



*Architects, Engineers, Planners,
Surveyors and Landscape Architects*
1220-C East Joppa Road, Suite 505
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax



Owner/Developer
**Brubaker Construction
Company**
11622 50th Street, NW
Ray, North Dakota 58849

Sax Offices

**107 8th Avenue, West
Williams County
Williston, North Dakota 58801**

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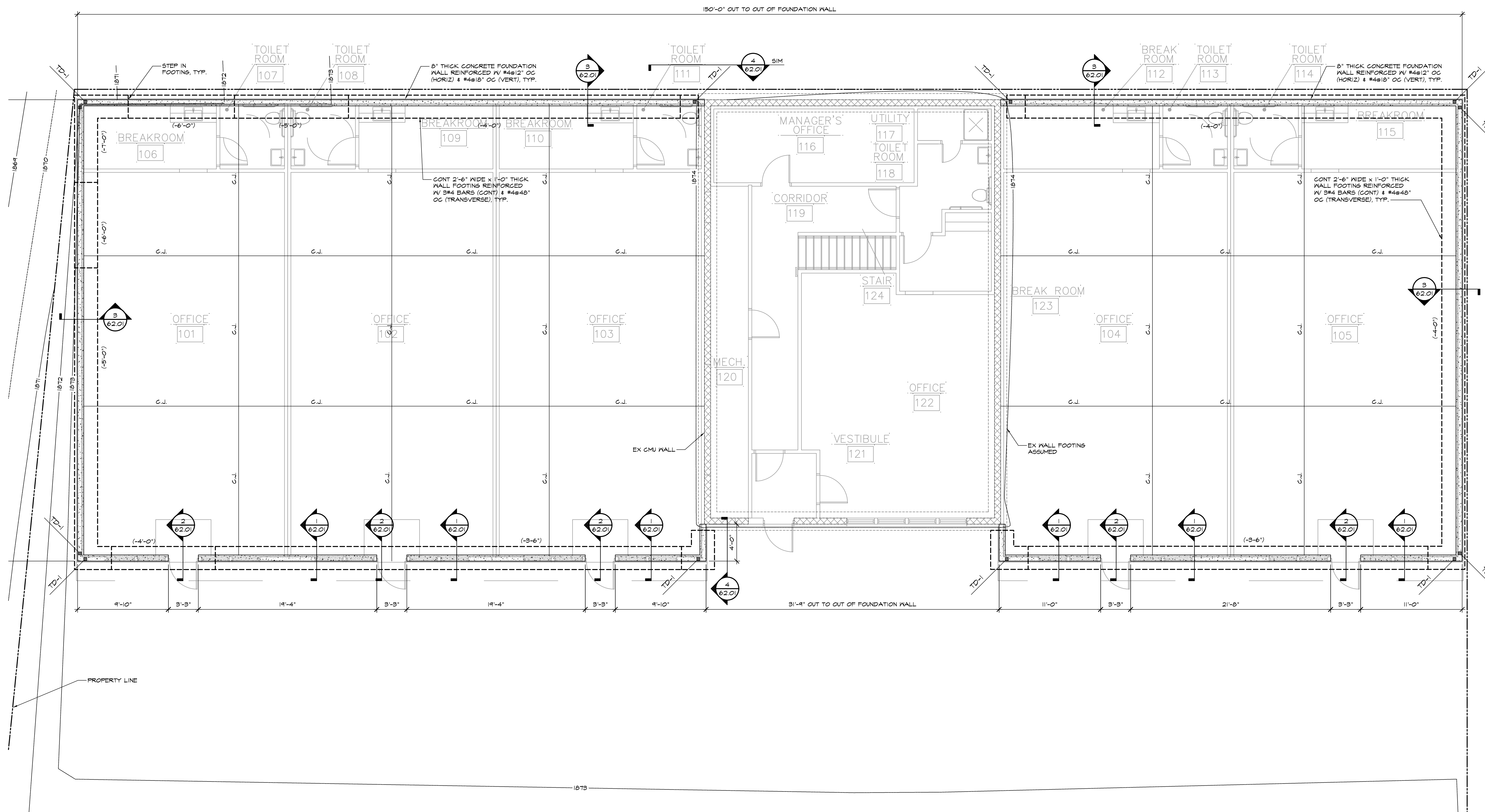
NO.	REVISION	DATE
FILE 18129	DRAWN RJA	ISSUED 10/18/13

Foundation Plan

60.01

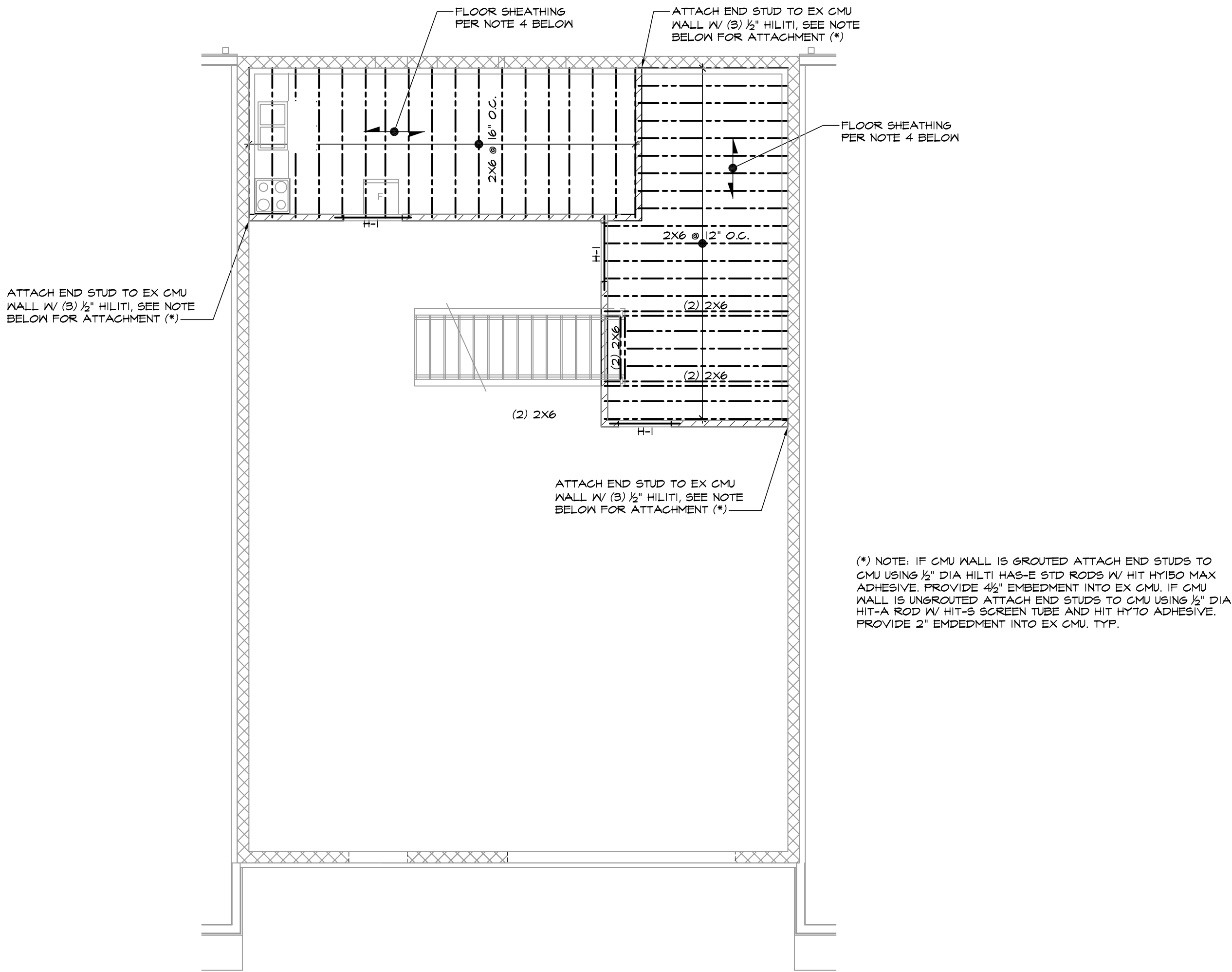
Construction Documents

\\f:\bg PROJECTS\18100-18199\18129 - Sax Offices\300 Structural\306 Construction Documents\60.01 foundation plan

SCALE: $\frac{3}{10}^{\circ} = 1'-0''$

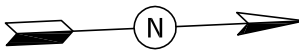
FOUNDATION AND SLAB ON GRADE NOTES:

1. CONCRETE SLABS ON GRADE SHALL CONSIST OF 5" NORMAL HEIGHT CONCRETE REINFORCED WITH 6"x6"-12"x12"x9 WELDED WIRE FABRIC (W.W.F.) AND PLACED OVER A 4" THICK COMPACTED GRANULAR BASE AND 6 MIL VAPOR RETARDER. REFER TO TYPICAL SLAB ON GRADE DETAILS FOR ADDITIONAL INFORMATION.
2. TYPICAL TOP OF SLAB ON GRADE ELEVATION = 1874.01' (REF. ELEVATION). SEE ARCHITECTURAL DRAWINGS FOR LOCATION AND EXTENT OF DEPRESSIONS, SLOPES, AND CHANGES IN ELEVATION.
3. SLAB ON GRADE CONTROL JOINTS ARE SHOWN ON PLAN THIS: C-1.
4. TOP OF FOOTING ELEVATIONS ARE SHOWN ON PLAN THIS: (X'-X") & ARE PROVIDED IN RELATION TO REF. ELEVATION
5. BOTTOM OF ALL PERIMETER WALL FOOTINGS SHALL BE A MIN 4'-0" BELOW FINISHED GRADE. WHERE NEW FOOTING MEETS EX. FOOTING, BOTTOM OF NEW FOOTING SHALL BE RAISED/LOWERED (STEEPED) AS REQ'D TO MATCH BOTTOM OF THE EXISTING FOOTING.
7. TOP OF PROPOSED FOUNDATION WALL SHALL MATCH TOP OF FINISHED FLOOR ELEVATION EXCEPT AT DOOR LOCATIONS. HOLD TOP OF FOUNDATION WALL DOWN 8" BELOW FINISHED FLOOR ELEVATION AT DOOR LOCATIONS.
8. TIE-DOWN LOCATIONS WITHIN WOOD SHEAR WALLS ARE INDICATED ON PLAN THIS: TD-#. SEE TYPICAL TIE-DOWN DETAIL FOR ADDITIONAL INFORMATION.
9. SOFT MATERIALS ARE ANTICIPATED @ NORMAL FOOTING SUBGRADE ELEVATION. TREAT SOFT MATERIAL AREAS IN ACCORDANCE W/ GEOTECH REPORT BY G.T.A. DATED SEPT 2013.



(*) NOTE: IF CMU WALL IS GROUTED ATTACH END STUDS TO CMU USING 1/2" DIA HILTI HAS-E STD RODS W/ HIT HYISO MAX ADHESIVE. PROVIDE 4 1/2" EMBEDMENT INTO EX CMU. IF CMU WALL IS UNGROUTED ATTACH END STUDS TO CMU USING 1/2" DIA HIT-A ROD W/ HIT-S SCREEN TUBE AND HIT HYTO ADHESIVE. PROVIDE 2" EMBEDMENT INTO EX CMU. TYP.

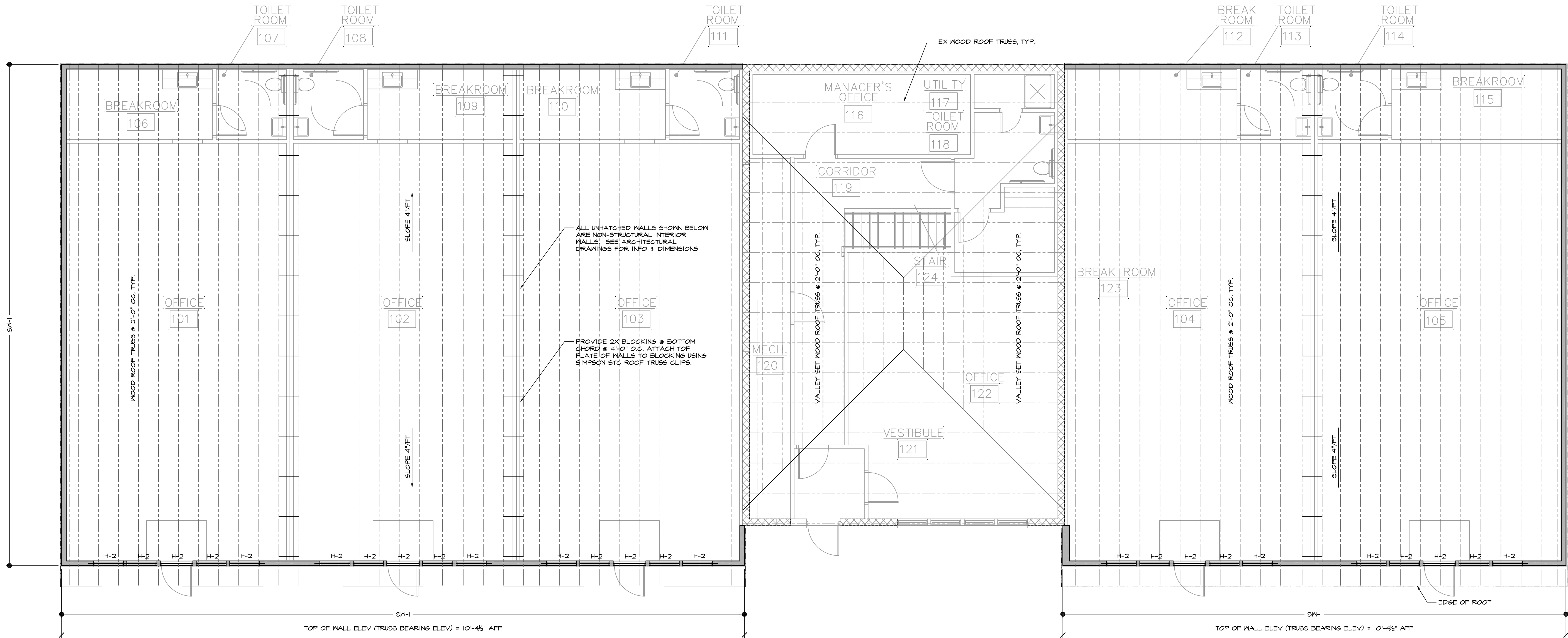
2ND FLOOR FRAMING PLAN
SCALE: 3/16" = 1'-0"



ROOF FRAMING NOTES:



- 1. TOP OF 2ND FLOOR FINISHED FLOOR ELEVATION = +8'-4" ABOVE DATUM ELEVATION. SEE ARCHITECTURAL DRAWINGS FOR LOCATION AND EXTENT OF DEPRESSIONS, SLOPES, AND CHANGES IN ELEVATION.
2. WALLS SHOWN EXTEND FROM TOP OF FINISHED FLOOR/FOUNDATION WALL TO UNDERSIDE OF FLOOR JOISTS.
3. WOOD HEADERS ARE INDICATED ON PLAN THUS: H-X; HEADERS ARE DEFINED AS MEMBERS MOUNTED WITHIN WALLS AND BELOW TRUSS BEARING. SEE TRUSS FRAMING SUPPORT DETAILS FOR ADDITIONAL INFORMATION. FOR HEADER & JAMB SIZE, REFER TO SCHEDULE SHEET 61.03.
4. FLOOR SHEATHING SHALL CONSIST OF 3/4" WOOD STRUCTURAL PANELS WITH THE FOLLOWING PROPERTIES: GRADE = STURD-I; FLOOR, SPAN RATING = 48/24; EXPOSURE RATING = EXPOSURE I. SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.
5. [Symbol] INDICATED LOCATION OF WOOD FRAMED BEARING WALL BELOW
6. [Symbol] INDICATES LOCATION OF EX CMU WALL BELOW

MRA Buildings Group
MRA ARCHITECTURAL SERVICES, INC.
Architects, Engineers, Planners, Surveyors and Landscape Architects
1220-C East Joppa Road, Suite 505
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410-821-1690
410-821-1748 Fax
TELEGEN T ENGINEERING INC.
1718 W. JARRETTSVILLE ROAD
JARRETTSVILLE, MD 21084
PHONE: 410-692-5816
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FILE 18129 DRAWN RJA ISSUED 10/18/13
2nd Floor Framing Plan
SHEET NUMBER
60.02
Construction Documents



ROOF FRAMING PLAN
SCALE: 3/8" = 1'-0"

ROOF FRAMING NOTES:

1. WALLS SHOWN EXTEND FROM TOP OF FINISHED FLOOR/FOUNDATION WALL TO UNDERSIDE OF ROOF TRUSSES.
2. ROOF CONSTRUCTION SHALL CONSIST OF 1/2" OSB STRUCTURAL PANELS OVER PRE-ENGINEERED ROOF TRUSSES. ROOF SHEATHING STRUCTURAL PANELS SHALL BE APA RATED SHEATHING WITH A SPAN RATINGS OF 48/24, EXPOSURE 1.
3. ALL ROOF FRAMING AND SHEATHING SHALL FORM A DIAPHRAGM. WOOD STRUCTURAL PANELS SHALL BE NAILED TO TRUSSES USING 8d COMMON NAILS SPACED AT 6" OC ALONG ALL SUPPORTED PANEL EDGES, AND SPACED AT 12" OC ALONG INTERMEDIATE SUPPORTS.
4. WOOD ROOF TRUSSES SHALL BE SPACED @ 2'-0" OC (MAX). PROVIDE (1) SIMPSON H2.5A HURRICANE TIE AT EACH TRUSS BEARING LOCATION.
5. TYPICAL TRUSS BEARING ELEVATION IS 10'-4 1/2" ABOVE FINISHED FLOOR.
6. WOOD HEADERS ARE INDICATED ON PLAN THUS: H-X; HEADERS ARE DEFINED AS MEMBERS MOUNTED WITHIN WALLS AND BELOW TRUSS BEARING. SEE TRUSS FRAMING SUPPORT DETAILS FOR ADDITIONAL INFORMATION. FOR HEADER & JAMB SIZE, REFER TO SCHEDULE SHEET 61.03.
7. WOOD SHEAR WALLS ARE INDICATED ON PLAN THUS: SN-#. REFER TO SCHEDULE ON SHEET 61.03 FOR STUD SIZE & SPACING.
8.  INDICATES LOCATION OF SHEAR WALL SEGMENTS AS DEFINED BY IBC SECTION 2308. REFER TO SCHEDULE AND DETAILS FOR SHEATHING CONNECTIONS. TOP PLATES OF ALL ROOF TRUSSES SHALL BE NAILED TO BEARINGS/SHEAR WALLS ACCORDING TO IBC FASTENING SCHEDULE 2304.4.1.
9.  INDICATES THE LOCATION OF EX CMU WALLS

BRACING & BRIDGING NOTES:

1. TRUSS LATERAL BRACING/BRIDGINS SHALL BE DESIGNED & SPECIFIED BY TRUSS MANUFACTURER.
2. TRUSS BOTTOM CHORD BRIDGING/BRACING (TEMPORARY & PERMANENT) SHALL BE DESIGNED AND DETAILED BY TRUSS MANUFACTURER.

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TELECENT
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WWW.TEL-ENG.COM

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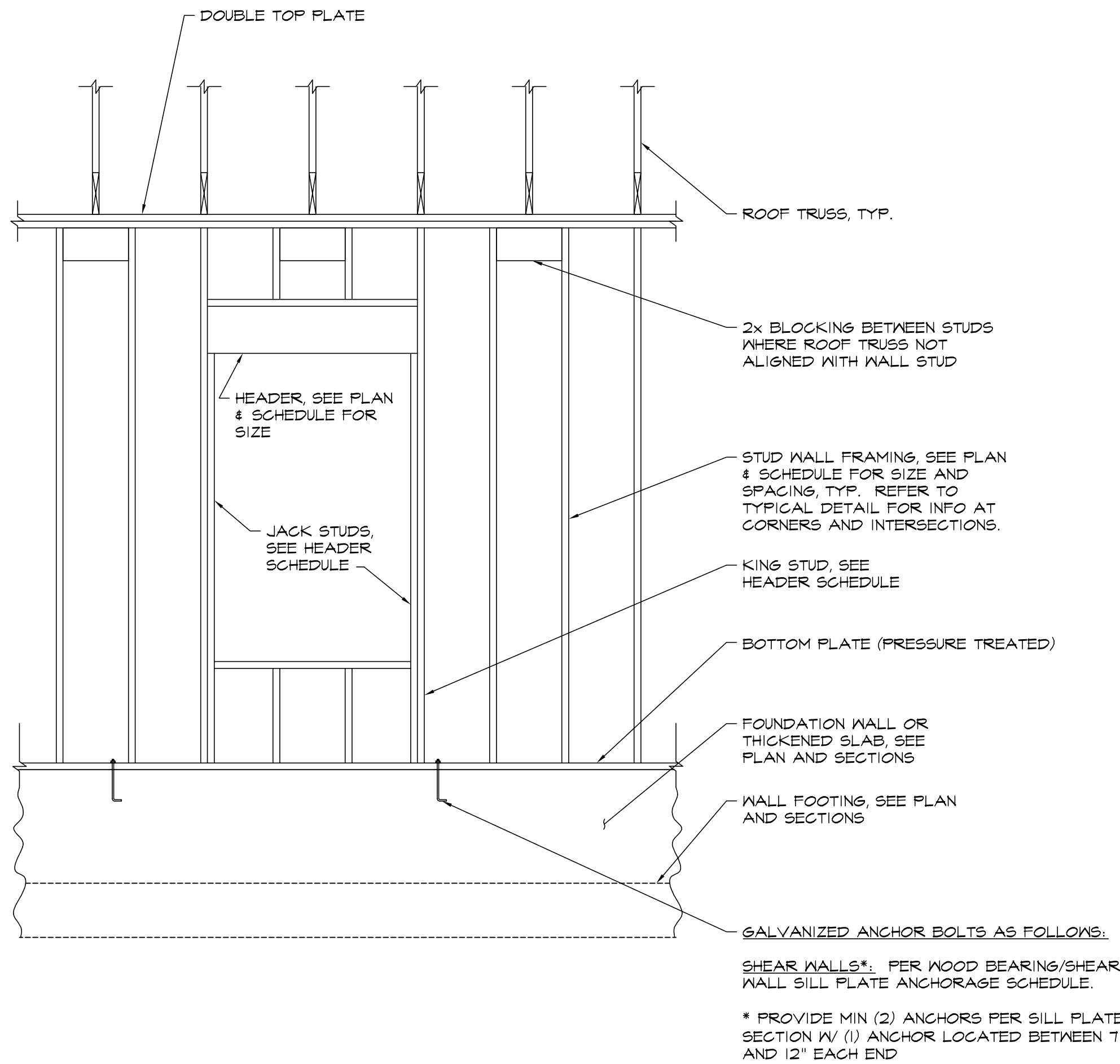
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SHEET TITLE
**Roof Framing
Plan**

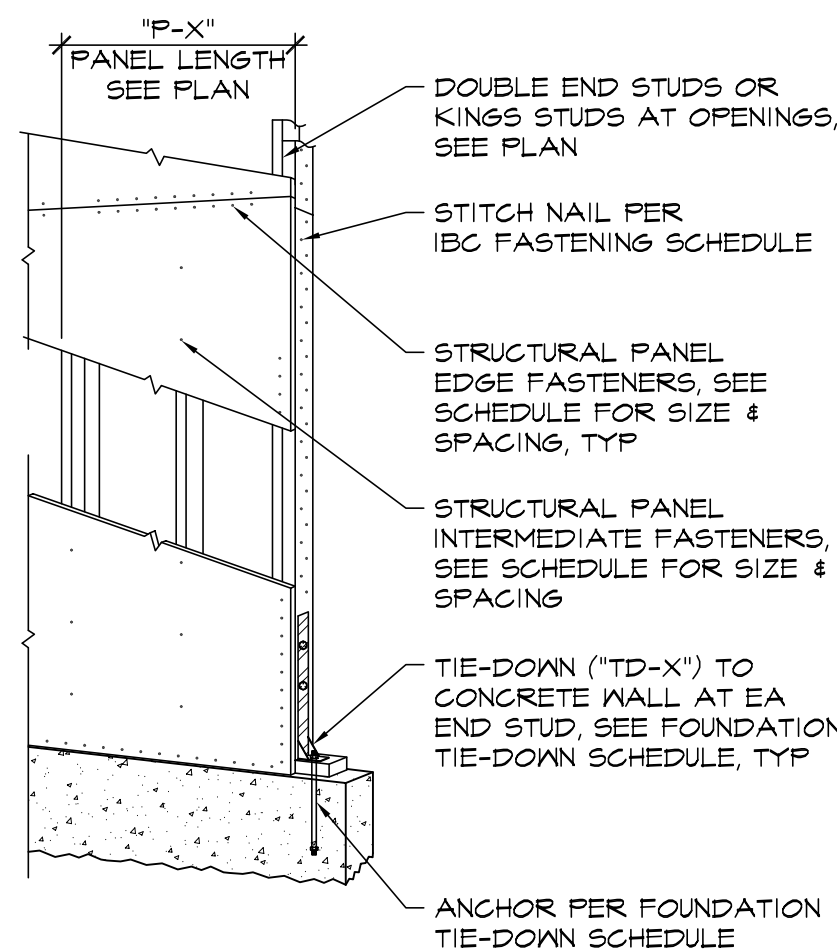
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60.03
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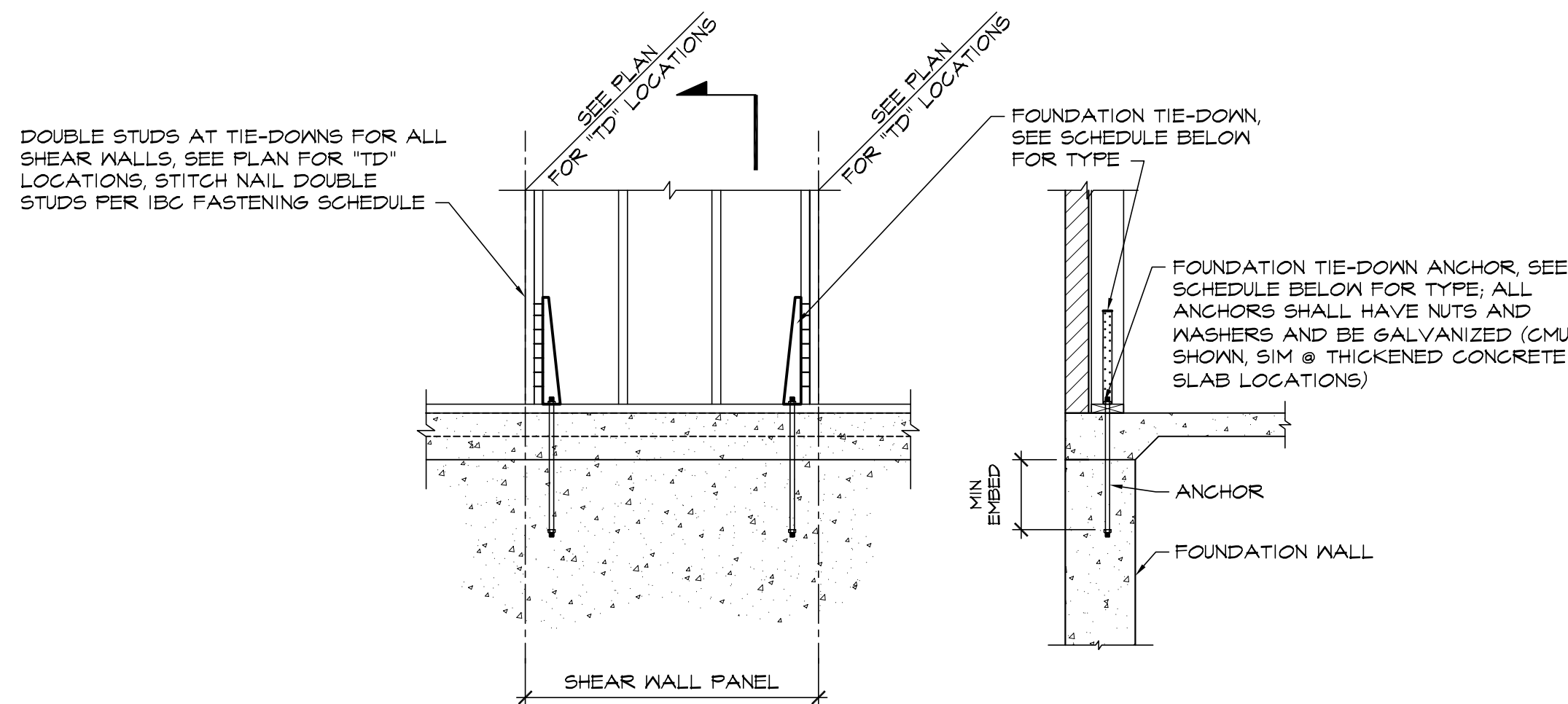
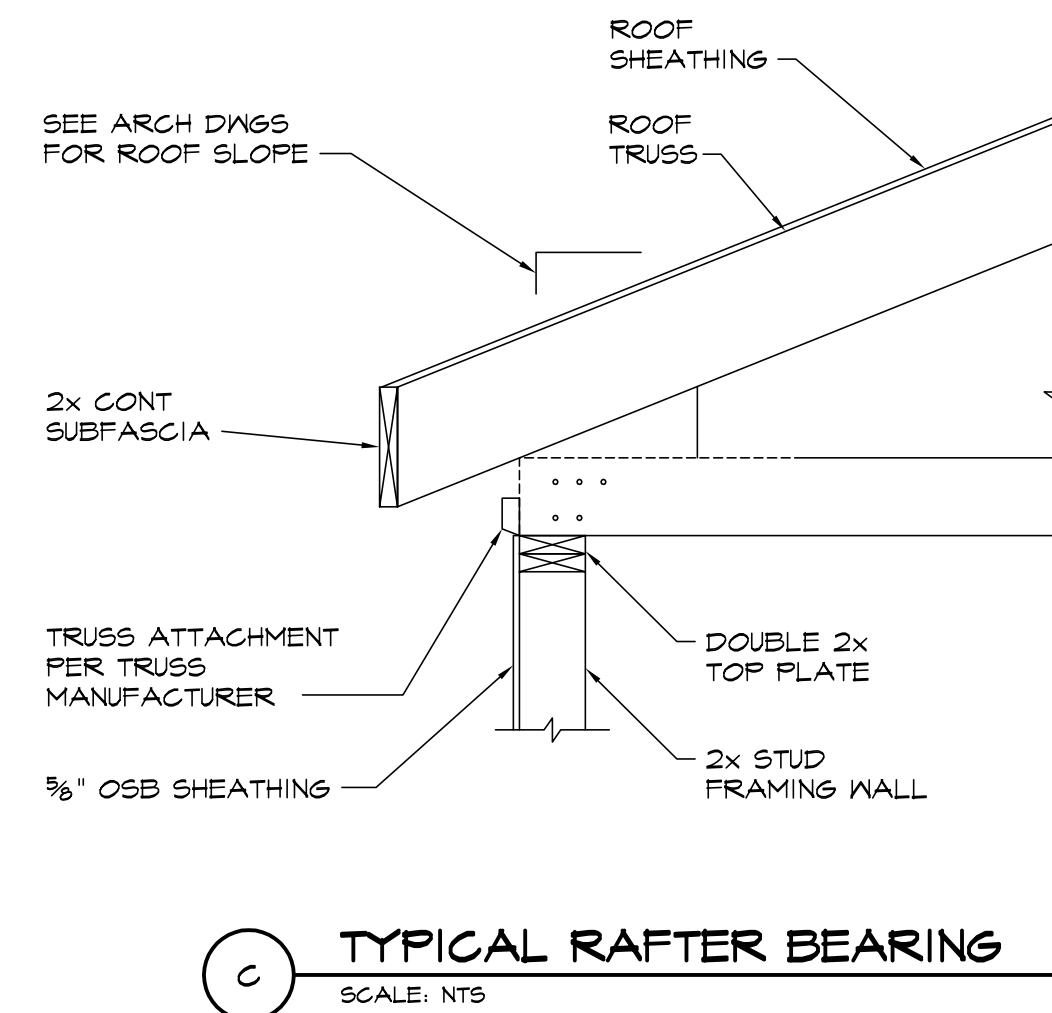
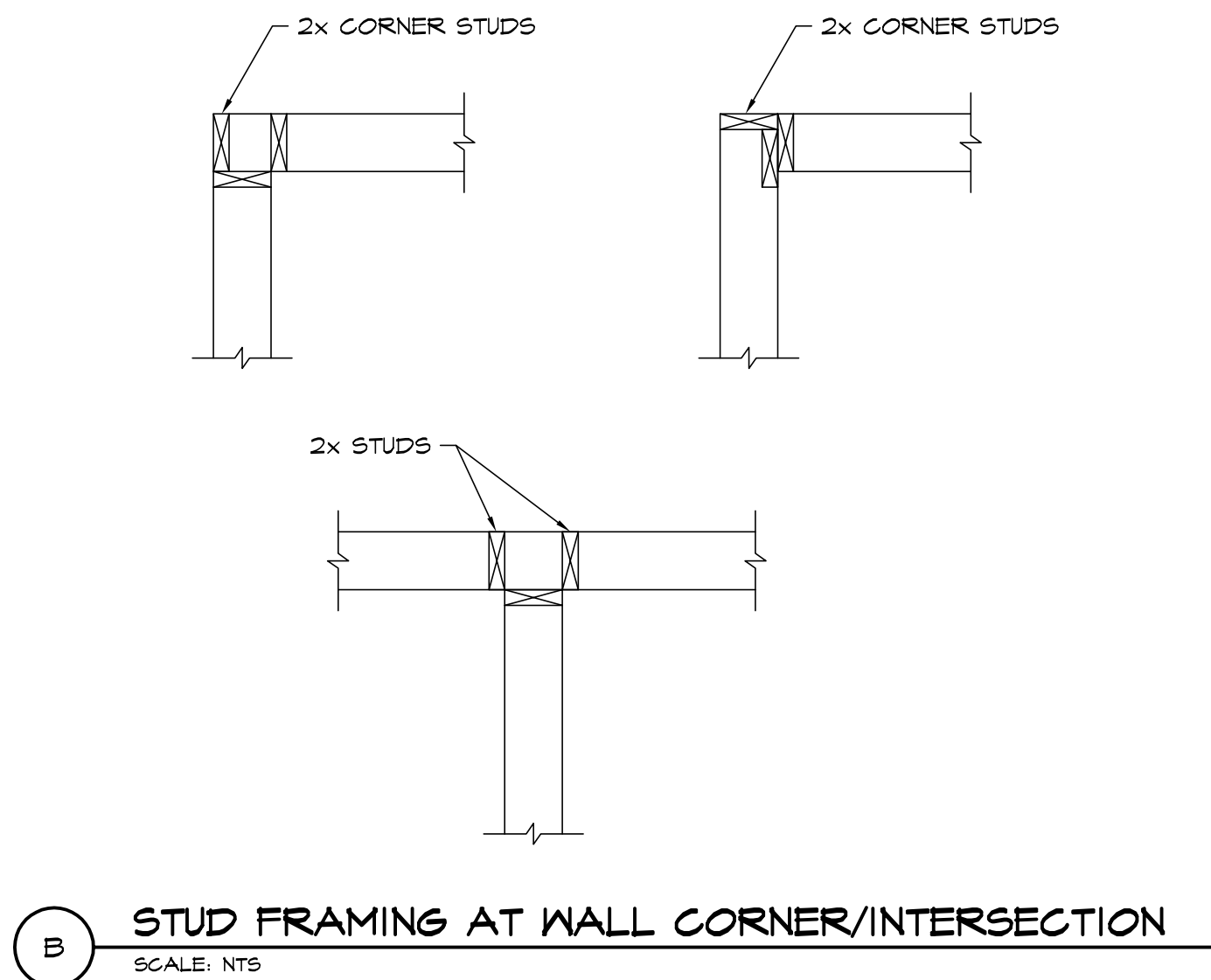
V:\bg_PROJECTS\18100-18199\18129 - Sax Offices\300 Structural\306 Construction Documents\60.03 roof plan



A WOOD STUD WALL FRAMING (@ HEADERS H-1 & H-2 ONLY)
SCALE: NTS



D WOOD STRUCTURAL SHEAR PANEL CONNECTION
SCALE: NTS



FOUNDATION TIE-DOWN SCHEDULE				
MARK	MANUFACTURER	HOLD DOWN TYPE	CONCRETE	
			ANCHOR TYPE	MINIMUM EMBEDMENT
TD-1	SIMPSON	HDU4-SD52.5	5/8" Øx9" THREADED & NUTTED BOLT (F1554)	9"

NOTE: ALL TIE-DOWNS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS

E TIE-DOWN AT SHEAR WALLS
SCALE: NTS

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**TELECENT
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1718 W. JARRETTSVILLE ROAD
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SHEET TITLE

Typical Details

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61.01
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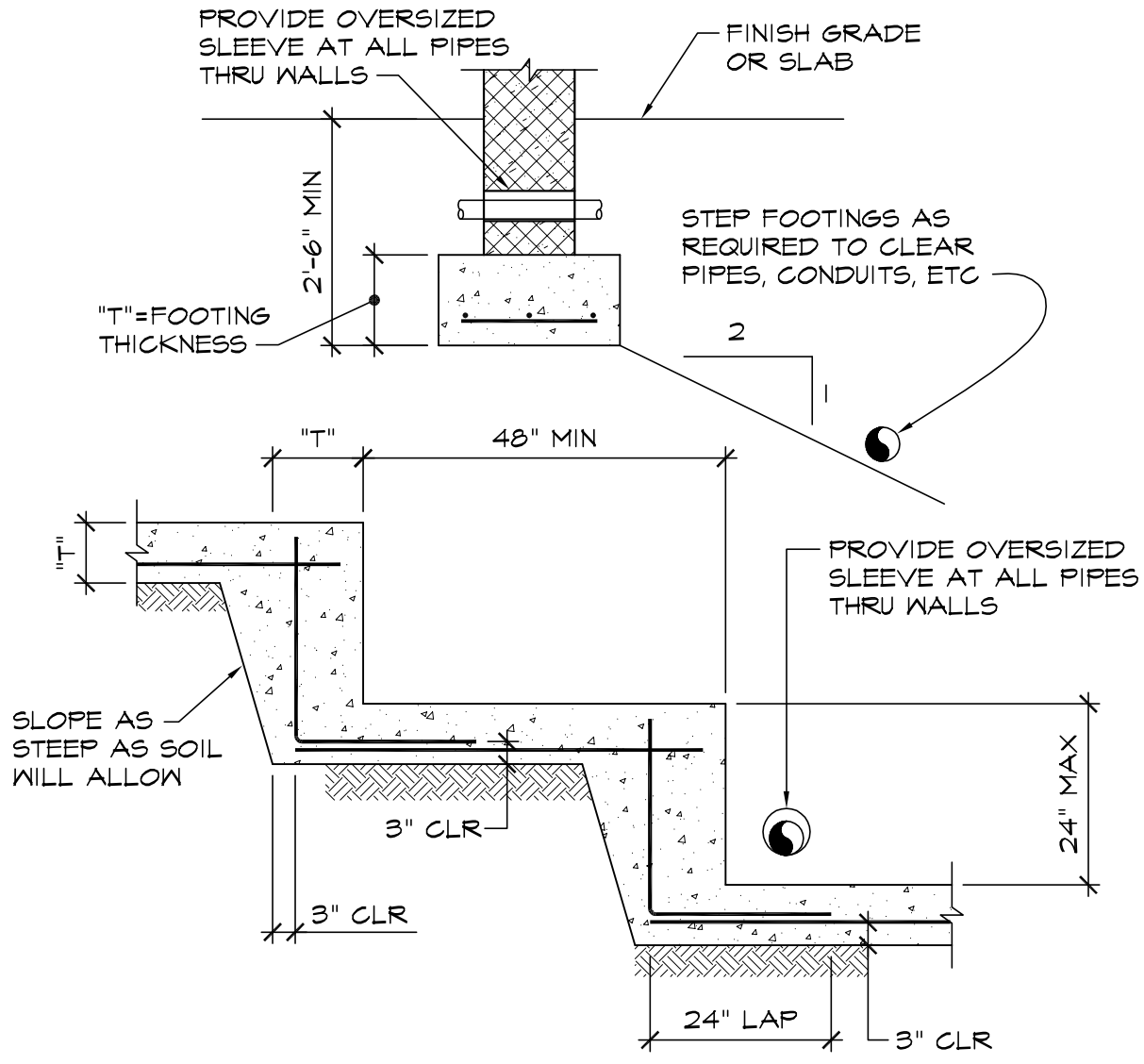
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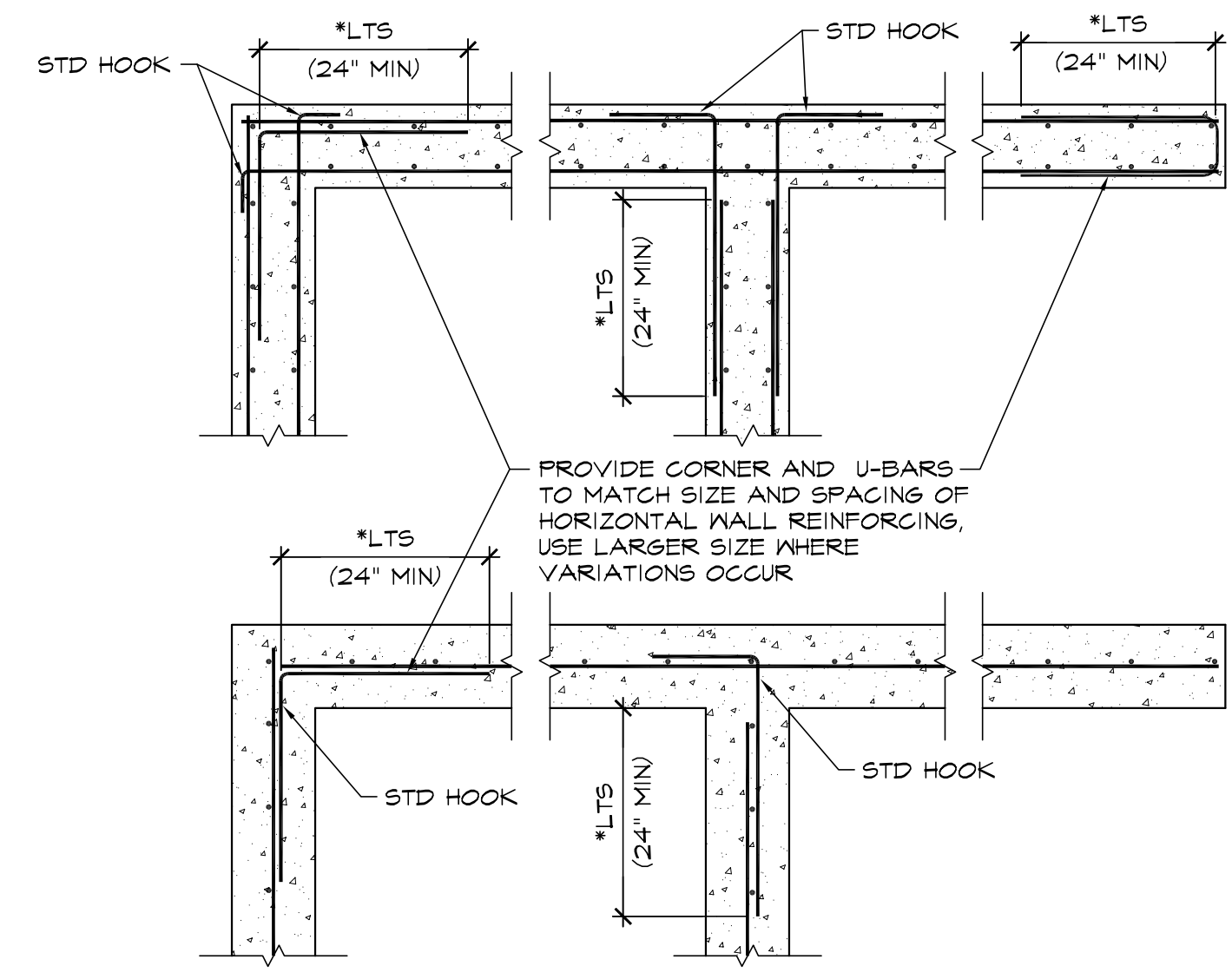
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Construction Documents

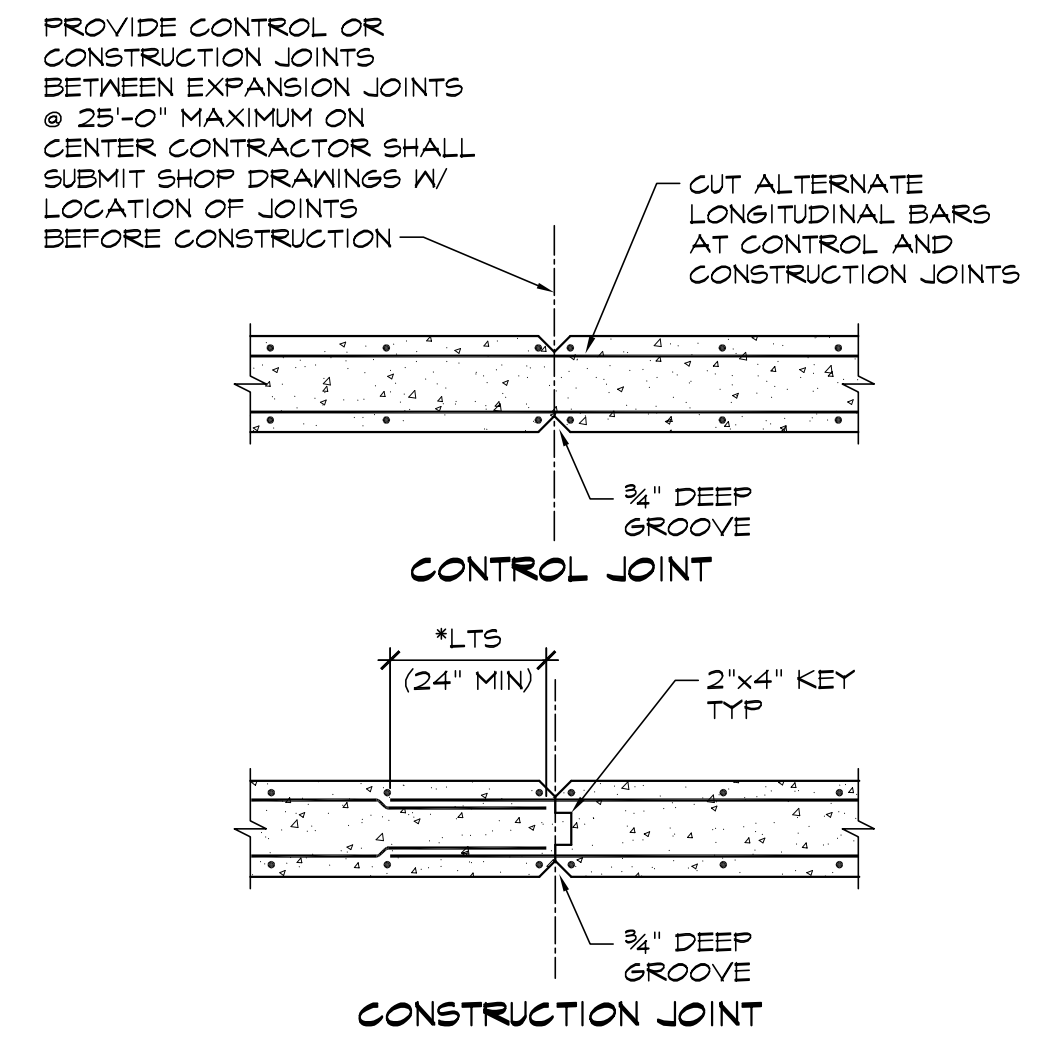
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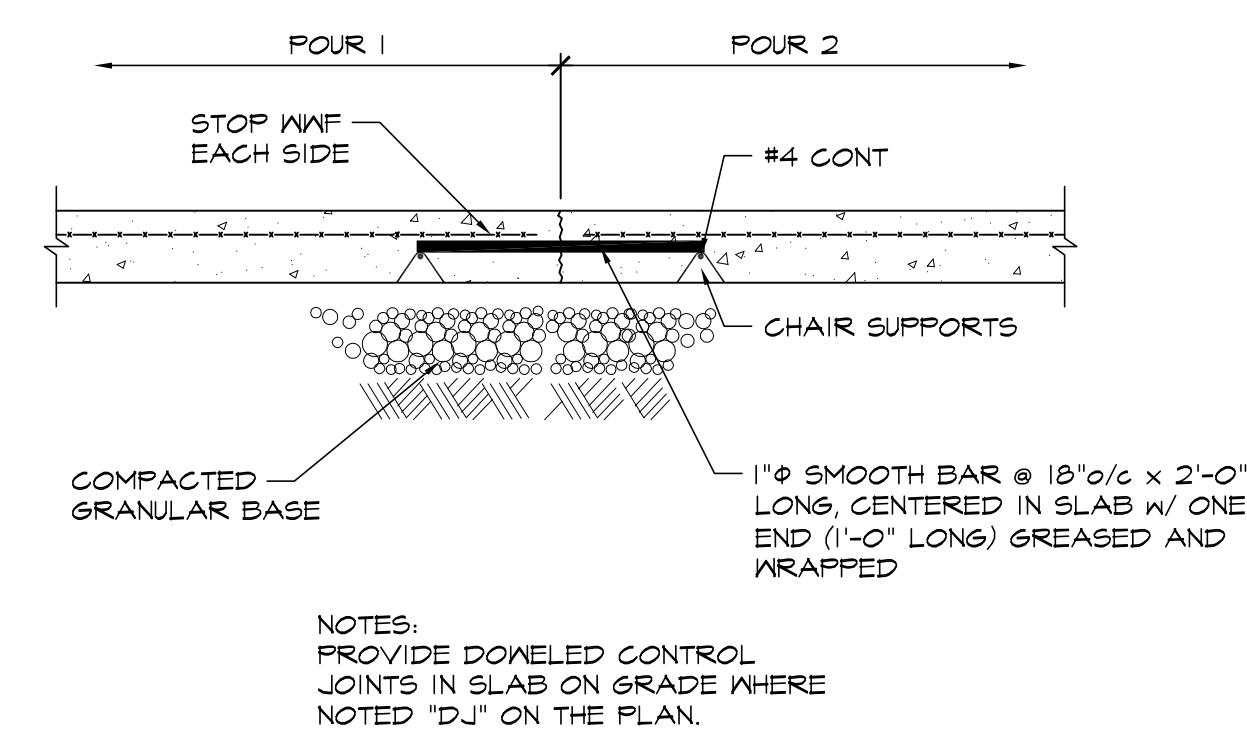
F STEPPED WALL FOOTING
SCALE: NTS AS REQUIRED



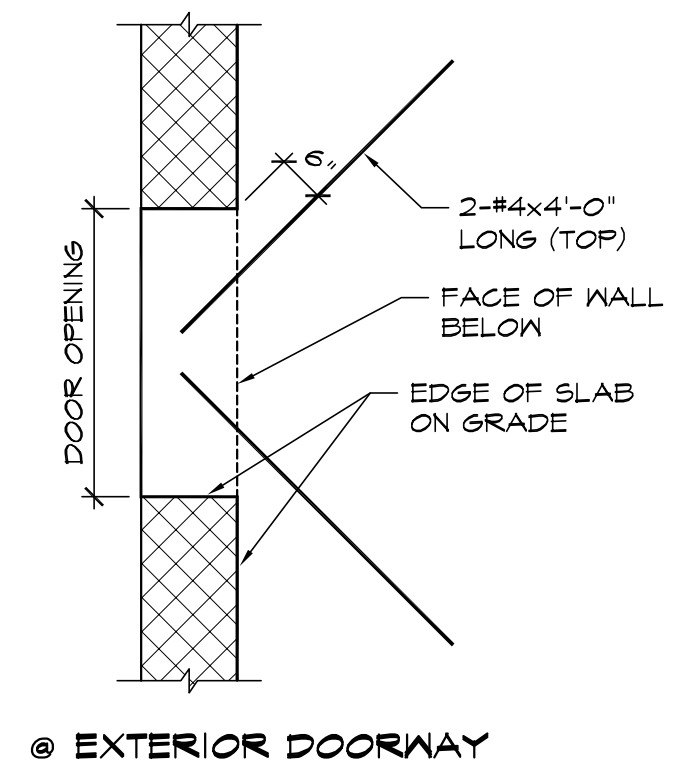
G CORNER CONCRETE WALL REINFORCING
SCALE: NTS



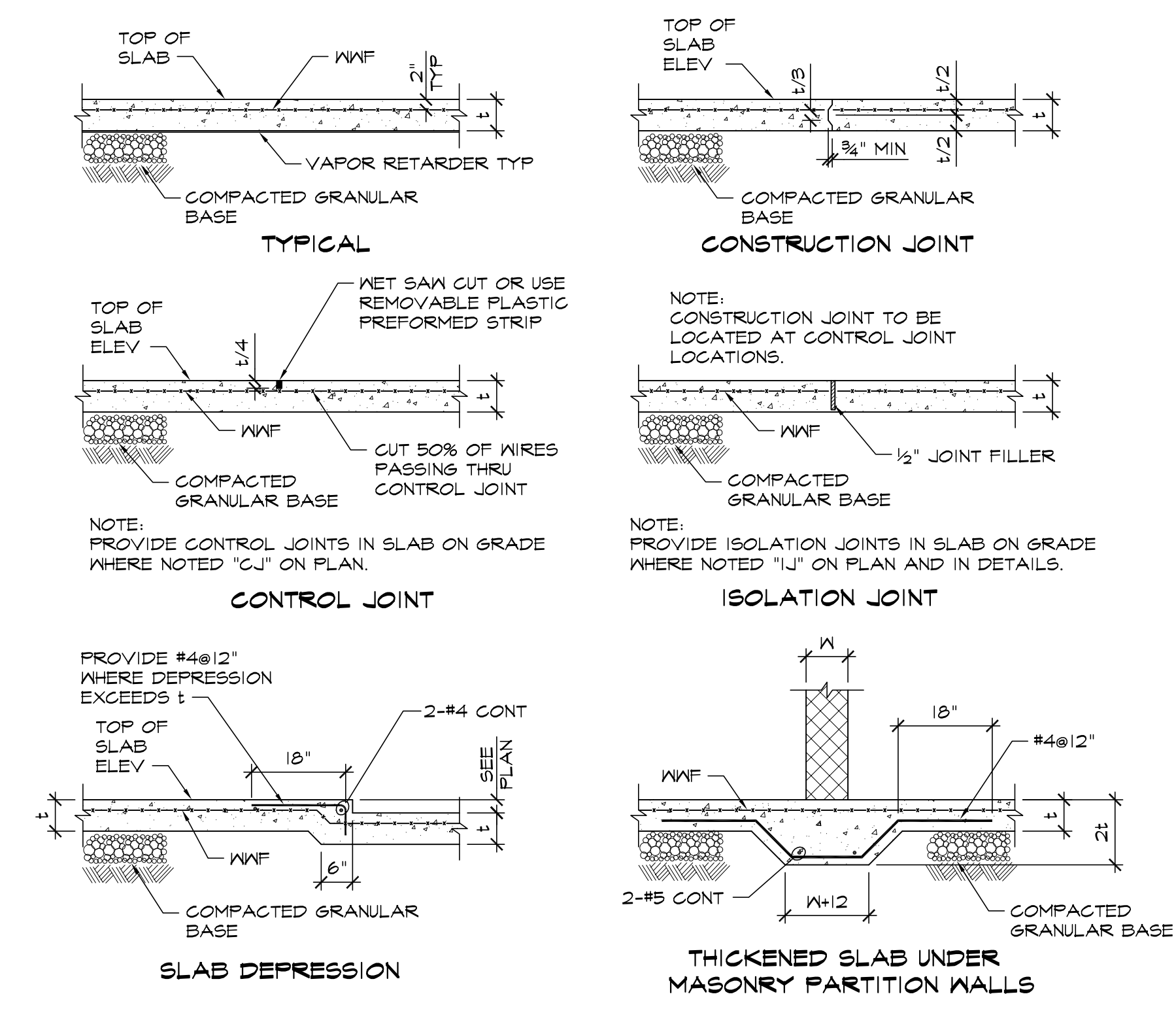
H CONCRETE WALL JOINT
SCALE: NTS



J SLAB ON GRADE DOWEL JOINT
SCALE: NTS



K ADD'L SLAB ON GRADE REINFORCING
SCALE: NTS



L SLAB ON GRADE DETAILS
SCALE: NTS

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Section & Schedules

SHEET NUMBER

61.03

Construction Documents

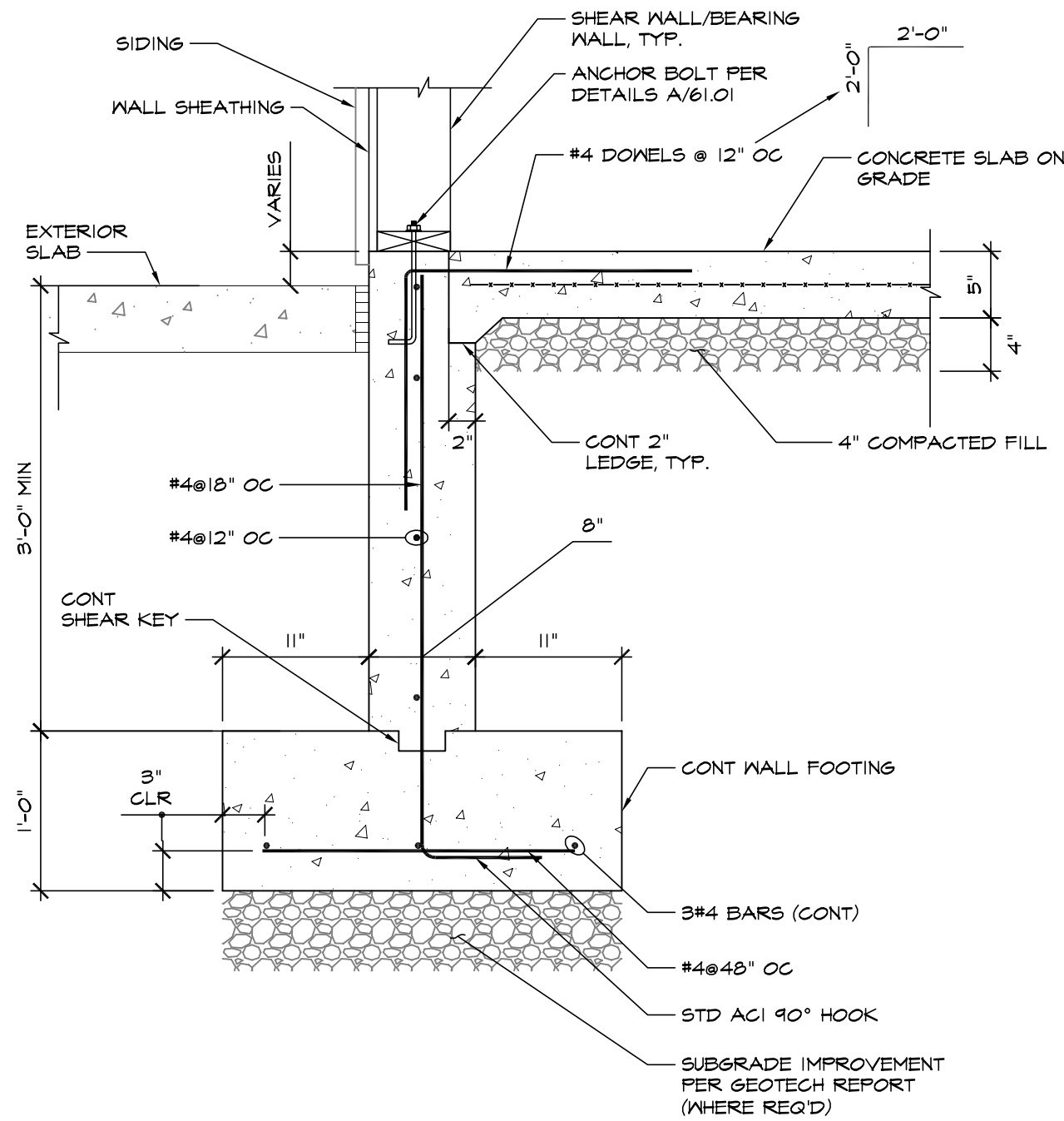
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WOOD SHEAR WALL SCHEDULE					
MARK	STUD SIZE & SPACING	STRUCTURAL PANEL	BLOCKING	PANEL CONNECTION	SILL PLATE ANCHORAGE
SW-1	1-2x6@16" OC	5/8" WOOD STRUCTURAL PANELS (OSB)	YES	EDGE: 8d@6" OC INT: 8d@12" OC	5/8" DIA HOOKED BOLT

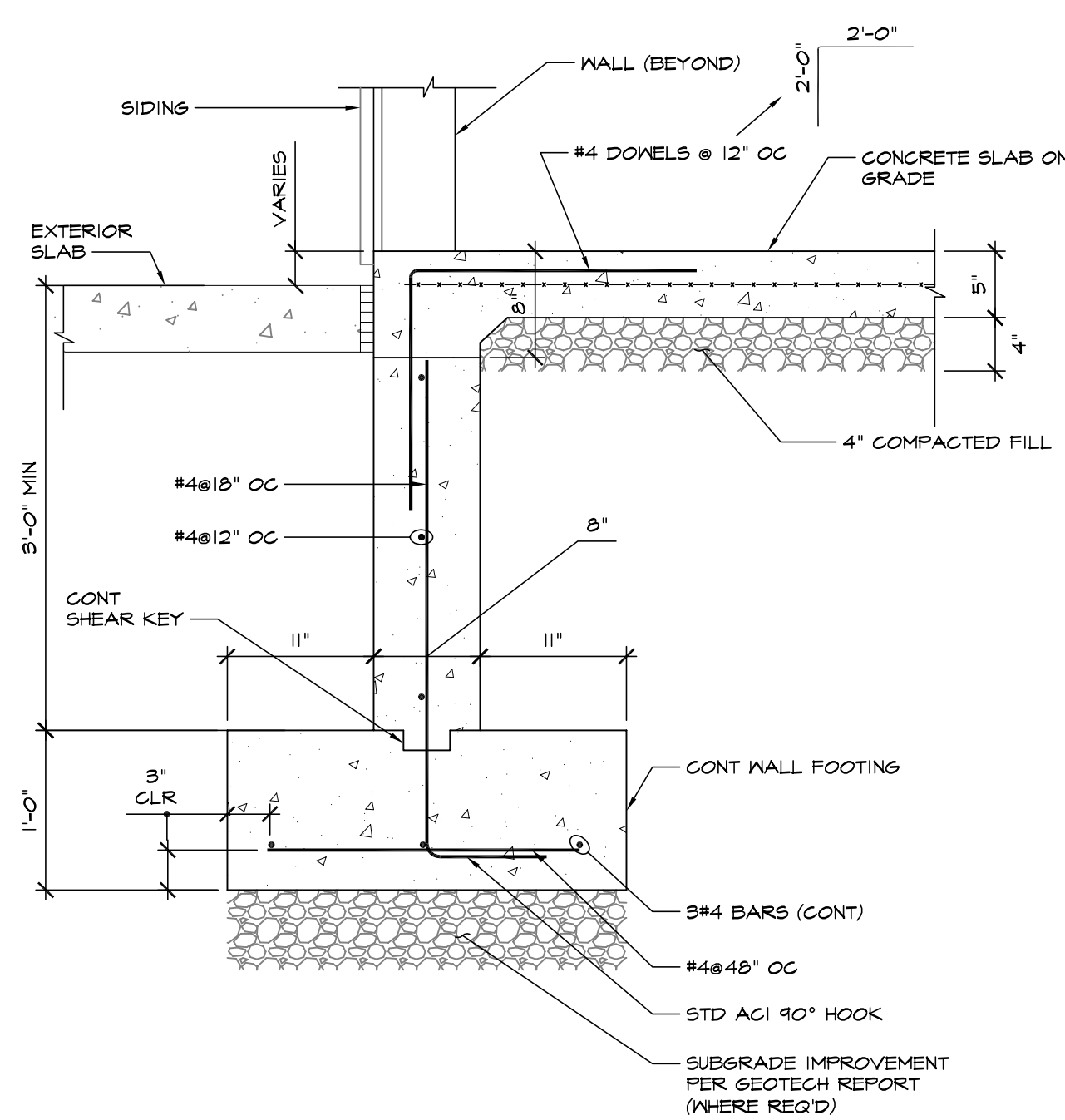
WOOD BEARING/SHEAR WALL SILL PLATE ANCHORAGE							
PRODUCT DESCRIPTION	TYPE	MANUFACTURER	MODEL	MINIMUM CONCRETE EMBEDMENT	EPOXY	ANCHOR SPACING SW-1	ANCHOR SPACING SW-2
5/8" Øx12" HOOKED BOLT 5/8" Ø HAS-E STD ROD	CAST-IN-PLACE	N/A	A36	7"	N/A	4'-0" OC	2'-8" OC
	ADHESIVE ANCHOR	HILTI	---	9"	HIT-RE 500	4'-0" OC	2'-8" OC

IBC 2009 TABLE 2304.9.1 FASTENING SCHEDULE		
CONNECTION	FASTENING (1, 2)	LOCATION
BRIDGING TO JOIST	2-8d COMMON 2-3"xØ.131" NAILS 2-3"x14ga STAPLES	TOENAIL EACH END
SOLE PLATE TO JOIST OR BLOCKING	16d AT 16" OC 3"xØ.131" NAILS AT 8" OC 3"x14ga STAPLES AT 12" OC	TYPICAL FACE NAIL
SOLE PLATE TO JOIST OR BLOCKING AT SHEAR WALL PANELS	3-16d AT 16" OC 4-3"xØ.131" NAILS AT 16" OC 4-3"x14ga STAPLES AT 16" OC	SHEAR WALL PANELS
TOP PLATE TO STUD	2-16d COMMON 3-3"xØ.131" NAILS 3-3"x14ga STAPLES	END NAIL
STUD TO SOLE PLATE	4-8d COMMON 4-3"xØ.131" NAILS 3-3"x14ga STAPLES	TOENAIL
	2-16d COMMON 3-3"xØ.131" NAILS 3-3"x14ga STAPLES	END NAIL
DOUBLE STUDS	16d AT 24" OC 3"xØ.131" NAILS AT 8" OC 3"x14ga STAPLES AT 8" OC	FACE NAIL
DOUBLE TOP PLATES	16d AT 16" OC 3"xØ.131" NAILS AT 12" OC 3"x14ga STAPLES AT 12" OC	TYPICAL FACE NAIL
	3-16d COMMON 2-3"xØ.131" NAILS 2-3"x14ga STAPLES	LAP SPLICE
BLOCKING TO JOISTS OR RAFTERS TO TOP PLATE	3-8d COMMON 3-3"xØ.131" NAILS 3-3"x14ga STAPLES	TOENAIL
RIM JOIST TO TOP PLATE	8d AT 6" OC 3"xØ.131" NAILS AT 6" OC 3"x14ga STAPLES AT 6" OC	TOENAIL
TOP PLATES, LAPs & INTERSECTIONS	2-16d COMMON 3-3"xØ.131" NAILS 3-3"x14ga STAPLES	FACE NAIL
CONTINUOUS HEADER TO STUD	4-8d COMMON	TOENAIL
RAFTER/TRUSS TO PLATE	3-8d COMMON (3/2"xØ.162") MIN. TABLE 2308.10.4.1 4 - 3"xØ.131" NAILS	TOENAIL
NOTES: 1. COMMON OR BOX NAILS ARE PERMITTED TO BE USED EXCEPT WHERE OTHERWISE STATED. 2. STAPLES SHALL HAVE A MINIMUM CROWN WIDTH OF 3/16 INCH.		

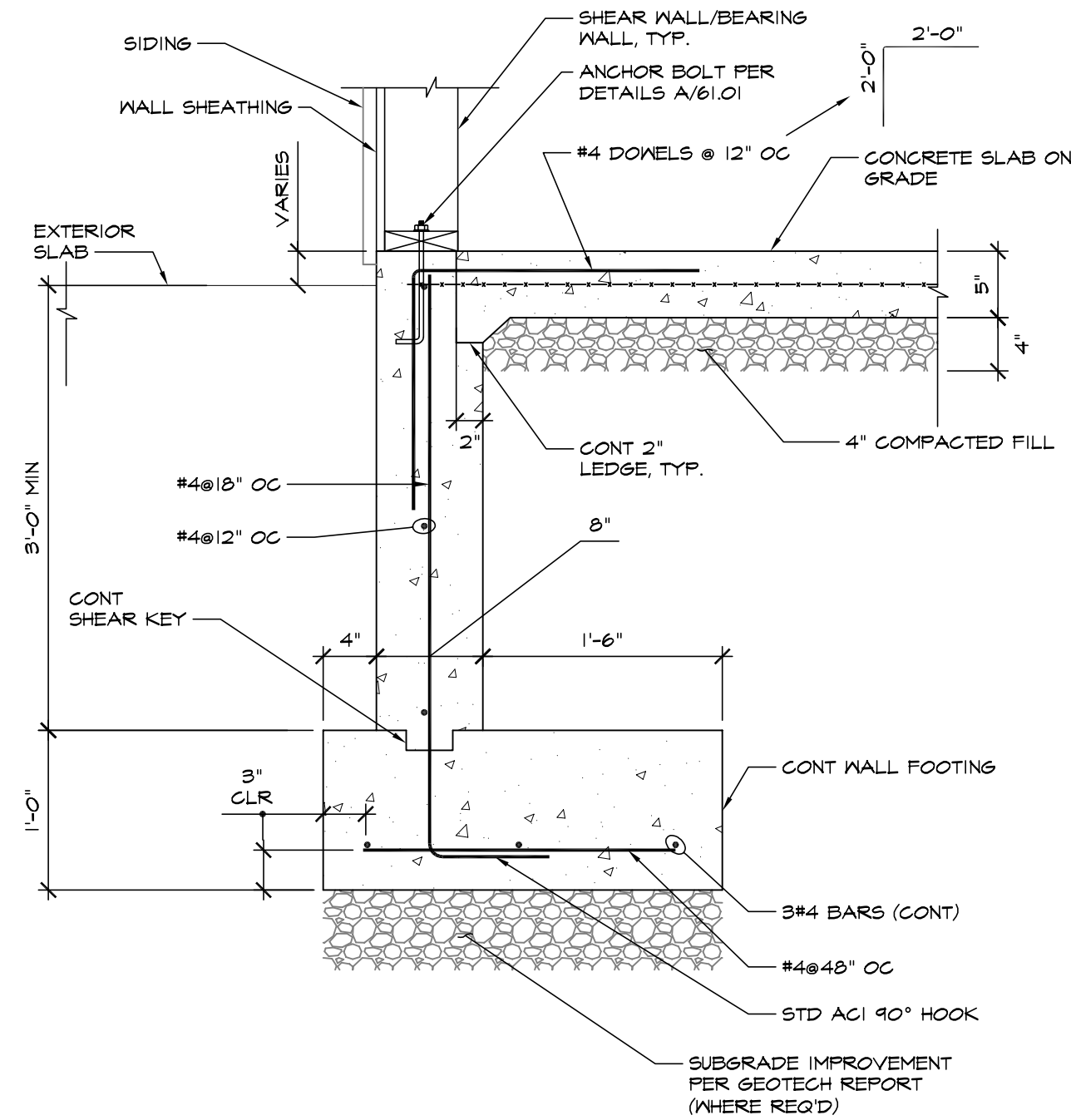
WOOD WALL HEADER SCHEDULE			
MARK	SIZE @2x6 WALLS	SPAN	REMARK
H-1	(2) 2x8	UP TO 3'-6" CLEAR	PROVIDE WOOD STRUCTURAL PANEL SPACERS AS REQ'D TO MATCH WALL THICKNESS
H-2	(3) 2x12	UP TO 3'-6" CLEAR SUPPORTING ROOF	PROVIDE MIN (1) JACK STUDS AND (2) KING STUDS AT EACH END. PROVIDE WOOD STRUCTURAL PANEL SPACES AS REQ'D TO MATCH WALL THICKNESS
NOTES: 1) ALL HEADERS EXTEND OVER (2) JACK STUD JAMBS ATTACHED TO (2) KING STUDS UNLESS OTHERWISE NOTED. REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION. 2) FOR HEADERS WITHIN INTERIOR, NON-BEARING WALLS, PROVIDE (2)2x8 WITH PLYWOOD SPACERS AS REQ'D TO MATCH WALL THICKNESS. 3) PROVIDE HEADERS OVER ALL OPENINGS PER ABOVE, INCLUDING DOORS, WINDOWS, DUCTS, LOUVERS, RECESSES, AND OTHER OPENINGS, UNLESS SHOWN OR NOTED OTHERWISE ON STRUCTURAL OR ARCHITECTURAL DRAWINGS 4) FOR DIMENSIONS AND LOCATION OF OPENINGS, SEE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.			



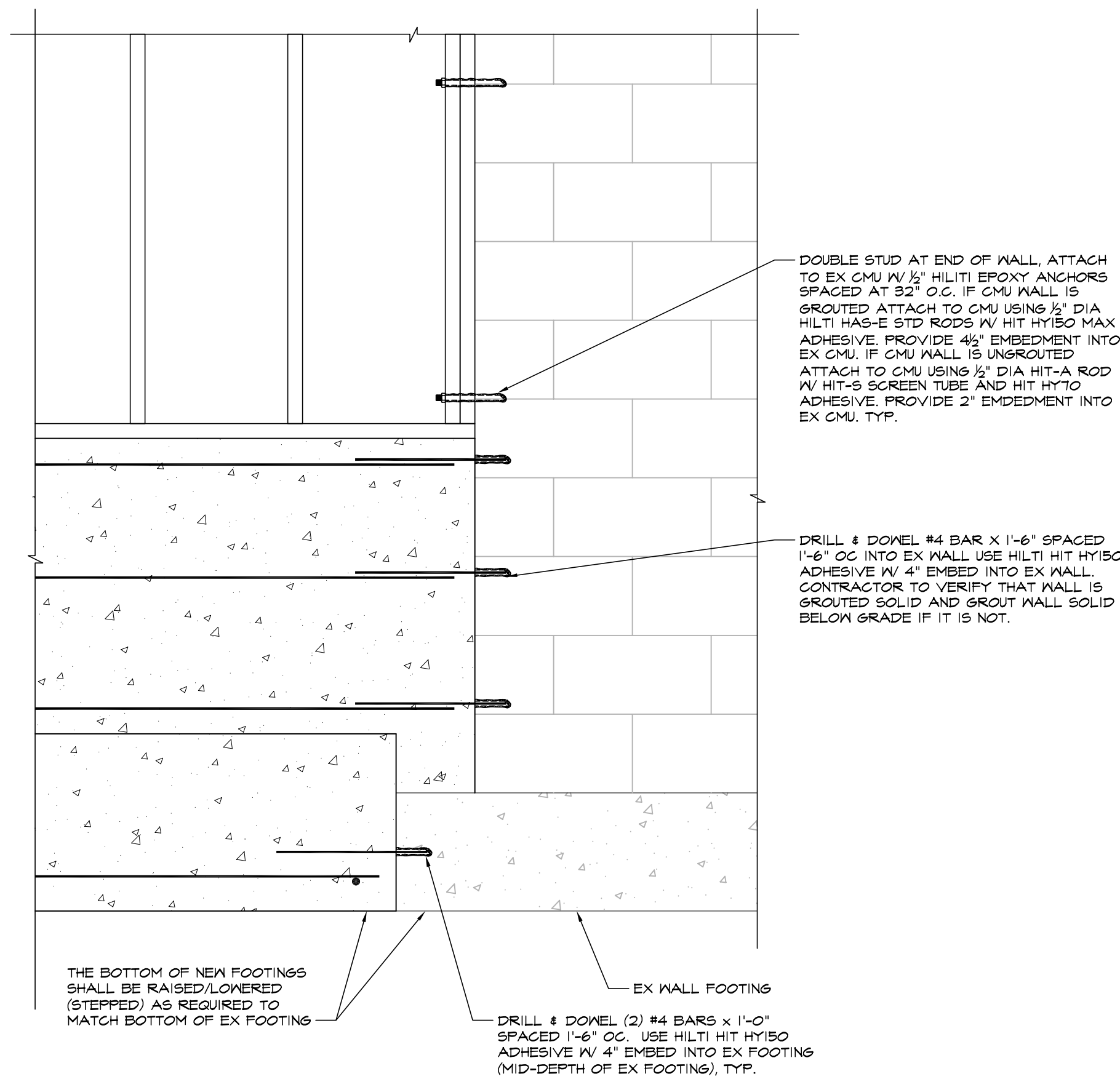
1 FOUNDATION SECTION
SCALE: 1" = 1'-0"



2 FOUNDATION SECTION
SCALE: 1" = 1'-0"



3 FOUNDATION SECTION
SCALE: 1" = 1'-0"



4 ATTACHMENT TO EX CMU
SCALE: 1" = 1'-0"

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SHEET TITLE

Sections

SHEET NUMBER

62.01

Construction
Documents

STRUCTURAL NOTES

BUILDING CODES

- A. ALL CONSTRUCTION SHALL CONFORM WITH:
- THE INTERNATIONAL BUILDING CODE (IBC-2009) AND ALL APPLICABLE SUPPLEMENTS
 - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE7-05).
- B. IN ADDITION, ALL CONSTRUCTION SHALL CONFORM WITH THE GOVERNING LOCAL BUILDING CODE.

DESIGN LOAD

- A. THE DESIGN DEAD LOADING FOR ALL FRAMING IS BASED ON THE CONSTRUCTION MATERIALS SHOWN ON THE DRAWINGS AND INDICATED IN THE SPECIFICATIONS. ALL FRAMING IS DESIGNED FOR THE FOLLOWING UNIFORM SUPERIMPOSED DEAD LOADS APPLIED IN ADDITION TO STRUCTURE SELF WEIGHT:

ROOF TRUSSES:	TOP CHORD:	7 PSF
	BOTTOM CHORD	10 PSF
BUILDING SKIN:		10 PSF

- B. THE MINIMUM DESIGN UNIFORMLY DISTRIBUTED LIVE LOADING FOR ALL NEW FRAMING SHALL BE AS FOLLOWS:

ROOF	TOP CHORD:	30 PSF
------	------------	--------

- C. OCCUPANCY CATEGORY:

II

- D. SNOW LOAD DESIGN DATA:

GROUND SNOW LOAD (Pg)=	30 PSF
FLAT ROOF SNOW LOAD (Pt)=	21 PSF*
EXPOSURE FACTOR (Ce)=	1.0
IMPORTANCE FACTOR (I)=	1.0
THERMAL FACTOR (Ct)=	1.0
SLOPE FACTOR (Cs)=	1.0
SLOPED ROOF SNOW LOAD (Ps)=	21 PSF

*PER BUILDING CODE, SNOW LOAD/ROOF LIVE LOAD IS BASED ON THE GREATER OF A FLAT ROOF SNOW LOAD EQUAL TO 21 PSF PLUS DRIFTING PER IBC, OR A UNIFORM LOAD OF 30 PSF.

- E. WIND LOAD DESIGN CRITERIA:

ANALYSIS PROCEDURE:	METHOD 1 (SIMPLIFIED)
BASIC WIND SPEED (V)=	90 MPH
EXPOSURE CATEGORY=	C
WIND IMPORTANCE FACTOR (I)=	1.0
ENCLOSURE CLASSIFICATION=	ENCLOSED
BUILDING HEIGHT ADJUSTMENT FACTOR=	1.0
ROOF (NET UPLIFT):	5 PSF

- F. EARTHQUAKE LOAD DESIGN CRITERIA:

NOT APPLICABLE (DOES NOT GOVERN)

- G. THE CONTRACTOR SHALL NOT STORE ANY CONSTRUCTION MATERIALS OR UNDERTAKE ANY CONSTRUCTION OPERATION WHICH WILL EXCEED THE DESIGN LIVE LOADINGS NOTED.
- H. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION AND REMOVAL OF TEMPORARY BRACING AND CONSTRUCTION SUPPORTS FOR NEW STRUCTURES AS REQUIRED TO COMPLETE THE PROJECT. THE STABILITY OF THE STRUCTURE IS DEPENDENT UPON THE DIAPHRAGM ACTION OF THE FLOORS AND ROOF. THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR THE METHOD OF CONSTRUCTION AND SHALL PROVIDE ALL TEMPORARY BRACING AND SHORING REQUIRED TO MAINTAIN THE STABILITY OF THE STRUCTURE AND TO SUPPORT CONSTRUCTION LOADS DURING CONSTRUCTION. CONTRACTOR SHALL RETAIN STRUCTURAL ENGINEER LICENSED IN THE STATE IN WHICH PROJECT IS LOCATED TO DESIGN TEMPORARY BRACING AND CONSTRUCTION SUPPORTS.
- I. THE FRAMING HAS BEEN DESIGNED FOR THE WEIGHT OF EQUIPMENT SHOWN ON THE STRUCTURAL DRAWINGS. IF ACTUAL WEIGHT OF EQUIPMENT EXCEEDS THAT SHOWN OR IF EQUIPMENT NOT SHOWN EXCEEDS 500 POUNDS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

MISCELLANEOUS

- A. SEE ARCHITECTURAL, CIVIL AND MEP CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION RELATING TO THE COORDINATION OF STRUCTURAL COMPONENTS.
- B. THE CONTRACTOR SHALL REVIEW THE ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATION AND DIMENSION OF CHASES, INSERTS, OPENINGS, SLEEVES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS WHICH IMPACT THE STRUCTURAL COMPONENTS. THE STRUCTURAL CONSTRUCTION DRAWINGS DO NOT SHOW ALL OPENINGS REQUIRED. ADDITIONAL OPENINGS, BLOCKOUTS AND SLEEVES MAY BE REQUIRED BY OTHER DISCIPLINES AND SHALL BE CONSTRUCTED USING THE TYPICAL DETAILS AND/OR CRITERIA INDICATED THE STRUCTURAL DRAWINGS. OPENINGS REQUIRED BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS MUST BE APPROVED BY THE STRUCTURAL ENGINEER.
- C. IN CASES OF CONFLICT BETWEEN THE DRAWINGS AND/OR SPECIFICATIONS AND OTHER DISCIPLINES OR EXISTING CONDITIONS, CONTRACTOR SHALL NOTIFY THE DESIGN PROFESSIONALS AND OBTAIN CLARIFICATION PRIOR TO BIDDING AND PROCEEDING WITH WORK.
- D. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION. ALL DISCREPANCIES AND OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
- E. THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.
- F. SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
- G. APPLY DETAILS, SECTIONS AND NOTES ON THE DRAWINGS WHERE CONDITIONS ARE SIMILAR TO THOSE INDICATED BY DETAIL, DETAIL TITLE OR NOTE.
- H. CENTERLINE OF GRADE BEAMS AND WALLS COINCIDE WITH CENTERLINES OF FOUNDATIONS, UNLESS OTHERWISE NOTED.

SHALLOW FOUNDATIONS

- A. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 4'-0" BELOW FINISH GRADE FOR FROST PROTECTION.
- B. TOP OF ALL INTERIOR FOOTINGS SHALL BE A MINIMUM 8" BELOW FINISHED FLOOR UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- C. ALL FOOTINGS HAVE BEEN DESIGNED FOR AN ASSUMED NET ALLOWABLE SOIL BEARING PRESSURE OF 3000 PSF. CONTRACTOR SHALL UNDERCUT SOIL TO DEPTH REQUIRED TO ACHIEVE 3000 PSF BEARING CAPACITY.
- D. ALL FILL PLACED UNDER SPREAD FOOTINGS SHALL BE COMPACTED TO A DRY DENSITY OF AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698.
- E. ALL EXCAVATION AND BACKFILLING OPERATIONS WITHIN THE BUILDING FOOTPRINT, INCLUDING ALL COMPACTION TESTS AND INSPECTIONS, SHALL BE DONE UNDER THE DIRECTION AND SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER.
- F. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL FOUNDATION AND SOIL CONDITIONS WHICH DIFFER FROM THOSE ANTICIPATED OR INDICATED IN THE CONTRACT DOCUMENTS.
- G. ALL EXISTING SOIL CONTAINING GRAVEL, CONSTRUCTION OR DEMOLITION DEBRIS, ORGANIC SUBSTANCES, OR OTHER FOREIGN OBJECTS SHALL BE REMOVED FROM THE REGION WITHIN THE FOOTPRINT OF THE STRUCTURE.

STRUCTURAL FILL

- A. NEW FILL MATERIAL AND EXISTING BASE MATERIAL SHALL BE FREE OF ALL REFUSE, DEBRIS, AND ORGANIC MATTER AND SHALL BE APPROVED FOR USE BY A REGISTERED GEOTECHNICAL ENGINEER.
- B. FILL MATERIAL SHALL BE DEPOSITED IN 8 INCH MAXIMUM LOOSE LIFTS AND COMPACTED TO A DRY DENSITY OF AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698. FILL SHALL BE PLACED AND COMPACTED IN 8 INCH LOOSE LIFTS TO DESIRED FINISHED GRADE UNDER THE GUIDANCE AND OBSERVATION OF A PROFESSIONAL GEOTECHNICAL ENGINEER REGISTERED IN THE STATE OF MARYLAND.
- C. WHEN WORK IS INTERRUPTED BY RAIN, FILL OPERATIONS SHALL NOT RESUME UNTIL FIELD TESTS INDICATE THAT THE MOISTURE CONTENT AND SOIL DENSITY OF THE TOP 8 INCHES OF FILL IS WITHIN THE LIMITS SPECIFIED.
- D. ALL FILL MATERIAL SHALL BE PLACED IN SUCH A MANNER THAT THE SURFACE IS SLOPED TO PREVENT THE FONDING OF WATER.

SLABS ON GRADE

- A. ALL SLABS ON GRADE SHALL CONSIST OF A 5 INCH THICK CONCRETE SLAB REINFORCED WITH 6"x6" - #2 4X#2 9 WELDED WIRE FABRIC (WWF) AND PLACED OVER A 6 MIL POLYETHYLENE VAPOR RETARDER AND 12 INCHES OF COMPACTED GRANULAR BASE. ALL EDGES OF VAPOR RETARDER SHALL BE LAPPED 6 INCHES AND TAPED. MAXIMUM AGGREGATE SIZE OF GRANULAR BASE SHALL BE 1/2 INCH.
- B. ALL FILL PLACED UNDER SLABS ON GRADE SHALL BE COMPACTED TO A DRY DENSITY OF AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698.
- C. ALL EXCAVATION, BACKFILLING, AND COMPACTION OPERATIONS UNDER THE SLAB ON GRADE SHALL BE DONE UNDER THE DIRECTION AND SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER.

CAST IN PLACE CONCRETE

- A. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301)", AND TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)".
- B. IN ADDITION TO THE ABOVE, ALL CONCRETE WORK SHALL CONFORM TO THE FOLLOWING:
- RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING (ACI 305).
RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING (ACI 306).
RECOMMENDED PRACTICE FOR CONCRETE FORMWORK (ACI 347).
STANDARD SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS (ACI 117).
CHEMICAL ADMIXTURES FOR CONCRETE (ACI 212.3).
STANDARD SPECIFICATION FOR CURING CONCRETE (ACI 308.1).
- C. ALL CONCRETE EXPOSED TO PUBLIC VIEW SHALL CONFORM TO THE REQUIREMENTS FOR ARCHITECTURAL CONCRETE CONTAINED IN ACI 301.
- D. ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL BE STONE AGGREGATE CONCRETE HAVING THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTHS:

	F'c	MAX w/c RATIO	SLUMP	AIR CONTENT
SPREAD FOOTINGS	3500 PSI	0.50	4"	0.0%
FOUNDATION WALLS	3500 PSI	0.50	4"	4.5%
INTERIOR SLAB ON GRADE	3500 PSI	0.50	3"	3.0%

ALL CONCRETE EXPOSED TO WEATHER SHALL HAVE AN AIR ENTRAINMENT OF 6% +/- 1%. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED. MAXIMUM AGGREGATE SIZE SHALL BE 1" AND MAXIMUM SLUMP SHALL BE 4"; 3" FOR SLABS ON GRADE. ALL CONCRETE, EXCEPT FOOTINGS, SHALL CONTAIN A WATER REDUCING ADMIXTURE. PORTLAND CEMENT SHALL CONFORM TO ASTM C150 AND NORMAL WEIGHT AGGREGATES SHALL CONFORM ASTM C39.

- E. ALL CONCRETE MIX DESIGNS, INCLUDING CEMENT CONTENT, WATER CEMENT RATIO, FINE AND COARSE AGGREGATE CONTENT AND ALL ADMIXTURES, SHALL BE REVIEWED BY ENGINEER PRIOR TO PLACING FIRST CONCRETE.
- F. ALL CONCRETE SHALL BE SAMPLED AND TESTED BY THE TESTING AGENCY. THE CONTRACTOR SHALL NOTIFY THE TESTING AGENCY 48 HOURS PRIOR TO THE PLACING OF ANY CONCRETE. TESTING SHALL BE IN ACCORDANCE WITH ASTM C112.
- G. THE CONCRETE STRUCTURE SHALL NOT SUPPORT THE DESIGN LIVE LOAD FOR A MINIMUM OF 28 DAYS.
- H. GROUND BLAST FURNACE SLAG MAY BE USED TO REPLACE UP TO 50 PERCENT OF THE PORTLAND CEMENT IN A CONCRETE MIX, AND FLY ASH OR POZZOLAN MAY BE USED TO REPLACE UP TO 25 PERCENT OF PORTLAND CEMENT, SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER AND SHALL CONFORM TO ASTM C489.
- I. ALL REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615 GRADE 60 (Fy = 60 KSI).
- J. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185.
- K. LAP ALL REINFORCING BARS A MINIMUM OF 48 BAR DIAMETERS AND ALL WWF. A MINIMUM OF TWO FULL GRIDS, UNLESS OTHERWISE INDICATED.
- L. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE CRSI "MANUAL OF STANDARD PRACTICE", ACI 315' DETAILS AND DETAILING OF CONCRETE REINFORCEMENT", ACI SP 66 "DETAILING MANUAL".
- M. DOWELS SHALL MATCH SIZE AND SPACING OF MAIN REINFORCEMENT, UNLESS NOTED OTHERWISE.
- N. WHERE A 90°, 135° OR 180° HOOK IS GRAPHICALLY INDICATED, PROVIDE CORRESPONDING ACI STANDARD HOOKS, UNLESS NOTED OTHERWISE.
- O. MINIMUM COVER FOR ALL REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED:

FOOTINGS	3 INCHES (BOTTOM & SIDES), 2 INCHES (TOP)
FNDTN & BASEMENT WALLS	2 INCHES
SLABS ON GRADE	2 INCHES (TOP)

WOOD FRAMING

- A. IN ADDITION TO THE IBC BUILDING CODE, ALL WOOD FRAMING SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE NATIONAL DESIGN SPECIFICATION (NDS) PUBLISHED BY THE NATIONAL FOREST PRODUCTS ASSOCIATION.
- B. ALL NEW WOOD MEMBERS SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE PROPERTIES AND DESIGN STRESSES:
- | | |
|--------------------------|-------------|
| HEM-FIR NORTH (HT) NO. 2 | |
| E | 16X10"6 psi |
| Fb | 1000 psi |
| Ft | 575 psi |
| Fc(90°) | 405 psi |
| Fc(PARALLEL) | 1450 psi |
| Fv | 145 psi |
- C. ALL WOOD STRUCTURAL PANELS (PLYWOOD, ORIENTED STRAND BOARD (OSB)) SHALL MEET THE REQUIREMENTS OF VOLUNTARY PRODUCT STANDARD PS-2. PANELS SHALL BE A MINIMUM OF 4 BY 8 FEET EXCEPT AT BOUNDARIES. REFER TO PLANS FOR SPAN RATINGS, THICKNESS, AND EXPOSURE RATING.
- D. WOOD TRUSSES SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE THE TRUSS PLATE INSTITUTE'S "DESIGN SPECIFICATION FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES" FOR THE DESIGN LOADS INDICATED ON THE CONTRACT DOCUMENTS.
- E. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS FOR ALL WOOD TRUSSES INCLUDING MEMBER LAYOUT, WOOD SPECIES AND GRADE, MEMBER SIZES, TRUSS BEARING CONNECTION DETAILS, CAPACITY OF CONNECTOR PLATES AND THE SIZE AND LOCATION OF ALL REQUIRED BRIDGING. THE CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH DAKOTA.
- F. FASTENING OF ALL WOOD FRAMING SHALL MEET THE MINIMUM RECOMMENDED REQUIREMENTS PROVIDED IN THE FASTENING SCHEDULE OF THE IBC UNLESS OTHERWISE NOTED ON DRAWINGS. STRICTER OF TWO GOVERNS. FASTENERS FOR PRESSURE-PRESERVATIVE AND FIRE-RETARDANT-TREATED WOOD SHALL BE OF HOT-DIPPED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER (EXCEPT BOLTS WITH A MINIMUM DIAMETER OF 1/2 INCH).
- G. WOOD FRAMING CONNECTIONS REQUIRING THE USE OF STEEL CONNECTORS SHALL CONSIST OF MINIMUM 20 GAGE GALVANIZED STEEL. THE CONTRACTOR SHALL SELECT STEEL CONNECTIONS BASED ON THE REACTIONS RESULTING FROM THE ALLOWABLE UNIFORM LOAD OF THE SUPPORTED MEMBER UNLESS NOTED OTHERWISE ON PLAN. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING THE STEEL CONNECTIONS FOR EACH MEMBER FOR REVIEW BY THE ENGINEER.
- H. PROVIDE DOUBLE JOISTS OR HEADERS ALONG EACH SIDE OF FLOOR OR ROOF OPENINGS AND ABOVE ALL WALL OPENINGS UNLESS OTHERWISE INDICATED.
- I. PROVIDE A MINIMUM 3" BEARING LENGTH OF ALL SAWN LUMBER WOOD MEMBERS BEARING DIRECTLY ON MASONRY OR CONCRETE. ALL SAWN LUMBER WOOD MEMBERS BEARING DIRECTLY ON MASONRY OR CONCRETE SHALL HAVE A PRESERVATIVE TREATMENT BY PRESSURE PROCESS IN ACCORDANCE WITH ANFA STANDARD U1 TO THE REQUIREMENTS OF THE APPLICABLE USE CATEGORY.
- J. PROVIDE A MINIMUM 1-1/2" BEARING LENGTH FOR ALL SAWN LUMBER WOOD MEMBERS BEARING ON WOOD OR METAL.
- K. ENGINEERED WOOD MEMBERS SHALL BE PROVIDED WITH THE MINIMUM BEARING LENGTH AS INDICATED IN THE APPROVED PRODUCT INFORMATION.
- L. THE CONTRACTOR SHALL PROVIDE 1/2" DIA. X 0'-1" LONG ANCHOR BOLTS WITH 1" HOOK OR 16 GAGE GALVANIZED STEEL SILL ANCHORS SPACED AT 6'-0" OC FOR THE ANCHORAGE OF WOOD SILL PLATES TO THE CONCRETE FOUNDATION WALLS. PROVIDE A MINIMUM OF 2 ANCHORS PER SILL MEMBER. LOCATE FIRST ANCHOR WITHIN 12" OF EACH END.
- M. THE CONTRACTOR SHALL CUT OR NOTCH THE WOOD FRAMING ONLY AS REQUIRED AND IN ACCORDANCE WITH THE IBC BUILDING CODE, THE NDS, OR AS SHOWN ON THE CONTRACT DRAWINGS. EXCESSIVE CUTS REQUIRING REPAIR SHALL BE REPAIRED BY THE CONTRACTOR AND DESIGNED BY THE ENGINEER AT THE CONTRACTOR EXPENSE.
- N. ALL INTERIOR NON-LOAD BEARING PARTITION WALLS SHALL BE FRAMED USING 2x6 STUDS SPACED 16" OC. PROVIDE A SINGLE 2x BOTTOM PLATE AND DOUBLE 2x TOP PLATES. SINGLE TOP PLATES MAY BE USED IF PROPERLY LAPPED AT WALL CORNERS AND INTERSECTIONS.
- O. ALL INTERIOR LOAD BEARING WALLS, SHEAR WALLS, AND EXTERIOR WALLS SHALL BE FRAMED USING 2x STUDS SPACED AS INDICATED ON THE PLANS AND SCHEDULE. PROVIDE A SINGLE 2x BOTTOM PLATE AND DOUBLE 2x TOP PLATE. SHEATHING SHALL BE PROVIDED AS INDICATED IN THE SCHEDULE. ROOF JOISTS/TRUSSES SHALL BEAR DIRECTLY ABOVE VERTICAL WALL STUDS. WHERE ROOF TRUSSES DO NOT ALIGN DIRECTLY ABOVE WALL STUDS, PROVIDE 2x8 BLOCKING BETWEEN STUDS TO DIRECTLY BENEATH TOP PLATE.
- P. HORIZONTAL BLOCKING OF EQUAL SIZE TO VERTICAL WALL STUDS SHALL BE USED FOR THE FASTENING OF SHEAR WALL SHEATHING AT HORIZONTAL SHEATHING JOINTS.



Buildings Group

MRA ARCHITECTURAL SERVICES, INC.

Architects, Engineers, Planners,
Surveyors and Landscape Architects
1220-C East Joppa Road, Suite 505
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax



1718 W. JARRETTSVILLE ROAD
JARRETTSVILLE, MD 21084
PHONE: 410-692-5816
FAX: 410-692-5853
WWW.TEL-ENG.COM

Owner/Developer
Brubaker Construction Company
11622 50th Street, NW
Ray, North Dakota 58849

Sax Offices

107 8th Avenue, West
Williams County
Williston, North Dakota 58801

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