



FOUNDATION PLAN

1/8"=1'-0"

CORES THROUGH EXISTING FIRST FLOOR, MAX CORE DIAMETER = 6", XRAY EXISTING 12" CONCRETE PLANKING TO LOCATE REINFORCING BARS, CENTER CORES BETWEEN BAR COORDINATE FINAL SIZE AND LOCATION WITH MECHANICAL TRADES

EXISTING 12" PRECAST
CONCRETE PLANK WITH
3" CONCRETE TOPPING

LEGEND

F1 - CONCRETE FOOTING - SEE SCHEDULE SHEET

SF - STEP FOOTING - SEE DETAIL 1/S3.1

 **0'-0"** - BOTTOM OF FOOTING ELEVATION

NOTES:

1. SEE GENERAL NOTES SHEET S2.1.

NOTES:



2ND FLOOR FRAMING PLAN

1/8"=1'-0" T.O. FLOOR FRAMING = 111'-9 3/4"

1/8"=1'-0" T.O. FLOOR FRAMING = 111'-9 3/4

LEGEND

CL1 - CMU LINTEL - OPENING BELOW BOND BEAM,
CONTINUOUS BOND BEAM ACTS AS LINTEL,
COORDINATE SIZE AND LOCATION WITH
MECHANICAL TRADES

H1 - HEADER - SEE SCHEDULE SHEET S2.1

L1 - STEEL LINTEL - SEE SCHEDULE SHEET S2.1

MW1 - MASONRY WALL - SEE SCHEDULE SHEET S2.1

 0'-0" - BOTTOM OF DECK ELEVATION

NOTES:

1. SEE GENERAL NOTES SHEET S2.1.



ROOF FRAMING PLAN

1/8"=1'-0"

1/8"=1'-0"

RENOVATIONS FOR:
ZEHNDER'S
FRANKENMUTH, MI

DRAWN BY	SAH
DATE	11/14/25
APPROVED	JAG
SHEET NO.	

S1.1

ECT NO.
2529

GENERAL

- VERIFY DIMENSIONS BEFORE COMMENCING WORK. REPORT DISCREPANCIES TO THE ARCHITECT.
- VERIFY OPENINGS IN THE FRAMING PLANS WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.
- ALL WORK SHALL CONFORM TO MICHIGAN BUILDING CODE 2021.
- DESIGN LOADS
 - DESIGNED IN ACCORDANCE WITH MICHIGAN BUILDING CODE 2021.
 - ROOF SNOW LOAD: GROUND SNOW LOAD PG = 30 PSF, FLAT ROOF SNOW LOAD PF = 23 PSF, SNOW EXPOSURE FACTOR, CE = 1.0, SNOW LOAD IMPORTANCE FACTOR, I = 1.1, THERMAL FACTOR, T = 1.0, DRIFTED SNOW LOAD, SEE DIAGRAM THIS SHEET
 - SECOND FLOOR LIVE LOAD: STORAGE - LIGHT 125 PSF
 - WIND LOADS: BASIC WIND SPEED $V_{ULT} = 114 \text{ MPH}$, $V_{ASD} = 88 \text{ MPH}$, WIND EXPOSURE B, INTERNAL PRESSURE COEFFICIENT, GC PI = +/-0.18, WALL COMPONENTS AND CLADDING, EFFECTIVE WIND AREA (FT²) POSITIVE PRESSURE (PSF) NEGATIVE PRESSURE (PSF)

-END ZONE	10	22	-29
	20	21	-27
	50	20	-25
	100	19	-23
- EARTHQUAKE DESIGN DATA: SEISMIC USE GROUP, II, SEISMIC IMPORTANCE FACTOR, I = 1.25, SPECTRAL RESPONSE COEFFICIENTS: SDS = 0.076, SD1 = 0.064, SITE CLASS D, BASIC SEISMIC - FORCE - RESISTING SYSTEM: SHEAR WALL, SEISMIC DESIGN CATEGORY, A
- SPECIAL INSPECTIONS:
 - SPECIAL INSPECTIONS SHALL BE IN ACCORDANCE WITH THE MICHIGAN BUILDING CODE 2021 SECTION 1700.
 - THE FOLLOWING TYPES OF WORK REQUIRE SPECIAL INSPECTIONS. (REFER TO THE BUILDING CODE AND SPECIFICATIONS FOR DETAILED INSPECTION REQUIREMENTS).
 - PREPARED FILL.
 - CONCRETE CONSTRUCTION.
 - MASONRY CONSTRUCTION.

FOUNDATION NOTES

- FOUNDATIONS ARE DESIGNED BASED ON SOIL BEARING OF 2500 PSF. IF SOIL OF THIS CAPACITY IS NOT FOUND AT THE ELEVATION NOTED, ENLARGE OR LOWER FOOTINGS AT THE DIRECTION OF THE ARCHITECT/ENGINEER.
- PLACE STRUCTURAL BACKFILL MEETING OR EXCEEDING MDOT CLASS II IN LAYERS NOT EXCEEDING 6 LOOSE THICKNESS. COMPACT EACH LAYER TO AT LEAST 95% OF THE MAXIMUM DENSITY PER ASTM D-1557. COMPACTING BY FLOODING IS NOT PERMITTED.
- CENTER FOOTINGS UNDER WALL LOCATION AND COLUMNS UNLESS NOTED.
- EARTH FORMS ARE NOT PERMITTED UNLESS SPECIFICALLY NOTED.
- THE CONTRACTOR SHALL HAND EXCAVATE A MINIMUM OF 6" BELOW BOTTOM FOOTING ELEVATIONS AND IMMEDIATELY PLACE COMPACTED MSHDOT 21AA DENSE GRADED AGGREGATE UP TO THE BOTTOM OF FOOTING ELEVATION. THIS LAYER OF AGGREGATE SHALL EXTEND A MINIMUM OF 12" BEYOND THE EDGE OF THE FOOTINGS IN ALL DIRECTIONS.
- DISTURBANCE OF THE FOUNDATION BEARING SOILS SHALL BE AVOIDED.
- EXISTING FOUNDATIONS OR FLOOR SLAB ENCOUNTERED DURING SITE GRADINGS AND EXCAVATION SHALL BE REMOVED TO A DEPTH OF TWO (2) FEET BELOW NEW CONSTRUCTION. REPLACE WITH STRUCTURAL BACKFILL.
- PROVIDE BOND BREAK MATERIAL BETWEEN ALL GRADE SLABS AND VERTICAL SURFACES.
- BACKFILL AND EXCAVATION PER SPECIFICATIONS.

CONCRETE NOTES

- ACI BUILDING CODE (318); MANUAL OF STANDARD PRACTICE FOR DETAILING (315) FOR THE MIXING, FABRICATION AND PLACEMENT OF CONCRETE, REINFORCING STEEL, AND ACCESSORIES
- CONCRETE STRENGTH - (STANDARD) WEIGHT CONCRETE: FOOTINGS, WALLS, PIERS: F'c = (3000 MINIMUM) PSI CONCRETE FILL ON (COMPOSITE) (FORM) (PRECAST CONCRETE) DECK: F'c = (3500 MINIMUM) PSI CONCRETE SLABS ON GRADE: F'c = (3500 MINIMUM) PSI EXTERIOR CONCRETE SLABS EXPOSED TO DE-ICING: F'c = (4500 MINIMUM) PSI
- REINFORCING - BARS: ASTM A-615 GRADE 60 WELDED WIRE FABRIC: ASTM A-1064
- CONCRETE SLABS ON GRADE REINFORCING: 6x6 - W1.4xW1.4 WWF UNLESS NOTED, LOCATED IN THE UPPER 1/3 OF SLAB THICKNESS.
- PROVIDE SAWCUT CONTROL JOINTS AT APPROXIMATELY 15' ON CENTER EACH WAY IN SLABS ON GRADE, SEE DETAILS. LOCATE JOINTS UNDER PARTITIONS WHENEVER POSSIBLE. CONSTRUCTION JOINTS AT CONTRACTOR'S OPTION.
- DEPRESS SLABS AS REQUIRED FOR FLOOR FINISHES, SEE ARCHITECT.
- SLOPE FLOORS AS REQUIRED TO FLOOR DRAINS, SEE ARCHITECT.
- FORM ALL CONCRETE.
- EXPOSED EDGES OF CONCRETE BEAMS, COLUMNS, ETC. SHALL BE CHAMFERED 3/4".
- PROVIDE CORNER BARS FOR ALL CONTIGUOUS CORNERS.
- WATER/CEMENT RATIO LIMITS: F'c = 3000 PSI 0.68 NON-AIR ENTRAINED, 0.50 AIR ENTRAINED F'c = 3500 PSI 0.62 NON-AIR ENTRAINED, 0.50 AIR-ENTRAINED F'c = 4500 PSI 0.4 AIR-ENTRAINED
- SLUMP LIMITS: 3" FOR FOUNDATIONS, 4" FOR SLABS AND WALLS
- PROVIDE AIR ENTRAINED CONCRETE FOR EXTERIOR EXPOSURES.
- CONTRACTOR TO SUBMIT SIZE AND LAYOUT OF CONCRETE WALL SLEEVES, OPENINGS, ETC. FOR REVIEW PRIOR TO CONCRETE PLACEMENT.
- WALL FOOTING REINFORCING LAP LENGTH: MINIMUM 27", 21" IF LAPS STAGGERED.
- CONCRETE SHALL HAVE CURED TO GAIN 75% OF DESIGN CONCRETE STRENGTH BEFORE APPLYING ANY LOADS.

MASONRY NOTES

- WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACI 530 SPECIFICATIONS.
- MORTAR: ASTM C270, TYPE M BELOW GRADE, TYPE M OR S ABOVE GRADE, TYPE N FOR NON-LOAD BEARING ABOVE GRADE.
- GROUT: ASTM C476, FC=2000 PSI, TESTED PER ASTM C1019.
- REINFORCING BARS SHALL BE ASTM A-615, GRADE 60, LAP MINIMUM 40 BAR DIAMETERS FOR #5 BARS AND SMALLER, LAP MINIMUM 52 BAR DIAMETERS FOR BARS LARGER THAN #5 UNLESS NOTED OTHERWISE.
- HORIZONTAL WALL REINFORCING: PER ASTM A-82, 9 GA, HOT DIPPED GALVANIZED PER ASTM A-153 (1.5 OZ PER SF.), LADDER TYPE, EQUAL TO DUR-A-WAL, BED JOINTS AT 16" O.C. AND AT 1ST AND 2ND BED JOINTS AT BOTTOM OF WALL, TOP OF WALL, ABOVE LINTELS AND BELOW SILLS. REINFORCING CONTINUOUS EXCEPT AT VERTICAL CONTROL JOINTS. SIDE RODS LAPPED A MINIMUM OF 6" AT SPLICES. PROVIDE PREFABRICATED CORNERS AND TEES.
- CONCRETE MASONRY UNITS: ASTM C-90, GRADE N, TWO CORE TYPE FOR REINFORCED MASONRY. DESIGN BASED ON F'M = 1500 PSI.
- VERTICAL WALL REINFORCING: 1- #4 EACH SIDE OF MASONRY OPENINGS, CONTROL JOINTS AND AS SHOWN, IN GROUT FILLED BLOCK CORES.
- VERTICAL BAR REINFORCING: PLACE ACCURATELY AND MECHANICALLY HOLD IN POSITION WHILE GROUTING. GROUTING SHALL BE DONE IN LIFTS NOT EXCEEDING 4'-0" AND MECHANICALLY CONSOLIDATED IN PLACE; CONSOLIDATION BY RODDING NOT ACCEPTABLE.
- PROVIDE COMPLETELY GROUTED UNITS:
 - UNDER ANY CHANGE OF WALL THICKNESS, I.E.: 8" ON TOP OF 12"
 - UNDER STEEL JOIST OR BEAM BEARING.
- PROVIDE LINTELS FOR OPENINGS IN MASONRY WALLS OVER 8" WIDE. SEE SCHEDULE.
- BLOCK CONTROL JOINTS SHALL BE "MICHIGAN" TYPE UNLESS NOTED OTHERWISE. HORIZONTAL REINFORCING SHALL BE DISCONTINUOUS AT CONTROL JOINTS.
- TEMPORARY WALL BRACING IS THE CONTRACTOR'S RESPONSIBILITY. CONFORM TO APPLICABLE CODES AND STANDARDS.
- ANCHOR CONTINUOUS WOOD BLOCKING TO MASONRY WITH MINIMUM 1/2" ANCHOR RODS 8" LONG PLUS 2" HOOK AT 32" O.C. UNLESS NOTED OTHERWISE.

WOOD FRAMING

- DIMENSIONAL FRAMING MATERIAL SHALL BEAR THE GRADE MARK OF AN ALSC APPROVED AGENCY, KILN DRIED, AND HAVE THE FOLLOWING MINIMUM STRESS GRADE:
 - 2x4 STUD WALLS: SPRUCE-PINE-FIR, CONSTRUCTION GRADE OR BETTER.
 - 2x6 AND LARGER: HEM-FIR #2 OR BETTER.
- ANCHOR CONTINUOUS BLOCKING TO MASONRY WITH MINIMUM 1/2" ANCHOR BOLTS 8" LONG PLUS 2" HOOK AT 32" O.C. UNLESS NOTED OTHERWISE.
- ROOF RAFTERS ANCHORED TO CONTINUOUS PLATES WITH ONE SIMPSON H3 ANCHOR UNLESS NOTED OTHERWISE.
- WOOD TO BE IN CONTACT WITH CONCRETE, MASONRY, OR GRADE SHALL BE PRESSURE TREATED.

PLYWOOD SHEATHING

- PLYWOOD FOR ROOF DECK SHALL BE 3/4" THICK APA RATED SHEATHING, (24/16).
- PLYWOOD FOR WALLS SHALL BE 1/2" THICK APA RATED SHEATHING.
- PLYWOOD FOR FLOORS SHALL BE 3/4" THICK APA RATED SHEATHING.
- ROOF SHEATHING FASTENED WITH 8D COMMON NAILS AT 6" O.C. AT PANEL EDGES AND INTERMEDIATE SUPPORTS UNLESS NOTED OTHERWISE. PROVIDE MINIMUM 2X6 BLOCKING AT VALLEY AND HIP LINES FOR UNSUPPORTED EDGES AS REQUIRED.
- PANELS SHALL BE LAID IN A STAGGERED PATTERN, CONTINUOUS OVER TWO SPANS.

STRUCTURAL COMPOSITE LUMBER

- LAMINATED VENEER LUMBER (LVL):

FB	= 2,600 PSI (BOTH TENSION & COMPRESSION)
FC (PERPENDICULAR)	= 750 PSI
FC (PARALLEL)	= 2,310 PSI
FV	= .285 PSI
E	= 1.9×10^6 PSI

FOOTING SCHEDULE

MARK	SIZE	DEPTH	REINFORCING	REMARKS
F1	1'-4" CONT	1'-0"	(2) #5 CONT	

STEEL LINTEL SCHEDULE

MARK	CLEAR SPAN	SIZE	BEARING EACH END
L1	4'-0"	L3 1/2x2 1/2x1/4 SLV	4"
L2	5'-0"	L3 1/2x3x1/4 SLV	6"
L3	6'-0"	L3 1/2x3 1/2x1/4	6"
L4	7'-0"	L4x3 1/2x1/4 LLV	6"
L5	8'-0"	L5x3 1/2x1/4 LLV	8"
L6	9'-0"	L6x3 1/2x3/8 LLV	8"

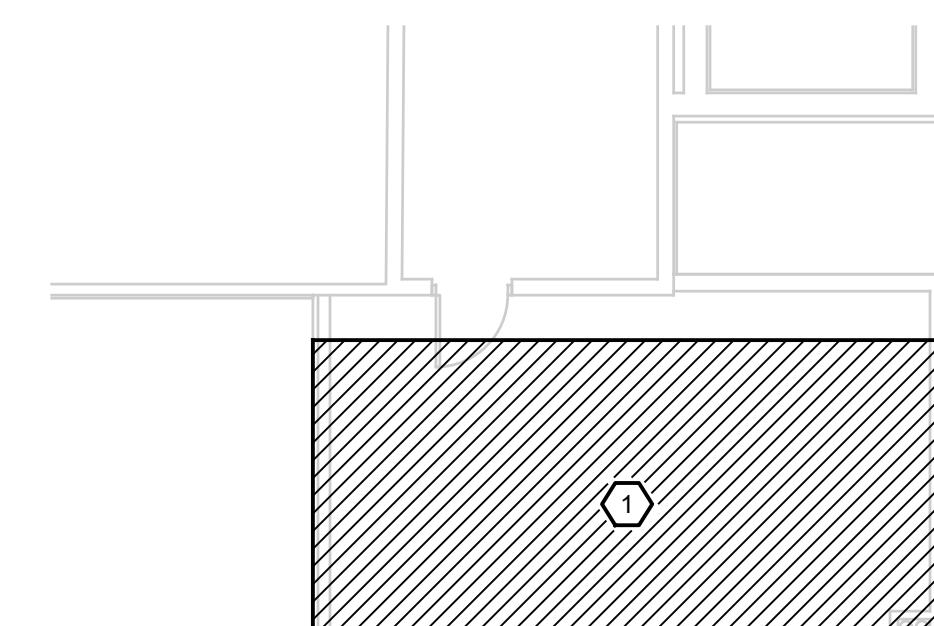
HEADER SCHEDULE

MARK	SIZE	MIN BEARING
H1	(3) 2x8	(2) STUDS

MASONRY WALL REINFORCING SCHEDULE

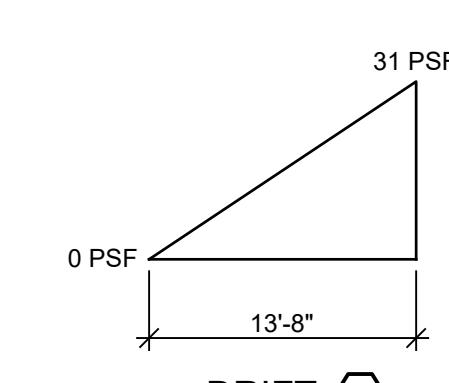
MARK	SIZE	SPACING	REMARKS
MW1	#4	48" O.C.	VERTICAL REINFORCING FROM TOP OF FOOTING TO TOP OF WALL

NOTES: 1. REINFORCING SHALL BE CENTERED AND GROUTED SOLID IN CMU UNLESS NOTED OTHERWISE.



DRIFTED SNOW LOADING KEY PLAN

1/8"=1'-0"



SNOW DRIFTING LOAD DIAGRAM

1227-TSSF/2025-2704 ZEHNDERS SPLASH VILLAGE - DOMESTIC WATER HEATER UPGRADES/2025-2704-S-S3.1-STRUCTURAL DETAILS

12/15/2025 12:56 PM STEVE HOCKMAN (SHOCKMAN@MACMILLANASSOCIATES.COM)

TENSION BARS SAME SIZE AND NUMBER AS COMBINED REINFORCING

3"

2'-0"

2'-0" MAX

3" CLR

2'-0" MAX

1'

1'

1'

1'-0"

MIN

1 STEP FOOTING

Architectural diagram showing a cross-section of a concrete foundation wall and footing. The wall is labeled 'EX FOUNDATION WALL'. A dashed line indicates the 'ASSUMED LOCATION OF EX FOOTING'. The footing is labeled 'CONCRETE FOOTING, SEE PLAN'. A vertical dimension line indicates a height of '8"'. A horizontal dimension line between two vertical lines indicates a width of '1'-0"'. A label 'VIF' is positioned above the vertical dimension line. A note 'BARS SAME AS FOOTING REINFORCING' is present. A circular symbol with a crosshair is labeled 'B.O. FOOTING SEE PLAN'.

2 NEW FOOTING AT EXISTING
22-1 2(4")-11-8"

This technical diagram illustrates a cross-section of a concrete foundation wall and slab assembly. The wall is a CMU wall with a bond break. A concrete slab is supported by a concrete footing. The diagram shows rigid insulation, granular fill, and a concrete foundation wall. Labels with leader lines identify the following components:

- LAP SPLICING PER STRUCTURAL NOTES
- CMU WALL, SEE PLAN
- BOND BREAK
- CONCRETE SLAB, SEE PLAN
- T.O. SLAB SEE PLAN
- GRADE
- COMPACTED GRANULAR FILL
- #4 AT 12" OC EACH WAY
- RIGID INSULATION, SEE ARCH
- CONCRETE FOUNDATION WALL, SEE PLAN
- CONCRETE FOOTING, SEE PLAN
- 3" CLR
- B.O. FOOTING SEE PLAN
- DOWEL TO FOOTING

3 EXTERIOR WALL FOOTING

This technical diagram illustrates a cross-section of a concrete slab system. The slab is 4" thick and includes a thermal break labeled 'T.O. SLAB SEE PLAN'. A 'PITCH' is indicated for the slab. A 'THERM BREAK, SEE ARCH' is shown as a vertical gap between the slab and the concrete wall. Below the slab, 'COMPACTED BACKFILL' is shown. A concrete wall is labeled 'CONCRETE WALL, SEE PLAN'. A concrete footing is labeled 'CONCRETE FOOTING, SEE PLAN'. A bottom-outlet (B.O.) footing is labeled 'B.O. FOOTING SEE PLAN'. A vertical dimension of '3" CLR' is shown between the bottom of the slab and the top of the B.O. footing. A vertical dimension of '1 1/2" CLR' is shown between the top of the B.O. footing and the bottom of the concrete wall. A vertical dimension of '12"' is shown between the bottom of the B.O. footing and the top of the concrete wall. A vertical dimension of '16"' is shown between the top of the concrete wall and the top of the slab. A note '1 1/2" CLR' is also present near the top right of the slab.

4 ENTRY SLAB

CONCRETE SLAB WITH WWF

SEAL JOINT

SAWCUT CONTROL JOINT (CJ)

T/4

T/3

T.O. SLAB

COMPACTED BACKFILL

NOTE:
SAWCUT SHALL BE MADE
WITHIN 12 HOURS AFTER
FINISHING

CONCRETE SLAB WITH WWF IN TOP 1/3 OF SLAB

T.O. SLAB

COMPACTED BACKFILL

PREFORMED CONSTRUCTION JOINT

1'-0"

5 CONTROL/CONSTRUCTION JOINTS

6 SECOND FLOOR FRAMING AT HOLD DOWN

This technical drawing illustrates a structural connection between a roof and a wall. The roof is supported by a 2x6 parapet framing, which is notched around a rim board and fastened to joists. The wall is made of a stud wall with 1/2" sheathing. A rim board is attached to the wall, and the roof joist is connected to the wall with Simpson H.2.5A hurricane tie plates. The drawing also shows (5) 10D nails at the top and bottom of the connection. The text 'T.O. ROOF FRAMING SEE PLAN' is located near the top right of the drawing.

NOTCH SHEATHING AROUND PARAPET FRAMING

SHEATHING, SEE PLAN

2x6 PARAPET FRAMING, NOTCH AROUND RIM BOARD, FASTEN TO JOIST

1/2" SHEATHING

RIM BOARD, SEE PLAN

T.O. ROOF FRAMING SEE PLAN

1"

1"

1"

ROOF JOIST, SEE PLAN

(2) 2x6 TOP PLATES

SIMPSON H.2.5A HURRICANE TIE AT EACH JOIST

STUD WALL, SEE PLAN

(5) 10D NAILS, TYP TOP AND BOTTOM

EQ

EQ

7 ROOF FRAMING

Architectural cross-section diagram of a wall structure. The diagram shows a wall with multiple horizontal and vertical lines representing studs, plates, and a header. Labels with leader lines identify several parts of the structure:

- (2) TOP PLATES
- HEIGHT
IDE OF
NTITY TO
LED
- 12" OC
- HEADER, SEE SCHEDULE
- BEARING STUDS,
SEE HEADER
SCHEDULE
- BEARING STUDS,
SEE HEADER
SCHEDULE
- WALL OPENING
- 4'-0" OC
EDGES
- FINAL
ITION
DES

8 TYPICAL BEARING WALL CONSTRUCTION AT OPENINGS

S3.1 3/4"=1'-0"

SHEATHING, SEE PLAN

LW CONCRETE TOPPING, SEE PLAN

EX CMU WALL, SEE PLAN

ANCHOR GROUTED CMU CORES WITH HILTI HY100 + 1/2" DIA THREADED RODS AT 8" OC ALTERNATING TOP AND BOTTOM

FLOOR JOIST, SEE PLAN

LEDGER BOARD, SEE PLAN

T.O. 2ND FLOOR FRAM SEE PLAN

SIMPSON HANGER HUS1.81/10, TYP AT FLOOR JOISTS AND ROOF JOISTS



JOIST SUPPORT AT EXISTING CMU WALL

3/4"=1'-0"

10 SECOND FLOOR FRAMING - INTERMEDIATE
S3.1 $3/4"=1'-0"$