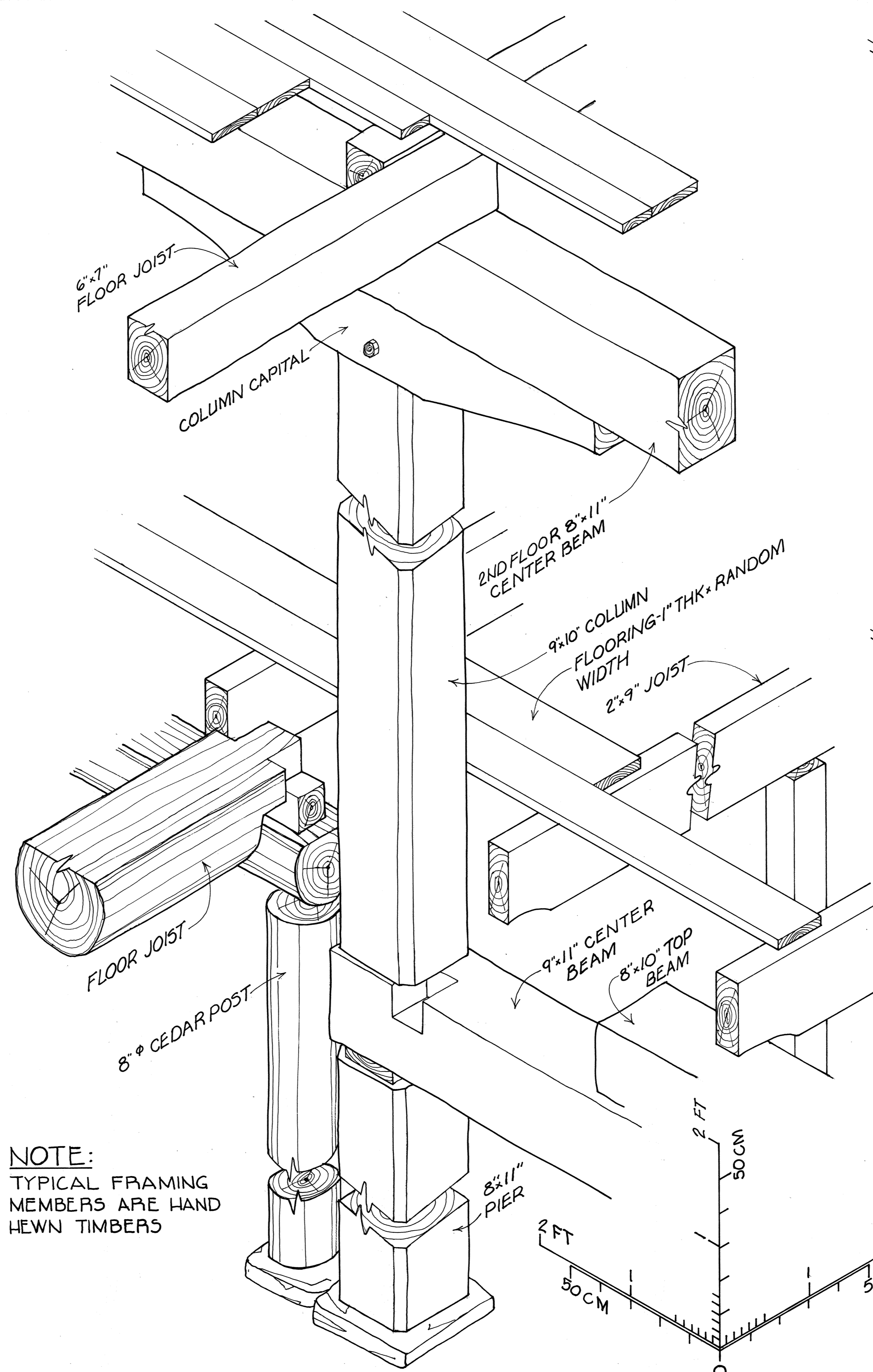
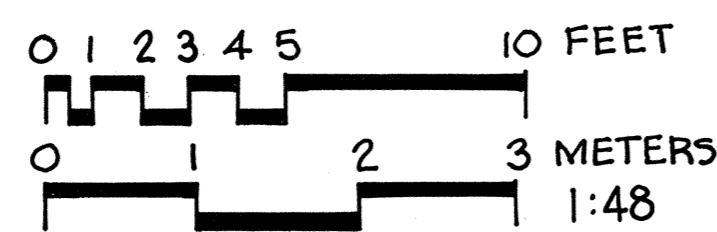
SECOND FLOOR



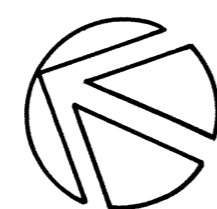
FIRST FLOOR

FRAMING PLANS

SCALE: 1/4" = 1'-0"

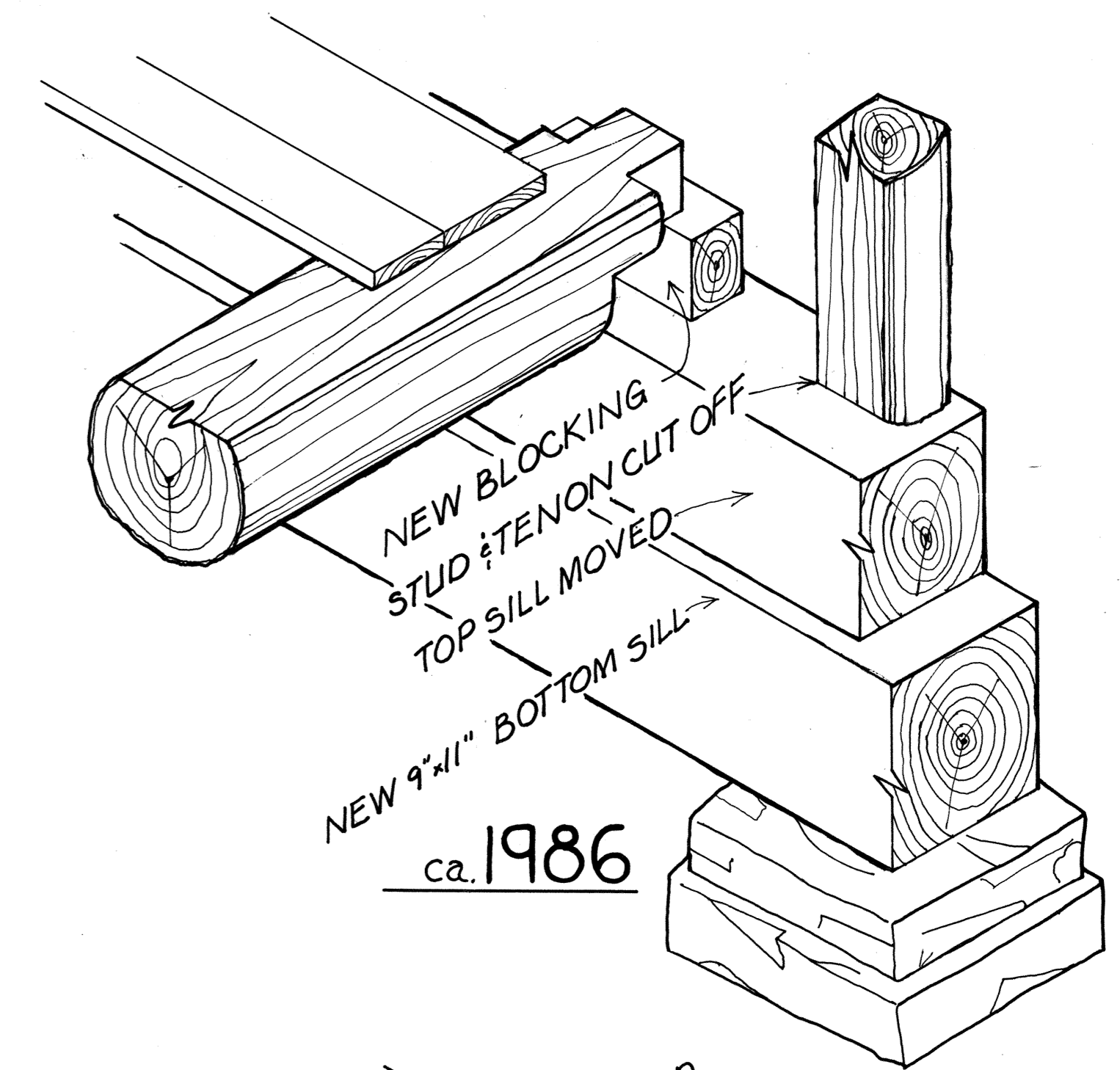


NOTE:
TYPICAL FRAMING
MEMBERS ARE HAND
HEWN TIMBERS

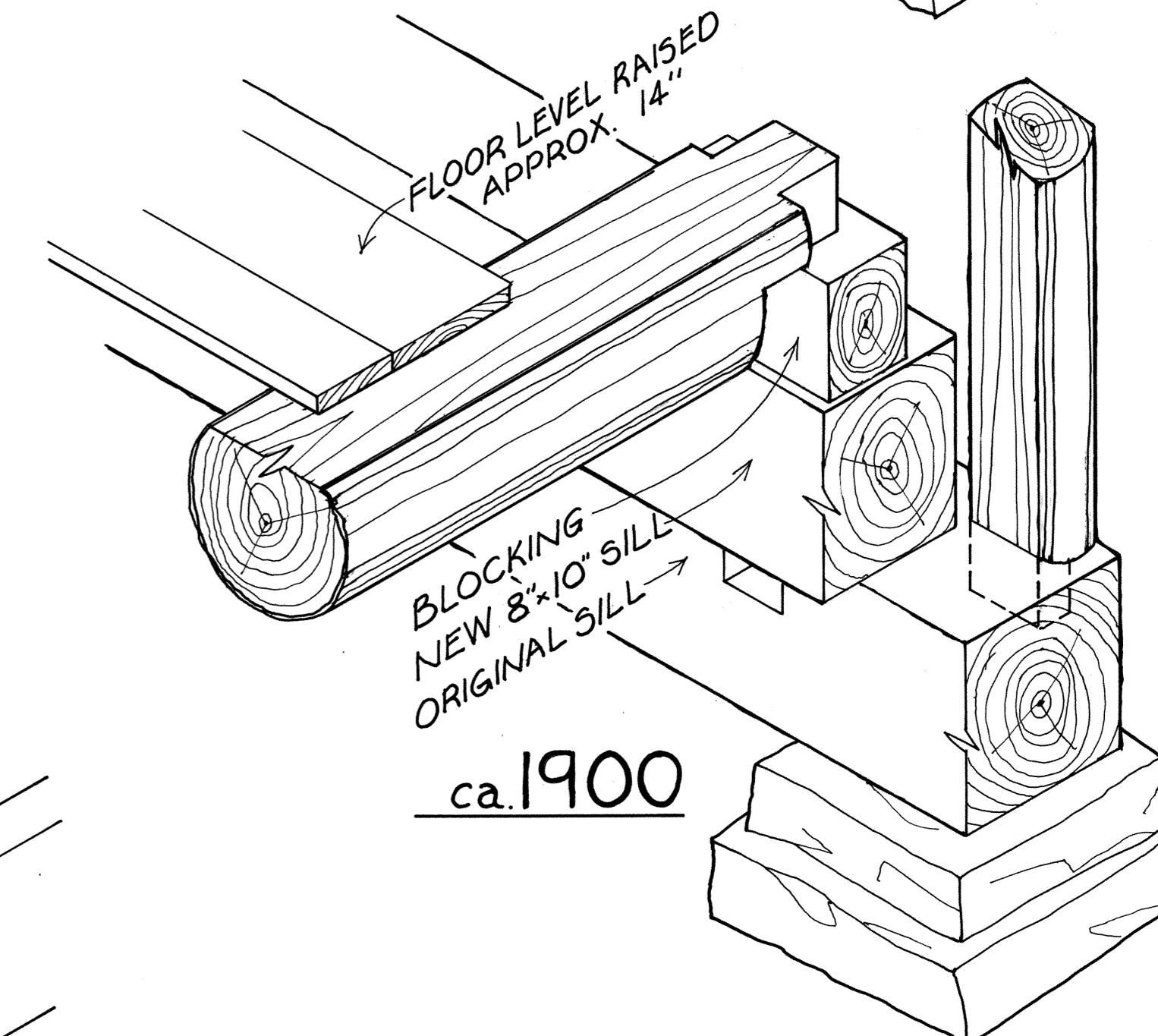


DETAIL B-K

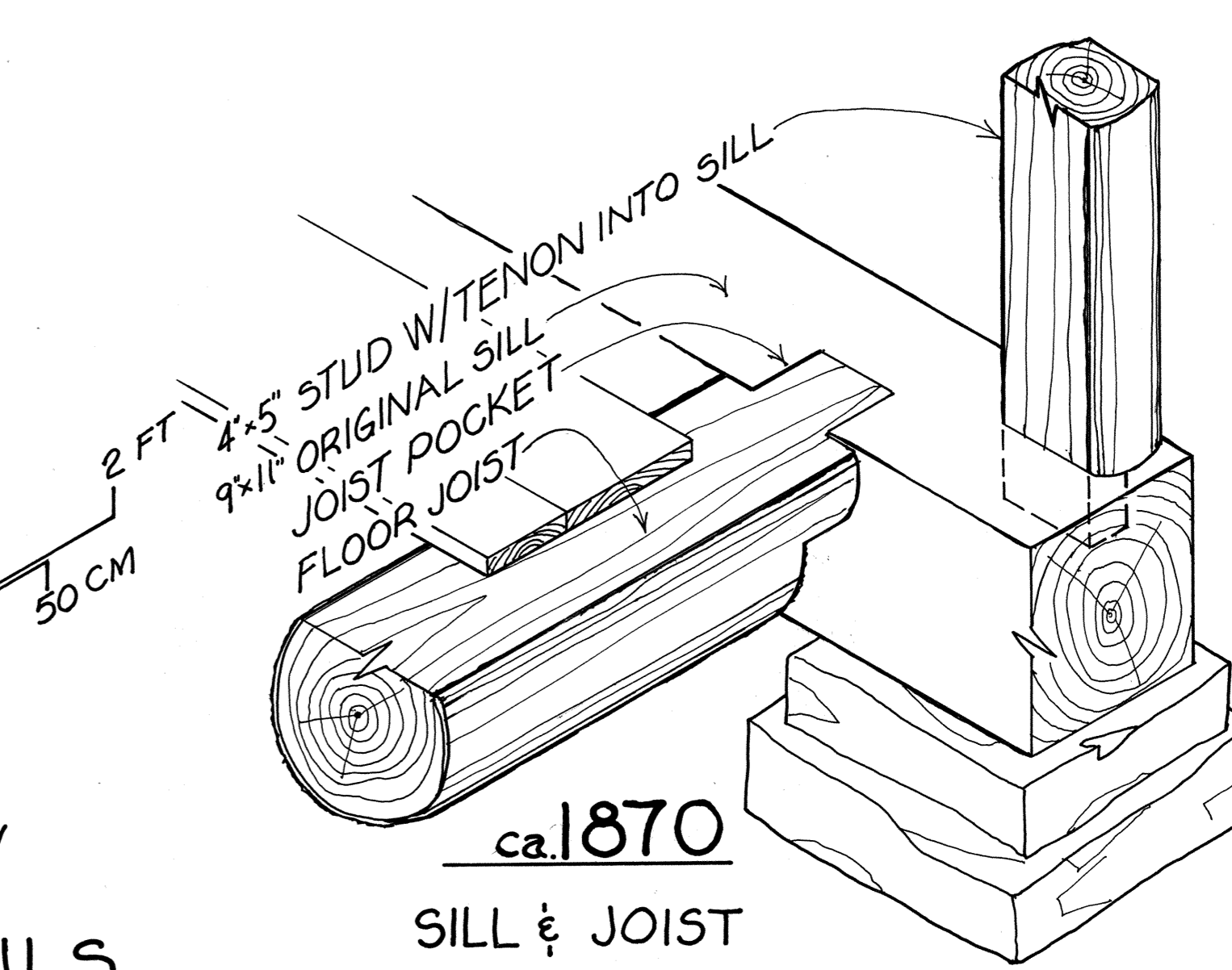
SCALE: 1/2" = 1'-0"
FRAMING DETAILS



ca. 1986

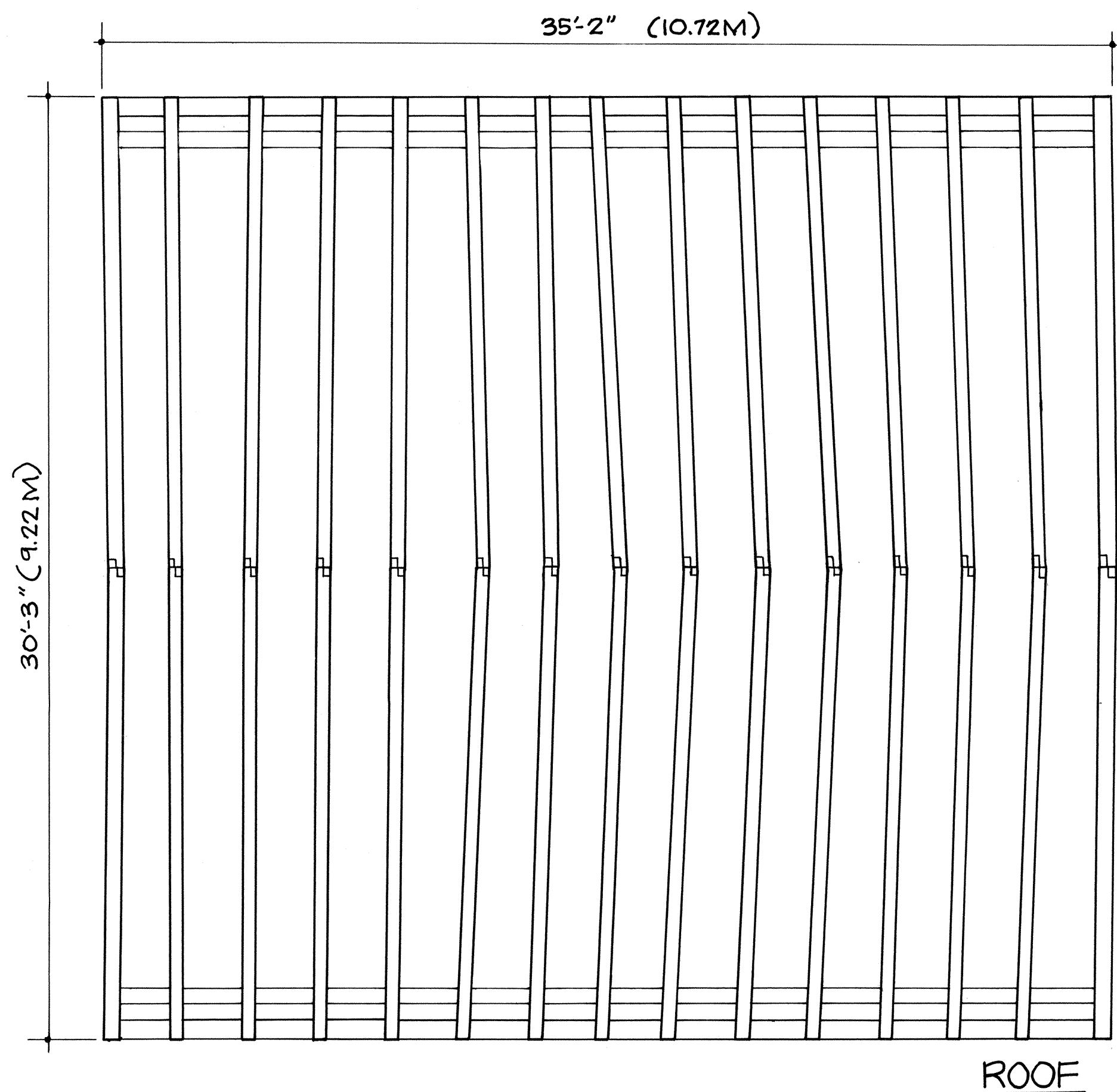


ca. 1900



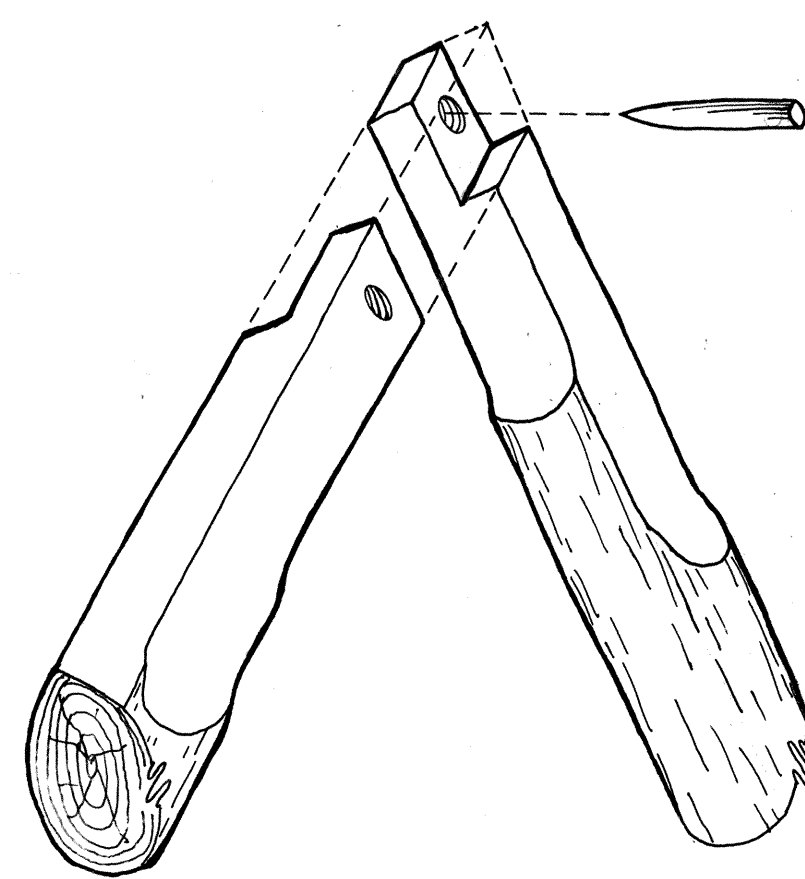
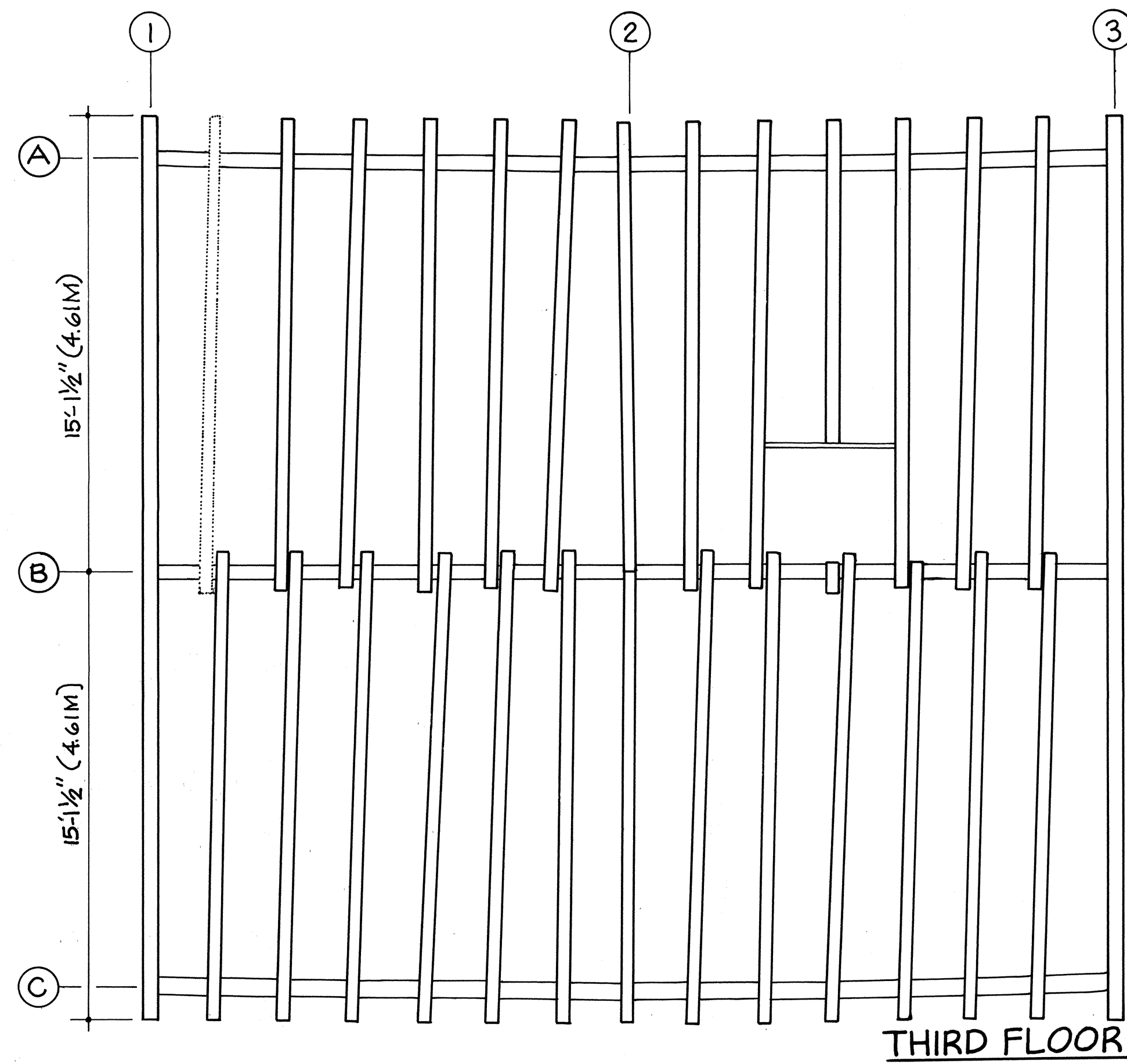
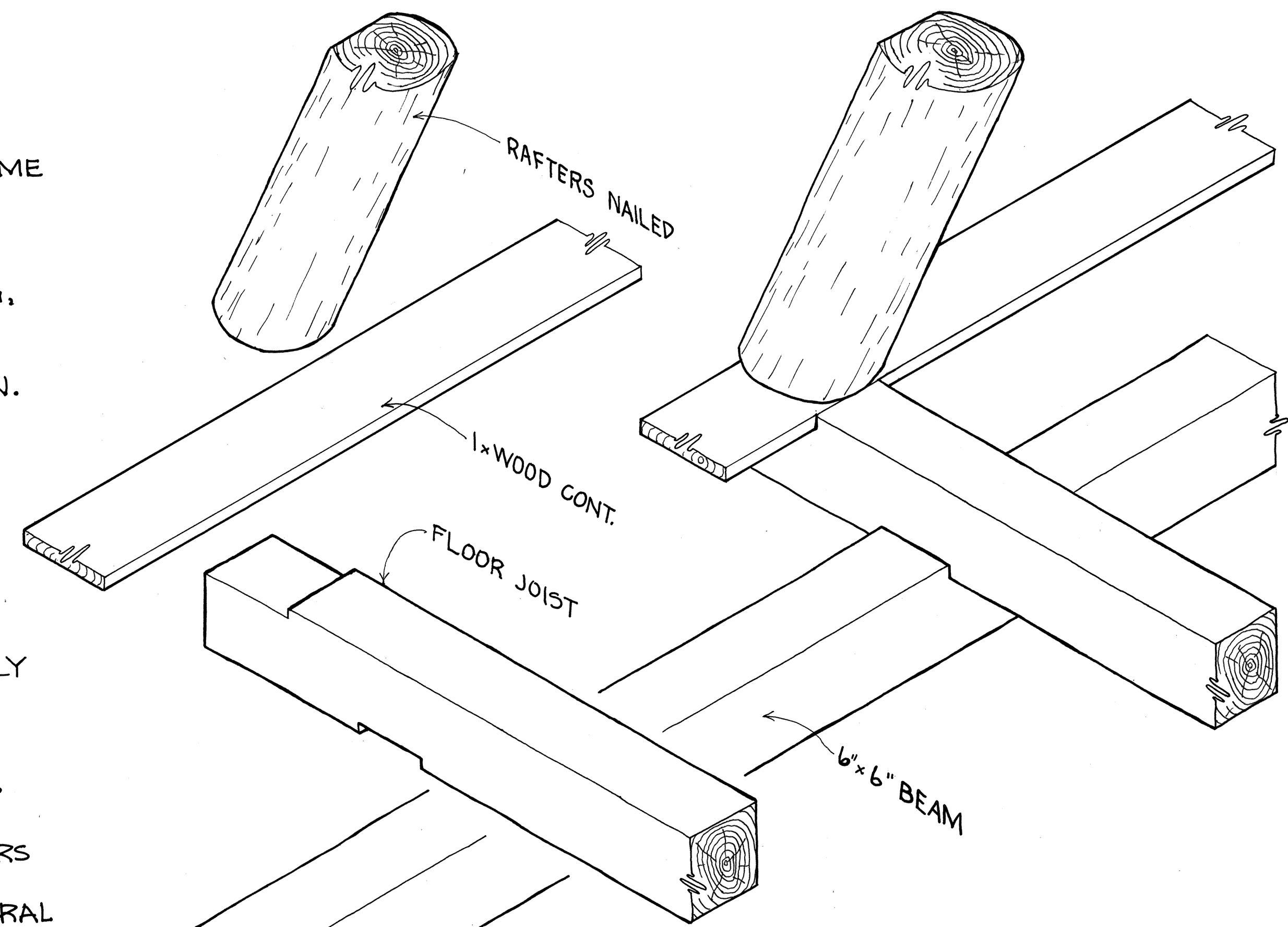
ca. 1870

SILL & JOIST ALTERATIONS

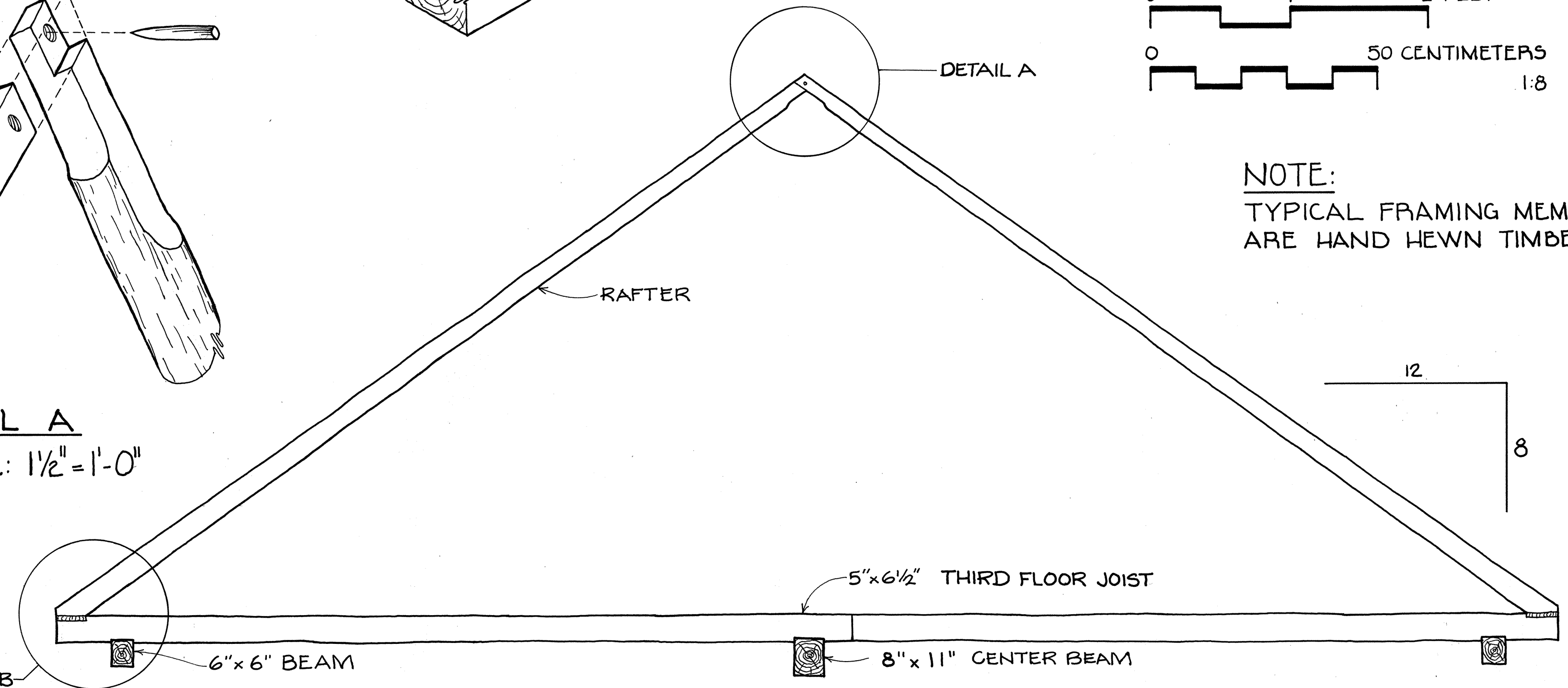


TIMBER FRAMING

THE TIMBER MAINFRAME IS PRIMARILY OAK WITH SECONDARY MEMBERS OF CEDAR. FRAME QUALITY, REFLECTED IN MEMBER FINISHING, JOINT CONSTRUCTION, LEVELING & OTHER DETAILS, INDICATES A MASTER CRAFTSMAN WAS RESPONSIBLE FOR THE HEAVY FRAMING, BUT NOT FOR THE LESS REFINED SECONDARY FRAMING. THE ORIGINAL MEMBERS WERE HAND TOOLED & VARY SLIGHTLY IN CROSS-SECTION. THE ORIGINAL SILLS WERE POSSIBLY SALVAGED & MOVED TO THE PRESENT SITE. THE EXCESSIVE LENGTH & DISPLACED LEVELING NOTCHES OF CERTAIN SECOND FLOOR JOISTS SUGGEST THEY WERE SIZED FOR THIRD FLOOR APPLICATION. VARIOUS ALTERATIONS TO THE STRUCTURE WERE DUE TO FUNCTIONAL MODIFICATIONS OR MAINTENANCE. THE FIRST FLOOR WAS RAISED 14 INCHES, INDEPENDENTLY OF THE REST OF THE STRUCTURE. JOISTS NOW VARY FROM TENONED TIMBERS TO 8x8's, 4x8's & 2x9's. APPARENTLY THE FLOORING & SIDING ARE SECOND GENERATION & THE ROOF RAKES HAVE BEEN EXTENDED. FRAMING SHAPES & PLACEMENT INDICATE FENESTRATION DIFFERS FROM ORIGINALLY PLANNED. OVER TIME & THROUGH NEGLECT, WALL, FLOOR & STRUCTURAL ELEMENTS HAVE DETERIORATED & MOVED OUT OF LINE.



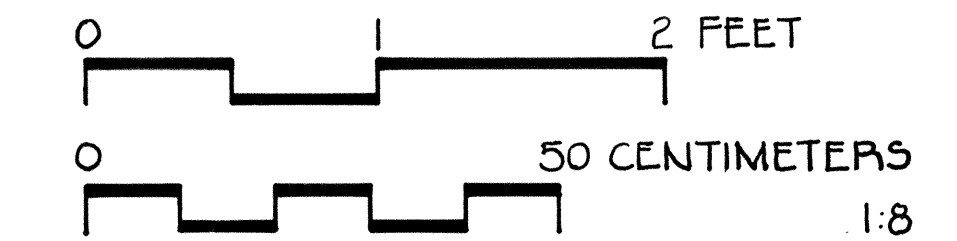
SCALE: 1 1/2" = 1'-0"



ROOF DETAILS

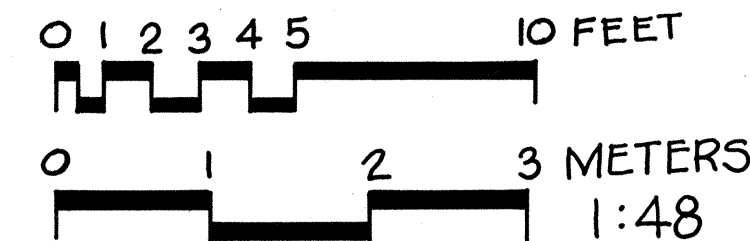
DETAIL B

SCALE: 1 1/2" = 1'-0"

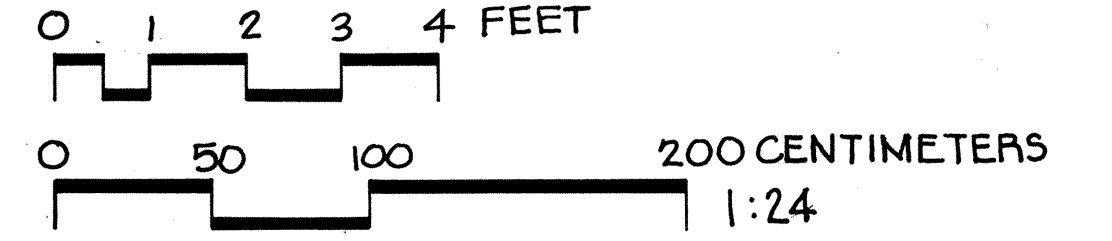


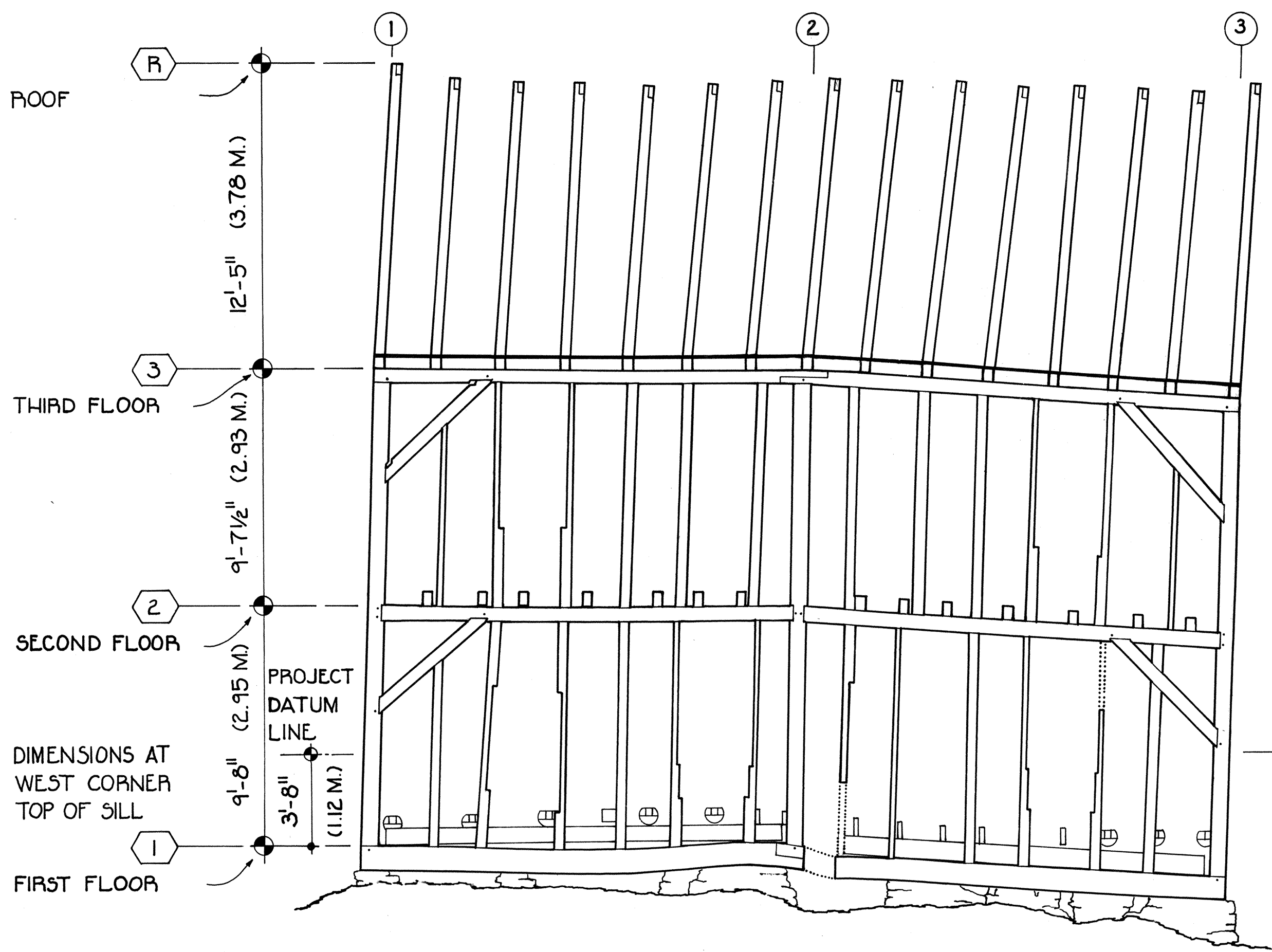
NOTE:
TYPICAL FRAMING MEMBERS ARE HAND HEWN TIMBERS

FRAMING PLANS
SCALE: 1/4" = 1'-0"

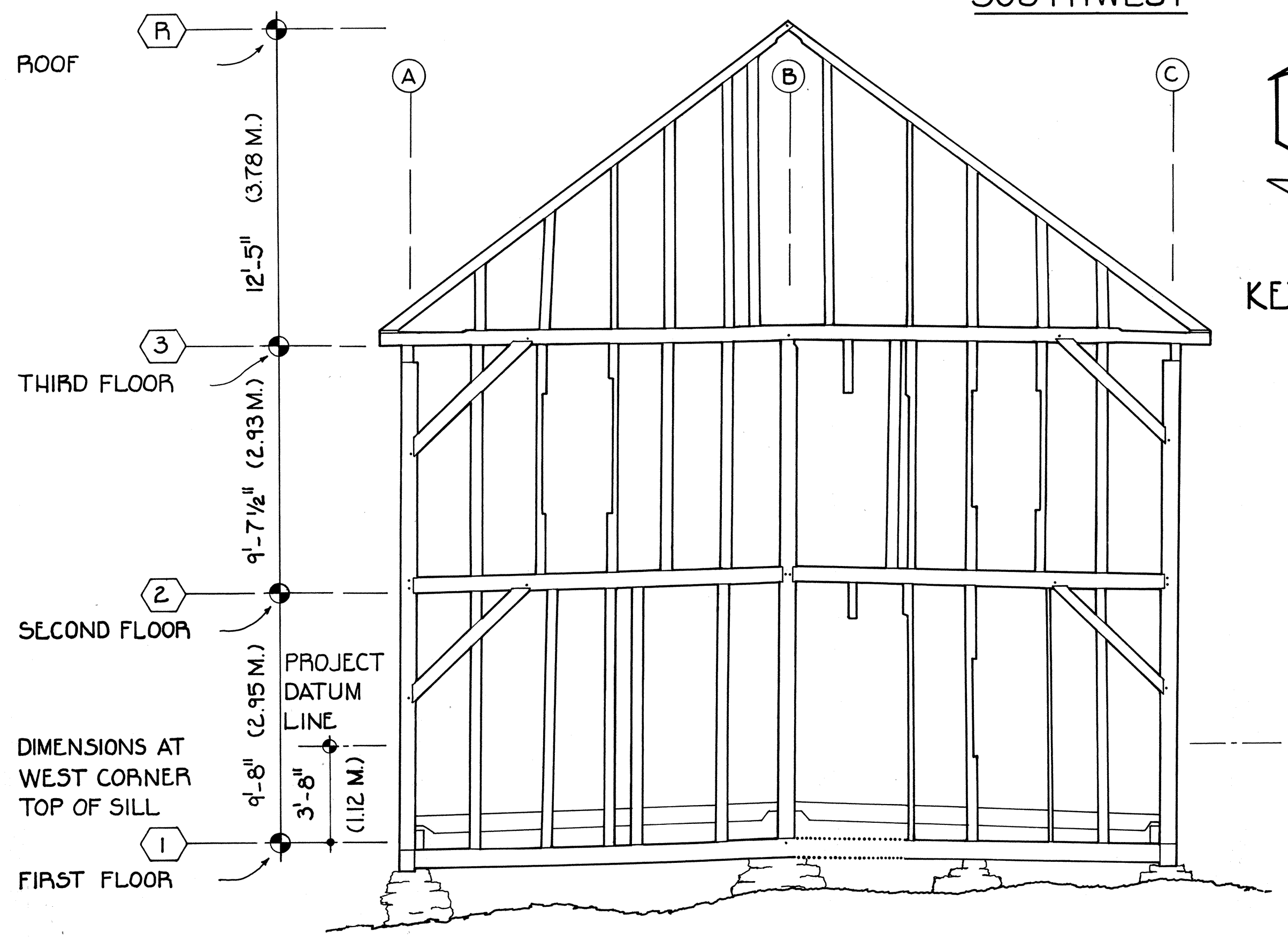


FRAMING ELEVATIONS
SCALE: 1/2" = 1'-0"

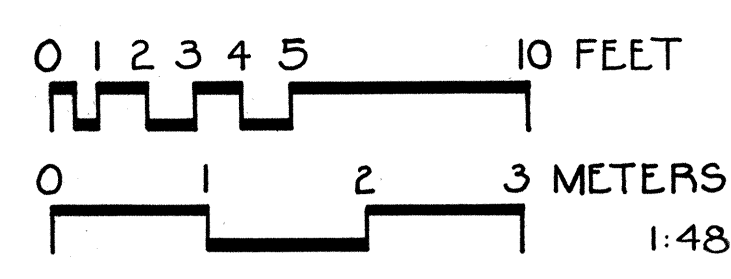




NOTE:
TYPICAL FRAMING MEMBERS
ARE HAND HEWN TIMBERS

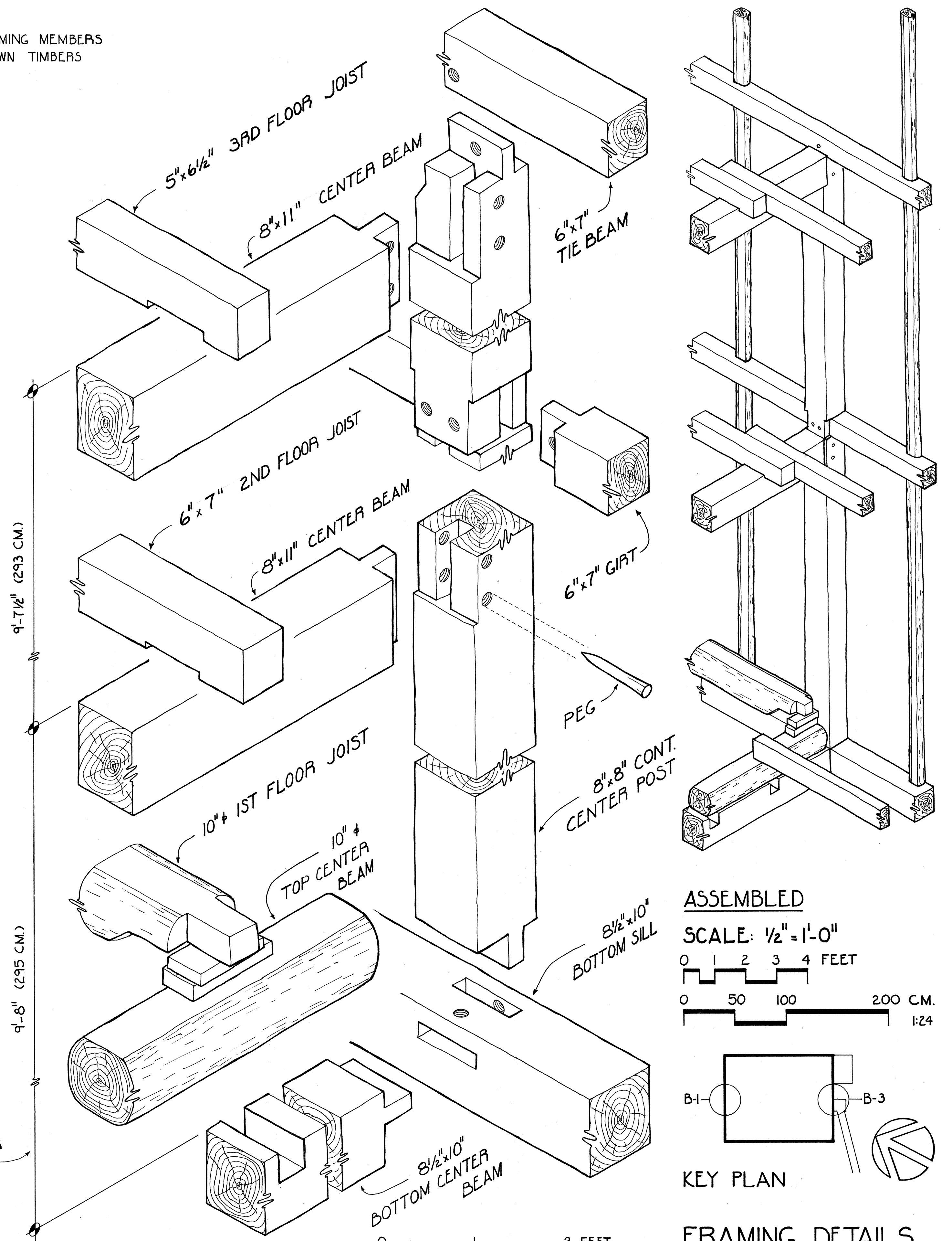
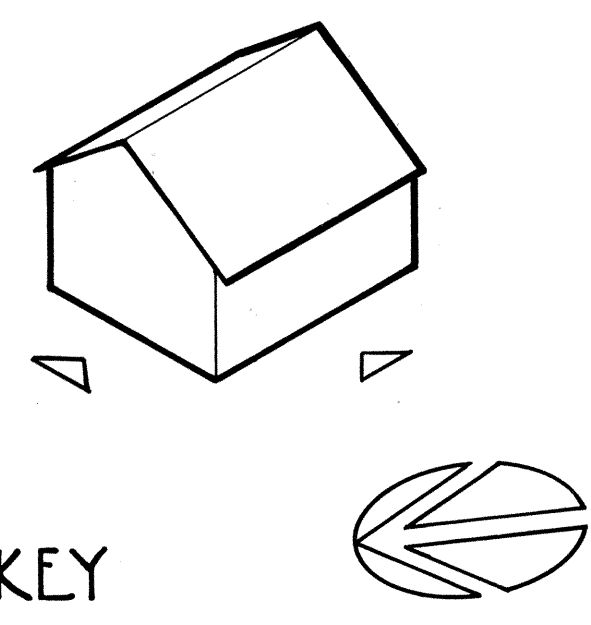


FRAMING ELEVATIONS
SCALE: 1/4" = 1'-0"

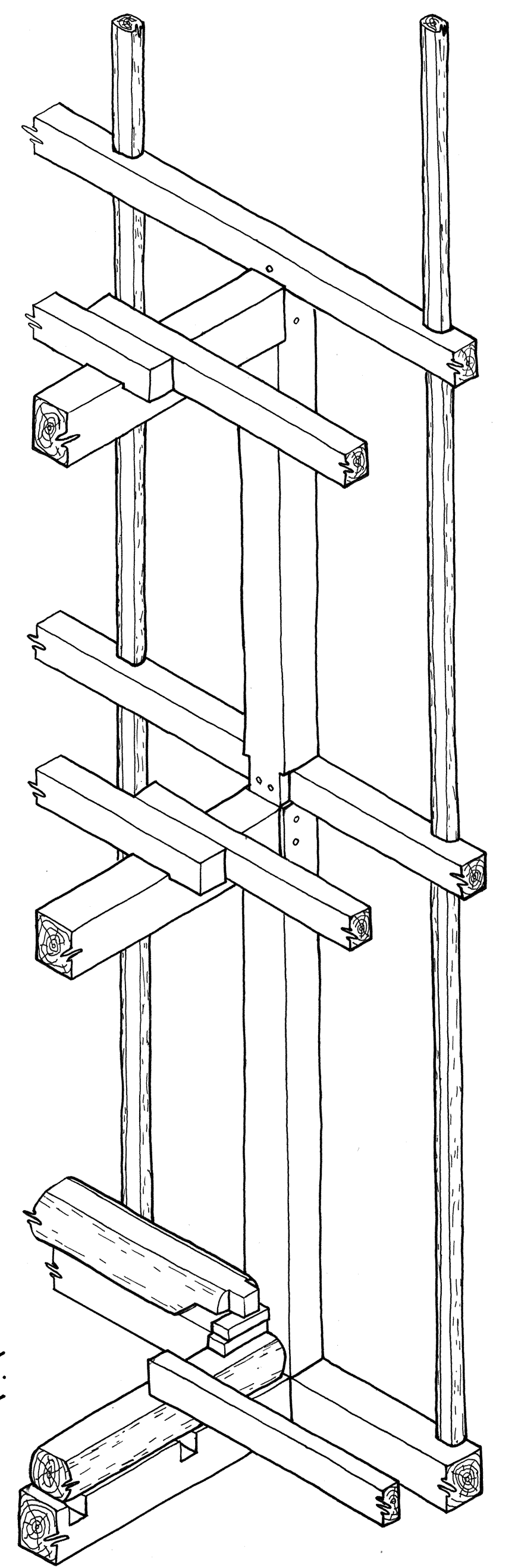
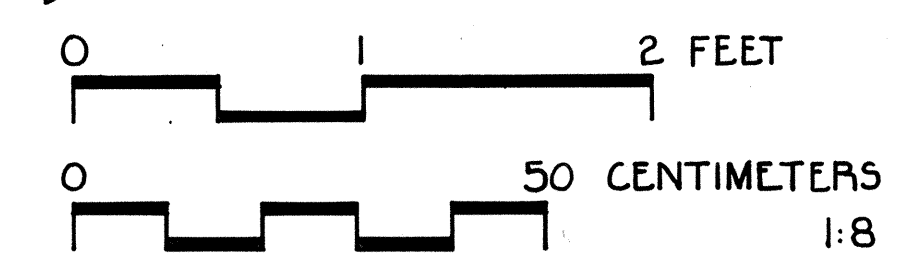


SOUTHWEST

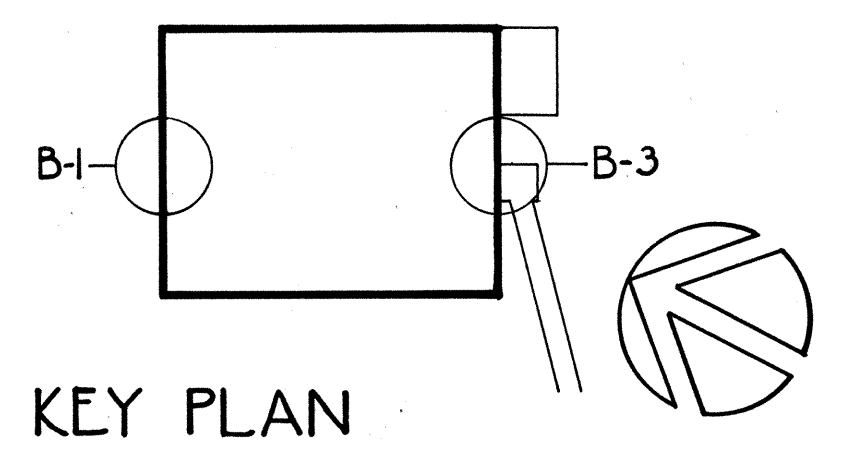
NORTHWEST



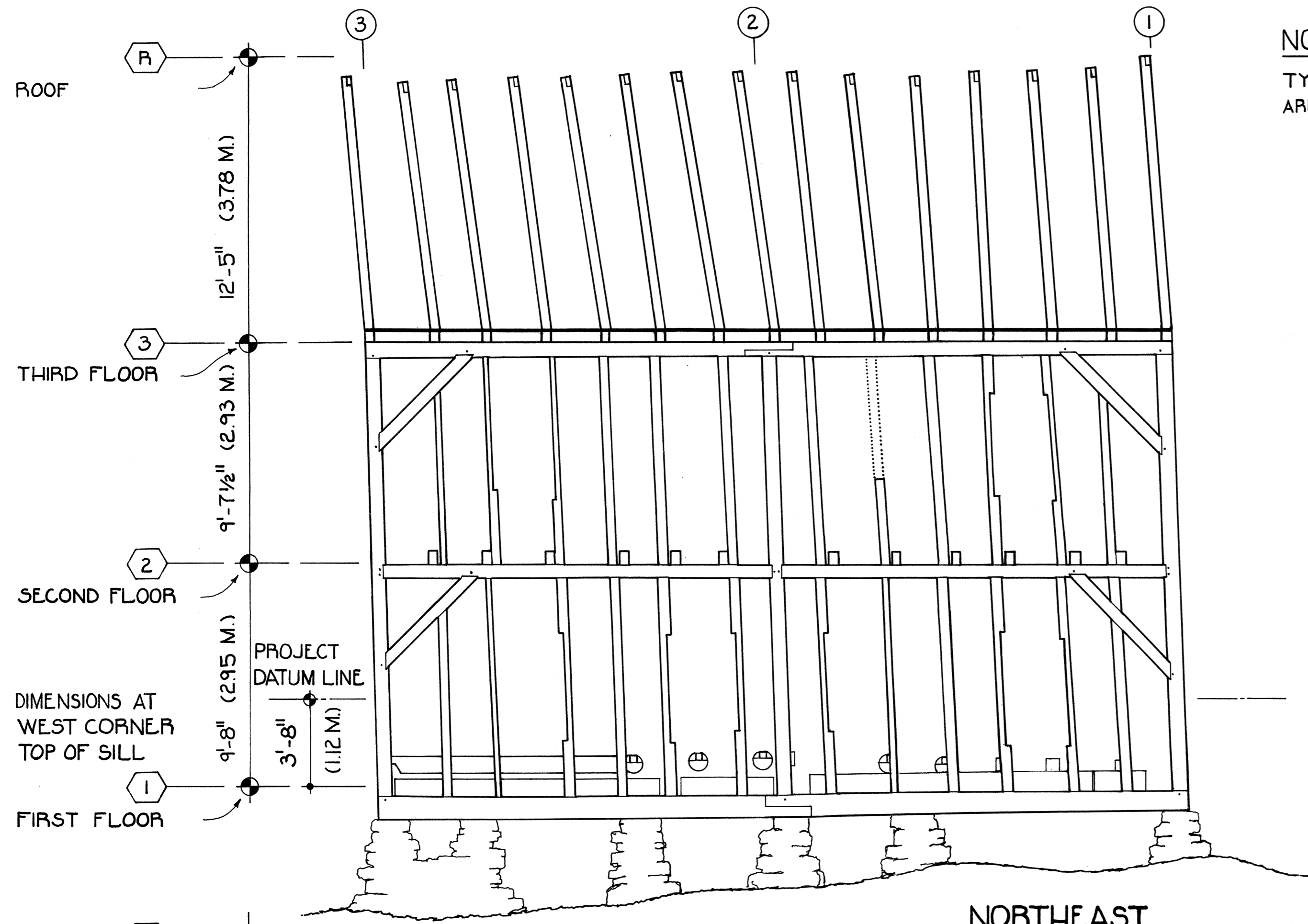
EXPLODED
SCALE: 1 1/2" = 1'-0"



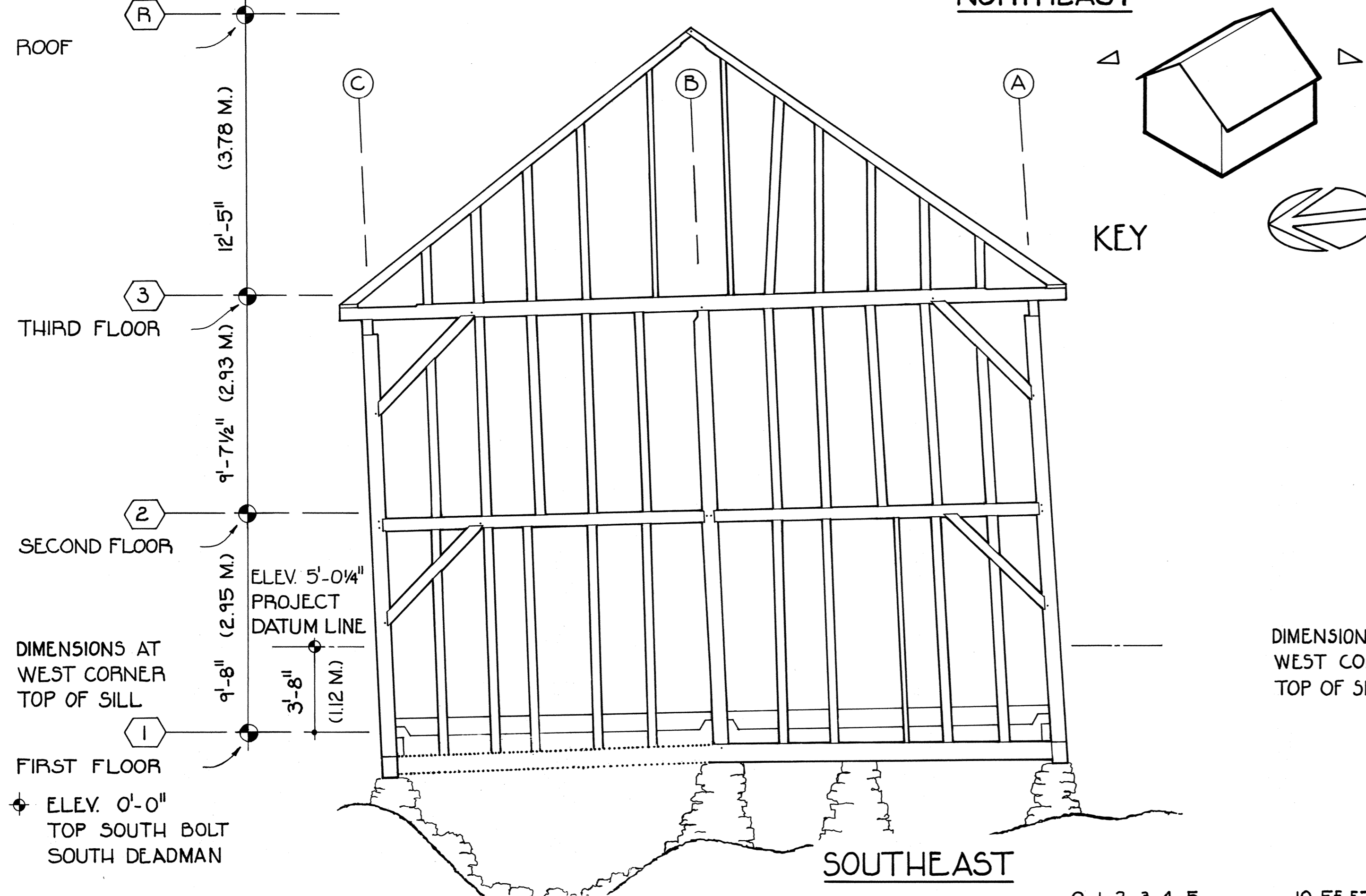
ASSEMBLED
SCALE: 1/2" = 1'-0"
0 1 2 3 4 FEET
0 50 100 200 C.M. 1:24



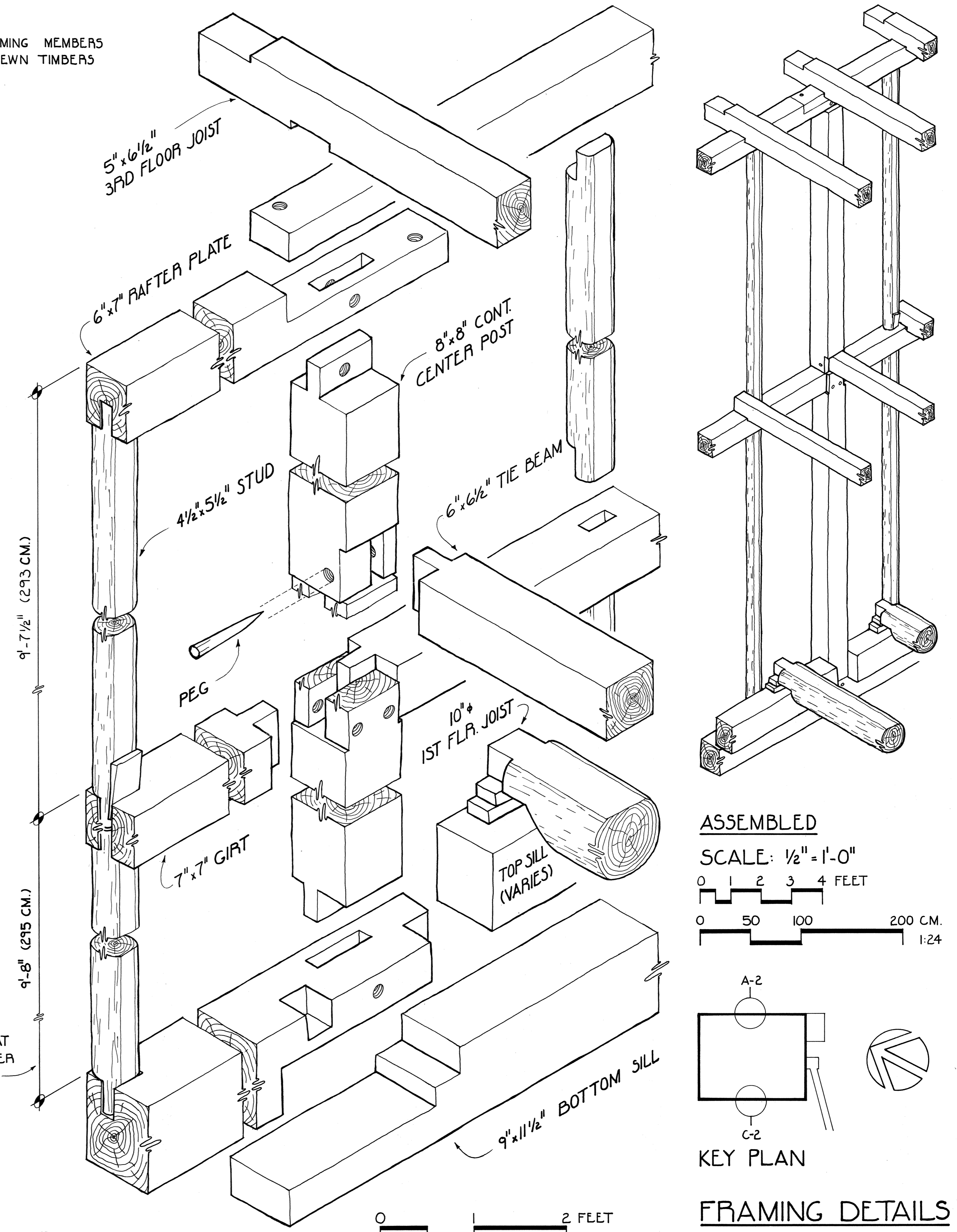
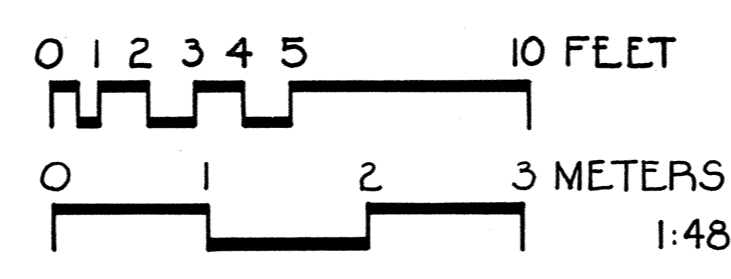
**FRAMING DETAILS
AT B-1 OR B-3**



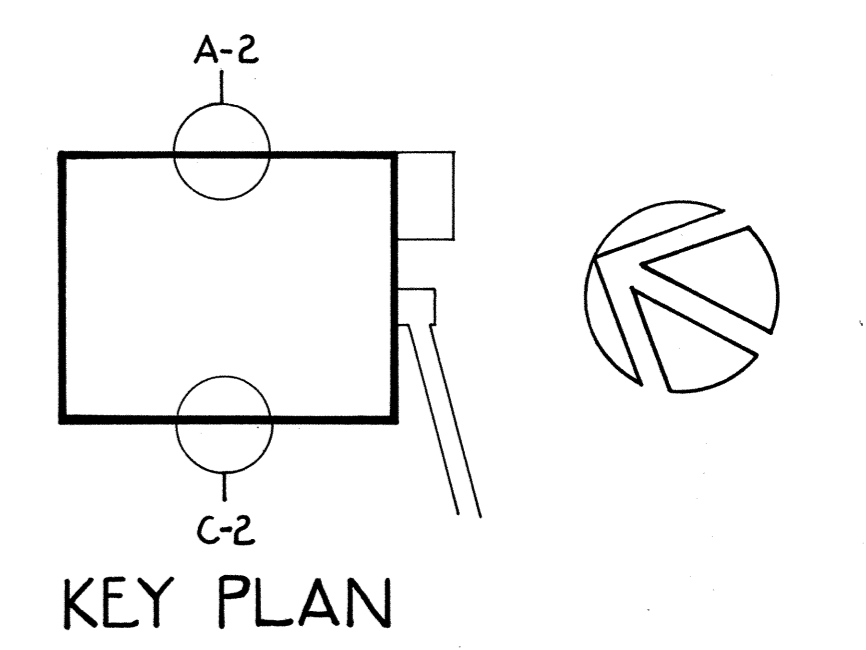
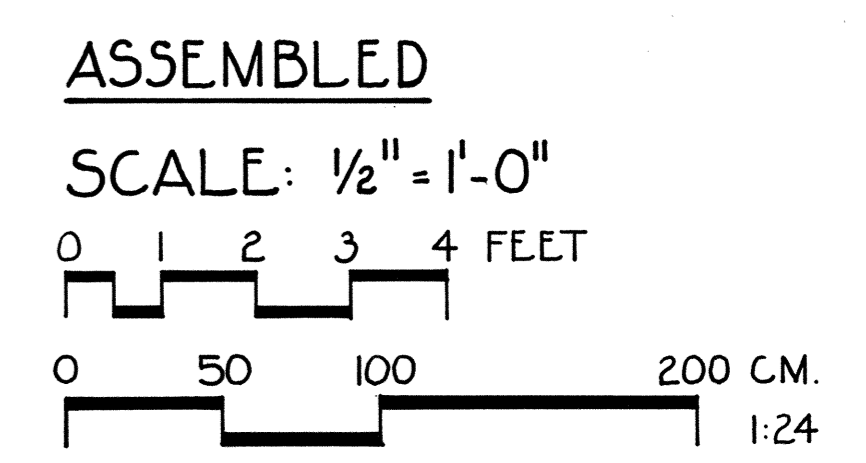
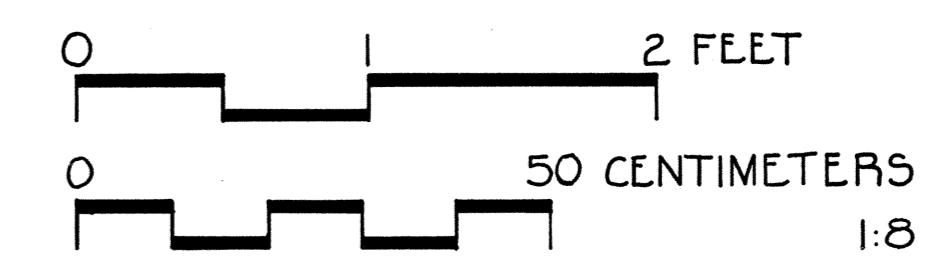
NOTE:
TYPICAL FRAMING MEMBERS
ARE HAND HEWN TIMBERS



FRAMING ELEVATIONS
SCALE: 1/4" = 1'-0"



EXPLODED
SCALE: 1 1/2" = 1'-0"



FRAMING DETAILS
AT A-2 OR C-2

DELINEATED BY: DANIEL DELAHAYE, 1986
BOXLEY GRIST MILL RECORDING PROJECT
HISTORIC AMERICAN ENGINEERING RECORD
UNITED STATES DEPARTMENT OF THE INTERIOR

PONCA

BOXLEY GRIST MILL C. 1870
ONE MILE NORTH OF BOXLEY ON ARKANSAS HIGHWAY 43
NEWTON COUNTY

ARKANSAS

SHEET 16 OF 20

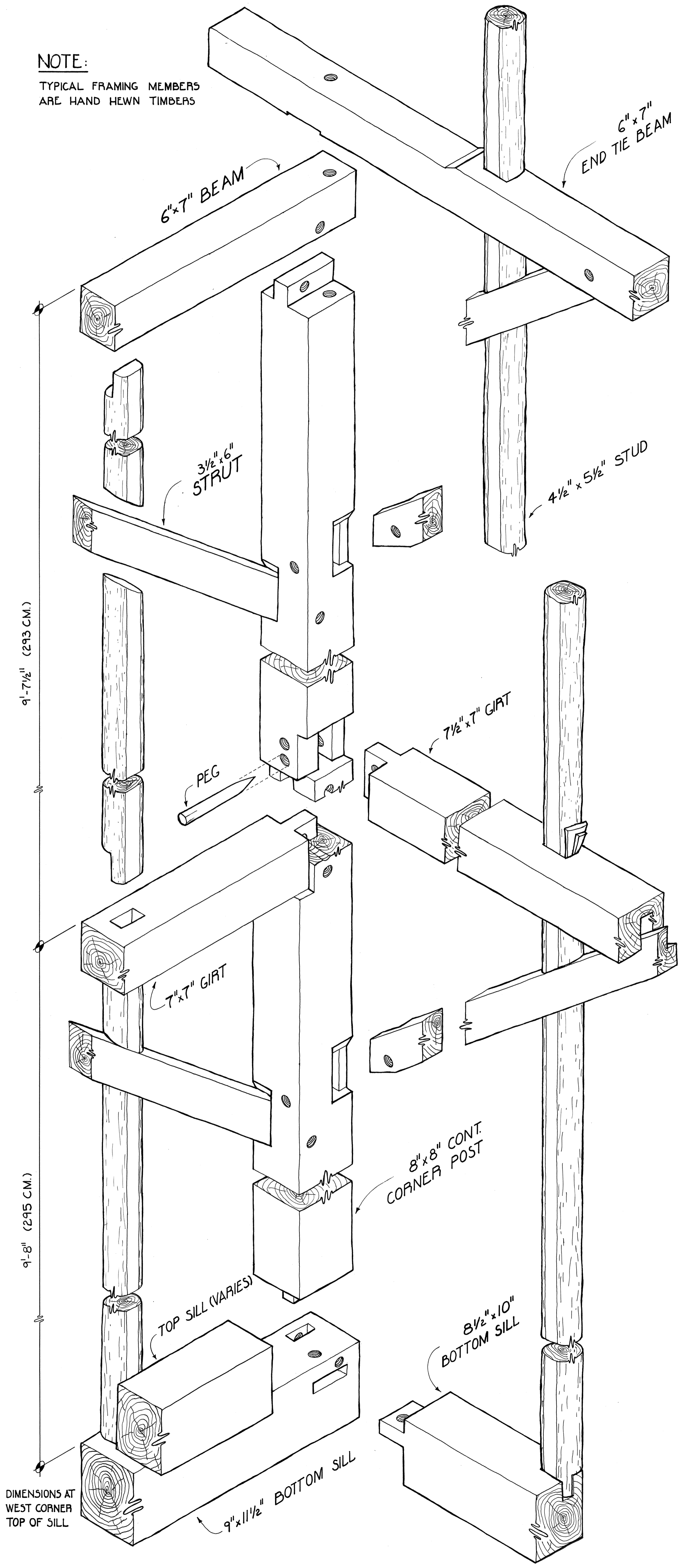
HISTORIC AMERICAN
ENGINEERING RECORD

AR-3

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NOTE:

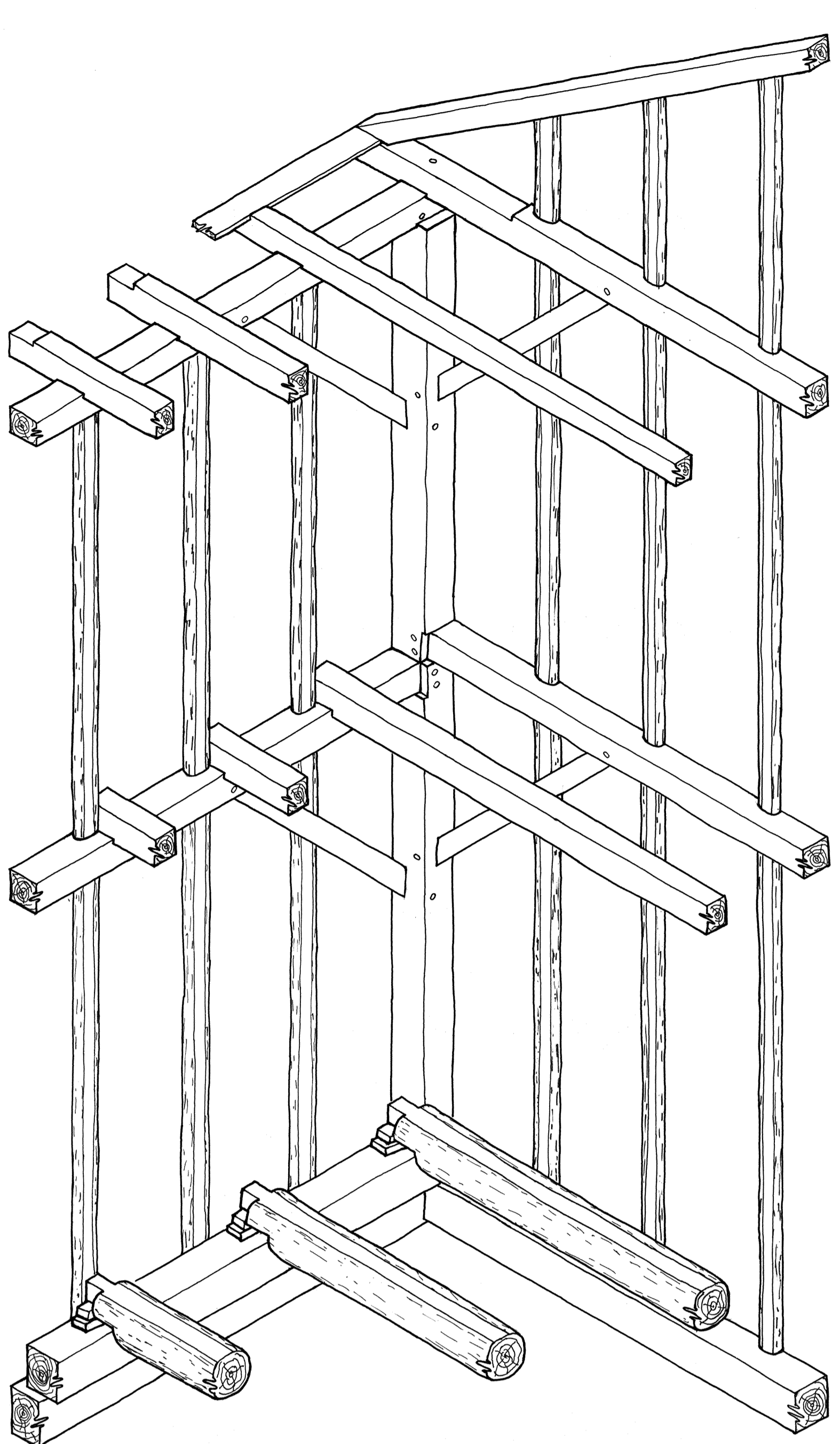
TYPICAL FRAMING MEMBERS ARE HAND HEWN TIMBERS



EXPLODED

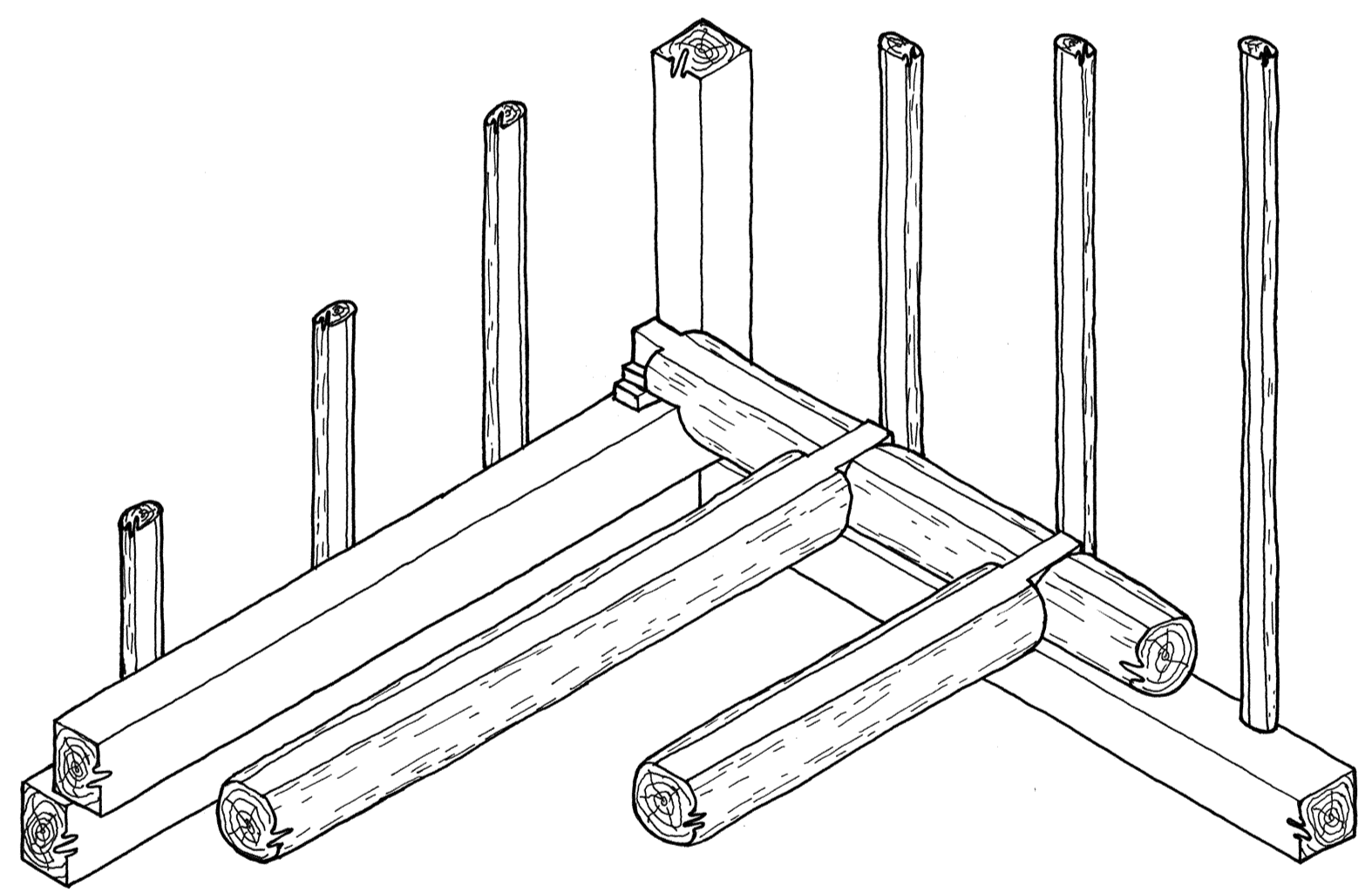
SCALE: 1/2" = 1'-0"

DIMENSIONS AT WEST CORNER TOP OF SILL



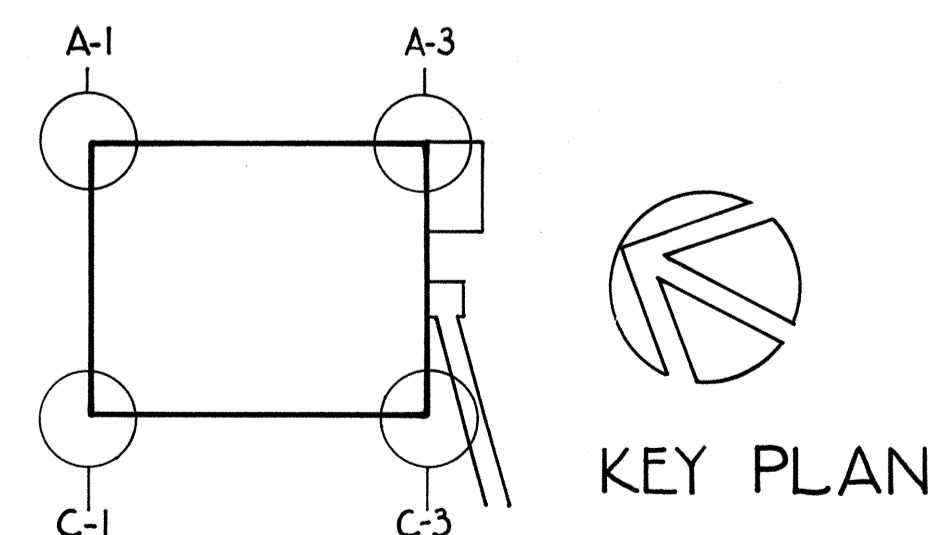
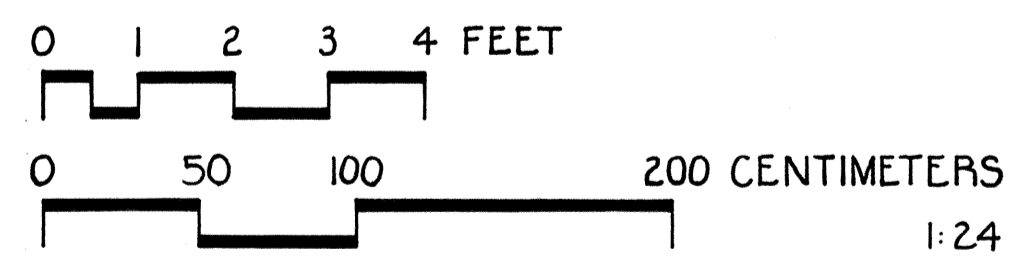
ASSEMBLED

SCALE: 1/2" = 1'-0"

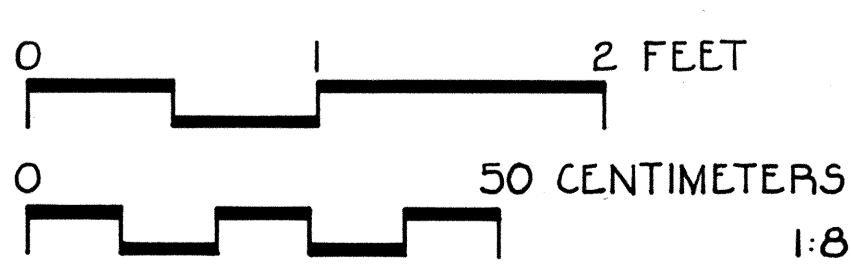


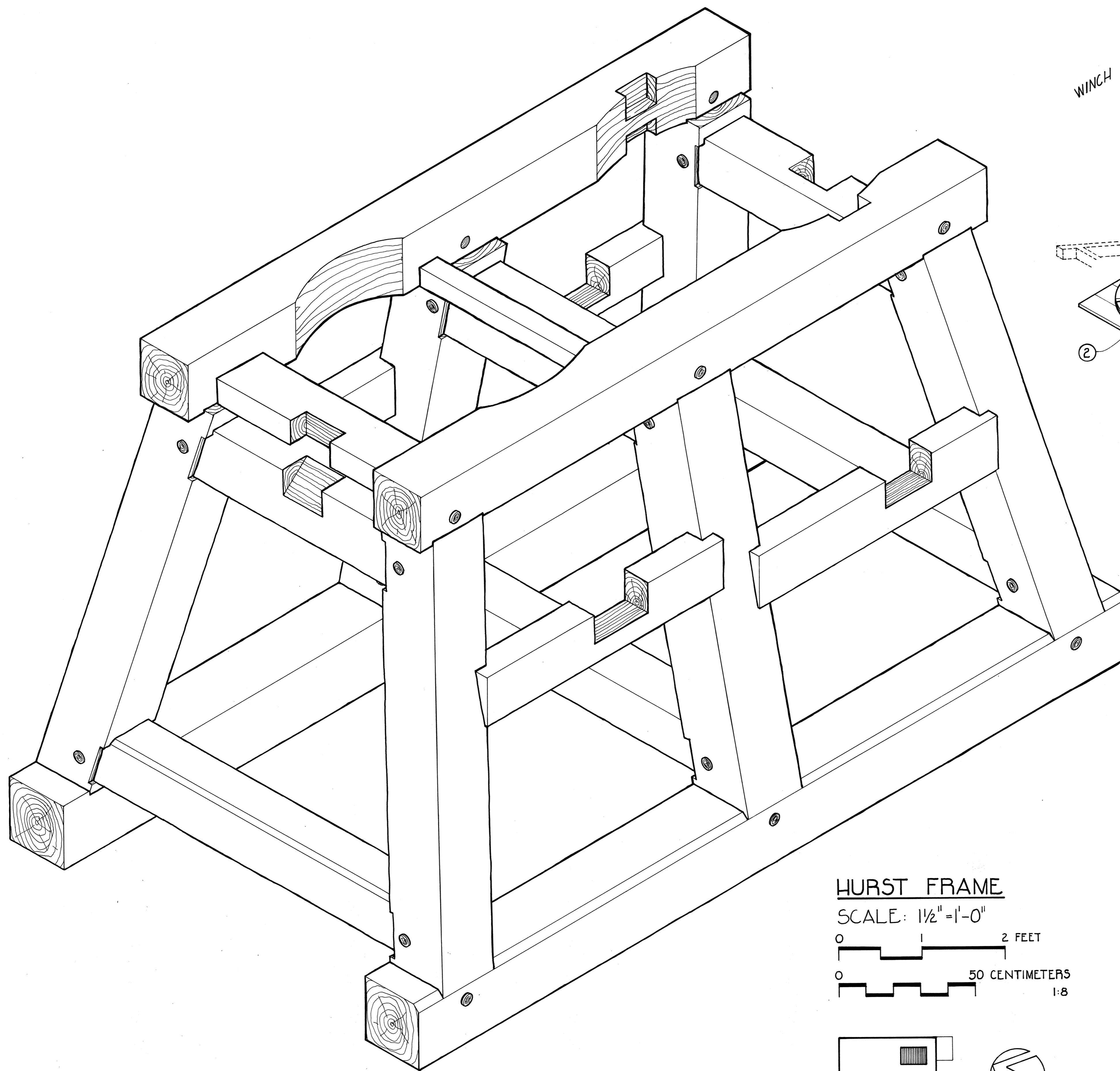
FIRST FLOOR FRAMING AT EAST CORNER (A-3)

SCALE: 1/2" = 1'-0"



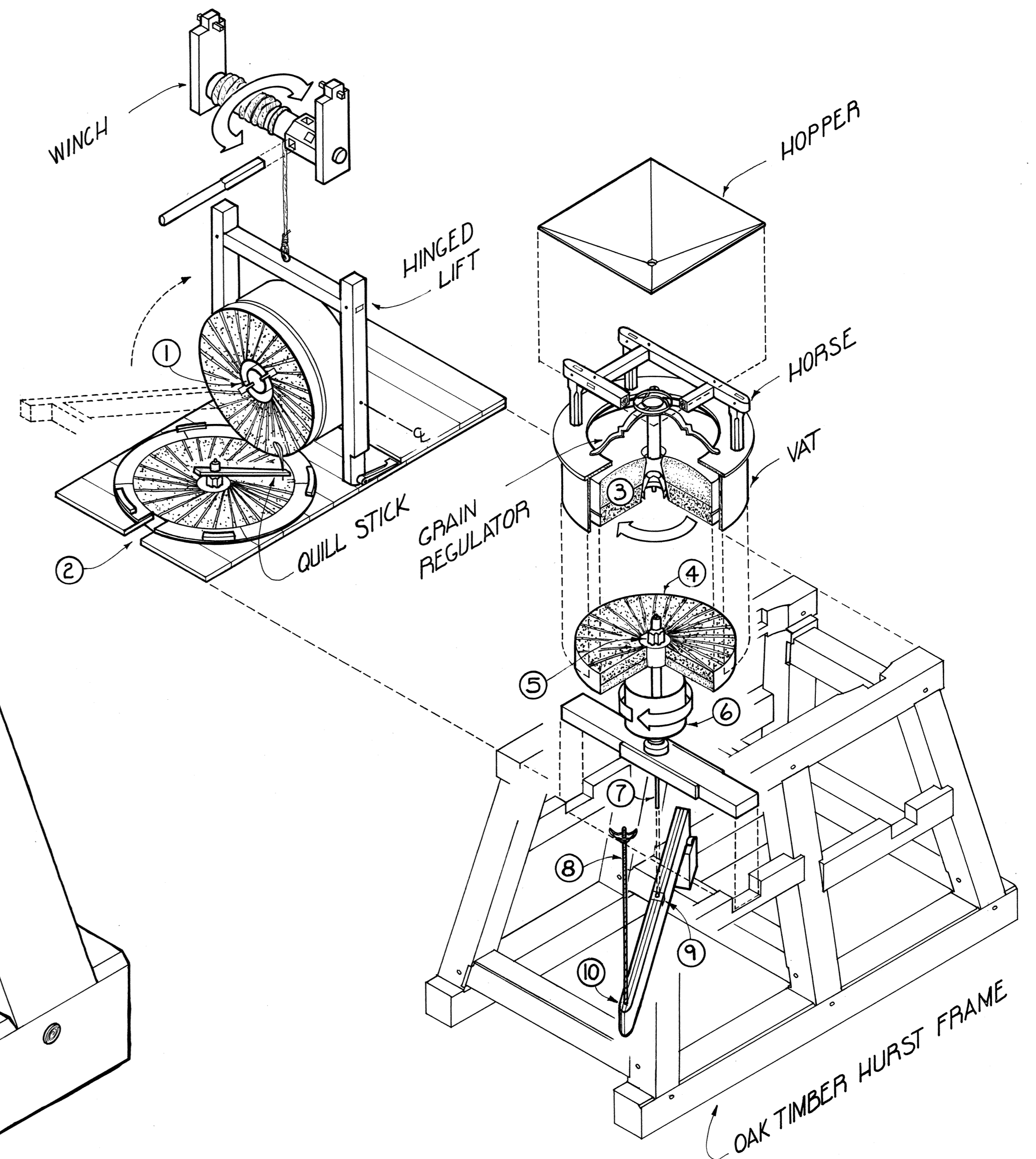
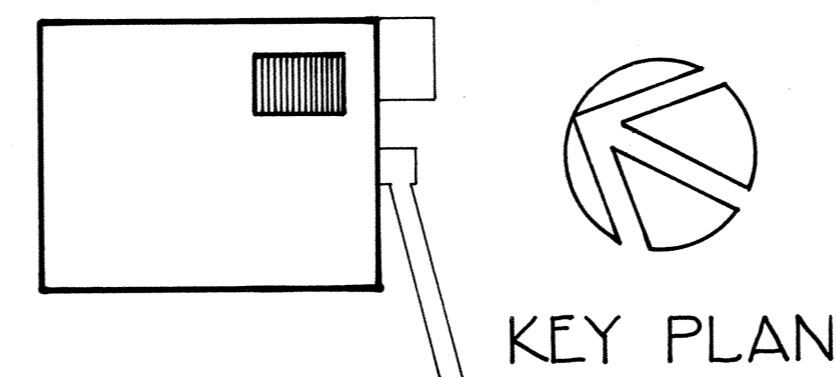
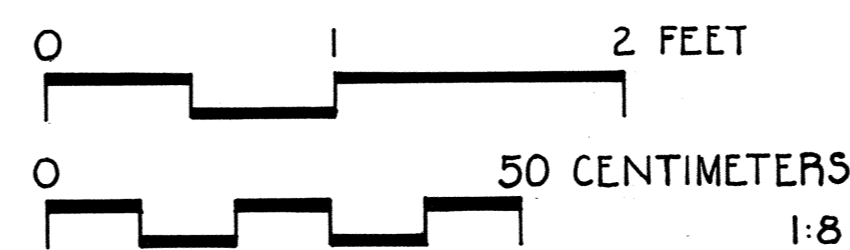
FRAMING DETAILS AT A-1, A-3, C-1, OR C-3





HURST FRAME

SCALE: 1/2" = 1'-0"

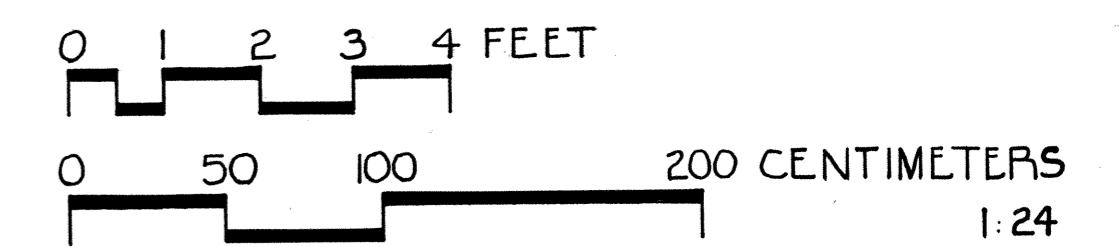


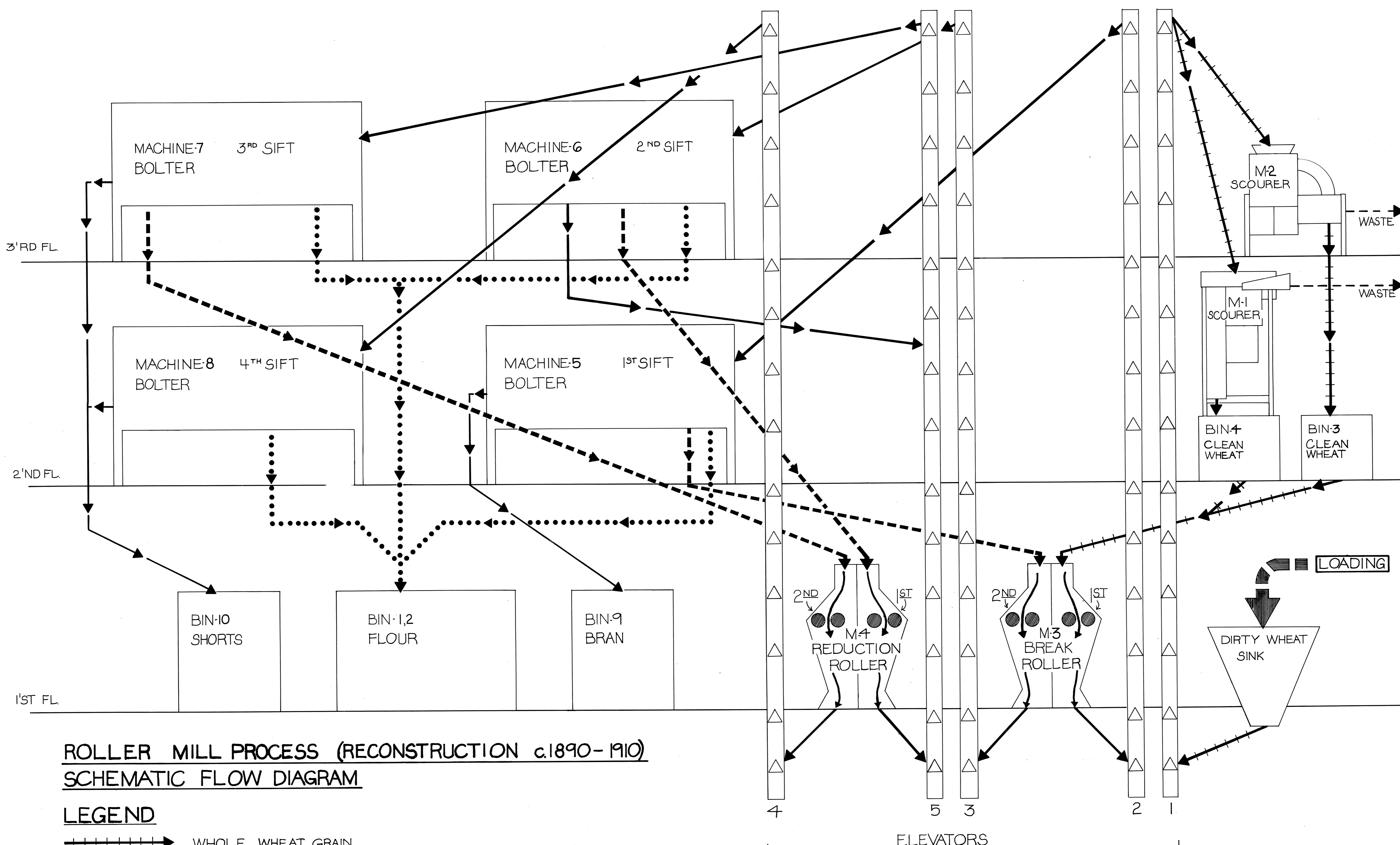
KEY

- 1. RYND
 - 2. MEAL SPOUT
 - 3. RUNNER STONE (ROTATING) OF PLASTER OF PARIS (TOP) STONE (BOTTOM)
 - 4. BED STONE (STATIONARY) OF PLASTER OF PARIS (BOTTOM) STONE (TOP)
 - 5. IRON DRIVER (ROTATING)
 - 6. 1 1/2" PULLEY DRIVEN BY QUATER-TWIST BELT FROM MAIN DRIVESHAFT IN CRAWLSPACE
 - 7. IRON STONE SPINDLE
 - 8. TINTERING ARM
 - 9. BRIDGING BOX
 - 10. BRIDGETREE
- } PAIR OF 36" DIAMETER FRENCH BURR STONES

MILLSTONE ASSEMBLY

SCALE: 1/2" = 1'-0"



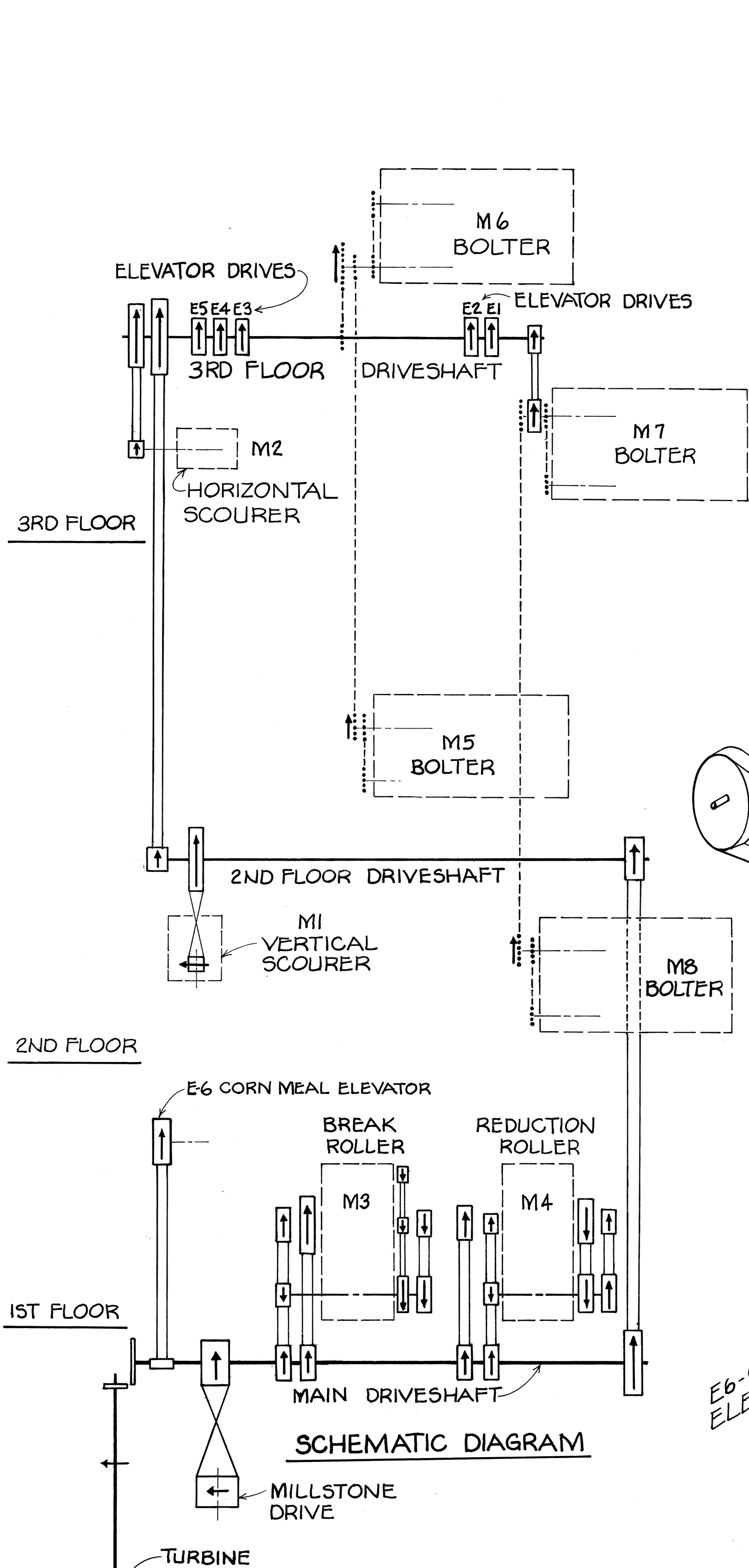


ROLLER MILL PROCESS (RECONSTRUCTION c.1890-1910)
SCHEMATIC FLOW DIAGRAM

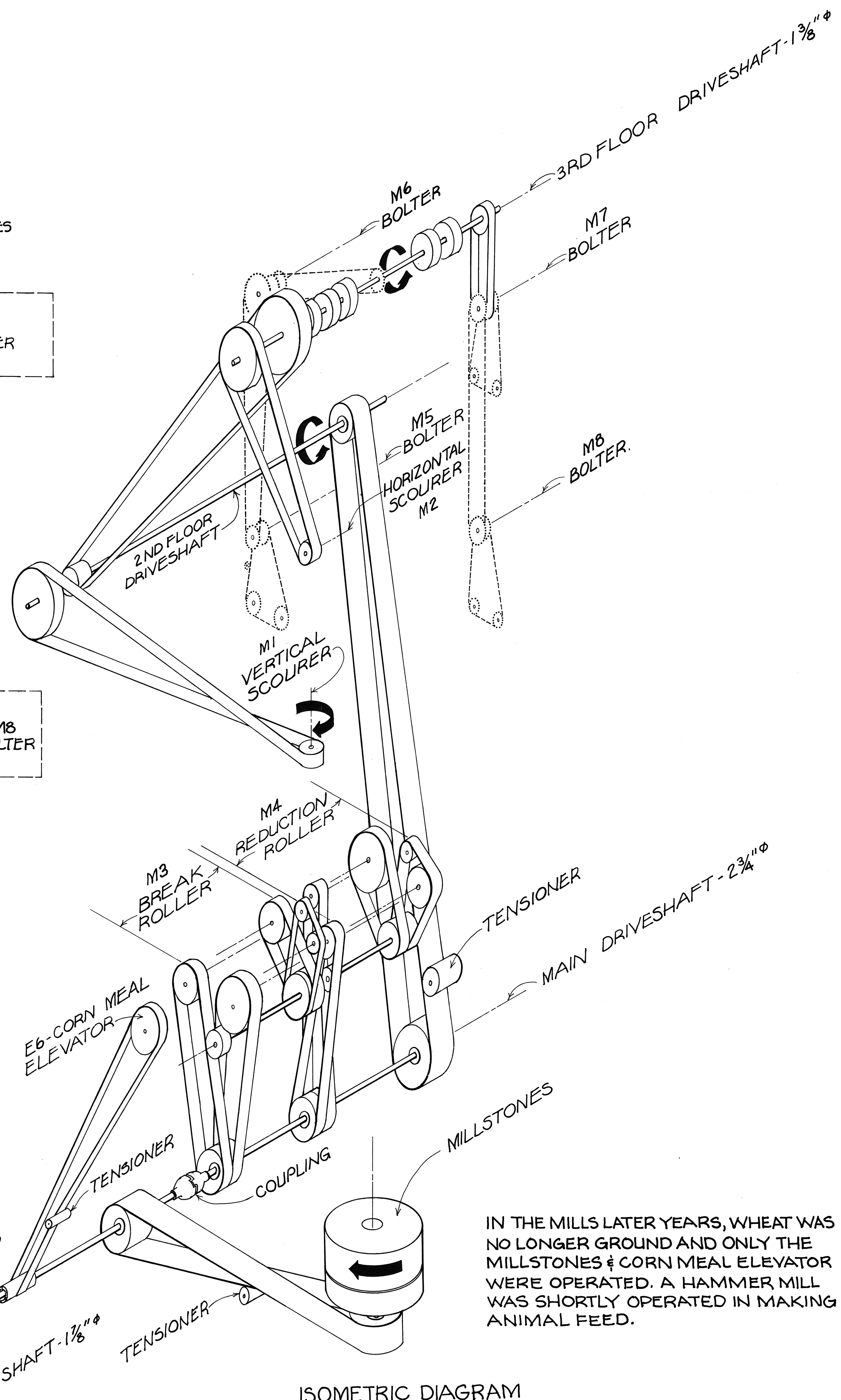
LEGEND

- > WHOLE WHEAT GRAIN
- > CRUSHED GRAIN TO BOLTERS
- > CRUSHED GRAIN TO ROLLERS
-> FLOUR
- > SHORTS, BRAN

DELINEATED BY: DAVID HANEY, 1986
 BOXLEY GRIST MILL RECORDING PROJECT
 HISTORIC AMERICAN ENGINEERING RECORD
 UNITED STATES DEPARTMENT OF THE INTERIOR
 ARKANSAS
 SHEET 19 of 20
 AR-3
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 BOXLEY GRIST MILL C. 1870
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 PONCA



SCHMATIC DIAGRAM



ISOMETRIC DIAGRAM

IN THE MILLS LATER YEARS, WHEAT WAS NO LONGER GROUND AND ONLY THE MILLSTONES & CORN MEAL ELEVATOR WERE OPERATED. A HAMMER MILL WAS SHORTLY OPERATED IN MAKING ANIMAL FEED.

POWER TRANSMISSION SYSTEM

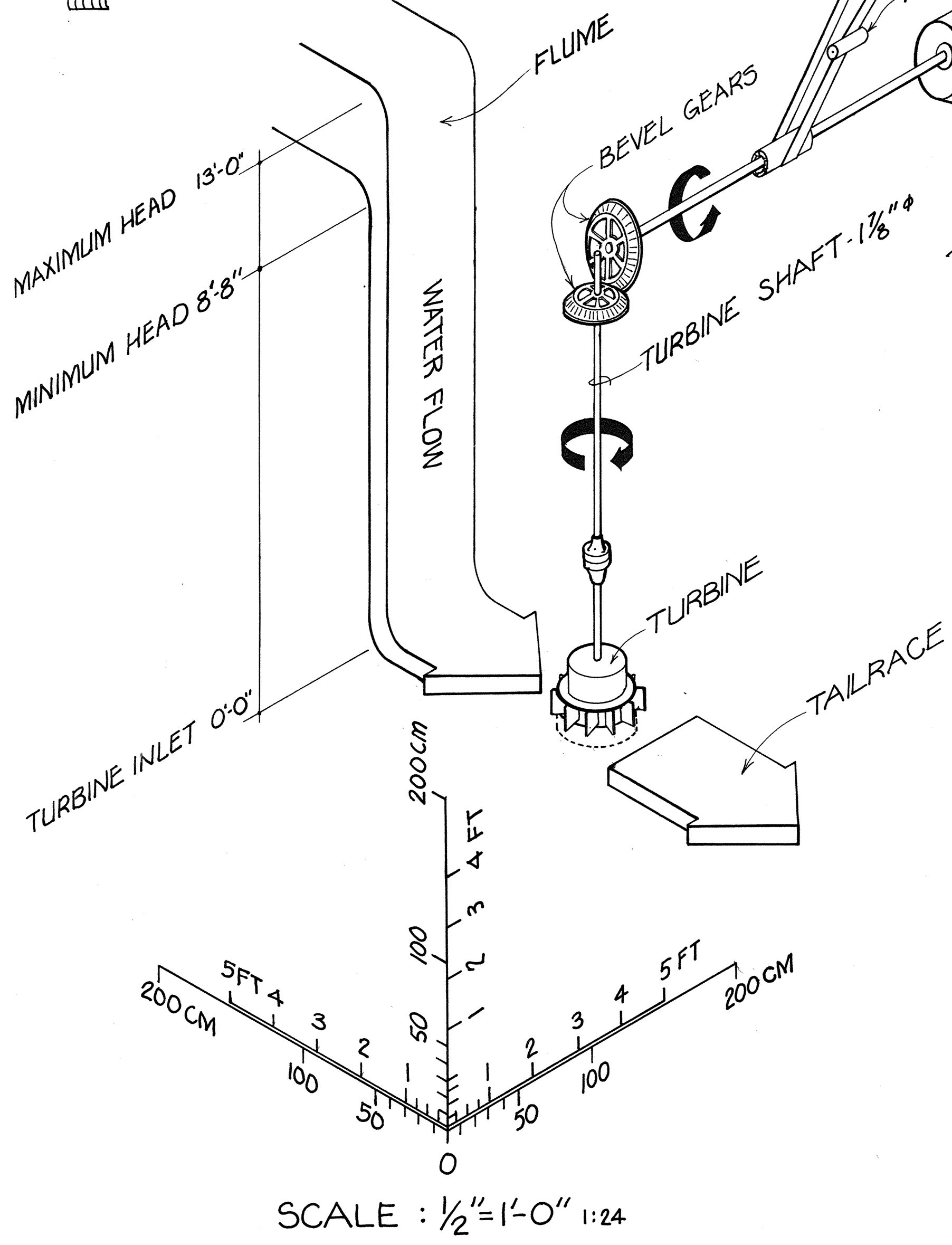
c. (1890 — 1910)

ILLUSTRATED IS A RECONSTRUCTION OF THE POWER TRANSMISSION SYSTEM FOR ROLLER MILL OPERATION WHICH SUPPLANTED THE STONE GRINDING OF WHEAT. THE REMAINING MILLSTONES WERE USED TO GRIND CORN.

ASSUMPTIONS WERE MADE AS TO THE CONFIGURATION OF : THE SECOND FLOOR DRIVESHAFT & PULLEYS ; THE REDUCTION ROLLER MILL & THE DRIVE PULLEYS TO BOTH ROLLER MILLS. MOST OF THE EQUIPMENT IS IN THE MILL BUT SHIFTED FROM ORIGINAL LOCATION.

THE TURBINE WAS DRIVEN AT APPROXIMATELY 150 RPM BY WATER FROM A SPRING-FED MILLPOND. THE WATER WAS CARRIED BY A 380 FOOT LONG HEADRACE & FLUME TO THE TURBINE BOX, THEN BY THE TAILRACE TO A NEAR-BY CREEK.

SEE PLAN SHEETS # 2, 3, 4, & 5 FOR THE RECONSTRUCTED LAYOUT OF EQUIPMENT.



SCALE : 1/2" = 1'-0" 1:24