LEGAL NOTICE

The Town of Goffstown NH, Dept. of Public Works is seeking proposals from qualified foundation or general contractors to assist the Town in addressing foundation settlement at the Goffstown Town Hall. A mandatory pre-bid walkthrough will be held at 9am on April 29th at the Goffstown Town Hall. Bid proposals should be returned in a sealed envelope clearly labeled "Town Hall Foundation" to the Town Administrator's Office at 16 Main St. Goffstown, NH 03045 before 1:00 PM May 13th, 2016. The bids will be publicly opened and read at that time by the Goffstown Public Works Director or designee and the Town Administrator or designee at the Town Hall.

The Town of Goffstown reserves the right to accept or reject any and all proposals as well as waive any informality in the best interest of the town.

Bid inquiries should be directed to the Dept. of Public Works at 404 Elm St. Goffstown, NH 03045 or (603) 497-3617 x200. The deadline for inquiries will be 1:00 PM May 6th, and bid addendum(s) would be issued by May 10th if necessary.

Foundation information, bid documents, and results are available at the Town of Goffstown website under http://goffstown.com/rfp

Adam L. Jacobs
Director of Public Works

Town of Goffstown

DEPARTMENT OF PUBLIC WORKS

TOWN OF GOFFSTOWN
NEW HAMPSHIRE

REQUEST FOR PROPOSALS
FOR
FOUNDATION SETTLEMENT MITIGATION
GOFFSTOWN TOWN HALL
16 MAIN STREET, GOFFSTOWN, NH

The Town of Goffstown, New Hampshire, is seeking proposals from qualified foundation or general contractors to assist the Town in addressing foundation settlement at the Goffstown Town Hall.

There will be a mandatory pre-bid meeting and walkthrough at the Goffstown Town Hall at 9am on April 29th, 2016.

All bid inquiries shall be submitted in writing by 1:00PM May 6th, and addendum(s) shall be issued no later than May 10th.

All proposals must be received by 1:00PM, prevailing time, on May 13th, 2016. Interested parties must submit three (3) copies of their proposal in a sealed envelope marked with the company name, address, and "2016 Goffstown Town Hall Foundation RFP". Bids should be addressed to the Town Administrator, Town Hall, 16 Main Street, Goffstown, NH 03045. The Town of Goffstown reserves the right to reject any and all proposals. Notice to proceed is expected to be provided within 30 days of acceptance of bids.

The Town hereby notifies all respondents that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit proposals in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, sex, age, or disability in consideration for an award.

Copies of the request for proposals and reports from the structural engineer may be obtained, without charge, from the Department of Public Works, 404 Elm Street, Goffstown, NH 03045, and telephone number (603) 497-3617 or on the Town's web site at http://www.goffstown.com

TOWN OF GOFFSTOWN
NEW HAMPSHIRE

REQUEST FOR PROPOSALS
FOR
FOUNDATION SETTLEMENT MITIGATION
GOFFSTOWN TOWN HALL
16 MAIN STREET, GOFFSTOWN, NH

BACKGROUND

The Town of Goffstown received a structural engineer's report in 2015 that indicated unnatural settlement of the southern corner of the Town Hall foundation. Subsequent measurements in 2016 indicate continued settlement, and recommended mitigation by installation of helical piers. The purpose of this RFP is to select a contractor to review the work completed to date and assist the Town in preventing future settlement.

SCOPE OF SERVICES

The contractor shall provide design and construction services associated with the following:

Required: Provide a proposal for installation of helical piers on both sides of the southern corner of the Town Hall foundation.

Optional: Provide proposal for solutions other than helical piers.

SUBMISSION REQUIREMENTS

Proposal must contain the following:

- Evidence that the firm has performed or is performing similar work in the last three (3) years. Include client name, address, contact person, telephone number, and description of work
- Demonstrated experience and qualifications of the actual people who will undertake the work

- Brief discussion on methodology for project approach
- Estimated start and completion date of construction (from Notice To Proceed)

Proposals, when received, shall be irrevocable for a period of ninety (90) calendar days following date received. The Board of Selectmen's judgment shall be final and the right is reserved by the Town to reject any or all proposals as he/she may determine *incomplete*, and to waive defects in form or minor irregularities where the best interest of the Town would be served.

General questions regarding this RFP may be addressed to:

Adam Jacobs
Director of Public Works
404 Elm Street
Goffstown, NH 03045

(603) 497-3617 x210
ajacobs@goffstownnh.gov

JOHN R. JACOBSON & ASSOCIATES
CONSULTING ENGINEERS
P.O. Box 10607
Bedford, N.H. 03110-0607

RECEIVED
AUG - 1 2001
SELECTMEN'S OFFICE
GOFFSTOWN, N.H.

ENGINEERING REPORT

TO: Mr. Anthony F. Simon
Support Services Administrator
Town of Goffstown, N.H.
16 Main Street
Goffstown, N.H. 03045

SUBJECT: Floor Capacity
Town Office Building

DATE: July 30, 2001

File Ref.: 670-01

Calculations based on measurements and observations made at the building and also sketches and descriptions provided indicate that the floor can support safely live loads of 135 pounds per square foot.

The 4" square column in the corridor wall was not considered because of un-known foundation characteristics and the potential for this column to be removed during some future renovation of the facility.

Fully loaded standard file cabinets can impose loads of 125 lbs/ square foot. Considering the space required for access to the files when the drawers are opened and this becomes more nearly 75 lbs/square foot.

When a layout plan with weights is received from your vendor, I would appreciate a chance to review the proposal.

Please call if there are questions.

SIGNED; John R. Jacobson
John R. Jacobson, P.E.

PLEASE REPLY; FYI; NO REPLY; eMail jsaabj@earthlink.net

NORTHEAST BUSINESS SYSTEMS

RR1 Box 114
Strafford, NH 03884
(603) 942-8923
1-800-289-8923

PROPOSAL

3

TO: Town of Goffstown
16 Main Street
Goffstown, NH 03045

DATE	July 12, 2001
F.O.B.	Destination
TERMS:	25% Deposit 25% Upon Delivery Balance Net 30 Days

WE PROPOSE TO SELL YOU THE FOLLOWING SUBJECT TO THE TERMS AND CONDITIONS STATED ON THE REVERSE SIDE OF THIS FORM:

The following WHITE Lateral Aisle-Saver System with TENNSCO or BORROUGHS 4-Post Record Shelving as shown on Plan 3.

1 - Lateral Aisle-Saver #5436 with 5 Stationary Bases and 4 Lateral Carriages 36"W x 12"D with Integrated Track and Deck 15'L.
9 - Single-Faced Units of Record Shelving 36"W x 12"D x 76¼"H.
5 - Double-Faced Units of Record Shelving 36"W x 24"D x 88¼"H.
Each 76¼"H Unit has 7 Shelves and each 88¼"H Unit has 8 with a Top.
Each Shelf has 4 Adjustable File Dividers.

Color - Sand or Light Gray (please choose one)

Filing Capacity - 5,148 L.F.I.

Investment.....$6,457.00 *

* Delivered & Installed with a 3 year warranty.

THank you,

PROPOSAL SUBMITTED FOR **NORTHEAST BUSINESS SYSTEMS** BY: David L. Perkins

ACCEPTANCE BY PURCHASER:

DATE AUTHORIZED SIGNATURE

ACCEPTANCE BY NORTHEAST BUSINESS SYSTEMS:

7-12-01

DATE AUTHORIZED SIGNATURE

THE QUOTATIONS AND TERMS ABOVE ARE SUBJECT TO THE CONDITIONS STATED ON THE REVERSE SIDE OF THIS SHEET, ALL OF WHICH ARE HEREBY REFERRED TO AND MADE A PART THEREOF

Original - White Duplicate - Canary

OFFICE SYSTEMS DESIGNED TO SAVE SPACE

NORTHEAST BUSINESS SYSTEMS

RR 1, Box 114
Strafford, NH 03884

Phone/Fax (603) 942-8923

FAX TRANSMITTAL

OFFICE SYSTEMS DESIGNED TO SAVE SPACE

TO: Tony Simon Date: 9-27-01

Town of Goffstown

FROM: Dave Perkins

MESSAGE: The new WHITE Aisle-Saver Mobile Filing System that I have designed for you will have a Total Weight as follows:

Equipment (inc. 4th Carr.) - 3,820 Lb.

Files (w/4th Carr., Full) - 15,235 Lb.

Total Weight = 19,055 Lb. ÷ 188.3 Sq.Ft.

= 101.2 Lb/SqFt

# of Pages (Not including this one) 0

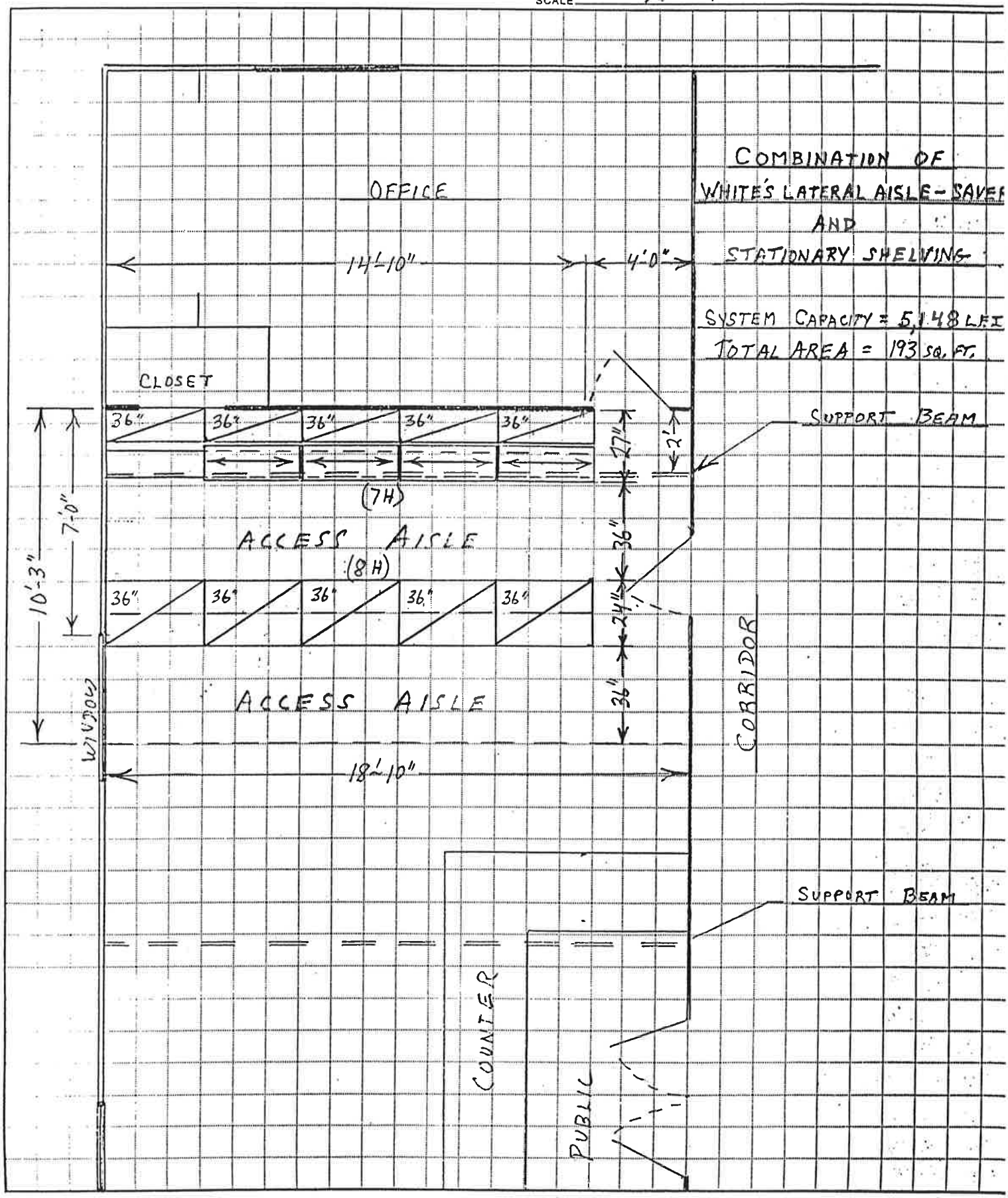
Specializing In High Density Filing & Storage Systems
- Mobile Shelving Systems
- Automated Power Files
- Micrographics - Fiche & Film
- Record, Library & Storage Shelving Systems
- Color Coded Filing Systems & Supplies
- Computer Tape & Cartridge Racks
- Lockers & Cabinets
- Mezzanines
- Key Control Systems

Office Furniture and Seating
- Computer Work Stations & Accessories
- Drafting Tables & Stools
- Modular Acoustical Panel Systems
- Executive Furniture
- Task Seating
- Conference Tables

Security & Records Protection Equipment
- Insulated Files, Safes & Vaults
- Burglary Safes

Northeast Business Systems
114 Province Road
BARNSTEAD, NH 03218
(603) 942-8923
"Systems Designed to Save Space"

JOB GOFFSTOWN TOWN OFFICES
SHEET NO. 3 OF 4
CALCULATED BY D.L. PERKINS DATE "
CHECKED BY " DATE "
SCALE 1/4" = 1'



PRODUCT 204-1 NEBS Inc., Groton, Mass. 01471.

6/28

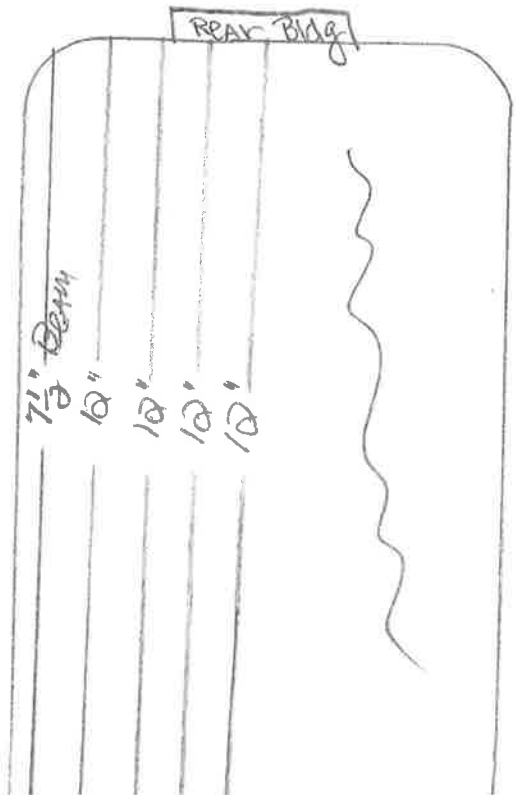
Sue,

Re: Floor for files

Floor is 2 1/8" thick wood. while not being certain it looked like one layer of boards (shiplap) and two layers of plywood. again... not certain

Steel "I" Beams run the length of bldg. as follows

1) 7 1/2" "I" Beam 8" from wall by Ed's window
1) 12" "I" " 40" " " " "
and 12" "I" beams every 48" after that.
app. 15' from wall to Ron's doorway therefore there are 4 Beams supporting area for files.



} obviously not to scale

Hope this helps. let me know if more ?'s. (M)

→

Sue,

Re: Floor Construction

The flooring is 2¼" thick WOOD supported by 12" steel "I" beams made of ¼" plate steel set 48" apart and running parallel to the length of the bldg. There is one cross support approximately 12' from the rear of the bldg. placing it almost directly under the wall between Ron and Ed. Another cross pc. is located app 20' from that point heading towards front of bldg. measuring app. 20" in height of similar "I" beam construction and thickness.

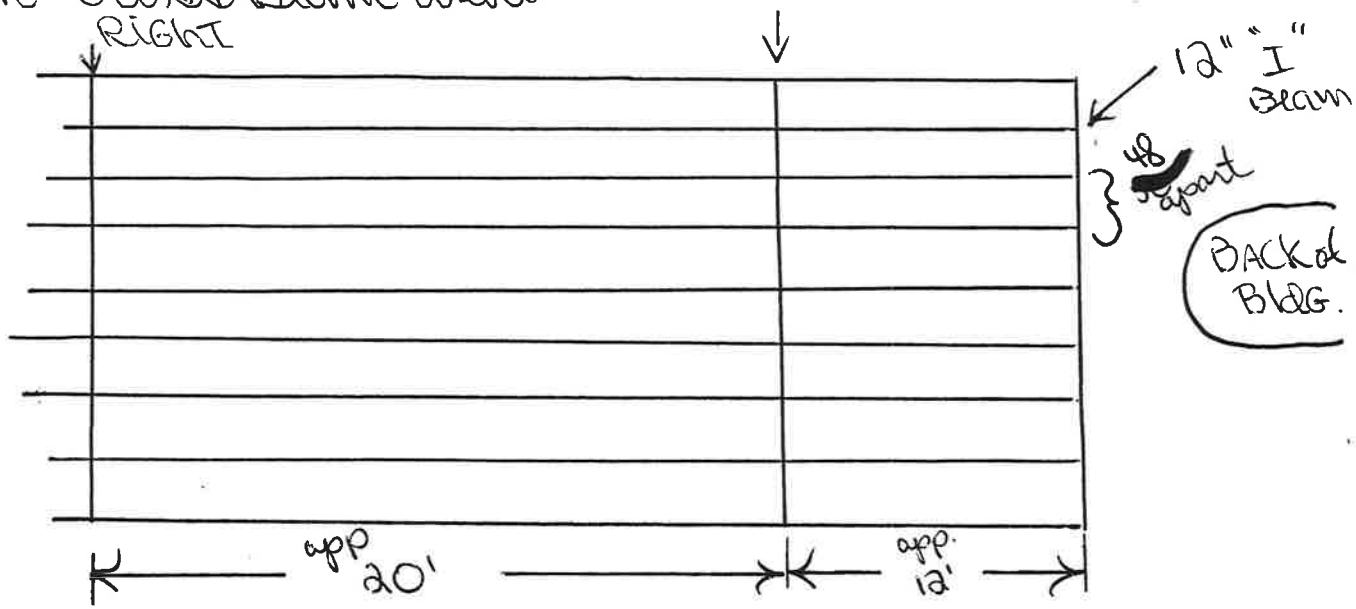
Please let me know if you need more info.

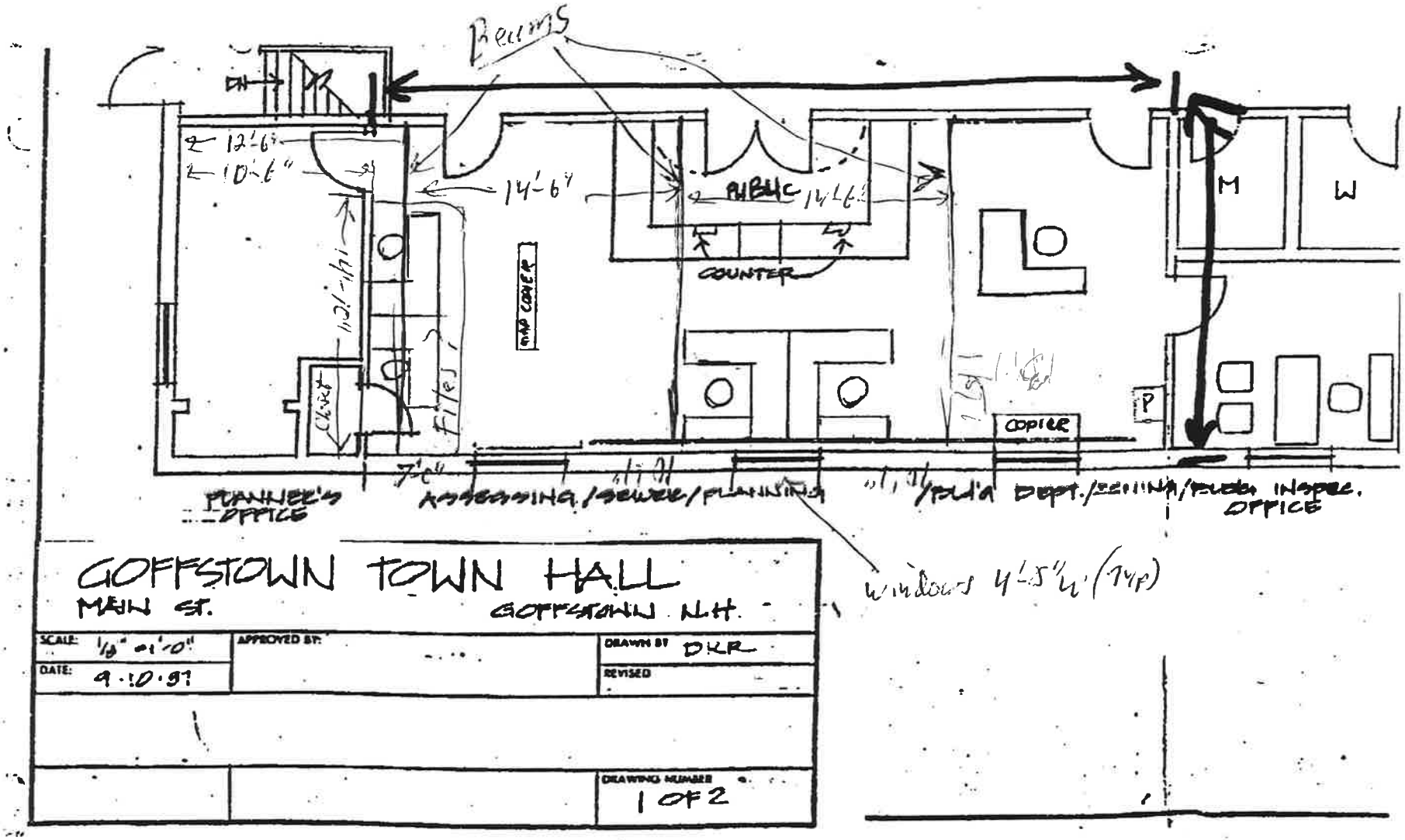
M

P.S. maybe Ed knows the integrity of the floor constructed in this fashion

Larger cross beam app 20" high and 20' away from cross beam to the RIGHT

cross beam located app under wall between Ron and E.D. also 12" "I" beam

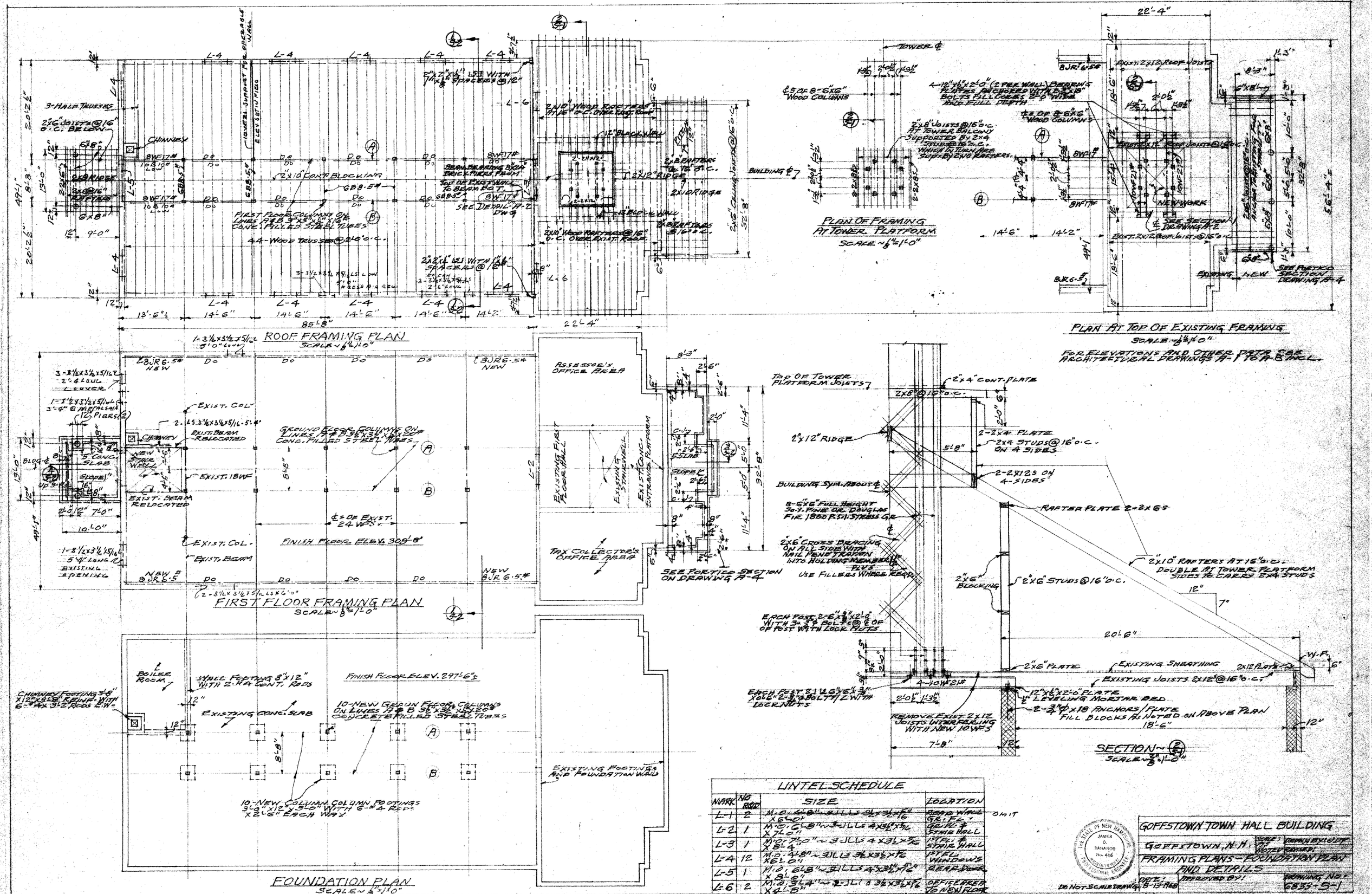




GOFFSTOWN TOWN HALL

MAIN ST. GOFFSTOWN N.H.

SCALE: 1/8" = 1'-0"	APPROVED BY:	DRAWN BY DKR
DATE: 9·10·97		REVISED
		DRAWING NUMBER 1 OF 2



LINTEL SCHEDULE

MARK	NO. REQD	SIZE	LOCATION
L-1	2	M.O. 4'-8" ~ 3-JLLS 3½ X 3½ X 5/16" X 6'-0"	REAR WALL GR. FL.
L-2	1	M.O. 6'-8" ~ 3-JLLS 4 X 3½ X 5/16" X 7'-0"	GR. FL. & STAIR HALL
L-3	1	M.O. 7'-0" ~ 3-JLLS 4 X 3½ X 5/16" X 8'-4"	1ST FL. & STAIR HALL
L-4	12	M.O. 4'-8" ~ 3-JLLS 3½ X 3½ X 5/16" X 6'-0"	1ST FL. WINDOWS
L-5	1	M.O. 6'-8" ~ 3-JLLS 4" X 3½" X 5/16" X 8'-0"	REAR DOOR
L-6	2	M.O. 3'-4" ~ 2-JLLS 3½ X 3½ X 5/16" X 4'-8"	OFFICE AREA TO NEW FLOOR

OMIT

THE STATE OF NEW HAMPSHIRE
JAMES O. BANANOS
No. 486
REGISTERED PROFESSIONAL ENGINEER

DO NOT SCALE DRAWING

GOFFSTOWN TOWN HALL BUILDING

GOFFSTOWN, N.H.

SCALE: AS NOTED

DRAWN BY: JDP

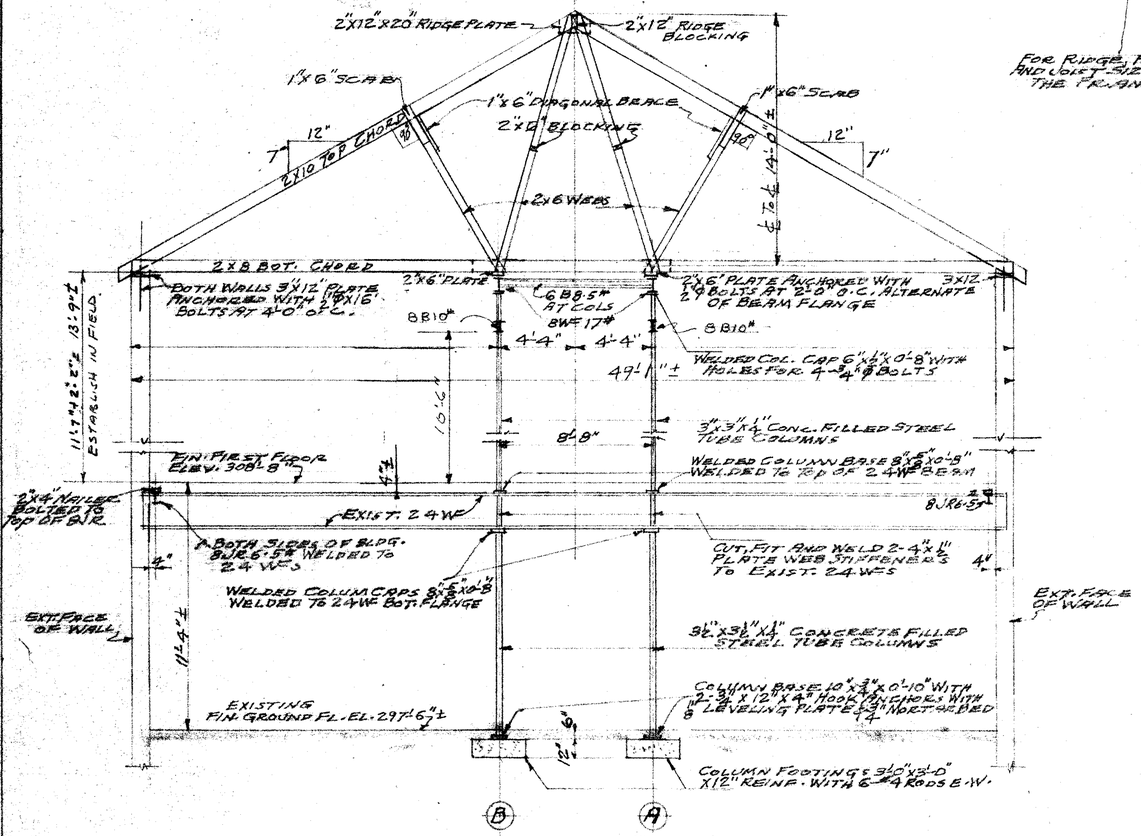
REVISED:

FRAMING PLANS - FOUNDATION PLAN AND DETAILS

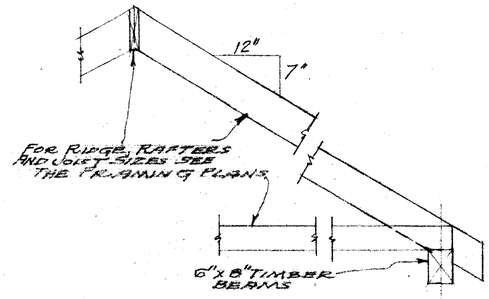
DATE: 8-13-1968

APPROVED BY:

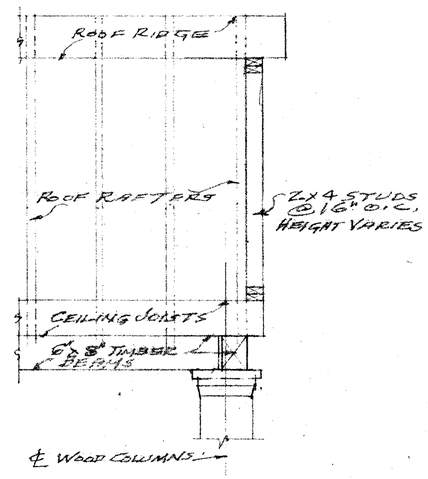
DRAWING NO. 6833-S-1



SECTION ~ 1/S-2
SCALE ~ 1/4" = 1'-0"



TYPICAL DETAIL AT ENTRANCE ROOF FRAMING
SCALE ~ 3/4" = 1'-0"



SECTION AT ENTRANCE ROOFS
SCALE ~ 3/4" = 1'-0"

THE CONTRACTOR MUST SUBMIT FABRICATOR'S OR HIS DETAILS AND CONNECTIONS ON THE WOOD TRUSS WORK. IN ADDITION TO SHOW TYPE AND LOCATION OF MEMBER SPLICES. ALL TRUSSES SHALL BE AS PER AMERICAN INSTITUTE OF TIMBER CONSTRUCTION STANDARDS.

GENERAL NOTES:

BEFORE PROCEEDING WITH THE WORK THE CONTRACTOR SHALL CHECK THE EXISTING CONDITIONS IN THE FIELD AND CHECK FOR DISCREPANCIES WITH THE DRAWINGS.

FOOTING DESIGN HAS BEEN BASED ON 2 TONS / □' ON SOIL.

PORTLAND CEMENT, AGGREGATES FOR CONCRETE SHALL BE AS NOTED IN THE JOB SPECIFICATIONS.

ALL CONCRETE FOR THIS PROJECT SHALL BE OF A MIX THAT WILL DEVELOP A COMPRESSIVE UNIT STRESS OF 3000 P.S.I. AT 28 DAYS AFTER POURING. COARSE AGGREGATE FOR BLOCK AND STAIR PAN FILL SHALL BE 1" MAXIMUM.

REINFORCING RODS FOR CONCRETE REINFORCEMENT SHALL BE DEFORMED BARS OF BILLET STEEL GRADE 40 IN ACCORDANCE WITH THE AMERICAN SOCIETY FOR TESTING MATERIALS (A.S.T.M.) #615-68 SPECIFICATION.

WELDED WIRE FABRIC FOR SLABS, STAIR PAN FILL ETC. SHALL CONFORM TO THE A.S.T.M. SPECIFICATION A185 AND LAPPED 6" AT SIDES AND ENDS.

UNLESS OTHERWISE NOTED, CONTINUOUS RODS SHALL BE LAPPED 32-DIAMETERS AND AT CORNER 36 DIAMETERS. IN NO CASE THE LAPS ARE TO BE LESS THAN 12".

WHERE NEW FOUNDATION WALLS BUTT AGAINST EXISTING ROUGHEN THE EXISTING FACES. IN ADDITION DRILL HOLES INTO EXISTING CONCRETE & GRANITE LIKE THE NEW HORIZONTAL RODS AND TO A DEPTH OF 12" INTO WALL. THE HOLES SHALL MATCH THE NUMBER AND SPACING OF THE NEW RODS. FILL THE HOLES WITH MORTAR AND IMMEDIATELY HAMMER IN NEW 3/4" LONG DOWELS.

STRUCTURAL STEEL SHALL CONFORM TO THE STANDARD SPECIFICATION FOR STRUCTURAL STEEL FOR BRIDGES AND BUILDINGS SERIAL DESIGNATION A36 OF THE A.S.T.M. AS AMENDED TO DATE. THE APPLICABLE SPECIFICATION SHALL APPLY FOR BOLTS AND RIVETS.

UNLESS OTHERWISE NOTED ALL STRUCTURAL STEEL CONNECTIONS SHALL BE WITH 3/4" Ø BOLTS.

STEEL JOINTS TO BE FIELD WELDED SHALL BE CLEANED AND SHALL RECEIVE ONE (1) SHOP COAT OF PAINT. SECTIONS OF COLUMNS EMBEDDED IN CONCRETE TO RECEIVE ONE (1) COAT OF ASPHALTIC PAINT.

WHERE REQUIRED, THE STEEL FABRICATOR SHALL PROVIDE FOR ATTACHING WOOD AND OTHER WORK, HOLES FOR 1/2" Ø BOLTS ON STEEL MEMBERS AT 2'-0" O.C.

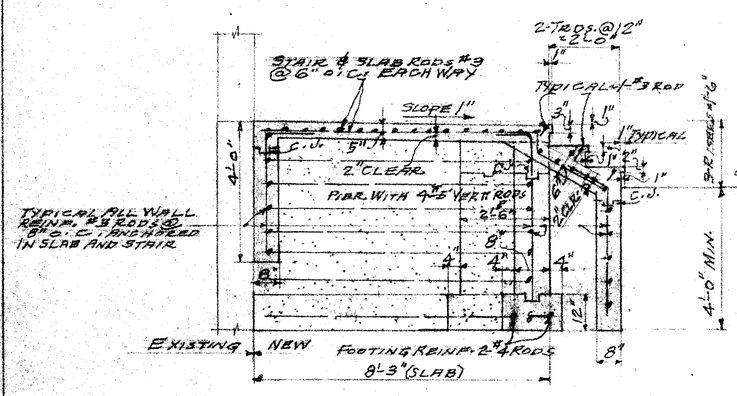
UNLESS OTHERWISE NOTED, ALL THE STRUCTURAL STEEL WORK SHALL RECEIVE ONE (1) SHOP COAT OF BLUE INTERIOR PAINT, ZINC CHROMATE OR AN "L" BASE PAINT IN THE SHOP.

UNLESS OTHERWISE NOTED WHERE STEEL BEAMS BEAR ON CONCRETE MASONRY BLOCK WALLS FILL THREE BLOCK CELLS WITH CONCRETE AT THE BEARING WITH CONCRETE AND INSERT ONE (1) 3/4" VERTICAL ROD IN EACH CELL THE RODS SHALL REACH THE TOP OF CONCRETE WALLS. IN ADDITION PROVIDE 1" MORTAR BEDS AND 6"x6"x1/2" STEEL ANCHORED WITH 2-1/2"Ø X 16" BOLTS.

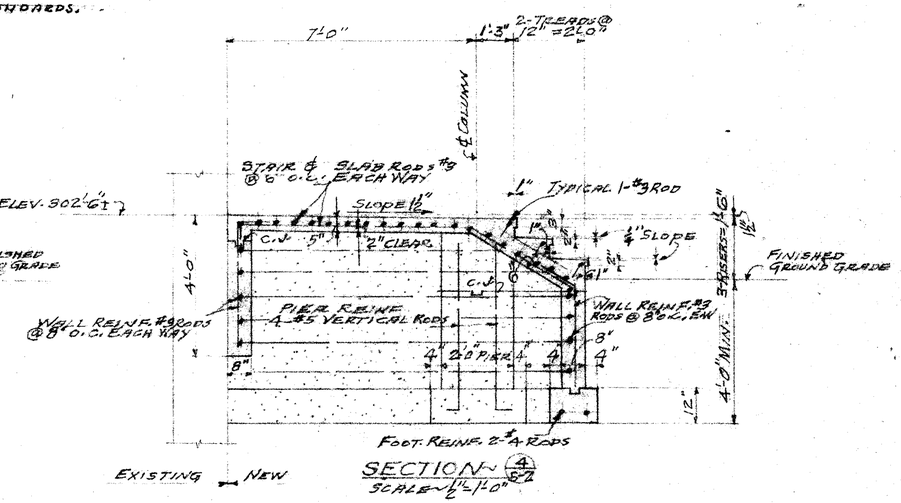
STRUCTURAL STEEL SHALL NOT BE LOADED FOR SHIPMENT BEFORE THE PAINT HAS DRIED.

LUMBER FOR BEAMS, JOISTS, STUDS AND RAFTERS SHALL BE STRUCTURAL COMMERCIAL DOUGLAS FIR 1500 F.B.S. STRESS GRADE OR SOUTHERN YELLOW PINE.

8-2"x6" TOWER POSTS SHALL BE AS NOTED (1800 P.S.I.)



SECTION ~ 3/S-2
SCALE ~ 1/2" = 1'-0"

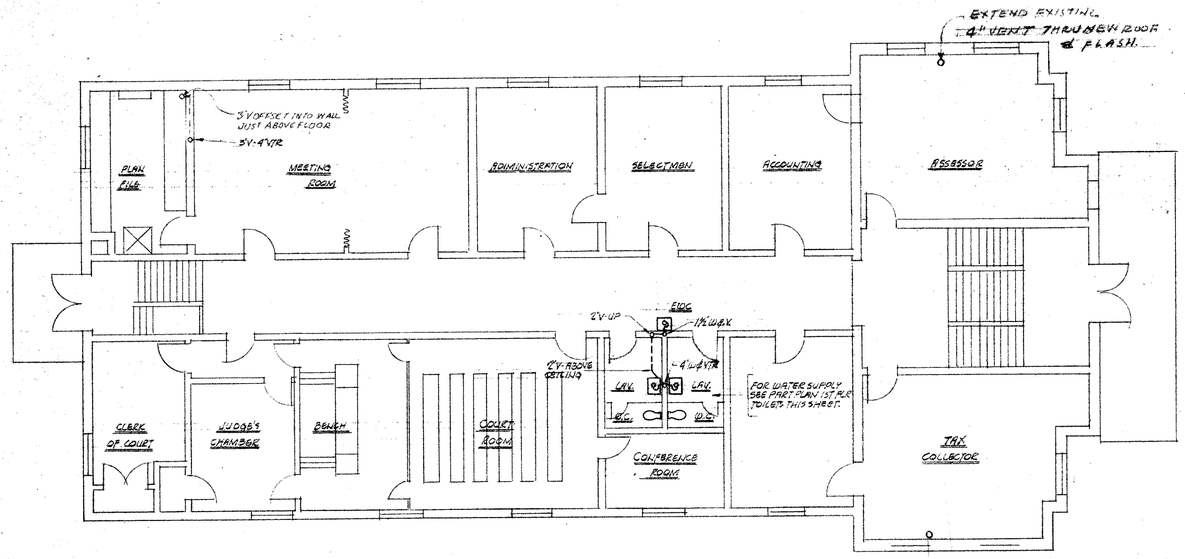


SECTION ~ 4/S-2
SCALE ~ 1/2" = 1'-0"

THE STATE OF NEW HAMPSHIRE
JAMES D. PAPANOS
No. 4868
REGISTERED PROFESSIONAL ENGINEER

DO NOT SCALE DRAWING

GOFFSTOWN TOWN HALL BUILDING			
GOFFSTOWN, N.H.		SCALE: AS NOTED	DRAWN BY: J.D.P. REV. SEC.
DETAILS - SECTIONS & NOTES			
DATE: 8-16-1969	APPROVED BY:		DRAWING No: 6833-S-2



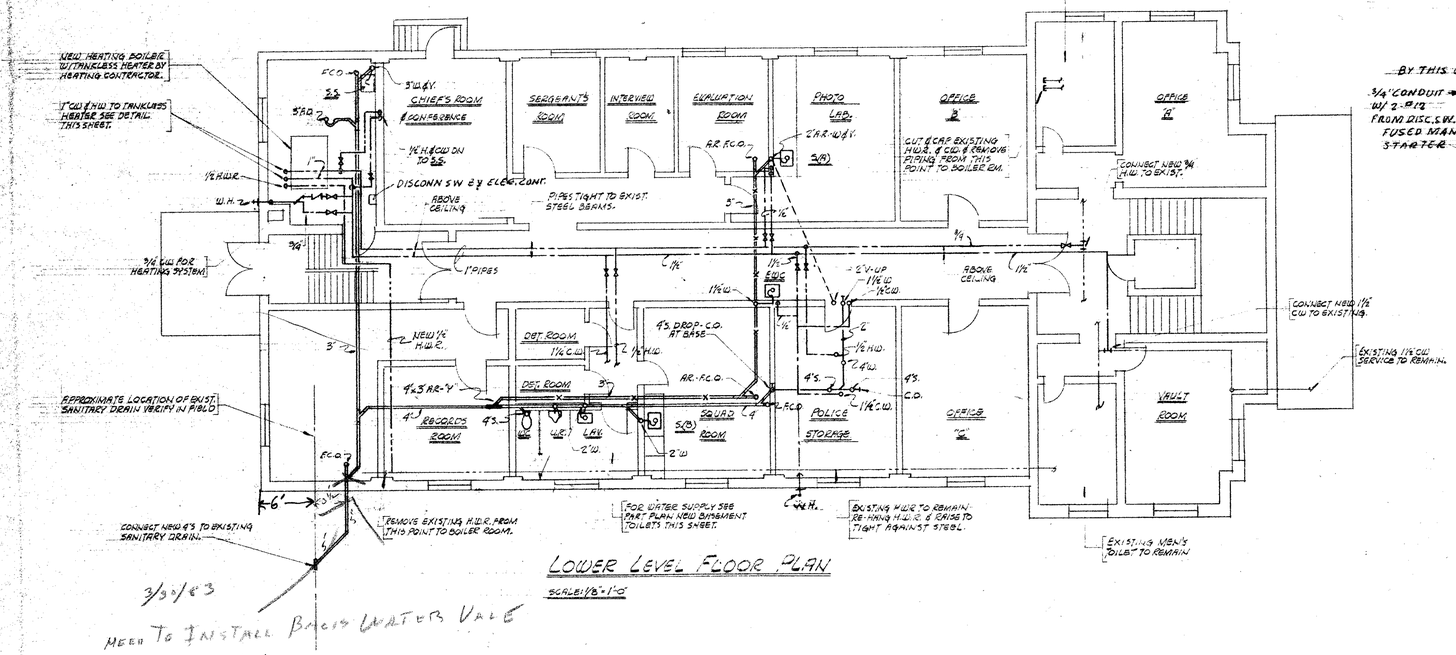
FIRST FLOOR PLAN

SCALE: 1/8"=1'-0"

SCHEDULE OF PLUMBING FIXTURE CONNECTIONS				
SYMBOL	DESCRIPTION	SOR W	CW	H.W.
W.C.	WATER CLOSET	4"	1"	-
U.R.	URINAL	2"	3/4"	-
LAV.	LAVATORY	1½"	½"	½"
S.(A)	SINK (A)	2" HR	½"	½"
S.(B)	SINK (B)	2"	½"	½"
S.S.	SERVICE SINK	3"	½"	½"
E.W.C.	ELECTRIC WATER COOLER	1½"	½"	-

LEGEND ~

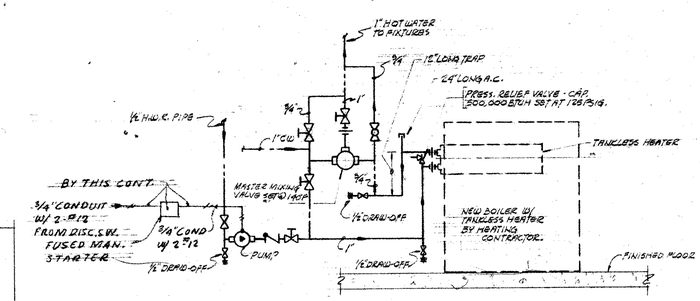
SOIL OR WASTE ABOVE GRADE	(SOR W)	
SOIL OR WASTE BELOW GRADE	(SOR W)	
VENT ABOVE GRADE	(V)	
VENT BELOW GRADE	(V)	
COLD WATER	(CW)	
HOT WATER	(HW)	
GATE VALVE		
GLOBE VALVE		
CHECK VALVE		
WALL HYDRANT		
HOSE BIBB		
TRAP		
FLOOR DRAIN		(F.D.)
VENT THRU ROOF		(V.T.R.)
SHOCK ABSORBER		(S.A.)
AIR CHAMBER		(A.C.)
CLEAN-OUT		(C.O.)
FLOOR CLEAN-OUT		(F.C.O.)
ACID RESISTING WASTE BELOW FLOOR	(A.R.)	
RISER IN PLAN		
DROP IN PLAN		
UNION		
HOT WATER RETURN	(H.W.R.)	



LOWER LEVEL FLOOR PLAN

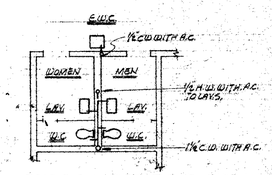
SCALE: 1/8"=1'-0"

3/30/83
NEED TO INSTALL BACK WATER VALE

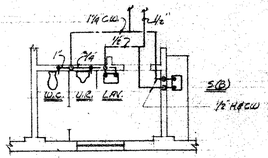


TANKLESS HEATER PIPING DETAIL

SCALE: NONE



PART PLAN - FIRST FLOOR



PART PLAN - LOWER LEVEL FLOOR

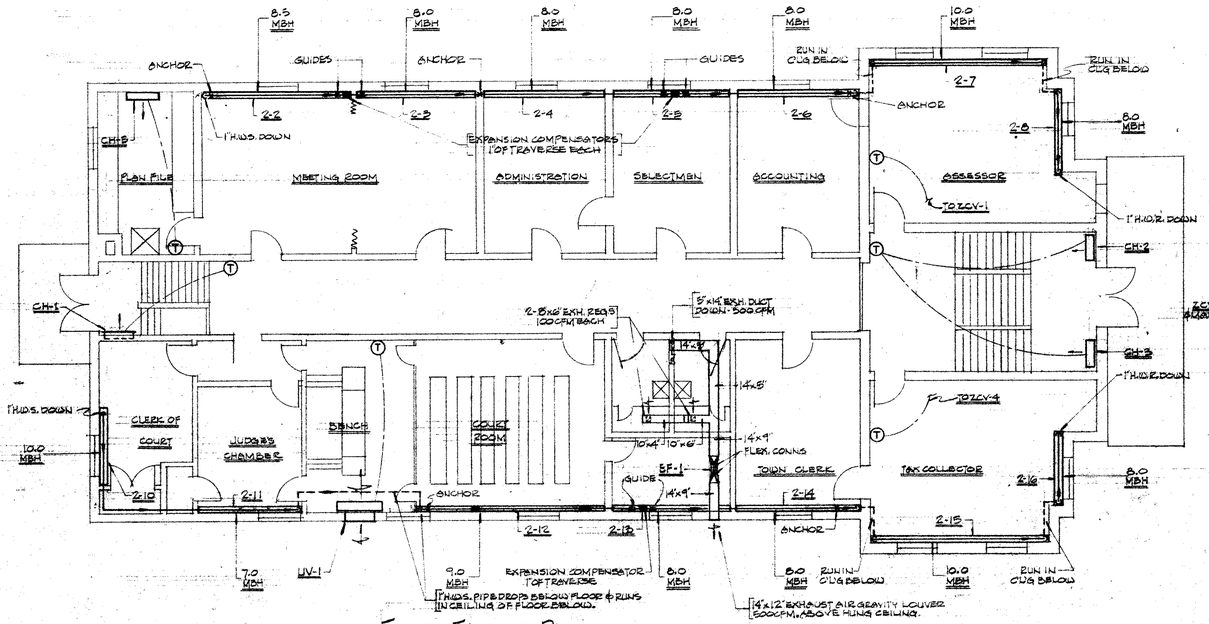
PART PLANS - NEW TOILETS

SCALE: 1/8"=1'-0"

THE STATE OF NEW HAMPSHIRE
EDWARD H. FLECCHIA
No. 2813
REGISTERED
PROFESSIONAL ENGINEER

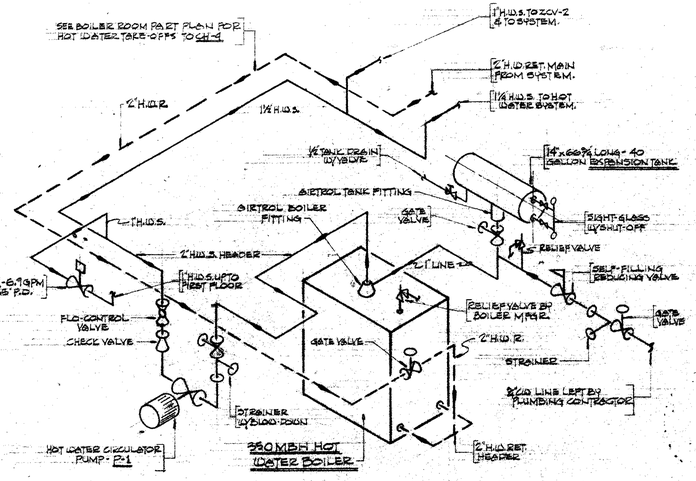
ALEXANDER J. MARSHL, A.I.A.
ARCHITECT
PROFESSIONAL BUILDING
BEDFORD, N. H. 03102

GOFFSTOWN TOWN HALL BUILDING		
GOFFSTOWN, N.H.	SCALE: AS NOTED	DRAWN BY: CHRIS JONES
FLOOR PLANS, SCHEDULES & DETAILS		REVISED:
DATE: Aug 28, 1981	APPROVED:	DRAWING NUMBER: 6833-P-1



FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"

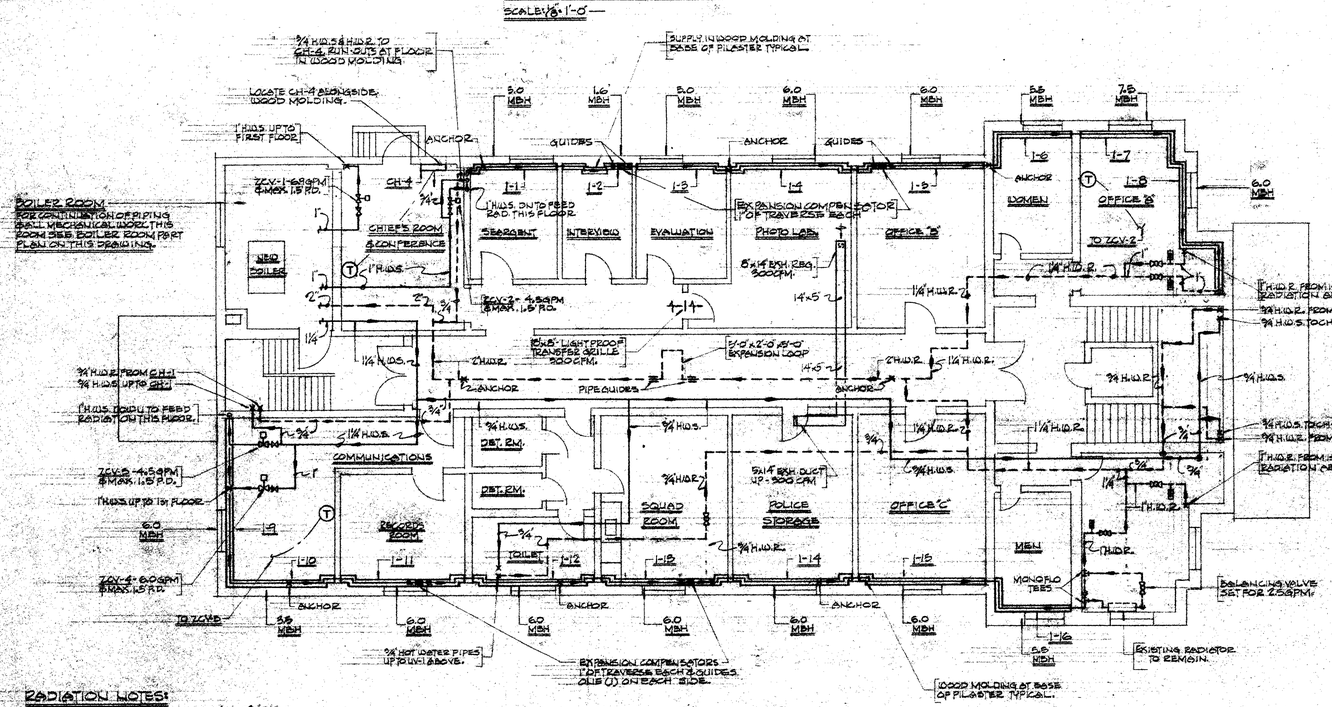


HOT WATER SYSTEM FLOW DIAGRAM

NOT TO SCALE

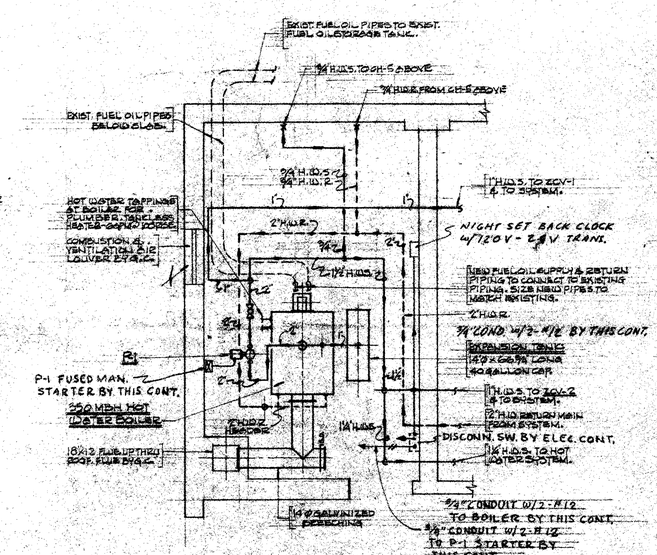
GENERAL NOTES:

1. ALL EXISTING HEATING EQUIPMENT & PIPING SHALL BE REMOVED UNLESS OTHERWISE NOTED & NEW MECHANICAL HEATING EQUIPMENT SHALL BE INSTALLED AS SHOWN ON THIS DRAWING.
2. CABINET UNIT HEATERS - GILLETT CLOSED COUPLED - 9.1 VB-X LOW SPEED SELECTION - 2.0 FM - 30 FEET PRESSURE DROP - 3.6 A.P. WATER TEMP. DROP - 20°F FINAL AIR TEMP. - 1/30 H.P. - 3 SPEED MOTOR - 1750 RPM - 200 CFM. UNITS SHALL BE LOW RECESSED FLOOR MOUNTED, EXCEPT CH-1 SHALL BE SM-1 - RECESSED FLOOR MOUNTED. UNITS SHALL BE NESBITT CO. OR APPROVED EQUAL - 120 VOLT - 1Ø - 60 CYCLE.
3. HOT WATER CIRCULATING PUMP - P-1 - 9.2 GPM AT 20 FOOT HEAD LOSS - 1/8 MOTOR HORSEPOWER - 1750 RPM - 115/215 60 IN-LINE PUMP AS MANUFACTURED BY B.F. BELL & GOSSETT CO. OR APPROVED EQUAL - 120 VOLT - 1Ø - 60 CYCLE.
4. IN-LINE CENTRIFUGAL EXHAUST FAN - EF-1 - 500 CFM AT .75" STATIC PRESSURE, 725 FPM OUTLET VELOCITY - 1140 FAN RPM - 1/8 MOTOR HORSEPOWER - AS MANUFACTURED BY LORAIN - COOK CO. OR APPROVED EQUAL. 120 VOLT - 1Ø - 60 CYCLE.
5. UNIT VENTILATOR - UV-1 - 1000 CFM - 9.0 LOWER HEATING - MAX. 25% OUTSIDE AIR - 3 FANS - 1/6 MOTOR HORSEPOWER - 750 RPM - 7.0 GPM - 200°F ENTERING WATER TEMP. - 1.0 FOOT OF PRESSURE DROP THROUGH COIL - 120 VOLT - 1Ø - 60 CYCLE. FURNISH WITH HIGH BEARING STRENGHT OUTSIDE AIR LOUVER, 2¼" MIN. DEPTH WITH LENGTH TO SUIT UNIT VENTILATOR SIZE. UNIT VENTILATOR SHALL BE AS MANUFACTURED BY NESBITT CO. OR APPROVED EQUAL.
6. FURNISH & INSTALL GATE VALVE & UNION ON H.W.S. PIPE TO CABINET UNIT HEATERS & UNIT VENTILATOR. H.W.R. PIPES SHALL BE FITTED WITH A UNION, BALANCING VALVE & A MANUAL AIR VENT AS REQUIRED.
7. MANUAL AIR VENTS SHALL BE FURNISHED & INSTALLED AT ALL SYSTEM HIGH POINTS.
8. ¾" DRAIN-OFF VALVE WITH HOSE CONNECTION & CAP SHALL BE FURNISHED & INSTALLED AT ALL SYSTEM LOW POINTS.
9. HOT WATER PIPING SHALL BE INSTALLED TIGHT TO UNDERSIDE OF STEEL BEAMS.



LOWER LEVEL FLOOR PLAN

SCALE: 1/8" = 1'-0"



PART PLAN - BOILER ROOM

SCALE: ¼" = 1'-0"

LEGEND:

HOT WATER SUPPLY PIPE	H.W.S.
HOT WATER RETURN PIPE	H.W.R.
VENT LINE	V
GATE VALVE	
CHECK VALVE	
STRAINER	
AUTOMATIC TEMPERATURE CONTROL VALVE (ZCV)	ZCV
FLO-CONTROL OR BALANCING VALVE	
RELIEF VALVE	
MANUAL AIR VENT	
PIPE DROP	
PIPE STUB-UP	
DIRECTION OF FLOW	
PIPE ANCHOR	
PIPE GUIDE	
BAROMETRIC DAMPER	
FIRE DAMPER	

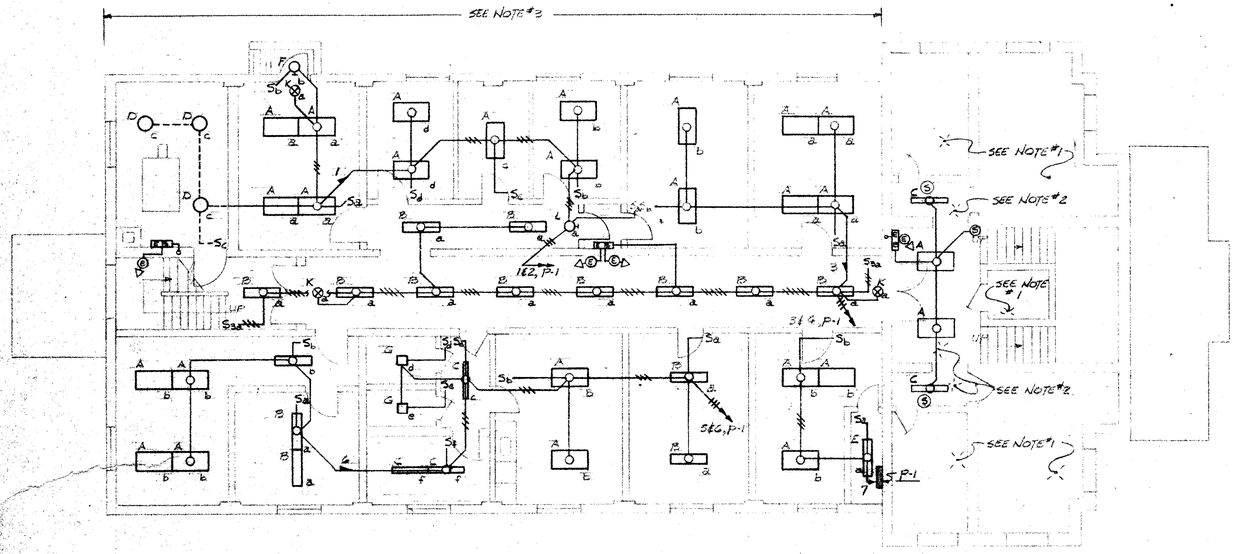
RADIATION NOTES:

ALL FINTUBE RADIATION SHALL BE 1¼" C - 2¾" S COPPER-ALUMINUM - 40 FINS PER FOOT - .016 THICK - 1200 HIGH SUCCOLUER - 12" MOUNTING HEIGHT - 180° AVG. WATER TEMPERATURE - 84 BTUH PER LINEAR FOOT - STYLE 97A ENCLOSURE & FINTUBE AS MANUFACTURED BY VULCAN RADIATOR CO. OR APPROVED EQUAL.

ALEXANDER J. MAJESKI, A. I. A.
ARCHITECT
PALOMINO LANE
BEDFORD, N. H. 03102

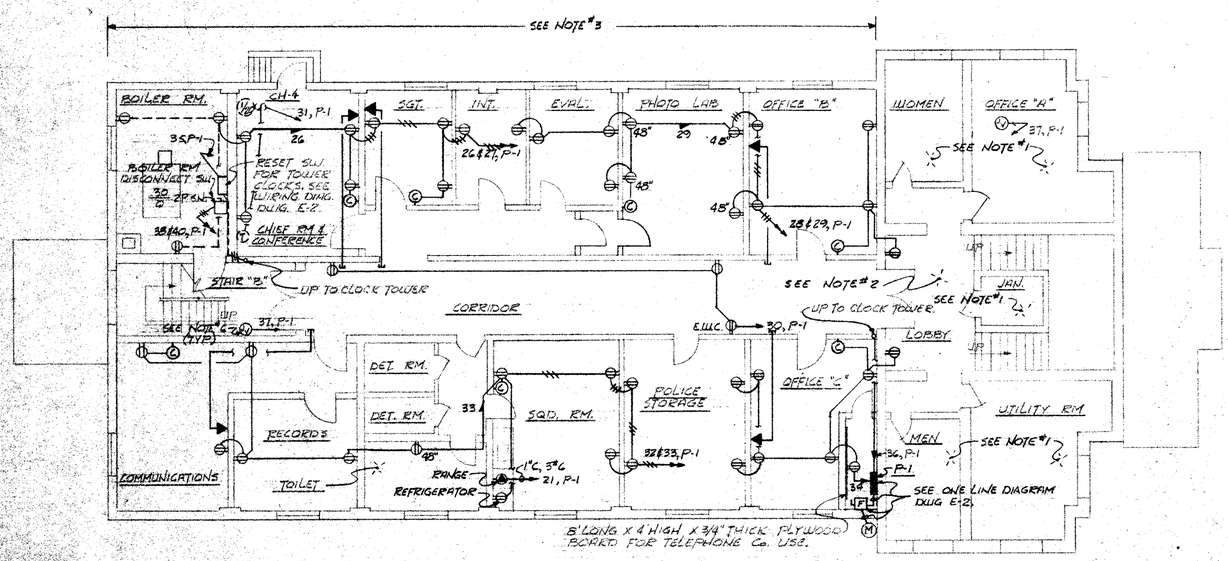
GOFFSTOWN TOWN HALL BUILDING
GOFFSTOWN, N.H.
FLOOR PLANS, SCHEDULES, & DETAILS

DRAWN BY: CHRIS JONES
REVISED:
DATE: AUG. 28, 1984
APPROVED:
DRAWING NUMBER: 0833-HV-1



LOWER LEVEL LIGHTING PLAN

SCALE: 1/8" = 1'-0"



LOWER LEVEL POWER PLAN

SCALE: 1/8" = 1'-0"

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMPS QTY. & TYPE	REMARKS
A	DAYBRITE CAT. No. CO-440-4RG-4	4-F40 CW	SURFACE MTD.
B	DAYBRITE CAT. No. CO-240-2P4-4	2-F40 CW	SURFACE MTD.
C	DAYBRITE CAT. No. CC-166-RG-4	1-F40 CW	SURFACE MTD.
D	BENJAMIN CAT. No. 9642	1-200 A	SURFACE MTD.
E	BENJAMIN CAT. No. CL-140	1-F40 CW	SURFACE MTD.
F	BENJAMIN CAT. No. 6811-X	1-100 A	WALL MTD.
G	PERFECLITE CAT. No. F21-8	1-150 A	RECESSED
H	PERFECLITE CAT. No. F-401-SA	1-200 A	RECESSED
J	COLUMBIA CAT. No. FPXCM-44-640-M8	6-F40 CW	SURFACE MTD.
K	Mc PHILBEN CAT. No. 31C-4101	2-15 TTC	CEILING MTD.
L	HALO CAT. No. H2491	1-40 A/R	WALL MTD.

LEGEND

- 113, L-1 — HOME RUN TO PANELBOARD. ARROWS INDICATE QUANTITY OF CIRCUITS. NUMERALS INDICATE CIRCUIT NUMBERS.
- BRANCH CIRCUIT RUN CONCEALED IN WALLS OR CEILING.
- BRANCH CIRCUIT RUN IN OR UNDER FLOOR SLAB OR BURIED 24" BELOW FINISHED GRADE.
- BRANCH CIRCUIT RUN EXPOSED.
- CONDUIT TURNING UP.
- CONDUIT TURNING DOWN.

} SHORT CROSS LINES INDICATE QUANTITY OF #12 AWG. CONDUCTORS IN 3/4" CONDUIT. WHEN MORE THAN TWO, SEE "ONE LINE DIAGRAM" FOR FEEDER SIZES.

- J, A, B, C — FLUORESCENT LIGHTING FIXTURES
- D, G, K — INCANDESCENT LIGHTING FIXTURES

} CAPITAL LETTERS DENOTE TYPE AS PER LIGHTING FIXTURE SCHEDULE. LOWER CASE LETTERS INDICATE SWITCH CONTROL OF FIXT.

- S_b — SINGLE POLE SWITCH - HUBBELL # 1221
- S_{3c} — THREE WAY SWITCH - HUBBELL # 1223
- S_{4d} — FOUR WAY SWITCH - HUBBELL # 1224

} SWITCHES RATED 120-277V - 20A. LOWER CASE LETTERS DENOTE LIGHTING FIXTURES CONTROLED. MTD. 48" A.F.F.

- DUPLEX CONVENIENCE RECEPTACLE 30A, 125V. HUBBELL # 5362. MOUNT 18" ABOVE FLOOR UNLESS OTHERWISE INDICATED BY NUMERALS. "WP" DENOTES WEATHERPROOF CONSTRUCTION. FLUSH MOUNT IN "FS" BOX WITH HUBBELL # 5206 COVER. "EWC" DENOTES ELECTRIC WATER COOLER.
- EWC
- RANGE OUTLET - HUBBELL # 7974 - 50A, 250V WITH COVER # 7987-50 MOUNT 18" ABOVE FINISHED FLOOR, WITH HUBBELL # 7914-4 CORD SET.
- CLOCK OUTLET - HUBBELL # 7707-55. MOUNT 12" BELOW CEILING.
- JUNCTION BOX — JV - ELECTRIC VALVE TRANSFORMER - T - THERMOSTAT.
- PANELBOARD 120-240V, 1Φ, 3W. SURFACE MOUNTED. 6'-0" TO TOP
- DISCONNECT SWITCH. "F" DENOTES FUSED. SIZE AND RATING AS SHOWN ON ONE LINE DIAGRAM.
- METER SOCKET - SEE SPECIFICATION
- TELEPHONE OUTLET - MOUNT 18" ABOVE FINISHED FLOOR. CONDUIT SHOWN SHALL BE 1". CAP ABOVE HUNG CEILING AS INDICATED.
- E.B. — DUAL-LITE CAT. No. EDUC-30 WITH LEAD-CALCIUM BATTERY - REMOTE HEADS SHALL BE MODEL NF-500 ORTHO FLOOD LIGHTING HEAD WITH No. 11-03 LAMP. SINGLE REMOTE HEADS SHALL BE SUPPLIED WITH MODEL MP-103 MOUNTING PLATE AND DUAL REMOTE HEADS SHALL BE SUPPLIED WITH MODEL MP-104 MOUNTING PLATE. ARROWS INDICATE APPROXIMATE AIMING OF BEAM. MOUNT HEADS 8'-0" ABOVE FINISHED FLOOR.
- S — EXISTING SWITCHBOX TO BE REUSED. INSTALL NEW SWITCH AND PLATE.
- DIRECT BURIAL CABLE - (SEE ONE LINE DIAGRAM ON DWG. E-2)
- 1/3 — MOTOR - NUMERAL DENOTES HORSEPOWER. FURNISHED & INSTALLED BY MECH. CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR.

NOTES:

1. EXISTING LIGHTING FIXTURES, SWITCHES AND RECEPTACLES TO REMAIN CONNECTED TO EXISTING PANEL.
2. INSTALL NEW LIGHTING FIXTURES, SWITCHES AND RECEPTACLES AS SHOWN AND CONNECT TO EXISTING PANEL. REMOVE ALL OTHER ELECTRICAL EQUIPMENT IN THIS AREA.
3. REMOVE EXISTING LIGHTING FIXTURES, SWITCHES, RECEPTACLES AND SPEAKERS AND STORE AS DIRECTED BY THE OWNER.
4. INSTALL NEW LIGHTING FIXTURES AND SWITCHES AS SHOWN AND CONNECT TO EXISTING PANEL. ALL OTHER ELECTRICAL EQUIPMENT IN THESE AREAS SHALL REMAIN CONNECTED TO EXISTING PANEL.
5. WHERE NEW LIGHTING FIXTURES ARE CONNECTED TO EXISTING CIRCUITS THE ELECTRICAL CONTRACTOR SHALL NOT OVER LOAD EXISTING CIRCUITS.
6. JUNCTION BOXES CONTAINING TRANSFORMERS FOR ELECTRIC VALVES SHALL BE MOUNTED ABOVE HUNG CEILINGS

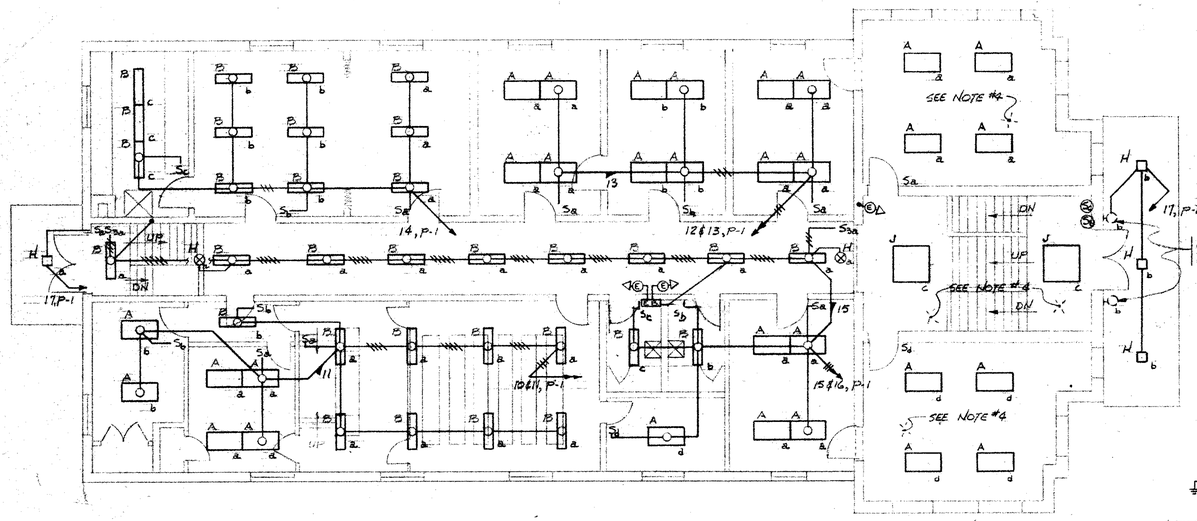
ALEXANDER J. MAJESKI, A.I.A.
ARCHITECT
PALOMINO LANE
BEDFORD, N. H. 03102

GOFFSTOWN TOWN HALL BUILDING

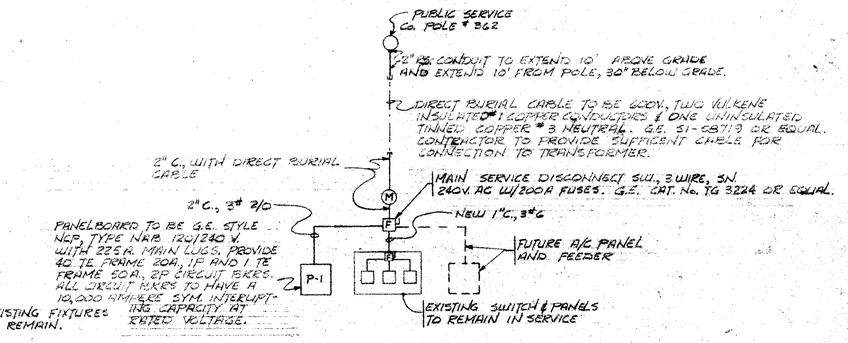
GOFFSTOWN, N.H. — AS NOTED — DRAWN CAPT. R.L. — CHECKED

LOWER LEVEL PLANS & DETAILS

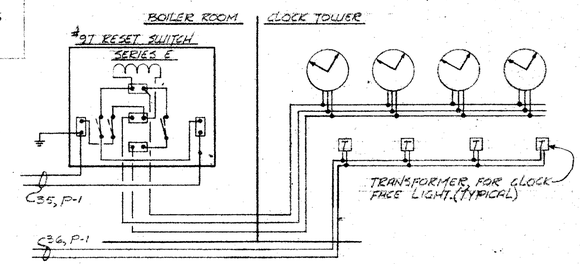
DATE: AUG. 25, 1967 — APPROVED — DRAWING NUMBER: 6833-E-1



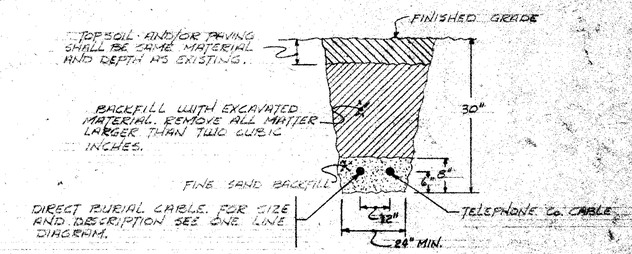
FIRST FLOOR LIGHTING PLAN
SCALE: 1/8" = 1'-0"



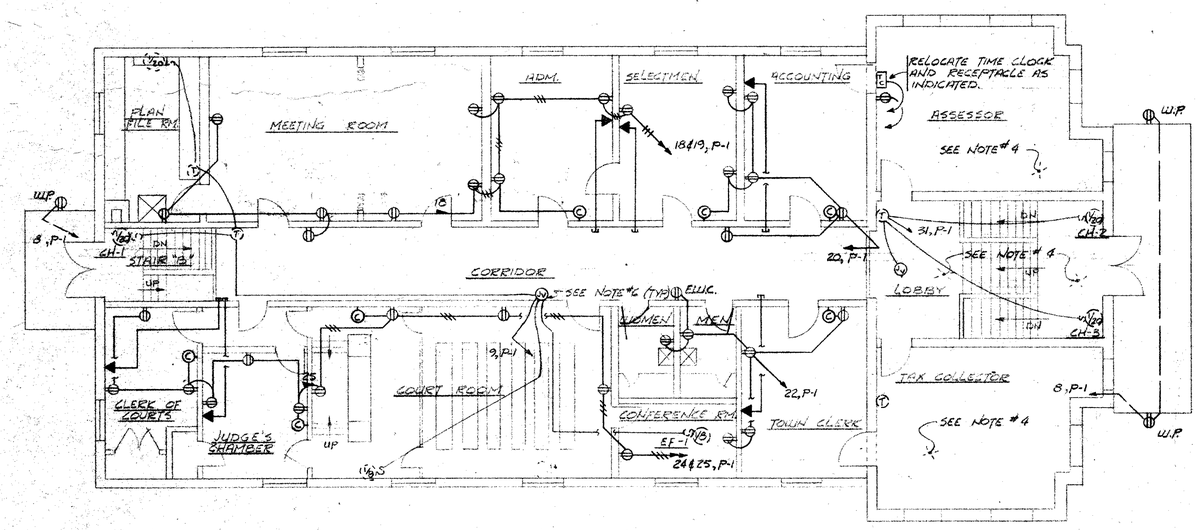
ONE LINE DIAGRAM
SCALE: NONE



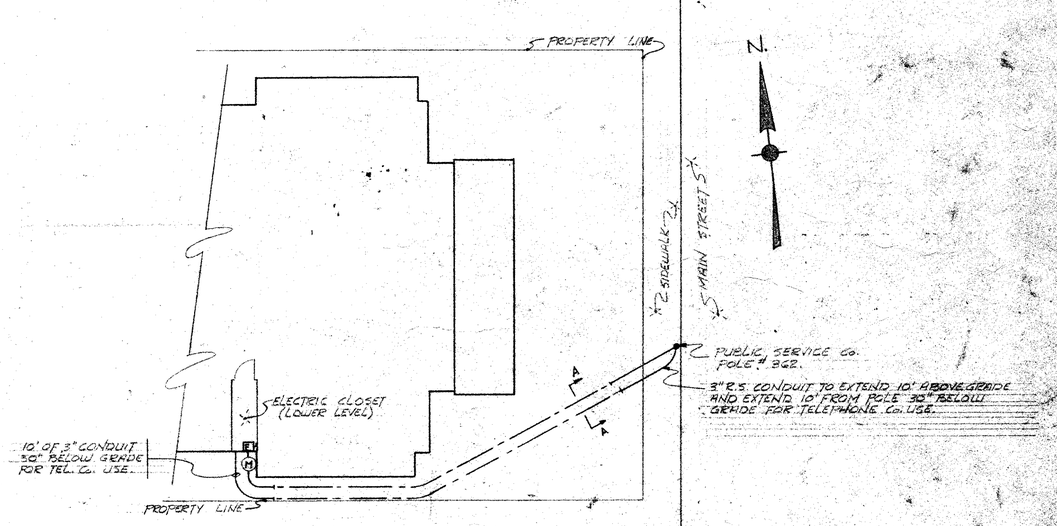
WIRING DIAGRAM FOR TOWER CLOCKS
SCALE: NONE



SECTION "A-A"
SCALE: NONE



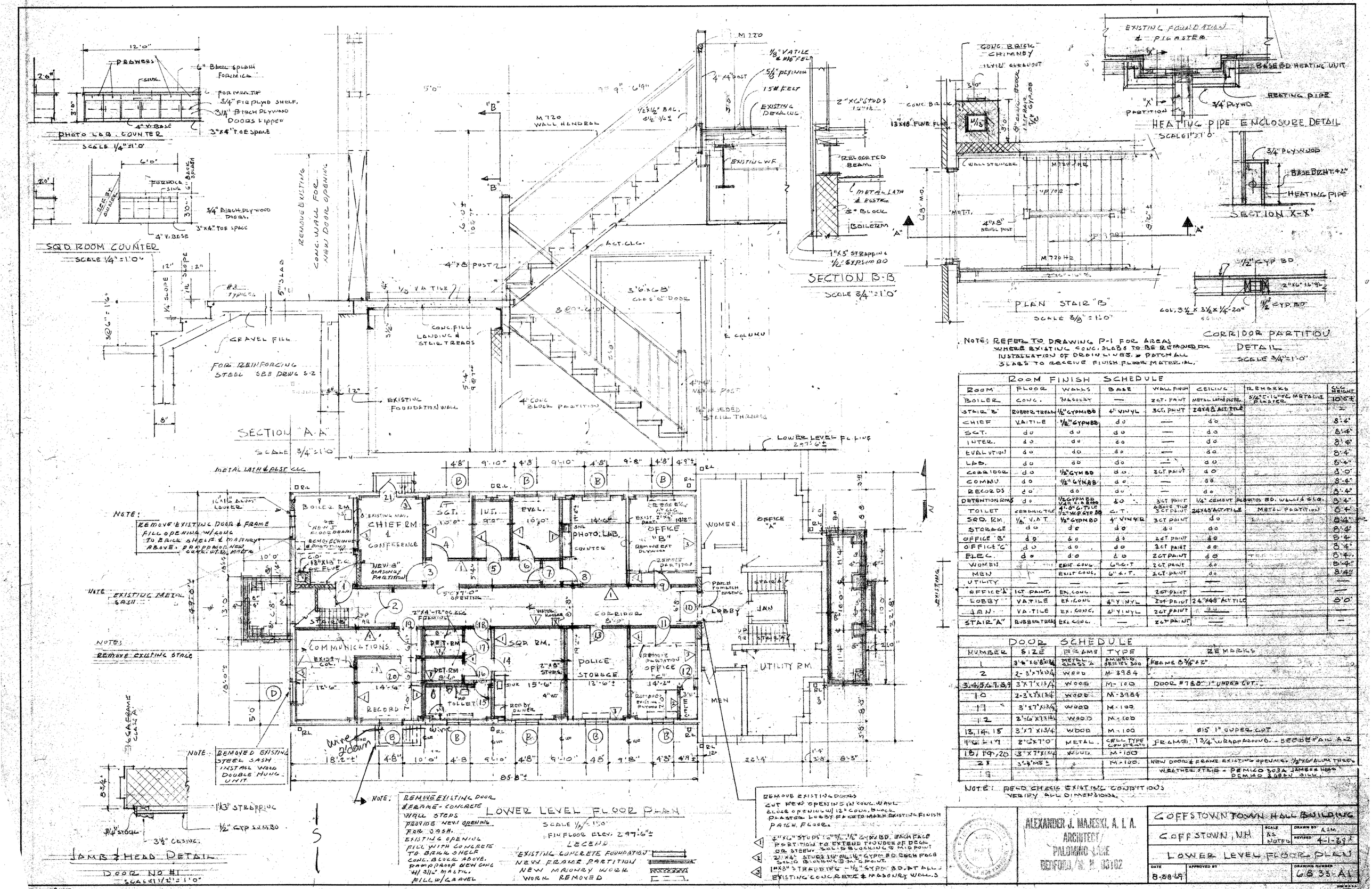
FIRST FLOOR POWER PLAN
SCALE: 1/8" = 1'-0"



SITE PLAN
SCALE: 1" = 10'-0"

ALEXANDER J. MAJESKI, A. I. A.
ARCHITECT
PALOMINO LANE
BEDFORD, N. H. 03102

GOFFSTOWN TOWN HALL BUILDING		
GOFFSTOWN, N.H.	AS NOTED	DRAWN: CHAS. ACK.
FIRST FLOOR PLANS & DETAILS		
DATE: AUG. 28, 1969	APPROVED	DRAWING NUMBER: 6833-E-2

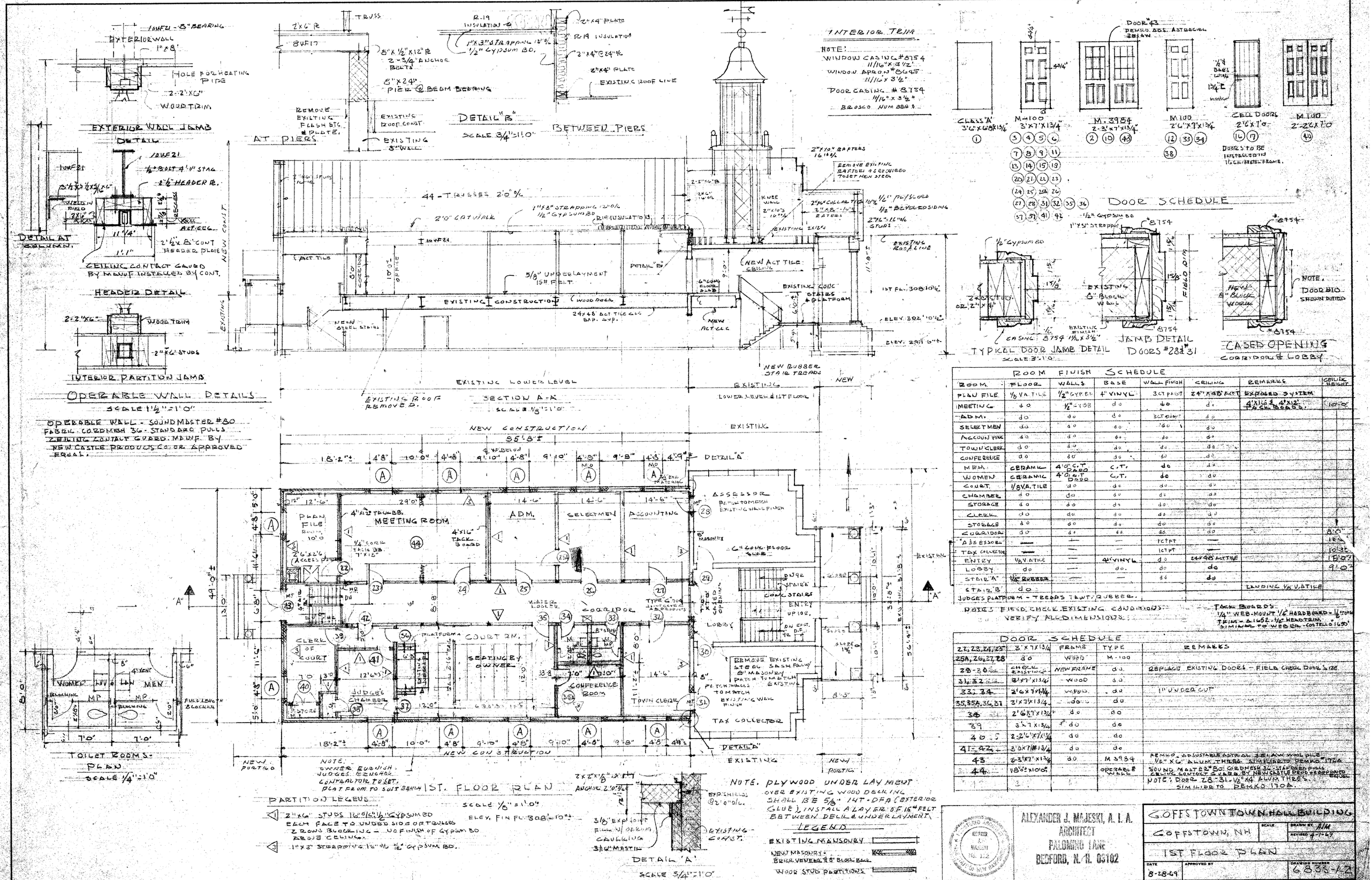


ROOM FINISH SCHEDULE

ROOM	FLOOR	WALLS	BASE	WALL FINISH	CEILING	REMARKS	SUG. HEIGHT
BOILER	CONC.	MASONRY	—	ACT. PAINT	METAL LATH & PLSTR.	5/4" T. 16 GA. METALIE PLASTER	10'-0" ±
STAIR "B"	RUBBER TREAD	1/2" GYPM BD	4" VINYL	SCT. PAINT	24"x48" ACT. TILE		—
CHIEF	V.A. TILE	1/2" GYPM BD	do	—	do		8'-4"
SCT.	do	do	do	—	do		8'-4"
INTER.	do	do	do	—	do		8'-4"
EVALUATION	do	do	do	—	do		8'-4"
LAB.	do	do	do	—	do		8'-4"
CORRIDOR	do	1/2" GYM BD	do	ACT PAINT	do		8'-0"
COMMU	do	1/2" GYM BD	do	—	do		8'-4"
RECORDS	do	do	do	—	do		8'-4"
DETENTION RMS	do	1/2" GYPM BD VAR. 6" & BOND	do	SCT PAINT ABOVE TILE SCT PAINT	1/4" CEMENT PLASTER	PLYWOOD BD. WELL & ELEV.	8'-4"
TOILET	CERAMIC TILE	4'-0" V. TILE 1/2" WP GYP BD	C.T.		24"x48" ACT TILE	METAL PARTITION	8'-4"
SGD. RM.	1/8" V.A.T.	1/2" GYPM BD	4" VINYL	SCT PAINT	do		8'-4"
STORAGE	do	do	do	do	do		8'-4"
OFFICE "B"	do	do	do	ACT PAINT	do		8'-4"
OFFICE "C"	do	do	do	ACT PAINT	do		8'-4"
ELEC.	do	do	do	ACT PAINT	do		8'-4"
WOMEN		EXIST. CONC.	6" C.T.	ACT. PAINT	do		8'-4"
MEN		EXIST. CONC.	6" C.T.	ACT. PAINT	do		8'-4"
UTILITY	—	—	—	—	—		—
OFFICE "A"	ACT PAINT	EX. CONC.	—	ACT PAINT	—		—
LOBBY	VA TILE	EX. CONC	4" V. VNYL	ACT PAINT	24"x48" ACT TILE		8'-0"
JAN.	VA TILE	EX. CONC.	4" V. VNYL	ACT PAINT	do		—
STAIR "A"	RUBBER TREAD	EX. CONC.	—	ACT PAINT	—		—

DOOR SCHEDULE

NUMBER	SIZE	FRAME	TYPE	REMARKS
1	3'-6"x6'-8"x1 3/4	METAL CLASS A	AMWELD SERIES 300	FRAME 5 3/4" x 2"
2	2-3'x7'x1 3/4	WOOD	M-3984	
3,4,5,6,7,8,9	3'x7'x1 3/4	WOOD	M-100	DOOR #7 & 8 1" UNDER CUT.
10	2-3'x7'x1 3/4	WOOD	M-3984	
11	3'x7'x1 3/4	WOOD	M-100	
12	2'-6"x7'x1 3/4	WOOD	M-100	
13, 14, 15	3'x7'x1 3/4	WOOD	M-100	" " #15 1" UNDER CUT.
16 + 17	2'-6"x7'-0"	METAL	CELL TYPE CONSTRUCTO	FRAME: 1 3/4" WRAPAROUND. - SEE DETAIL A-2
18, 19, 20	3'x7'x1 3/4	WOOD	M-100	
21	3'-6" MS ±		M-100	NEW DOOR & FRAME EXISTING OPENING. 1/2"x6" ALUM THRES.
22				WEATHER STRIP - PEMKO 303A JAMBS & HEAD PEMKO 2080N SILL.



ROOM FINISH SCHEDULE

ROOM	FLOOR	WALLS	BASE	WALL FINISH	CEILING	REMARKS	CEILING HEIGHT
PLAN FILE	1/8 VA. TILE	1/2" GYPBD	4" VINYL	3 CT PAINT	24"x48" ACT	EXPOSED SYSTEM	
MEETING	do	1/2" GYPBD	do	do	do	4"x1/2" & 4"x12" BASE BOARDS.	10'-0"
ADM.	do	do	do	3 CT PAINT	do		
SELECTMEN	do	do	do	do	do		
ACCOUNTING	do	do	do	do	do		
TOWN CLERK	do	do	do	do	do		
CONFERENCE	do	do	do	do	do		
MEN	CERAMIC	4'0" C.T. DADO	C.T.	do	do		
WOMEN	CERAMIC	4'0" C.T. DADO	C.T.	do	do		
COURT	1/8 V.A. TILE	do	do	do	do		
CHAMBER	do	do	do	do	do		
STORAGE	do	do	do	do	do		
CLERK	do	do	do	do	do		
STORAGE	do	do	do	do	do		
CORRIDOR	do	do	do	do	do		8'0"
"ASSESSOR"	—	—	—	1 CT PAT	—		10'-0"
TAX COLLECTOR	—	—	—	1 CT PAT	—		10'-3"
ENTRY	1/8 V.A. TILE	—	4" VINYL	do	24"x48" ACT TILE		10'-3"
LOBBY	do	—	do.	do	do		9'-0"
STAIR "A"	1/8" RUBBER	—	—	do	do		
STAIR "B"	do					LANDING 1/8" V.A. TILE	
JUDGES PLATFORM - TREADS 1/8" RUBBER.							

NOTE: FIELD CHECK EXISTING CONDITIONS & VERIFY ALL DIMENSIONS.

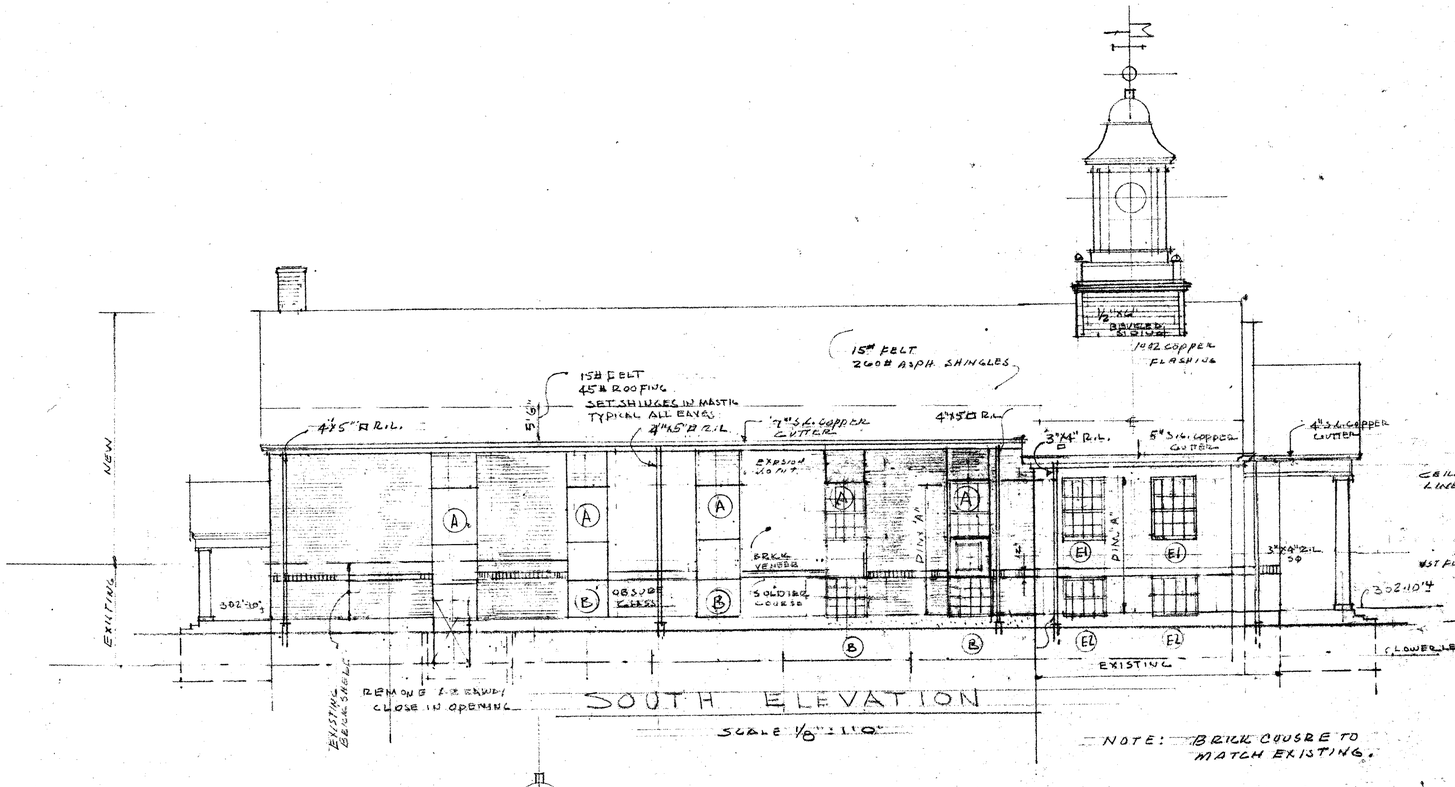
TACK BOARDS: 1/4" WEB-MOUNT 1/4" HARDBOARD - 1/8" CORK TRIM - 1"x2" - 1/2" HEAD TRIM. SIMILAR TO WEBER - COSTELLO 1680

DOOR SCHEDULE

		FRAME	TYPE	REMARKS
22, 23, 24, 25	3'x7'x1 3/4			
25A, 26, 27, 28	do	WOOD	M-100	
29-30	FIELD CHECK EXISTING	NEW FRAME	do	REPLACE EXISTING DOORS - FIELD CHECK DOOR SIZE
31, 32	3'x7'x1 3/4	WOOD	do	
33, 34	2'6"x7'x1 3/4	WOOD	do	1" UNDER CUT
35, 35A, 36, 37	3'x7'x1 3/4	do	do	
38	2'6"x7'x1 3/4	do	do	
39	3'x7'x1 3/4	do	do	
40	2'-2"x7'x1 3/4	do	do	
41, 42	3'0"x7'x1 3/4	do	do	
43	2'-3"x7'x1 3/4	do	M 3984	REMKO, ADJUSTABLE ASTRAL 3 BLADE WOOD PILE 1/2" x 6" ALUM. THRES. SIMILAR TO REMKO 172A
44	18'0" x 10'0"		OPERABLE WALL	SOUNDMASTER #80 CORDMESH 36 - STANDARD PULLS CEILING CONTACT GUARD BY NEW CASTLE PROD. OR APPROVED EQUAL
				NOTE: DOOR 28-31 - 1 1/2" x 4" ALUM THRES. SIMILAR TO REMKO 170A.

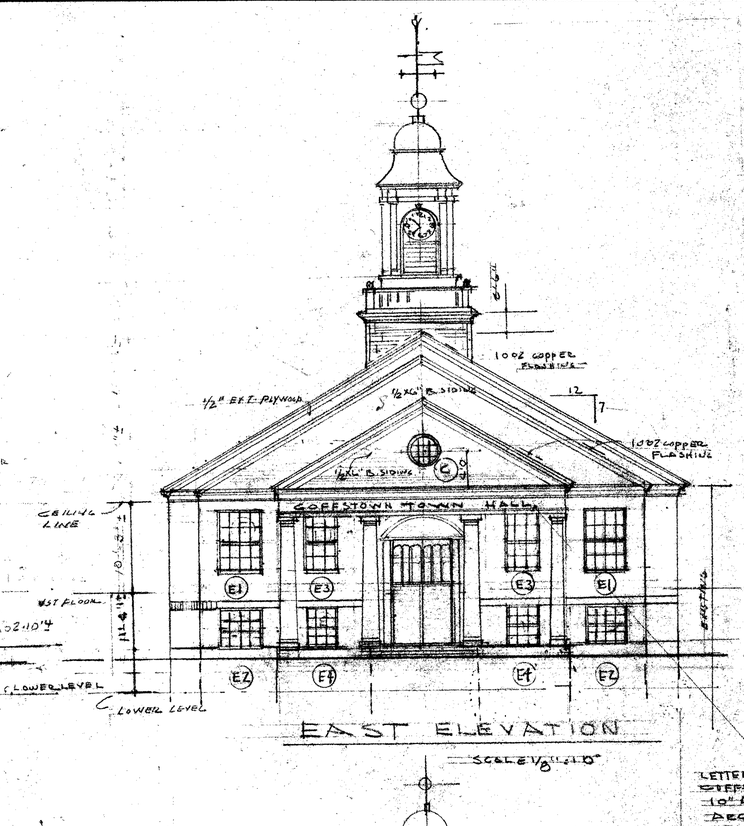
ALEXANDER J. MAJESKI, A. I. A.
ARCHITECT
PALOMINO LANE
BEDFORD, N. H. 03102

GOFFSTOWN TOWN HALL BUILDING
GOFFSTOWN, NH
SCALE
DRAWN BY: AJM
REVISED 4-1-69
1ST FLOOR PLAN
DATE 8-28-69
APPROVED BY
DRAWING NUMBER 6808-1-2



SOUTH ELEVATION

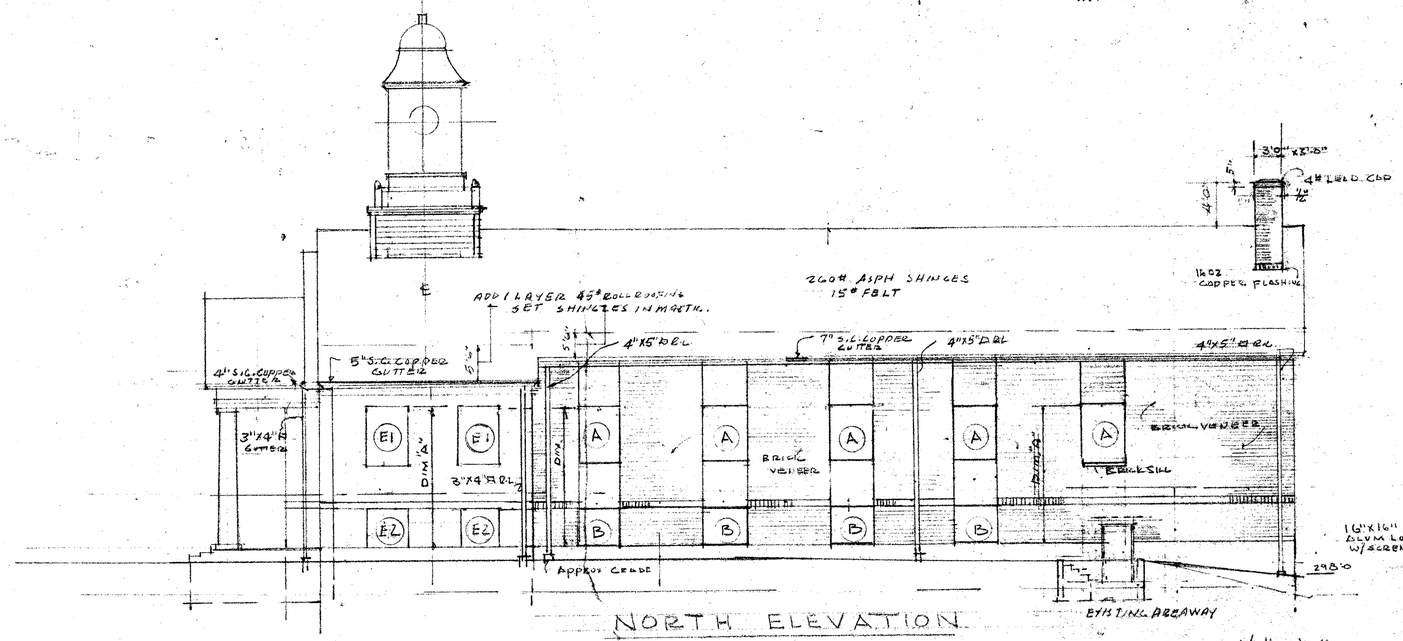
SCALE 1/8" = 1'-0"



EAST ELEVATION

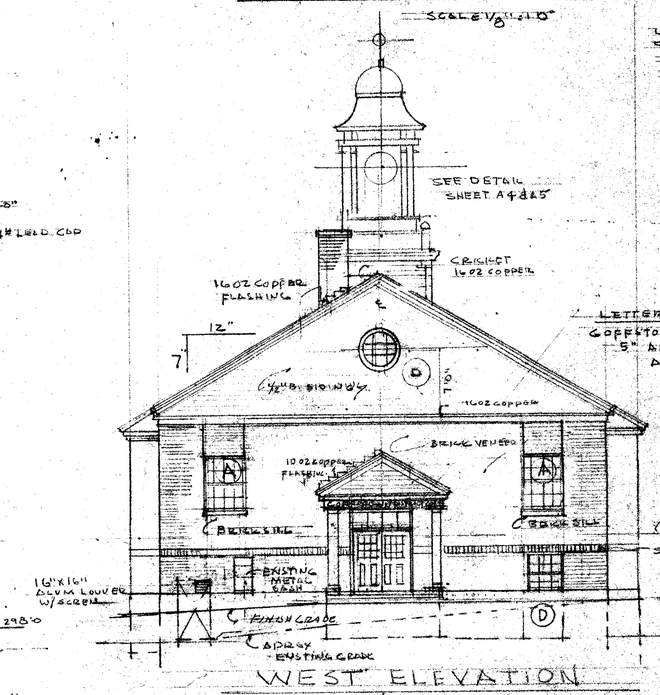
SCALE 1/8" = 1'-0"

LETTERS
STEEPLE TOWN HALL
10" ALUM. BLACK ENAMEL
ARCHITECTURAL
STYLE 280-156
WIDTH OF LETTER
STROKES. MANF.
BY SPENCER INDUSTRIES
OR EQUAL



NORTH ELEVATION

SCALE 1/8" = 1'-0"



LETTERS
COFFESTOWN DISTRICT COURT
5" ALUM. BLACK ENAMEL
ARCHITECTURAL STYLE 280
3/4" WIDTH OF LETTER
STROKE MANF. BY
SPENCER INDUSTRIES
OR EQUAL.

WEST ELEVATION

ALL SASH 1 3/4" THICK

WINDOW SCHEDULE

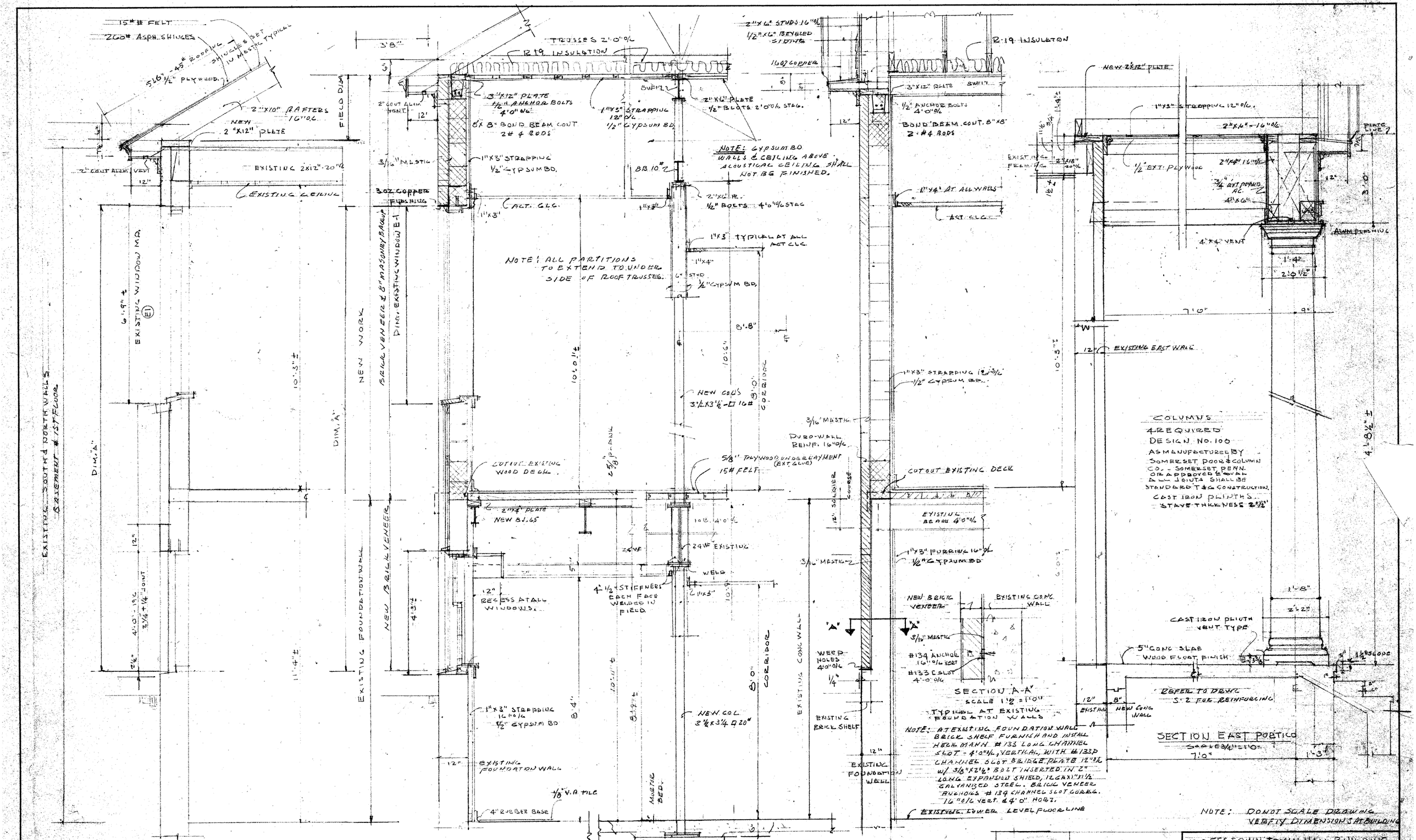
	DESG	NO.	GLASS SIZE	TYPE	REMARKS
(A) SIMILIER TO E1	(A)	4'-8"	12"x18" 3/4	DOUBLE HUNG	SPIRAFLEX SASH BALANCE
(B) SIMILIER TO E2	(B)	4'-8"	12"x10" 3/4	do	do
	(C)			FIXED	3'-0" DIA. SASH
	(D)			FIXED	4'-0" DIA SASH
	(E)			DOUBLE HUNG	FIT EXISTING OPENING

REGISTERED ARCHITECT
ALEXANDER J. MALUSKI
No. 122
THE STATE OF NEW HAMPSHIRE

ALEXANDER J. MALUSKI, A.I.A.
ARCHITECT
PROFESSIONAL PLACE
BEDFORD, N. H. 03110

COFFESTOWN TOWN HALL BUILDING
COFFESTOWN, NH
ELEVATIONS

SCALE: AS NOTED
DRAWN BY: AJM
REVISED: 3-21-69
DATE: 8-28-68
APPROVED BY:
DRAWING NUMBER: 6833-A3



WALL SECTION NORTH & SOUTH EXISTING BUILDING
SCALE 3/4" = 1'-0"

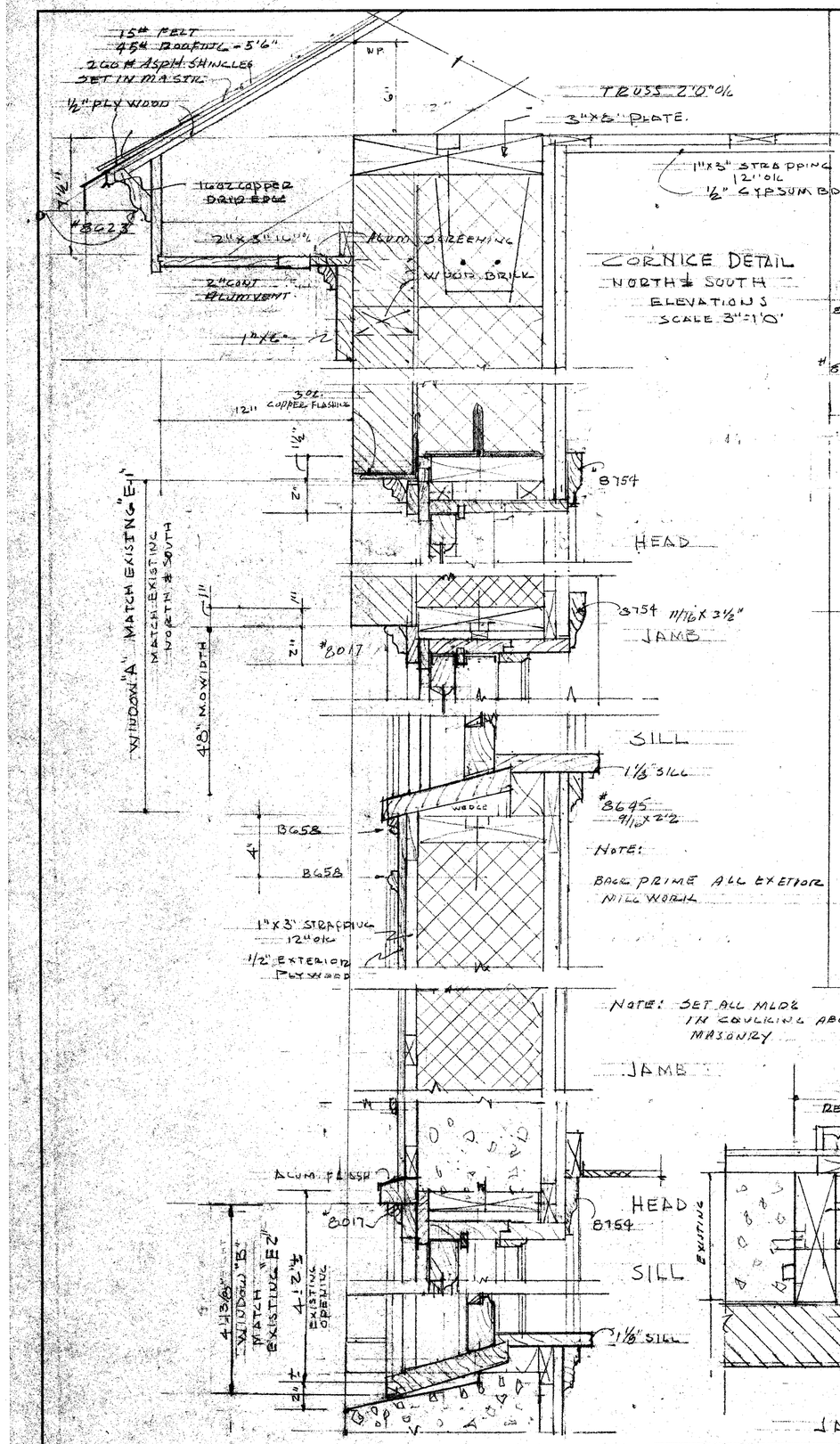
WALL SECTION NORTH & SOUTH (NEW WORK)
SCALE 3/4" = 1'-0"

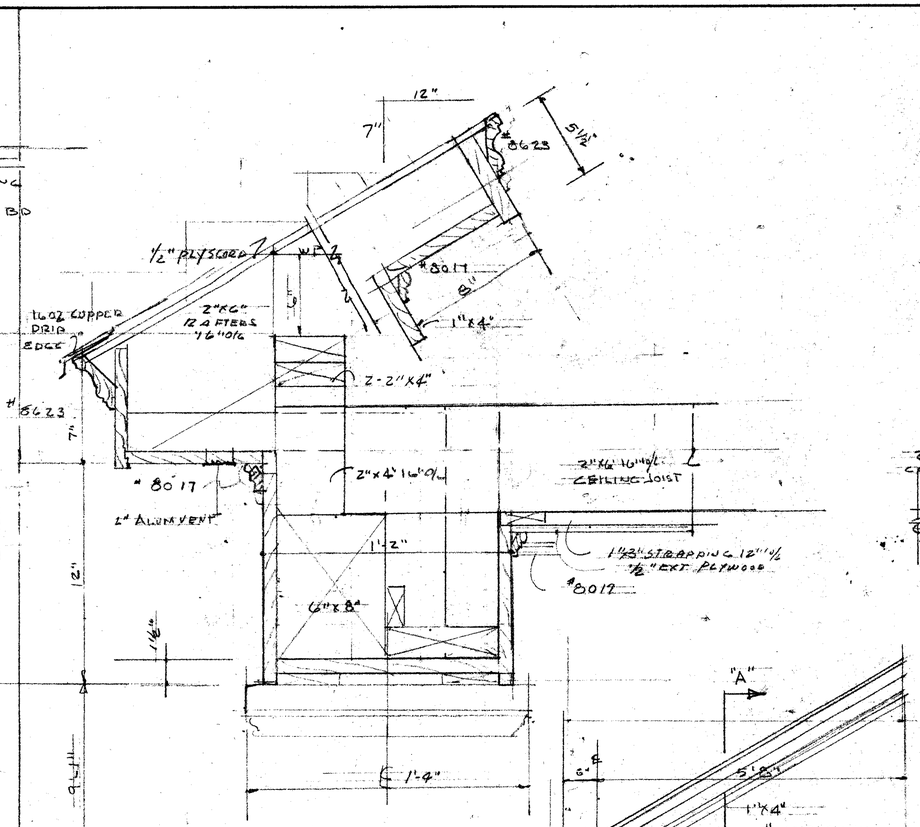
CORRIDOR WALL-SECTION
SCALE 3/4" = 1'-0"

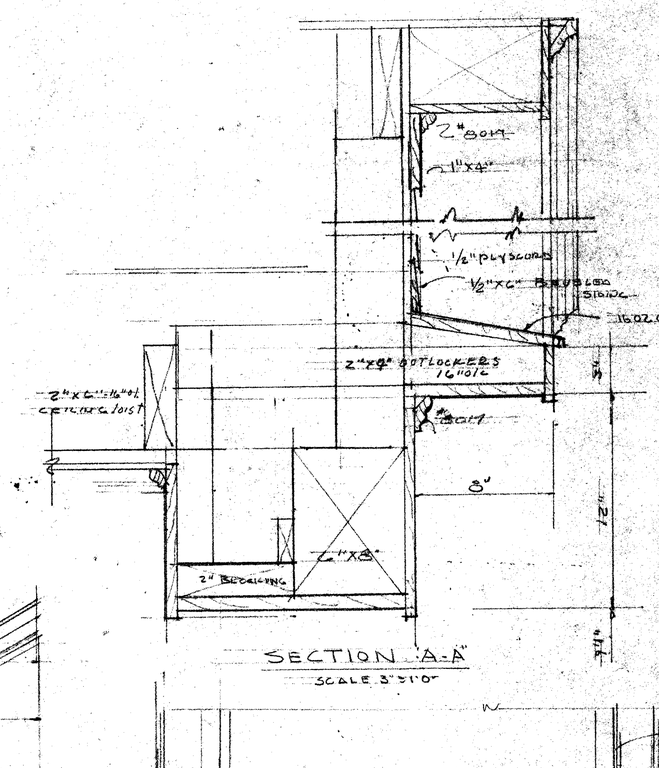
WEST WALL
SCALE 3/4" = 1'-0"

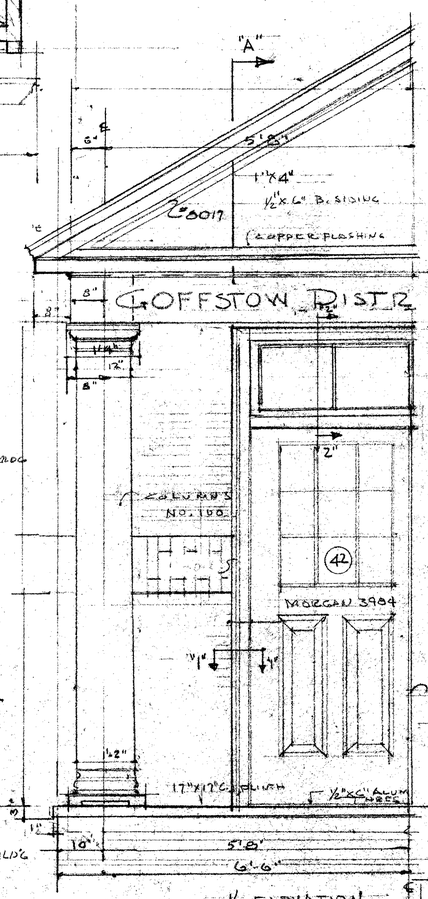
ALEXANDER J. MAJESKI, A.I.A.
ARCHITECT
PROFESSIONAL LAND
DEDFORD, N.H. 03102

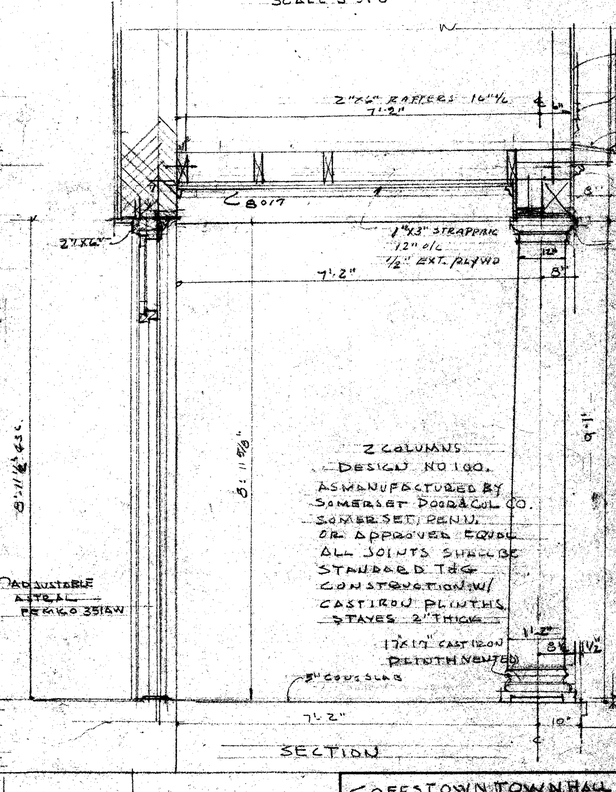
GOFFSTOWN TOWN HALL BUILDING		
GOFFSTOWN, NH	SCALE AS NOTED	DRAWN BY AJM REVISED
WALL SECTIONS - PORTICO SECTION		
DATE 8-28-69	APPROVED BY	DRAWING NUMBER 6833-A4

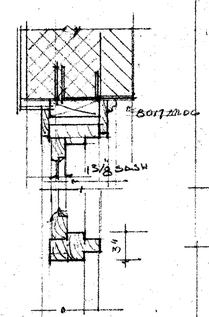




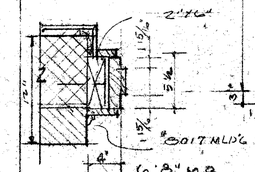








SECTION "2-2"
SCALE 1 1/2"=1'0"



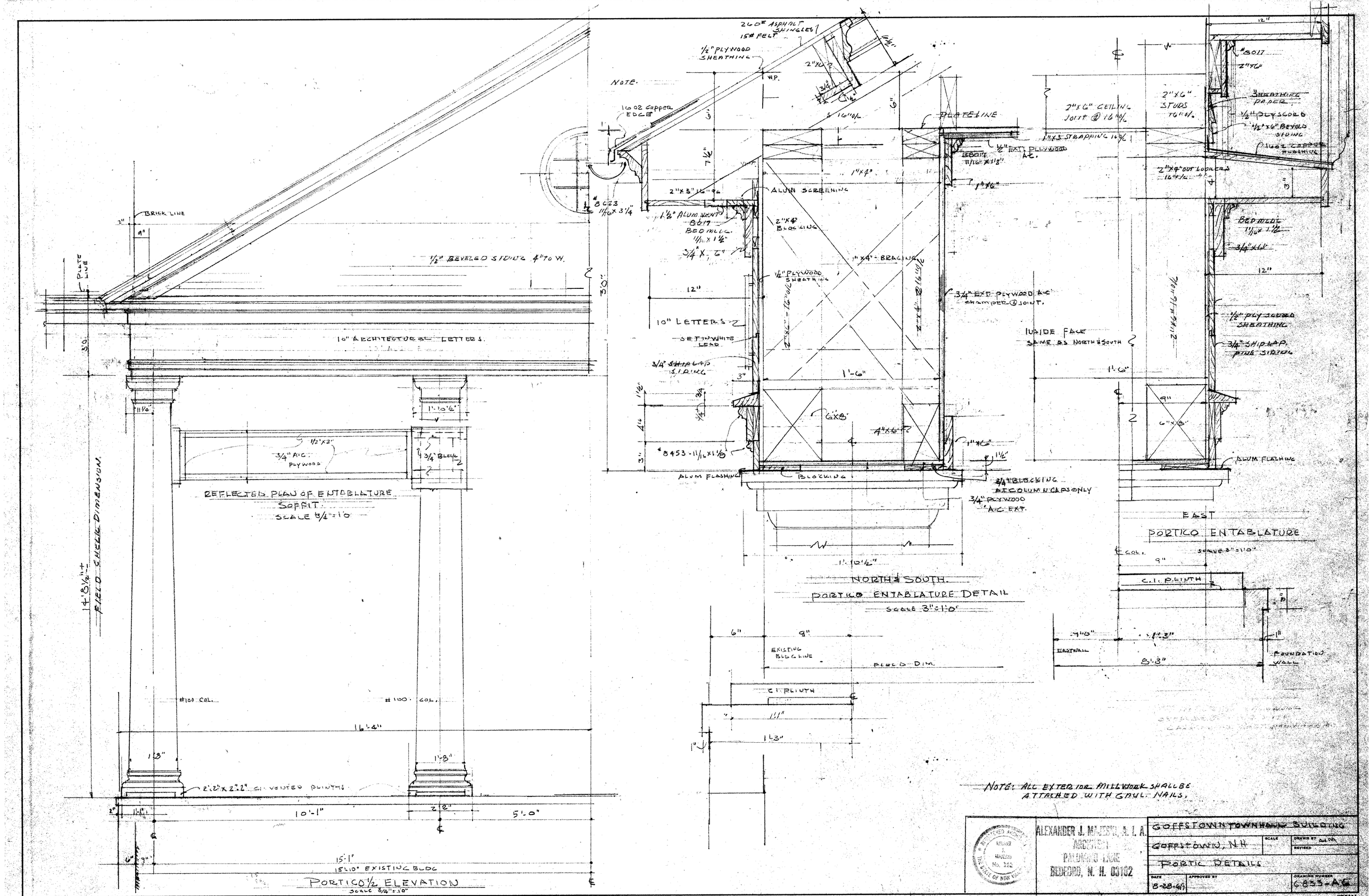
JAMB
SECTION 1-1"
SCALE 1 1/2"=1'0"

6'-8" M.O.

REGISTERED ARCHITECT
ALEXANDER J. MAJESKI
No. 122
STATE OF NEW HAMPSHIRE

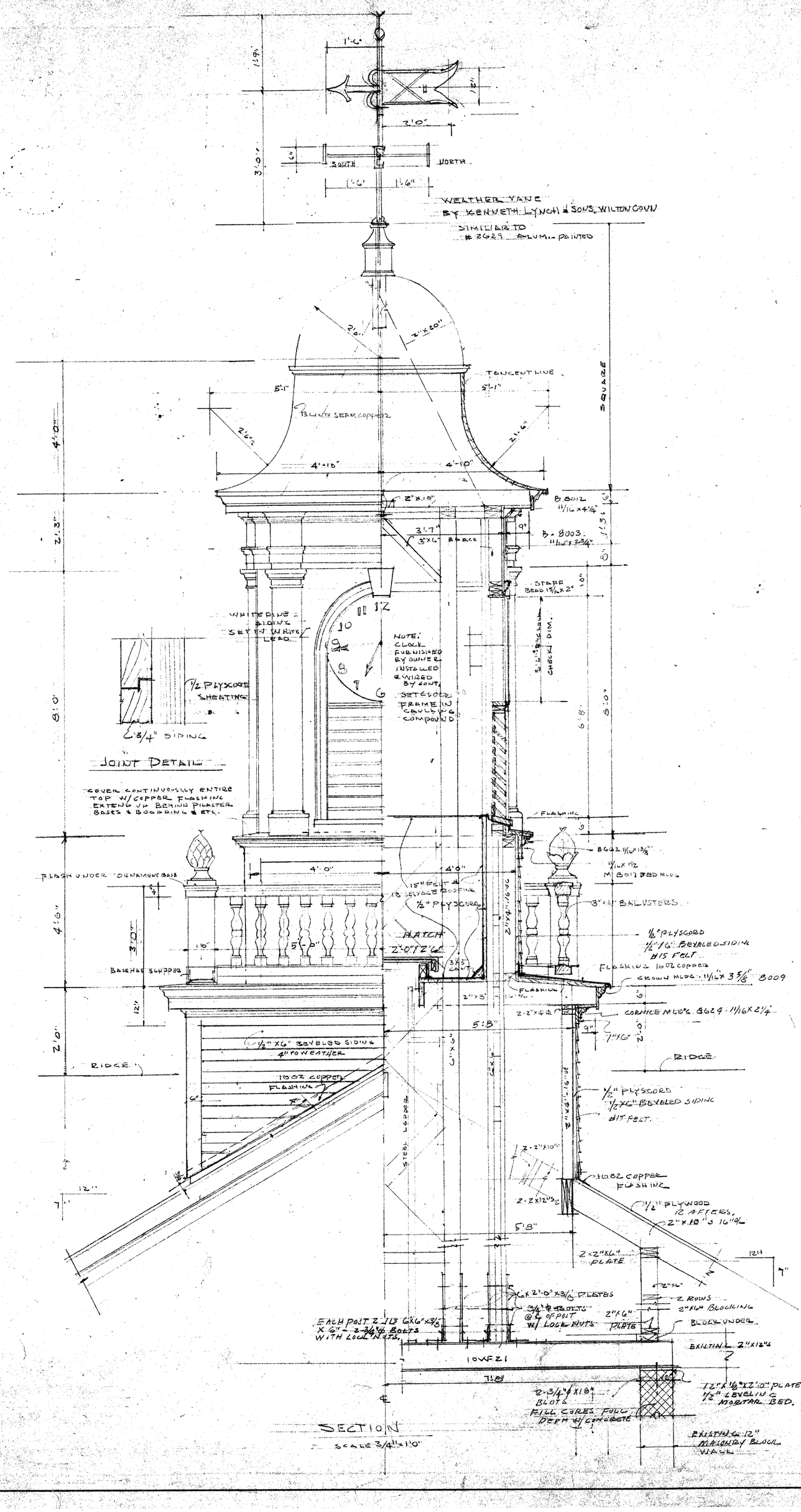
ALEXANDER J. MAJESKI, A. I. A.
ARCHITECT
PALOMINO LANE
BEDFORD, N. H. 03102

GOFFSTOWN TOWN HALL BUILDING
GOFFSTOWN, N.H.
SCALE
DRAWN BY A.S.M.
REVISED
WINDOW DETAILS - WEST PORTICO
DATE 8-28-69
APPROVED BY
DRAWING NUMBER 6833-A5



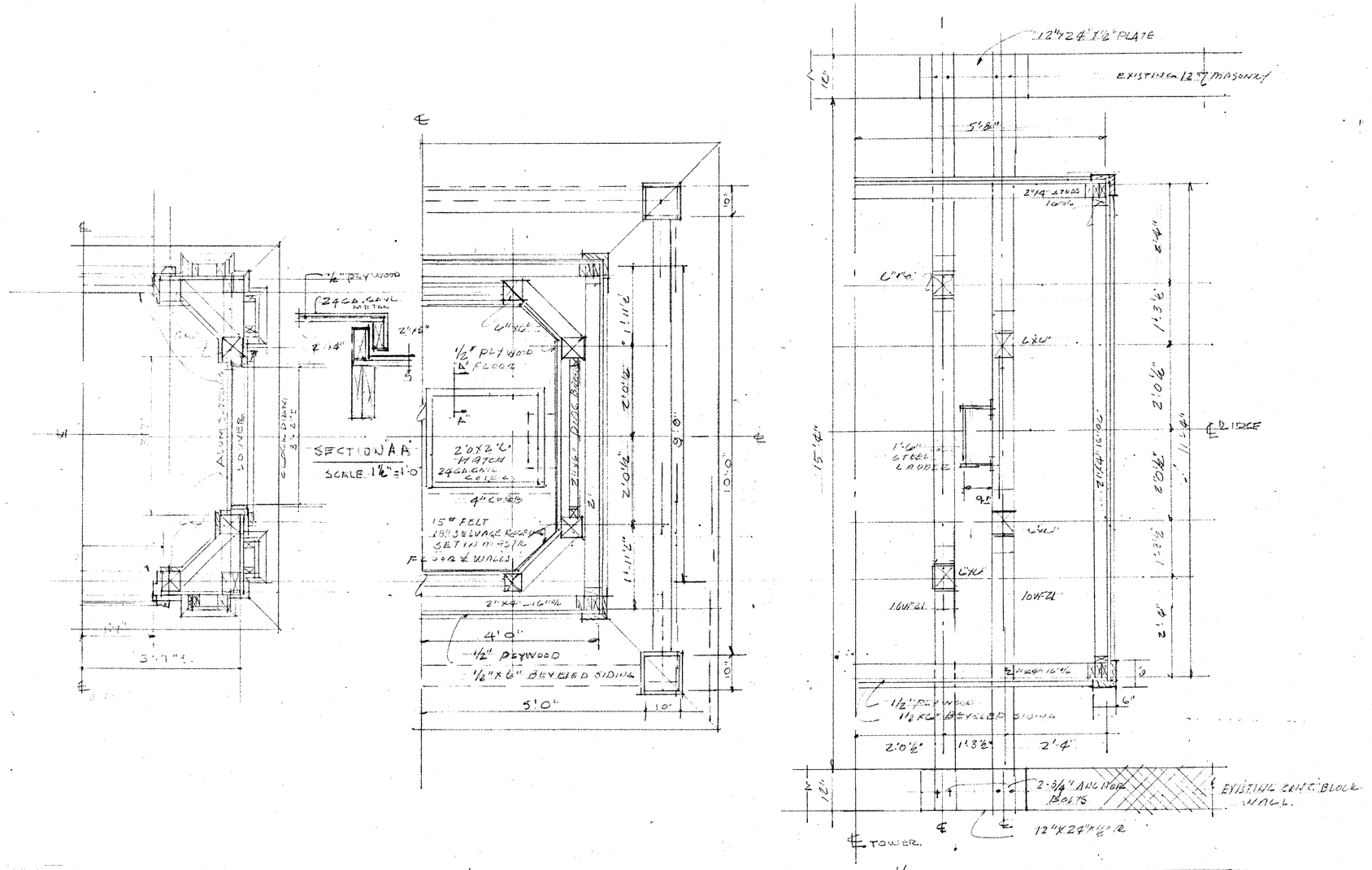
NOTE: ALL EXTERIOR MILLWORK SHALL BE ATTACHED WITH GALV. NAILS.

ALEXANDER J. MAJESKI, A.I.A. ARCHITECT PALOMINO LANE BEDFORD, N. H. 03102	GOFFSTOWN TOWN HALL BUILDING	
	GOFFSTOWN, N.H.	SCALE / DRAWN BY / REVISED
	PORTIC DETAILS	
	DATE 8-28-69 / APPROVED BY	DRAWING NUMBER 6855-A6



GOFFSTOWN TOWN HALL BUILDING
GOFFSTOWN, N.H.
TOWER DETAILS
SCALE 3/4" = 1'-0"
DRAWN BY
REVISED
DATE 8-28-69
APPROVED BY
DRAWING NUMBER 6883-A7

ALEXANDER J. MAJESKI, A.I.A.
ARCHITECT
PALOMBO LANE
BEDFORD, N.H. 03102



½ PLAN AT UPPER SECTION

½ PLAN AT WALKWAY

SCALE 3/4"=1'-0"

½ PLAN - AT BUILDING RIDGE

COFFSTOWN TOWN HALL BUILDING		
COFFSTOWN NH	SCALE 3/4"=1'-0"	DRAWN BY AJM
		REVISED
½ PLAN - TOWER		
DATE 8-29-69	APPROVED BY	DRAWING NUMBER 6833-A8

K+E ALBANENE ® 10 5455 ARCHITECTS' STANDARD FORM

TeamEngineerNH, PLLC
67B North Mast Street
Goffstown, NH 03045-1729
Tel 603.497.3137
Fax 603.497.4918
www.engineernh.com

May 15, 2015

Town of Goffstown
Attn. Derek Horne
16 Main Street
Goffstown, NH 03045

Property:
Goffstown Town Hall Extension
16 Main Street
Goffstown, NH 03045

Re.: Settlement and Loading Concerns at Goffstown Town Hall

Dear Derek,

At your request an engineering consultation regarding the above property was performed on May 8, 2015. The primary purpose of this report is to study two areas of structural concern:

1. The support for your "Mobile File System" installed circa 2001 but modified in 2014. We understand that you are concerned about the weight of this system. You want an evaluation of the floor framing under the Mobile File System and an opinion of whether it is adequate or not.
2. The second concern area pertains to a section at "south side" near a removed door. We understand that there may be a settlement problem in this area.

This inspection was performed by and report written by John Turner, P.E. For your interest, a copy of Mr.Turner's resume is attached.

SUMMARY

The south corner of the building is settling abnormally. We measured the settlement of the corner at 3 1/2 inches. Normal settlement should be less than ½" for a section this size.

We recommend that this condition be kept under observation with a follow up measurement and study performed one year from now. A decision should be made based on the follow up visit whether or not repairs are indicated.

We consider the floor framing marginally adequate for the mobile filing system.

LIMITATIONS

This report is the complete response to your request for a study or an inspection of this property. If you have any questions about this report or our inspection, please call your engineer for clarification.

As you requested, this evaluation is limited in scope, focusing on the main floor - south corner settlement and floor framing questions only.

As Professional Engineers, it is our responsibility to evaluate available evidence relevant to the purpose of this inspection. We are not, however, responsible for conditions that could not be seen or were not within the scope of our service at the time of the inspection.

DESCRIPTION

This study concerns the circa 1969 extension of the Goffstown Town Hall.

This portion of the building is a one plus story gable style structure with brick masonry exterior walls and a mostly finished half depth basement.

There are perimeter cast in place concrete foundation walls and a steel beam with wood plank floor system for the upper floor.

BACKGROUND

We understand that the motivation for this engineering study was two-fold first there is a large movable filing System located on the main floor. In addition, evidence of recent movement (increased cracks in brick masonry and interior drywall) have been observed – raising questions about abnormal settlement.

We understand that there was formally and egress door located at the southeast side of the building toward the south corner. We further understand that in approximately 2007 this door was removed and the foundation wall infill and a window installed.

We also understand that the capacity of the movable file system was recently increased.

The combination of these changes with perceived building moment inspired this investigation.

OBSERVATIONS AND COMMENTS

We exposed portions (by limited removal of suspended ceiling tiles in the lower level) of the main floor framing to perform this study.

We measured the floor framing components using a conventional 4' level, a Zip brand level and laser level technology. We have included a sketch showing these measurements and respective locations. The results are consistent and disappointing. 3 1/2 inches of settlement in a 24 foot length of foundation is much greater than normal. This finding suggests that the south corner of the building is not founded properly on firm soil. This helps to explain the apparent history of trouble with the brick masonry veneer and with some other components such as the windows at the southeast elevation.

The minimal evidence of movement at both the interior and exterior since major renovations were performed (2007-2010) is cause for some optimism. Settlement conditions often decay exponentially. We suspect that the years of more severe settlement are over – though this can only be confirmed by observation over an extended time period. Also, the recent and severe

parking lot settlement conditions do raise additional concerns. As a result, we strongly recommend waiting 12 months and repeating measurements to confirm whether or not the settlement problem is ongoing and – assuming it is – how severe that it is.

We have also reviewed the beam sizes for the floor members. Our calculations indicate that the beams supporting the file system are probably not ideally sized for this application. Per 2001 documents, the mobile filing system, fully loaded, has a reported live load of 101 lb/SF (PSF). By our calculations, the floor system is just adequate to support this load. In short, we do not believe any action regarding the mobile filing system is required. Our greatest concern on this matter relates to connections – especially connections that are now strained due to settlement conditions. This should reinforce the motivation to continue a monitoring program for the settlement problem.

Thank you for the opportunity to be of assistance to you.

Sincerely,

STATE OF NEW HAMPSHIRE
JOHN P. TURNER
No. 8908
LICENSED
PROFESSIONAL ENGINEER

John Turner, PE

JPT/mok

Enclosures

Distribution via email to: dhorne@goffstownnh.gov

Photo: 1

Location: Goffstown Town Hall 16 Main Street

Date: May 8, 2015

Description: Southwest (Gable) and Southeast Elevations of the Town Hall extension. This corner either has settled or is settling abnormally.

Photo: 2

Location: Goffstown Town Hall 16 Main Street

Date: May 8, 2015

Description: Lower left window was formerly a door. Settlement problem is not related to this change.

Photo: 3

Location:
Goffstown Town Hall 16 Main Street

Date: May 8, 2015

Description:
Mobile filing system location is mostly coincidental with settlement problem. Pen under 4' level gives a sense of the magnitude of the floor slope.

Photo: 4

Location:
Goffstown Town Hall 16 Main Street

Date: May 8, 2015

Description:
Slope of steel beam under mobile filing system is caused primarily by foundation settlement – not deflection due to filing system.

Photo: 5

Location:
Goffstown Town Hall 16 Main Street

Date: May 8, 2015

Description:
General interior view with laser level (orange) set on filing cabinets for measurement of floor slope.

Photo: 6

Location:
Goffstown Town Hall 16 Main Street

Date: May 8, 2015

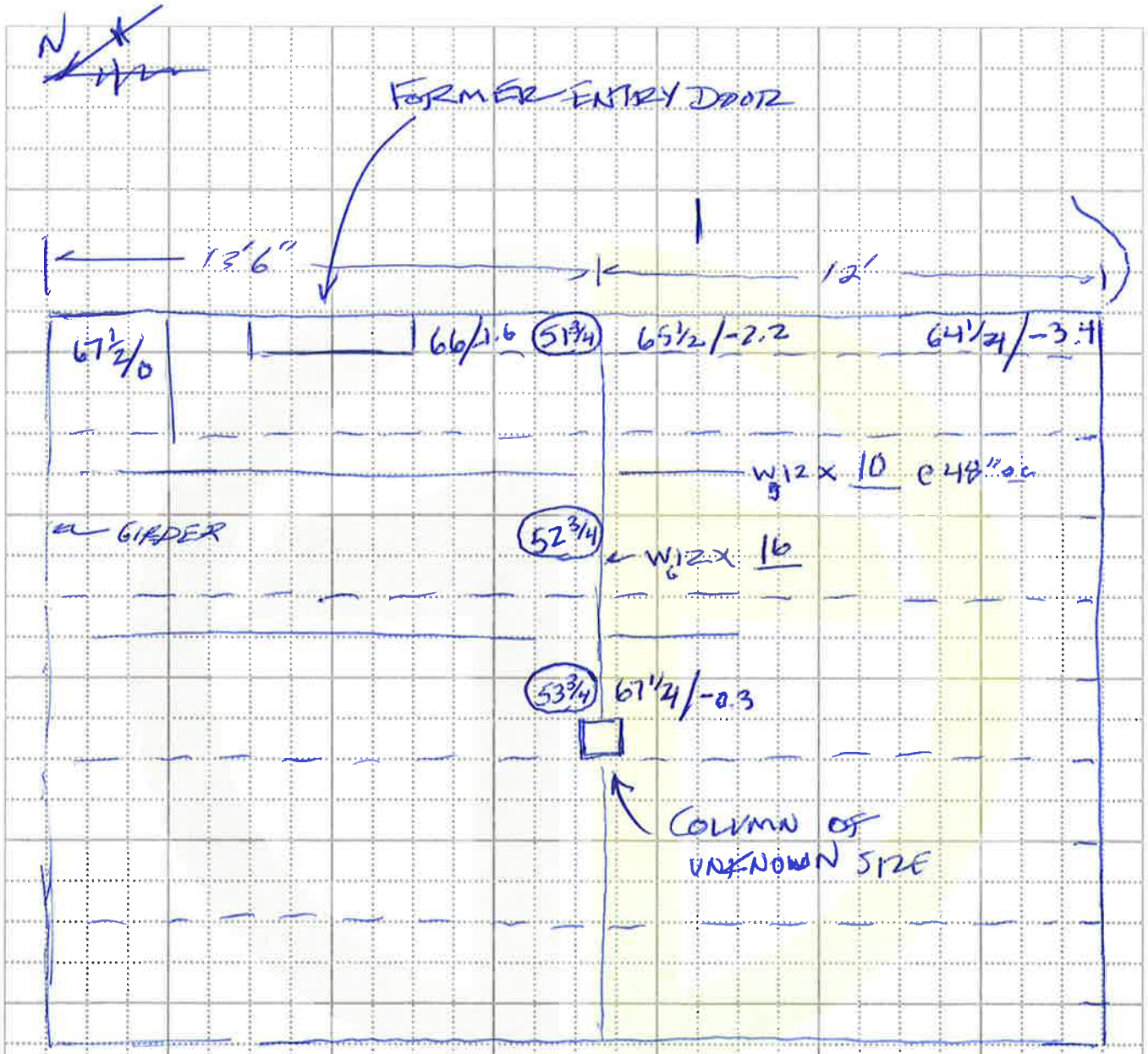
Description:
Typical joist/beam connection below floor section of concern.

Team ENGINEERING
Building Inspection & Design

Field Notes and Sketches

67B North Mast Street
Goffstown, NH 03045-1729
(603) 497-3137
www.EngineerNH.com

Client: GOFFSTOWN Engineer: JT Date: 5/8/15
Description: MAIN FLOOR FRAME - REFLECTED Job#: 15194
Project Location: TOWN HALL Scale: 1/4" = 1'0"



BEAM WEIGHTS ARE ESTIMATED
W12x 10 (3" FLANGE)
W12x 16 (4" FLANGE)

NOTES:
① MEASUREMENTS ARE APPROX. AND TO INTERIOR
② X/Y = LASER/ZIP LEVEL TO UNDERSIDE OF SUBFLOOR
③ (X) = LASER TO BOTTOM OF BEAM

PROFESSIONAL QUALIFICATIONS AND EXPERIENCE

JOHN P. TURNER, P.E.

Areas of Expertise

John Turner is a Multi-Discipline (Architectural and Electrical) Licensed Professional Engineer working primarily in New Hampshire and Massachusetts, specializing in building technology and construction. He is also a Board Certified Building Inspection Engineer.

As President of Team Engineering, John has diverse experience in all facets of construction. His specialties include residential and commercial inspection, structural and other engineering design, energy-efficiency, renovation consulting, condominiums/association properties and forensic engineering.

John provided these services as Criterium-Turner Engineers from 1993 until 2012. In 2012, the company elected to go independent and formed Team Engineering. The architects, inspectors and engineers at Team are recognized by real estate professionals, consumers, builders, legal and business leaders as the best in the business. John has a proven track record of competence, integrity and commitment as a building inspection & design engineer.

John is responsible for development and management of the firm. John is actively involved on a daily basis in building evaluation, design, and architectural engineering. He provides seminars on a variety of topics related to the design, construction and maintenance of buildings. He has taught in excess of 100 hours to both consumers and industry professionals.

Qualifications

Our company has provided inspection and consulting services on over 10,000 buildings in the last 20 years. John provided similar services working for Criterium-Lalancette Engineers in Vermont. John gained practical insight working as a Construction Foreman for years. John serves as a call Firefighter in Amherst and served as the Assistant Building Inspector in Dunbarton. John also worked for Bangor Hydro-Electric Company in Bangor, Maine and for Texas Instruments. He built his own family home in 1999, and has performed four major renovations for his family and the business.

Education

John earned a Bachelor of Science degree in Electrical Engineering from the University of Maine (1988). He earned his initial PE license performing electrical design services in Massachusetts starting in 1993.
By 2004, John completed studies to earn his Architectural Engineer's License (NH PE #8908, MA#50175).

Professional Affiliations

NABIE National Academy of Building Inspection Engineers Member
ASHI American Society of Home Inspectors Member
NSPE National Society of Professional Engineers Member
State of New Hampshire Licensed Sub-Surface System Designer
CAI Community Associations Institute Member
Certified HUD 203(k) Fee Consultant (PO912)
BIECI Building Inspection Engineering Certification Institute
LEED Leadership in Energy and Environmental Design Accredited Professional.

Personal

John resides in Amherst, NH with his wife, Renee, and children – Maria, Carlos & Cecilia. He loves to enjoy the Great Outdoors of New England with his family. John is active at St. Patrick's Parish in Milford, NH. He is creating "The Farm at Cricket Hill" in Amherst – a cut-your own Christmas Tree Farm at his Amherst residence – open for business in 2021!

LIMITATIONS

This report is the complete response to your request for a study or an inspection of this property. If you have any questions about this report or our inspection, please call your engineer for clarification.

As you requested, this evaluation is limited in scope, focusing on the main floor - south corner settlement and related foundation questions only.

As Professional Engineers, it is our responsibility to evaluate available evidence relevant to the purpose of this inspection. We are not, however, responsible for conditions that could not be seen or were not within the scope of our service at the time of the inspection.

DESCRIPTION

This study concerns the circa 1969 extension of the Goffstown Town Hall.

This portion of the building is a one plus story gable style structure with brick masonry exterior walls and a mostly finished half depth basement.

There are perimeter cast in place concrete foundation walls and a steel beam with wood plank floor system for the upper floor.

BACKGROUND

In addition to observations made in 2015, the staff in the Town Offices reported a perception that wall cracks have increased and that the moveable file system operation has changed. We witnessed a demonstration of one of the moveable files "rolling downhill". The perception and observations are consistent with our measurements.

OBSERVATIONS AND COMMENTS

We repeated settlement measurements performed in 2015. Again, we used a combination of a Zip brand level and laser level technology. We have included a sketch showing these measurements and respective locations. The following table summarizes results – all numbers are in inches relative to a common location.

Location	2015-Laser	2015-Zip	2016-Laser	2016-Zip	Change – Laser	Change – Zip
Former Entry Door/Window	-1 1/2	-1.6	-1.5	-1.6	0	0
Perimeter Foundation Below Moveable Files	-2	-2.2	-2 7/16	-2.4	-7/16	-.2
Southeast Corner of Foundation	-3 ¼	-3.4	- 3 ¾	-3.7	-1/2	-0.3
Inboard Column Below Moveable Files	-1/4	-0.3	-1.4	-0.3	0	0

I have deliberately maintained the units as fractions for the laser level (measurements are made with a tape measure) vs. the digital display of the Zip Level. The results are not perfect between the two technologies, but they are consistent. Both technologies show no ten month settlement of the inboard column and of the foundation near the former entry door (now east side window).

This year's observations were very significant with regard to the specific location of the settlement problems. By our measurements, the "current problem" is limited to the corner of the foundation now labeled as "10 month settlement observed." We have also labeled an "affected south wall" as when the corner is involved, clearly the adjacent wall is also affected. This means that any foundation repair should provide improved support at both the east and south sides near the southeast corner.

The most common repair technology for this condition are helical piers. These could be installed to arrest further movement/settlement. Restoration of this corner to "level" would add significantly to consequential damage and cost. I have enclosed a brochure to give you a general understanding of this technology. Please advise if you wish further assistance with establishing and/or implementing a repair plan.

Thank you for the opportunity to be of assistance to you.

Sincerely,

STATE OF NEW HAMPSHIRE
JOHN P. TURNER No. 8908 LICENSED
PROFESSIONAL ENGINEER

John Turner, PE

JPT/

Enclosures

Distribution via email to: dhorne@goffstownnh.gov

The standard construction practice to build on — CHANCE® INSTANT FOUNDATION® Systems

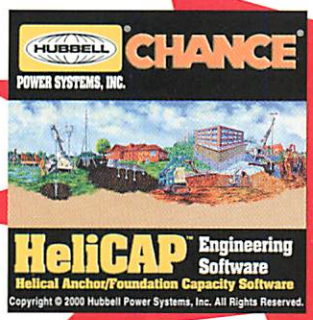
History

We have continually introduced new tension and compression anchor products over the 90 years since founder A. Bishop Chance developed his first patented earth anchor. PISA® (power-installed screw) anchors are among the most significant, developed for electric and telephone utilities, pipeline and construction industries.

Case Histories

On request, briefs about jobs by Chance certified contractors give such details as geotechnical data, loads and anchors used for most types of applications listed.

Computer Assisted Design Package



NEW! EXCLUSIVE! Available on CD!

For a FREE demonstration, visit our web site: *www.hubbell/abchance.com*

The only computer program of its kind, Chance® HeliCAP™ Engineering Software is an easy-to-use interactive program that provides helical anchor solutions for foundation and retaining projects. Its graphics simulate "virtual anchoring" on screen in a PC Windows environment. It performs powerful, sophisticated calculations, based on your project parameters, to derive the proper Chance anchor.

Available on CD, it includes Help screens and Reference materials as close as your keyboard. It gives you prompts to maintain control over essential criteria to effect the same process Chance anchor-application engineers employ daily to analyze problems and specify solutions.

You make these inputs:

1. Soil type, layer depths, strength parameters;
2. Anchor length, helix configuration, angle of installation, distance to datum;
3. Load — magnitude and direction.

It gives you this output:

Bearing capacities in tension and compression of an anchor in the given soil conditions.

Bearing-Plate Theory

The bearing calculations are suitable for both compression and tension as long as the soils being loaded are considered.

Foundation design typically can be divided into two steps:

1. Select anchor-helix configuration based on soil characteristics and load.
2. Select shaft configuration based on load and anticipated installation torque.

Capacity Equation

The design procedure utilized by the A.B. Chance Company is based upon the well-known General Bearing Capacity Equation:

$q_u = cN_c + \bar{q}\,N_q$ where

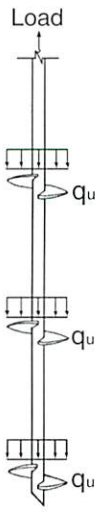
q_u ultimate soil bearing pressure
c cohesion of soil
$\bar{q}$ overburden pressure
N_c, N_q } bearing capacity factors for local shear conditions

The load capacity of a multi-helix anchor is the sum of all individual helix capacities. Individual helix bearing capacity is the product of its projected area (A_h) and the bearing pressure (q_u). Reduction in load capacity should be accounted for in sensitive soils. Allowances should be made when the zone of influence for a helix includes strata of different strengths.

This analysis depends on a "deep bearing" failure mode. This condition is satisfied when the helix depth-to-diameter ratio is a minimum of 5.

Holding Strength related to Installing Torque

Monitoring installation torque helps indicate anchor capacity. The ratio between holding capacity in pounds and installation torque in foot-pounds may range from 7 to more than 20, but the rule-of-thumb value of 10 can be used in many soils. Torque monitors are available from Chance. Their use provides a good method of quality control during installation.



Graphic at left shows individual bearing pressures on multi-helix anchor.

Model in clay, above, illustrates "deep anchorage" failure mode. (Bobbitt, 1968)

The standard construction practice to build on — CHANCE® INSTANT FOUNDATION® Systems

Product Benefits

The standard construction practice using Chance helical anchors comprises round and square steel shafts for the best economies to carry certain loads. To increase product life in aggressive soils, hot-dip galvanizing to ASTM specifications normally is supplied.

For new construction, expansion or repair projects, compression and/or tension loads and soil conditions dictate the Chance anchor solution. In most soils, the steel anchors alone provide the needed performance. Only where extremely troublesome soils exist do Chance anchors and grout need to be combined.

General advantages:

- Predictable results
- Lower installed costs
- Achieve design loads in given soils
- Clean – No excavation spoils to remove
- One-trip convenience: No site preparation
- Install in any weather
- Easy to store/transport
- Install in limited-access situations

All-steel HELICAL PIER® Foundation Systems INSTANT FOUNDATION® Systems helical-anchor advantage:

- Can be loaded immediately

Grouted HELICAL PULLDOWN™ Micropiles helical-anchor advantage:

- Installs through weak surface soils

Special techniques, tools, designs and sizes derived over 93 years of engineering experience and expertise give Chance helical anchors advantages not easily duplicated. They extend bearing plates into stable strata under expansive surface soils without significant disturbance. For additional load, both friction and end-bearing capacities can be mobilized with the addition of a grout column.

For your assurance of high quality, the Chance Company manufacturing system has earned registration by ISO certification. When you specify Chance anchors, you have selected the highest caliber from leader of the anchor industry.

ISO 9001-1994
Cert. No. 001136

A. B. Chance Co.
Centralia, MO USA

Universe of Products and Applications

• HELICAL PIER® Foundation Systems and HELICAL PULLDOWN™ Micropiles —

Residential & Commercial Repairs 4-6
Lifting and/or stabilizing structures
Seismic-retraint retrofitting foundations
Foundation wall straightening/stabilization

New Commercial & Industrial Foundation Construction & Expansion 4-6
New-construction deepened foundations

Telecom & Power Towers Supports & Guys . . . 6-7
Foundations for self-supporting and guyed structures

Soil Screw® Retention Wall System 8-9
Gravity walls for earth retention, revetments, dams, levees, roadways

Tieback Tension-Anchor System 8-9
Sitework preconstruction tiebacks, revetments, dams, levees, roadways

Geo-environmental Support Systems 12
Environmental walkway supports
Harbor boat and aquaculture moorings
Pipeline and storage tank supports and restraint anchors

• INSTANT FOUNDATION® System ———

Equipment Platform Foundations 7
Such as related to telecom and power towers

Lighting & Construction Uses 10-11
Area, parking, bollard, street and roadway
Solar panels, CATV, telephone callbox and pay stations

Services

For a variety of projects, Chance screw anchors have proven reliable in all soil conditions. This cumulative experience gives Chance unique support resources for:

- Certified installers
  - Training and field supervision
- Design assistance
  - Geotechnical engineering guidance for special cases
- Standard and special designs to match applications and soils.

Capabilities

Because screw anchors are reliable for predictable holding capacities and low installed costs, they are being used in a growing number of applications. Compression loads per anchor as high as 300,000 lb. and tension loads as high as 200,000 lb. can be achieved. Special terminations transfer structure load to the anchors.

Chance engineering expertise, with 1,400,000 sq. ft. of manufacturing facilities, leads the world in anchor development and quality.

• Foundation Repairs — Residential & Commercial
HELICAL PIER® Foundation Systems
HELICAL PULLDOWN™ Micropiles see pages 6 & 7.

Description

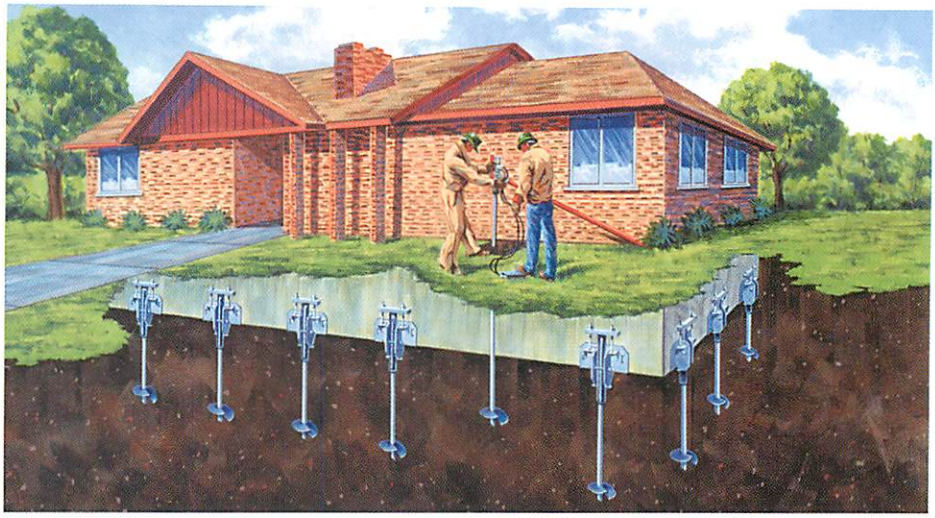
Square-Shaft (SS) HELICAL PIER® Foundation Systems anchors are designed for installation ease and to maximize load capacity of each helix. Shafts and helices are of steel selected for specific installing torques and design loads. Chance screw anchors are effective in compression because soil supports the shafts against buckling.

Only dealers trained and certified by the Chance Company are to install the patented HELICAL PIER® Foundation Systems.

Installing equipment may be a portable rotary tool or a digger motor on a utility truck, caisson drill, backhoe or skid-steer loader with torque motor attached. Important equipment characteristics are torque output, rotational speed, down pressure capability and angle control.

Torque can be monitored during anchor installation for production control. An empirical factor (usually 10 ft.$^{-1}$) is multiplied times the average torque over the final 3 feet of installation to estimate ultimate capacity.

Typical applications are deepened foundation anchors for new construction and stabilizing/lifting repairs of existing foundations.



For retrofit applications, brackets are placed at intervals around the building. Anchor bolts hold brackets to the footing. HELICAL PIER® Foundation Systems anchors install through the brackets. Special tool permits hydraulic jack to transfer load to brackets and foundation anchors. Nuts on each bracket's two vertical bolts lock off load before jack is removed.

For new construction applications, HELICAL PIER® Foundation Systems anchors install at intervals between footing forms and tie into the rebar gridwork prior to pouring concrete.

For such higher loads as commercial and industrial construction or expansion applications, HELICAL PULLDOWN™ Micropiles may be installed in the same manner as above. That is, at intervals between

Engineering Guide Specifications

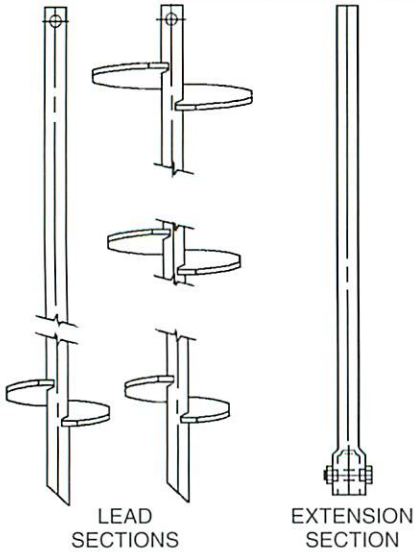
Details on Chance HELICAL PIER® Foundation Systems are available upon request in the three-part section Manu-Spec® format.

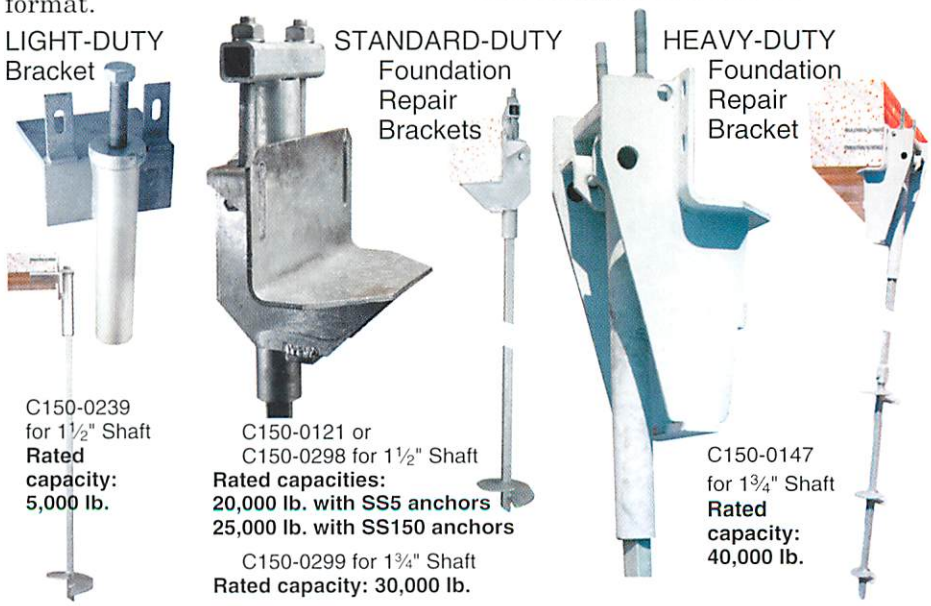
Building Code Listings

Building code listings for Chance HELICAL PIER® Foundation Systems include:

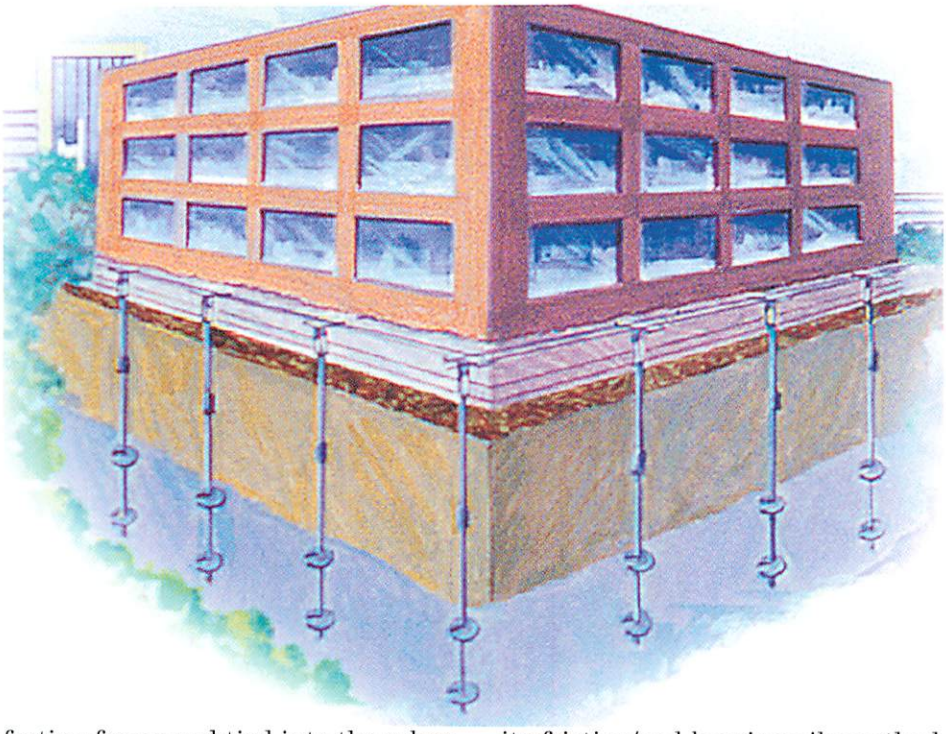
- BOCA Report No. 94-27,
- ICBO Report No. ER5110,
- SBCCI Report No. 9504B.

Components, Parts



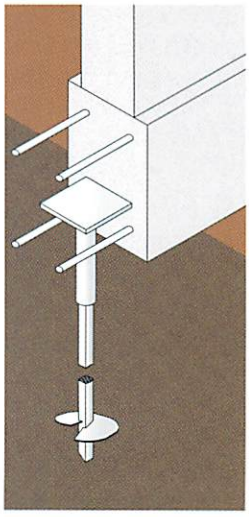


• New Foundation Construction — Residential & Commercial
HELICAL PIER® Foundation Systems
DURA-GRIP™ Wall Repair System and Screw Anchor Wall Kit



NEW-CONSTRUCTION BRACKET

Brackets for new construction are placed on anchors in between footing forms and tied to rebar before concrete pour.



Catalog No. C150-0458 for 1½" Shafts and C150-0459 for1¾" Shafts

footing forms and tied into the rebar gridwork prior to pouring concrete. For more information on this composite friction/end-bearing pile method utilizing screw anchor technology, see pages 6 and 7.

SEISMIC/UPLIFT-RESTRAINT BRACKET KIT

U.S. Patent 5,213,448

Rated Capacity: 7,500 lb.

Fits on Standard Brackets C150-0298 and C150-0299

Catalog No. C150-0227

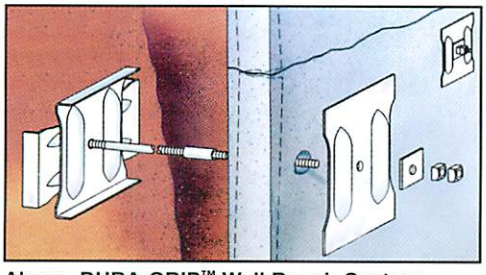
Remedial bracket resists upward forces that can damage foundations and structures.

In seismic areas, locate at the ends of a shear wall. In expansive soils, place around the perimeter.

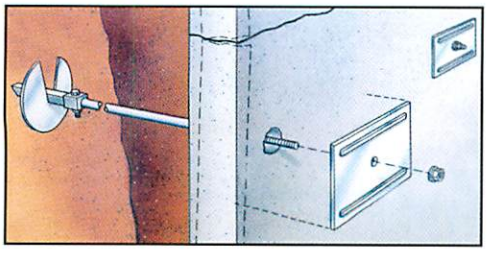
To resist uplift only, Kit may be installed with only T-Pipe E150-0294 or E150-0295 on an anchor.

Kit requires 20" to 24" vertical surface above the bottom of the foundation and concrete with a minimum rating of 2,000 psi.Kit includes bracket, epoxy bond, instructions and anchor bolt/stud requirements.

DURA-GRIP™ WALL REPAIR SYSTEM AND SCREW ANCHOR WALL KIT



Above, DURA-GRIP™ Wall Repair System cross plate anchors tie back retaining and foundation walls.

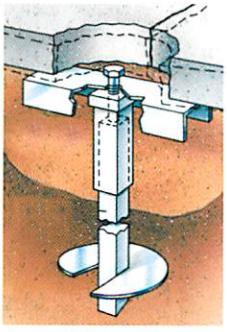


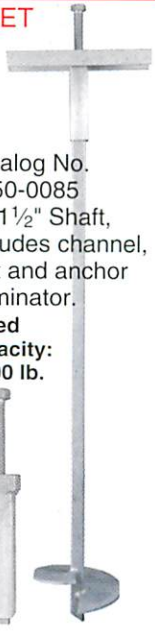
Here are two fast alternatives for saving foundation walls at less expense and trouble than replacement. DURA-GRIP™ Wall Repair System uses cross plate anchors placed in vertical holes in undisturbed soil away from the wall. Rods are driven through holes in the wall and secured to the wall with steel plates, washers and nuts. Torquing the rods stabilizes the wall against further movement. If the wall is to be straightened immediately, first excavating along the entire length and depth of the wall to relieve pressure permits using either the DURA-GRIP System or the Screw Anchor Wall Kit.

At left, screw anchors tie back retaining and foundation walls.

SLAB-REPAIR BRACKET

Slab-repair bracket kit for stabilizing uneven or damaged floors. Bolt adjusts through cap fitting on top of anchor so channel lifts floor.





Catalog No. T150-0085 for 1½" Shaft, includes channel, bolt and anchor terminator.

Rated capacity: 5,000 lb.

- **Underpinning Commercial/Industrial Construction/Expansion**
- **Tower Foundations for Telecom and Power Transmission***

HELICAL PULLDOWN™ Micropiles

***For guying, see SS anchors, pp. 8 & 9.**

Description

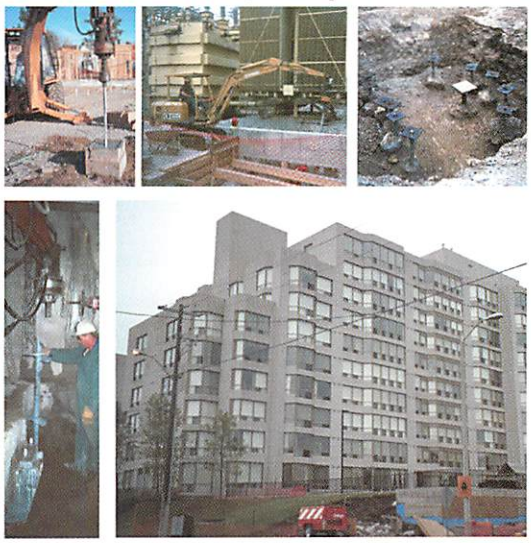
HELICAL PULLDOWN™ Micropile is a patented composite end-bearing/friction pile well suited for resistance to bending moments and lateral loads in poor soil conditions by transferring load to high end-bearing-capacity helical plates. It consists of a steel screw anchor with a 4" to 10" grout column around the shaft above the helical plates. Design is specified per application and may consist of Type SS (square-shaft, pages 8 & 9), Type HS (page7) or their combination. Displacement plates added at extension joints form void in the soil filled by grout reservoir on grade as anchor is torqued into the soil. Column may be sleeved during installation if required.

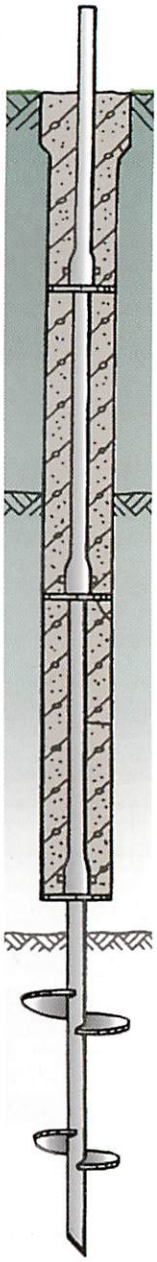
Torque monitoring contributes to production control. To estimate ultimate bearing capacity, an empirical factor (usually 10 $ft.^{-1}$) is multiplied times the average torque over the final 3 feet of installation.

Typical applications are construction and expansion of commercial and industrial building foundations, and tower foundations for power and telecommunications. Connections may be by steel fabricated brackets or integration into rebar gridwork of concrete pile cap.

Advantages

- **High-capacity: Tested to 300 kips**
- **Installs in limited access areas**
- **Cost-effective, proven method**
- **No excavation, no spoils**





Typical application of HELICAL PULLDOWN™ Micropile using Type SS anchors and grout column above the helical plates.

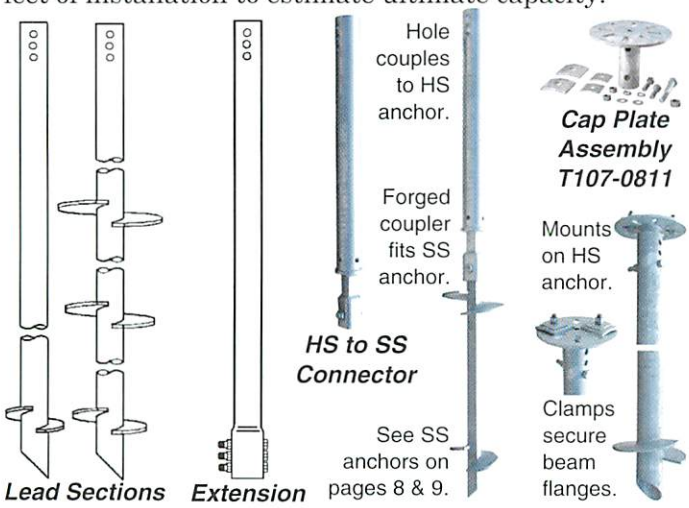
Displacement plates form grout column to design depth. Measuring grout volume indicates formation of column. Torque monitoring contributes to field production control.

• Tower Foundations for Telecom and Power Transmission*
• Equipment Platform Foundations *For guying, see SS anchors, pp. 8 & 9.
HELICAL PULLDOWN™ Micropiles & INSTANT FOUNDATION® System

Description

High-Strength (HS) INSTANT FOUNDATION® anchors have 3½-inch-O.D. pipe shafts for resistance to bending moments and lateral loads. Type T/C (Tension/Compression) INSTANT FOUNDATION anchors have lead sections of 3½-inch-O.D. pipe and extensions of 8-inch-O.D. pipe with helical couplers. The lead section and extensions bolt together and have a maximum installation torque rating of 11,000 ft.-lb.

Monitoring installation torque contributes to production control. An empirical factor (usually 7 ft.$^{-1}$) is multiplied times the average torque over the final 3 feet of installation to estimate ultimate capacity.



Type HS INSTANT FOUNDATION® Anchors

Lead Sections Helices & Diameter	Length	Catalog No.
8" & 10"	3½ ft.	C107-0560
10" & 12"	5 ft.	C107-0561
12" & 14"	5 ft.	C107-0562
10"	7 ft.	T107-0813
10" & 12"	7 ft.	C107-0023
10" & 12" & 14"	7 ft.	C107-0564
10" & 12"	10 ft.	T107-0812
10", 12", 14" & 14"	10 ft.	C107-0567
Extension Sections		
N/A	3 ft.	C107-0573
N/A	5 ft.	C107-0574
N/A	7 ft.	C107-0575
HS to SS Connectors (100,000 lb. axial load rating)		
HS to SS175 (1¾" square shaft anchors)		T107-0808
HS to SS200 (2" square shaft anchors)		T107-0809
Cap Plate Assembly for compression loading only		
4 11/16" to 7 5/16" bolt circle on 10"-dia. plate with 8 slots, each 11/16" x 2" @ 45°; plus ¾" through bolt & nut, and 2 clamp plate sets		T107-0811

Typical applications are anchor grillages for guyed and self-supported telecom and power transmission tower and foundations for buildings and platforms. Connections may be by steel fabricated brackets or integration into rebar gridwork of concrete pile cap.

Advantages

- **Multi-element pile groups can be designed to match ultra-high loads**
- **Higher shear capacities**
- **Cost-effective, proven**
- **No excavation, no spoils**

Cap Plate Assembly for Equipment Platform Supports

Steel Grillage for Tower Base Supports

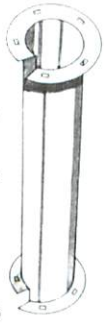
Pile Group in Concrete Pile Cap for Tower Leg Supports

Type T/C INSTANT FOUNDATION® Anchors

Terminations
Bolted, welded or grouted for single elements plus multi-element grillages

< Lead Sections
5, 7, 10 ft. lengths and helices per job requirements

Extension > Sections
3, 5, 7, 10 ft. lengths with 14" diameter helical couplers



CHANCE® •SOIL SCREW® Retention Wall System •Tieback Tension-Anchor System

Description

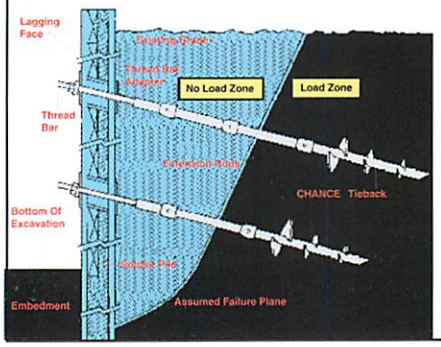
For retaining projects, Chance screw anchors can be matched to soil and heavy tension loads in the same way HELICAL PIER® Foundation Systems anchors are for compression applications.

Soil Nailing – SOIL SCREW® Retention Wall System uses screw anchors as bearing devices as compared to grouted anchors which rely on friction. To construct a gravity wall to reinforce the soil, SOIL SCREW anchors have bearing plates spaced along their entire lengths. Anchor size and grid spacing are designed to local soil conditions and load requirements. A shotcrete-reinforced veneer often is applied to the wall face.

Tieback – Chance screw anchors for tiebacks in soldier-pile/waler walls come with shaft sizes and single- or multi-helix plate diameters selected for job-specific requirements. Applications include building sitework, roadways, retaining walls, levees, dams and revetments.

SOIL SCREW® System: soil nail application

Tieback tension-anchor application

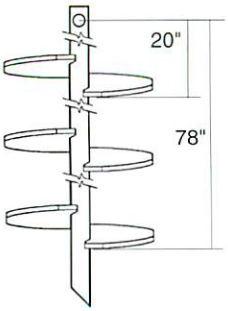


Advantages

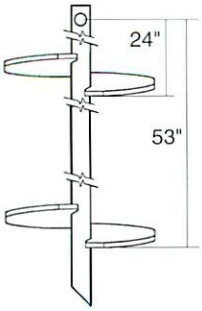
- Competitive installing costs
- Immediate loading
- Installs in any weather
- Speeds site preparation
- No spoils to remove
- Predictable results
- Removable where necessary
- Installs with available equipment
- Labor-saving - keeps crew size small
- True helix installs with ease, minimal disturbance
- Less equipment (no concrete trucks or grout pumps)

Components, Parts — *for SOIL SCREW® uses only on this page*

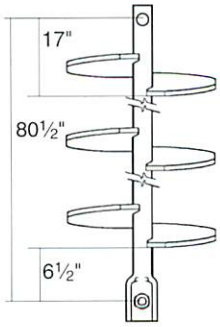
Rated for 5,500 ft.-lb. maximum installation torque and 70,000 lb. minimum ultimate tension strength, SS5 anchors have 1½"-square steel shafts and 8"-diameter helices and are hot-dip galvanized after assembly.



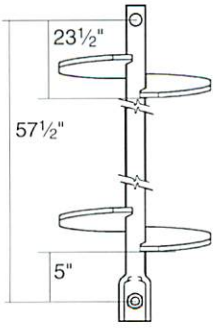
Three-Helix SOIL SCREW® Lead Section C110-0691



Two-Helix SOIL SCREW® Lead Section C110-0692



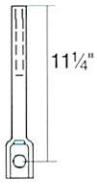
Three-Helix SOIL SCREW® Extension C110-0689



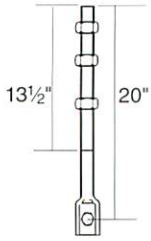
Two-Helix SOIL SCREW® Extension C110-0690

SOIL SCREW® Termination Adapters

Both are hot-dip galvanized steel and fit 1½" square shaft SS5 anchors.



1" Threadbar Adapter C114-0009

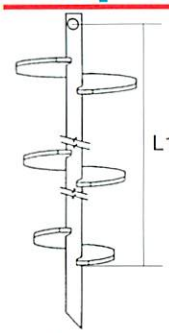


Threaded Adapter C110-0026

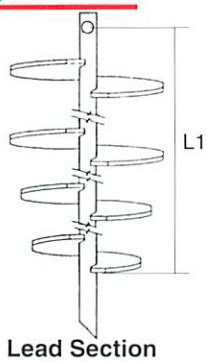
•SOIL SCREW® Retention Wall System

•Tieback Tension-Anchor System

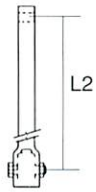
Components, Parts — *for Tieback only on this page*



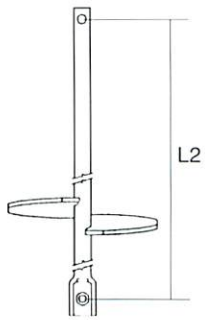
Lead Section



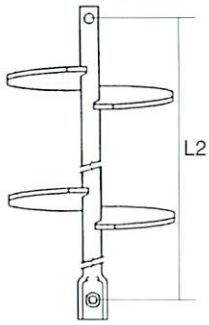
Lead Section



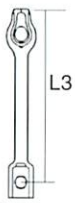
Plain Extension



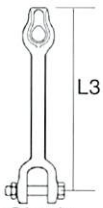
Single-Helix Extension



Twin-Helix Extension

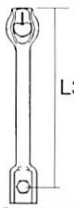


Socket



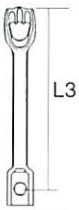
Clevis

Thimbleye® Adapter

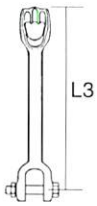


Socket

Twineye® Adapter

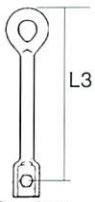


Socket



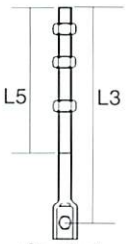
Clevis

Tripleye® Adapter

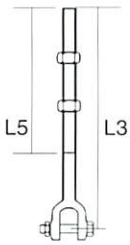


Socket

Ovaleye Adapter

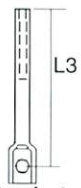


Socket



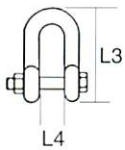
Clevis

Threaded Adapter



Socket

Threadbar Adapter



Chain Shackle

Mechanical Ratings	SS 150 1.50" Square Shaft			SS 175 1.75" Square Shaft			SS 200 2.00" Square Shaft			SS 225 2.25" Square Shaft		
Max. Installation Torque	7,000 ft.-lb.			10,000 ft.-lb.			15,000 ft.-lb.			20,000 ft.-lb.		
Min. Ult. Tension Strength	70,000 lb.			100,000 lb.			150,000 lb.			200,000 lb.		
Lead Sections **Helix Configuration and Diameter(s)**	**Catalog Number and Length**											
	SS 150			**SS 175**			**SS 200**			**SS 225**		
	Galv.	**Non-Galv.**	**L1**	**Galv.**	**Non-Galv.**	**L1**	**Galv.**	**Non-Galv.**	**L1**	**Galv.**	**Non-Galv.**	**L1**
8" & 10"	C110-0385	C114-0014	30"	C110-0227	C114-0020	30"	—	—	—	—	—	—
6", 8" & 10"	—	—	—	—	—	—	C110-0569	C114-0214	60"	C110-0543	C114-0187	54"
8", 10" & 12"	C110-0386	C114-0015	57"	C110-0235	C114-0021	60"	C110-0570	C114-0215	60"	C110-0544	C114-0188	75"
10", 12" & 14"	—	—	—	T110-0674	—	77"	—	—	—	—	—	—
14", 14" & 14"	C110-0504	C114-0149	120"	C110-0505	C114-0084	124"	C110-0572	C114-0216	122"	C110-0545	C114-0190	114"
6", 8", 10" & 12"	—	—	—	C110-0571	—	79"	—	—	—	—	—	—
8", 10", 12" & 14"	—	C114-0100	120"	C110-0247	C114-0101	124"	C110-0573	C114-0217	122"	C110-0591	C114-0189	115"
Extension Sections	**Galv.**	**Non-Galv.**	**L2**	**Galv.**	**Non-Galv.**	**L2**	**Galv.**	**Non-Galv.**	**L2**	**Galv.**	**Non-Galv.**	**L2**
None	C110-0388	C114-0016	37"	C110-0136	C114-0022	37"	C110-0563	C114-0209	37"	C110-0645	C114-0243	40"
None	C110-0470	C114-0104	59"	C110-0137	C114-0105	59"	C110-0564	C114-0210	58"	C110-0646	C114-0244	52"
None	C110-0389	C114-0017	80"	C110-0138	C114-0023	80"	C110-0565	C114-0211	80"	C110-0647	C114-0245	72"
None	C110-0440	C114-0080	122"	C110-0140	C114-0081	124"	C110-0566	C114-0212	123"	—	—	—
Single 14" helix	C110-0471	C114-0108	48"	C110-0472	C114-0109	48"	C110-0577	C114-0220	45"	C110-0650	C114-0238	52"
Twin 14" helices	C110-0454	C114-0058	80"	C110-0450	C114-0057	80"	C110-0581	C114-0224	80"	C110-0652	C114-0252	72"
Triple 14" helices	C110-0475	C114-0112	123"	C110-0476	C114-0113	124"	C110-0586	C114-0231	123"	—	—	—
Termination Adapters	**SS 150**			**SS 175**			**SS 200**			**SS 225**		
	Galv.	**L5**	**L3**	**Galv.**	**L5**	**L3**	**L4**	**Galv.**	**L4**	***L3***	**Galv.**	**L4**	**L3**
Thimbleye Adapter (socket)	C102-0023	—	17"	—	—	—	—	—	—	—	—	—	—
Thimbleye Adapter (clevis)	—	—	—	T110-0311	—	17"	—	†T110-0312	—	17"	—	—	—
Twineye Adapter (socket)	C102-0024	—	17"	—	—	—	—	—	—	—	—	—	—
Tripleye Adapter (socket)	C102-0025	—	17"	—	—	—	—	—	—	—	—	—	—
Tripleye Adapter (clevis)	—	—	—	T110-0465	—	17"	—	†T110-0629	—	17"	—	—	—
Ovaleye Adapter (socket)	C110-0041	—	17"	—	—	—	—	—	—	—	—	—	—
Threaded Adapter (socket)	C110-0026	13½"	20"	—	—	—	—	—	—	—	—	—	—
Threaded Adapter (clevis)	—	—	—	T110-0352	36"	48"	—	—	—	—	—	—	—
	—	—	—	C110-0514	13½"	20"	—	—	—	—	—	—	—
Chain Shackle	—	—	—	T110-0134	—	6⅝"	1 13/16"	C110-0557	2¼"	8¼"	C110-0558	2⅜"	9"
1" Threadbar Adapter	C114-0009	—	11¼"	C114-0010	—	11½"	—	C114-0227	—	13½"	—	—	—
1¼" Threadbar Adapter	—	—	—	—	—	—	—	C114-0256	—	13½"	C114-0262	—	16"
1⅜" Threadbar Adapter	—	—	—	—	—	—	—	—	—	—	C114-0250	—	16"

†T110-0312 and T110-0629 each rated 70,000 lb. minimum ultimate tension strength.

CHANCE® • INSTANT FOUNDATION® Anchors for Lighting & Construction Uses

Description

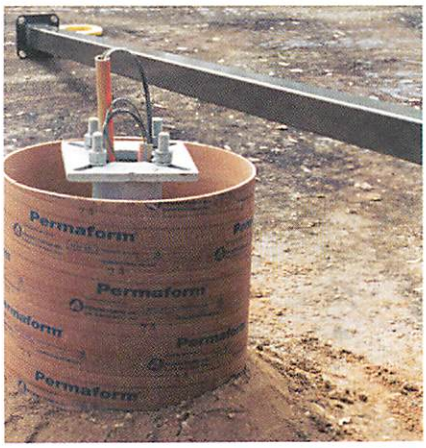
Non-extendable INSTANT FOUNDATION® anchors are produced with high-strength pipe shaft for resistance to bending moments and installation torque. They often can be installed through macadam surfaces.

Typical applications are parking lots, street and highway lighting, architectural lighting, sign and column supports and building foundations.

Backhoes and skid-steer loaders fitted with hydraulic torque motors, digger-derrick trucks and other such conventional rotary equipment are ideal for installing these foundation anchors.

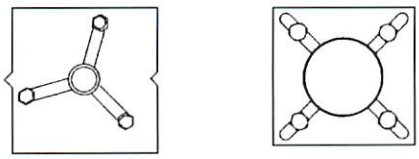
For an elevated light standard, anchor penetration is stopped at the desired base height. Power conduit is fed into the side cableway and out the baseplate. A tube-type form of the same above-grade height may be placed around the exposed shaft to encase all but the baseplate in a poured-concrete barrier, as with other methods.

To place a light standard on-grade, drive the foundation to full depth. Excavate to cableway and insert the power conduit up through the baseplate.



Components, Parts

For combinations of bolt circles, base plates, shaft sizes and lengths other than those listed below, consult factory or your distributor.



Variable Bolt-Circle Base Plates
Three-Bolt and Four-Bolt Patterns

For Parking, Area, Site Lighting

Maximum installing torque ratings: 6⅝" O.D. shaft rated for 15,000 ft.-lb.
8⅝" O.D. shaft rated for 20,000 ft.-lb.

Specifications for these anchors include:
- 1 in. x 12 in.-square Base Plate with 4-bolt variable Bolt Circle*
- Four 1 in. x 4 in. Grade 5 Carriage Bolts with nuts and washers
- 2½ in. x 18 in. Cableway on shaft • All hot-dip galvanized to ASTM A153

Foundation Overall Length	Catalog Number		Distance: Bottom of Base Plate to Top of Cableway
	6⅝" Shaft, 12" Helix, *8"-14" B.C.	8⅝" Shaft, 14" Helix, *9½"-14" B.C.	
5 feet	T112-0563	T112-0566	18 inches
8 feet	T112-0564	T112-0567	48 inches
10 feet	T112-0565	T112-0568	48 inches

For Bollard Walkway Lighting

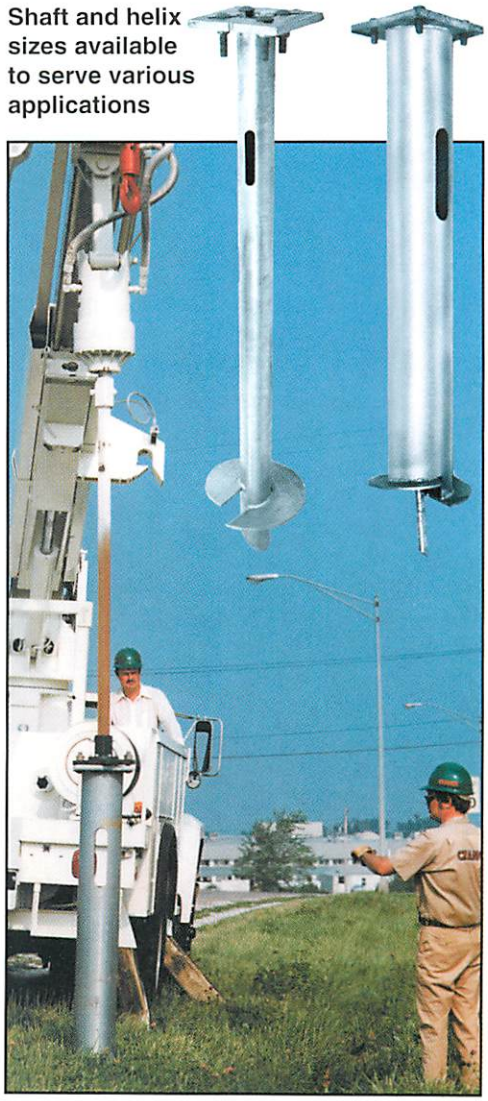
Maximum installing torque rating: 2" NPS pipe rated for 2,500 ft.-lb.

Specifications for these anchors include:
- 3 ft. overall length with 8 in.-diameter helix 3 in. above end of shaft
- Baseplate with semi-circle wiring/conduit cutout & ½"-13-2B tapped hole
- Carriage bolts (3 or 4 as needed) square neck, ½" x 2¼", nuts, washers
- 1½ in.-dia. cableway, both sides of shaft, centered 24 in. below baseplate
- All components are hot-dip galvanized to ASTM A153

Catalog No.	Square Base Plate	Bolt Circle Range and Pattern
T112-0619	5 in. x 5 in.	2½ in. to 4 in. bolt circle, 3-bolt pattern
T112-0620	7 in. x 7 in.	4 in. to 8 in. bolt circle, 4-bolt pattern

• INSTANT FOUNDATION® Anchors for Lighting & Construction Uses

Shaft and helix sizes available to serve various applications



• Telephone stations and bumper posts

INSTANT FOUNDATION® anchors install fast, even through blacktop. Baseplates are available for bolt-up to many phone brands. Bumper Post anchors can be installed at the same time for traffic guards.

• CATV stations, microwave towers, solar-collector panels

On-line immediately after bolt-up to INSTANT FOUNDATION anchors with no concrete or weather delays.

Components, Parts

For combinations of bolt circles, base plates, shaft sizes and lengths other than those listed below, consult factory or your distributor.

For Street Lighting & Construction Uses

8,000 ft.-lb. maximum installing torque for 3½" & 4" shafts

Shaft O.D.	Length & Catalog No.		Helix Dia.	Square Base Plate	Bolt Circle Range & Pattern	Bolt Size & Type	Cableway Size & Dist. from Base Plate	Weight, lb.
3½ in.	64 in.	T112-0302	12 in.	¾ x 12 in.	5 - 12 in. & 4-bolt	⅝" x 2½" Carriage	1¼ in. dia. hole & 12 in.	103
4 in.	56 in.	T112-0338	10 in.	¾ x 8¾ in.	5 - 8 in. & 4-bolt	*T112-0393	1½ x 3 in. & 18 in.	65
4 in.	56 in.	T112-0352	10 in.	¾ x 10½ in.	5 - 8 in. & 3-bolt	*T112-0392	1½ x 3 in. & 18 in.	73

15,000 ft-lb. maximum installing torque for 6⅝" shafts
20,000 ft.-lb. maximum installing torque for 8⅝" & for 10¾" shafts

6⅝ in.	5 ft.	C11232JG4VL†	12 in.	1 x 12 in.	9 - 14 in. & 4-bolt	†1" x 4" Carriage	2½ x 12 in. & 12 in.	137
8⅝ in.	5 ft.	C11242NG4VP†	14 in.	1 x 15¾ in.	11 - 17 in. & 4-bolt	†1" x 4" Carriage	2½ x 12 in. & 12 in.	187
8⅝ in.	7 ft.	C11242QG4VP†	14 in.	1 x 15¾ in.	11 - 17 in. & 4-bolt	†1" x 4" Carriage	2½ x 12 in. & 12 in.	227
10¾ in.	7 ft.	T112-0463	16 in.	1¼ x 17 in.	15 - 17 in. & 4-bolt	1¼" x 4" H.H.	2 x 6 in. & 18 in.	362

* Bolt assembly for T112-0338 and T112-0352 ordered separately.

† Retaining washer for variable baseplates available, ⅝", 1" and 1¼" bolts.