CITY OF AUSTIN
Development SERVICES DEPARTMENT

Residential Review – One Texas Center
505 Barton Springs Road, Austin, TX 78704; (512) 978-4000

Residential New Construction and Addition Permit Application

To complete this form electronically: Open with Internet Explorer, then Click Here to Save and continue.

Property Information

Project Address: 4302 Avenue D | Tax Parcel ID: 218132

Legal Description: E 78ft of Lot 20 & E 78ft of N54ft of Lot 19 & E 78ft of S 85.5' Lot 2' Blk 13 Hyde Park Addn No 1

Zoning District: SF-3-HD-NCCD-NP | Lot Area (sq ft): 3,042 SF

Neighborhood Plan Area (if applicable): Hyde Park | Historic District (if applicable):

Required Reviews

Is project participating in S.M.A.R.T. Housing? Y (N)
(If yes, attach signed certification letter from NHCD, and signed conditional approval letter from Austin Energy Green Building)

Does project have a Green Building requirement? Y (N)
(If yes, attach signed conditional approval letter from Austin Energy Green Building)

Is this site within an Airport Overlay Zone? Y (N)
(If yes, approval through Aviation is required)

Does this site have a septic system? Y (N)
(If yes, submit a copy of approved septic permit)

Does the structure exceed 3,600 square feet total under roof? Y (N) (If yes, Fire review is required)
Is this property within 200 feet of a hazardous pipeline? Y (N) (If yes, Fire review is required)

Is this site located within an Erosion Hazard Zone? Y (N)
(If yes, EHZ review is required)

Is this property within 150 feet of the 100 year floodplain? Y (N) (Proximity to floodplain may require additional review time.)

Is there a protected sized tree on this lot or adjacent lot(s)? (Y) N (If yes, click here for more information on the tree permit process.)

Is this site within the Residential Design and Compatibility Standards Ordinance Boundary Area? (LDC 25-2 Subchapter F) (Y) N

Does this site currently have: water availability? (Y) N
wastewater availability? (Y) N
(If no, contact Austin Water Utility to apply for water/wastewater taps and/or service extension request.)

Are there existing water/wastewater infrastructure, appurtenances or existing water/wastewater easements located on site? Y (N)
(If yes, contact Austin Water Utility Pipeline Engineering for review and approval)

Does this site have or will it have an auxiliary water source? Y (N) (If yes, submit approved auxiliary and potable plumbing plans.)
(Auxiliary water supplies are wells, rainwater harvesting, river water, lake water, reclaimed water, etc.)

Does this site require a cut or fill in excess of four (4) feet? Y (N) (If yes, contact the Development Assistance Center for more information)

Is this site within the Waterfront Overlay? Y (N)
(LDC 25-2 Subchapter C Article 3)

Is this site within the Lake Austin Overlay? Y (N)
(LDC 25-2-180, 25-2-647)

Does this site front a paved street? (Y) N
(If no, contact Development Assistance Center for Site Plan requirements.)

Is this site adjacent to a paved alley? Y (N)
(Public Works approval required to take access from a public alley.)

Does this site have a Board of Adjustment (BOA) variance? Y (N) Case # _____ (if applicable)
Does this site have a Residential Design and Compatibility Commission (RDCC) waiver? Y (N)
(If yes, provide a copy of decision sheet. Note: A permit cannot be approved within 10 days of approval of a variance from BOA.)

Description of Work

Is Total New/Added Building Area > 5,000 Sq Ft? Y (N) (If yes, construction material recycling is required per LDC 25-11-39)

Existing Use: vacant (single-family residential) duplex residential two-family residential other: _____

Proposed Use: vacant (single-family residential) duplex residential two-family residential other: _____

Project Type: new construction addition (addition/remodel) other: _____

Will all or part of an existing exterior wall, structure, or roof be removed as part of the project? (Y) N
(Note: Removal of all or part of a structure requires a demolition permit application.)

existing bedrooms: 1 | # bedrooms upon completion: 1 | # baths existing: 1 | # baths upon completion: 1.5

Project Description: (Note: Please provide thorough description of project. Attach additional pages as necessary.)
demo back windows & replace; replace back door; complete interior remodel; dig out for Basement & bathroom addition

Trades Permits Required (Circle as applicable): (electric) (plumbing) (mechanical (HVAC)) concrete (R.O.W.)

Job Valuation

Total Job Valuation:	Amount of Total Job Valuation dedicated to all Addition and/or New Construction:	Amount of Total Job Valuation dedicated to all Remodel/Repair:
$ 295,000 0	$ 100,000 0	Bldg: $ 100,000
Note: The total job valuation should be the sum total of all valuations noted to the right. Labor and materials only, rounded to nearest dollar. Permit fees are based on adopted fee schedule.	Amount for Primary Structure: $ 47,500 Elec: ☒Y ☐N | Plmbg: ☒Y ☐N | Mech: ☒Y ☐N	Elec: $ 20,000 Plmbg: $ 20,000 Mech: $ 7,500
	Amount for Accessory Structure: $ _____ Elec: ☐Y ☐N | Plmbg: ☐Y ☐N | Mech: ☐Y ☐N	TOTAL: $ 147,500. 0

Please utilize the Calculation Aid on the last page of the Additional Information, page 7, as a guide to complete the following calculations and to provide supplemental information for thorough review.

Site Development Information

Area Description Note: Provide a separate calculation for each distinct area. Attach additional sheets as necessary. Measurements are to the outside surface of the exterior wall.	Existing Sq Ft		New/Added Sq Ft		Total Sq Ft	
	Bldg 1	Bldg 2	Bldg 1	Bldg 2	Bldg 1	Bldg 2
a) 1st Floor conditioned area	519	0	0	0	519 ~~0.00~~	0.00
b) 2nd Floor conditioned area	0	0	0	0	0 0.00	0.00
c) 3rd Floor conditioned area	0	0	0	0	0 0.00	0.00
d) Basement	0	0	461	0	461 ~~0.00~~	0.00
e) Covered parking (garage or carport)	0	148	0	0	0.00	148 ~~0.00~~
f) Covered patio, deck, porch, and/or balcony area(s)	0	0	0	0	0.00	0.00
g) Other covered or roofed area WH closet	11	0	-11	0	0 0.00	0.00
h) Uncovered wood decks	0	0	0	0	0.00	0.00
Total Building Area (total a through h)	5300 ~~0.00~~	148 ~~0.00~~	4500 ~~0.00~~	0 0.00	980 ~~0.00~~	148 ~~0.00~~
i) Pool	0	0	0	0	0.00	0.00
j) Spa	0	0	0	0	0.00	0.00
k) Remodeled Floor Area, excluding Addition / New Construction	519	—	—	—	519	

Building Coverage Information

Note: Building Coverage means the area of a lot covered by buildings or roofed areas, but excludes ground-level paving, landscaping, open recreational facilities, incidental projecting eaves, balconies, and similar features. Pools, ponds, and fountains are not included in this measurement. (LDC 25-1-21)

Total Building Coverage (sq ft): 667 % of lot size: 21.9

Impervious Cover Information

Note: Impervious cover is the total horizontal area of covered spaces, paved areas, walkways, and driveways. The term excludes pools, ponds, fountains, and areas with gravel placed over pervious surfaces that are used only for landscaping or by pedestrians. For an uncovered wood deck that has drainage spaces between the deck boards and that is located over a pervious surface, 50 percent of the horizontal area of the deck is included in the measurement of impervious cover. (LDC 25-1-23)

Total Impervious Cover (sq ft): 1,284.5 % of lot size: 42.2

Setbacks

Are any existing structures on this site a non-compliant structure based on a yard setback requirement? (LDC 25-2-492) (Y) N

Does any structure (or an element of a structure) extend over or beyond a required yard? (LDC 25-2-513) Y (N)

Is front yard setback averaging being utilized on this property? (LDC 25-2, Subchapter F, Sec. 2.3 or 25-2-778) (Y) N

Height Information (LDC 25-1-21 or 25-2 Subchapter F, Section 3.4)

Building Height: 22 ft 4 in Number of Floors: 1

Parking (LDC 25-6 Appendix A & 25-6-478)

of spaces required: 2 # of spaces provided: 1

Right-of-Way Information

Is a sidewalk required for the proposed construction? (LDC 25-6-353) Y (N) Already exist a sidewalk

*Sidewalks are to be installed on any new construction of a single family, two-family or duplex residential structure and any addition to an existing building that increases the building's gross floor area by 50 % or more.

Will a Type I driveway approach be installed, relocated, removed or repaired as part of this project? Y (N)

Width of approach (measured at property line): 12 ft Distance from intersection (for corner lots only): N/A ft

Are storm sewer inlets located along the property or within ten (10) feet of the boundaries of the property? (Y) N
(If yes, drainage review is required)

N/A
Subchapter F Not Applicable per reviewer
lot in HD - NCCD - NP Zoning

Subchapter F

Gross Floor Area

This section is only required for projects located within the Residential Design and Compatibility Standards Ordinance Boundaries as defined and illustrated in Title 25-2 Subchapter F of the Land Development Code. The Gross Floor Area of each floor is measured as the area contained within the outside edge of the exterior walls.

		Existing Sq Ft	New/Added Sq Ft	Proposed Exemption (check article utilized)	Applied Exemption Sq Ft	Total Sq Ft
1st Floor 519 | 11		530	-11			519 ~~0.00~~
2nd Floor		0	0			0 0.00
3rd Floor		0	0			0 0.00
Area w/ ceilings > 15'		0	70	Must follow article 3.3.5	0	70 ~~0.00~~
Ground Floor Porch* (check article utilized)		0	0	☐ Full Porch sq ft (3.3.3 A) ☐ 200 sq ft (3.3.3 A 2)	0	0 0.00
Basement		0	461	Must follow article 3.3.3B, see note below	461	0 0.00
Attic		519	-519	Must follow article 3.3.3C, see note below	0	0 0.00
Garage**: (check article utilized)	Attached	0	0	☐ 200 sq ft (3.3.2 B 1)	0	0 0.00
	Detached	148	0	☒ 450 sq ft (3.3.2 A 1 / 2a) ☐ 200 sq ft (3.3.2 B 2a / 2b)	148	0 0.00
Carport**: (check article utilized)	Attached	0	0	☐ 450 sq ft (3.3.2 A 3) ☐ 200 sq ft (3.3.2 B 1)***	0	0 0.00
	Detached	0	0	☐ 450 sq ft (3.3.2 A 1)	0	0 0.00
Accessory Building(s) (detached)		0	0			0 0.00
Totals		1,197 0.00	-1 0.00		-609	589 0.00

TOTAL GROSS FLOOR AREA (add Total Sq Ft column) 0.00 589

(Total Gross Floor Area ÷ Lot Area) x 100 = 19% Floor-To-Area Ratio (FAR)

Is a sidewall articulation required for this project? Y (N)

(Yes, if: a wall, 15' tall or higher, within 9 feet of a side property line extends further than 36 feet in length per article 2.7.1)

Does any portion of the structure extend beyond a setback plane/exemption exhibit (aka "tent")? Y (N) N/A

(If Yes, indicate applicable section of Subchapter F and length of protrusion on the drawings.)

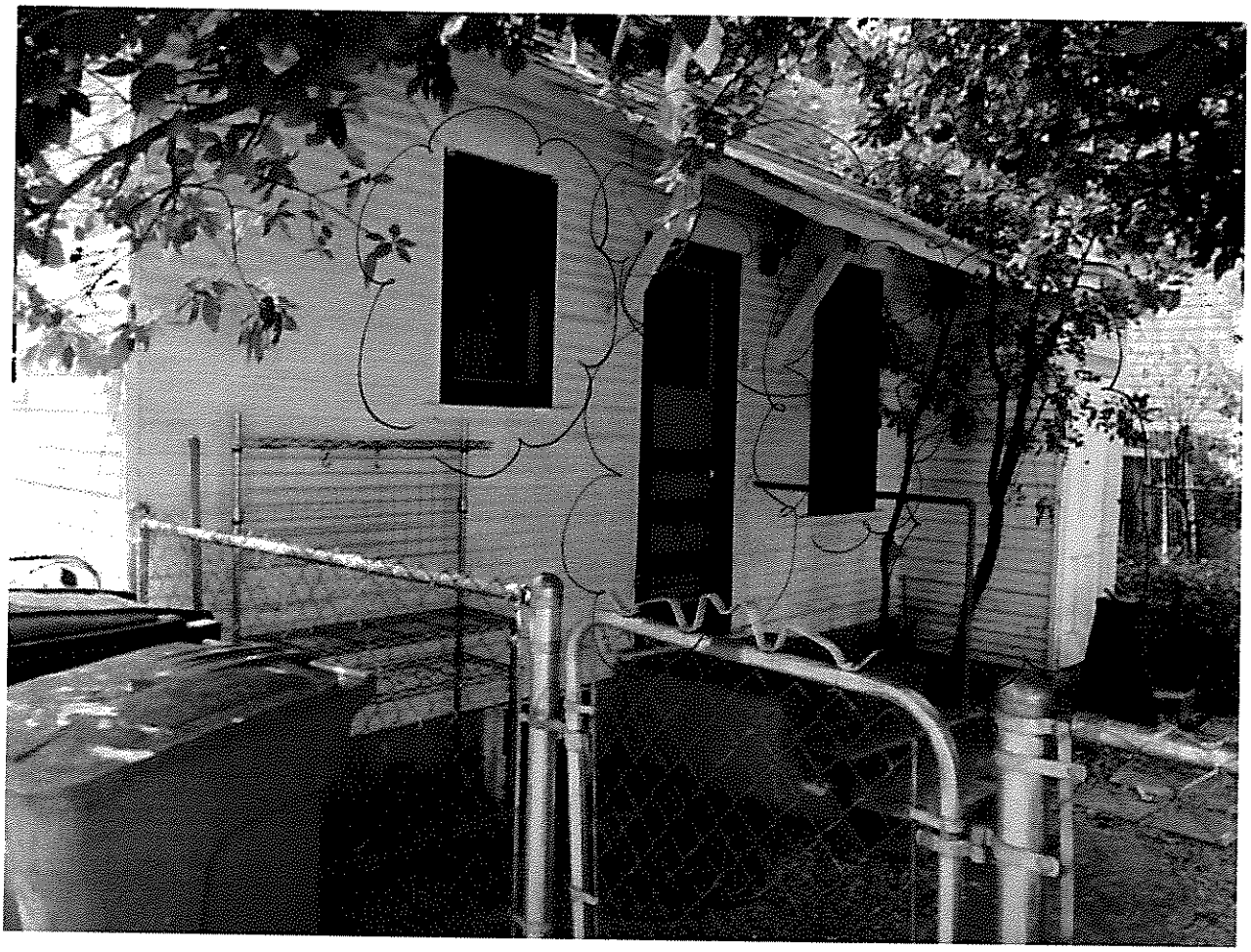
***Ground Floor Porch exemption:** A ground floor porch, including a screened porch, may be exempted, provided that the porch is not accessible by automobile and is not connected to a driveway; and the exemption may not exceed 200 square feet if a porch has habitable space or a balcony above it.

****Garage and carport exemptions (in relation to primary structure):** Exemptions must follow the code as outlined in Title 25-2 Subchapter F 3.3.2. Each amount listed (450 or 200) is the maximum exclusion allowed per the article designated. Note: Article 3.3.2 C, "An applicant may receive only one 450-square foot exemption per site under paragraph A. An applicant who receives a 450-square foot exemption may receive an additional 200-foot exemption for the same site under paragraph B, but only for an attached parking area used to meet minimum parking requirements."

*****Ordinance article 3.3.2 B 1 is the only 200 sq ft exemption that may be combined with a 450 sq ft exemption. Otherwise only one 450 exemption or one 200 sq ft exemption may be taken.

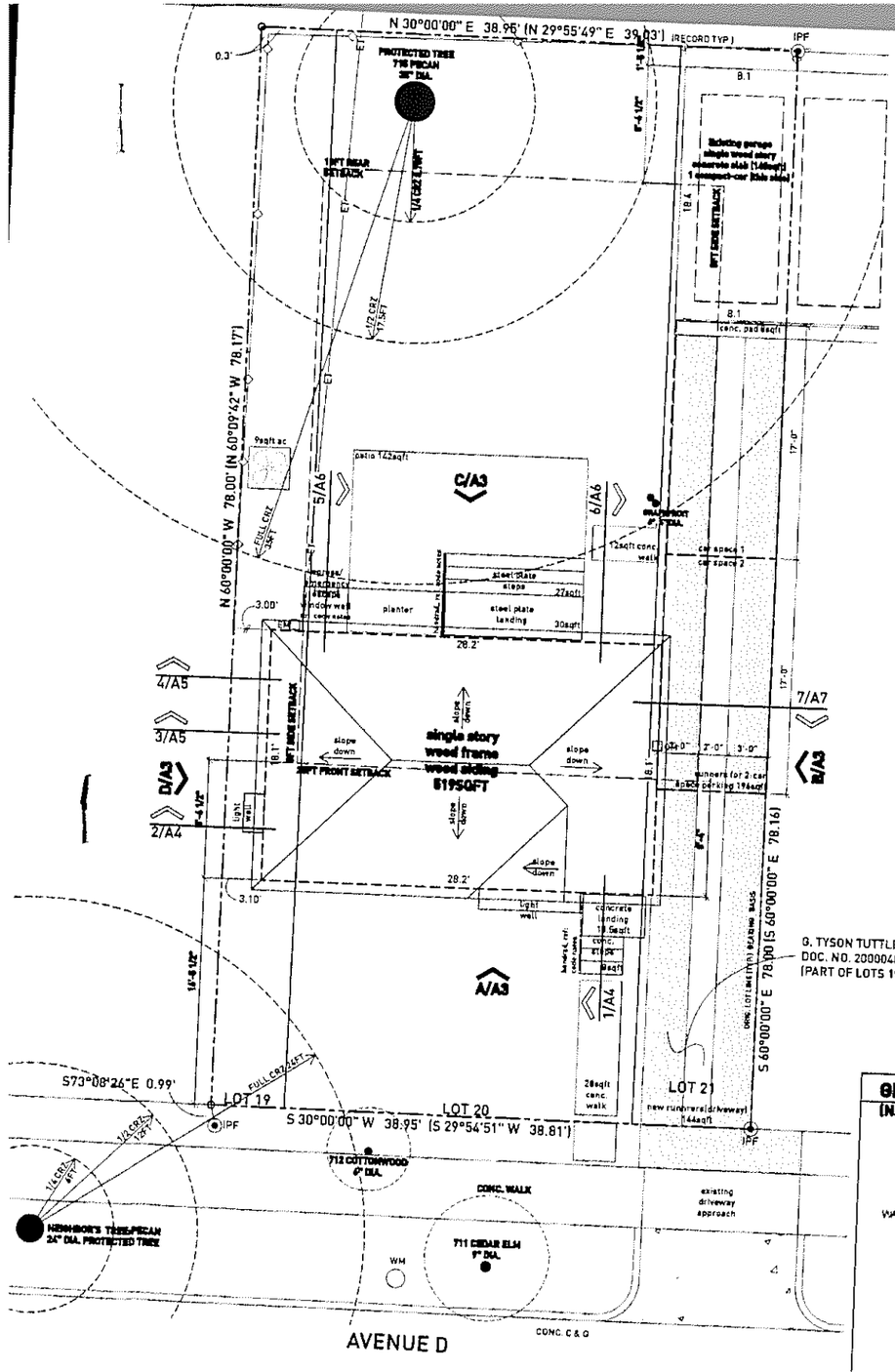
Basement exemption: A habitable portion of a building that is below grade may be exempted if the habitable portion does not extend beyond the first-story footprint and is below natural or finished grade, whichever is lower; and it is surrounded by natural grade for at least 50% of its perimeter wall area and the finished floor of the first story is not more than three feet above the average elevation at the intersections of the minimum front yard setback line and the side property lines.

Habitable Attic exemption: A habitable portion of an attic may be exempted if: 1) The roof above it is not a flat or mansard roof and has a slope of 3 to 12 or greater; 2) It is fully contained within the roof structure; 3) It has only one floor; 4) It does not extend beyond the footprint of the floors below; 5) It is the highest habitable portion of the building, or a section of the building, and adds no additional mass to the structure; and 6) Fifty percent or more of the area has a ceiling height of seven feet or less.

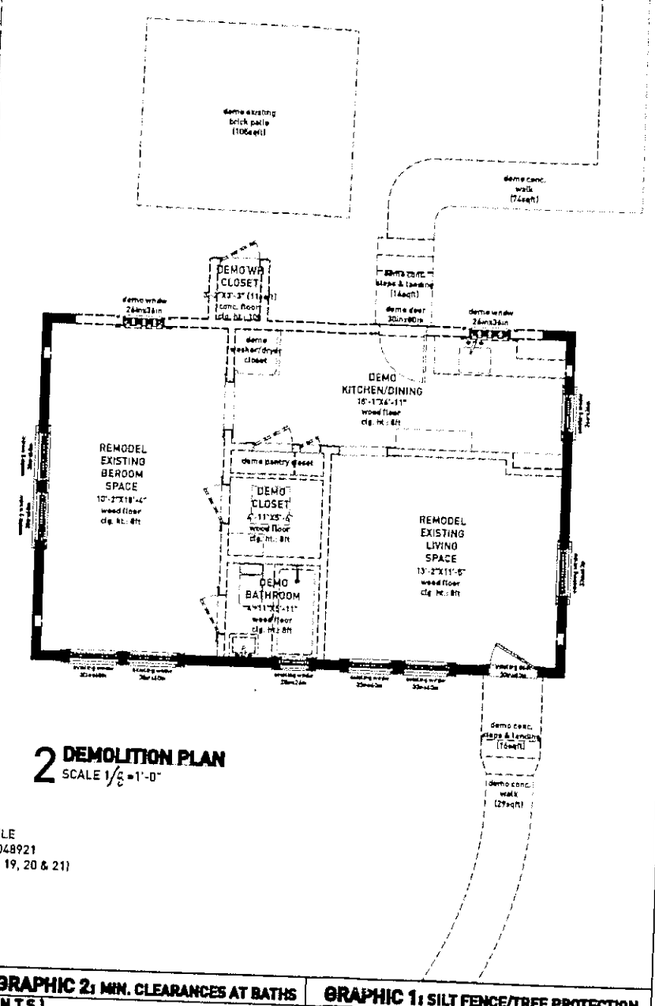


demo windows and door at back of house
demo awning over door
demo exterior w.h. closet

IMG_1523.JPG



1 SITE/ROOF PLAN
SCALE 3/32"=1'-0"



2 DEMOLITION PLAN
SCALE 1/4"=1'-0"

G. TYSON TUTTLE
DOC. NO. 2000048921
(PART OF LOTS 19, 20 & 21)

PROJECT ADDRESS & LEGAL DESCRIPTION:

4302 AVENUE D, AUSTIN, TX. 787XX. LOT 19, 20 & 21. BLOCK 13, HYDE PARK ADDITION, BOOK 1, PAGE 67. PLAT RECORDS OF TRAVIS COUNTY, TEXAS.

SYMBOLS LEGEND

- EXISTING WALL
- DEMOLITION WALL
- NEW WALL
- NEW CONC. FOUNDATION
- X/AX EXTERIOR FACADE
- X/AX BUILDING SECTION
- (X) DOOR DESIGNATION
- (X) WINDOW DESIGNATION

SITE PLAN LEGEND PER SURVEY

- PROPERTY LINE
- BUILDING LINE
- EGHT LINE
- CHAIN LINK FENCE
- WIRE FENCE
- WOOD FENCE
- OVERHEAD ELEC/TELE LINE
- WM WATER METER
- GM GAS METER
- EM ELECTRIC METER
- IPF 1/2" IRON PIPE FOUND

TREE LEGEND PER SURVEY

TAG#	TREE TYPE	TREE #	DIA.
711	CEDAR ELM	1	9IN
712	COTTONWOOD	1	6IN
714	GRAPEFRUIT CITRUS	1	6IN, 4IN
715	PECAN	1	36IN

PROJECT INFO:

SF3 ZONING; FAMILY RESIDENCE. McMANSION ORDINANCE BOUNDARY AREA.
1 STORY, PIER AND BEAM FOUNDATION, WOOD FRAME. WOOD SIDING & ASPHALT COMPOSITION SHINGLE ROOF. 1 BEDROOM HOUSE, 1.5 BATHS.
FRONT SET BACK/B.L.: 25FT, SIDES SET BACKS: 5FT, REAR SEAT BACK: 10FT.

PROJECT SCOPE:

DEMOLITION OF ALL INTERIOR NON-LOAD BEARING WALL PARTITIONS. DEMOLITION OF NON-ORIGINAL FRONT AWNING. DEMOLITION OF BACK ELEVATION WATER HEATER OUTHOUSE. RAISE STRUCTURE 1 FT IN GRADE FROM ORIGINAL F.F.E. REMODEL ALL INTERIOR GROUND FLOOR, OPEN VAULTED CEILING ! LIVING/DINING/KITCHEN AREAS. ADDITION OF WINDOWS AND DOOR IN BACK ELEVATION. BASEMENT ADDITION WITH POWDER ROOM, MASTER BEDROOM, MASTER BATHROOM AND UTILITY CLOSET. PROVIDE PARKING SPACE FOR 2 CARS WITH CONCRETE RUNNERS. REMODEL WALK TO FRONT DOOR AND WALK TO BACK DOOR.

CALCULATIONS:

LOT SIZE: 3,042SQFT — MAX. 45% — IMPERVIOUS COVERAGE ALLOWED: 1,369SQFT
MAX. FAR. 40% — BUILDING COVERAGE ALLOWED: 1,217SQFT

AREA DESCRIPTION	EXISTING	ADDITION	TOTALS	FAR APPLIED EXEMPTIONS	TOTAL FAR
1ST LEVEL AIR-CONDITION AREA	519SQFT	0SQFT	519SQFT	0	519SQFT
BASEMENT AIR-CONDITION AREA	0	461SQFT	461SQFT	461SQFT	0SQFT
AREA W/CEILINGS →15FTHT.	0	70SQFT	70SQFT	0	70SQFT
COVERED PARKING: GARAGE DETACHED (1 COMPACT CAR)	148SQFT	0	148SQFT	148SQFT	0SQFT
OTHER (COVERED OR ROOF AREA): WH CLOSET	11SQFT	-11SQFT	0	0	0SQFT
OTHER (ACCESSORY BLDGS DETACHED):	0	0	0	0	0SQFT
TOTAL GROSS AREA					589SQFT
TOTAL BUILDING AREA (INCLUDES BASEMENT AREA/EXCLUDES AREA W/CEILINGS →15FTHT.)	678SQFT	450SQFT	1,128SQFT		
TOTAL BUILDING COVER (EXCLUDES BASEMENT AREA)	678SQFT (A)	-11SQFT (WH CLOSET)	667SQFT (B)		
DRIVEWAY AREA	8SQFT	340	348SQFT		
FRONT SIDEWALKS/WALKWAYS	133SQFT	-14.5	118.5SQFT		
UNCOVERED BRICK PATIO	105SQFT	37SQFT	142SQFT		
AC PADS & AND OTHER CONC. FLATWORK	9SQFT	0	9SQFT		
OTHER:	0	0	0		
TOTAL IMPERVIOUS COVER	933SQFT(C)	351.5	1284.5SQFT(D)		
OTHERS: (POOL/SPA)	0SQFT	0	0		

BUILDING COVERAGE INFORMATION
EXISTING BUILDING COVERAGE: 678SQFT ..... 22.2% OF LOT SIZE
FINAL BUILDING COVERAGE: 667SQFT ..... 21.9% OF LOT SIZE

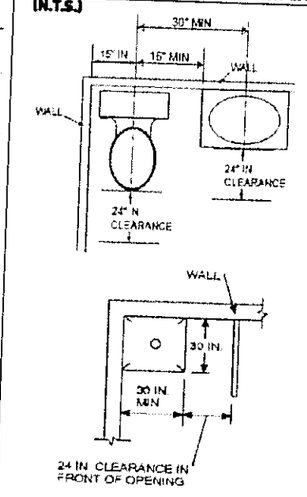
IMPERVIOUS COVERAGE INFORMATION
EXISTING TOTAL IMPERVIOUS COVERAGE: 933SQFT ..... 30.6% OF LOT SIZE
FINAL TOTAL IMPERVIOUS COVERAGE: 1284.5SQFT ..... 42.2% OF LOT SIZE

SUBCHAPTER F INFORMATION
TOTAL FAR: (589QFT/3042SQFT)X100 ..... 19.3% OF LOT SIZE

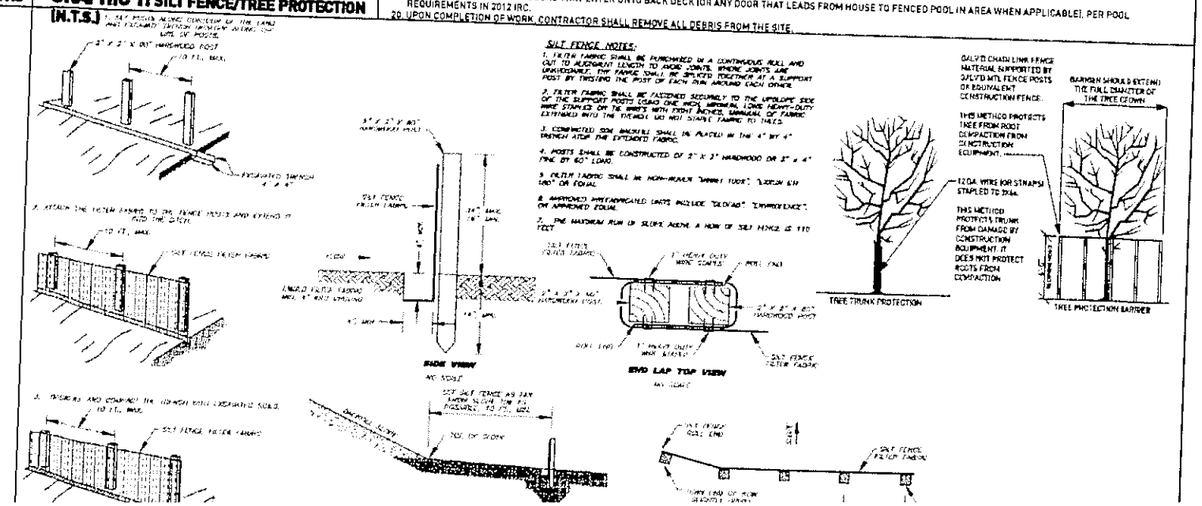
GENERAL NOTES

1. DESIGN & CONSTRUCTION SHALL COMPLY WITH IRC 2012, 2012 IECC, 2011 NATIONAL ELECTRICAL CODE, 2012 INTERNATIONAL PLUMBING CODE, 2012 INTERNATIONAL MECHANICAL CODE, 2012 INTERNATIONAL FIRE CODE, 2012 INTERNATIONAL FUEL GAS CODE AND THE CITY OF AUSTIN CURRENT BUILDING CODE & LOCAL AMENDMENTS. PERMITS AND INSPECTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
2. INSTALL ALL MECHANICAL, ELECTRICAL & PLUMBING EQUIPMENT ACCORDING REQUIREMENTS OF LOCAL CURRENT ENERGY CODE. 2012IECC.
3. EVERY EFFORT HAS BEEN MADE BY THE ARCHITECT TO ENSURE LOCAL CODE COMPLIANCE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE WORK CONFORMS WITH ALL APPLICABLE CODES, AND IF DISCREPANCIES ARE NOTED, TO NOTIFY THE DESIGNER PRIOR TO WORK.
4. REFER TO STRUCTURAL DRAWINGS FOR SPECIAL INSTRUCTIONS TO ENSURE INTEGRITY OF EXISTING STRUCTURE DURING EXCAVATION. PROTECTION OF THE EXISTING STRUCTURE IS RESPONSIBILITY OF THE GENERAL CONTRACTOR DURING EXCAVATION, DURING ERECTION OF NEW STRUCTURE, AND THROUGHOUT CONSTRUCTION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THOROUGHLY ACQUAINTING HIMSELF WITH THE WORKING DRAWINGS, INCLUDING ALL GENERAL NOTES, DIMENSIONS, M.E.P. NOTES, AND ALL OTHER NOTES PERTAINING TO ANY PARTICULAR DRAWING.
6. THE CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE EXISTING WORKING CONDITIONS.
7. CONTRACTOR SHALL FIELD-VERIFY EXISTING CONDITIONS AND SHALL NOTIFY DESIGNER OF ANY DISCREPANCIES.
8. VERIFY ALL DIMENSIONS, EQUIPMENT, FIXTURES, FITTINGS AND OTHERS BEFORE ORDERING MATERIAL AND PROCEEDING WITH THE WORK.
9. NOTIFY THE ARCHITECT OF ANY VARIATION IN NOTED DIMENSIONS IF SUCH VARIATION IS REQUIRED FOR EQUIPMENT, FIXTURES, OR FITTINGS TO FUNCTION AS INTENDED.
10. PROVIDE ALL ELECTRICAL & PLUMBING CONNECTIONS AS REQUIRED PER CODE AND MANUFACTURER FOR ALL LIGHTING/ PLUMBING FIXTURES,APPLIANCES, & OTHER EQUIPMENT.
11. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, OBTAIN CLARIFICATION FROM ARCHITECT BEFORE CONTINUING THE WORK.
12. FLOOR PLAN DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.
13. MINIMUM CLEARANCE DIMENSIONS INDICATED SHALL BE MAINTAINED.
14. NEW EXTERIOR WALLS TO BE WOOD STUD GRADE 2 X 4 NO. 2 SYP AT 16" ON CENTER WITH 1/2" PLYWOOD SHEATHING ON THE OUTSIDE FACE AND 1/2" GYPSUM BOARD SHEATHING ON THE INSIDE FACE, UNLESS NOTED OTHERWISE.
15. NEW INTERIOR WALLS SHALL BE WOOD STUD GRADE 2 X 4 NO. 2 SYP AT 16" ON CENTER WITH 1/2" GYPSUM BOARD SHEATHING ON BOTH SIDES,UNLESS NOTED OTHERWISE.
16. PROVIDE R13 MIN BATTS INSULATION IN ALL EXTERIOR WALLS. PROVIDE R38 BATTS INSULATION IN ROOF
17. PROVIDE BLOCKING AS REQUIRED FOR PROPER SUPPORT OF WALL AND CEILING MOUNTED EQUIPMENT.
18. CONCEAL ALL PIPING AND DUCTWORK IN WALLS AND CEILINGS.
19. PROVIDE ALARM ALL PATIO DOORS THAT ENTER ONTO BACK DECK (OR ANY DOOR THAT LEADS FROM HOUSE TO FENCED POOL IN AREA WHEN APPLICABLE), PER POOL REQUIREMENTS IN 2012 IRC.
20. UPON COMPLETION OF WORK, CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE SITE.

GRAPHIC 2: MIN. CLEARANCES AT BATHS (N.T.S.)



GRAPHIC 1: SILT FENCE/TREE PROTECTION (N.T.S.)



AE APPROVED
AUG 08 2017
220-129
CDC

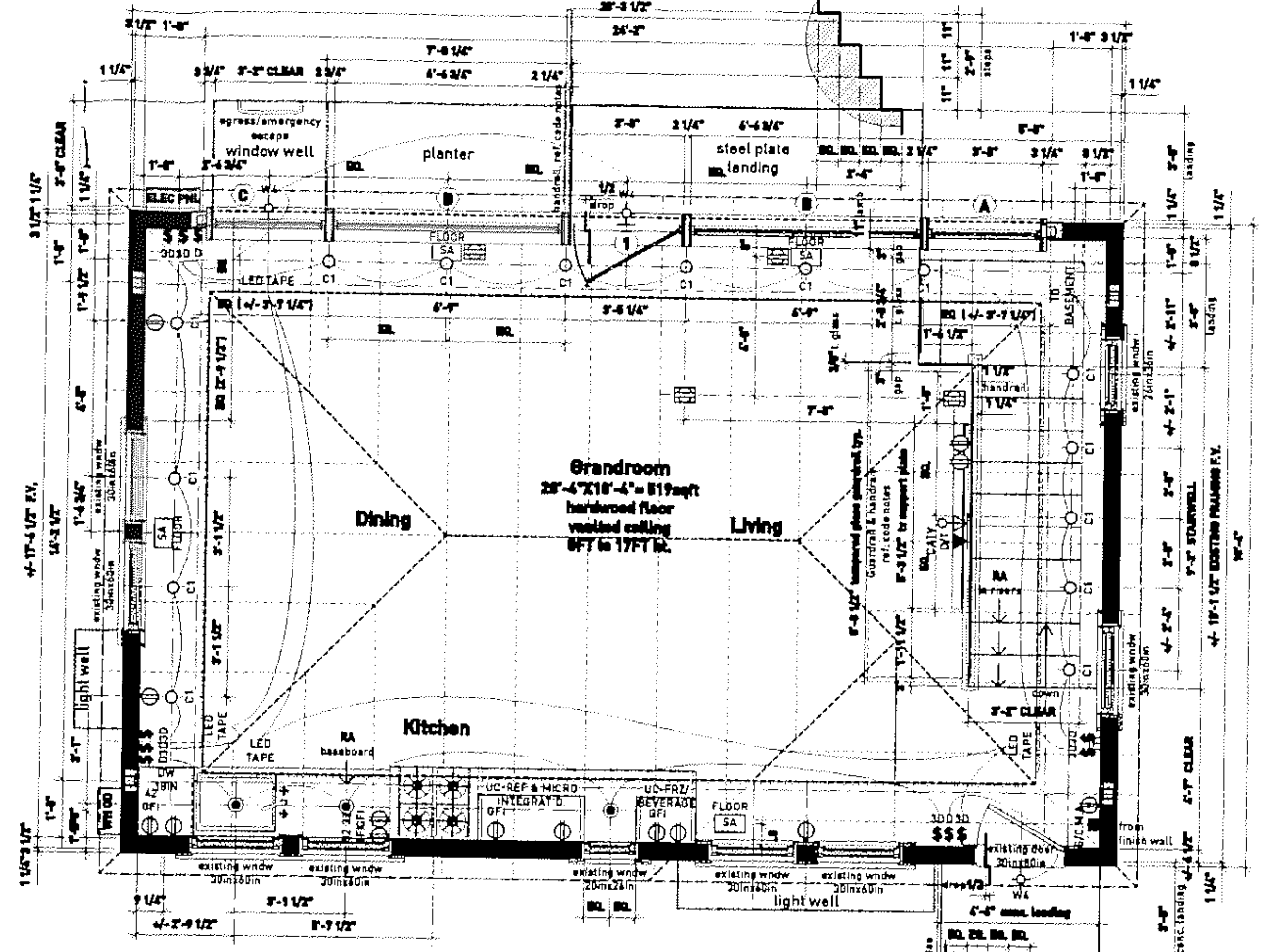
TUTTLE Residence
REMODEL/ADDITION
4302 Avenue D , Austin TX.

WoodEye
Construction and Design
1106 W. Keene Lane
Austin, Texas 78754

07/30/17

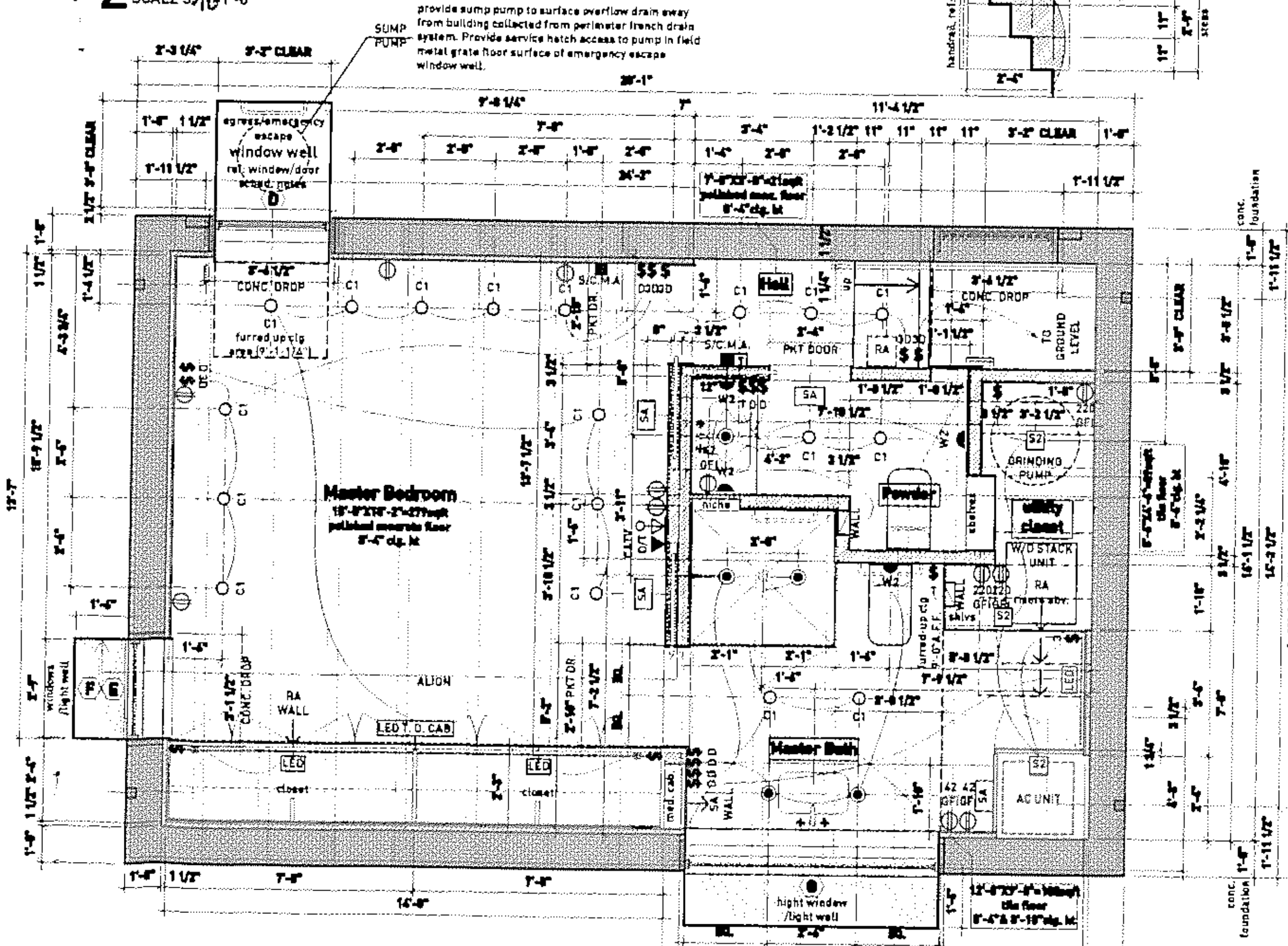
RECORD
07.30.2017

A1
SITE/ROOF PLAN
DEMOLITION PLAN



2 REMODELED & MEP GROUND FLOOR PLAN

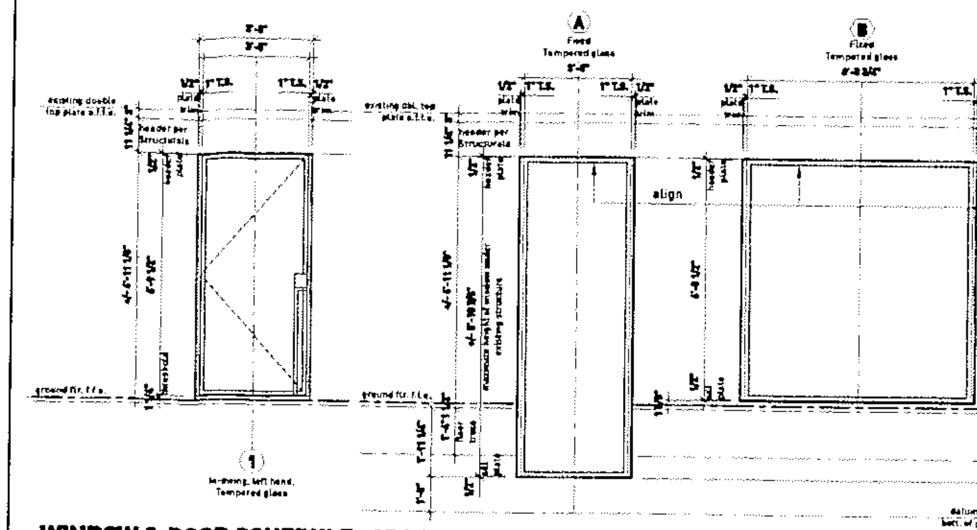
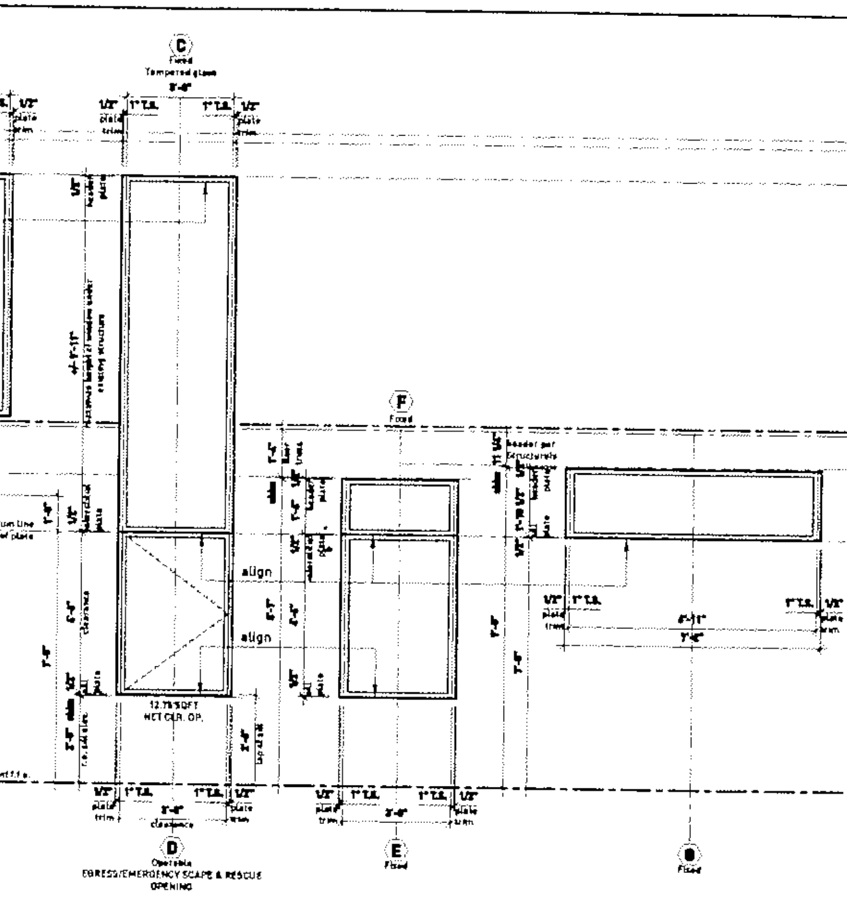
SCALE 3/16"=1'-0"



3 NEW BASEMENT PLAN & MEP BASEMENT PLAN

SCALE 3/16"=1'-0"

3/16" = 1'

WINDOW & DOOR SCHEDULE- GRAPHIC REPRESENTATION

SCALE 3/8"=1'-0"

BUILDING CODE NOTES:

STAIRS, HANDRAIL & GUARDRAILS SPECIFICATIONS:
STAIRWAY WIDTH, HEADROOM, TREADS, RISERS, NOSING, LANDING AND HANDRAIL SHALL BE IN COMPLIANCE WITH 2012 IRC SEC. R311.7.
HANDRAIL SHALL BE PROVIDED ON AT LEAST ONE SIDE OF EACH CONTINUOUS RUN OF TREADS OR FLIGHT WITH FOUR OR MORE RISERS, PER 2012 IRC SEC. R311.7.8.
HANDRAIL HEIGHT MEASURED FROM EDGE TO NOSING SHALL NOT BE LESS THAT 34IN OR MORE THAN 38IN HT. IN COMPLIANCE WITH 2012 IRC SEC. R311.7.8.1.
GUARDRAILS HEIGHT MEASURED FROM FINISH FLOOR SHALL BE NOT LESS THAN 36IN, PER 2012 IRC SEC. R312.1.2.
GUARDRAIL OPENINGS SHALL BE LESS THAN A 4" DIA. SPHERE, PER IRC 2012 SEC. R312.1.2.

GLAZING IN HAZARDOUS LOCATION SPECIFICATIONS:
FOR GLAZING IN GUARDRAIL, PROVIDE TEMPERED GLASS IN GUARD IN COMPLIANCE WITH 2012 IRC SEC. R308.4.4
FOR SHOWER ENCLOSURE, PROVIDE TEMPERED GLASS FOR SHOWER ENCLOSURE, GLAZING AND WET SURFACES IN COMPLIANCE WITH 2012 IRC SEC. R308.4.5

ACCESSIBILITY SPECIFICATIONS:
PROVIDE ACCESSIBILITY REQUIREMENTS, INCLUDING BUT NOT LIMITED TO; DOOR CLEARANCE, REINFORCEMENT BLOCKING FOR FUTURE GRAB BARS IN ALL REQUIRED AREAS, IN COMPLIANCE WITH LOCAL AMENDMENTS & IRC 2012 SEC. R320

MEANS OF EGRESS, ADDITIONAL GLAZING NOTE AND EMERGENCY ESCAPE AND RESCUE OPENING CODE NOTES FOUND UNDER WINDOW & DOOR NOTES.

MEP LEGEND

- CIRCUIT WIRING
- DUPLEX OUTLET, INSTALL AT 18" A.F.F. PER CODE.
- DUPLEX OUTLET, INSTALL HORIZONTAL AT 3" A.F.F. OR U.N.O. NUMBER INDICATING HT. IN INCHES A.F.F.
- DUPLEX OUTLET WITH GROUND FAULT INTERRUPTER. NUMBER INDICATING HT. IN INCHES A.F.F.
- SINGLE POLE, SINGLE THROW, INSTALL AT 34" A.F.F.
- SINGLE POLE, SINGLE THROW, DIMMABLE, INSTALL AT 34" A.F.F.
- SINGLE POLE, THREE WAY SWITCH, DIMMABLE, INSTALL AT 34" A.F.F.
- SINGLE POLE, SINGLE THROW, ON TIMER INSTALL AT 36" A.F.F.
- SINGLE POLE, SINGLE THROW, AT DOOR HINGE INSTALL AT 34" A.F.F.
- COMBINATION CABLE/DATA/TELEPHONE OUTLET, MOUNT HORIZONTAL WITHIN BASEBD.
- 4IN RECESSED DOWN LIGHT W/LENSE; WET LOCATION
- 4IN RECESSED DOWN LIGHT WITH ARTICULATED GIMBAL
- SURFACE MOUNT LIGHT
- SURFACE MOUNT LIGHT; WET LOCATION
- LED TAPE LIGHTING W/DIFUSER
- DECORATIVE WALL SCONCE; WET LOCATION
- DECORATIVE WALL SCONCE; EXTERIOR WET LOCATION TO LIGHT DOWN ONLY
- ON-DEMAND ELECTRIC WATER HEATER
- SUPPLY AIR DIFFUSER IN CEILING OR WALL
- RETURN AIR IN CEILING OR WALL
- EXHAUST FAN IN CEILING OR WALL AS SPECIFY IN DRAWING
- SMOKE DETECTOR; "Smoke Detector System- hard wired, interconnected, battery backup, at each sleeping room and vicinity" per IRC 2012 Sec R314.
  CARBON MONOXIDE ALARM; located at immediate common areas outside each sleeping area in dwelling units with fuel-burning appliances, fireplaces, or forced air furnaces and units with attached garages. Hard wired with battery backup except at existing bldg. where solely battery powered is allowed. per IRC 2012 Sec R315. Combination alarms carbon monoxide/smoke alarms shall be acceptable per code compliance IRC 2012 Sec R315.1.5

MEP NOTES

1. INSTALL ALL PLUMBING FIXTURES & FITTINGS, APPLIANCES, LIGHTING & ELECTRICAL FIXTURES AS PER MANUFACTURER'S RECOMMENDATIONS.
2. ALL INSTALLATIONS SHALL COMPLY WITH CURRENT NATIONAL ELECTRICAL CODE, UNIFORM PLUMBING CODE, UNIFORM MECHANICAL CODE, APPLICABLE LOCAL ORDINANCES, CODES, & LAWS. PERMITS AND INSPECTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
3. INSTALL MECHANICAL, ELECTRICAL, & PLUMBING EQUIPMENT WITHIN REQUIREMENTS OF LOCAL ENERGY CODE.
4. PROVIDE ALL ELECTRICAL & PLUMBING CONNECTIONS AS REQUIRED FOR ALL LIGHTING/ PLUMBING FIXTURES, APPLIANCES, & OTHER EQUIPMENT.
5. MECHANICAL, ELECTRICAL, & PLUMBING PLAN (MEP PLAN) CONSTITUTE A GUIDE FOR GENERAL LOCATION OF OUTLETS, SWITCHES, & CONNECTIONS ONLY, UNLESS SPECIFICALLY DIMENSIONED. COORDINATE WITH ARCHITECT AND OWNER IN FIELD FOR FINAL LOCATIONS.
6. NEW ADDITION AND ALL EXTERIOR HOSE BIBBS WATER TO BE SUPPLIED BY CITY WATER.
7. ELECTRICAL CODE REQUIREMENTS, CIRCUITING, ROUTING, SIZING OF CONDUCTORS, PANELS, BREAKERS, SERVICE, & COORDINATION WITH OTHER TRADES ARE THE RESPONSIBILITIES OF THE MASTER ELECTRICAL CONTRACTOR.
8. MECHANICAL EQUIPMENT SIZING, REGISTER AND DUCT SIZING, HEAT LOAD CALCULATIONS, ROUTING, CODE COMPLIANCE, AND COORDINATION WITH OTHER TRADES ARE THE RESPONSIBILITIES OF THE MECHANICAL CONTRACTOR. DUCT AND REGISTER LOCATIONS ARE INDICATED ONLY AS A GUIDE. INDICATE WHERE STRUCTURAL SPACE FOR DUCTS SHOULD BE ANTICIPATED AND/OR HAS BEEN ALLOCATED IN THE DRAWINGS.
9. USE INSULATED FLEX DUCTS, TYP.
10. PROVIDE EMERGENCY HEAT SETTINGS FOR EXTREME COLD DAYS THROUGH HEAT STRIP INSIDE DUCTS. COORDINATE WITH ARCHITECT AND OWNER.
11. CEILING OUTLETS FOR ELECTRICAL AND MECHANICAL DEVICES SHALL BE ARRANGED IN A LOGICAL AND NEAT-APPEARING CONFIGURATION. COORD. W/ ARCHITECT & OWNER.
12. INSTALL REGISTERS AND LIGHT FIXTURES O.C. TYP.
13. ALL LIGHT SWITCHES TO BE INSTALLED AT CONSISTENT HEIGHT ABOVE FLOOR LEVEL AS INDICATED IN MEP LEGEND.
14. ALL OUTLETS SHALL BE GROUNDED.
15. CONDUCT ROUGH ELEC. BOX WALK THRU PRIOR TO RUNNING WIRES.
16. FINISH FOR OUTLET COVERS, SWITCH PLATES, & ALL OTHER RECEPTACLES TO BE SELECTED IN FIELD. COORDINATE WITH ARCHITECT AND OWNER.

WINDOW SCHEDULE CHART

WINDOW KEY	NOMINAL DIMENSION WIDTH	NOMINAL DIMENSION HEIGHT	OPERATION	SILL TOP	HDR. BOT.	ENERGY INFO U-FACTOR	ENERGY INFO SHGC	REMARKS
A	8'-0"	+/- 9'-11"	FIXED	SEE GRAPHIC	+/- 6'-11 1/8" A.F.F.	0.34	0.18	RAM WINDOW; ANODIZED ALUMINUM THERMALLY BROKEN FRAME, 1" INSULATED, LO E CARDINAL 366, ARGON FILLED, DOUBLE PANE GLASS, TEMPERED GLASS, 2-3/8" JAMB. SEE ELEVATION FOR DETAILS.
B	4'-8 3/4"	6'-8 1/2"	FIXED	1 5/8" A.F.F.	+/- 6'-11 1/8" A.F.F.	0.34	0.18	RAM WINDOW; ANODIZED ALUMINUM THERMALLY BROKEN FRAME, 1" INSULATED, LO E CARDINAL 366, ARGON FILLED, DOUBLE PANE GLASS, TEMPERED GLASS, 2-3/8" JAMB. SEE ELEVATION FOR DETAILS.
C	3'-0"	8'-11"	FIXED	SEE GRAPHIC	+/- 6'-11 1/8" A.F.F.	0.34	0.18	RAM WINDOW; ANODIZED ALUMINUM THERMALLY BROKEN FRAME, 1" INSULATED, LO E CARDINAL 366, ARGON FILLED, DOUBLE PANE GLASS, TEMPERED GLASS, 2-3/8" JAMB. SEE ELEVATION FOR DETAILS.
D	3'-0"	4'-6"	CASEMENT LEFT HAND	2'-6" A.F.F.	7'-0" A.F.F.	0.34	0.18	RAM WINDOW; ANODIZED ALUMINUM THERMALLY BROKEN FRAME, 1" INSULATED, LO E CARDINAL 366, ARGON FILLED, DOUBLE PANE GLASS, TEMPERED GLASS, 2-3/8" JAMB. - PER CODE COMPLIANCE IRC 2012 SEC R310 EMERGENCY SCAPE AND RESCUE OPENINGS. NET CLEAR OPENING:12.75SQFT, SILL HEIGHT: 30IN A.F.F.E., CLEAR WIDTH: 34IN. SEE ELEVATION FOR DETAILS.
E	3'-0"	4'-6"	FIXED	2'-6" A.F.F.	7'-0" A.F.F.	0.34	0.18	RAM WINDOW; ANODIZED ALUMINUM THERMALLY BROKEN FRAME, 1" INSULATED, LO E CARDINAL 366, ARGON FILLED, DOUBLE PANE GLASS, TRUE DEVIDED LITE, 2-3/8" JAMB. SEE DETAIL.
F	3'-0"	1'-6"	FIXED	7'-0 1/2" A.F.F.	8'-7 1/4" A.F.F.	0.34	0.18	RAM WINDOW; ANODIZED ALUMINUM THERMALLY BROKEN FRAME, 1" INSULATED, LO E CARDINAL 366, ARGON FILLED, DOUBLE PANE GLASS, TRUE DEVIDED LITE, 2-3/8" JAMB. SEE DETAIL.
G	4'-11"	1'-10 1/2"	FIXED	7'-0 1/2" A.F.F.	7'-0" A.F.F.	0.34	0.18	RAM WINDOW; ANODIZED ALUMINUM THERMALLY BROKEN FRAME, 1" INSULATED, LO E CARDINAL 366, ARGON FILLED, DOUBLE PANE GLASS, TRUE DEVIDED LITE, 2-3/8" JAMB. SEE DETAIL.

DOOR SCHEDULE CHART

DOOR NUMBER	NOMINAL DIMENSION WIDTH	NOMINAL DIMENSION HEIGHT	OPERATION	HEADER BOTTOM	THICK-NESS	ENERGY INFO U-FACTOR	ENERGY INFO SHGC	REMARKS
1	3'-0"	6'-9 1/2"	IN-SWING LEFT HAND	+/- 6'-11 1/8" A.F.F.	PER MFR.	0.34	0.18	DON YOUNG DOOR, ANODIZED ALUMINUM THERMALLY BROKEN FRAME, 1" INSULATED, LO E CARDINAL 366, ARGON FILLED, DOUBLE PANE, TEMPERED GLASS. SEE ELEVATION FOR DETAILS.

NOTES:

1. ALL WINDOWS, DOORS AND SKYLIGHT SHALL COMPLY WITH CURRENT CITY OF AUSTIN BUILDING CODE LOCAL AMENDMENTS & 2012 IRC AND CURRENT ENERGY CODE REQUIREMENTS.
2. PROVIDE TEMPERED GLAZING AS REQUIRED WHERE LOCATION SHALL CONSIDERED HAZARDOUS PER 2012 IRC SEC. R308.4.2 & R308.4.3 & R308.4.5 FOR SKYLIGHT GAZING. DESIGNATED UNITS DESIGNATED PER CHART ABOVE AND GRAPHIC REPRESENTATIONS TO THE SIDE.
3. EMERGENCY ESCAPE AND RESCUE OPENINGS REQUIRED & DESIGNATED SHALL COMPLY WITH CURRENT CITY OF AUSTIN BUILDING CODE LOCAL AMENDMENTS & IRC 2012 SEC R311.2, R311.3 & LOCAL AMENDMENT. DESIGNATED UNITS PER CHART ABOVE AND GRAPHIC REPRESENTATIONS TO THE SIDE.
4. REQUIRED AND DESIGNATED MEANS EGRESS UNITS SHALL COMPLY WITH CURRENT CITY OF AUSTIN BUILDING CODE LOCAL AMENDMENTS & 2012 IRC SEC R311.2, R311.3, DESIGNATED UNITS PER CHART ABOVE AND GRAPHIC REPRESENTATIONS TO THE SIDE.

SECTION R308 GLAZING
R308.4.2 Glazing adjacent doors.
Glazing in an individual fixed or operable panel adjacent to a door where the nearest vertical edge of the glazing is within a 24-inch (610 mm) arc of either vertical edge of the door in a closed position and where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) above the floor or walking surface shall be considered a hazardous location.
R308.4.3 Glazing in windows.
Glazing in an individual fixed or operable panel that meets all of the following conditions shall be considered a hazardous location:
1. The exposed area of an individual pane is larger than 9 square feet;
2. The bottom edge of the glazing is less than 18 inches above the floor;
3. The top edge of the glazing is more than 36 inches above the floor; and
4. One or more walking surfaces are within 36 inches, measured horizontally and in a straight line, of the glazing.

SECTION R310 EMERGENCY ESCAPE AND RESCUE OPENINGS
R310.1 Emergency escape and rescue required.
Basements, habitable attics and every sleeping room shall have at least one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room. Where emergency escape and rescue openings are provided they shall have a sill height of not more than 44 inches (1118 mm) measured from the finished floor to the bottom of the clear opening. Where a door opening having a threshold below the adjacent ground elevation serves as an emergency escape and rescue opening and is provided with a bulkhead enclosure, the bulkhead enclosure shall comply with Section R310.3. The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside. Emergency escape and rescue openings with a finished sill height below the adjacent ground elevation shall be provided with a window well in accordance with Section R310.2. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way.
Exception: Basements used only to house mechanical equipment and not exceeding total floor area of 200 square feet.
R310.1.1 Minimum opening area.
All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet.
Exception: Grade floor openings shall have a minimum net clear opening of 5 square feet.
R310.1.2 Minimum opening height.
The minimum net clear opening height shall be 24 inches.
R310.1.3 Minimum opening width.
The minimum net clear opening width shall be 20 inches.
R310.1.4 Operational constraints.
Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys, tools or special knowledge.

R310.2 Window wells.
The minimum horizontal area of the window well shall be 9SQFT with a min. horizontal projection and width of 36IN. The area of the window well shall allow the emergency escape and rescue opening to be fully opened.
Exception: The ladder or steps required by Section R310.2.1 shall be permitted to encroach a maximum of 6IN into the required dimension of the window well.
R310.2.1 Ladder and steps
Window wells with a vertical depth greater than 44IN shall be equipped with a permanently affixed ladder usable with the window in the fully open position. Ladders required in this section shall not be required to comply with Section R311.7 and R311.8. Ladders shall have an inside width of at least 12IN, shall project at least 3IN from the wall and shall be spaced not more than 18IN on center vertically for the full height of the window well.
R310.2.2 Drainage.
Window wells shall be designed with proper drainage by connection to the building's foundation drainage system required by Section R405.1 or by an approved alternative method.
Exception: A drainage system for a window well is not required when the foundation is on well-drained soil or sand gravel mixture soil according to the United Soil Classification System, Group I Soils, as detailed in Table 405.1.

SECTION R311 MEANS OF EGRESS
R311.2 Egress door.
At least one egress door shall be provided for each dwelling unit. The egress door shall be side-hinged, and shall provide a minimum clear width of 32IN when measured between the face of the door and the stop, with the door open 90 degrees. The minimum clear height of the door opening shall not be less than 78IN in height measured from the top of the threshold to the bottom of the stop. Other doors shall not be required to comply with these minimum dimensions. Egress doors shall be readily openable from inside the dwelling without the use of a key or special knowledge or effort.
R311.3 Floors and landings at exterior doors.
There shall be a landing or floor on each side of each exterior door. The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36IN measured in the direction of travel. Exterior landings shall be permitted to have a slope not to exceed 1/4 unit vertical in 12 units horizontal (2 percent).

TUTTLE Residence
REMODEL/ADDITION
4302 Avenue D, Austin TX.

WoodEye
Construction and Design
1104 W. Koenig Lane
Austin, Texas 78756

REGISTERED ARCHITECT · MEGAN WEINZIERL · STATE OF TEXAS

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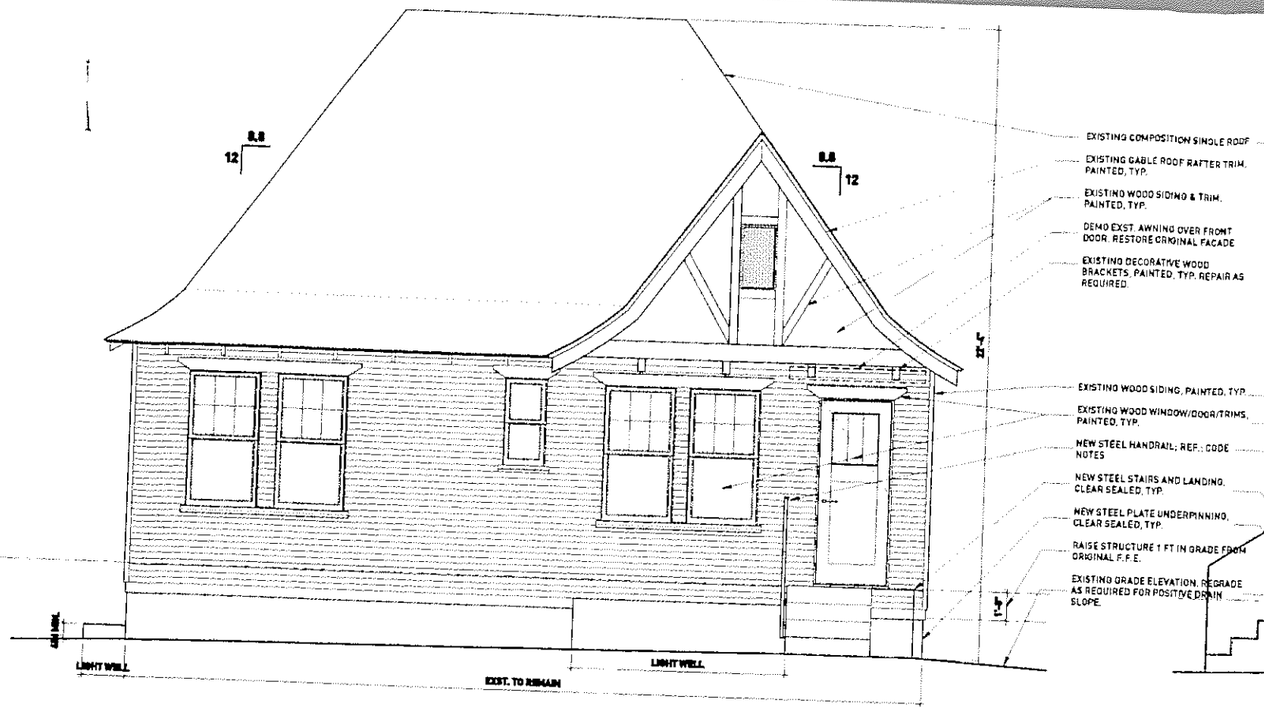
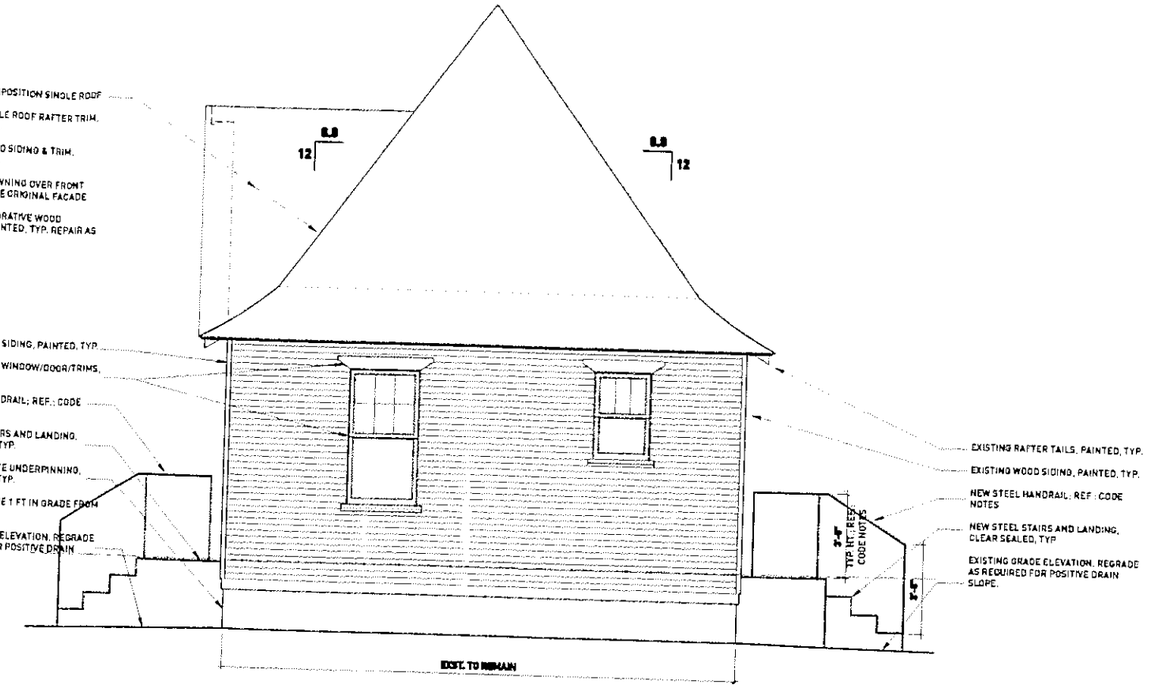
A2

REMODELED GROUND FLOOR PLAN
GROUND FLOOR MEP PLAN
NEW BASEMENT PLAN
BASMENT MEP PLAN
WINDOW & DOOR SCHED.
MEP NOTES & LEGEND



A EXTERIOR FACADE
SCALE 3/16 =1'-0"



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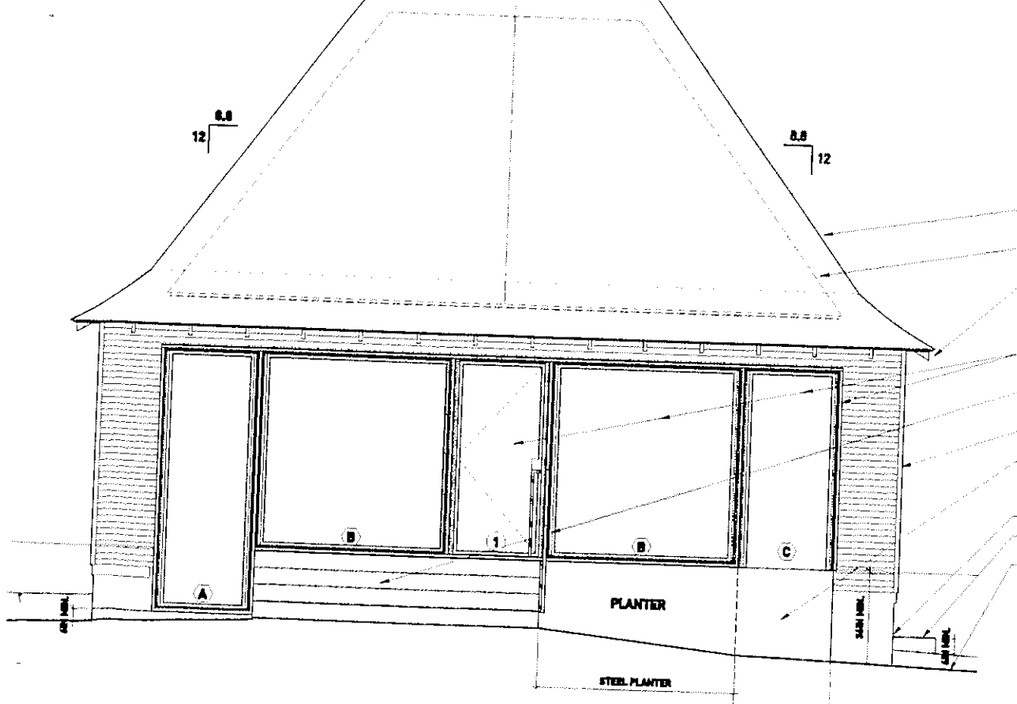
SCALE 3/16 =1'-0"



C EXTERIOR FACADE
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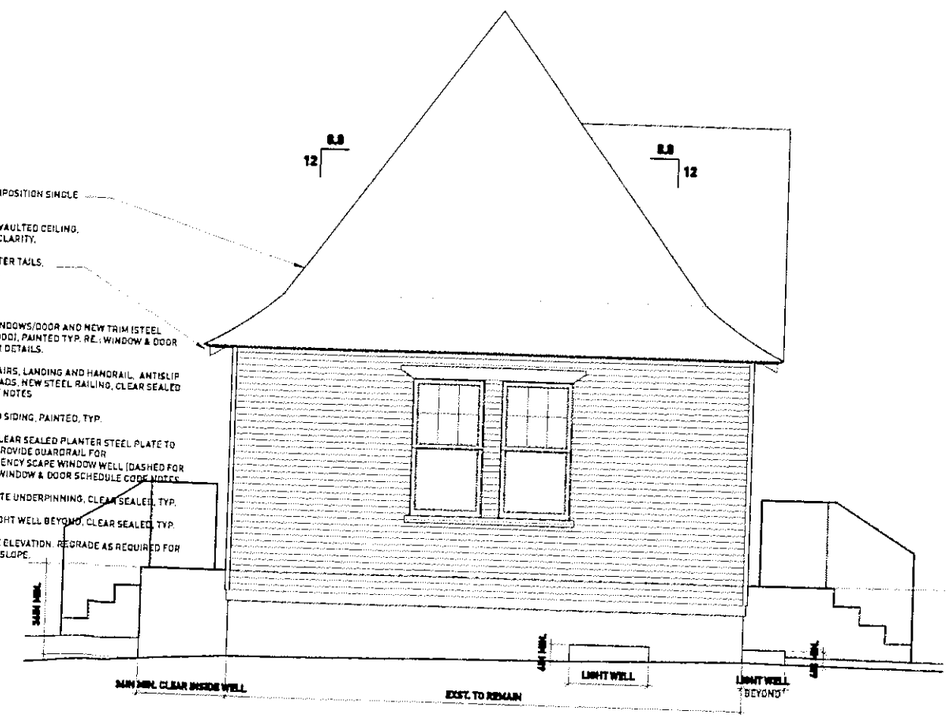

D EXTERIOR FACADE

TUTTLE Residence
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REGISTERED ARCHITECT
WOOD EYE
STATE OF TEXAS

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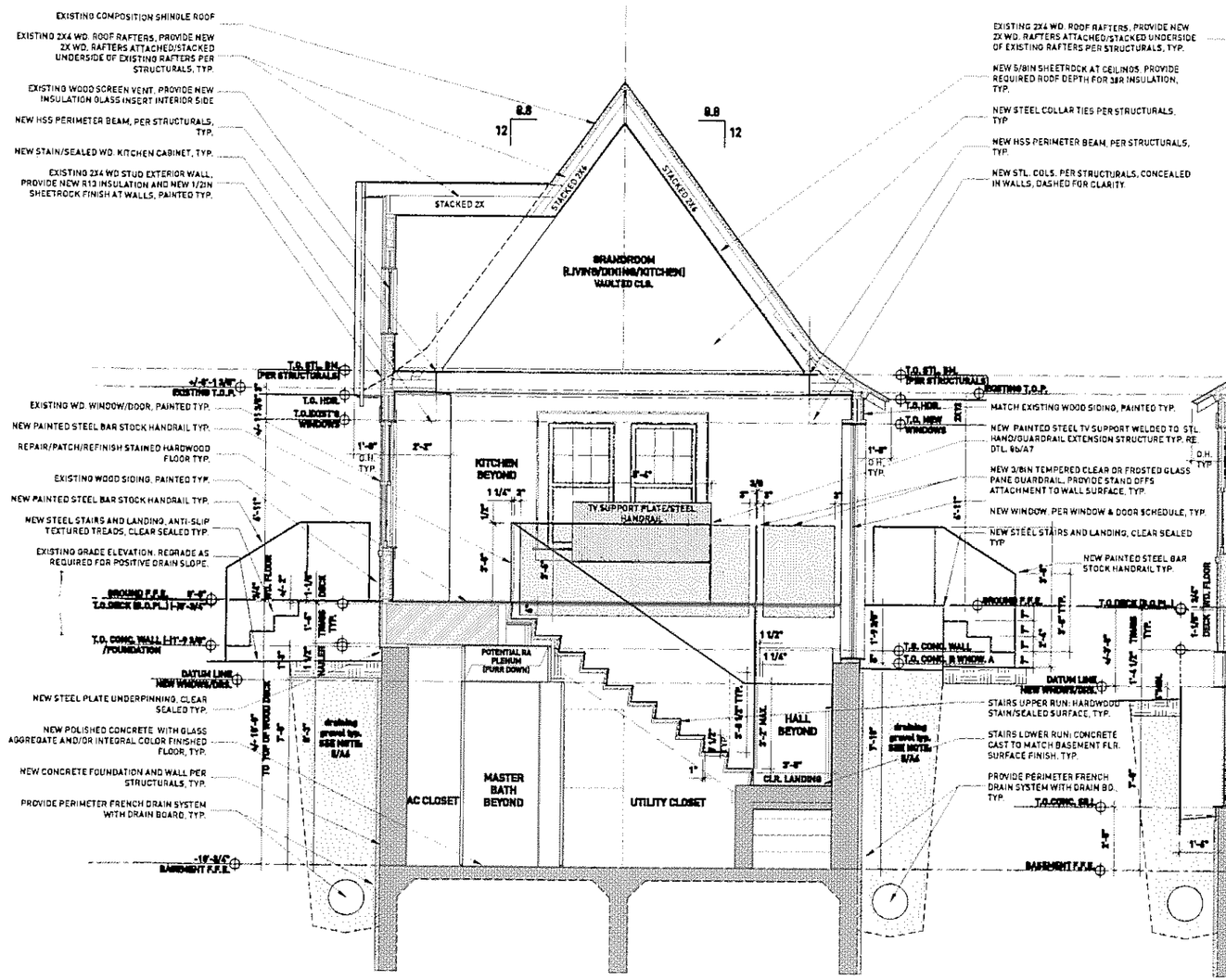
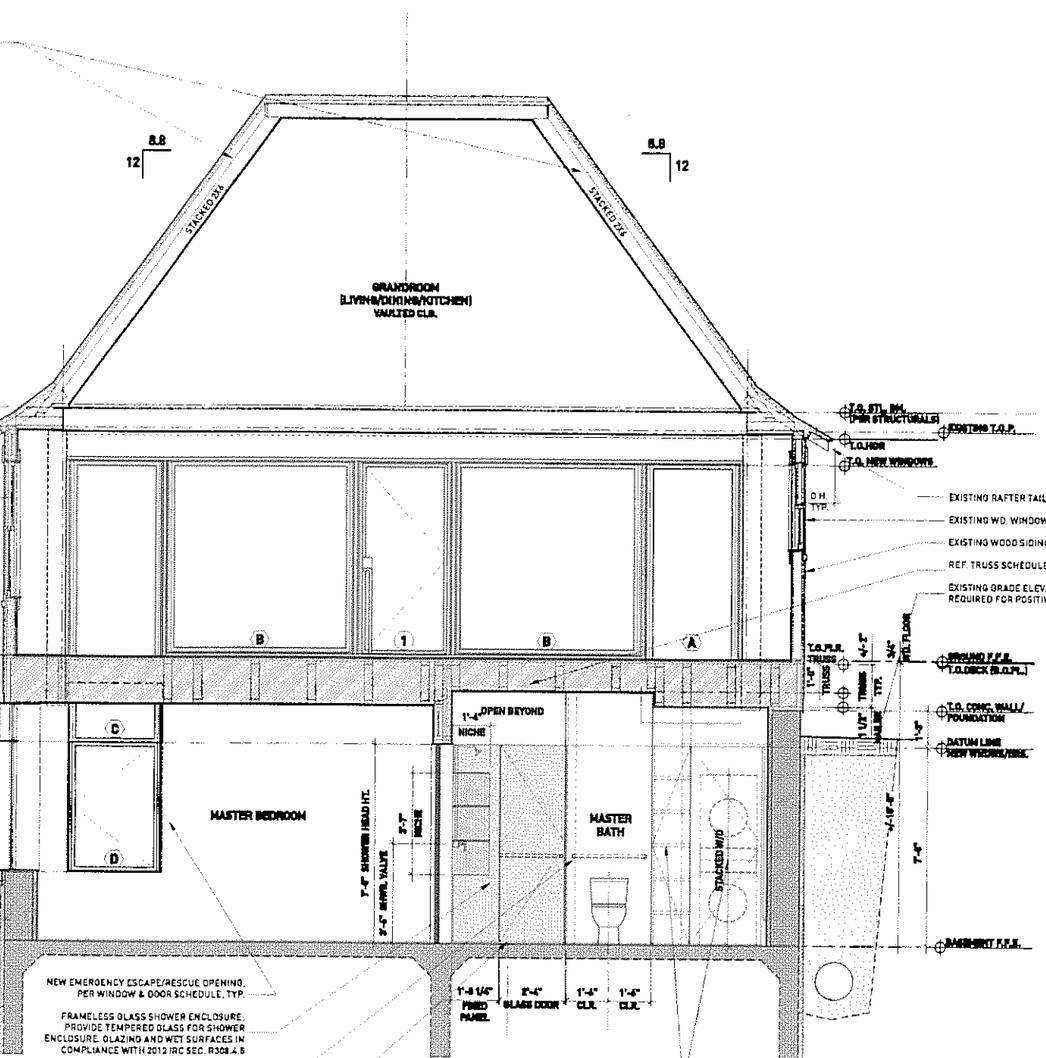
A3
EXTERIOR FACADES



1 **BUILDING SECTION**
SCALE 3/16" = 1'-0"



2 **BUILDING SECTION**
SCALE 3/16" = 1'-0"

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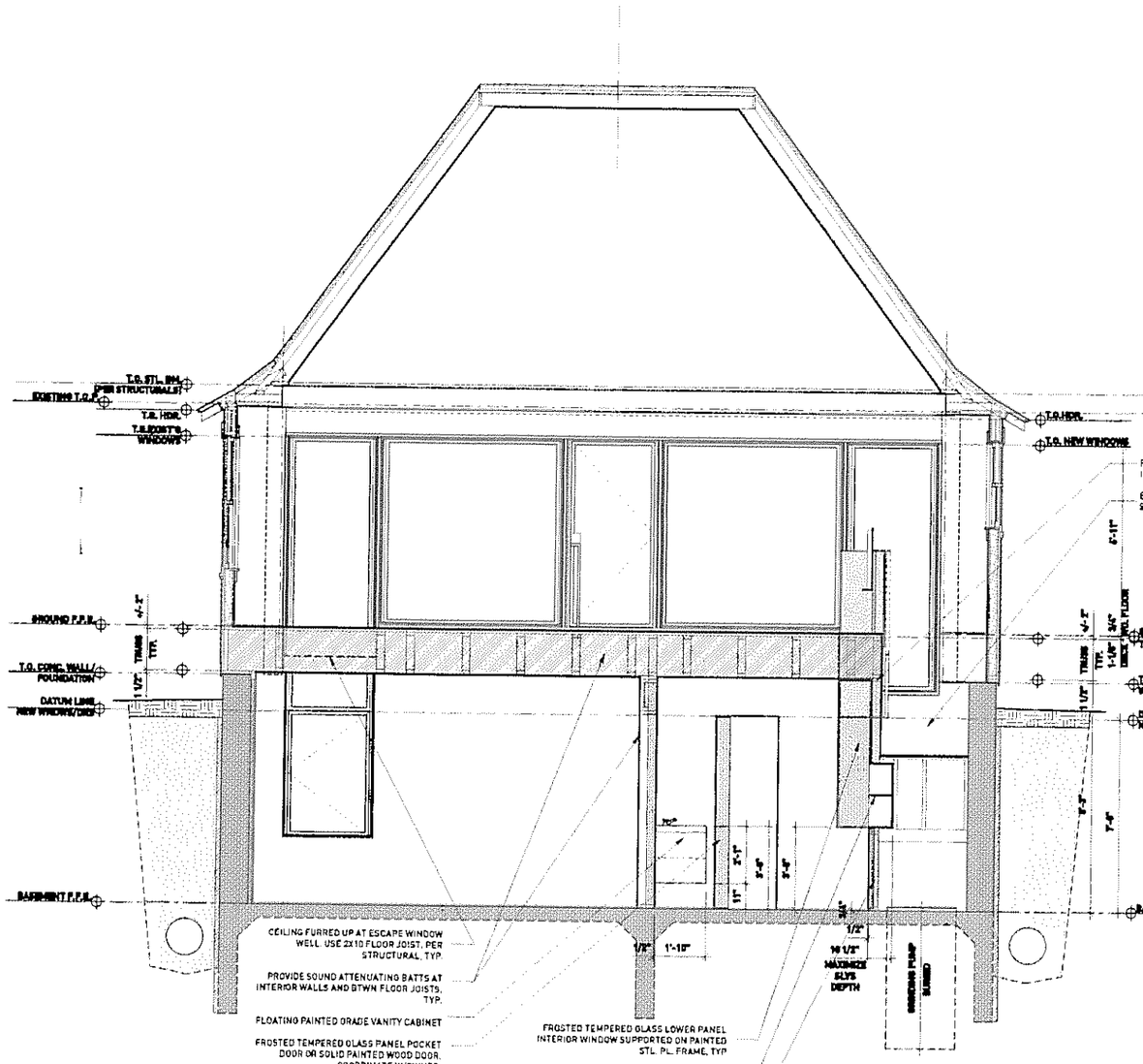
A4
BUILDING SECTIONS



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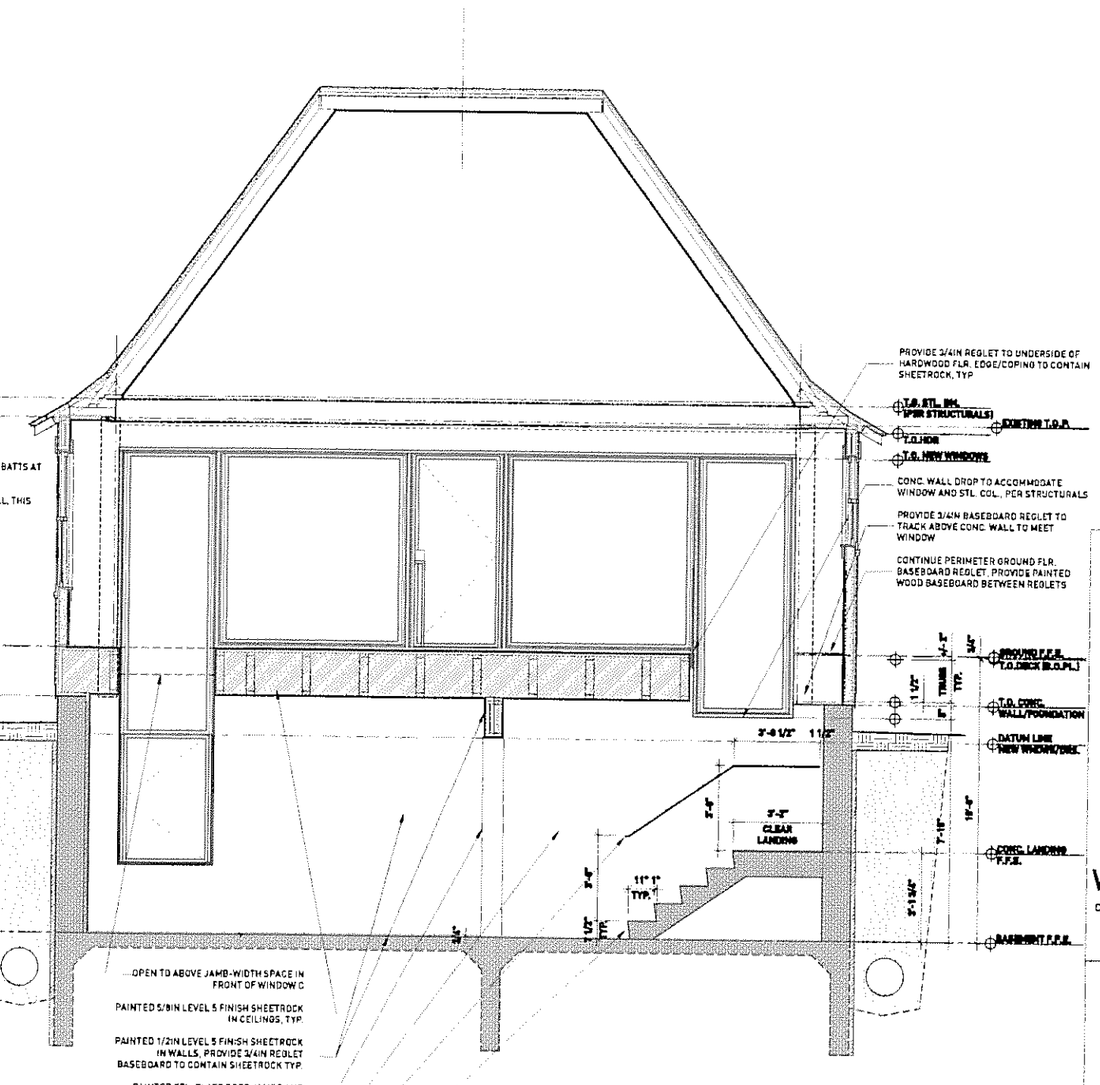

4 **BUILDING SECTION**
SCALE 3/16"=1'-0"

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Austin, Texas 78756

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STATE OF TEXAS

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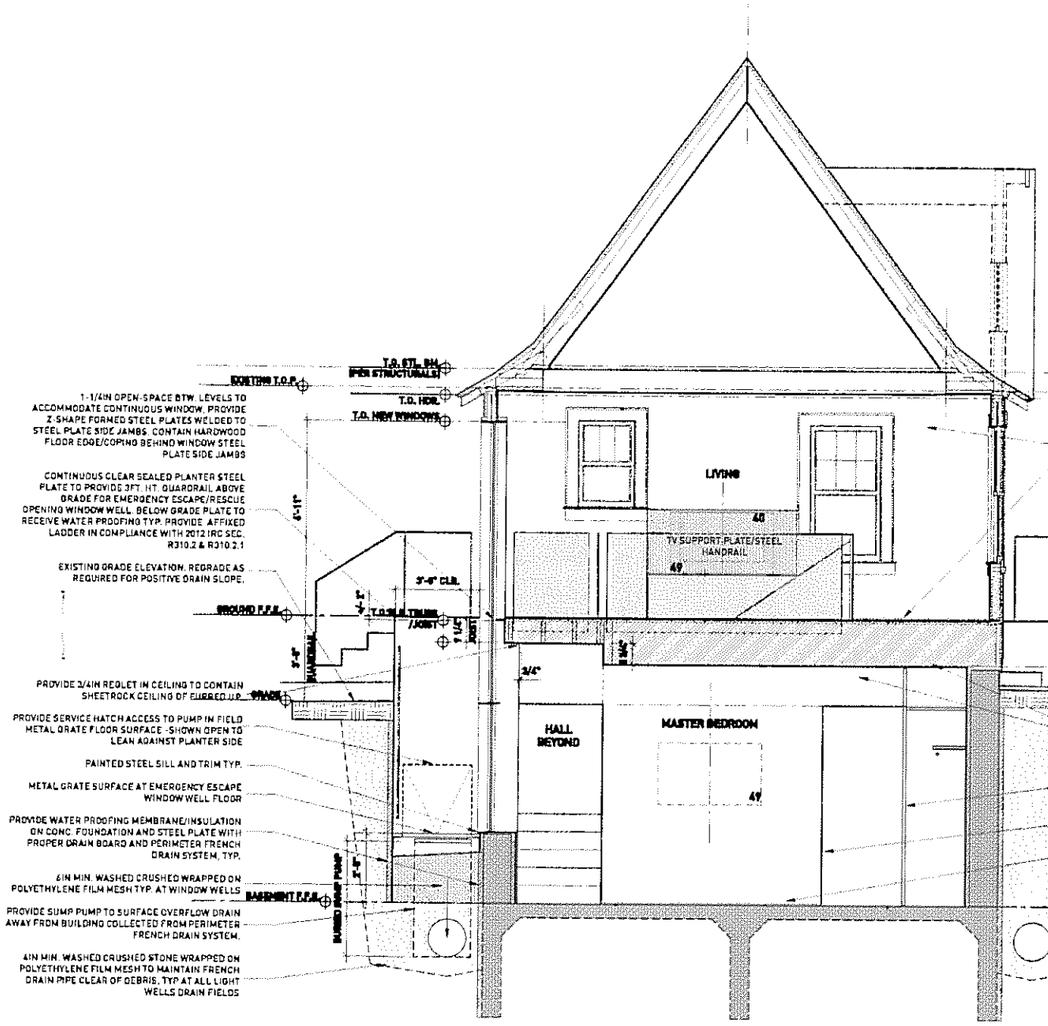
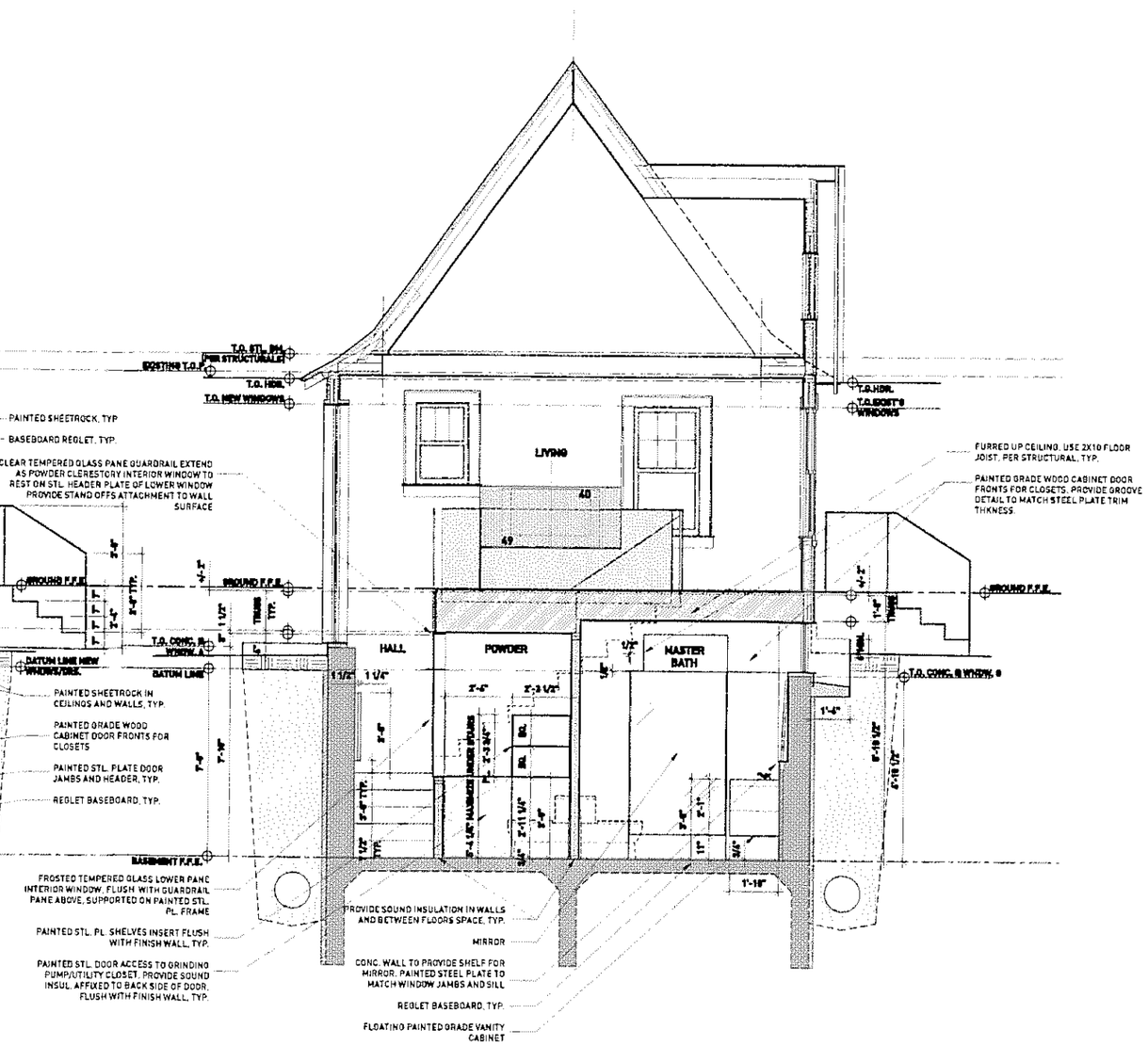
A5
BUILDING SECTIONS





5 **BUILDING SECTION**
SCALE 3/16"=1'-0"

6 **BUILDING SECTION**
SCALE 3/16"=1'-0"

TUTTLE Residence
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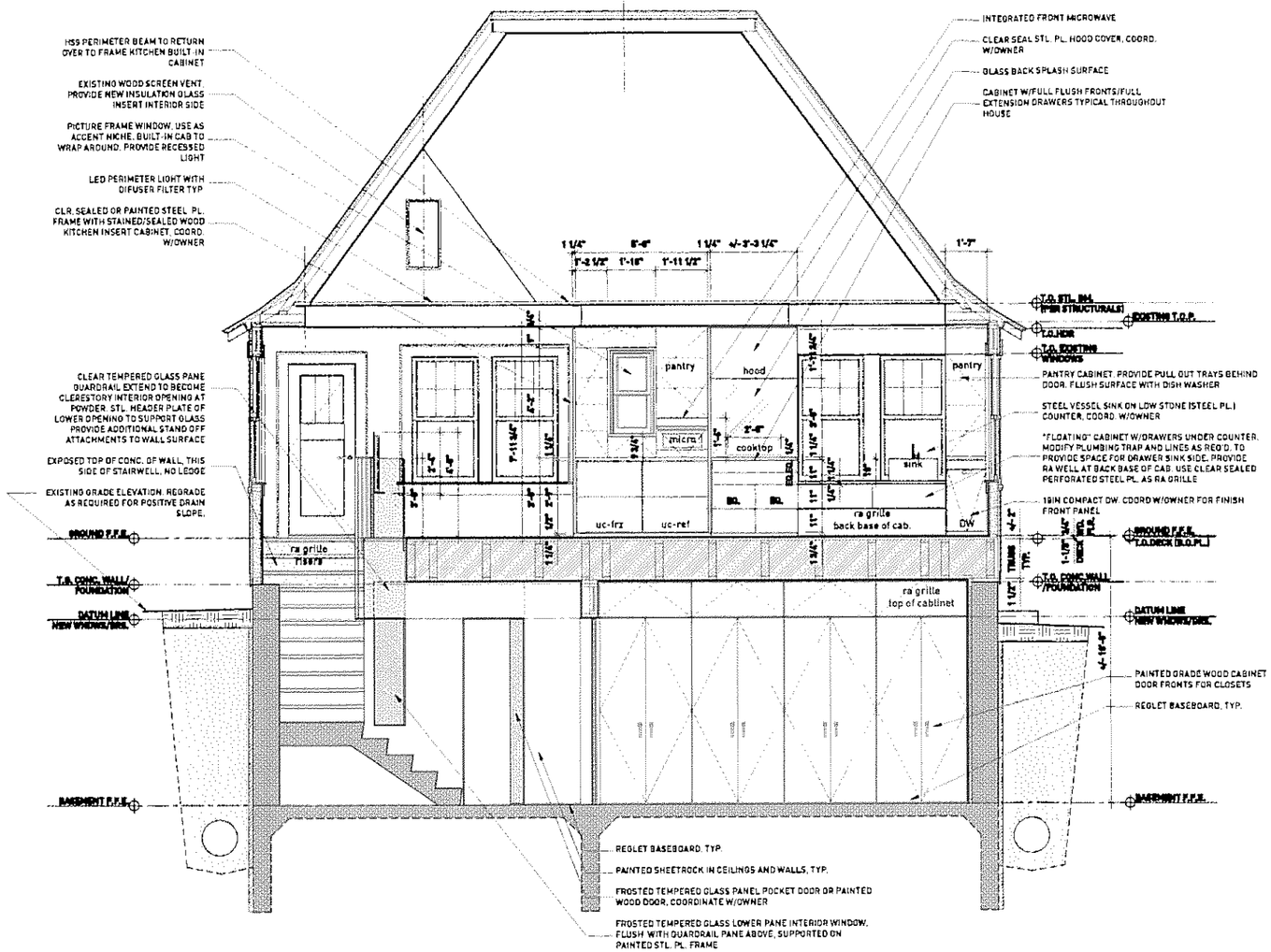
A6
BUILDING SECTIONS



7 BUILDING SECTION

SCALE 3/16"=1'-0"

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A7
BUILDING SECTIONS & DETAILS

STRUCTURAL NOTES

GENERAL

BEFORE BIDDING, CONTRACTOR SHALL CAREFULLY REVIEW THE STRUCTURAL SERIES DRAWINGS AND COMPARE THEM WITH THE SPECIFICATIONS (INCLUDING ANY ADDENDA) AS WELL AS THE ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL AND PLUMBING SERIES DRAWINGS. BEFORE CONSTRUCTION, ALL ARCHITECTURAL DIMENSIONS AND PROPOSED BUILDING EQUIPMENT SHALL BE COMPARED WITH THE STRUCTURAL DRAWINGS FOR COMPATIBILITY.

ANY DIFFERENCES SHALL BE PROMPTLY REFERRED TO THE ARCHITECT FOR INSTRUCTION. IN THE EVENT OF A DISCREPANCY BETWEEN THE STRUCTURAL DRAWINGS AND SPECIFICATIONS, (UNLESS DIRECTED OTHERWISE) THE CONTRACTOR SHALL BID ON THE ITEM OF GREATER QUANTITY AND/OR MORE EXPENSIVE QUALITY.

NEITHER THE PROFESSIONAL ACTIVITIES NOR JOBSITE PRESENCE OF THE STRUCTURAL ENGINEER SHALL RELIEVE THE CONTRACTOR OF HIS OR HER SOLE RESPONSIBILITY FOR JOBSITE SAFETY. THE STRUCTURAL ENGINEER HAS NO AUTHORITY TO EXERCISE ANY CONTROL OVER THE CONTRACTOR REGARDING CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES USED.

STRUCTURAL NOTES AND TYPICAL DETAILS APPLY GENERALLY THROUGHOUT THE PROJECT WHEREVER CONDITIONS SIMILAR TO THOSE DEPICTED EXIST AND ARE NOT NECESSARILY REFERENCED SPECIFICALLY IN THE DOCUMENTS.

EXISTING DIMENSIONS AND CONDITIONS:

THIS PROJECT CONSISTS OF AN ADDITION AND MODIFICATIONS TO AN EXISTING BUILDING. INFORMATION ON EXISTING CONDITIONS HAS BEEN TAKEN FROM THE ORIGINAL DESIGN DRAWINGS AND SHOWN ON THESE DRAWINGS. THESE DRAWINGS WERE ASSUMED TO BE "AS BUILT" DRAWINGS. SINCE EXISTING CONDITIONS WERE NOT ACCESSIBLE OR SINCE FIELD OBSERVATION OF EXISTING CONDITIONS IS BEYOND THE ENGINEER'S SCOPE OF WORK DURING THE DESIGN PHASE OF THIS PROJECT, THE ACCURACY OF THIS INFORMATION HAS NOT BEEN VERIFIED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING DIMENSIONS SHOWN ON THESE DRAWINGS AND TO VERIFY THE LOCATION OF ALL FRAMING MEMBERS AND OTHER OBSTRUCTIONS WHICH WILL AFFECT HIS WORK. AS A PART OF HIS WORK THE CONTRACTOR SHALL PREPARE AN ACCURATE FIELD SURVEY OF THE LOCATION OF ALL STRUCTURAL MEMBERS AND OTHER OBSTRUCTIONS IN THE WORK AREA PRIOR TO BEGINNING SHOP DRAWINGS AND CONSTRUCTION. THIS SURVEY SHALL BE SUBMITTED TO THE ARCHITECT WITH ANY VARIANCES NOTED. CLAIMS FOR ADDITIONAL TIME; OR EXTRA COST DUE TO OBSTRUCTIONS AND VARIANCES IN THE LOCATION OF THE STRUCTURAL MEMBERS WILL NOT BE HONORED AFTER WORK HAS BEGUN ON THE PROJECT.

CODE REQUIREMENTS FOR CONSTRUCTION

1. BUILDING CODE: 2015 INTERNATIONAL RESIDENTIAL CODE
2. STRUCTURAL CONCRETE: BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI, 318-08.
3. STRUCTURAL STEEL: MANUAL OF STEEL CONSTRUCTION, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, THIRTEENTH EDITION.
4. WOOD FRAMING: NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION WITH SUPPLEMENT, N.F.P.A., (2005 EDITION).
5. STRUCTURAL PLYWOOD: AMERICAN PLYWOOD ASSOCIATION (A.P.A.), PLYWOOD DESIGN SPECIFICATION, LATEST EDITION.
6. PREFABRICATED TRUSSES: TPI 85, DESIGN SPECIFICATIONS FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES.
7. PREFABRICATED TRUSSES: NATIONAL DESIGN STANDARDS FOR METAL-PLATE CONNECTED WOOD TRUSS CONSTRUCTION ANSI/TPI 1-2007 IN ADDITION TO SECTIONS 502.11 THROUGH 502.13 IN THE 2012 INTERNATIONAL RESIDENTIAL CODE.

SUBSTITUTIONS

1. ALL REQUESTS FOR SUBSTITUTIONS OF MATERIALS OR DETAILS SHOWN IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED FOR APPROVAL DURING THE BIDDING PERIOD. ONCE BIDS ARE ACCEPTED, PROPOSED SUBSTITUTIONS WILL BE CONSIDERED ONLY WHEN THEY ARE OFFICIALLY SUBMITTED WITH AN IDENTIFIED SAVINGS TO BE DEDUCTED FROM THE CONTRACT.

DESIGN LOADS

1. LIVE LOADS
   - A. FIRST FLOOR — 40 PSF
   - B. ROOF — 20 PSF
   - G. WIND LATERAL LOAD - IRC REQUIREMENTS
2. DEAD LOADS
   - A. CEILING AND MECHANICAL AT ROOF — 10 PSF
   - B. SELF WEIGHT OF STRUCTURAL ELEMENTS
3. GROUND SNOW LOAD, PG = 5 PSF
4. WIND LOAD - 2015 IRC
   - A. BASIC WIND SPEED = 120 MPH (ULTIMATE), EXPOSURE B

SUBGRADE EVALUATION

AFTER THE BASEMENT EXCAVATION HAS BEEN COMPLETED, THE EXPOSED SUBGRADE SHOULD BE EVALUATED. PROOF-ROLLING SHOULD BE PERFORMED WHERE POSSIBLE WITH A RUBBER-TIRED SKID STEER LOADER OR SMALL WALK-BEHIND COMPACTION ROLLER TO PROVIDE A THOROUGH EVALUATION OF THE SUBGRADE STIFFNESS. SOILS THAT ARE OBSERVED TO RUT OR DEFLECT EXCESSIVELY UNDER THE MOVING LOAD SHOULD BE SCARIFIED, AIR-DRIED, AND COMPACTED AS NECESSARY TO ACHIEVE A STIFF SUBGRADE CONDITION, OR SOFT SOIL CAN BE UNDER-CUT AND REPLACED WITH COMPACTED SELECT FILL THAT MEETS THE REQUIREMENTS OF THIS REPORT. ALL PROOF-ROLLING AND UNDER-CUTTING ACTIVITIES SHOULD BE OBSERVED, DOCUMENTED, AND PERFORMED DURING PERIODS OF DRY WEATHER.

SUBGRADE INSPECTION MUST BE FOLLOWED IMMEDIATELY BY PLACEMENT OF FORMWORK, FORMING FILL, AND THE MOISTURE BARRIER TO PROTECT THE APPROVED SUBGRADE CONDITION. SOIL CONDITIONS CHANGE WHEN EXPOSED TO ENVIRONMENTAL CONDITIONS AND MAN-MADE DISTURBANCE, THEREFORE APPROVALS OF SUBGRADE CONDITIONS ARE ONLY VALID FOR A SHORT PERIOD OF TIME. IF WATER SPRINGS, SEVERE DISTURBANCE, OR WATER RUNOFF INTRUSION EVENTS INTO EXCAVATION OCCUR BEFORE PROTECTING THE AREA, THE SUBGRADE INSPECTION RESULTS ARE NO LONGER VALID AND RE-INSPECTION AND POSSIBLE RE-WORKING AND COMPACTION OF THE SUBGRADE WILL BE REQUIRED.

BASEMENT EXCAVATION

NOTE THAT IN DEEP EXCAVATIONS SOILS WILL EXHIBIT REBOUND HEAVE WHEN UNLOADED (VERTICAL OVERBURDEN STRESS REMOVED) (I.E. BASEMENT EXCAVATION), THEREFORE SOME OVER-EXCAVATION SHOULD BE PERFORMED TO ACCOMMODATE THE MINOR HEAVE. FOR A 10-FT DEEP EXCAVATION WE MIGHT EXPECT ½ INCH OF HEAVE WITHIN A SHORT PERIOD OF TIME, BUT IF THE CLAY SUBGRADE IS EXPOSED TO RAINFALL INFILTRATION DURING CONSTRUCTION, LARGER HEAVING OF THE CLAY SOIL CAN OCCUR DUE TO VOLUMETRIC CHANGES CAUSED BY MOISTURE CONTENT INCREASES. THE BUILDER MUST BE CONSCIOUS OF THIS CONDITION WHEN PLANNING CONSTRUCTION ACTIVITIES.

BACKFILLING OF BURIED UTILITIES

FOR A BASEMENT LEVEL IT IS DESIRABLE TO HAVE WATER SUPPLY PIPES RUN ABOVE THE SLAB. SANITARY SEWER PIPES FOR SINKS OR LAUNDRY CONNECTIONS CAN ALSO BE RUN ABOVE THE SLAB. BATHROOM DRAINS HOWEVER MIGHT BE REQUIRED UNDER THE SLAB. UTILITY TRENCHES WITHIN CLAY SOILS, BACKFILLED WITH CLEAN SAND OR GRAVEL CAN FUNCTION AS POST-CONSTRUCTION CONDUITS FOR WATER BELOW THE SLAB. THIS CAN RESULT IN SWELLING OF CLAY SOILS AFFECTED BY THE WATER ALONG THE TRENCH AND RESULT IN DEVELOPMENT OF CRACKING AND HEAVING IN THE SLAB NEAR THE TRENCH. CAPITAL GEOTECHNICAL SERVICES RECOMMENDS USING FINE-GRAINED BACKFILL SUCH AS ON-SITE TRENCH CUTTINGS OR IMPORTED LOW PLASTICITY CLAYEY SAND (SC) TO BACKFILL UTILITY TRENCHES.

BASEMENT WALL BACKFILL

BASEMENT WALLS CANNOT BE DESIGNED TO RESIST CLAY SWELLING PRESSURE. THE SOIL REMOVED FROM THE BEHIND THE WALL ALIGNMENT DURING CONSTRUCTION MUST NOT BE RE-USED AS BACKFILL UNLESS IT IS RE- INSTALLED WITH NOTABLY HIGHLY MOISTURE CONDITION AND PROPER COMPACTION AND THE WALL IS DESIGNED TO RESIST HIGHER POTENTIAL EARTH PRESSURE AFTER CYCLES OF DRYING AND WETTING. IMPERVIOUS COVER ABOVE THE BACKFILL ZONE CAN HELP LIMIT EXPOSURE TO SUCH CYCLES. OTHERWISE, AN IMPORTED SELECT FILL SHOULD BE USED AND SHOULD BE CLASSIFIED ACCORDING TO THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) AS SM-SC, SM, SC, GM-GC, GM, OR GC, AND MEET THE FOLLOWING CRITERIA:

-PERCENT PASSING THE #4 SIEVE:80% TO 90% (10% TO 40% GRAVEL) PERCENT PASSING THE #200 SIEVE:20% TO 49% PI OF SOIL PASSING THE #40 SIEVE:3 TO 19 (IF % PASSING THE #200 SIEVE ≥ 30%) PI OF SOIL PASSING THE #40 SIEVE:6 TO 20 (IF % PASSING THE #200 SIEVE < 30%) MAXIMUM SIZE OF GRAVEL OR ROCK FRAGMENTS:3 INCHES IN ANY DIMENSION

"PROPERLY COMPACTED" SELECT FILL IS DEFINED AS MEETING SPECIFIC GRADATION AND PLASTICITY REQUIREMENTS ("SELECT FILL") AND IS SUBJECTED TO STRICT QUALITY CONTROL AND DOCUMENTATION MEASURES (COMPACTED LIFTS, MOISTURE-DENSITY TESTING, AND DOCUMENTATION OF COMPACTION EQUIPMENT, RANGE OF NUMBER OF PASSES, AND LIFT THICKNESS). "FORMING FILL" OR "NOMINALLY CONTROLLED BACKFILL" ARE DEFINED AS MEETING SPECIFIC GRADATION AND PLASTICITY REQUIREMENTS ("SELECT FILL") BUT ARE NOT SUBJECTED TO STRICT QUALITY CONTROL MEASURES OR EXPECTATIONS OF HIGH DENSITY CONDITION (I.E. PLACE IN VARIABLE LIFTS WITH "NOMINAL" COMPACTION AND MOISTURE-CONDITIONING WITH EARTH MOVING EQUIPMENT OR COMPACTION EQUIPMENT WITHOUT TESTING AND DOCUMENTED INSPECTIONS). WE ASSUME SOME FORMING FILL MIGHT BE USED TO CONSTRUCT THE BASEMENT SLAB UNLESS THE SLAB OR SLAB BASE IS CAST ON GRADE AND BEAMS ARE EXCAVATED INTO NATIVE SOIL FROM THE CUT GRADE ELEVATION. SELECT FILL USED AS BACKFILL ALONG BASEMENT WALLS SHOULD BE PROPERLY COMPACTED, HOWEVER, TO PREVENT SETTLEMENT AND CHANGES TO SURFACE DRAINAGE PROFILE AROUND THE HOUSE OR DAMAGE TO FLATWORK ABOVE THE BACKFILL.

SELECT FILL SHOULD BE PLACED IN HORIZONTAL LOOSE LIFTS OF NOT MORE THAN 6 TO 8 INCHES IN THICKNESS (4 TO 6 INCH THICK COMPACTED LIFTS) DEPENDING ON THE SIZE AND WEIGHT OF THE COMPACTION EQUIPMENT USED BEHIND THE WALLS. TO PREVENT NOTABLE SETTLEMENT OF THE BACKFILL, THE SELECT FILL SHOULD BE MOISTURE TREATED AND COMPACTED TO ACHIEVE A MINIMUM RELATIVE COMPACTION OF 95% BASED ON THE MAXIMUM DRY UNIT WEIGHT AS DETERMINED BY THE STANDARD PROCTOR METHOD (ASTM D 698). MOISTURE CONTENT OF SELECT FILL MATERIAL SHOULD BE WITHIN -1 AND +3 PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT AT THE TIME OF COMPACTION (-1% TO +3%). SOME WETTING OR DRYING MIGHT BE REQUIRED TO PRODUCE THE NECESSARY MOISTURE CONTENT AT THE TIME OF COMPACTION.

CAPITAL GEOTECHNICAL SERVICES SHOULD BE RETAINED TO PERFORM QUALITY CONTROL TESTING AND INSPECTION DURING SELECTION, PLACEMENT, AND COMPACTION OF THE BASEMENT WALL BACKFILL MATERIAL, AND RETAINED TO INSPECT AND DOCUMENT THE INSTALLATION OF THE WALL DRAINAGE SYSTEM. APPROPRIATE LABORATORY TESTS SUCH AS PROCTOR MOISTURE-DENSITY TESTING AND SOIL CLASSIFICATION TESTS SHOULD BE PERFORMED ON SAMPLES OF PROPOSED BACKFILL MATERIAL. FIELD MOISTURE-DENSITY TESTS AND VISUAL OBSERVATION OF LIFT THICKNESS AND MATERIAL TYPES SHOULD BE PERFORMED DURING COMPACTION OPERATIONS TO VERIFY THAT THE CONSTRUCTION SATISFIES MATERIAL AND COMPACTION REQUIREMENTS. IN-PLACE MOISTURE- DENSITY TESTS AND LIFT THICKNESS CHECKS MUST BE PERFORMED ON EVERY LIFT OF FILL.

IF ANY PROBLEMS ARE ENCOUNTERED DURING THE EXCAVATION AND WALL BACKFILLING OPERATIONS, OR IF NEWLY EXPOSED SOIL AND SITE CONDITIONS ARE DIFFERENT FROM THOSE ENCOUNTERED DURING OUR SUBSURFACE EXPLORATION, THE GEOTECHNICAL ENGINEER MUST BE NOTIFIED IMMEDIATELY TO DETERMINE THE EFFECT ON RECOMMENDATIONS EXPRESSED IN THIS REPORT.

CONSTRUCTION SEQUENCING (CONSTRUCTION SCHEDULE) SHOULD BE PLANNED AND ADJUSTED BASED ON WEATHER FORECASTING TO REDUCE THE RISK OF ENCOUNTERING GROUNDWATER SPRINGS IN THE BASEMENT EXCAVATION.

FOUNDATION SLAB

THE FOLLOWING RECOMMENDATIONS HAVE BEEN DEVELOPED ON THE BASIS OF THE PREVIOUSLY DESCRIBED PROJECT CHARACTERISTICS AND SUBSURFACE CONDITIONS. IF THERE ARE ANY CHANGES TO THE PROJECT CHARACTERISTICS OR IF DIFFERENT SUBSURFACE CONDITIONS ARE ENCOUNTERED DURING CONSTRUCTION, CAPITAL GEOTECHNICAL SHOULD BE CONSULTED TO DETERMINE IF ANY CHANGES TO OUR RECOMMENDATIONS ARE REQUIRED.

BASED ON THE SUBSURFACE CONDITIONS ENCOUNTERED AND OUR EXPERIENCE WITH SIMILAR CONSTRUCTION, THE BASEMENT STRUCTURE CAN BE CONSTRUCTED ON A GROUND-SUPPORTED STIFFENED SLAB FOUNDATION SYSTEM (FOUNDATION SLAB) OR A UNIFORM THICKNESS MAT FOUNDATION. RECOMMENDATIONS CONCERNING THE DESIGN AND CONSTRUCTION OF A FOUNDATION SLAB ARE PRESENTED IN THE FOLLOWING PARAGRAPHS. RECOMMENDATIONS CONCERNING A MAT FOUNDATION CAN BE PROVIDED IN AN ADDENDUM UPON REQUEST.

1. THE BASEMENT STRUCTURE CAN BE CONSTRUCTED ON A MONOLITHICALLY-CAST, GRID-TYPE GRADE BEAM AND SLAB FOUNDATION SYSTEM (FOUNDATION SLAB OR "STIFFENED SLAB"). THE STIFFNESS OF A FOUNDATION SLAB WILL LIMIT THE EFFECTS OF DIFFERENTIAL SOIL MOVEMENT CAUSED BY SWELLING AND SHRINKAGE OF CLAY SOILS AND COMPRESSION OF SOILS DUE TO STRUCTURAL LOADS. HOWEVER, MINOR DISCERNIBLE CRACKING IN BRITTLE CONSTRUCTION MATERIALS MAY STILL OCCUR. THIS TYPE OF SLAB SHOULD BE DESIGNED WITH PERIMETER GRADE BEAMS AND INTERIOR STIFFENING GRADE BEAMS ADEQUATE TO PROVIDE SUFFICIENT RIGIDITY TO THE SLAB ELEMENT. THE FOUNDATION SLAB CAN BE DESIGNED CONSIDERING AN ALLOWABLE BEARING PRESSURE OF 2,250 PSF ACROSS THE GRADE BEAM CONTACT AREA.

2. PERIMETER GRADE BEAMS (SUPPORTING BASEMENT WALLS)) SHOULD EXTEND AT LEAST 12 INCHES BELOW THE FF ELEVATION AND HAVE A MINIMUM WIDTH OF 10 TO 12 INCHES. THE GRADE BEAM WIDTH AND DEPTH WILL BE DETERMINED AND DETAILED BY THE PROJECT STRUCTURAL ENGINEER.

3. FLOOR COVERINGS (CARPET, TILE, WOOD, LAMINATE, VINYL) CAN BE DAMAGED OR SUBJECT TO MOLD GROWTH BY MOISTURE PENETRATING THE SLAB, AND VAPOR EMISSION WILL INCREASE HUMIDITY IN A BASEMENT, THEREFORE A MOISTURE VAPOR BARRIER (I.E. 10 MIL THICK GEO-SYNTHETIC GEOMEMBRANE) SHOULD BE PLACED ON TOP OF THE BASE LAYER OR GRANULAR FORMING FILL AND PROPERLY SEALED TO LIMIT THE MIGRATION OF MOISTURE TO AND THROUGH THE SLAB, AND TO SERVE AS A SEPARATOR BETWEEN THE GRANULAR SOIL (POTENTIALLY HIGH FRICTION) AND CONCRETE SLAB. THE MOISTURE BARRIER CAN BE PLACED AFTER THE GRADE BEAMS ARE FORMED. WE RECOMMEND LAPPING THE SHEETS OF VAPOR BARRIER 12 INCHES AND TAPING THE JOINTS/LAPS. SINCE MANY FIELD CREWS DO NOT FORCE MEMBRANES DOWN TO MAKE CONTINUOUS CONTACT WITH THE TRENCH WALLS AND BOTTOM TO MAINTAIN PROPER RECTANGULAR BEAM CROSS SECTION, IF A SINGLE SHEET OF GEOMEMBRANE IS PLACED ACROSS A TRENCH, WE RECOMMEND CUTTING THE MEMBRANE AT THE BOTTOM OF THE GRADE BEAM TRENCH TO PREVENT THE POURED CROSS SECTION AREA FROM BEING REDUCED (PREVENT BRIDGING AT BOTTOM CORNERS), AND INSTALLING A SEPARATE STRIP OF VAPOR BARRIER ALONG THE BOTTOM TO OVERLAP THE CUT MEMBRANE ON EITHER SIDE OF THE TRENCH.

4. PRIOR TO INSTALLATION OF REINFORCING STEEL AND THE MOISTURE-VAPOR BARRIER, SUBGRADE SHALL BE TESTED BY CAPITAL GEOTECHNICAL SERVICES TO DETERMINE IF THE FOUNDATIONS ARE BEING PLACED ON SUITABLE MATERIALS AND TO DOCUMENT THAT LOOSE MATERIAL HAS BEEN REMOVED. DYNAMIC CONE PENETROMETER (DCP) TESTS CAN BE PERFORMED TO HELP EVALUATE SUBGRADE CONDITION. IN AREAS WHERE THE SUBGRADE IS SOFT OR LOOSE, THE SOIL SHOULD BE REMOVED AND FOUNDATIONS LOWERED TO BEAR ON FIRM SOIL OR FOUNDATION SUBGRADE ELEVATIONS CAN BE RESTORED USING FLOWABLE FILL APPROVED BY THE STRUCTURAL ENGINEER.

5. CONCRETE MATERIAL SHOULD BE SAMPLED AND TESTED FOR COMPRESSIVE STRENGTH, AND PLACEMENT OPERATIONS SHOULD BE MONITORED TO RECORD CONCRETE SLUMP, TEMPERATURE, AND AGE AT TIME OF PLACEMENT. CONCRETE BATCH TICKETS SHOULD BE PROVIDED BY THE SUPPLIER AND COLLECTED BY THE GENERAL CONTRACTOR TO PERMIT INSPECTION AND DOCUMENTATION OF WATER-CEMENT RATIO, CEMENT CONTENT, AND OTHER MIX DESIGN INGREDIENTS.

6. WE RECOMMEND THAT A SLAB SURFACE ELEVATION SURVEY BE PERFORMED WITHIN 2 WEEKS AFTER THE CONCRETE IS POURED TO DOCUMENT THE INITIAL CONDITION OF THE SLAB. SUCH INFORMATION WILL BE USEFUL IF FUTURE SOIL AND SLAB MOVEMENT IS SUSPECTED AND MUST BE COMPARED WITH THE INITIAL ELEVATION DIFFERENCES.

BASEMENT WALLS

DUE TO THE PRESENCE OF CLAYEY SOILS FROM THE SURFACE TO THE BOTTOM OF THE PLANNED BASEMENT WALL (E.G. 0 TO 9 FEET), SOME HORIZONTAL OVER-EXCAVATION IS REQUIRED TO LIMIT THE POTENTIAL EARTH PRESSURE THAT WILL BE EXHIBITED BY THE SOIL AGAINST THE BASEMENT WALL. SOME HORIZONTAL EXCAVATION IS INHERENT TO PERMIT CONSTRUCTION OF THE BASEMENT WALL. WALL DESIGN PARAMETERS WILL VARY DEPENDING ON THE WIDTH OF THE EXCAVATION BEYOND THE WALL FACE AND THE NATURE OF THE BACKFILL SOIL. A MINIMUM 12 INCH WIDE "DRAINAGE ZONE" SHOULD BE PLACED IMMEDIATELY BEHIND BELOW-GRADE WALLS, EXCEPT FOR THE TOP 18 INCHES IN UNPAVED AREAS, AND SHOULD CONSIST OF FREE-DRAINING SOIL SUCH AS A CLEAN DURABLE GRAVEL. A GEO-SYNTHETIC GEOTEXTILE FILTER SHOULD BE PLACED BETWEEN THE GRAVEL AND SURROUNDING SOILS OR BACKFILL TO PREVENT MIGRATION OF SURROUNDING SOIL INTO THE DRAINAGE ZONE ABOVE THE ENCAPSULATION LINER.

CAPITAL GEOTECHNICAL RECOMMENDS INCLUDING A FOUNDATION DRAINAGE SYSTEM ALONG THE BASE OF THE WALL. THE DRAIN PIPE INVERT (ABOVE GRAVEL AND THE BOTTOM OF GEO-SYNTHETIC GEOMEMBRANE ENCAPSULATION LINER) SHOULD EXTEND A MINIMUM OF 12 INCHES BELOW THE BASEMENT FLOOR SLAB ELEVATION. THE DRAINAGE SYSTEM WILL PREVENT WATER FROM MIGRATING AND COLLECTING ALONG BASEMENT WALLS WHERE IT CAN INCREASE THE PRESSURE AGAINST THE WALL AND CAUSE SEEPAGE INTO THE BASEMENT THROUGH ANY FAILURES IN THE WATER-PROOFING, AND/OR THROUGH JOINTS OR CRACKS. THE DRAINAGE PIPES (4-INCH DIAMETER PERFORATED OR SLOTTED SCHEDULE 40 PVC PIPE) SHOULD BE A PART OF A DRAINAGE SYSTEM THAT COLLECTS AND DISCHARGES THE WATER TO A SUMP PIT AND PUMP AND SUBSEQUENTLY A WATER RECLAMATION SYSTEM, THE STORM-WATER SEWER SYSTEM, OR ACCEPTABLE OUTFALL AREA DOWNSLOPE OF THE HOUSE. THE PIPES SHOULD BE SURROUNDED BY A MINIMUM OF 4 INCHES OF CLEAN GRAVEL AND THE PIPE TRENCH SHOULD BE CONNECTED TO THE DRAINAGE ZONE. THE GRAVEL BELOW AND ON THE SIDES OF THE PIPE WILL BE SEPARATED FROM THE SURROUNDING SOIL WITH A GEO-SYNTHETIC GEOMEMBRANE LINER (WATER BARRIER). THE DRAINAGE SYSTEM SHOULD IDEALLY INCLUDE TWO PUMPS AND TWO SOURCES OF POWER TO PROVIDE REDUNDANCY TO THE SYSTEM.

THE DRAINAGE ZONE MUST BE ENCAPSULATED ALONG THE LOWER ELEVATIONS TO PREVENT WATER INFILTRATION INTO THE SOIL UNDER THE BASEMENT SLAB. A MINIMUM 15-MIL THICK GEO-SYNTHETIC GEOMEMBRANE SHOULD BE INSTALLED AND PROPERLY TAPED (SEALED) ALONG THE BOTTOM OF THE DRAINAGE ZONE AND BACKFILL ZONE AND UP VERTICALLY AT LEAST 48 INCHES ALONG THE EXCAVATION CUT FACE (BACKFILL ZONE) AND AT LEAST 24 INCHES UP THE CONCRETE BASEMENT WALL. THE GEOMEMBRANE MUST BE PROPERLY SEALED AGAINST THE CONCRETE WALL BEFORE INSTALLING THE DRAINAGE BOARD OR GRAVEL DRAINAGE MATERIAL.

A COMPACTED CLAY SOIL SHOULD BE USED AS THE TOP 18 INCHES OF BACKFILL TO PROVIDE A RELATIVELY LOW PERMEABILITY BARRIER TO SURFACE RUNOFF AND RAIN. THE GROUND SURFACE BEHIND WALLS SHOULD BE GRADED SO THAT WATER RUNOFF WILL BE GUIDED AWAY FROM THE WALLS.

BASEMENT WALLS SHOULD BE WATER-PROOFED TO PREVENT MUSTY ODOR AND DAMPNESS IN THE BASEMENT AND TO LIMIT SEEPAGE THROUGH CONCRETE WALLS OR THROUGH JOINTS AND CRACKS IN CONCRETE WALLS.
USE WALK-BEHIND (LIGHTWEIGHT) COMPACTION EQUIPMENT NEAR THE WALLS TO ACHIEVE A PROPER DEGREE OF

SURFACE DRAINAGE

UTILITY PENETRATIONS THROUGH THE BASEMENT WALLS MUST BE CAREFULLY CONSIDERED BECAUSE OF THE DIFFERENT MOVEMENT POTENTIAL BETWEEN THE EXTERIOR NATIVE SOILS AND THE BASEMENT. FORTUNATELY THE DESIGN PVR IS NOT NOTABLY HIGH. UTILITY STRUCTURES THAT CONNECT TO THE BASEMENT SHOULD BE DESIGNED TO BE FLEXIBLE ENOUGH TO TOLERATE SOME DIFFERENTIAL SOIL MOVEMENT. WATER SUPPLY PIPES AND SANITARY SEWER PIPES SHOULD BE PLACED IN LONG SECTIONS WITH AS FEW JOINTS (LEAK-PRONE) AS POSSIBLE AND SHOULD BE OF DURABLE SIZE AND MATERIAL. UTILITIES SHOULD BE DESIGNED WITH EITHER SOME DEGREE OF FLEXIBILITY OR WITH SLEEVES IN ORDER TO PREVENT DAMAGE OR LEAKING SHOULD VERTICAL MOVEMENT OCCUR. WATER SUPPLY AND SANITARY SEWER SYSTEMS SHOULD BE LEAK TESTED AFTER INSTALLATION. TELESCOPING JOINT OR SWIVEL JOINT PIPE FITTINGS CAN BE CONSIDERED.

AFTER CONSTRUCTION THE GROUND SURFACE AROUND THE HOUSE SHOULD BE EVALUATED. THE GROUND AND FLATWORK SHOULD BE SLOPED AWAY FROM THE HOUSE TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE HOUSE PERIMETER. WE RECOMMEND A MINIMUM CONSTRUCTED AND MAINTAINED SLOPE OF 6 INCHES ALONG THE FIRST 10 FEET FROM THE EDGE OF THE FOUNDATION SLAB IF PRACTICAL (2012 INTERNATIONAL RESIDENTIAL CODE R401.3). THE UPSLOPE SIDE OF THE HOUSE CAN BE CROWNED TO PROMOTE DRAINAGE TO THE TWO ADJACENT SIDES. WATER MUST NOT BE ALLOWED TO POND ADJACENT TO THE BASEMENT WALLS.

BETWEEN HOUSES THAT ARE SEPARATED BY LESS THAN 20 FEET, WHERE A 6 INCH DROP CANNOT BE ATTAINED WITHIN THE FIRST 10 FEET, THE FINAL GRADE SHALL STILL SLOPE AWAY FROM THE FOUNDATION AT A MINIMUM SLOPE OF 5% (I.E. 3 INCHES OVER 5 FEET) BUT THE WATER SHALL BE DIRECTED TO A DRAIN OR SWALE (2012 INTERNATIONAL RESIDENTIAL CODE R401.3) TO PROMOTE DRAINAGE AWAY FROM THE LOCALIZED AREA. IF POSSIBLE, THE CONSTRUCTED SLOPE SHOULD PREFERABLY BE AT LEAST 10 PERCENT DOWN TO THE SWALE BETWEEN THE HOUSES USED TO CONVEY WATER OUT OF THE AREA. PROPER DRAINAGE CONDITIONS MUST NOT BE ADVERSELY ALTERED BY THE HOMEOWNER.

ROOF DRAIN DOWNSPOUTS SHOULD BE DESIGNED AND PLACED TO DISCHARGE STORMWATER AT LEAST 3 FEET AWAY FROM THE EDGE OF THE HOUSE AND SHOULD BE CONCENTRATED ON THE DOWNSLOPE SIDE OF THE HOUSE OR ON THE DOWNSLOPE END OF EACH GUTTER SEGMENT. DOWNSPOUTS MUST ALSO EXTEND HORIZONTALLY BEYOND THE WIDTH OF WALL BACKFILL SO THAT WATER DOES NOT SEEP DOWN DIRECTLY INTO THE BACKFILL. DOWNSPOUT EXTENSIONS, SPLASH BLOCKS, AND BURIED OUTLETS MUST NOT BE REMOVED OR ALTERED BY THE HOMEOWNER. ROOF GUTTER DRAIN DOWNSPOUTS SHOULD NOT DISCHARGE INTO PLANTERS ABUTTING THE BASEMENT WALLS.

PLANTS PLACED CLOSE TO THE BASEMENT WALLS SHOULD BE LIMITED TO THOSE WITH LOW MOISTURE REQUIREMENTS (DO NOT ENCOURAGE HIGH RATES OF IRRIGATION).

IF SHRUBS MUST BE PLACED ADJACENT TO THE BASEMENT WALLS, THE LANDSCAPE BEDS OR PLANTERS SHOULD NOT BE RECESSED (PLACE AT GRADE OR ELEVATE ABOVE GRADE AND DRAIN PROPERLY TO PREVENT PONDING ADJACENT TO THE WALLS.
LEAK TESTS SHOULD BE PERIODICALLY PERFORMED ON WATER SUPPLY AND SEWER SYSTEMS ASSOCIATED WITH THE BASEMENT TO DETERMINE IF A LEAK EXISTS. ANY LEAKING PIPES SHOULD BE REPAIRED AS SOON AS POSSIBLE TO STOP THE INCREASE IN MOISTURE CONTENT IN THE UNDERLYING CLAY SOILS. DUE TO THE INFLUENCE OF SITE GRADING AND DRAINAGE ON SOIL MOVEMENT AND THE PERFORMANCE OF A HOUSE AND ITS FOUNDATION SYSTEM, LOT GRADING AND DRAINAGE SHOULD BE DESIGNED BY A PROFESSIONAL CIVIL ENGINEER UNLESS THE OWNER AND BUILDER CAN DESIGN AND CONSTRUCT RELIABLY ADEQUATE SURFACE DRAINAGE CONDITIONS AND EVALUATE IMPACTS TO ADJACENT PROPERTIES.

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STRUCTURAL NOTES

EXCAVATION COMMENTARY

VERTICAL OR VERY STEEP CUT FACES IN CLAY SOILS MAY HOLD UP TEMPORARILY UT ARE INHERENTLY UNSTABLE. GLOBAL STABILITY FAILURES WILL OCCUR WHEN THE SHEAR STRENGTH ALONG A POTENTIAL FAILURE PLANE REDUCES TO A CERTAIN LIMIT. LOW SHEAR STRENGTH CAN BE EXHIBITED ALONG NETWORKS OF FISSURES IN THE CLAY OR WITHIN CLAY SOIL SUBJECTED TO INCREASES IN MOISTURE CONTENT (I.E. RAINFALL). NEW SURCHARGES ON TOP OF THE SLOPE CAN ALSO INSTIGATE FAILURE (I.E. SURCHARGE FROM A VEHICLE OR MATERIAL STOCKPILE). BENCHING CAN BE CONSIDERED TO IMPROVE THE STABILITY OF AN EXCAVATION CUT, OR EXCAVATION BRACING CAN BE INSTALLED. OTHERWISE EXCAVATION SHOULD BE PERFORMED DURING ANTICIPATED PERIODS OF DRY WEATHER TO REDUCE THE RISK OF FAILURES. CONTACT CAPITAL GEOTECHNICAL SERVICES FOR SOIL-RELATED DESIGN PARAMETERS THAT CAN BE USED FOR DESIGNING AN EXCAVATION BRACING SYSTEM DESIGNED BY A SPECIALTY CONTRACTOR.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGNING AND CONSTRUCTING STABLE, TEMPORARY EXCAVATIONS AND FOR SHORING, SLOPING, OR BENCHING THE SIDES OF EXCAVATIONS AS REQUIRED TO MAINTAIN STABILITY OF BOTH THE EXCAVATION SIDES AND BOTTOM. THE CONTRACTOR'S RESPONSIBLE PERSON OR "COMPETENT PERSON" AS DEFINED IN 29 CFR PART 1926.650 (1998) SHOULD EVALUATE THE SOIL EXPOSED IN THE EXCAVATIONS AS PART OF THE CONTRACTOR'S SAFETY PROCEDURES. IN NO CASE SHOULD SLOPE HEIGHT, SLOPE INCLINATION, OR EXCAVATION DEPTH EXCEED THOSE SPECIFIED IN ALL LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INFORMING ALL PERSONNEL ON THE JOBSITE OF THE HAZARDS ASSOCIATED WITH CONSTRUCTION. CAPITAL GEOTECHNICAL DOES NOT ASSUME RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY OR THE CONTRACTOR'S OR OTHER PARTY'S COMPLIANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

NEITHER THE PROFESSIONAL ACTIVITIES OF KOENIG CONSULTING ENGINEERS, NOR THE PRESENCE OF KOENIG CONSULTING ENGINEERS AT A CONSTRUCTION SITE SHALL RELIEVE THE GENERAL CONTRACTOR OF ITS OBLIGATIONS, DUTIES, AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE TECHNIQUES, OR PROCEDURES NECESSARY FOR PERFORMING, SUPERVISING, AND COORDINATING WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. CAPITAL GEOTECHNICAL HAS NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN ASSOCIATION WITH THEIR WORK OR ANY HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOBSITE SAFETY.

CONCRETE AND REINFORCING STEEL

1. ALL CONCRETE WORK SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE PUBLICATIONS "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", ACI 301 AND "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" ACI 318, (LATEST EDITION).

2. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS SHALL CONFORM TO THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE" ACI 315, (LATEST EDITION).

3. ALL CONCRETE SHALL BE STONE AGGREGATE CONCRETE AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 POUNDS PER SQUARE INCH AT 28 DAYS. IT SHALL CONTAIN NOT LESS THAN 5 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE AND NOT OVER 6 GALLONS OF WATER PER SACK OF CEMENT (MAXIMUM WATER/ CEMENT RATIO = 0.53). THE SLUMP SHALL NOT EXCEED 5 INCHES.

4. REINFORCING BARS SHALL BE DEFORMED NEW BILLET STEEL IN ACCORDANCE WITH A.S.T.M. SPECIFICATION A615 GRADE 60.

5. MINIMUM CONCRETE COVER OF REINFORCING BARS UNLESS OTHERWISE NOTED SHALL BE:

   CAST AGAINST EARTH.....3 IN.
   EXPOSED TO EARTH OR WEATHER.....2 IN.
   IN SLABS AND WALLS.....1 IN.
   OTHER.....1 1/2 IN.

6. AT CORNERS OF ALL BEAMS EXTEND 4 CORNER BARS EQUAL TO THE BEAM STEEL 2'-0" EACH WAY, 2 BARS TOP AND 2 BARS BOTTOM. MAKE ALL HORIZONTAL WALL STEEL CONTINUOUS AROUND CORNERS.

7. NO HORIZONTAL CONSTRUCTION JOINTS WILL BE PERMITTED IN SLABS OR BEAMS. VERTICAL JOINTS SHALL CONFORM TO SECTION 6.4 OF ACI 318, (LATEST EDITION).

8. HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE POURS SHALL BE PERMITTED ONLY WHERE INDICATED ON THE DRAWINGS. ALL CONSTRUCTION JOINTS SHALL BE MADE IN THE CENTER OF SPANS PER TYPICAL DETAILS. THE LOCATION OF CONSTRUCTION JOINTS SHALL BE AS APPROVED BY THE ARCHITECT AND THE STRUCTURAL ENGINEER. ADDITIONAL REINFORCING AT CONSTRUCTION JOINTS SHALL BE AS SPECIFIED BY THE ENGINEER WITHOUT ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL SUBMIT PROPOSED LOCATIONS FOR CONSTRUCTION JOINTS NOT SHOWN ON DRAWINGS FOR APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER.

9. ALL ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI 318, (LATEST EDITION). ACCESSORIES FOR EXPOSED CONCRETE SOFFITS SHALL HAVE GALVANIZED OR PLASTIC COATED FEET.

10. CONCRETE PLACED BY PUMPING SHALL MEET THE REQUIREMENTS OF "RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE" (ACI 304-73, CHAPTER 9).

11. BARS SCHEDULED AND DETAILED "CONT" (CONTINUOUS) SHALL BE LAPPED AT 24 BAR DIAMETERS AT SPLICES. THE SPLICES SHALL OCCUR AT MID SPAN FOR TOP BARS AND OVER THE SUPPORTS FOR BOTTOM BARS.

12. ALL EMBEDDED STEEL PLATES AND ANCHOR BOLTS SHALL BE SECURED IN PLACE PRIOR TO PLACEMENT OF CONCRETE.

13. THE FIRST STIRRUP OF THE SCHEDULED OR DETAILED STIRRUPS SHALL BE PLACED A DISTANCE FROM THE FACE OF THE SUPPORTING BEAM, COLUMN, OR PIER EQUAL TO 1/2 OF THE SPACING LISTED UNDER "SPACING" OR AS DETAILED. STIRRUPS ARE TO BE PLACED FROM EACH END OF THEIR RESPECTIVE BEAMS.

TIMBER

1. UNLESS OTHERWISE NOTED, ALL STRUCTURAL FRAMING LUMBER SHALL BE CLEARLY MARKED NO. 2 PINE BY THE SPIB WITH A MINIMUM FB = 1500PSI.

2. ALL WOOD STUD WALLS SHALL BE FULL HEIGHT WITHOUT INTERMEDIATE PLATE LINE UNLESS DETAILED OTHERWISE. PROVIDE 2X4 STUDS AT 16" O.C. AT ALL WALLS LESS THAN 10'-0" IN HEIGHT UNLESS NOTED OTHERWISE. PROVIDE 2X8 STUDS AT 16" O.C. AT WALLS 10'-0" TO 14'-0" IN HEIGHT UNLESS NOTED OTHERWISE. DECREASE STUD SPACING TO 12" O.C. AT THE LOWEST LEVEL OF ANY 3 LEVEL STRUCTURE. PROVIDE 2X4 BLOCKING AT 4'-0" O.C. IN ALL UNSHEATHED WALLS.

3. STUDS SHALL BE DOUBLED AT CORNERS AND EACH SIDE OF AN OPENING LESS THAN 6'-0" WIDE. PROVIDE 4 STUDS EACH SIDE OF OPENINGS 6'-0" AND WIDER. TWO OF THE FOUR STUDS SHALL BE BELOW THE HEADER AND THE TWO REMAINING STUDS SHALL BE ADJACENT AND CONTINUOUS TO THE UNDERSIDE OF THE FLOOR AND ROOF FRAMING ABOVE.

4. SOLID 2X BLOCKING SHALL BE PROVIDED AT END AND POINT OF SUPPORT OF ALL WOOD JOISTS AND SHALL BE PLACED BETWEEN SUPPORTS IN ROWS NOT EXCEEDING 8'-0" APART. ALL WALLS SHALL HAVE SOLID 2X BLOCKING A 4'-0" O.C. MAXIMUM VERTICALLY. END NAIL WITH 2-16D NAILS OR SIDE TOE NAIL WITH 2-16D NAILS.

5. DECKING: PLYWOOD DECKING _ 3/4" THICK FOR FLOOR, TONGUE & GROOVE, AMERICAN PLYWOOD ASSOCIATION (APA) RATED "STURD-I-FLOOR"; 5/8" THICK FOR ROOFS; GRADE C-D, WITH EXTERIOR GLUE. INSTALL PLYWOOD FLOOR DECKING WITH A CONTINUOUS 1/4" BEAD OF ADHESIVE ALONG ALL SUPPORTS AND NAIL WITH 8D RINGSHANK NAILS AT 6" O.C. AT ALL SUPPORTED EDGES; 8" O.C. AT ALL INTERMEDIATE SUPPORTS. INSTALL ROOF DECKING WITH 8D GALVANIZED COMMON NAILS AT 6" O.C. AT EACH SUPPORT. ALL JOINTS IN PLYWOOD DECKING SHALL BE STAGGERED.

   (PROVIDE ALUMINUM SPACER H-CLIPS BETWEEN EACH ROOF TRUSS AT JOINTS IN ROOF DECKING. ALL JOINTS IN PLYWOOD DECKING SHALL BE STAGGERED WITH 1/8" WIDE SPACES AS RECOMMENDED BY THE APA.)

6. SHEATH ALL EXTERIOR WALLS WITH 1/2" THICK, GRADE C-D, WITH EXTERIOR GLUE OR 7/16" THICK O.S.B. BOARD. NAIL TO STUDS WITH 8D GALVANIZED NAILS AT 6" O.C. AT ALL SUPPORTED EDGES AND 12" O.C. AT ALL INTERMEDIATE SUPPORTS.

7. ALL FRAMING MEMBERS FRAMING INTO THE SIDE OF A HEADER SHALL BE ATTACHED USING METAL JOIST HANGERS. CONNECTIONS OF MAJOR STRUCTURAL WOOD MEMBERS AT LOCATIONS SIMILAR TO THOSE DETAILED ON THE DRAWINGS SHALL BE MADE WITH PREFABRICATED METAL FRAMING CLIPS OF A SIZE AND TYPE REQUIRED TO RESIST ALL APPLIED LOADS. "TOE-NAILING" OF MAJOR STRUCTURAL MEMBERS WILL NOT BE PERMITTED.

8. NAILING AND ATTACHMENT OF ALL FRAMING MEMBERS SHALL BE AS SPECIFIED IN THE 2012 INTERNATIONAL RESIDENTIAL CODE NAILING SCHEDULE UNLESS NOTED OTHERWISE IN THE DRAWINGS. COMMON WIRE NAILS OR SPIKES, OR GALVANIZED BOX NAILS SHALL BE USED FOR ALL FRAMING UNLESS NOTED.

9. PLACE A SINGLE BORATE TREATED PLATE AT THE BOTTOM AND A DOUBLE PLATE AT THE TOP OF ALL STUD WALLS. EXTERIOR WALL SILL PLATES SHALL BE BOLTED TO THE FOUNDATION AT A MAXIMUM SPACING OF 4 FT. 0 IN. WITH 1/2" DIAMETER X 11" LONG (8" MINIMUM EMBEDMENT) ANCHOR BOLTS.

10. LAMINATED VENEER LUMBER (LVL) SHALL BE MICROLAM AS MANUFACTURED BY TRUSS JOIST MACMILLAN. LVL SHALL BE CLEARLY IDENTIFIED BY STAMP INDICATING INDEPENDENT INSPECTION AGENCY'S LOGO, PRODUCT TYPE, NER REPORT NUMBER AND GRADED 1.9E OR STRONGER. MATERIAL SHALL COMPLY WITH NES REPORT NO. NER-481. ADHESIVES SHALL BE OF THE WATERPROOF TYPE CONFORMING TO THE REQUIREMENTS OF ASTM D-2559.

11. BEAMS COMPRISED OF TWO OR MORE MEMBERS SHALL BE GLUED AND NAILED TOGETHER WITH A MINIMUM OF TWO (2) ROWS OF 16D NAILS AT 12" O.C. BEAMS COMPRISED OF THREE OR MORE MEMBERS SHALL BE NAILED PER ABOVE WITH ADDITIONAL 1/2" DIAMETER THRU BOLTS AT 16" O.C. STAGGERED TOP AND BOTTOM.

12. MICROLAM LVL BEAMS SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE STRESSES: FB= 2600 PSI (MIN.), FV= 285 PSI (MIN.) AND E= 1,900,000 PSI (MIN.)

13. CONTRACTOR SHALL COORDINATE SPACING OF WOOD FRAMING WHERE APPROPRIATE TO AVOID CUTTING AND NOTCHING TO ACCOMMODATE PIPING, CONDUIT, ETC. WHERE CUTTING, NOTCHING OR BORING OF WOOD FRAMING MEMBERS IS REQUIRED, DO NOT EXCEED CODE ALLOWABLES OR THE FOLLOWING WITHOUT NOTIFYING THE ARCHITECT FOR FURTHER DIRECTION:

    A. NO NOTCHES SHALL BE CUT IN JOISTS, BEAMS, LOAD-BEARING WALL STUDS OR EXTERIOR WALL STUDS.

    B. HOLES BORED IN JOISTS, BEAMS OR STUDS SHALL BE ENTIRLEY LOCATED WITHIN THE MIDDLE 1/3 OF THEIR DEPTH AND SHALL NOT EXCEED 1/4 OF THEIR DEPTH.

14. PROVIDE A DOUBLE FLOOR JOIST UNDER ALL INTERIOR PARTITION WALLS.

15. THE FOLLOWING MATERIALS SHALL BE TREATED MATERIAL WITH A MANUFACTURER'S GUARANTEE AGAINST DECAY OR ROT OF 20 YEARS OR MORE.

    a. THE BOTTOM PLATE IN CONTACT WITH THE FOUNDATION CONCRETE.
    b. ALL FRAMING IN CONTACT WITH OR WITHIN 12" OF THE GRADE. SEE PLAN AND DETAILS FOR OTHER LOCATIONS WHERE TREATED WOOD IS TO BE USED.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL WIDE FLANGE SHAPES AND TEES SHALL CONFORM TO ASTM A992. OTHER MISCELLANEOUS ROLLED SHAPES, BARS, PLATES AND RODS SHALL CONFORM TO ASTM A36.

2. ALL STRUCTURAL STEEL TUBES SHALL CONFORM TO ASTM A 500, GRADE B, FY = 46 KSI.

3. ALL STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION AND THE STEEL JOIST INSTITUTE.

4. SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ENGINEER AS TO LOCATION AND TYPE OF SPLICE TO BE MADE. ANY MEMBER HAVING SPLICE NOT SHOWN AND DETAILED ON SHOP DRAWING WILL BE REJECTED.

5. ALL SHOP AND FIELD WELDS SHALL BE MADE BY WELDERS WHO HAVE BEEN QUALIFIED AND CERTIFIED TO MAKE THE REQUIRED WELDS WITHIN THE PREVIOUS SIX MONTHS IN ACCORDANCE WITH THE LATEST AMERICAN WELDING SOCIETY SPECIFICATIONS, A.W.S. D1.1. ALL WELDING SHALL CONFORM TO THE STANDARDS OF THE LATEST EDITION OF A.W.S. D1.1.

6. THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS SHALL COMPLY TO OSHA 29 CFR 1926 SUBPART R, SAFETY STANDARDS FOR STEEL CONSTRUCTION.

Ronald W. Koenig

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JOB #2017020

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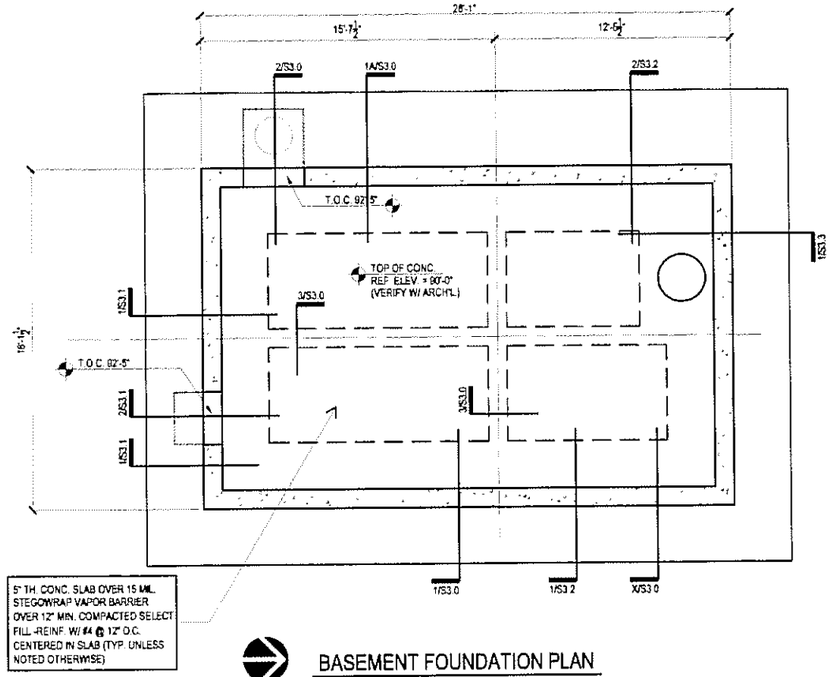


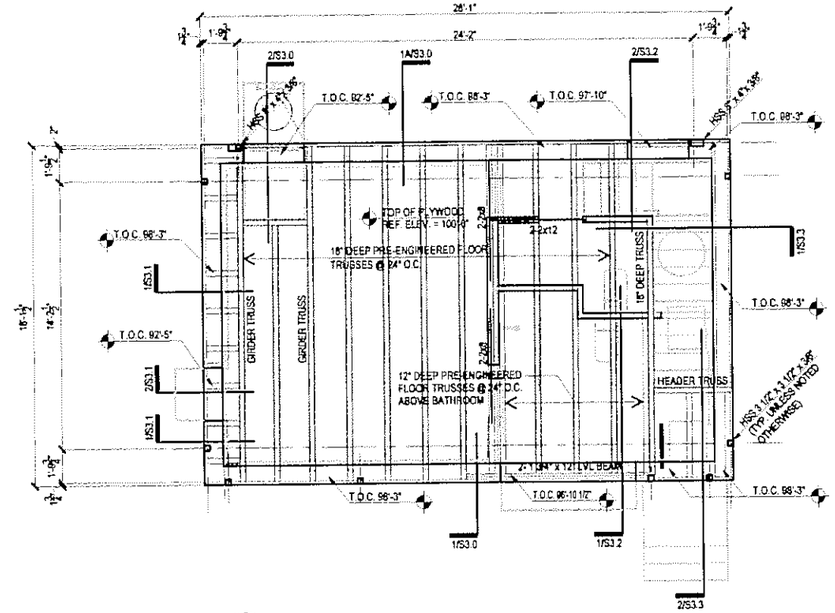
PLAN NORTH

BASEMENT FOUNDATION PLAN

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

PLAN NOTES:

1. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.



PLAN NORTH

FIRST FLOOR FRAMING REPLACEMENT PLAN

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

PLAN NOTES:

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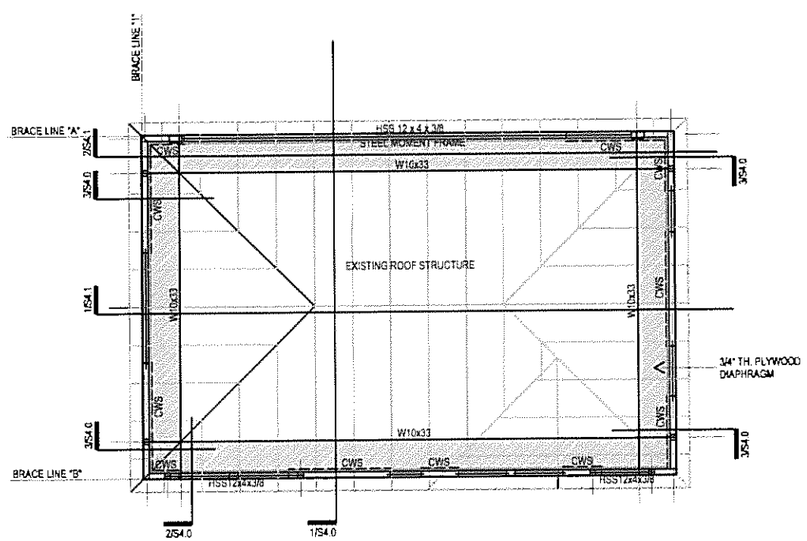

PLAN NORTH

ROOF FRAMING & BRACING PLAN

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

PLAN NOTES:

1. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.

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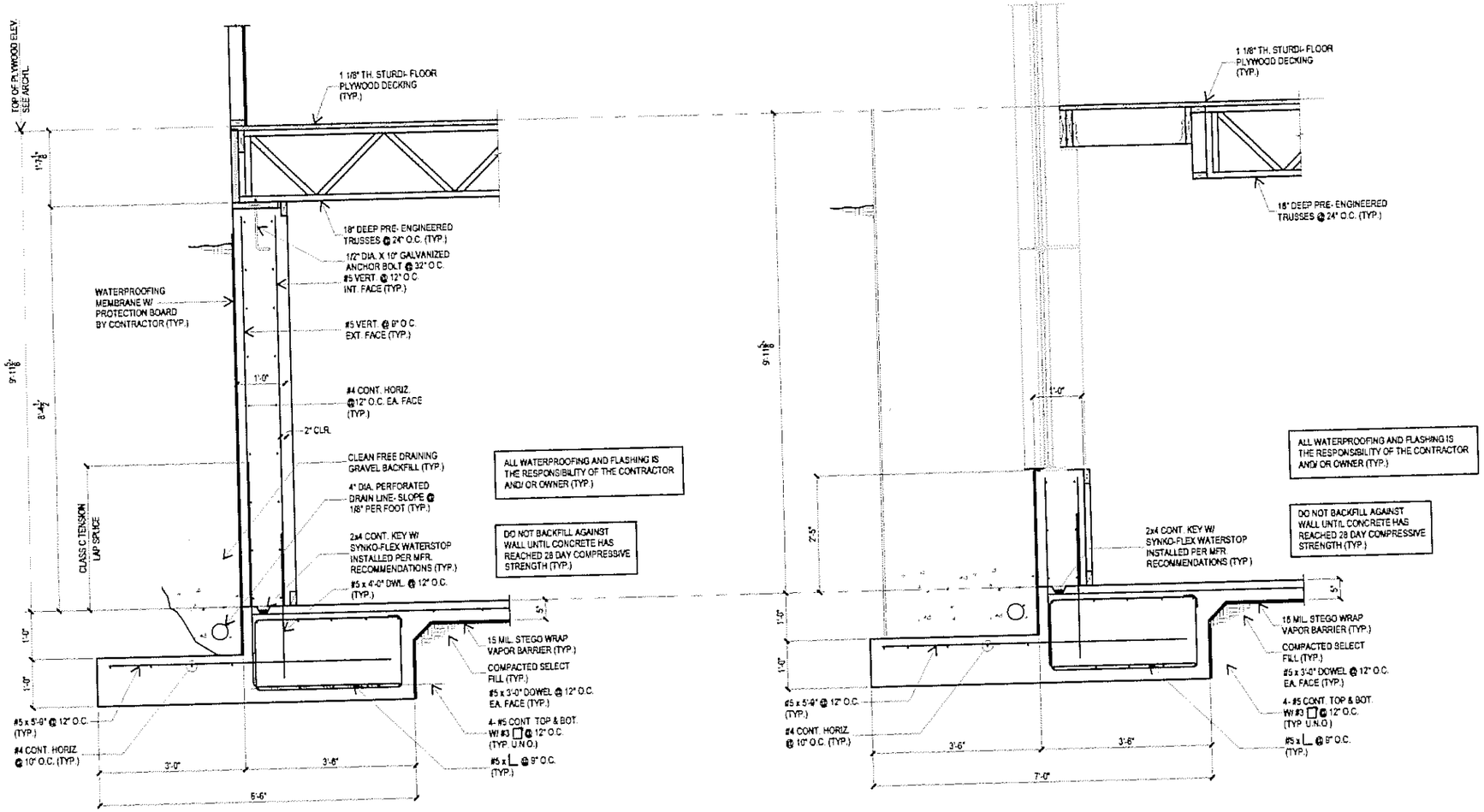

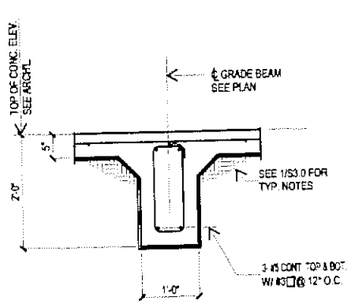

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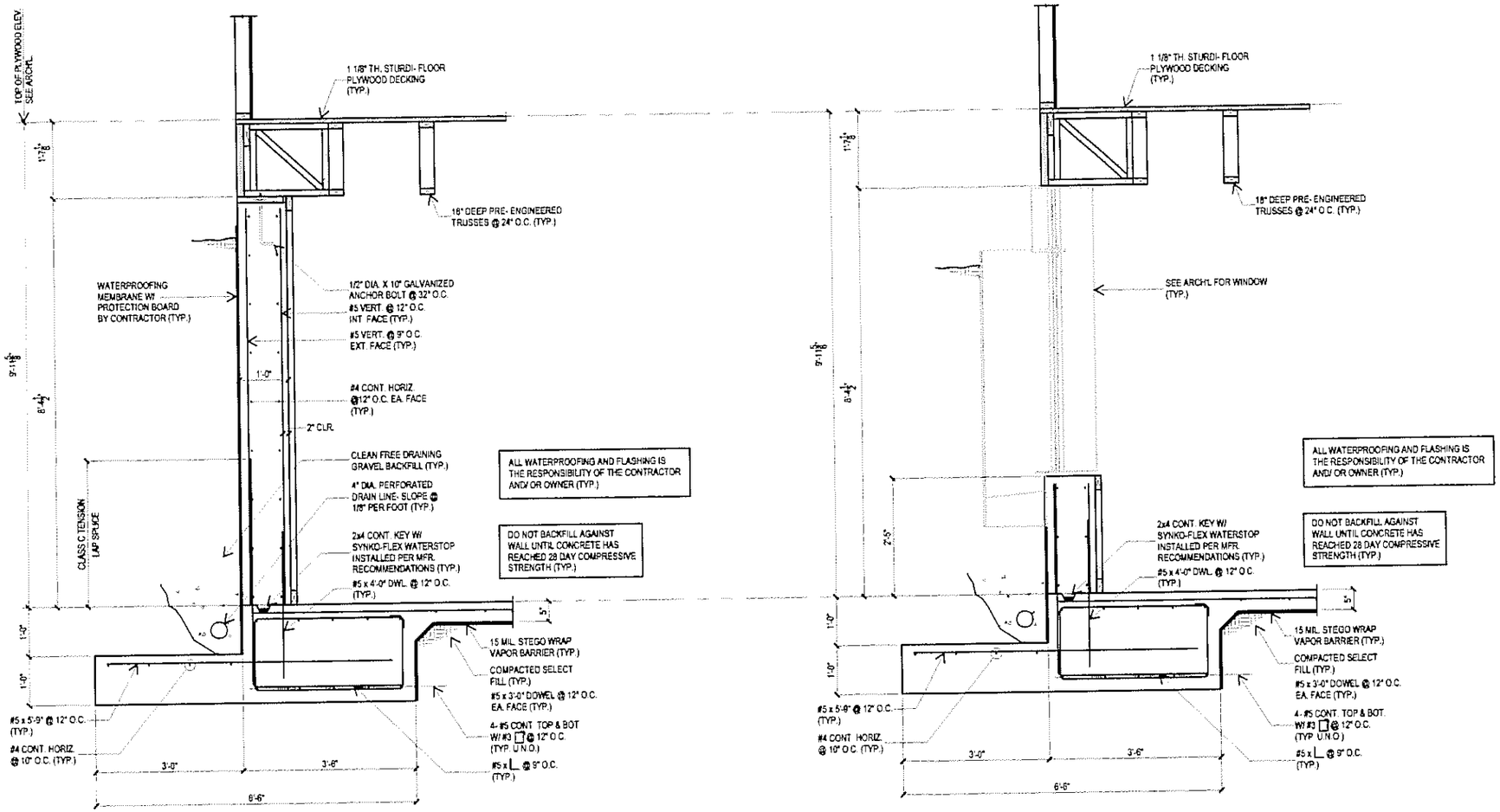

1 3/8"=1'-0"

2 3/8"=1'-0"

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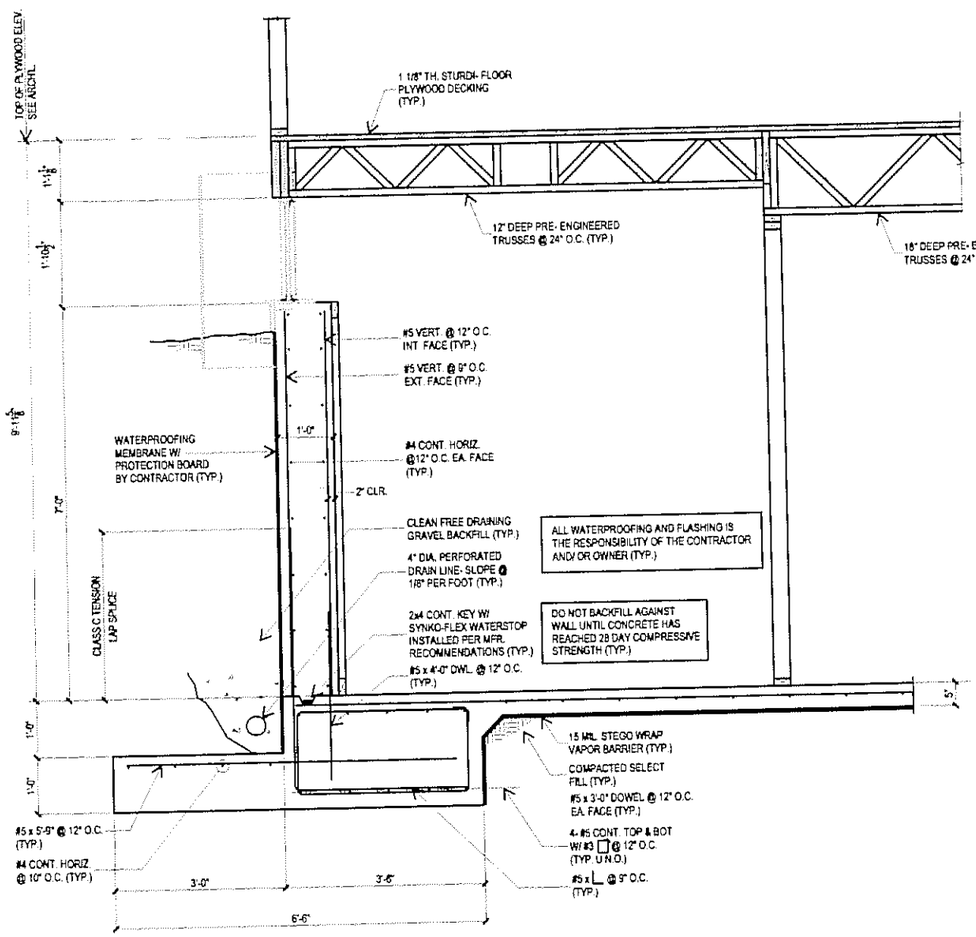

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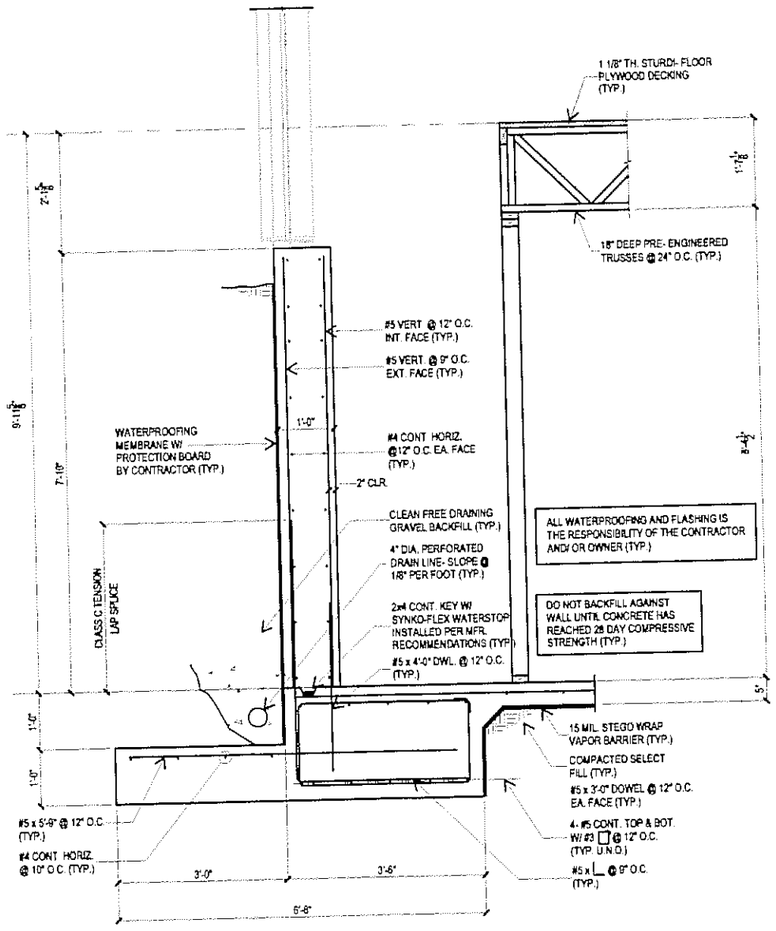

2 3/8"=1'-0"

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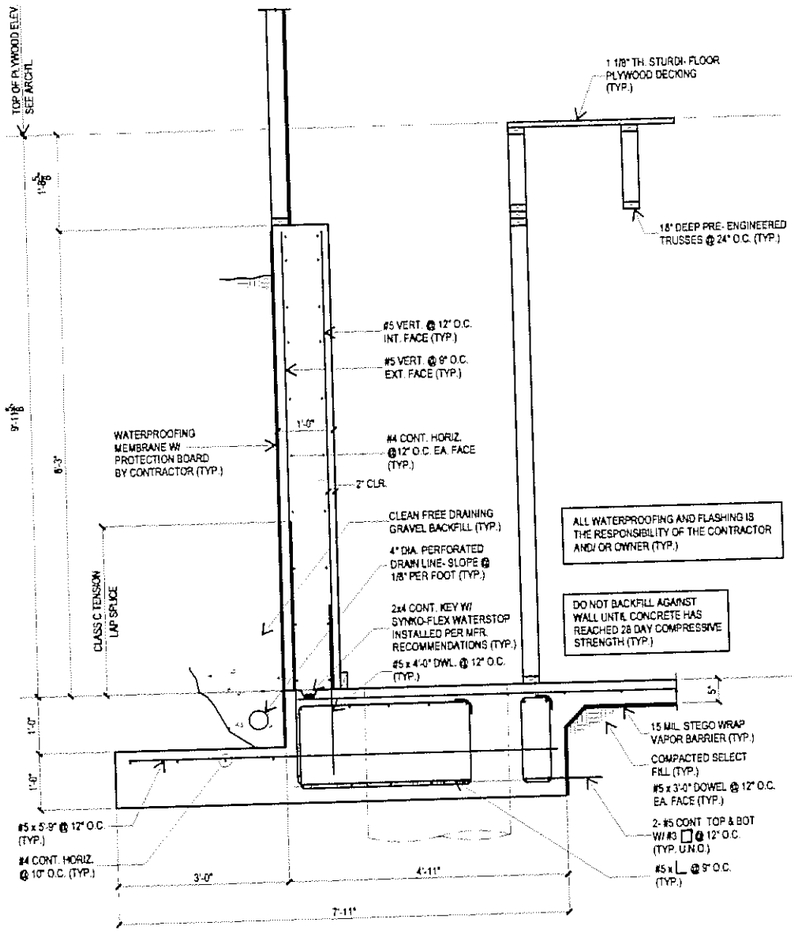

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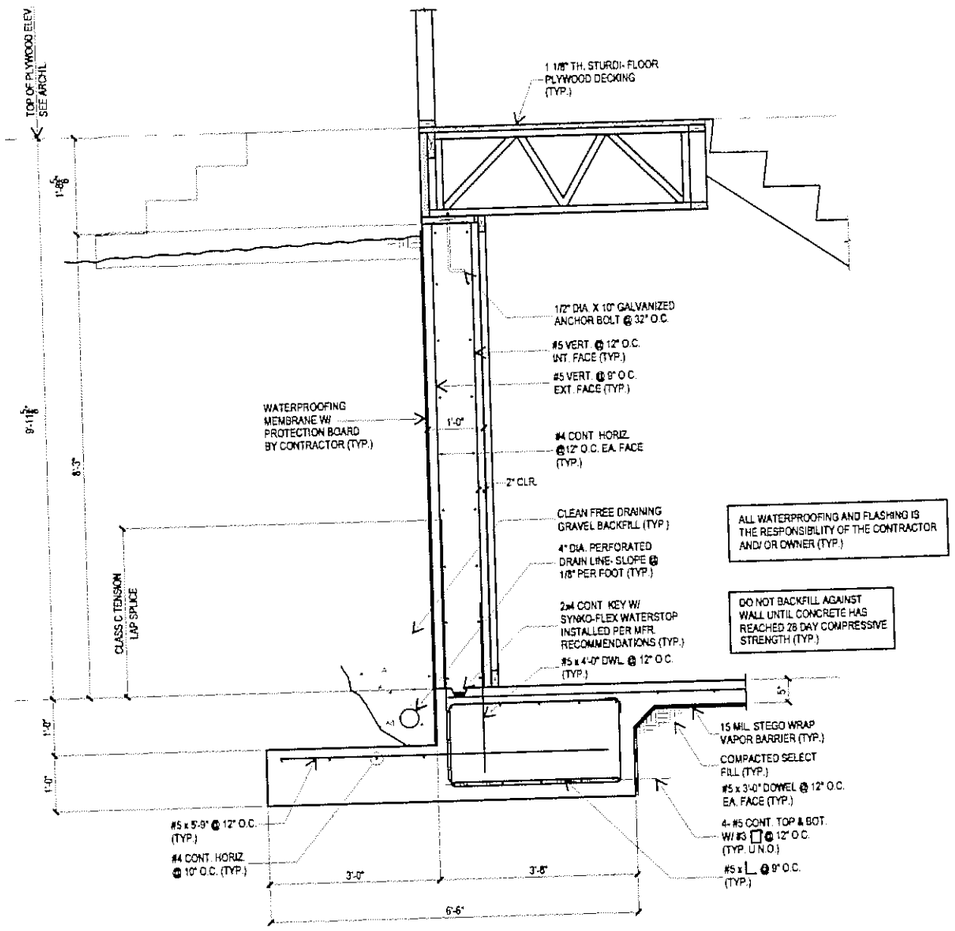

2 3/8"=1'-0"

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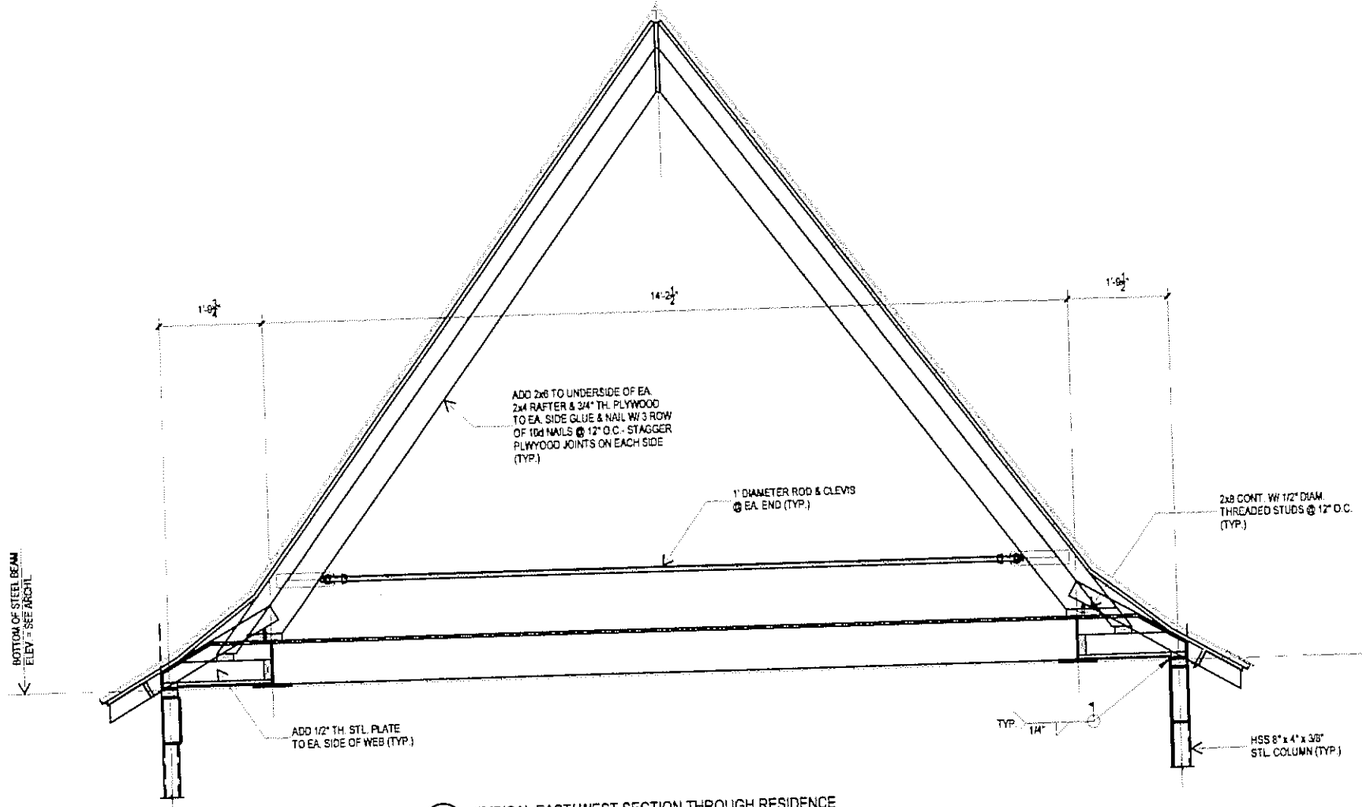
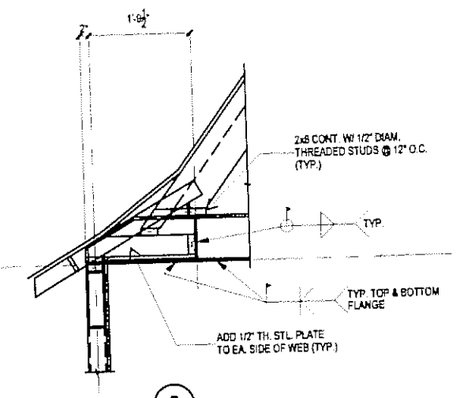


1 TYPICAL EAST/ WEST SECTION THROUGH RESIDENCE
SCALE: 3/8" = 1'-0"



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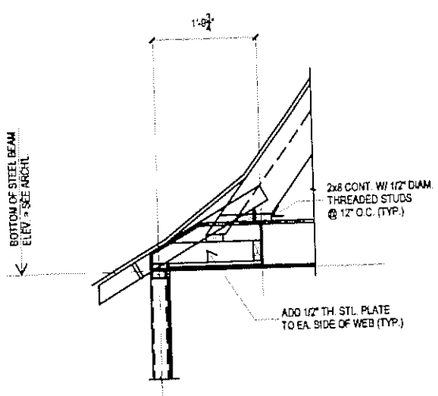

3 3/8" = 1'-0"

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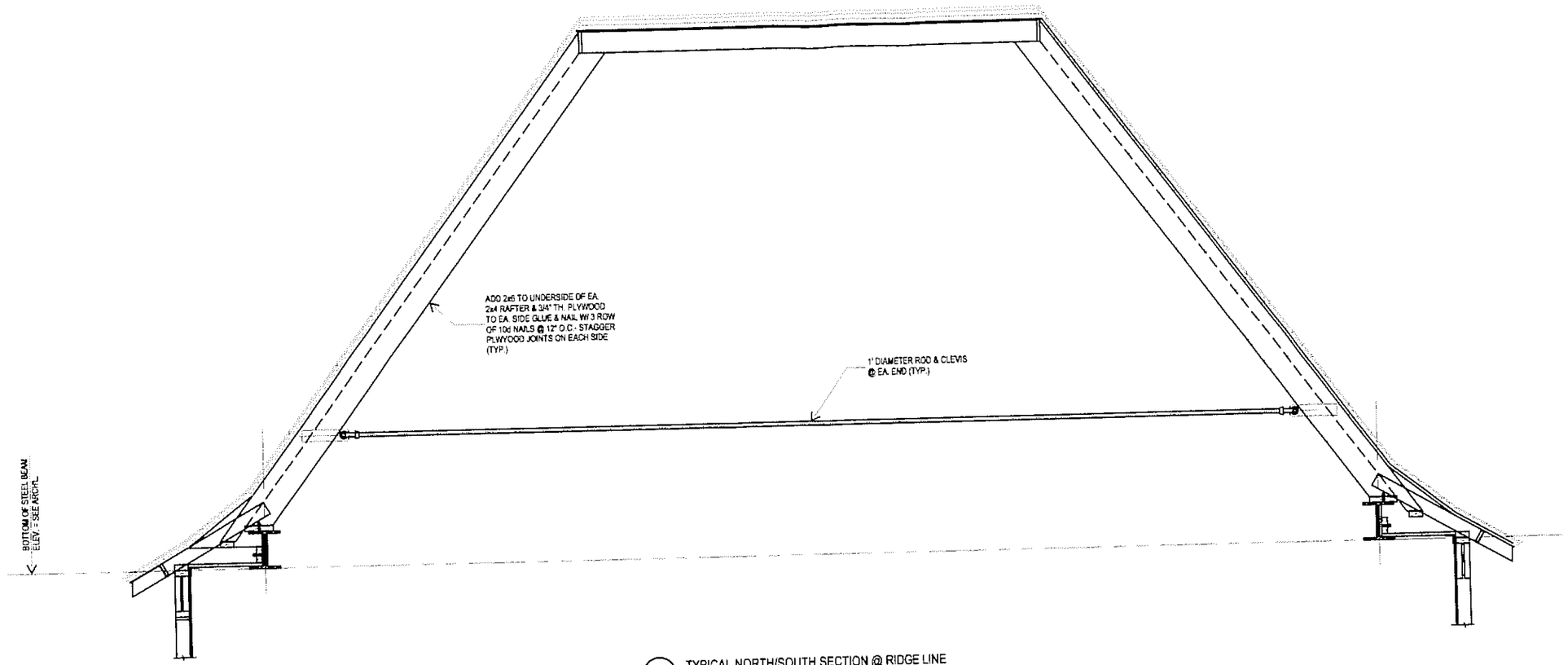
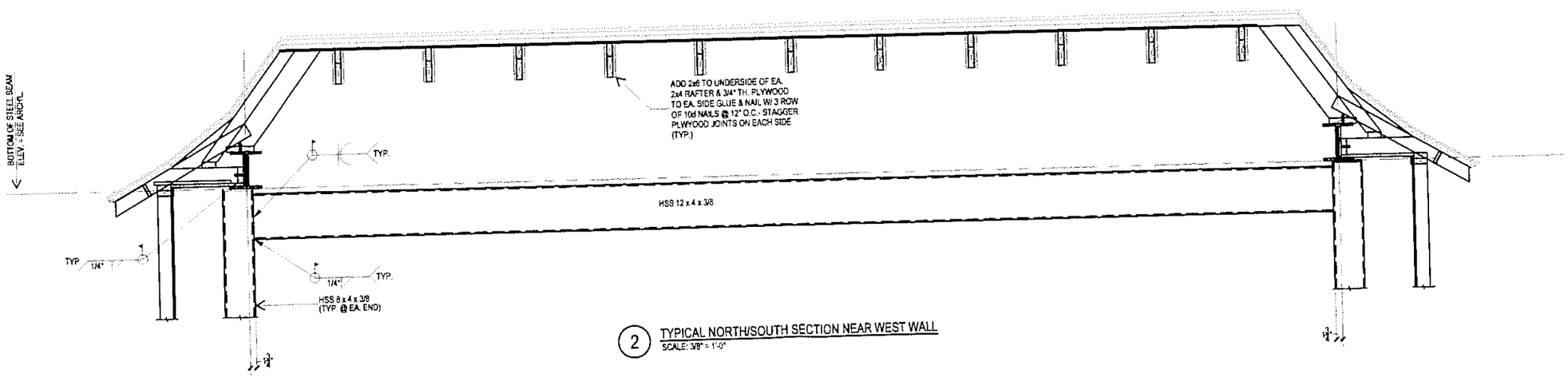


1 TYPICAL NORTH/SOUTH SECTION @ RIDGE LINE
SCALE: 3/8" = 1'-0"



2 TYPICAL NORTH/SOUTH SECTION NEAR WEST WALL
SCALE: 3/8" = 1'-0"

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