

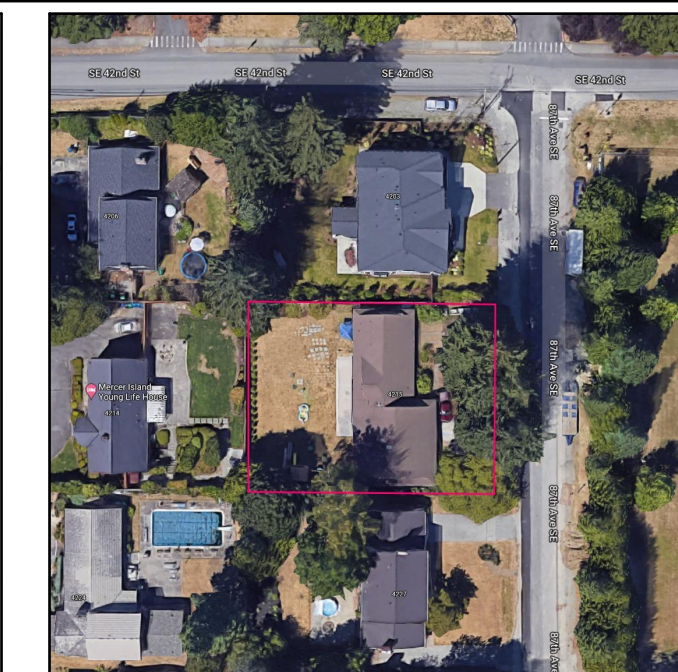
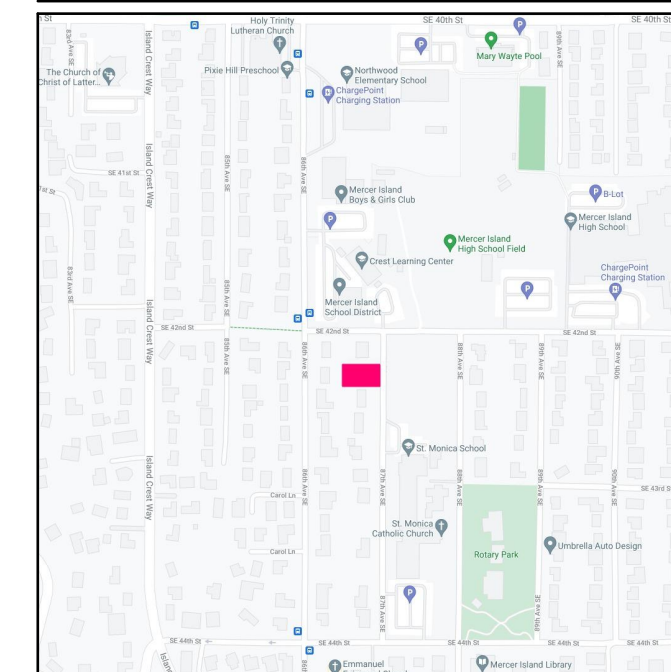
# BALDWIN RESIDENCE

## PROJECT INFORMATION

PROJECT ADDRESS: 4215 87th Ave SE, Mercer Island, WA 98040  
 OWNER: BALDWIN TYLER+ELLISSA  
 JURISDICTION: MERCER ISLAND  
 PARCEL #: 362250-0115  
 LEGAL DESCRIPTION: ISLAND CREST ADD Plat Block: 1 Plat Lot: 23  
 ZONING: R-9.6



## VICINITY MAP



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A0.00	COVER SHEET
A0.01	SITE PLAN
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A1.01	FIRST FLOOR EXISTING
A1.02	FIRST FLOOR DEMO
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## CLIENT APPROVAL

DATE: \_\_\_\_\_

## REVISIONS

DATE: \_\_\_\_\_

## NOTES

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

REPRESENTATIVE: GH

DRAWN BY: KHS

DESIGNER: YA

PROJECT #: 7070-D

SHEET SIZE: 24 x 36

## PROGRESS SET

## COVER SHEET

**A0.00**

PRINT DATE 9/26/2022

**PROPERTY INFORMATION**

PROJECT ADDRESS: 4215 87th Ave SE, Mercer Island, WA 98040  
 OWNER: BALDWIN TYLER+ELLISSA  
 JURISDICTION: MERCER ISLAND  
 PARCEL #: 362250-0115  
 LEGAL DESCRIPTION: ISLAND CREST ADD Plat Block: 1 Plat Lot: 23  
 WATER: WATER DISTRICT  
 SEWER: PUBLIC  
 YEAR BUILT: 1963

**ZONING**

ZONING DESIGNATION: R-9.6  
 FRONT YARD SETBACK: 20'  
 SIDE YARD SETBACK: 17% OF LOT WIDTH = 17.85' TOTAL  
 REAR YARD SETBACK: 25'  
 MAX BUILDING HEIGHT: 30'  
 MAX GFA: 40%  
 MAX IMPERVIOUS SURFACE: 40%

**IMPERVIOUS SURFACE**

MAX IMPERVIOUS SURFACE: 40%

**EXISTING FOOTPRINT**  
 BUILDING FOOTPRINT: 2,380 sqft  
 OPEN PORCH: 80 sqft  
 LOT AREA: 14,280 sqft  
 EXISTING IMPERVIOUS: 17.2%

**PROPOSED FOOTPRINT**  
 BUILDING FOOTPRINT: 2,504 sqft  
 PROPOSED DECK: 55 sqft  
 LOT AREA: 14,280 sqft  
 PROPOSED IMPERVIOUS: 17.9%

**GROSS FLOOR AREA (GFA)**

MAX GFA: 40%

**EXISTING AREA**  
 BASEMENT: 840 sqft  
 1ST FLOOR: 2,380 sqft  
 2ND FLOOR: 1,415 sqft  
 ATTACHED GARAGE: 380 sqft  
 TOTAL FLOOR AREA: 5,015 sqft  
 LOT AREA: 14,280 sqft  
 EXISTING GFA: 35.1%

**PROPOSED AREA**  
 BASEMENT: 840 sqft  
 1ST FLOOR: 2,504 sqft  
 2ND FLOOR: 1,801 sqft  
 ATTACHED GARAGE: 380 sqft  
 TOTAL FLOOR AREA: 5,525 sqft  
 LOT AREA: 14,280 sqft  
 PROPOSED GFA: 38.7%

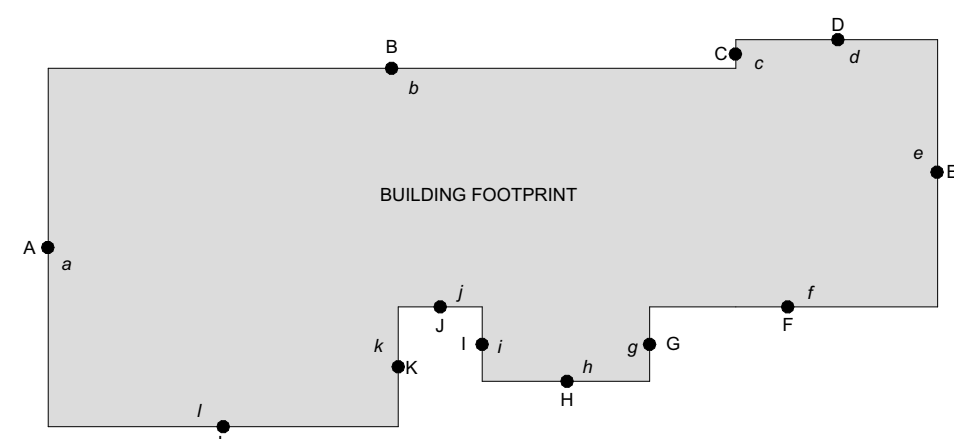
**NOTES**

NO TREES TO BE REMOVED

**LOT SLOPE**

LOWEST POINT: 342'  
 HIGHEST POINT: 346'  
 ELEVATION DIFFERENCE: 4'  
 HORIZONTAL DIFFERENCE: 105.3'  
 CALCULATION:  $4/105.3 \times 100 = 3.79$

**ABE CALCULATION**



MIDPOINT ELEVATION	WALL SEGMENT LENGTH
A= 345.8'	a= 37.3'
B= 345'	b= 71.6'
C= 344'	c= 3'
D= 344'	d= 21'
E= 344'	e= 27.9'
F= 344'	f= 25.8'
G= 344'	g= 11.2'
H= 344.5'	h= 16.5'
I= 345'	i= 11.2'
J= 344.5'	j= 13.8'
K= 345'	k= 12.6'
L= 345.3'	l= 36.4'

**ABE CALCULATION**

$$(Axa)+(Bxb)+(Cxc)+(Dxd)+(Exe)+(Fxf)+(Gxg)+(Hxh)+(Ixi)+(Jxj)+(Kxk)+(Lxl)$$

$$a + b + c + d + e + f + g + h + i + j + k + l$$

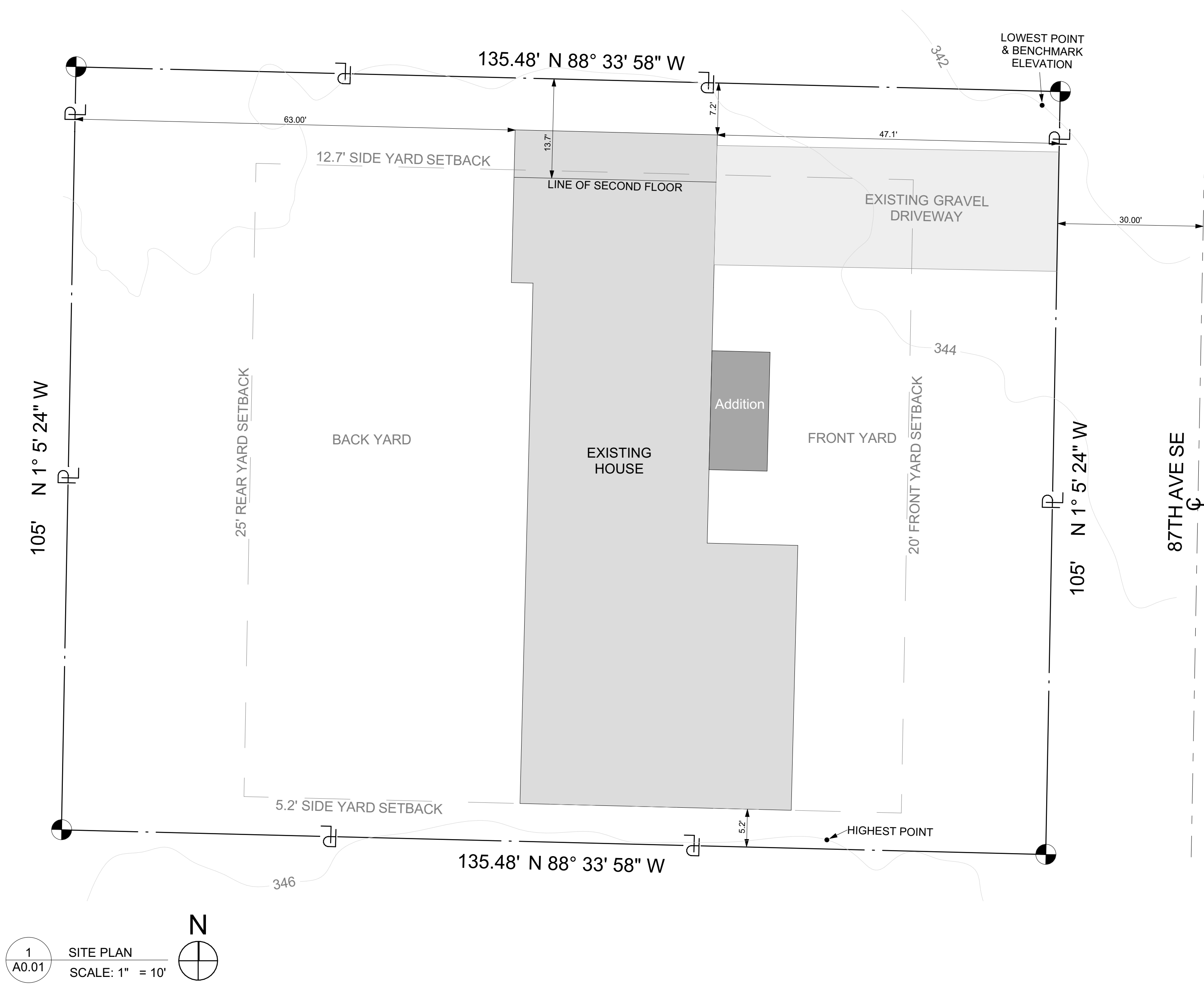
$$(345.8 \times 37.3) + (345 \times 71.6) + (344 \times 3) + (344 \times 21) + (344 \times 27.9) + (344 \times 25.8) + (344 \times 11.2) + (344.5 \times 16.5) + (345 \times 11.2) + (344.5 \times 13.8) + (345 \times 12.6) + (345.3 \times 36.4)$$

$$37.3 + 71.6 + 3 + 21 + 27.9 + 25.8 + 11.2 + 16.5 + 11.2 + 13.8 + 12.6 + 36.4$$

$$(12,898.34) + (24,702) + (1,032) + (7,224) + (9,597.6) + (8,875.2) + (3,852.8) + (5,684.25) + (3,864) + (4,754.1) + (4,347) + (12,568.92) = \frac{99,400.21}{288.3} = 344.8'$$

**BUILDING HEIGHT**

MAX BUILDING HEIGHT: 30'  
 PROPOSED BUILDING HEIGHT: 26'-2"



1 SITE PLAN  
 A0.01 SCALE: 1" = 10'

CLIENT APPROVAL

DATE

REVISIONS

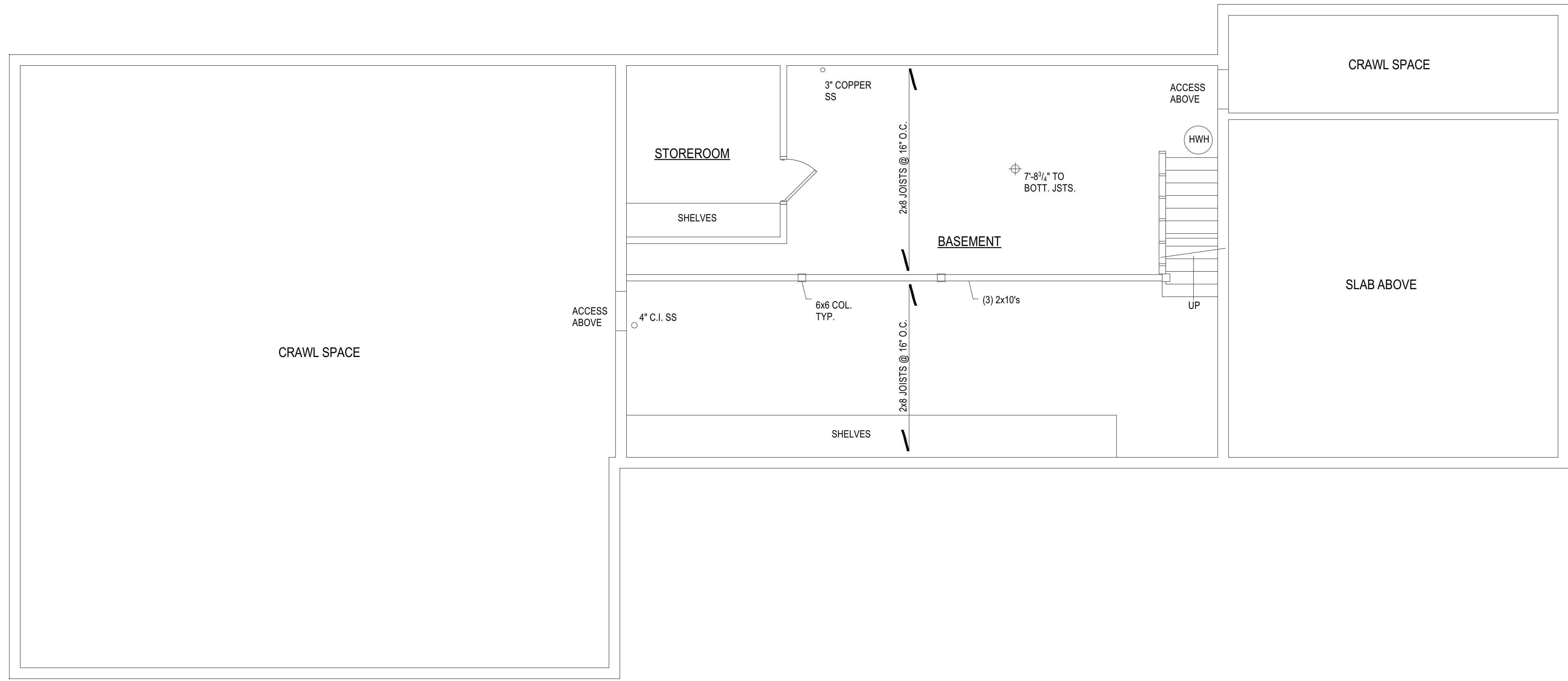
DATE

NOTES

REPRESENTATIVE: GH  
 DRAWN BY: KHS  
 DESIGNER: YA  
 PROJECT #: 7070-D  
 SHEET SIZE: 24 x 36

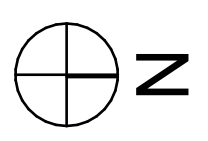
PROGRESS SET

SITE PLAN



LEGEND	
EXISTING:	—————
DEMO:	- - - - -

1  
A1.00 EXISTING BASEMENT  
SCALE: 1/4" = 1'-0"



CLIENT APPROVAL

DATE	DATE

REVISIONS

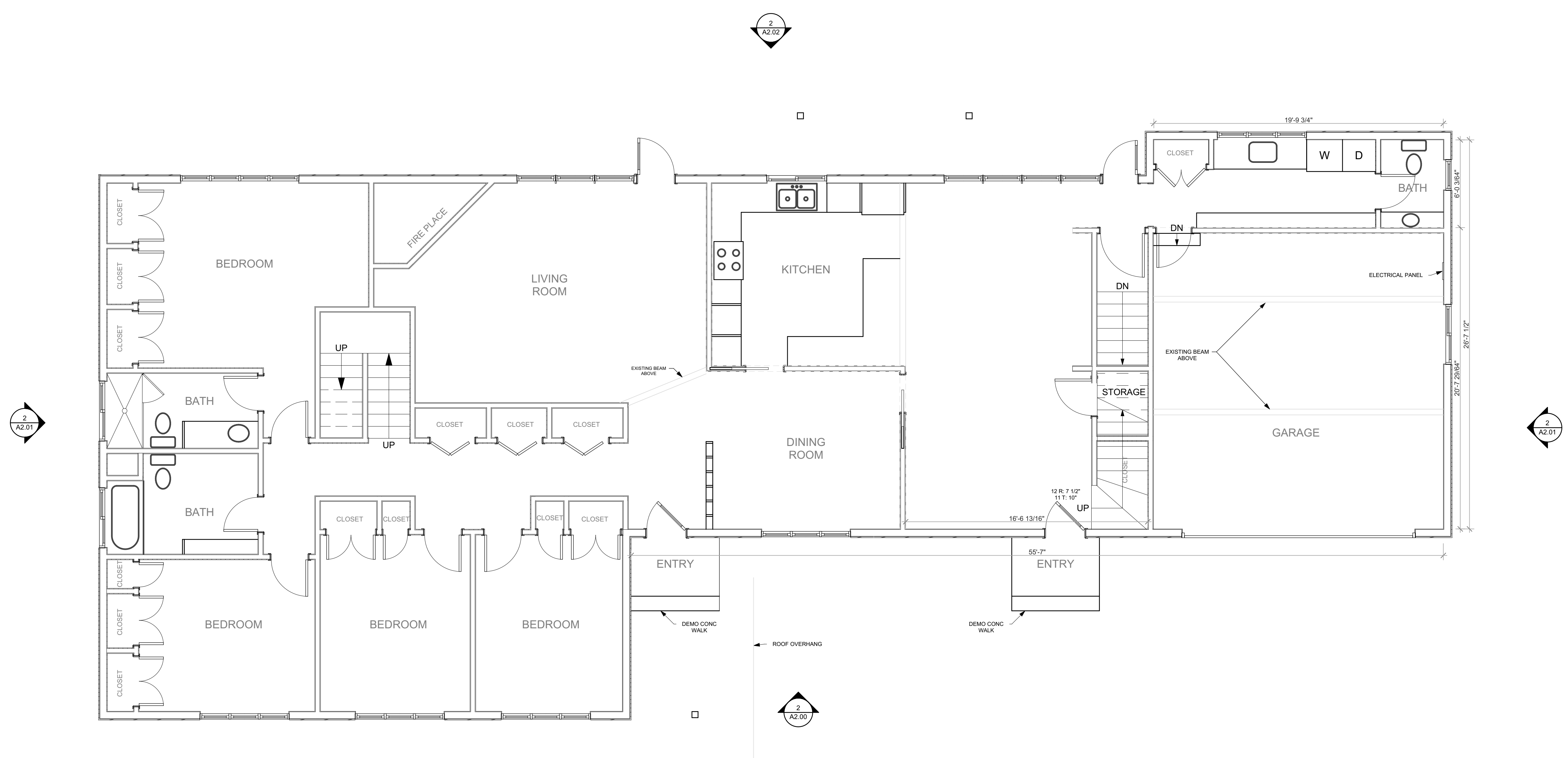

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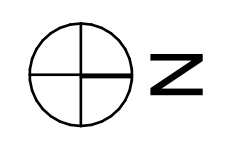

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DRAWN BY: KHS  
DESIGNER: YA  
PROJECT #: 7070-D  
SHEET SIZE: 24 x 36

PROGRESS SET


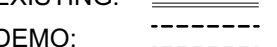
BASEMENT EXISTING

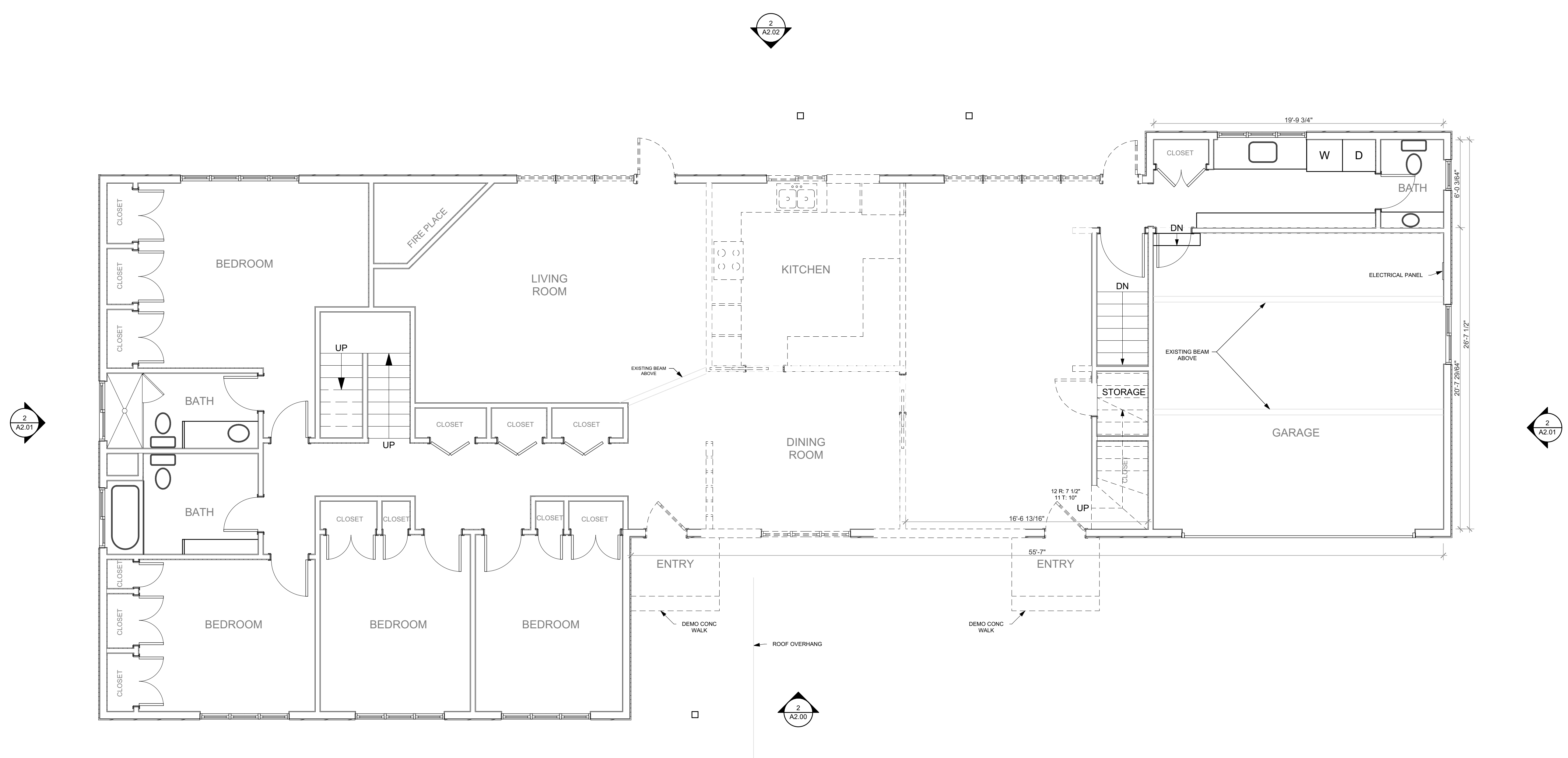
**A1.00**  
PRINT DATE 9/26/2022



**1**  
A1.01 FIRST FLOOR EXISTING  
SCALE: 1/4" = 1'-0" 

LEGEND

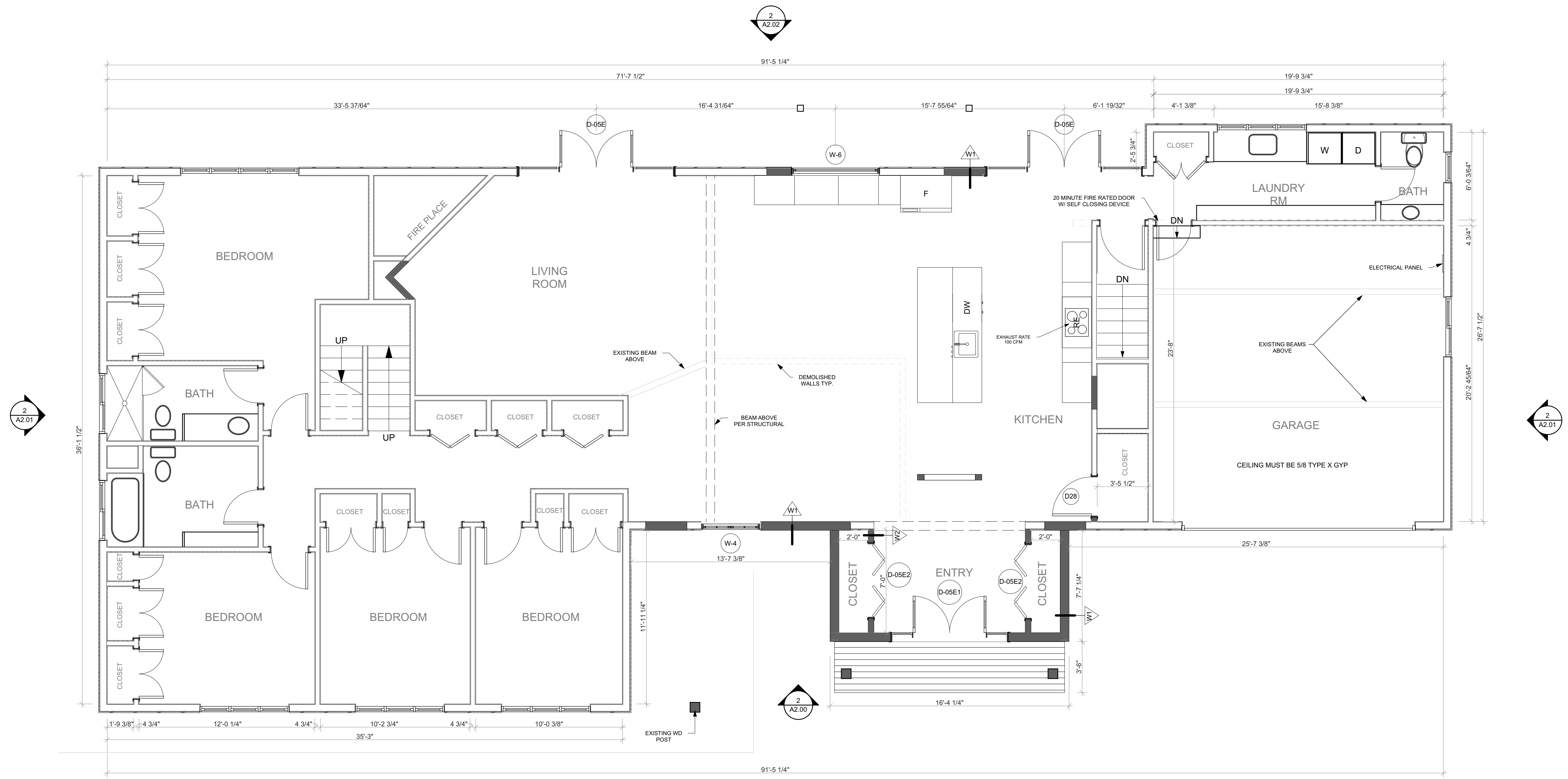
EXISTING:	
DEMO:	



**1**  
**A1.02** FIRST FLOOR DEMO  
 SCALE: 1/4" = 1'-0"

LEGEND

EXISTING:	
DEMO:	



LEGEND

EXISTING:	—
NEW:	—

**1**  
A1.03 FIRST FLOOR PROPOSED  
SCALE: 1/4" = 1'-0"

CLIENT APPROVAL

DATE	DATE

REVISIONS

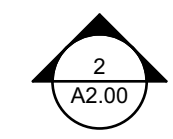
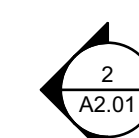
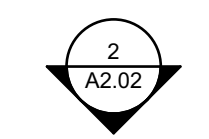
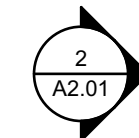
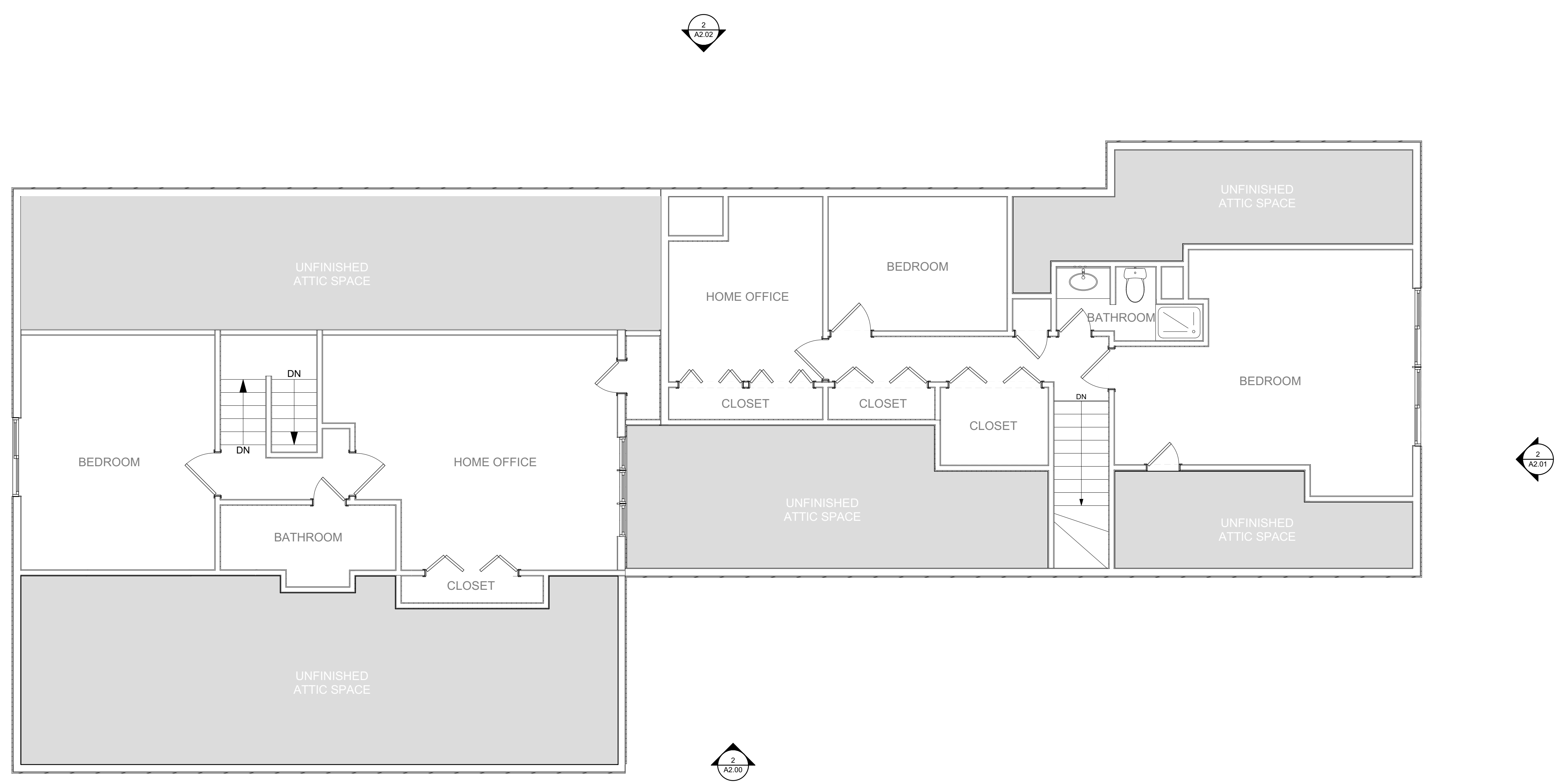

NOTES

REPRESENTATIVE: GH  
DRAWN BY: KHS  
DESIGNER: YA  
PROJECT #: 7070-D  
SHEET SIZE: 24 x 36

PROGRESS SET

FIRST FLOOR  
PROPOSED

**A1.03**  
PRINT DATE 9/26/2022



1  
 A1.04 SECOND FLOOR EXISTING  
 SCALE: 1/4" = 1'-0"

LEGEND	
EXISTING:	
DEMO:	

CLIENT APPROVAL

DATE	DATE

REVISIONS

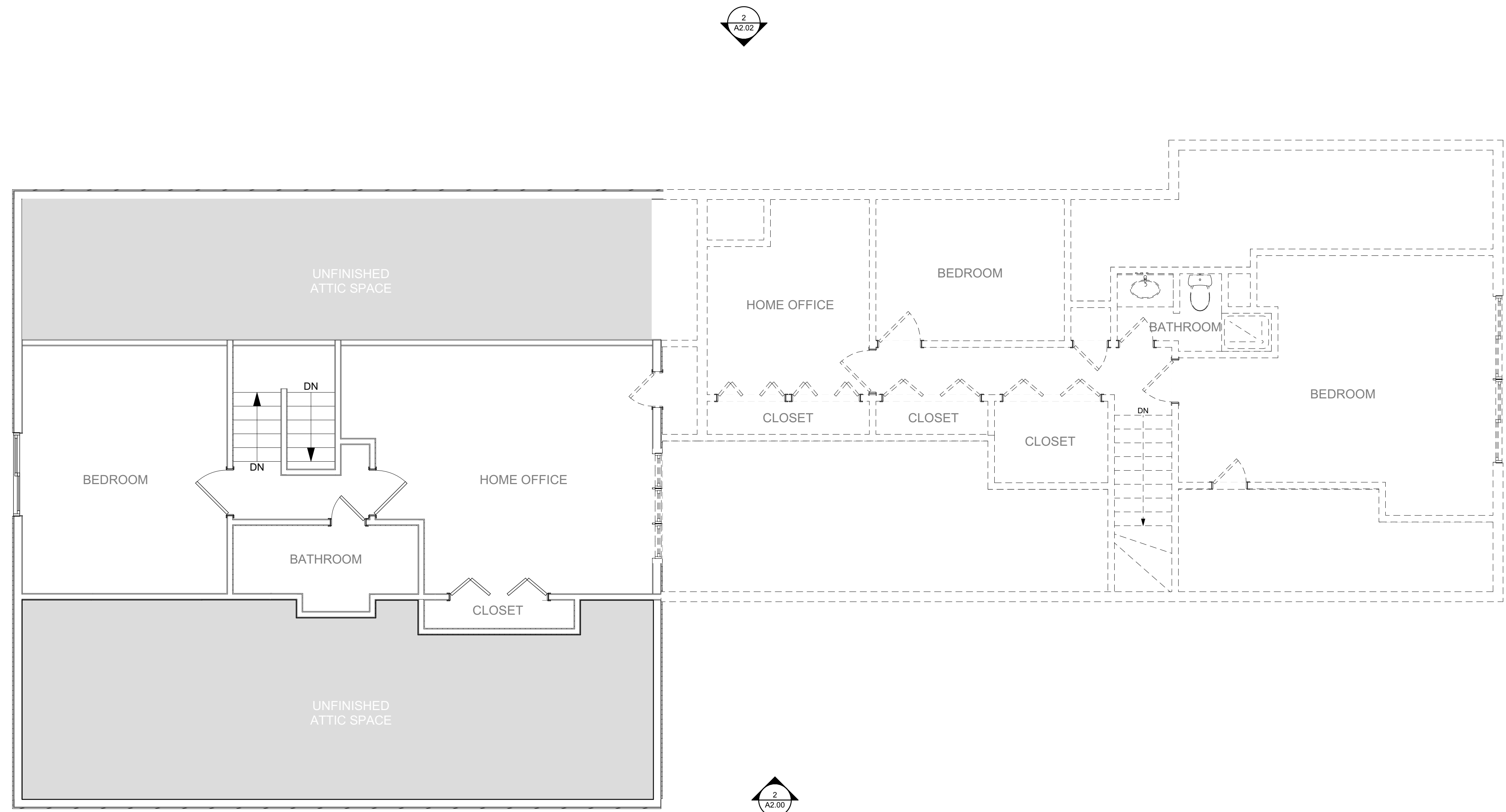

NOTES


REPRESENTATIVE: GH  
 DRAWN BY: KHS  
 DESIGNER: YA  
 PROJECT #: 7070-D  
 SHEET SIZE: 24 x 36

PROGRESS SET

SECOND FLOOR  
 EXISTING

**A1.04**  
 PRINT DATE 9/26/2022



1  
 A1.05 SECOND FLOOR DEMO  
 SCALE: 1/4" = 1'-0"

LEGEND	
EXISTING:	
DEMO:	

CLIENT APPROVAL

DATE	DATE

REVISIONS


NOTES

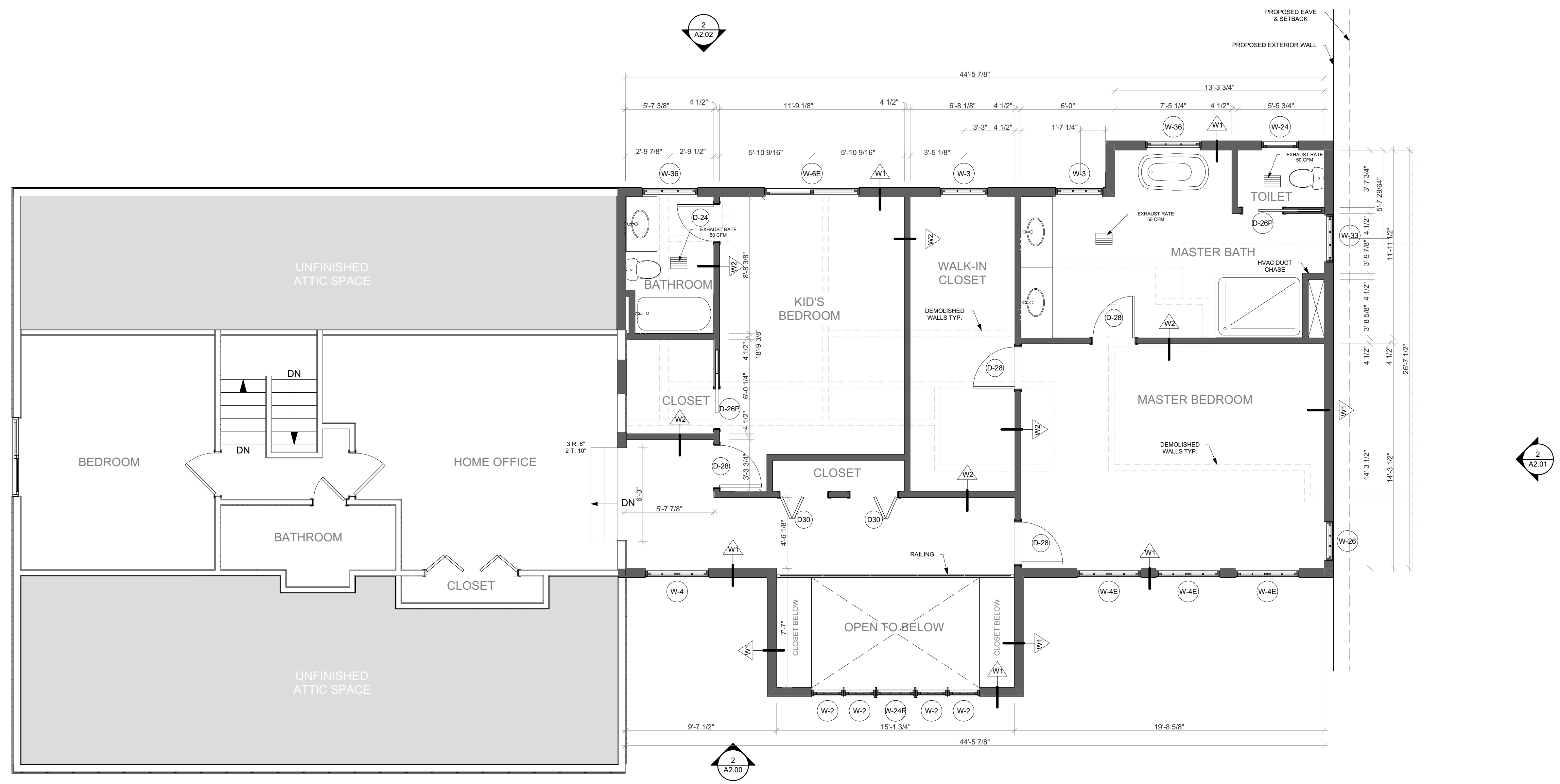

REPRESENTATIVE: GH  
 DRAWN BY: KHS  
 DESIGNER: YA  
 PROJECT #: 7070-D  
 SHEET SIZE: 24 x 36

PROGRESS SET

SECOND FLOOR DEMO

**A1.05**  
 PRINT DATE 9/26/2022





1  
A1.06 SECOND FLOOR PROPOSED  
SCALE: 1/4" = 1'-0"

LEGEND	
EXISTING:	
NEW:	

CLIENT APPROVAL

DATE	BY

REVISIONS

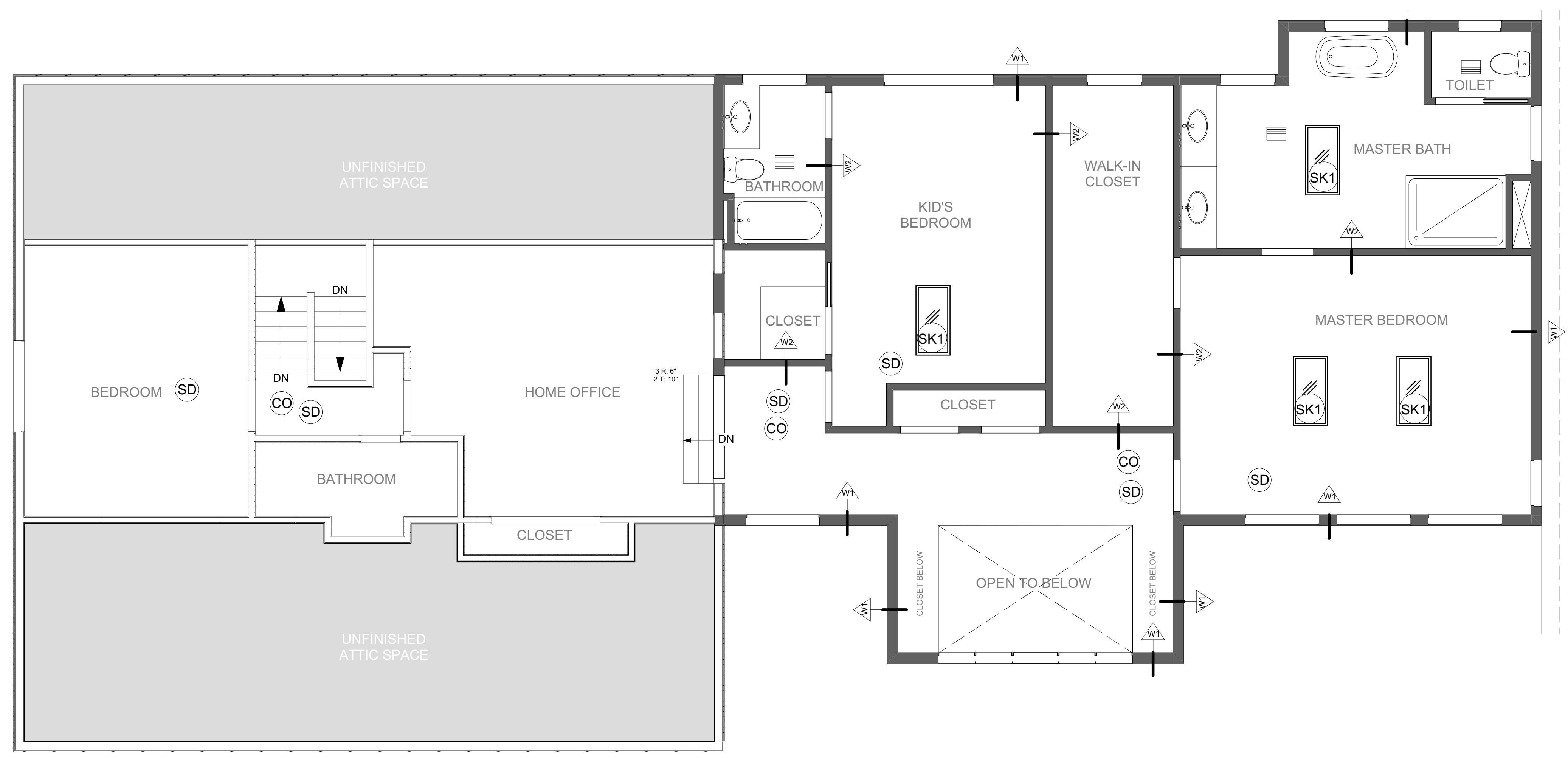
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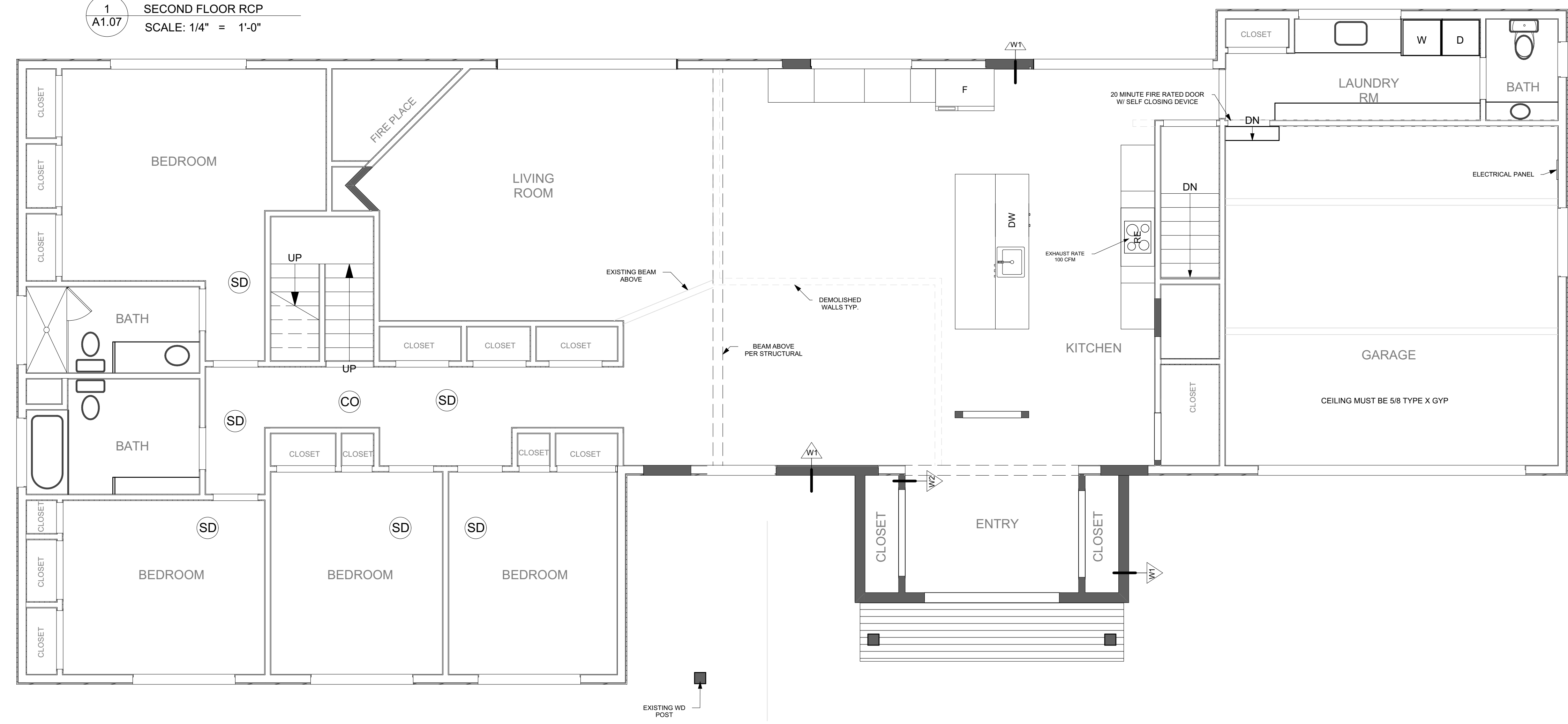
REPRESENTATIVE: GH  
DRAWN BY: KHS  
DESIGNER: YA  
PROJECT #: 7070-D  
SHEET SIZE: 24 x 36

PROGRESS SET

SECOND FLOOR PROPOSED



1 SECOND FLOOR RCP  
A1.07 SCALE: 1/4" = 1'-0"



2 FIRST FLOOR RCP  
A1.07 SCALE: 1/4" = 1'-0"

CLIENT APPROVAL

DATE	DATE
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REVISIONS

NO.	DESCRIPTION

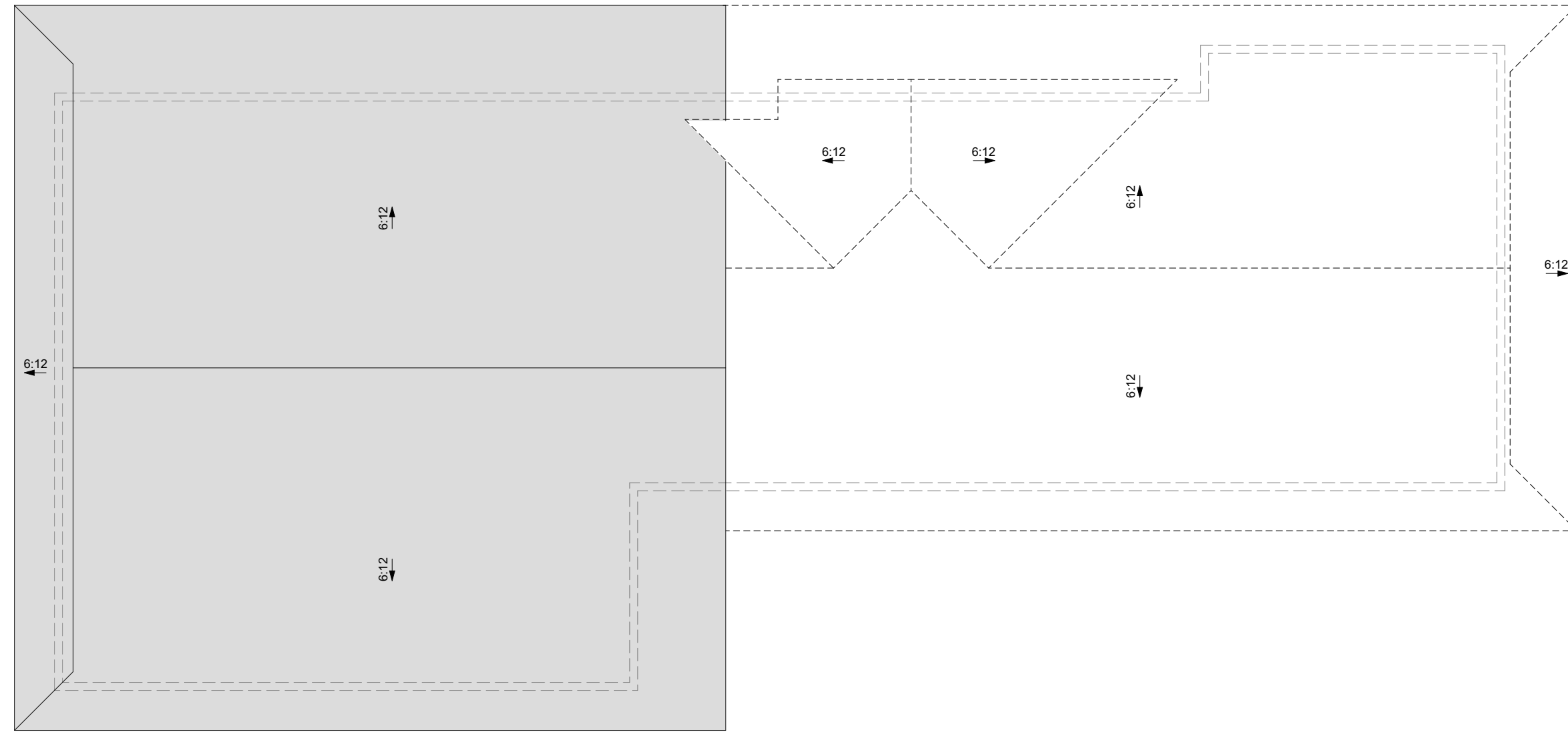
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DRAWN BY: KHS  
DESIGNER: YA  
PROJECT #: 7070-D  
SHEET SIZE: 24 x 36

PROGRESS SET

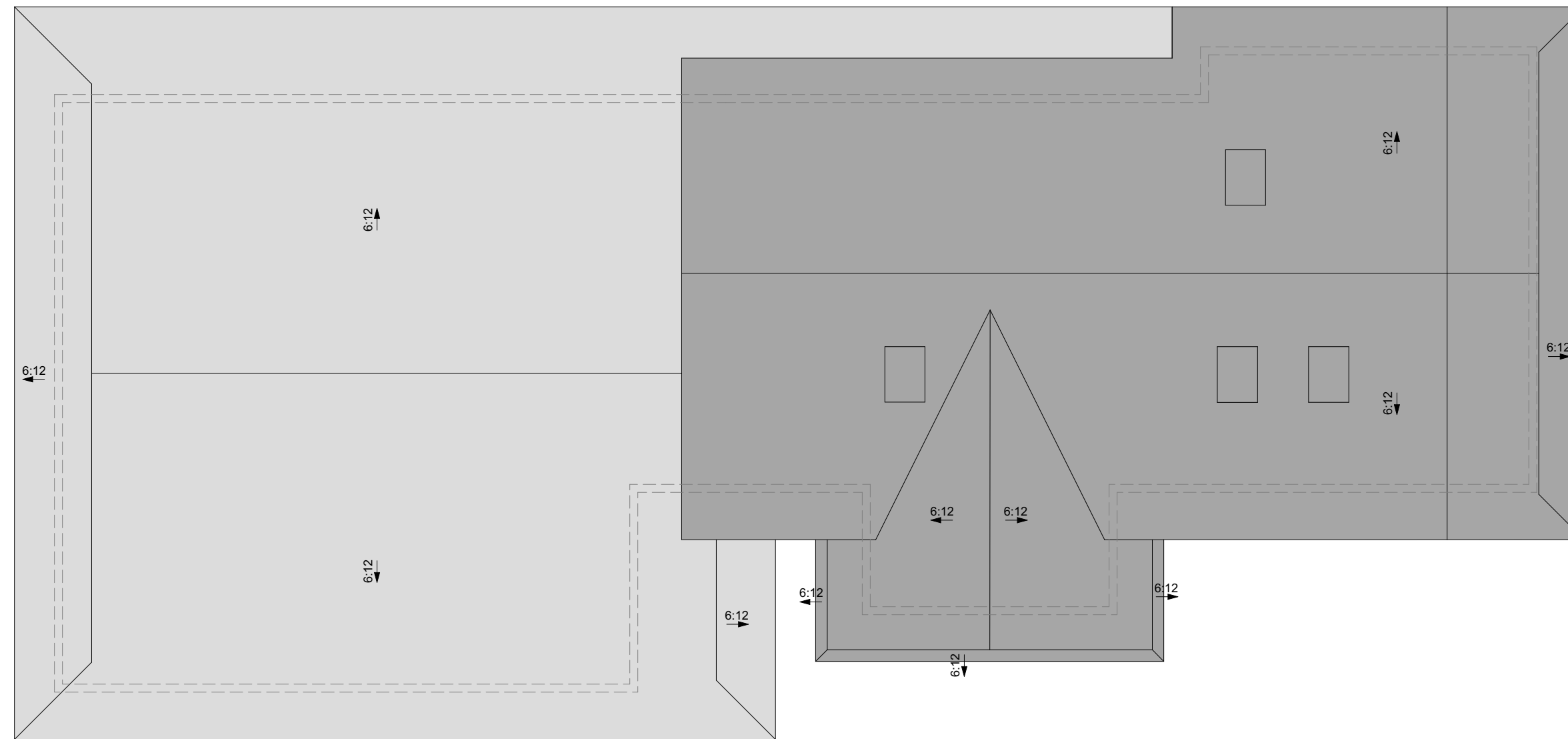
REFLECTED CEILING PLANS

EXISTING

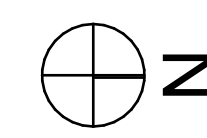


1  
A1.08 EXISTING ROOF PLAN  
SCALE: 1/8" = 1'-0"

PROPOSED



1  
A1.08 PROPOSED ROOF PLAN  
SCALE: 1/8" = 1'-0"



LEGEND	
EXISTING:	
DEMO:	
NEW:	
WALL BELOW:	

CLIENT APPROVAL

DATE	DATE

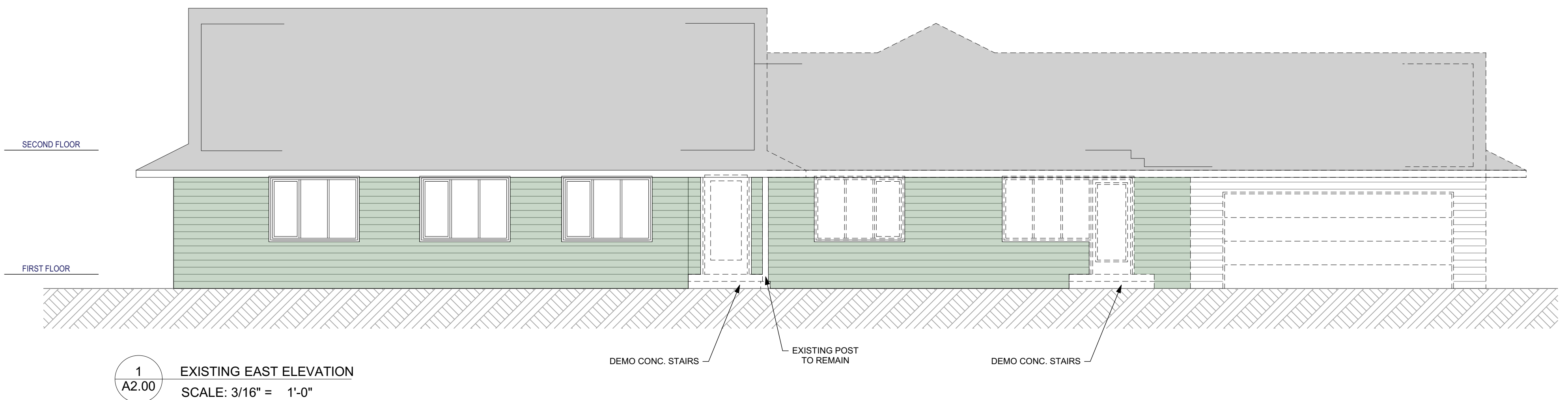
REVISIONS


NOTES

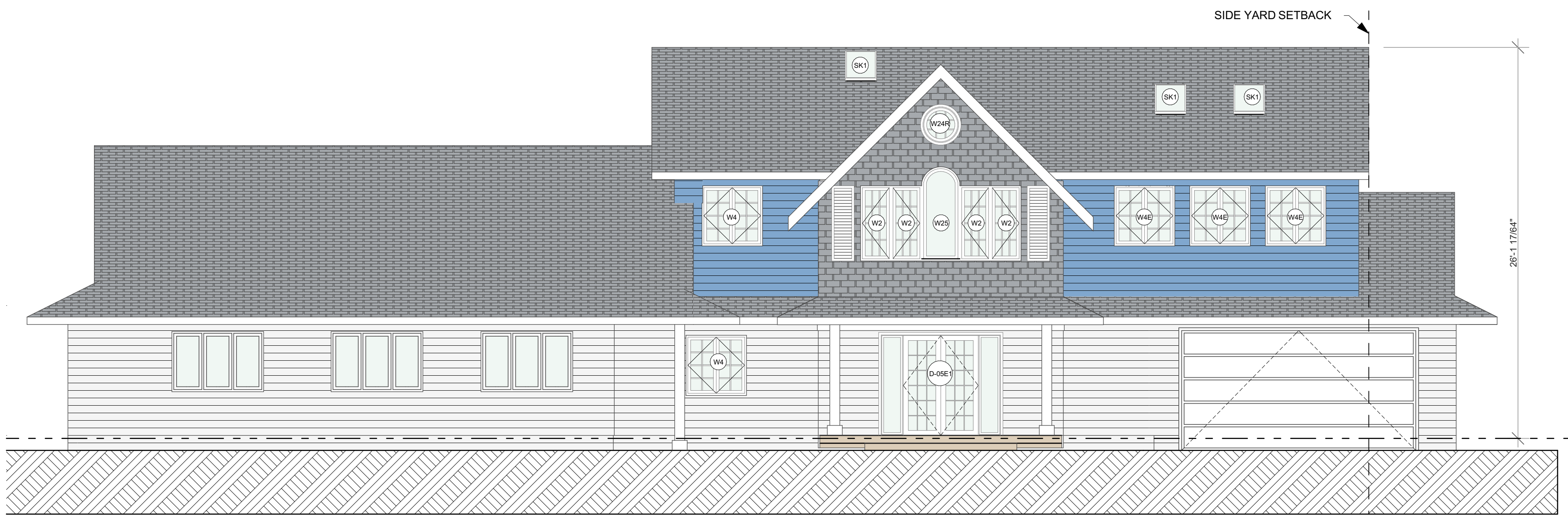

REPRESENTATIVE: GH  
DRAWN BY: KHS  
DESIGNER: YA  
PROJECT #: 7070-D  
SHEET SIZE: 24 x 36

PROGRESS SET

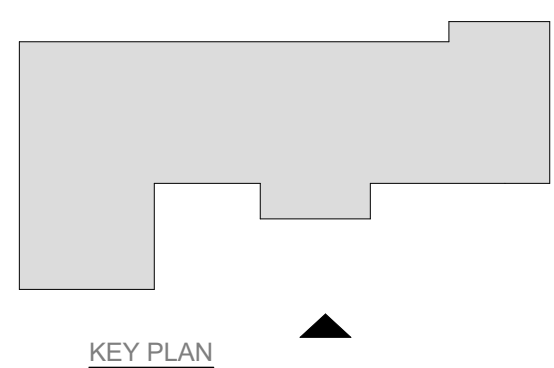
ROOF PLANS



1  
A2.00 EXISTING EAST ELEVATION  
SCALE: 3/16" = 1'-0"



2  
A2.00 PROPOSED EAST ELEVATION  
SCALE: 3/16" = 1'-0"

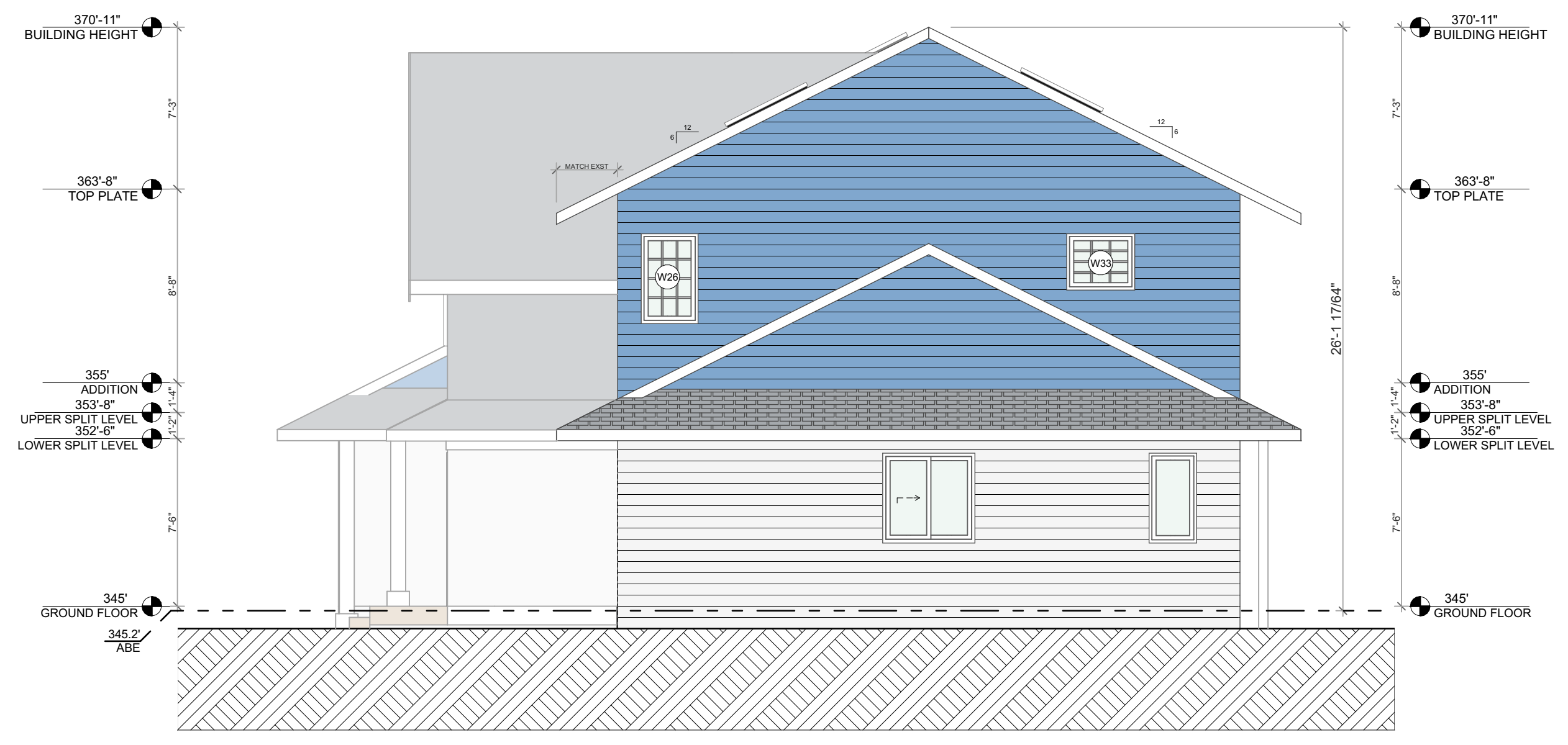




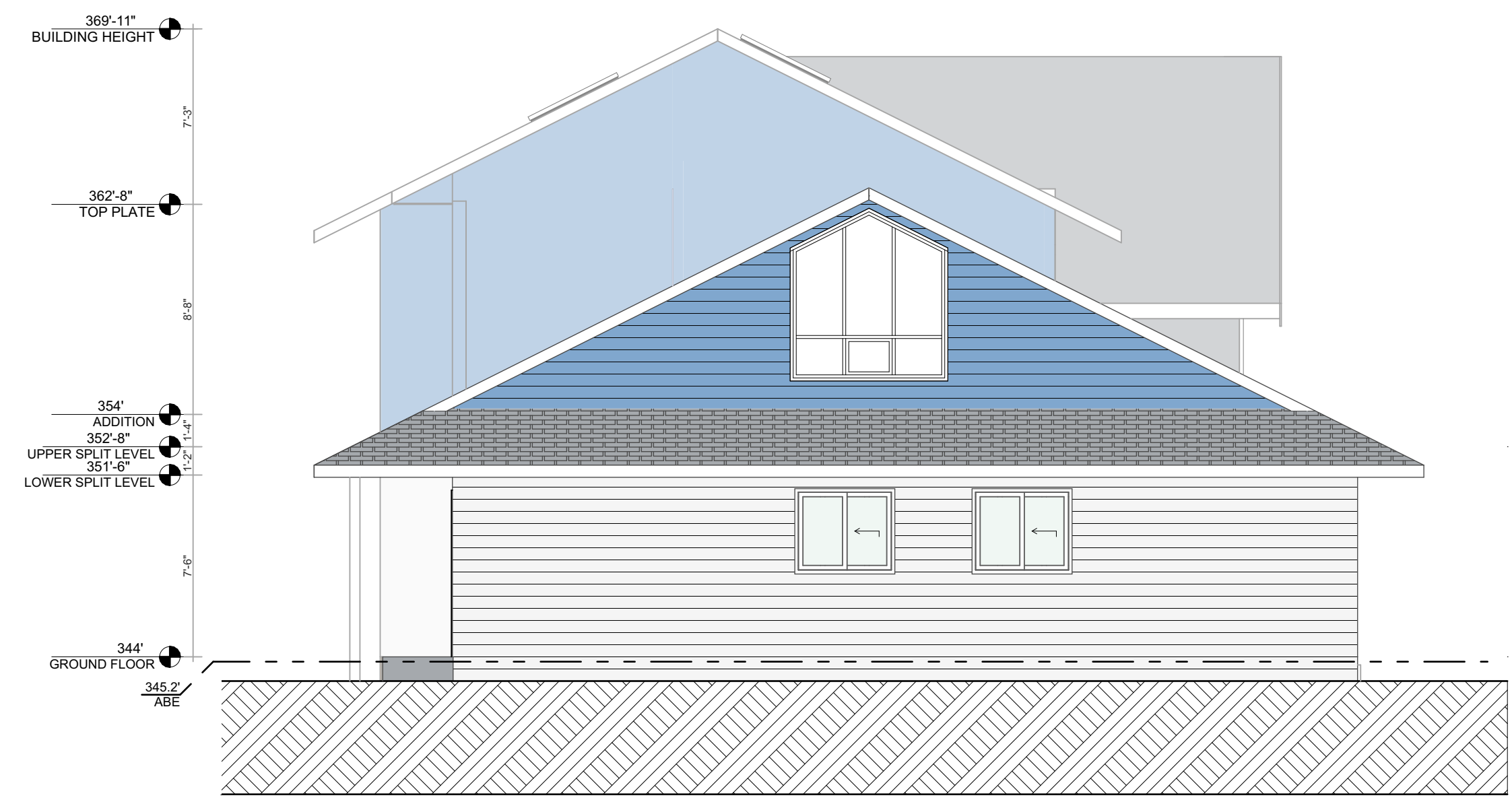
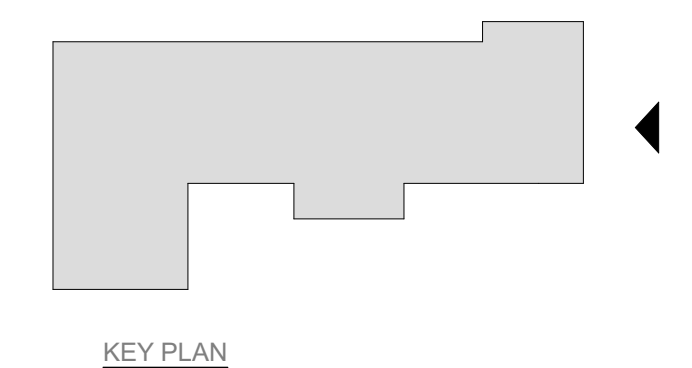
1  
 A2.01 EXISTING NORTH ELEVATION  
 SCALE: 3/16" = 1'-0"



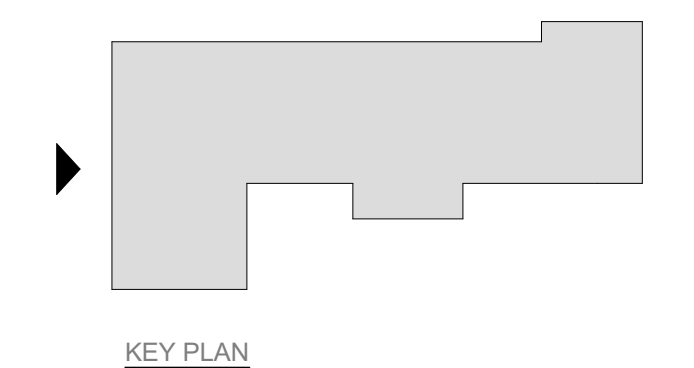
1  
 A2.01 EXISTING SOUTH ELEVATION  
 SCALE: 3/16" = 1'-0"



2  
 A2.01 PROPOSED NORTH ELEVATION  
 SCALE: 3/16" = 1'-0"



2  
 A2.01 PROPOSED SOUTH ELEVATION  
 SCALE: 3/16" = 1'-0"



CLIENT APPROVAL

REVISIONS

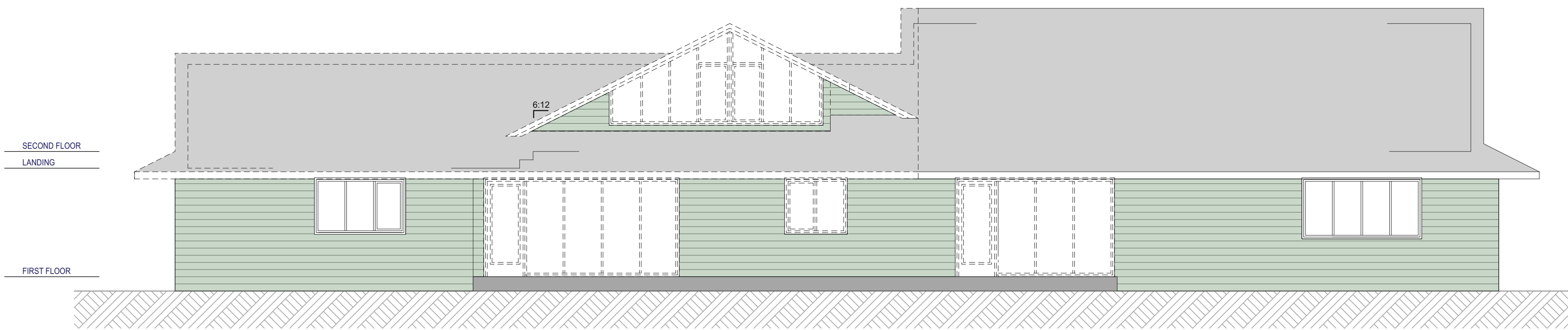
NOTES

REPRESENTATIVE: GH  
 DRAWN BY: KHS  
 DESIGNER: YA  
 PROJECT #: 7070-D  
 SHEET SIZE: 24 x 36

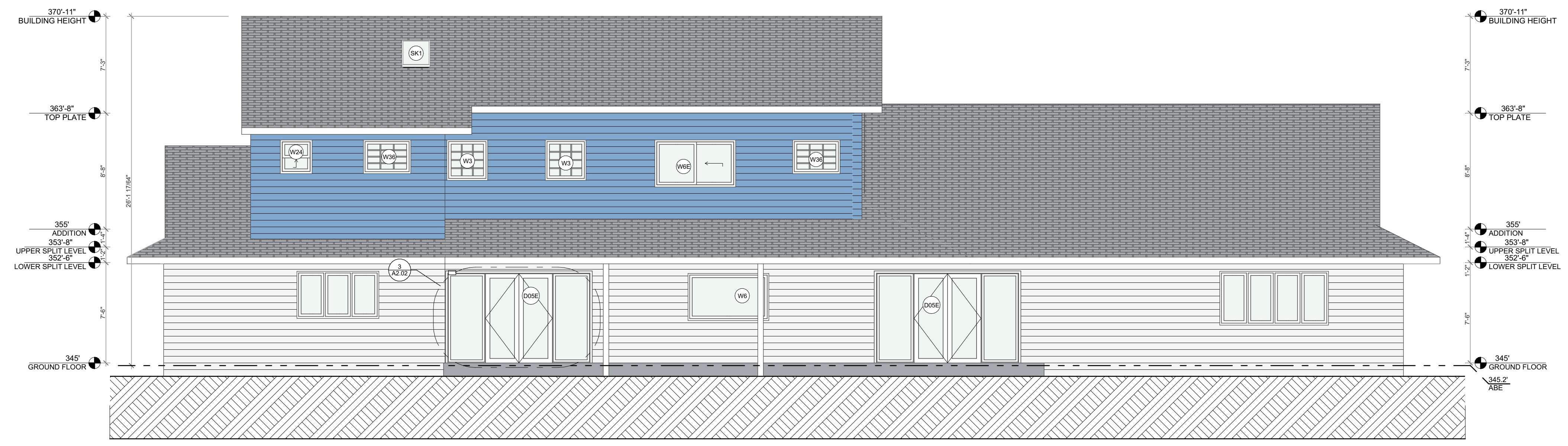
PROGRESS SET

NORTH + SOUTH ELEVATIONS

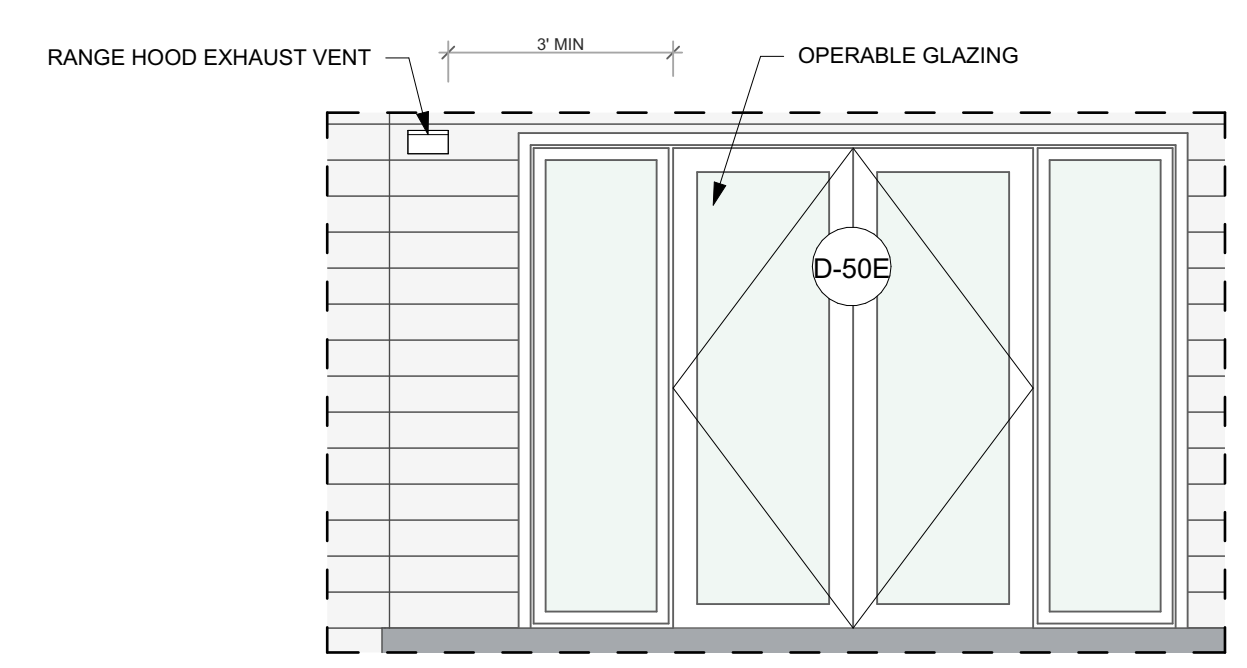
**A2.01**  
 PRINT DATE 9/26/2022



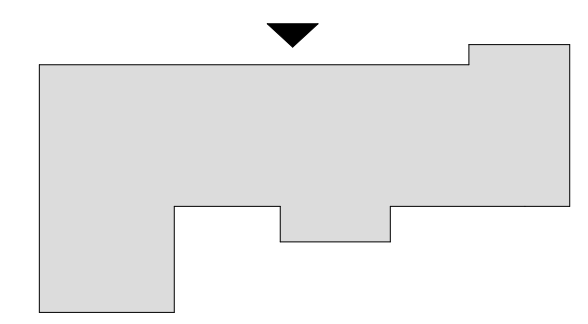
1  
A2.02 EXISTING WEST ELEVATION  
SCALE: 3/16" = 1'-0"



2  
A2.02 PROPOSED WEST ELEVATION  
SCALE: 3/16" = 1'-0"



3  
A2.02 ENLARGED PATIO GLAZING ELEVATION  
SCALE: 3/8" = 1'-0"



KEY PLAN

CLIENT APPROVAL

DATE	BY

REVISIONS

DATE	BY	DESCRIPTION

NOTES

REPRESENTATIVE: GH  
DRAWN BY: KHS  
DESIGNER: YA  
PROJECT #: 1010-D  
SHEET SIZE: 24 x 36

PROGRESS SET

WEST ELEVATION



2018 Washington State Energy Code – Residential  
Prescriptive Energy Code Compliance for All Climate Zones in Washington  
Single Family – New & Additions (effective February 1, 2021) Version 1.0

These requirements apply to all IRC building types, including detached one- and two-family dwellings and multiple single-family dwellings (townhouses).

Project Information	Contact Information
BALDWIN RESIDENCE	ARMADA DESIGN & BUILD
4215 87th Ave SE Mercer Island, WA 98040	khushboo@armadabuild.com

**Instructions:** This single-family project will use the requirements of the Prescriptive Path below and incorporate the minimum values listed. Based on the size of the structure, the appropriate number of additional credits are checked as chosen by the permit applicant.  
Provide all information from the following tables as building permit drawings: Table R402.1 - Insulation and Fenestration Requirements by Component, Table R406.2 - Fuel Normalization Credits and 406.3 - Energy Credits.

Authorized Representative: Khushboo Srivastava Date: 09/06/2022

All Climate Zones (Table R402.1.1)		
	R-Value <sup>a</sup>	U-Factor <sup>a</sup>
Fenestration U-Factor <sup>b</sup>	n/a	0.30
Skylight U-Factor <sup>b</sup>	n/a	0.50
Glazed Fenestration SHGC <sup>b,c</sup>	n/a	n/a
Ceiling <sup>d</sup>	49	0.026
Wood Frame Wall <sup>d,h</sup>	21 int	0.056
Floor	30	0.029
Below Grade Wall <sup>e,h</sup>	10/15/21 int + TB	0.042
Slab <sup>d,f</sup> R-Value & Depth	10, 2 ft	n/a

<sup>a</sup> R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity that is less than the label or design thickness of the insulation, the compressed R-value of the insulation from Appendix Table A101.4 shall not be less than the R-value specified in the table.  
<sup>b</sup> The fenestration U-factor column excludes skylights.  
<sup>c</sup> "10/15/21 +5TB" means R-10 continuous insulation on the exterior of the wall, or R-15 continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21 +5TB" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "5TB" means R-5 thermal break between floor slab and basement wall.  
<sup>d</sup> R-10 continuous insulation is required under heated slab on grade floors. See Section R402.2.9.1.  
<sup>e</sup> For single rafter- or joist-vaulted ceilings, the insulation may be reduced to R-38 if the full insulation depth extends over the top plate of the exterior wall.  
<sup>f</sup> R-7.5 continuous insulation installed over an existing slab is deemed to be equivalent to the required perimeter slab insulation when applied to existing slabs complying with Section R503.1.1. If foam plastic is used, it shall meet the requirements for thermal barriers protecting foam plastics.  
<sup>g</sup> For log structures developed in compliance with Standard ICC 400, log walls shall meet the requirements for climate zone 5 of ICC 400.  
<sup>h</sup> Int. (intermediate framing) denotes framing and insulation as described in Section A103.2.2 including standard framing 16 inches on center, 78% of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.

2018 Washington State Energy Code – Residential  
Prescriptive Energy Code Compliance for All Climate Zones in Washington  
Single Family – New & Additions (effective February 1, 2021)

Each dwelling unit in a residential building shall comply with sufficient options from Table R406.2 (fuel normalization credits) and Table 406.3 (energy credits) to achieve the following minimum number of credits. To claim this credit, the building permit drawings shall specify the option selected and the maximum tested building air leakage, and show the qualifying ventilation system and its control sequence of operation.

- Small Dwelling Unit: 3 credits**  
Dwelling units less than 1,500 sf in conditioned floor area with less than 300 sf of fenestration area. Additions to existing building that are greater than 500 sf of heated floor area but less than 1,500 sf.
- Medium Dwelling Unit: 6 credits**  
All dwelling units that are not included in #1 or #3
- Large Dwelling Unit: 7 credits**  
Dwelling units exceeding 5,000 sf of conditioned floor area
- Additions less than 500 square feet: 1.5 credits**  
All other additions shall meet 1-3 above

Before selecting your credits on this Summary table, review the details in Table 406.3 (Single Family), on page 4.

Summary of Table R406.2			
Heating Options	Fuel Normalization Descriptions	Credits - select ONE heating option	User Notes
1	Combustion heating minimum NAECA <sup>a</sup>	0.0	<input type="checkbox"/>
2	Heat pump <sup>f</sup>	1.0	<input type="checkbox"/>
3	Electric resistance heat only - furnace or zonal	-1.0	<input type="checkbox"/>
4	DHP with zonal electric resistance per option 3.4	0.5	<input type="checkbox"/>
5	All other heating systems	-1.0	<input type="checkbox"/>
Energy Options	Energy Credit Option Descriptions	Credits - select ONE energy option from each category <sup>g</sup>	
1.1	Efficient Building Envelope	0.5	<input type="checkbox"/>
1.2	Efficient Building Envelope	1.0	<input type="checkbox"/>
1.3	Efficient Building Envelope	0.5	<input type="checkbox"/>
1.4	Efficient Building Envelope	1.0	<input type="checkbox"/>
1.5	Efficient Building Envelope	2.0	<input type="checkbox"/>
1.6	Efficient Building Envelope	3.0	<input type="checkbox"/>
1.7	Efficient Building Envelope	0.5	<input type="checkbox"/>
2.1	Air Leakage Control and Efficient Ventilation	0.5	<input type="checkbox"/>
2.2	Air Leakage Control and Efficient Ventilation	1.0	<input type="checkbox"/>
2.3	Air Leakage Control and Efficient Ventilation	1.5	<input type="checkbox"/>
2.4	Air Leakage Control and Efficient Ventilation	2.0	<input type="checkbox"/>
3.1 <sup>h</sup>	High Efficiency HVAC	1.0	<input checked="" type="checkbox"/>
3.2	High Efficiency HVAC	1.0	<input type="checkbox"/>
3.3 <sup>h</sup>	High Efficiency HVAC	1.5	<input type="checkbox"/>
3.4	High Efficiency HVAC	1.5	<input type="checkbox"/>
3.5	High Efficiency HVAC	1.5	<input type="checkbox"/>
3.6 <sup>h</sup>	High Efficiency HVAC	2.0	<input type="checkbox"/>
4.1	High Efficiency HVAC Distribution System	0.5	<input type="checkbox"/>
4.2	High Efficiency HVAC Distribution System	1.0	<input type="checkbox"/>

2018 Washington State Energy Code – Residential  
Prescriptive Energy Code Compliance for All Climate Zones in Washington  
Single Family – New & Additions (effective February 1, 2021)

Summary of Table R406.2 (cont.)			
Energy Options	Energy Credit Option Descriptions (cont.)	Credits - select ONE energy option from each category <sup>g</sup>	User Notes
5.1 <sup>d</sup>	Efficient Water Heating	0.5	<input type="checkbox"/>
5.2	Efficient Water Heating	0.5	<input type="checkbox"/>
5.3	Efficient Water Heating	1.0	<input type="checkbox"/>
5.4	Efficient Water Heating	1.5	<input type="checkbox"/>
5.5	Efficient Water Heating	2.0	<input checked="" type="checkbox"/>
5.6	Efficient Water Heating	2.5	<input type="checkbox"/>
6.1 <sup>e</sup>	Renewable Electric Energy (3 credits max)	1.0	<input type="checkbox"/>
7.1	Appliance Package	0.5	<input type="checkbox"/>
<b>Total Credits</b>		<b>3.0</b>	<input type="button" value="Calculate Total"/> <input type="button" value="Clear Form"/>

- An alternative heating source sized at a maximum of 0.5 W/sf (equivalent) of heated floor area or 500 W, whichever is bigger, may be installed in the dwelling unit.
- Equipment listed in Table C403.3.2(4) or C403.3.2(5)
- Equipment listed in Table C403.3.2(1) or C403.3.2(2)
- You cannot select more than one option from any category EXCEPT in category 5. Option 5.1 may be combined with options 5.2 through 5.6. See Table 406.3.
- 1.0 credit for each 1,200 kWh of electrical generation provided annually, up to 3 credits max. See the complete Table R406.2 for all requirements and option descriptions.
- Use the single radiobutton in the upper right of the second column to deselect radiobuttons in that group.

Please print only pages 1 through 3 of this worksheet for submission to your building official.

DESCRIPTION OF CREDITS

3.1 <sup>2</sup>	Energy Star rated (U.S. North) Gas or propane furnace with minimum AFUE of 95% or Energy Star rated (U.S. North) Gas or propane boiler with minimum AFUE of 90%. <sup>2</sup>	1.0
5.5	Water heating system shall include one of the following: Electric heat pump water heater meeting the standards for Tier III of NEEA's advanced water heating specification or For R-2 Occupancy, electric heat pump water heater(s), meeting the standards for Tier III of NEEA's advanced water heating specification, shall supply domestic hot water to all units. If one water heater is serving more than one dwelling unit, all hot water supply and recirculation piping shall be insulated with R-8 minimum pipe insulation. <sup>5</sup>	2.0

CLIENT APPROVAL

REVISIONS

NOTES

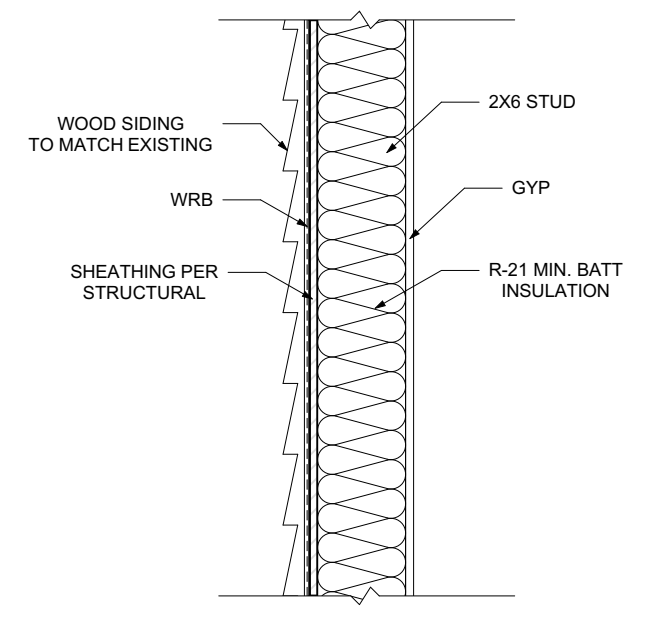
REPRESENTATIVE: GH  
DRAWN BY: KHS  
DESIGNER: YA  
PROJECT #: 7070-D  
SHEET SIZE: 24 x 36

PROGRESS SET

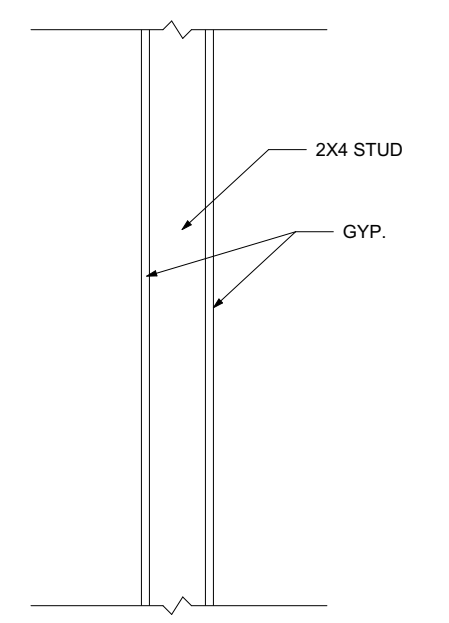
ENERGY CODE

**A3.01**  
PRINT DATE 9/26/2022





W1 2X6 EXTERIOR WALL 1" = 1'-0"



W2 2X4 INTERIOR WALL 1" = 1'-0"

CLIENT APPROVAL

DATE	DATE

REVISIONS


NOTES

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REPRESENTATIVE: GH  
 DRAWN BY: KHS  
 DESIGNER: YA  
 PROJECT #: 7070-D  
 SHEET SIZE: 24 x 36

PROGRESS SET

DETAILS

**A3.02**  
 PRINT DATE 9/26/2022