



HOUSTON
HOUSING AUTHORITY

Transforming Lives & Communities

2640 Fountain View Drive, Houston, Texas 77057 | 713.260.0600 | David A. Northern, Sr., President & CEO
Houston Housing Authority

**INVITATION FOR BID (IFB)
IFB 24-29 HRI Project**

The Houston Housing Authority (“HHA”), is soliciting sealed bids with the intent to establish fixed price contract with the lowest responsive and responsible business(es), who can perform Renovation of roofs and exterior walls at various location at the Historic Rental Initiative (HRI) in various locations in Houston, Texas 77019, in accordance with the requirements and terms and conditions specified.

Interested parties who wish to respond to this solicitation must submit the required documents in a sealed envelope to the below individual by **2:00 P.M. Central Daylight Time (CDT) August 5, 2024:**

**Houston Housing Authority (HHA)
Procurement Department
Attn: Katrina Heard
Subject: IFB 24-29 HRI Project
DO NOT OPEN**

2640 Fountain View Drive, Houston, Texas 77057

Interested Parties Are Encouraged (But ARE Not Required), To Attend the scheduled On-Site Pre-Bid Conference as Specified in Section 4.0 Procurement Schedule.

HHA is open and interested parties may attend the opening of the bids without appointments. Interested parties are also encouraged, to check HHA’s website prior to the submission of their sealed response to ensure they are aware of any Amendment(s) that may affect this solicitation. They should also send an e-mail acknowledgement to Purchasing@housingforhouston.com, that they have downloaded this solicitation from HHA’s website. Doing so, will allow HHA to notify interested parties of any Amendments that may affect this solicitation.

Late submissions will be handled in accordance with Section 5 of Attachment H Instructions to Bidders for Contracts Public and Indian Housing Programs (HUD Form 5369).

Questions regarding this solicitation **must** be sent via e-mail to Purchasing@housingforhouston.com with “**IFB 24-29**” in the subject line, by the date and time listed in Section 4.0 of this solicitation. Any changes to the requirements specified herein will be done via an Amendment.

Katrina Heard

**Katrina Heard
Procurement Specialist,
Houston Housing Authority (HHA)**



A Fair Housing and Equal Employment Opportunity Agency. For assistance: Individuals with disabilities may contact the 504/ADA Administrator at 713-280-0353, TTY 713-280-0574 or 504ADA@housingforhouston.com

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I. ORGANIZATION OVERVIEW

1.0 PROFILE OF THE HOUSTON HOUSING AUTHORITY

- 1.1 “HHA” is currently governed by the Housing Authorities Law, codified in the Texas Local Government Code. It is a unit of government and its functions are essential governmental functions. It operates and manages its housing developments to provide decent, safe, sanitary, and affordable housing to low-income families, the elderly, and the disabled, and implements various programs designed and funded by the U.S. Department of Housing and Urban Development (HUD). “HHA” is a Public Housing Agency.
- 1.2 The property of “HHA” is used for essential public and governmental purposes, and its property are exempt from taxes, including sales tax on its purchases of supplies and services.
- 1.3 “HHA” enters into and executes contracts and other instruments that are necessary and convenient to the exercise of its powers.
- 1.4 “HHA” maintains contractual arrangements with HUD to manage and operate its Low Rent Public Housing program and administers the Section 8 Housing Assistance Payments programs. HHA’s programs are federally funded, and its revenues are received from federal funds, administrative fees, development grants, and rental income.
- 1.5 “HHA” provides affordable homes and services to more than 60,000 low-income Houstonians, including over 17,000 families housed through the Housing Choice Voucher Program, 4,200 living in 19 public housing and tax credit developments, and an additional 716 in project-based voucher developments around the city.

END OF SECTION I

II. SPECIAL TERMS AND CONDITIONS

2.0 INTENT

2.1 The intent of this solicitation is to establish **fixed-price contract** with the lowest responsive and responsible business(es) who can provide the construction-related replacement of roofs and exteriors walls for Historic Rental Initiative Residences in various locations in the Fourth Ward community, to work specified in Exhibit (B): Scope of Work or Design Specifications, incorporated into solicitation.

3.0 PERIOD OF PERFORMANCE

3.1 Any contract issued as a result of this solicitation will have ninety (90) days and work will be performed between the hours of 8:00 A.M and 5:00 P.M. Monday - Friday.

3.2 This project will have liquidated damages of \$200.00 per day.

4.0 PROCUREMENT SCHEDULE

4.1 The anticipated procurement schedule for this solicitation is as follows:

<u>EVENT</u>	<u>DATE</u>
Date Solicitation Advertised	July 3, 2024
On-Site and Telephone Pre- bid Conference See Exhibit A For instructions on how to participate in Pre-bid Conference	10:00 A.M. CST July 19, 2024
Scheduled Site Visit	9 A.M. thru 5 P.M. July 22, 23, and 24, 2024 (By appointments only)
Deadline for the Receipt of Written Questions to Purchasing@housingforhouston.com	4:00 P.M. CST July 26, 2024
Deadline Answers to Written Questions will be posted on HousingforHouston.com	5:00 P.M. CST August 2, 2024
Deadline for the Receipt of Sealed Responses	2:00 PM “CST” August 05, 2024

NOTE: INTERESTED PARTIES ARE RESPONSIBLE FOR MONITORING HHA'S WEBSITE TO STAY INFORMED OF ANY AMENDMENTS THAT MAY AFFECT THIS SOLICITATION.

4.2 Any information provided at the pre-bid conference, is not binding unless it has been incorporated into this solicitation via an Amendment.

4.2.1 **INTERESTED PARTIES WILL BE ALLOW TO VISIT THE SITE WITH ADVANCED NOTICE TO HHA.**

4.2.1.1 Interested parties **must** send an e-mail to the below e-mail addresses at least twenty-four (24) hours in advance of the day they planned to visit the properties:

- **Stedman Esene: Sesene@housingforhouston.com**
- **Tamon Williams: Twilliams@housingforhouston.com**
- **Purchasing: Purchasing@housingforhouston.com**

4.2.2 **INTERESTED PARTIES MUST CHECK-IN AT THE FRONT DESK WITH THE ON-SITE PROPERTY MANAGER, AND ARE REQUIRED TO LEAVE THEIR BUSINESS CARD(S).**

4.2.2.1 **ANY AND ALL PROJECT RELATED QUESTIONS MUST BE SENT TO PURCHASING@HOUSINGFORHOUSTON.COM EMAIL ADDRESS AND SHOULD NOT BE DIRECTED TO THE ON-SITE PROPERTY MANAGER, OR THIRD PARTIES. QUESTIONS MUST BE SUBMITTED BY THE SPECIFIED DUE DATE IN THE PROCUREMENT SCHEDULE.**

4.2.3 **INTERESTED PARTIES SHOULD PAY PARTICULAR ATTENTION TO THE INFORMATION FOUND IN SECTION 9.0 AMENDMENTS.**

4.3 Posting of the Bid Tabulations

4.3.1 HHA's Procurement Department will post the Initial Bid Tabulation on HHA's [website](#) in a timely manner.

4.3.1.1 Subsequent to the bid opening, responses will be analyzed and reviewed to determine the responsive and responsible bidder in accordance with Section 7.0 Selection Criteria.

5.0 REGISTRATION – HHA and SAM.gov

5.1 Interested Parties **MUST** register at [SAM.gov | Home](#) before the opening date and time of the solicitation.

5.2 Provide proof of registration of [SAM.gov | Home](#). Failure to register and provide proof of registration **would be consider non-responsive** to the requirements of the solicitation.

- 5.3 Interested Parties are encouraged to **register** their company on HHA’s newly redesigned website which will facilitate “HHA” contacting them regarding solicitations that match their company’s profile.
- 5.4 Before registering your company, please access the **Bidder’s List** to see if your company is already registered with “HHA”. There is no need to re-register unless your company is making changes to its company profile.

6.0 **SCOPE OF WORK (SOW)**

- 6.1 All work to be completed in accordance with Exhibit **(B)** Roof Replacement & Exterior Wall Renovations Project.
- 6.2 Build America, Buy America Act (“BABAA”) - The Act requires the following Buy America preference:
- (1) All iron and steel used in the project are produced in the United States. This means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
 - (2) All manufactured products used in the project are produced in the United States. This means the manufactured product was manufactured in the United States, and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation.
 - (3) All construction materials are manufactured in the United States. This means that all manufacturing processes for the construction material occurred in the United States.
 - (4) Construction materials means articles, materials, or supplies that consist of only one the listed: Non-ferrous metals; Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); Glass (including optic glass); Fiber optic cable (including drop cable); Optical fiber; Lumber; Engineered wood; and Drywall.
 - (5) Covered Materials includes the following when used in connection with an Infrastructure project: (mean buildings, structures and real property). (1) all iron and steel; (2) all Manufactured Products; and (3) all Construction Materials.
- 6.3 Bidders **must** submit a Bill of Material (BOM) along with the price proposal depicting items associated with BABAA requirements. **Failure to provide** a BOM will be considered non-responsive and no further consideration will be given to the proposal.

7.0 **SELECTION CRITERIA**

- 7.1 “HHA” intends to make an award to the lowest responsive and responsible bidder.
- 7.2 The successful bidder must be the lowest responsive and responsible bidder at the time of the award.
- 7.2.1 The lowest bidder is the bidder that submits the lowest priced bid for this solicitation. Any price submitted will be compared to the confidential HHA Independent Cost Estimate (ICE). Price(s) 20% lower than HHA’s ICE will be consider nonresponsive and will not receive further consideration.
- 7.2.2 A responsive bidder is the bidder who submits, completes and signs required and applicable documents, attachments, exhibit(s), including any documents that should be notarized and requested per this solicitation, and has submitted a Bid Bond if required. Failure to provide any of the required documents may cause your bid to be non-responsive and no further consideration will be given to the proposal.
- 7.2.3 A responsible bidder is the bidder who provides verifiable documents and/or HHA have ways to verify the following of:
- Financial capability, (balance sheet and income statement),
 - Documentation submit must show bidder’s ability to support project costs for up to sixty (60) days.
 - Operational, production, construction and technical equipment/facilities to perform the required work as stated in the Specifications/Drawings:
 - Satisfactory past and current Delivery and Performance Schedules;
 - Satisfactory past and current Performance Record;
 - Satisfactory Integrity and Business Ethics dealings with past and current customers;
 - Has not been disbarred, suspended or pending any litigations regarding construction related issues;
 - Solicitation related five (5) business references;
 - Bid prices within open and current market costs with submitted estimates;
 - Bids considered too low by agency Project Manager and/or HHA’s third-party consultant(s) will be deemed “Not Responsible” and no further consideration will be given to the proposal.

8.0 **SUBMITTALS**

- 8.1 Any and all responses must conform to the requirements specified herein.
- 8.1.1 HHA is not responsible for any costs that may be incurred in the development and submittal of any responses to this solicitation. Any and all submissions, will become a part of HHA's official files, and HHA is not obligated to return them when they are in the possession of HHA.

8.1.2 **THE CONTENTS AND ACCURACY OF THE SUBMITTALS SHOULD BE CHECKED BEFORE IT IS SUBMITTED TO “HHA”.**

8.2 Any and all responses must conform with the following submittal preparation.

8.2.1 Download the entire and completed response documents on an unlocked flash drive. The company’s name or initials should be placed/etched/marked on the flash drive.

8.2.2 Verify the accuracy and the contents of the flash drive and response to the solicitation prior to submitting to HHA.

8.2.3 Both the flash drive and completed response to the solicitation must be submitted in a **Sealed Package/Envelope/Box and/or Courier Package** to HHA by the specified due date and time.

8.2.4 HHA does not accept digital or faxed submittal of the responses for this solicitation. Submittal may at the respondent’s discretion be hand delivered, mailed, and/or courier delivered by the specified due date and time.

8.3 “HHA” will accept one **(1) original version in a three- ring binder** of the responses which may be hand delivered, courier delivered or mailed to the location specified on page 1. Each response must be tabbed, and contain the following:

8.3.1 **Cover Letter (“CL”)**

8.3.1.1 Acknowledge the receipt and review of this solicitation, and any Amendment(s) issued by HHA.

8.3.1.2 The “CL” must be on company letterhead, include the company’s EIN or TIN, manually or digitally signed by an authorized official of the company (who can negotiate, and contractually bind the company to perform the services specified herein), along with their title, phone number, and e-mail address.

8.3.1.3 Provide your company’s W-9 (Request for Taxpayer Identification Number and Certification).

8.3.2 **References and Solicitation Related Experience**

8.3.2.1. Provide five (5) past and current business references for the last two (2) years for related to the work specified in this Exhibit (B): Scope of work (SOW).

8.3.2.1.1 Failure to submit the five (5) business references related to the solicitation, will be deemed ‘Non-Responsive’ and no further consideration will be given to the proposal.

- 8.3.2.2 Provide within each business references, contact information such as the company name, contact person's name, title, company address, telephone number, and email address.
- 8.3.2.3 Provide relevant capabilities of having the necessary production, construction, technical equipment and facilities, or the ability to obtain them for this solicitation.
- 8.3.2.4 If company has been in business for less than five (5) years:
 - a. The company may provide two (2) solicitation related business references;
 - b. A certified statement indicating the start date of the business and how long from the start date the company has been in business, and;
 - c. A statement of good business standing from the provided two (2) business references on your company's delivery or performance schedule.
- 8.3.3 The following are HUD and HHA's documents as titled below that must be completed with signatures (where appropriate) and submitted with the proposal. Failure to submit a completed and signed (where appropriate) will be deemed non-responsive and no further consideration will be given to the proposal.
 - 8.3.3.1 Attachment A: **Declaration**
 - 8.3.3.2 Attachment B: **Non-Collusive Affidavit**
 - 8.3.3.3 Attachment C: **M/WBE Participation**
 - 8.3.3.4 Attachment D: **Section 3 Requirements and Commitment**
 - 8.3.3.5 Attachment E: **Conflict of Interest Questionnaire (CIQ)**
 - 8.3.3.6 Attachment F: **Representations, Certifications and Other Statements
Public Housing Programs (Form HUD 5369-A)**
 - 8.3.3.7 Attachment G: **Previous Participation Certification
(Form HUD-2530)**
- 8.3.4 **Price and/or Supplemental Sheets/Bill of Material (BOM)**
 - 8.3.4.1 Complete and submit Exhibit (C) Price Sheet,
 - 8.3.4.2 Submit the Bill of Material (BOM) per BABAA for materials priced within the submitted price sheets.
- 8.3.5 **Financial Capabilities Documentation REQUIRED**
 - 8.3.5.1 Provide the last two (2) years of signed/certified balance sheet and income statements.

- 8.3.5.2 Provide the last two (2) years of the bidder company's Financial audits. Financial audits must be certified and/or Notarized.
- 8.3.5.3 Provide proof of financial capabilities to support the Project under this solicitation for sixty (60) days.

8.4 "HHA" will not evaluate responses that do not comply with the submittal requirements specified herein. Responses received after the specified date and time will be considered non-responsive.

END OF SECTION II

III. GENERAL TERMS AND CONDITIONS

9.0 AMENDMENTS

- 9.1 Any interpretation(s) affecting this solicitation will be issued by “HHA” via an Amendment before the due date specified on page 1.
- 9.2 “HHA” will not be bound by and is not responsible for any oral explanations, instructions, representations, or requirements unless it is issued by “HHA” via an Amendment.
- 9.3 **Any Amendment(s) issued by “HHA” shall be binding in the same way as if originally written in this solicitation.**

10.0 AVAILABILITY OF RECORDS

- 10.1 The U. S. Department of Housing and Urban Development, the Inspector General of the United States, “HHA”, and any duly authorized representatives of each shall have access to, and the right to examine any and all pertinent books, records, documents, invoices, papers, and the like of the firm(s) office, that relates to any work that is performed as a result of this solicitation.

11.0 BASIS FOR AWARD

- 11.1 See Section 7.0, Selection Criteria.
- 11.2 Interested parties are responsible for ensuring they have completed and signed documents referenced and incorporated in this solicitation, and are familiar with the contents of those documents. Failure to do so shall be at the sole risk of the interested party, and no relief shall be given for errors or omissions by the interested party.
- 11.2.1 Failure to provide any and all completed and signed documents referenced and incorporated in this solicitation will result in a determination of non-responsive and no further consideration will be given to your bid.

12.0 CANCELLING THE SOLICITATION

- 12.1 “HHA” may cancel this solicitation at any time, and when it is in its best interests to do so. “HHA” is not responsible for any costs associated with the cancellation of this solicitation. (See Section 8.1.1)

13.0 ETHICAL BEHAVIOR

- 13.1 Interested Firms shall not:
- 13.1.1 Offer any gratuities, favors, or anything of monetary value to any official or employee of “HHA” that will influence their objective consideration and review of any response(s) to this solicitation; and,

13.1.2 Engage in any practice which may restrict or eliminate competition (i.e., collusion), or otherwise restrain trade.

13.1.2.1 The above is not intended to preclude joint ventures or subcontracts.

14.0 **FEDERAL REGULATIONS WITH REGARD TO NONDISCRIMINATION AND EQUAL OPPORTUNITY**

14.1 The requirements of Title VIII of the Civil Rights Act of 1968 and Title VI of the Civil Rights Act of 1964, relating to prohibitions against discrimination in housing and the benefits of federally funded programs because of race, color, religion, sex or national origin must be met by the successful firm(s).

14.2 The successful bidder(s)/proposer(s) will:

14.2.1 Adhere to federal regulations prohibiting discrimination based on age under the Age Discrimination Act of 1975, and prohibit discrimination against handicapped individuals under Section 504 of the Rehabilitation Act of 1973 and the Americans With Disabilities Act of 1990.

14.2.2 Meet the requirements of:

14.2.2.1 Section 3 of the Housing and Urban Development Act of 1968, relating to the training and employment of individuals and contracting for business opportunities in metropolitan areas in which federally funded programs are being operated.

14.2.2.2 Executive Orders (EO's):

- EO 11246 relating to equal employment opportunity in connection with federally funded programs; and,
- EO's 11625, 12432, and 12138 relating to the use of minority and women's business enterprises in connection with federally funded programs.

15.0 **INFORMALITIES**

15.1 "HHA" reserves the right to waive any informality, and make an award that is in the best interest of "HHA".

15.1.1 Minor informalities are matters of form rather than substance. They are minor mistakes that can be waived or corrected without prejudice to the other proposers/bidders and have little or no effect on the price, quantity, quality, delivery, or contractual conditions.

15.1.2 HHA will accept up to three (3) failure to sign a document(s) that do not require notarization, and no more than three (3) unsigned forms as minor informalities. This number is limited to three (3) minor informalities. Unsigned

documents/forms do not include unsigned price or supplemental price sheets and the (BOM).

- 15.1.4 Failure to provide any of the documents listed in Section 8, will be considered a ‘Non-Responsive Bid’ and no further consideration will be given to the proposal.

16.0 **INSURANCE**

- 16.1 “HHA” will specify the amount of insurance that will be required during the Period of Performance.

17.0 **MINORITY WOMEN BUSINESS ENTERPRISE (M/WBE) PARTICIPATION**

- 17.1 Refer to Attachment C: for M/WBE Participation requirements.

18.0 **MISTAKES IN BIDS**

18.1 General

- 18.1.1 While proposers/bidders will be bound by their submittals (the “firm bid rule”), circumstances may arise where correction or withdrawal of their bid or proposal is proper and may be permitted. Correction or withdrawal of a bid or proposal will be done in a manner that will protect and maintain the integrity and fairness of the competitive solicitation process.

18.2 Mistakes Discovered Before Solicitations Are Opened

- 18.2.1 Interested parties may modify, or withdraw their bid.
(Refer to Section 5 of Attachment I:)

18.3 Review of Mistakes

- 18.3.1 After the solicitations are opened, “HHA” will review any and all submittals to ensure there are no obvious mistakes, e.g., the sum of individual bid line items does not equal the total price. If a submittal appears to have a mistake, “HHA” will notify the interested of any apparent mistake(s) in his/her submittal, and request verification of the total price as submitted.

18.4 Mistakes After Solicitations Are Opened

- 18.4.1 If this solicitation is soliciting bids, then in general, bidders will not be permitted to change a bid after bid opening. In rare cases, “HHA” may permit the revision of a bid if the bidder is able to present clear and convincing evidence, acceptable to “HHA”, of a mistake and the intended bid price. Allowing changes to bids without appropriate evidence may compromise the integrity of the public bid process and serve to undermine public confidence in HHA’s bidding process. Therefore, “HHA” will request as much evidence as it deems necessary. Examples of evidence may include original work papers, bids from suppliers and subcontractors used to develop the bid, bonding or insurance evidence supporting a different bid price, etc. Failure or refusal by a bidder to provide adequate

evidence shall result in the original bid remaining unchanged. Consultation with HHA's Legal Dept. will occur before authorization is given to change a bid. If justified, a low bidder can be replaced with the next lowest bidder.

19.0 **PAYMENT**

19.1 "HHA" will process any and all invoices after the work has been approved by HHA's Project Manager. Payment terms are net 30 days.

20.0 **PERMITS**

20.1 The successful bidder(s) shall obtain and pay (independent of "HHA"), all permits, certificates, and licenses required and necessary for the performance of the work specified herein. Furthermore, they shall post all notices required by law, and shall comply with all laws, ordinances, and regulations which may affect their performance.

21.0 **PROJECT MANAGER**

21.1 "HHA" may designate a Project Manager during the Period of Performance.

22.0 **QUESTIONS**

22.1 Interested parties must follow the instructions on page 1 should they have any questions about this solicitation.

22.2 Interested parties are prohibited from querying "HHA" personnel, or members of its Board of Commissioners regarding this solicitation except through written questions submitted in the manner and within the period indicated on page 1 of this solicitation.

23.0 **REMOVAL OF EMPLOYEES**

23.1 "HHA" may request the successful contractor(s) to remove immediately from the contract/project, any employee found unfit to perform their duties due to one or more of the following reasons, which includes, but is not limited to:

23.1.1 Negligence, being disorderly, using abusive or offensive language, quarreling or fighting, stealing, vandalizing property; and,

23.1.2 Engaging in immoral or inappropriate behavior (e.g., being intoxicated, or under the influence of mind-altering substances), or pursuing criminal activity (e.g., selling, consuming, possessing or being under the influence of illegal substances).

24.0 **RESERVATION OF RIGHTS**

24.1 Depending upon the circumstance(s), HHA reserve the right to change, modify, or alter any Draft Contract associated with this solicitation.

25.0 **RULES, REGULATIONS AND LICENSING REQUIREMENTS**

25.1 The Offeror and staff must possess any and all necessary required license(s) to do business in Houston/Harris County and the State of Texas. Additionally, the Offeror, shall comply with any and all laws, ordinances, and regulations applicable to the services contemplated herein. Offerors are presumed to be familiar with all federal, state, and local laws, ordinances, codes, rules, and regulations that may in any way affect the services.

26.0 **STANDARDS OF CONDUCT**

26.1 During the period of performance, the employees of the successful bidder(s) or proposer(s) shall conduct themselves in a responsible and professional manner, and may be removed from the project if they display behavior that is unacceptable to HHA.

27.0 **SUBCONTRACTING**

27.1 Any contract issued as a result of this solicitation will not be assigned, transferred, or subcontracted (in whole, or in part) unless it has been previously approved by HHA in writing.

28.0 **TAXES**

28.1 HHA is exempt from State of Texas, and Local Taxes.

29.0 **TRAVEL AND REIMBURSEMENTS**

29.1 Any prices/fees mutually agreed upon shall include any and all necessary out-of-pocket expenses needed to perform the work specified herein. HHA will not issue any reimbursements for travel, lodging, meals, or other miscellaneous or ancillary expenses, unless it is defined in the final contract.

30.0 **VALIDITY OF RESPONSES**

30.1 Responses will not be unilaterally withdrawn or modified for a period of ninety (90) days after they have been received and opened by HHA.

31.0 **SUPPLEMENTS**

31.1 The following documents are considered part of this solicitation:

- Attachment A: Declaration
- Attachment B: Non-Collusive Affidavit
- Attachment C: M/WBE Participation
- Attachment D: Section 3 Requirements and Commitment
- Attachment E: Conflict of Interest (CIQ) Form
- Attachment F: Representations, Certifications and Other Statements Public Housing Programs (Form HUD 5369-A)
- Attachment G: Previous Participation Certification (HUD-2530)

- Attachment H: Instructions to Bidders for Contracts Public and Indian Housing Programs (HUD-5369)
- Attachment I: General Conditions for Construction Contracts – Public Housing Programs (Form HUD-5370 A)
- Attachment J: Schedule of Amounts for Contract Payments (Form HUD 51000)
- Attachment K: Davis Bacon Wage Rate
- Exhibit A: Pre-Bid Conference Information
- Exhibit B: Scope of Work (SOW)
- Exhibit C: Price Sheet
- Exhibit D: Specifications
- Exhibit E: Draft Contract

- 31.2 Interested parties are responsible for ensuring they have any and all documents referenced and incorporated in this solicitation, and are familiar with the contents of those documents. Failure to do so shall be at the sole risk of the offeror and no relief shall be given for errors or omissions by the offeror.

END OF SECTION III

The undersigned declares the following:

- This response is being submitted in good faith, and without collusion or fraud
- The only person(s) interested in the aforementioned solicitation is listed below, and that this response is being submitted without connection or arrangement with any other person
- They have complied with the requirements of the aforementioned solicitation, have read all addenda (if any), and is satisfied that they fully understand the intent of the aforementioned solicitation, and the terms and conditions that will govern any award issued by HHA as a result of this solicitation
- They agree to execute an agreement with HHA based on the latter accepting the submittals required by the aforementioned solicitation

Persons Interested in this Response:

Name	Identity of Interest
------	----------------------

- 1.
- 2.
- 3.

NAME OF CONTRACTOR/OFFEROR/FIRM/INDIVIDUAL/CORPORATION

MAUNAL OR E-SIGNATURE

TITLE

E-MAIL ADDRESS

PHONE NUMBER / FAX NUMBER

ADDRESS, CITY, STATE, ZIP

SUBMITTAL DATE

NON-COLLUSIVE AFFIDAVIT

STATE OF TEXAS

COUNTY OF HARRIS

_____, being first duly sworn, deposes and says that he is

(a partner or officer of the firm of, etc.)

the party making the foregoing proposal or bid, that such proposal or bid is genuine and not collusive or sham; that said bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any manner, directly or indirectly, sought by agreement or collusion, or communication or conference with any person to fix the bid price or affiant or of any other bidder, or to fix any overhead, profit, or cost element of said bid price, or of that of any other bidder, or to secure any advantage against

THE HOUSTON HOUSING AUTHORITY

of any person interested in the proposed Contract; and that all statements in said proposal or bid are true.

Signature of Bidder, if Bidder is an Individual

Signature of Bidder, if Bidder is a Partnership

Signature of Officer, if Bidder is a Corporation

Subscribed and sworn to before me this _____ day of _____, 20____

Notary Public

My Commission expires _____

REQUIREMENTS FOR SUBCONTRACTING WITH SMALL BUSINESSES AND MINORITY BUSINESSES, WOMEN BUSINESS ENTERPRISES, AND LABOR SURPLUS AREA FIRMS.

I. INSTRUCTIONS.

Any Prime Contractor awarded a contract pursuant to this procurement must agree to comply with the subcontracting requirements set forth below. Please note that the capitalized terms used in this document are defined below in § VII.

(1) Please read this document carefully; (2) sign the acknowledgement; and (3) complete and sign the attached “Bidder’s Proposed M/WBE Participation Form.”

II. OVERVIEW.

Any contract resulting from this procurement must comply with: (1) the requirements in HHA’s Procurement Policy (the “Policy”) and the Code of Federal Regulations (the “Code”) regarding Subcontracting with small and minority owned businesses, women business enterprises, and labor surplus area firms (the “Policy Requirements”); and (2) HHA’s goal regarding Subcontracting with minority business enterprises and women business enterprises (the “HHA’s Goal”). Any person or firm that receives an award pursuant to this procurement must take affirmative steps to comply with the Policy Requirements and must use their best efforts to meet HHA’s Goal. The Policy Requirements and HHA’s Goal are described in detail below.

III. THE POLICY REQUIREMENTS.

Pursuant to the Policy, at § 15, and the Code, at 2 CFR § 200.321, if a Prime Contractor awarded a contract pursuant to this procurement lets Subcontracts, then the Prime Contractor must take affirmative steps to assure that, when possible, Subcontracts are let to Small Business Enterprises (“SBEs”), Minority Businesses Enterprises (“MBEs”), Women Business Enterprises (“WBEs”), and Labor Area Surplus Firms (“LASFs”). The affirmative steps a Prime Contractor who lets Subcontracts must take are:

- Placing SBEs, MBEs, and WBEs, on solicitation lists;
- Assuring that SBEs, MBEs, and WBEs, are directly solicited for bids or proposals whenever such entities are potential sources to perform Subcontracts;
- Dividing total job requirements, whenever economically feasible, into smaller tasks or quantifies to permit maximum participation by SBEs, MBEs, and WBEs, in a given project;
- Establishing delivery schedules, when the requirement permits, that encourage participation by SBEs, MBEs, and WBEs;
- Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the U.S. Department of Commerce; and,

- Including in Subcontracts, to the greatest extent feasible, a clause that requires Subcontractors to provide opportunities for training and employment for lower income persons who reside in the project area.

The affirmative steps listed above shall remain in effect for the duration of the Prime Contract awarded pursuant to this procurement. HHA encourages Prime Contractors to implement these steps when acquiring the materials they need to perform their obligations under the Prime Contract.

IV. HHA'S GOAL.

A. Overview of HHA's Goal and related requirements.

In addition to taking the affirmative steps outlined above in § III, a Prime Contractor who anticipates using Subcontracts to complete any work associated with this procurement must use its best efforts to satisfy HHA's Goal regarding the participation of MBEs and WBEs in work under contracts awarded by HHA. HHA's Goal, as adopted by its Board of Commissioners, is that when Subcontracts are being let, at least 30% of the Prime Contract's total dollar amount is subcontracted to MBEs or WBEs, with at least 15% of the Prime Contract's total dollar amount being subcontracted to MBEs, and at least 15% being subcontracted to WBEs.

In furtherance of HHA's Goal, a Prime Contractor awarded a contract under this procurement who intends to let Subcontracts must use its best efforts to Subcontract with MBEs and WBEs. **Specifically, a Prime Contractor letting Subcontracts must use its best efforts (1) to Subcontract at least 15% of the Prime Contract's total dollar amount to MBEs, and (2) to Subcontract at least 15% of the Prime Contract's total dollar amount to WBEs. A Prime Contractor's obligation to use its best efforts to subcontract with MBEs and WBEs in accordance with HHA's Goal shall remain in effect for the duration of the Prime Contract, shall apply in any instance that the Prime Contractor lets Subcontracts, and shall apply equally to all Prime Contractors letting Subcontracts, regardless of whether the Prime Contractor is itself a MBE or WBE.**

- A Prime Contractor must document its use of best efforts to meet HHA's Goal. Generally, written evidence of a Prime Contractor's attempts to Subcontract with MBEs and WBEs shall suffice to document a Prime Contractor's best efforts. Written evidence may include, but is not necessarily limited to, emails, phone logs, or correspondence showing that a Prime Contractor attempted to Subcontract with MBEs and WBEs by, at a minimum, soliciting bids or quotes. Contractors may access a list of designated MBEs and WBEs at <http://www.window.state.tx.us/procurement/cmb/cmbhub.html>. In addition, upon request, HHA may assist contractors in identifying MBEs and WBEs (but, requesting such assistance, standing alone, is not sufficient to show best efforts).
- A Prime Contractor's duty to document its best efforts to meet HHA's Goal shall remain in effect for the duration of the Prime Contract and shall apply to all Prime Contractors awarded a contract pursuant to this procurement. HHA encourages Prime Contractors to use their best efforts to procure from MBEs and WBEs the materials necessary for the Prime Contractor to perform its obligations under the Prime Contract.

V. CONTRACTOR'S AGREEMENT TO COMPLETE REQUIRED FORMS AND TO COOPERATE WITH HHA REGARDING THE POLICY REQUIREMENTS AND HHA'S GOAL.

All respondents to this procurement who anticipate letting subcontracts must complete and return the attached "Bidders Proposed M/WBE Participation Form" (the "Form"). Respondents should include the Form in their response to this procurement; in addition, information documenting the respondent's use of best efforts to subcontract with MBEs and WBEs should accompany the Form. If it does not anticipate letting subcontracts, a respondent must, along with its response, inform HHA of same, and provide a brief explanation of why no subcontracts will be let. HHA will consider as non-responsive any response that fails to include a completed Form; HHA will, however, allow respondents an opportunity to cure a failure to include the Form with a response.

In addition to completing and submitting the Form to HHA, any entity awarded a contract by HHA pursuant to this procurement must provide "M/WBE Confirmation of Payment Form(s)," as necessary or as requested by HHA. Prime Contractor must also to submit proof of payments to SBEs, MBEs, WBEs, and LASFs, as requested by HHA, or as otherwise is required by law.

VI. CONSEQUENCES FOR FAILING TO TAKE THE AFFIRMATIVE STEPS MANDATED BY THE POLICY REQUIREMENTS OR USING BEST EFFORTS TO MEET HHA'S GOALS.

If a Prime Contractor letting subcontracts does not take the affirmative steps mandated by the Policy Requirements, use its best efforts to meet HHA's Goal, or cooperate with HHA with respect to the requirements set forth herein, HHA reserves the right to refuse to award a contract to the Prime Contractor, to deem the Prime Contractor's response to a solicitation non-responsive, to terminate an existing contract with the Prime Contractor, and to bar the Prime Contractor from being awarded any future contracts by HHA.

VII. DEFINITIONS.

- "Code" means the Code of Federal Regulations.
- "Form" means the "Bidders Proposed M/WBE Participation Form" included with this procurement.
- "HHA" means the Houston Housing Authority, and, for the purposes of the requirements set forth herein, HHA's affiliates and any property management company procuring work or services for the benefit of a property owned by HHA or its affiliates.
- "LASFs" refers to Labor Area Surplus Firms. Labor Area Surplus Firms are businesses that will expend more than fifty percent of the cost of performing a contract in areas of concentrated unemployment or underemployment, as defined by the Department of Labor and promulgated at 20 CFR Part 654.

- “MBE(s)” refers to minority business enterprises. Minority business enterprises are businesses that are at least fifty-one percent owned by one or more minority group members, or, in the case of a publically owned business, a business where at least fifty-one percent of the business’s voting stock is owned by one or more minority group members and whose management and daily operations are controlled by one or more such individuals. Minority group members include, but are not necessarily limited to: (a) Black Americans; (b) Hispanic Americans; (c) Native Americans; (d) Asian-Pacific Americans; (e) Asian-Indian Americans; and (f) Hasidic Jewish Americans.
- “Policy” means the Houston Housing Authority’s Procurement Policy.
- “Policy Requirements” shall have the meaning set forth in § II above.
- “Prime Contract(s)” means the contract awarded pursuant to this procurement that is between a respondent to the solicitation and HHA. For all purposes herein, the term is inclusive of all change orders or amendments to the initial contract entered between the Prime Contractor and HHA.
- “Prime Contractor(s)” means the person or entity who responds to this procurement and is awarded a contract by HHA.
- “SBEs” refers to small business enterprises. Small business enterprises are businesses that are independently owned, not dominant in their field of operation, and not an affiliate or subsidiary of a business that is dominant in its field of operation.
- “Subcontract(s)” means the contract between the Prime Contractor and a Subcontractor entered to accomplish all or a part of the Prime Contractor’s obligations under its contract with HHA that results from this procurement.
- “Subcontractor(s)” means a person or entity who the Prime Contractor contracts with to perform a part or all of the Prime Contractor’s obligations under the Prime Contractor’s contract with HHA that results from this procurement.
- “WBEs” refers to women business enterprises. Women business enterprises are businesses that are at least fifty-one percent owned by a woman who is a United States citizen, or by women who are United States citizens and who control and operate the business.

VIII. ACKNOWLEDGEMENT.

The undersigned has read the foregoing “Requirements for Subcontracting with Small Businesses, Minority Businesses, Women Business Enterprises, and Labor Area Surplus Firm,” and understands and accepts the requirements and obligations set forth therein. When Subcontracting any portion of the work associated with this procurement, the undersigned agrees to take the affirmative steps stated in § III above, and agrees to use its best efforts to meet HHA’s Goal, as stated in § IV above. The undersigned understands and acknowledges that failure to comply the requirements set forth herein may result in HHA refusing to award a contract to the undersigned or the termination of an existing contract.

Name of Firm

Complete Address

Name of Individual Completing this Form

Title

Direct Phone Number / Cell Phone Number

Direct Fax Number

E-Mail Address

Date

Signature

Bidder's Proposed M/WBE Participation Form

Instructions

- HHA requires bidders (Prime Contractors) who let Subcontracts to use their best efforts to Subcontract at least 30% of a Prime Contract's total dollar amount to Minority Business Enterprises (“MBEs”) or Women Business Enterprises (“WBEs”).
- It is HHA's Goal, that Prime Contractors letting Subcontracts award at least 15% of the Prime Contract's total amount to MBEs **and** at least 15% of the Prime Contract's total amount to WBEs.
- The requirement that Prime Contractors letting Subcontracts use their best efforts to Subcontract with MBEs and WBEs applies to all Prime Contractors, regardless of their own status as a MBE or WBE.
- Please complete and sign the form below indicating firm Subcontracting commitments from MBEs and WBEs. Use additional pages, if necessary.
- For detailed information on HHA's MBE and WBE Subcontracting requirements, see the above information on the front page.

MBEs	Name of MBE Subcontractor	Certification(s)	Amount of Subcontract	Percent of Contract Total
<i>Total</i>				

Note: Attach additional sheets if necessary.

WBEs	Name of MBE Subcontractor	Certification(s)	Amount of Subcontract	Percent of Contract Total
<i>Total</i>				

Note: Attach additional sheets if necessary.

Name of Firm

Printed Name

Date

Signature

SECTION 3 BIDDER'S REQUIREMENTS & COMMITMENT

Company Name:	
Name of Contact Person for Section 3 Commitment:	
Title:	Contact Number:
Contact Person E-Mail:	
Solicitation Title: RR	Solicitation #:

- I. **Background** - Section 3 of the Housing & Urban Development Act of 1968, as amended, 12 U.S.C. 1701 hereinafter “Section 3”) requires the Houston Housing Authority (“HHA”), to the greatest extent feasible, to provide employment and contracting opportunities to low to very low-income individuals, within the City of Houston. These opportunities are created by contracts funded, directly or indirectly, by “HHA”.

- II. **Benchmarks & Goals** – Success of Section 3 activities will be measured by the achievement of the following benchmarks, annually:
 - 1) Data demonstrating at least 20% of the total number of labor hours worked by all workers (employed by an employer) were worked by Section 3 Workers that are defined as Low Income Individuals or Youth Build per <https://www.huduser.gov/portal/datasets/il.html> , OR
 - 2) Data demonstrating at least 5% of the total number of labor hours worked by all workers (employed by an employer) were worked by Targeted Section 3 Workers (Public Housing residents, Section 8 participants & Youth Build).

- III. **Solicitation Requirements** - Interested parties responding to a HHA solicitation are required to include in their submission, this form (Section 3 Requirements & Commitment), which describes efforts that will be taken to engage Section 3 Participants.”

- IV. **Acceptable Section 3 Activities** – Viable Section 3 opportunities are:
 1. Hire Section 3 Workers to fill a minimum of 20% of the labor hours needed to honor contractual duties with HHA. (Note: Section 3 Workers can be existing/new personnel who are deemed as low to very low-income individuals, in accordance to HUD’s guidelines).
 2. Provide paid on-the-job training (apprenticeship) for Section 3 Workers to enhance job skills in core duties/services related to a bidder’s contractual duties with HHA.
 3. Offer subcontracting opportunities preferably to Section 3 Business Concern or other disadvantaged businesses to fulfill contractual duties with the HHA
 4. Bidder self-certify they meet at least one criterion to be a Section 3 Business Concerns; when responding to a HHA solicitation:
 - a) At least 51% is owned and controlled by low- or very-low-income person; OR
 - b) Business has at least 75% of its’ labor hours performed (over the most recent 3-month period) by Section 3 Workers; OR
 - c) At least 51% is owned and controlled by a Public Housing/Section 8 Participant.

- V. **Exemption from Section 3 Activities** - Bidders submitting solicitations for any of the following goods and/or services are exempt from fulfilling any Section 3 commitments:
 - 1) Contracts for “material only” and do not require the hiring of new or expanded labor (office/janitorial supply contracts, etc).
 - 2) Contracts for Section 8 Project-based Vouchers and Project-based Rental Assistance
 - 3) Professional Service contracts requiring advanced degrees or professional licensing (engineers, architects, accountants, consultants, etc.)

VI. **Section 3 Commitment** - Bidders shall identify what efforts will be taken during contractual terms to comply with HHA’s Section 3 Requirements to the greatest extent feasible. All bidders are required to select at least one (1) of the following options:

OPTIONS	QUANTIFIABLE COMMITMENT
<input type="checkbox"/> <u>OPTION 1 - Exempt</u>	Bidder is exempt due any one of the following options: <ul style="list-style-type: none"> ○ Contracts for “material only” and do not require the hiring of new or expanded labor (office/janitorial supply contracts, etc). ○ Contracts for Section 8 Project-based Vouchers and Project-based Rental Assistance ○ Professional Service contracts requiring advanced degrees or professional licensing (engineers, architects, accountants, consultants, etc.)
<input type="checkbox"/> <u>OPTION 2 - Jobs</u>	Title: _____ # of Positions: _____ Pay _____ Work Hours _____ Location _____ Skills to be Acquired : _____ Qualifications: _____
<input type="checkbox"/> <u>OPTION 3 – Paid Training or Apprenticeship</u>	Title: _____ # of Positions: _____ Pay _____ Work Hours _____ Location _____ Skills to be Acquired : _____ Qualifications: _____
<input type="checkbox"/> <u>OPTION 4 – Sub-Contracting with Section 3 Business Concerns</u>	Company Name _____ Contract Amount \$ _____ % of Contract: _____ Summary of Duties: _____
<input type="checkbox"/> <u>OPTION 5 -Existing Section 3 Business Concern</u>	Bidder self-certifies they meet at least one of the following criteria to be recognized as a Section 3 Business Concern: <ul style="list-style-type: none"> ○ At least 51% is owned and controlled by low- or very-low income person; ○ Over 75% of the labor hours performed for the business (over a 3-month period) are performed by Section 3 Workers; ○ At least 51% of the business is owned and controlled by current Public Housing resident or Section 8 Assisted participant.

Name of Firm

Printed Name of Authorized Individual

Date

Manual/E-signature of Authorized Individual

SECTION 3 COMPLIANCE REPORT

Submission Date:	Reporting Period:
_____ Primary Contractor	_____ Subcontractor
Company Name:	
Person completing invoice	
Project Name:	RFP /IFB/QBS#:
Amount of Contract	Amount of Current Invoice:

# participants hired					

Training Commitment	# Trained this Report Period	YTD Trained during Contract	List Individuals Employed		
			Name	Training Title	Stipend Amount Paid
# of participants engaged in training/ apprenticeship					

Contribution Commitment	Amount Pledged	Amount Paid	Pledge Balance
Amount contributed to Self-Sufficiency Fund	\$	\$	\$

Section 3 Business Concerns	Company Name	Contract Amount Provided
Indicate how at least 25% was subcontracted to Section 3 business(es)		\$
		\$
		\$

Print Name of Person Completing Report

Title

Signature of Person Completing Report

Date

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

FORM CIQ

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of vendor who has a business relationship with local governmental entity.

2 Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 Name of local government officer about whom the information is being disclosed.

Name of Officer

4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

Yes No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

Yes No

5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.

6 Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7

Signature of vendor doing business with the governmental entity

Date

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed;
or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

**U.S. Department of Housing
and Urban Development**
Office of Public and Indian Housing

**Representations, Certifications,
and Other Statements of Bidders**
Public and Indian Housing Programs

Representations, Certifications, and Other Statements of Bidders

Public and Indian Housing Programs

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1. Certificate of Independent Price Determination

(a) The bidder certifies that--

(1) The prices in this bid have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to (i) those prices, (ii) the intention to submit a bid, or (iii) the methods or factors used to calculate the prices offered;

(2) The prices in this bid have not been and will not be knowingly disclosed by the bidder, directly or indirectly, to any other bidder or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a competitive proposal solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the bidder to induce any other concern to submit or not to submit a bid for the purpose of restricting competition.

(b) Each signature on the bid is considered to be a certification by the signatory that the signatory--

(1) Is the person in the bidder's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above.

_____ [insert full name of person(s) in the bidder's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the bidder's organization];

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above.

(c) If the bidder deletes or modifies subparagraph (a)2 above, the bidder must furnish with its bid a signed statement setting forth in detail the circumstances of the disclosure.

[] [Contracting Officer check if following paragraph is applicable]

(d) Non-collusive affidavit. (applicable to contracts for construction and equipment exceeding \$50,000)

(1) Each bidder shall execute, in the form provided by the PHA/IHA, an affidavit to the effect that he/she has not colluded with any other person, firm or corporation in regard to any bid submitted in response to this solicitation. If the successful bidder did not submit the affidavit with his/her bid, he/she must submit it within three (3) working days of bid opening. Failure to submit the affidavit by that date may render the bid nonresponsive. No contract award will be made without a properly executed affidavit.

(2) A fully executed "Non-collusive Affidavit" [] is, [] is not included with the bid.

2. Contingent Fee Representation and Agreement

(a) Definitions. As used in this provision:

"Bona fide employee" means a person, employed by a bidder and subject to the bidder's supervision and control as to time, place, and manner of performance, who neither exerts, nor proposes to exert improper influence to solicit or obtain contracts nor holds out as being able to obtain any contract(s) through improper influence.

"Improper influence" means any influence that induces or tends to induce a PHA/IHA employee or officer to give consideration or to act regarding a PHA/IHA contract on any basis other than the merits of the matter.

(b) The bidder represents and certifies as part of its bid that, except for full-time bona fide employees working solely for the bidder, the bidder:

(1) [] has, [] has not employed or retained any person or company to solicit or obtain this contract; and

(2) [] has, [] has not paid or agreed to pay to any person or company employed or retained to solicit or obtain this contract any commission, percentage, brokerage, or other fee contingent upon or resulting from the award of this contract.

(c) If the answer to either (a)(1) or (a)(2) above is affirmative, the bidder shall make an immediate and full written disclosure to the PHA/IHA Contracting Officer.

(d) Any misrepresentation by the bidder shall give the PHA/IHA the right to (1) terminate the contract; (2) at its discretion, deduct from contract payments the amount of any commission, percentage, brokerage, or other contingent fee; or (3) take other remedy pursuant to the contract.

3. Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions (applicable to contracts exceeding \$100,000)

(a) The definitions and prohibitions contained in Section 1352 of title 31, United States Code, are hereby incorporated by reference in paragraph (b) of this certification.

(b) The bidder, by signing its bid, hereby certifies to the best of his or her knowledge and belief as of December 23, 1989 that:

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of a contract resulting from this solicitation;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the bidder shall complete and submit, with its bid, OMB standard form LLL, "Disclosure of Lobbying Activities;" and

(3) He or she will include the language of this certification in all subcontracts at any tier and require that all recipients of subcontract awards in excess of \$100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000, for each such failure.

(d) Indian tribes (except those chartered by States) and Indian organizations as defined in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) are exempt from the requirements of this provision.

4. Organizational Conflicts of Interest Certification

The bidder certifies that to the best of its knowledge and belief and except as otherwise disclosed, he or she does not have any organizational conflict of interest which is defined as a situation in which the nature of work to be performed under this proposed contract and the bidder's organizational, financial, contractual, or other interests may, without some restriction on future activities:

- (a) Result in an unfair competitive advantage to the bidder; or,
- (b) Impair the bidder's objectivity in performing the contract work.

[] In the absence of any actual or apparent conflict, I hereby certify that to the best of my knowledge and belief, no actual or apparent conflict of interest exists with regard to my possible performance of this procurement.

5. Bidder's Certification of Eligibility

(a) By the submission of this bid, the bidder certifies that to the best of its knowledge and belief, neither it, nor any person or firm which has an interest in the bidder's firm, nor any of the bidder's subcontractors, is ineligible to:

(1) Be awarded contracts by any agency of the United States Government, HUD, or the State in which this contract is to be performed; or,

(2) Participate in HUD programs pursuant to 24 CFR Part 24.

(b) The certification in paragraph (a) above is a material representation of fact upon which reliance was placed when making award. If it is later determined that the bidder knowingly rendered an erroneous certification, the contract may be terminated for default, and the bidder may be debarred or suspended from participation in HUD programs and other Federal contract programs.

6. Minimum Bid Acceptance Period

(a) "Acceptance period," as used in this provision, means the number of calendar days available to the PHA/IHA for awarding a contract from the date specified in this solicitation for receipt of bids.

(b) This provision supersedes any language pertaining to the acceptance period that may appear elsewhere in this solicitation.

(c) The PHA/IHA requires a minimum acceptance period of [Contracting Officer insert time period] calendar days.

(d) In the space provided immediately below, bidders may specify a longer acceptance period than the PHA's/IHA's minimum requirement. The bidder allows the following acceptance period: calendar days.

(e) A bid allowing less than the PHA's/IHA's minimum acceptance period will be rejected.

(f) The bidder agrees to execute all that it has undertaken to do, in compliance with its bid, if that bid is accepted in writing within (1) the acceptance period stated in paragraph (c) above or (2) any longer acceptance period stated in paragraph (d) above.

7. Small, Minority, Women-Owned Business Concern Representation

The bidder represents and certifies as part of its bid/ offer that it --

(a) [] is, [] is not a small business concern. "Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding, and qualified as a small business under the criteria and size standards in 13 CFR 121.

(b) [] is, [] is not a women-owned business enterprise. "Women-owned business enterprise," as used in this provision, means a business that is at least 51 percent owned by a woman or women who are U.S. citizens and who also control and operate the business.

(c) [] is, [] is not a minority business enterprise. "Minority business enterprise," as used in this provision, means a business which is at least 51 percent owned or controlled by one or more minority group members or, in the case of a publicly owned business, at least 51 percent of its voting stock is owned by one or more minority group members, and whose management and daily operations are controlled by one or more such individuals. For the purpose of this definition, minority group members are:

(Check the block applicable to you)

- [] Black Americans [] Asian Pacific Americans
- [] Hispanic Americans [] Asian Indian Americans
- [] Native Americans [] Hasidic Jewish Americans

8. Indian-Owned Economic Enterprise and Indian Organization Representation (applicable only if this solicitation is for a contract to be performed on a project for an Indian Housing Authority)

The bidder represents and certifies that it:

(a) [] is, [] is not an Indian-owned economic enterprise. "Economic enterprise," as used in this provision, means any commercial, industrial, or business activity established or organized for the purpose of profit, which is at least 51 percent Indian owned. "Indian," as used in this provision, means any person who is a member of any tribe, band, group, pueblo, or community which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs and any "Native" as defined in the Alaska Native Claims Settlement Act.

(b) [] is, [] is not an Indian organization. "Indian organization," as used in this provision, means the governing body of any Indian tribe or entity established or recognized by such governing body. Indian "tribe" means any Indian tribe, band, group, pueblo, or

community including Native villages and Native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs.

9. Certification of Eligibility Under the Davis-Bacon Act (applicable to construction contracts exceeding \$2,000)

(a) By the submission of this bid, the bidder certifies that neither it nor any person or firm who has an interest in the bidder's firm is a person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(b) No part of the contract resulting from this solicitation shall be subcontracted to any person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(c) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.

10. Certification of Nonsegregated Facilities (applicable to contracts exceeding \$10,000)

(a) The bidder's attention is called to the clause entitled **Equal Employment Opportunity** of the General Conditions of the Contract for Construction.

(b) "Segregated facilities," as used in this provision, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise.

(c) By the submission of this bid, the bidder certifies that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The bidder agrees that a breach of this certification is a violation of the Equal Employment Opportunity clause in the contract.

(d) The bidder further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) prior to entering into subcontracts which exceed \$10,000 and are not exempt from the requirements of the Equal Employment Opportunity clause, it will:

- (1) Obtain identical certifications from the proposed subcontractors;
- (2) Retain the certifications in its files; and
- (3) Forward the following notice to the proposed subcontractors (except if the proposed subcontractors have submitted identical certifications for specific time periods):

Notice to Prospective Subcontractors of Requirement for Certifications of Nonsegregated Facilities

A Certification of Nonsegregated Facilities must be submitted before the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Employment Opportunity clause of the prime contract. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

Note: The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

11. Clean Air and Water Certification (applicable to contracts exceeding \$100,000)

The bidder certifies that:

(a) Any facility to be used in the performance of this contract [] is, [] is not listed on the Environmental Protection Agency List of Violating Facilities:

(b) The bidder will immediately notify the PHA/IHA Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the Environmental Protection Agency, indicating that any facility that the bidder proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and,

(c) The bidder will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.

12. Previous Participation Certificate (applicable to construction and equipment contracts exceeding \$50,000)

(a) The bidder shall complete and submit with his/her bid the Form HUD-2530, "Previous Participation Certificate." If the successful bidder does not submit the certificate with his/her bid, he/she must submit it within three (3) working days of bid opening. Failure to submit the certificate by that date may render the bid nonresponsive. No contract award will be made without a properly executed certificate.

(b) A fully executed "Previous Participation Certificate" [] is, [] is not included with the bid.

13. Bidder's Signature

The bidder hereby certifies that the information contained in these certifications and representations is accurate, complete, and current.

(Signature and Date)

(Typed or Printed Name)

(Title)

(Company Name)

(Company Address)

US Department of Housing and Urban Development
Office of Housing/Federal Housing Commissioner

US Department of Agriculture
Farmers Home Administration

Part I to be completed by Controlling Participant(s) of Covered Projects (See instructions) Reason for submission:		For HUD HQ/FmHA use only	
1. Agency name and City where the application is filed		2. Project Name, Project Number, City and Zip Code	
3. Loan or Contract amount \$	4. Number of Units or Beds	5. Section of Act	6. Type of Project (check one) <input type="checkbox"/> Existing <input type="checkbox"/> Rehabilitation Proposed (New)

7. List all proposed Controlling Participants and attach complete organization chart for all organizations showing ownership %

Name and address (Last, First, Middle Initial) of controlling participant(s) proposing to participate	8 Role of Each Principal in Project	9. SSN or IRS Employer Number (TIN)

1. Schedule A contains a listing, for the last ten years, of every project assisted or insured by HUD, USDA FmHA and/or State and local government housing finance agencies in which the controlling participant(s) have participated or are now participating.
 2. For the period beginning 10 years prior to the date of this certification, and except as shown on the certification:
 - a. No mortgage on a project listed has ever been in default, assigned to the Government or foreclosed, nor has it received mortgage relief from the mortgagee;
 - b. The controlling participants have no defaults or noncompliance under any Conventional Contract or Turnkey Contract of Sale in connection with a public housing project;
 - c. There are no known unresolved findings as a result of HUD audits, management reviews or other Governmental investigations concerning the controlling participants or their projects;
 - d. There has not been a suspension or termination of payments under any HUD assistance contract due to the controlling participant's fault or negligence;
 - e. The controlling participants have not been convicted of a felony and are not presently the subject of a complaint or indictment charging a felony. (A felony is defined as any offense punishable by imprisonment for a term exceeding one year, but does not include any offense classified as a misdemeanor under the laws of a State and punishable by imprisonment of two years or less);
 - f. The controlling participants have not been suspended, debarred or otherwise restricted by any Department or Agency of the Federal Government or of a State Government from doing business with such Department or Agency;
 - g. The controlling participants have not defaulted on an obligation covered by a surety or performance bond and have not been the subject of a claim under an employee fidelity bond;
 3. All the names of the controlling participants who propose to participate in this project are listed above.
 4. None of the controlling participants is a HUD/FmHA employee or a member of a HUD/FmHA employee's immediate household as defined in Standards of Ethical Conduct for Employees of the Executive Branch in 5 C.F.R. Part 2635 (57 FR 35006) and HUD's Standard of Conduct in 24 C.F.R. Part 0 and USDA's Standard of Conduct in 7 C.F.R. Part 0 Subpart B.
 5. None of the controlling participants is a participant in an assisted or insured project as of this date on which construction has stopped for a period in excess of 20 days or which has been substantially completed for more than 90 days and documents for closing, including final cost certification, have not been filed with HUD or FmHA.
 6. None of the controlling participants have been found by HUD or FmHA to be in noncompliance with any applicable fair housing and civil rights requirements in 24 CFR 5.105(a). (If any controlling participants have been found to be in noncompliance with any requirements, attach a signed statement explaining the relevant facts, circumstances, and resolution, if any).
 7. None of the controlling participants is a Member of Congress or a Resident Commissioner nor otherwise prohibited or limited by law from contracting with the Government of the United States of America.
 8. Statements above (if any) to which the controlling participant(s) cannot certify have been deleted by striking through the words with a pen, and the controlling participant(s) have initialed each deletion (if any) and have attached a true and accurate signed statement (if applicable) to explain the facts and circumstances.
- I/We, the undersigned, certify under penalty of perjury that the information provided above is true and correct. WARNING: Anyone who knowingly submits a false claim or makes a false statement is subject to criminal and/or civil penalties, including confinement for up to 5 years, fines, and civil and administrative penalties. (18 U.S.C. §§ 287, 1001, 1010, 1012, 1014; 31 U.S.C. §3729, 3802).

Name of Controlling Participant	Signature of Controlling Participant	Certification Date (mm/dd/yyyy)	Area Code and Tel. No.
This form prepared by (print name)			Area Code and Tel. No.

Schedule A: List of Previous Projects and Section 8 Contracts. Below is a complete list of the controlling participants' previous participation projects and participation history in covered projects as per 24 CFR, part 200 §200.214 and multifamily Housing programs of FmHA, State and local Housing Finance Agencies, if applicable. **Note:** Read and follow the instruction sheet carefully. Make full disclosure. Add extra sheets if you need more space. Double check for accuracy. If no previous projects, write by your name, **"No previous participation, First Experience"**.

1. Controlling Participants' Name (Last, First)	2. List of previous projects (Project name, project ID and, Govt. agency involved)	3. List Participants' Role(s) (indicate dates participated, and if fee or identity of interest participant)	4. Status of loan (current, defaulted, assigned, foreclosed)	5. Was the Project ever in default during your participation Yes No If yes, explain		6. Last MOR rating and Physical Insp. Score and date

Part II- For HUD Internal Processing Only

Received and checked by me for accuracy and completeness; recommend approval or refer to Headquarters after checking appropriate box.

Date (mm/dd/yyyy)	Tel No. and area code	<input type="checkbox"/> A. No adverse information; form HUD-2530 approval recommended. <input type="checkbox"/> B. Name match in system <input type="checkbox"/> C. Disclosure or Certification problem <input type="checkbox"/> D. Other (attach memorandum)	
Staff	Processing and Control		
Signature of authorized reviewer	Signature of authorized reviewer	Approved <input type="checkbox"/> <input type="checkbox"/> No	Date (mm/dd/yyyy)

Instructions for Completing the Previous Participation Certificate, form HUD-2530

Carefully read these instructions and the applicable regulations. A copy of the regulations published at 24 C.F.R. part 200, subpart H, § 200.210-200.222 can be obtained on-line at www.gpo.gov and from the Account Executive at any HUD Office. Type or print neatly in ink when filling out this form. Incomplete form will be returned to the applicant.

Attach extra sheets as you need them. Be sure to indicate "Continued on Attachments" wherever appropriate. Sign each additional page that you attach if it refers to you or your record. **Carefully read the certification before you sign it.** Any questions regarding the form or how to complete it can be answered by your HUD Account Executive.

Purpose: This form provides HUD/USDA FmHA with a certified report of all previous participation in relevant HUD/USDA programs by those parties submitting the application. The information requested in this form is used by HUD/USDA to determine if you meet the standards established to ensure that all controlling participants in HUD/USDA projects will honor their legal, financial and contractual obligations and are of acceptable risks from the underwriting standpoint of an insurer, lender or governmental agency. HUD requires that you certify and submit your record of previous participation, in relevant projects, by completing and signing this form, before your participation can be approved.

HUD approval of your certification is a necessary precondition for your participation in the project and in the capacity that you propose. If you do not file this certification, do not furnish the information requested accurately, or do not meet established standards, HUD will not approve your certification.

Note that approval of your certification does not obligate HUD to approve your project application, and it does not satisfy all other HUD program requirements relative to your qualifications.

Who Must Sign and File Form HUD-2530: Form HUD-2530 must be completed and signed by all Controlling Participants of Covered Projects, as such terms are defined in 24 CFR part 200 §200.212, and as further clarified by the Processing Guide (HUD notice H 2016-15) referenced in 24 CFR §200.210(b) and available on the HUD website at: http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/mfh/prevparticipation.

Where and When Form HUD-2530 Must Be Filed: The original of this form must be submitted to the HUD Office where your project application will be processed at the same time you file your initial project application. This form must be filed with applications for projects listed in 24 CFR §200.214 and for the Triggering Events listed at 24 CFR §200.218.

Review of Adverse Determination: If approval of your participation in a HUD project is denied, withheld, or conditionally granted on the basis of your record of previous participation, you will be notified by the HUD Office. You may request reconsideration in accordance with 24 CFR §200.222 and further clarified by the Processing Guide. Request must be made in writing within 30 days from your receipt of the notice of determination.

The Department of Housing and Urban Development (HUD) is authorized to collect this information by law 42 U.S.C. 3535(d) and by regulation at 24 CFR 200.210. This information is needed so that principals applying to participate in multifamily programs can become HUD-approved controlling participants. The information you provide will enable HUD to evaluate your record with respect to established standards of performance, responsibility and eligibility. Without prior approval, a controlling participant may not participate in a proposed or existing multifamily or healthcare project. HUD uses this information to evaluate whether or not controlling participants pose an unsatisfactory underwriting risk. The information is used to evaluate the potential controlling participants and approve only individuals and organizations that will honor their legal, financial and contractual obligations.

Privacy Act Statement: The Housing and Community Development Act of 1987, 42 U.S.C. 3543 requires persons applying for a Federally-insured or guaranteed loan to furnish his/her Social Security Number (SSN). HUD must have your SSN for identification of your records. HUD may use your SSN for automated processing of your records and to make requests for information about you and your previous records with other public agencies and private sector sources. HUD may disclose certain information to Federal, State and local agencies when relevant to civil, criminal, or regulatory investigations and prosecutions. It will not be otherwise disclosed or released outside of HUD, except as required and permitted by law. You must provide all of the information requested in this application, including your SSN. Failure to provide any of the information will result in your disapproval of participation in this HUD program. APPS SORN could be accessed in Federal Register / Vol. 81, No. 146 / Friday, July 29, 2016 / Notices ([Docket No. FR-5921-N-10] Implementation of the Privacy Act of 1974, as Amended; Amended System of Records Notice, Active Partners Performance System).

PRA Statement: The public reporting burden is estimated at 3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering, and maintaining the data needed, and completing and reviewing the collection of information.

Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions to reduce this burden, to the Reports Management Officer, Paperwork Reduction Project, to the Office of Information Technology, US Department of Housing and Urban Development, Washington, DC 20410-3600. When providing comments, please refer to OMB Approval No. 2502-0118. HUD may not conduct and sponsor, and a person is not required to respond to, a collection of information unless the collection displays a valid control number.

The collection is authorized by 12 U.S.C 1702-1715z; 42 U.S.C. 3535(d). HUD form 2530 is created to collect information as mandated by 24 CFR Part 200. The HUD-2530 form is used to protect HUD's Multifamily Housing and Healthcare programs by comprehensively assessing industry participants' risk. It is the Department's policy that participants in its housing programs honor their legal, financial, and contractual obligations. Accordingly, uniform standards are established for approvals, disapprovals, or withholding actions on principals in projects, based upon their past performances as well as other relevant information. Respondents such as owners, management agents, master tenants, general contractors, and nursing home operators are subject to review. The information on this form needs to be collected by the Department to evaluate participants' previous performance and compliance with contracts, regulations, and directives.

**U.S. Department of Housing and
Urban Development**
Office of Public and Indian Housing

**Instructions to Bidders for Contracts
Public and Indian Housing Programs**

Instructions to Bidders for Contracts

Public and Indian Housing Programs

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1. Bid Preparation and Submission

(a) Bidders are expected to examine the specifications, drawings, all instructions, and, if applicable, the construction site (see also the contract clause entitled **Site Investigation and Conditions Affecting the Work** of the *General Conditions of the Contract for Construction*). Failure to do so will be at the bidders' risk.

(b) All bids must be submitted on the forms provided by the Public Housing Agency/Indian Housing Authority (PHA/IHA). Bidders shall furnish all the information required by the solicitation. Bids must be signed and the bidder's name typed or printed on the bid sheet and each continuation sheet which requires the entry of information by the bidder. Erasures or other changes must be initialed by the person signing the bid. Bids signed by an agent shall be accompanied by evidence of that agent's authority. (Bidders should retain a copy of their bid for their records.)

(c) Bidders must submit as part of their bid a completed form HUD-5369-A, "Representations, Certifications, and Other Statements of Bidders."

(d) All bid documents shall be sealed in an envelope which shall be clearly marked with the words "Bid Documents," the Invitation for Bids (IFB) number, any project or other identifying number, the bidder's name, and the date and time for receipt of bids.

(e) If this solicitation requires bidding on all items, failure to do so will disqualify the bid. If bidding on all items is not required, bidders should insert the words "No Bid" in the space provided for any item on which no price is submitted.

(f) Unless expressly authorized elsewhere in this solicitation, alternate bids will not be considered.

(g) Unless expressly authorized elsewhere in this solicitation, bids submitted by telegraph or facsimile (fax) machines will not be considered.

(h) If the proposed contract is for a Mutual Help project (as described in 24 CFR Part 905, Subpart E) that involves Mutual Help contributions of work, material, or equipment, supplemental information regarding the bid advertisement is provided as an attachment to this solicitation.

2. Explanations and Interpretations to Prospective Bidders

(a) Any prospective bidder desiring an explanation or interpretation of the solicitation, specifications, drawings, etc., must request it at least 7 days before the scheduled time for bid opening. Requests may be oral or written. Oral requests must be confirmed in writing. The only oral clarifications that will be provided will be those clearly related to solicitation procedures, i.e., not substantive technical information. No other oral explanation or interpretation will be provided. Any information given a prospective bidder concerning this solicitation will be furnished promptly to all other prospective bidders as a written amendment to the solicitation, if that information is necessary in submitting bids, or if the lack of it would be prejudicial to other prospective bidders.

(b) Any information obtained by, or provided to, a bidder other than by formal amendment to the solicitation shall not constitute a change to the solicitation.

3. Amendments to Invitations for Bids

(a) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

(b) Bidders shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment, (2) by identifying the amendment number and date on the bid form, or (3) by letter, telegram, or facsimile, if those methods are authorized in the solicitation. The PHA/IHA must receive acknowledgement by the time and at the place specified for receipt of bids. Bids which fail to acknowledge the bidder's receipt of any amendment will result in the rejection of the bid if the amendment(s) contained information which substantively changed the PHA's/IHA's requirements.

(c) Amendments will be on file in the offices of the PHA/IHA and the Architect at least 7 days before bid opening.

4. Responsibility of Prospective Contractor

(a) The PHA/IHA will award contracts only to responsible prospective contractors who have the ability to perform successfully under the terms and conditions of the proposed contract. In determining the responsibility of a bidder, the PHA/IHA will consider such matters as the bidder's:

- (1) Integrity;
- (2) Compliance with public policy;
- (3) Record of past performance; and
- (4) Financial and technical resources (including construction and technical equipment).

(b) Before a bid is considered for award, the bidder may be requested by the PHA/IHA to submit a statement or other documentation regarding any of the items in paragraph (a) above. Failure by the bidder to provide such additional information shall render the bidder nonresponsible and ineligible for award.

5. Late Submissions, Modifications, and Withdrawal of Bids

(a) Any bid received at the place designated in the solicitation after the exact time specified for receipt will not be considered unless it is received before award is made and it:

(1) Was sent by registered or certified mail not later than the fifth calendar day before the date specified for receipt of offers (e.g., an offer submitted in response to a solicitation requiring receipt of offers by the 20th of the month must have been mailed by the 15th);

(2) Was sent by mail, or if authorized by the solicitation, was sent by telegram or via facsimile, and it is determined by the PHA/IHA that the late receipt was due solely to mishandling by the PHA/IHA after receipt at the PHA/IHA; or

(3) Was sent by U.S. Postal Service Express Mail Next Day Service - Post Office to Addressee, not later than 5:00 p.m. at the place of mailing two working days prior to the date specified for receipt of proposals. The term "working days" excludes weekends and observed holidays.

(b) Any modification or withdrawal of a bid is subject to the same conditions as in paragraph (a) of this provision.

(c) The only acceptable evidence to establish the date of mailing of a late bid, modification, or withdrawal sent either by registered or certified mail is the U.S. or Canadian Postal Service postmark both on the envelope or wrapper and on the original receipt from the U.S. or Canadian Postal Service. Both postmarks must show a legible date or the bid, modification, or withdrawal shall be processed as if mailed late. "Postmark" means a printed, stamped, or otherwise placed impression (exclusive of a postage meter machine impression) that is readily identifiable without further action as having been supplied and affixed by employees of the U.S. or Canadian Postal Service on the date of mailing. Therefore, bidders should request the postal clerk to place a hand cancellation bull's-eye postmark on both the receipt and the envelope or wrapper.

(d) The only acceptable evidence to establish the time of receipt at the PHA/IHA is the time/date stamp of PHA/IHA on the proposal wrapper or other documentary evidence of receipt maintained by the PHA/IHA.

(e) The only acceptable evidence to establish the date of mailing of a late bid, modification, or withdrawal sent by Express Mail Next Day Service-Post Office to Addressee is the date entered by the post office receiving clerk on the "Express Mail Next Day Service-Post Office to Addressee" label and the postmark on both the envelope or wrapper and on the original receipt from the U.S. Postal Service. "Postmark" has the same meaning as defined in paragraph (c) of this provision, excluding postmarks of the Canadian Postal Service. Therefore, bidders should request the postal clerk to place a legible hand cancellation bull's eye postmark on both the receipt and Failure by a bidder to acknowledge receipt of the envelope or wrapper.

(f) Notwithstanding paragraph (a) of this provision, a late modification of an otherwise successful bid that makes its terms more favorable to the PHA/IHA will be considered at any time it is received and may be accepted.

(g) Bids may be withdrawn by written notice, or if authorized by this solicitation, by telegram (including mailgram) or facsimile machine transmission received at any time before the exact time set for opening of bids; provided that written confirmation of telegraphic or facsimile withdrawals over the signature of the bidder is mailed and postmarked prior to the specified bid opening time. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for opening of bids, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid.

6. Bid Opening

All bids received by the date and time of receipt specified in the solicitation will be publicly opened and read. The time and place of opening will be as specified in the solicitation. Bidders and other interested persons may be present.

7. Service of Protest

(a) Definitions. As used in this provision:

"Interested party" means an actual or prospective bidder whose direct economic interest would be affected by the award of the contract.

"Protest" means a written objection by an interested party to this solicitation or to a proposed or actual award of a contract pursuant to this solicitation.

(b) Protests shall be served on the Contracting Officer by obtaining written and dated acknowledgement from —

**Procurement Manager
Houston Housing Authority
2640 Fountain View Drive
Houston, Texas 77057**

[Contracting Officer designate the official or location where a protest may be served on the Contracting Officer]

(c) All protests shall be resolved in accordance with the PHA's/IHA's protest policy and procedures, copies of which are maintained at the PHA/IHA.

8. Contract Award

(a) The PHA/IHA will evaluate bids in response to this solicitation without discussions and will award a contract to the responsible bidder whose bid, conforming to the solicitation, will be most advantageous to the PHA/IHA considering only price and any price-related factors specified in the solicitation.

(b) If the apparent low bid received in response to this solicitation exceeds the PHA's/IHA's available funding for the proposed contract work, the PHA/IHA may either accept separately priced items (see 8(e) below) or use the following procedure to determine contract award. The PHA/IHA shall apply in turn to each bid (proceeding in order from the apparent low bid to the high bid) each of the separately priced bid deductible items, if any, in their priority order set forth in this solicitation. If upon the application of the first deductible item to all initial bids, a new low bid is within the PHA's/IHA's available funding, then award shall be made to that bidder. If no bid is within the available funding amount, then the PHA/IHA shall apply the second deductible item. The PHA/IHA shall continue this process until an evaluated low bid, if any, is within the PHA's/IHA's available funding. If upon the application of all deductibles, no bid is within the PHA's/IHA's available funding, or if the solicitation does not request separately priced deductibles, the PHA/IHA shall follow its written policy and procedures in making any award under this solicitation.

(c) In the case of tie low bids, award shall be made in accordance with the PHA's/IHA's written policy and procedures.

(d) The PHA/IHA may reject any and all bids, accept other than the lowest bid (e.g., the apparent low bid is unreasonably low), and waive informalities or minor irregularities in bids received, in accordance with the PHA's/IHA's written policy and procedures.

(e) Unless precluded elsewhere in the solicitation, the PHA/IHA may accept any item or combination of items bid.

(f) The PHA/IHA may reject any bid as nonresponsive if it is materially unbalanced as to the prices for the various items of work to be performed. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated for other work.

(g) A written award shall be furnished to the successful bidder within the period for acceptance specified in the bid and shall result in a binding contract without further action by either party.

9. Bid Guarantee (applicable to construction and equipment contracts exceeding \$25,000)

All bids must be accompanied by a negotiable bid guarantee which shall not be less than five percent (5%) of the amount of the bid. The bid guarantee may be a certified check, bank draft, U.S. Government Bonds at par value, or a bid bond secured by a surety company acceptable to the U.S. Government and authorized to do business in the state where the work is to be performed. In the case where the work under the contract will be performed on an Indian reservation area, the bid guarantee may also be an irrevocable Letter of Credit (see provision 10, Assurance of Completion, below). Certified checks and bank drafts must be made payable to the order of the PHA/IHA. The bid guarantee shall insure the execution of the contract and the furnishing of a method of assurance of completion by the successful bidder as required by the solicitation. Failure to submit a bid guarantee with the bid shall result in the rejection of the bid. Bid guarantees submitted by unsuccessful bidders will be returned as soon as practicable after bid opening.

10. Assurance of Completion

(a) Unless otherwise provided in State law, the successful bidder shall furnish an assurance of completion prior to the execution of any contract under this solicitation. This assurance may be [Contracting Officer check applicable items] —

(1) a performance and payment bond in a penal sum of 100 percent of the contract price; or, as may be required or permitted by State law;

(2) separate performance and payment bonds, each for 50 percent or more of the contract price;

(3) a 20 percent cash escrow;

(4) a 25 percent irrevocable letter of credit; or,

(5) an irrevocable letter of credit for 10 percent of the total contract price with a monitoring and disbursements agreement with the IHA (applicable only to contracts awarded by an IHA under the Indian Housing Program).

(b) Bonds must be obtained from guarantee or surety companies acceptable to the U.S. Government and authorized to do business in the state where the work is to be performed. Individual sureties will not be considered. U.S. Treasury Circular Number 570, published annually in the Federal Register, lists companies approved to act as sureties on bonds securing Government contracts, the maximum underwriting limits on each contract bonded, and the States in which the company is licensed to do business. Use of companies listed in this circular is mandatory. Copies of the circular may be downloaded on the U.S. Department of Treasury website <http://www.fms.treas.gov/c570/index.html>, or ordered for a minimum fee by contacting the Government Printing Office at (202) 512-2168.

(c) Each bond shall clearly state the rate of premium and the total amount of premium charged. The current power of attorney for the person who signs for the surety company must be attached to the bond. The effective date of the power of attorney shall not precede the date of the bond. The effective date of the bond shall be on or after the execution date of the contract.

(d) Failure by the successful bidder to obtain the required assurance of completion within the time specified, or within such extended period as the PHA/IHA may grant based upon reasons determined adequate by the PHA/IHA, shall render the bidder ineligible for award. The PHA/IHA may then either award the contract to the next lowest responsible bidder or solicit new bids. The PHA/IHA may retain the ineligible bidder's bid guarantee.

11. Preconstruction Conference (applicable to construction contracts)

After award of a contract under this solicitation and prior to the start of work, the successful bidder will be required to attend a preconstruction conference with representatives of the PHA/IHA and its architect/engineer, and other interested parties convened by the PHA/IHA. The conference will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the contract (e.g., Equal Employment Opportunity, Labor Standards). The PHA/IHA will provide the successful bidder with the date, time, and place of the conference.

12. Indian Preference Requirements (applicable only if this solicitation is for a contract to be performed on a project for an Indian Housing Authority)

(a) HUD has determined that the contract awarded under this solicitation is subject to the requirements of section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e(b)). Section 7(b) requires that any contract or subcontract entered into for the benefit of Indians shall require that, to the greatest extent feasible

(1) Preferences and opportunities for training and employment (other than core crew positions; see paragraph (h) below) in connection with the administration of such contracts or subcontracts be given to qualified "Indians." The Act defines "Indians" to mean persons who are members of an Indian tribe and defines "Indian tribe" to mean any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians; and,

(2) Preference in the award of contracts or subcontracts in connection with the administration of contracts be given to Indian organizations and to Indian-owned economic enterprises, as defined in section 3 of the Indian Financing Act of 1974 (25 U.S.C. 1452). That Act defines "economic enterprise" to mean any Indian-owned commercial, industrial, or business activity established or organized for the purpose of profit, except that the Indian ownership must constitute not less than 51 percent of the enterprise; "Indian organization" to mean the governing body of any Indian tribe or entity established or recognized by such governing body; "Indian" to mean any person who is a member of any tribe, band, group, pueblo, or community which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs and any "Native" as defined in the Alaska Native Claims Settlement Act; and Indian "tribe" to mean any Indian tribe, band, group, pueblo, or community including Native villages and Native groups (including

corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs.

(b) (1) The successful Contractor under this solicitation shall comply with the requirements of this provision in awarding all subcontracts under the contract and in providing training and employment opportunities.

(2) A finding by the IHA that the contractor, either (i) awarded a subcontract without using the procedure required by the IHA, (ii) falsely represented that subcontracts would be awarded to Indian enterprises or organizations; or, (iii) failed to comply with the contractor's employment and training preference bid statement shall be grounds for termination of the contract or for the assessment of penalties or other remedies.

(c) If specified elsewhere in this solicitation, the IHA may restrict the solicitation to qualified Indian-owned enterprises and Indian organizations. If two or more (or a greater number as specified elsewhere in the solicitation) qualified Indian-owned enterprises or organizations submit responsive bids, award shall be made to the qualified enterprise or organization with the lowest responsive bid. If fewer than the minimum required number of qualified Indian-owned enterprises or organizations submit responsive bids, the IHA shall reject all bids and readvertise the solicitation in accordance with paragraph (d) below.

(d) If the IHA prefers not to restrict the solicitation as described in paragraph (c) above, or if after having restricted a solicitation an insufficient number of qualified Indian enterprises or organizations submit bids, the IHA may advertise for bids from non-Indian as well as Indian-owned enterprises and Indian organizations. Award shall be made to the qualified Indian enterprise or organization with the lowest responsive bid if that bid is -

(1) Within the maximum HUD-approved budget amount established for the specific project or activity for which bids are being solicited; and

(2) No more than the percentage specified in 24 CFR 905.175(c) higher than the total bid price of the lowest responsive bid from any qualified bidder. If no responsive bid by a qualified Indian-owned economic enterprise or organization is within the stated range of the total bid price of the lowest responsive bid from any qualified enterprise, award shall be made to the bidder with the lowest bid.

(e) Bidders seeking to qualify for preference in contracting or subcontracting shall submit proof of Indian ownership with their bids. Proof of Indian ownership shall include but not be limited to:

(1) Certification by a tribe or other evidence that the bidder is an Indian. The IHA shall accept the certification of a tribe that an individual is a member.

(2) Evidence such as stock ownership, structure, management, control, financing and salary or profit sharing arrangements of the enterprise.

(f) (1) All bidders must submit with their bids a statement describing how they will provide Indian preference in the award of subcontracts. The specific requirements of that statement and the factors to be used by the IHA in determining the statement's adequacy are included as an attachment to this solicitation. Any bid that fails to include the required statement shall be rejected as nonresponsive. The IHA may require that comparable statements be provided by subcontractors to the successful Contractor, and may require the Contractor to reject any bid or proposal by a subcontractor that fails to include the statement.

(2) Bidders and prospective subcontractors shall submit a certification (supported by credible evidence) to the IHA in any instance where the bidder or subcontractor believes it is infeasible to provide Indian preference in subcontracting. The acceptance or rejection by the IHA of the certification shall be final. Rejection shall disqualify the bid from further consideration.

(g) All bidders must submit with their bids a statement detailing their employment and training opportunities and their plans to provide preference to Indians in implementing the contract; and the number or percentage of Indians anticipated to be employed and trained. Comparable statements from all proposed subcontractors must be submitted. The criteria to be used by the IHA in determining the statement(s)'s adequacy are included as an attachment to this solicitation. Any bid that fails to include the required statement(s), or that includes a statement that does not meet minimum standards required by the IHA shall be rejected as nonresponsive.

(h) Core crew employees. A core crew employee is an individual who is a bona fide employee of the contractor at the time the bid is submitted; or an individual who was not employed by the bidder at the time the bid was submitted, but who is regularly employed by the bidder in a supervisory or other key skilled position when work is available. Bidders shall submit with their bids a list of all core crew employees.

(i) Preference in contracting, subcontracting, employment, and training shall apply not only on-site, on the reservation, or within the IHA's jurisdiction, but also to contracts with firms that operate outside these areas (e.g., employment in modular or manufactured housing construction facilities).

(j) Bidders should contact the IHA to determine if any additional local preference requirements are applicable to this solicitation.

(k) The IHA [] does [X] does not [Contracting Officer check applicable box] maintain lists of Indian-owned economic enterprises and Indian organizations by specialty (e.g., plumbing, electrical, foundations), which are available to bidders to assist them in meeting their responsibility to provide preference in connection with the administration of contracts and subcontracts.

General Conditions for Construction Contracts - Public Housing Programs

U.S. Department of Housing and Urban Development
 Office of Public and Indian Housing
 OMB Approval No. 2577-0157 (exp. 11/30/2023)

Applicability. This form is applicable to any construction/development contract greater than \$150,000.

Public reporting burden for this collection of information is estimated to average 1 hour. This includes the time for collecting, reviewing, and reporting the data. The information requested is required to obtain a benefit. This form includes those clauses required by OMB's common rule on grantee procurement, implemented at HUD in 2 CFR 200, and those requirements set forth in Section 3 of the Housing and Urban Development Act of 1968 and its amendment by the Housing and Community Development Act of 1992, implemented by HUD at 24 CFR Part 135. The form is required for construction contracts awarded by Public Housing Agencies (PHAs). The form is used by Housing Authorities in solicitations to provide necessary contract clauses. If the form were not used, PHAs would be unable to enforce their contracts.. There are no assurances of confidentiality. HUD may not conduct or sponsor, and an applicant is not required to respond to a collection of information unless it displays a currently valid OMB control number.

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1. Definitions

- (a) "Architect" means the person or other entity engaged by the PHA to perform architectural, engineering, design, and other services related to the work as provided for in the contract. When a PHA uses an engineer to act in this capacity, the terms "architect" and "engineer" shall be synonymous. The Architect shall serve as a technical representative of the Contracting Officer. The Architect's authority is as set forth elsewhere in this contract.
 - (b) "Contract" means the contract entered into between the PHA and the Contractor. It includes the forms of Bid, the Bid Bond, the Performance and Payment Bond or Bonds or other assurance of completion, the Certifications, Representations, and Other Statements of Bidders (form HUD-5370), these General Conditions of the Contract for Construction (form HUD-5370), the applicable wage rate determinations from the U.S. Department of Labor, any special conditions included elsewhere in the contract, the specifications, and drawings. It includes all formal changes to any of those documents by addendum, change order, or other modification.
 - (c) "Contracting Officer" means the person delegated the authority by the PHA to enter into, administer, and/or terminate this contract and designated as such in writing to the Contractor. The term includes any successor Contracting Officer and any duly authorized representative of the Contracting Officer also designated in writing. The Contracting Officer shall be deemed the authorized agent of the PHA in all dealings with the Contractor.
 - (d) "Contractor" means the person or other entity entering into the contract with the PHA to perform all of the work required under the contract.
 - (e) "Drawings" means the drawings enumerated in the schedule of drawings contained in the Specifications and as described in the contract clause entitled Specifications and Drawings for Construction herein.
 - (f) "HUD" means the United States of America acting through the Department of Housing and Urban Development including the Secretary, or any other person designated to act on its behalf. HUD has agreed, subject to the provisions of an Annual Contributions Terms and Conditions (ACC), to provide financial assistance to the PHA, which includes assistance in financing the work to be performed under this contract. As defined elsewhere in these General Conditions or the contract documents, the determination of HUD may be required to authorize changes in the work or for release of funds to the PHA for payment to the Contractor. Notwithstanding HUD's role, nothing in this contract shall be construed to create any contractual relationship between the Contractor and HUD.
 - (g) "Project" means the entire project, whether construction or rehabilitation, the work for which is provided for in whole or in part under this contract.
 - (h) "PHA" means the Public Housing Agency organized under applicable state laws which is a party to this contract.
 - (i) "Specifications" means the written description of the technical requirements for construction and includes the criteria and tests for determining whether the requirements are met.
 - (l) "Work" means materials, workmanship, and manufacture and fabrication of components.
- (a) The Contractor shall furnish all necessary labor, materials, tools, equipment, and transportation necessary for performance of the work. The Contractor shall also furnish all necessary water, heat, light, and power not made available to the Contractor by the PHA pursuant to the clause entitled Availability and Use of Utility Services herein.
 - (b) The Contractor shall perform on the site, and with its own organization, work equivalent to at least [] (12 percent unless otherwise indicated) of the total amount of work to be performed under the order. This percentage may be reduced by a supplemental agreement to this order if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the PHA.
 - (c) At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the work site a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.
 - (d) The Contractor shall be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence, and shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. The Contractor shall hold and save the PHA, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.
 - (e) The Contractor shall lay out the work from base lines and bench marks indicated on the drawings and be responsible for all lines, levels, and measurements of all work executed under the contract. The Contractor shall verify the figures before laying out the work and will be held responsible for any error resulting from its failure to do so.
 - (f) The Contractor shall confine all operations (including storage of materials) on PHA premises to areas authorized or approved by the Contracting Officer.
 - (g) The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. After completing the work and before final inspection, the Contractor shall (1) remove from the premises all scaffolding, equipment, tools, and materials (including rejected materials) that are not the property of the PHA and all rubbish caused by its work; (2) leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer; (3) perform all specified tests; and, (4) deliver the installation in complete and operating condition.
 - (h) The Contractor's responsibility will terminate when all work has been completed, the final inspection made, and the work accepted by the Contracting Officer. The Contractor will then be released from further obligation except as required by the warranties specified elsewhere in the contract.

3. Architect's Duties, Responsibilities, and Authority

- (a) The Architect for this contract, and any successor, shall be designated in writing by the Contracting Officer.

2. Contractor's Responsibility for Work

- (b) The Architect shall serve as the Contracting Officer's technical representative with respect to architectural, engineering, and design matters related to the work performed under the contract. The Architect may provide direction on contract performance. Such direction shall be within the scope of the contract and may not be of a nature which: (1) institutes additional work outside the scope of the contract; (2) constitutes a change as defined in the Changes clause herein; (3) causes an increase or decrease in the cost of the contract; (4) alters the Construction Progress Schedule; or (5) changes any of the other express terms or conditions of the contract.
- (c) The Architect's duties and responsibilities may include but shall not be limited to:
- (1) Making periodic visits to the work site, and on the basis of his/her on-site inspections, issuing written reports to the PHA which shall include all observed deficiencies. The Architect shall file a copy of the report with the Contractor's designated representative at the site;
 - (2) Making modifications in drawings and technical specifications and assisting the Contracting Officer in the preparation of change orders and other contract modifications for issuance by the Contracting Officer;
 - (3) Reviewing and making recommendations with respect to - (i) the Contractor's construction progress schedules; (ii) the Contractor's shop and detailed drawings; (iii) the machinery, mechanical and other equipment and materials or other articles proposed for use by the Contractor; and, (iv) the Contractor's price breakdown and progress payment estimates; and,
 - (4) Assisting in inspections, signing Certificates of Completion, and making recommendations with respect to acceptance of work completed under the contract.

4. Other Contracts

The PHA may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with PHA employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by PHA employees

Construction Requirements

5. Pre-construction Conference and Notice to Proceed

- (a) Within ten calendar days of contract execution, and prior to the commencement of work, the Contractor shall attend a preconstruction conference with representatives of the PHA, its Architect, and other interested parties convened by the PHA. The conference will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the contract. The PHA will provide the Contractor with the date, time, and place of the conference.
- (b) The contractor shall begin work upon receipt of a written Notice to Proceed from the Contracting Officer or designee. The Contractor shall not begin work prior to receiving such notice.

6. Construction Progress Schedule

- (a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring labor, materials, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments or take other remedies under the contract until the Contractor submits the required schedule.
- (b) The Contractor shall enter the actual progress on the chart as required by the Contracting Officer, and immediately deliver three copies of the annotated schedule to the Contracting Officer. If the Contracting Officer determines, upon the basis of inspection conducted pursuant to the clause entitled Inspection and Acceptance of Construction, herein that the Contractor is not meeting the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the PHA. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.
- (c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the Contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the Default clause of this contract.

7. Site Investigation and Conditions Affecting the Work

- (a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to, (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads; (3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is

reasonably ascertainable from an inspection of the site, including all exploratory work done by the PHA, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the PHA.

- (b) The PHA assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the PHA. Nor does the PHA assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

8. Differing Site Conditions

- (a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or (2) unknown physical conditions at the site(s), of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.
- (b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. Work shall not proceed at the affected site, except at the Contractor's risk, until the Contracting Officer has provided written instructions to the Contractor. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, the Contractor shall file a claim in writing to the PHA within ten days after receipt of such instructions and, in any event, before proceeding with the work. An equitable adjustment in the contract price, the delivery schedule, or both shall be made under this clause and the contract modified in writing accordingly.
- (c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.
- (d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

9. Specifications and Drawings for Construction

- (a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be

promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

- (b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by", or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.
- (c) Where "as shown" "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place" that is "furnished and installed".
- (d) "Shop drawings" means drawings, submitted to the PHA by the Contractor, subcontractor, or any lower tier subcontractor, showing in detail (1) the proposed fabrication and assembly of structural elements and (2) the installation (i.e., form, fit, and attachment details) of materials of equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract. The PHA may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.
- (e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with other contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the PHA's reasons therefore. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.
- (f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Architect approves any such variation and the Contracting Officer concurs, the Contracting Officer shall issue an appropriate modification to the contract, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.
- (g) It shall be the responsibility of the Contractor to make timely requests of the PHA for such large scale and full size drawings, color schemes, and other additional information, not already in his possession, which shall be

required in the planning and production of the work. Such requests may be submitted as the need arises, but each such request shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay.

- (h) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the PHA and one set will be returned to the Contractor. As required by the Contracting Officer, the Contractor, upon completing the work under this contract, shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the work is completed and accepted.
- (i) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all shop drawings prepared by subcontractors are submitted to the Contracting Officer.

10. As-Built Drawings

- (a) "As-built drawings," as used in this clause, means drawings submitted by the Contractor or subcontractor at any tier to show the construction of a particular structure or work as actually completed under the contract. "As-built drawings" shall be synonymous with "Record drawings."
- (b) As required by the Contracting Officer, the Contractor shall provide the Contracting Officer accurate information to be used in the preparation of permanent as-built drawings. For this purpose, the Contractor shall record on one set of contract drawings all changes from the installations originally indicated, and record final locations of underground lines by depth from finish grade and by accurate horizontal offset distances to permanent surface improvements such as buildings, curbs, or edges of walks.
- (c) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all as-built drawings prepared by subcontractors are submitted to the Contracting Officer.

11. Material and Workmanship

- (a) All equipment, material, and articles furnished under this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the contract to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of, and as approved by the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.
- (b) Approval of equipment and materials.
 - (1) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the

machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

- (2) When required by the specifications or the Contracting Officer, the Contractor shall submit appropriately marked samples (and certificates related to them) for approval at the Contractor's expense, with all shipping charges prepaid. The Contractor shall label, or otherwise properly mark on the container, the material or product represented, its place of origin, the name of the producer, the Contractor's name, and the identification of the construction project for which the material or product is intended to be used.
- (3) Certificates shall be submitted in triplicate, describing each sample submitted for approval and certifying that the material, equipment or accessory complies with contract requirements. The certificates shall include the name and brand of the product, name of manufacturer, and the location where produced.
- (4) Approval of a sample shall not constitute a waiver of the PHA right to demand full compliance with contract requirements. Materials, equipment and accessories may be rejected for cause even though samples have been approved.
- (5) Wherever materials are required to comply with recognized standards or specifications, such specifications shall be accepted as establishing the technical qualities and testing methods, but shall not govern the number of tests required to be made nor modify other contract requirements. The Contracting Officer may require laboratory test reports on items submitted for approval or may approve materials on the basis of data submitted in certificates with samples. Check tests will be made on materials delivered for use only as frequently as the Contracting Officer determines necessary to insure compliance of materials with the specifications. The Contractor will assume all costs of retesting materials which fail to meet contract requirements and/or testing materials offered in substitution for those found deficient.
- (6) After approval, samples will be kept in the Project office until completion of work. They may be built into the work after a substantial quantity of the materials they represent has been built in and accepted.
- (c) Requirements concerning lead-based paint. The Contractor shall comply with the requirements concerning lead-based paint contained in the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4821-4846) as implemented by 24 CFR Part 35.

12. Permits and Codes

- (a) The Contractor shall give all notices and comply with all applicable laws, ordinances, codes, rules and regulations. Notwithstanding the requirement of the Contractor to comply with the drawings and specifications in the contract, all work installed shall comply with all applicable codes and regulations as amended by any

waivers. Before installing the work, the Contractor shall examine the drawings and the specifications for compliance with applicable codes and regulations bearing on the work and shall immediately report any discrepancy it may discover to the Contracting Officer. Where the requirements of the drawings and specifications fail to comply with the applicable code or regulation, the Contracting Officer shall modify the contract by change order pursuant to the clause entitled Changes herein to conform to the code or regulation.

- (b) The Contractor shall secure and pay for all permits, fees, and licenses necessary for the proper execution and completion of the work. Where the PHA can arrange for the issuance of all or part of these permits, fees and licenses, without cost to the Contractor, the contract amount shall be reduced accordingly.

13. Health, Safety, and Accident Prevention

- (a) In performing this contract, the Contractor shall:
- (1) Ensure that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his/her health and/or safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation;
 - (2) Protect the lives, health, and safety of other persons;
 - (3) Prevent damage to property, materials, supplies, and equipment; and,
 - (4) Avoid work interruptions.
- (b) For these purposes, the Contractor shall:
- (1) Comply with regulations and standards issued by the Secretary of Labor at 29 CFR Part 1926. Failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54, 83 Stat. 96), 40 U.S.C. 3701 et seq.; and
 - (2) Include the terms of this clause in every subcontract so that such terms will be binding on each subcontractor.
- (c) The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment, and shall report this data in the manner prescribed by 29 CFR Part 1904.
- (d) The Contracting Officer shall notify the Contractor of any noncompliance with these requirements and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's representative at the site of the work, shall be deemed sufficient notice of the noncompliance and corrective action required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to take corrective action promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.
- (e) The Contractor shall be responsible for its subcontractors' compliance with the provisions of this clause. The Contractor shall take such action with respect to any subcontract as the PHA, the Secretary of Housing and Urban Development, or the Secretary of Labor shall direct as a means of enforcing such provisions.

14. Temporary Heating

The Contractor shall provide and pay for temporary heating, covering, and enclosures necessary to properly protect all work and materials against damage by dampness and cold, to dry out the work, and to facilitate the completion of the work. Any permanent heating equipment used shall be turned over to the PHA in the condition and at the time required by the specifications.

15. Availability and Use of Utility Services

- (a) The PHA shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the PHA or, where the utility is produced by the PHA, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.
- (b) The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of determining charges. Before final acceptance of the work by the PHA, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

16. Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements

- (a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed under this contract, and which do not unreasonably interfere with the work required under this contract.
- (b) The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during performance of this contract, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.
- (c) The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. Prior to disturbing the ground at the construction site, the Contractor shall ensure that all underground utility lines are clearly marked.
- (d) The Contractor shall shore up, brace, underpin, secure, and protect as necessary all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be affected by the excavations or other operations connected with the construction of the project.
- (e) Any equipment temporarily removed as a result of work under this contract shall be protected, cleaned, and replaced in the same condition as at the time of award of this contract.

- (f) New work which connects to existing work shall correspond in all respects with that to which it connects and/or be similar to existing work unless otherwise required by the specifications.
- (g) No structural members shall be altered or in any way weakened without the written authorization of the Contracting Officer, unless such work is clearly specified in the plans or specifications.
- (h) If the removal of the existing work exposes discolored or unfinished surfaces, or work out of alignment, such surfaces shall be refinished, or the material replaced as necessary to make the continuous work uniform and harmonious. This, however, shall not be construed to require the refinishing or reconstruction of dissimilar finishes previously exposed, or finished surfaces in good condition, but in different planes or on different levels when brought together by the removal of intervening work, unless such refinishing or reconstruction is specified in the plans or specifications.
- (i) The Contractor shall give all required notices to any adjoining or adjacent property owner or other party before the commencement of any work.
- (j) The Contractor shall indemnify and save harmless the PHA from any damages on account of settlement or the loss of lateral support of adjoining property, any damages from changes in topography affecting drainage, and from all loss or expense and all damages for which the PHA may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.
- (k) The Contractor shall repair any damage to vegetation, structures, equipment, utilities, or improvements, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

17. Temporary Buildings and Transportation of Materials

- (a) Temporary buildings (e.g., storage sheds, shops, offices, sanitary facilities) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the PHA. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.
- (b) The Contractor shall, as directed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any federal, state, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

18. Clean Air and Water

The contractor shall comply with the Clean Air Act, as amended, 42 USC 7401 et seq., the Federal Water Pollution Control Water Act, as amended, 33 U.S.C. 1251 et seq., and standards issued pursuant thereto in the facilities in which this contract is to be performed.

19. Energy Efficiency

The Contractor shall comply with mandatory standards and policies relating to energy efficiency which are contained in the energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub.L. 94-163) for the State in which the work under the contract is performed.

20. Inspection and Acceptance of Construction

- (a) Definitions. As used in this clause -
 - (1) "Acceptance" means the act of an authorized representative of the PHA by which the PHA approves and assumes ownership of the work performed under this contract. Acceptance may be partial or complete.
 - (2) "Inspection" means examining and testing the work performed under the contract (including, when appropriate, raw materials, equipment, components, and intermediate assemblies) to determine whether it conforms to contract requirements.
 - (3) "Testing" means that element of inspection that determines the properties or elements, including functional operation of materials, equipment, or their components, by the application of established scientific principles and procedures.
- (b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. All work is subject to PHA inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.
- (c) PHA inspections and tests are for the sole benefit of the PHA and do not: (1) relieve the Contractor of responsibility for providing adequate quality control measures; (2) relieve the Contractor of responsibility for loss or damage of the material before acceptance; (3) constitute or imply acceptance; or, (4) affect the continuing rights of the PHA after acceptance of the completed work under paragraph (j) below.
- (d) The presence or absence of the PHA inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specifications without the Contracting Officer's written authorization. All instructions and approvals with respect to the work shall be given to the Contractor by the Contracting Officer.
- (e) The Contractor shall promptly furnish, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The PHA may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The PHA shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the contract.

- (f) The PHA may conduct routine inspections of the construction site on a daily basis.
- (g) The Contractor shall, without charge, replace or correct work found by the PHA not to conform to contract requirements, unless the PHA decides that it is in its interest to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.
- (h) If the Contractor does not promptly replace or correct rejected work, the PHA may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor, or (2) terminate for default the Contractor's right to proceed.
- (i) If any work requiring inspection is covered up without approval of the PHA, it must, if requested by the Contracting Officer, be uncovered at the expense of the Contractor. If at any time before final acceptance of the entire work, the PHA considers it necessary or advisable, to examine work already completed by removing or tearing it out, the Contractor, shall on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray all the expenses of the examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, the Contracting Officer shall make an equitable adjustment to cover the cost of the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.
- (j) The Contractor shall notify the Contracting Officer, in writing, as to the date when in its opinion all or a designated portion of the work will be substantially completed and ready for inspection. If the Architect determines that the state of preparedness is as represented, the PHA will promptly arrange for the inspection. Unless otherwise specified in the contract, the PHA shall accept, as soon as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines and designates can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the PHA's right under any warranty or guarantee.

21. Use and Possession Prior to Completion

- (a) The PHA shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the PHA intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The PHA's possession or use shall not be deemed an acceptance of any work under the contract.
- (b) While the PHA has such possession or use, the Contractor shall be relieved of the responsibility for (1) the loss of or damage to the work resulting from the PHA's possession or use, notwithstanding the terms of the clause entitled Permits and Codes herein; (2) all maintenance costs on the areas occupied; and, (3) furnishing heat, light, power, and water used in the areas

occupied without proper remuneration therefore. If prior possession or use by the PHA delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

22. Warranty of Title

The Contractor warrants good title to all materials, supplies, and equipment incorporated in the work and agrees to deliver the premises together with all improvements thereon free from any claims, liens or charges, and agrees further that neither it nor any other person, firm or corporation shall have any right to a lien upon the premises or anything appurtenant thereto.

23. Warranty of Construction

- (a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (j) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or workmanship performed by the Contractor or any subcontractor or supplier at any tier. This warranty shall continue for a period of _____ (one year unless otherwise indicated) from the date of final acceptance of the work. If the PHA takes possession of any part of the work before final acceptance, this warranty shall continue for a period of (one year unless otherwise indicated) from the date that the PHA takes possession.
- (b) The Contractor shall remedy, at the Contractor's expense, any failure to conform, or any defect. In addition, the Contractor shall remedy, at the Contractor's expense, any damage to PHA-owned or controlled real or personal property when the damage is the result of—
 - (1) The Contractor's failure to conform to contract requirements; or
 - (2) Any defects of equipment, material, workmanship or design furnished by the Contractor.
- (c) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for (one year unless otherwise indicated) from the date of repair or replacement.
- (d) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect or damage.
- (e) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the PHA shall have the right to replace, repair or otherwise remedy the failure, defect, or damage at the Contractor's expense.
- (f) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:
 - (1) Obtain all warranties that would be given in normal commercial practice;
 - (2) Require all warranties to be executed in writing, for the benefit of the PHA; and,
 - (3) Enforce all warranties for the benefit of the PHA.
- (g) In the event the Contractor's warranty under paragraph (a) of this clause has expired, the PHA may bring suit at its own expense to enforce a subcontractor's, manufacturer's or supplier's warranty.

- (h) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defect of material or design furnished by the PHA nor for the repair of any damage that results from any defect in PHA furnished material or design.
- (i) Notwithstanding any provisions herein to the contrary, the establishment of the time periods in paragraphs (a) and (c) above relate only to the specific obligation of the Contractor to correct the work, and have no relationship to the time within which its obligation to comply with the contract may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to its obligation other than specifically to correct the work.
- (j) This warranty shall not limit the PHA's rights under the Inspection and Acceptance of Construction clause of this contract with respect to latent defects, gross mistakes or fraud.

24. Prohibition Against Liens

The Contractor is prohibited from placing a lien on the PHA's property. This prohibition shall apply to all subcontractors at any tier and all materials suppliers.

Administrative Requirements

25. Contract Period

this contract within _____ calendar days of the effective date of the contract, or within the time schedule established in the notice to proceed issued by the Contracting Officer.

26. Order of Provisions

In the event of a conflict between these General Conditions and the Specifications, the General Conditions shall prevail. In the event of a conflict between the contract and any applicable state or local law or regulation, the state or local law or regulation shall prevail; provided that such state or local law or regulation does not conflict with, or is less restrictive than applicable federal law, regulation, or Executive Order. In the event of such a conflict, applicable federal law, regulation, and Executive Order shall prevail.

27. Payments

- (a) The PHA shall pay the Contractor the price as provided in this contract.
- (b) The PHA shall make progress payments approximately every 30 days as the work proceeds, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer. The PHA may, subject to written determination and approval of the Contracting Officer, make more frequent payments to contractors which are qualified small businesses.
- (c) Before the first progress payment under this contract, the Contractor shall furnish, in such detail as requested by the Contracting Officer, a breakdown of the total contract price showing the amount included therein for each principal category of the work, which shall substantiate the payment amount requested in order to provide a

basis for determining progress payments. The breakdown shall be approved by the Contracting Officer and must be acceptable to HUD. If the contract covers more than one project, the Contractor shall furnish a separate breakdown for each. The values and quantities employed in making up this breakdown are for determining the amount of progress payments and shall not be construed as a basis for additions to or deductions from the contract price. The Contractor shall prorate its overhead and profit over the construction period of the contract.

- (d) The Contractor shall submit, on forms provided by the PHA, periodic estimates showing the value of the work performed during each period based upon the approved submitted not later than _____ days in advance of the date set for payment and are subject to correction and revision as required. The estimates must be approved by the Contracting Officer with the concurrence of the Architect prior to payment. If the contract covers more than one project, the Contractor shall furnish a separate progress payment estimate for each.

- (e) Along with each request for progress payments and the required estimates, the Contractor shall furnish the following certification, or payment shall not be made: I hereby certify, to the best of my knowledge and belief, that:

- (1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;
- (2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements; and,
- (3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.

Name:

Title:

Date:

- (f) Except as otherwise provided in State law, the PHA shall retain ten (10) percent of the amount of progress payments until completion and acceptance of all work under the contract; except, that if upon completion of 50 percent of the work, the Contracting Officer, after consulting with the Architect, determines that the Contractor's performance and progress are satisfactory, the PHA may make the remaining payments in full for the work subsequently completed. If the Contracting Officer subsequently determines that the Contractor's performance and progress are unsatisfactory, the PHA shall reinstate the ten (10) percent (or other percentage as provided in State law) retainage until such time as the Contracting Officer determines that performance and progress are satisfactory.
- (g) The Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration when computing progress payments.

Material delivered to the Contractor at locations other than the site may also be taken into consideration if the Contractor furnishes satisfactory evidence that (1) it has acquired title to such material; (2) the material is properly stored in a bonded warehouse, storage yard, or similar suitable place as may be approved by the Contracting Officer; (3) the material is insured to cover its full value; and (4) the material will be used to perform this contract. Before any progress payment which includes delivered material is made, the Contractor shall furnish such documentation as the Contracting Officer may require to assure the protection of the PHA's interest in such materials. The Contractor shall remain responsible for such stored material notwithstanding the transfer of title to the PHA.

- (h) All material and work covered by progress payments made shall, at the time of payment become the sole property of the PHA, but this shall not be construed as (1) relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or, (2) waiving the right of the PHA to require the fulfillment of all of the terms of the contract. In the event the work of the Contractor has been damaged by other contractors or persons other than employees of the PHA in the course of their employment, the Contractor shall restore such damaged work without cost to the PHA and to seek redress for its damage only from those who directly caused it.
- (i) The PHA shall make the final payment due the Contractor under this contract after (1) completion and final acceptance of all work; and (2) presentation of release of all claims against the PHA arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. Each such exception shall embrace no more than one claim, the basis and scope of which shall be clearly defined. The amounts for such excepted claims shall not be included in the request for final payment. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned.
- (j) Prior to making any payment, the Contracting Officer may require the Contractor to furnish receipts or other evidence of payment from all persons performing work and supplying material to the Contractor, if the Contracting Officer determines such evidence is necessary to substantiate claimed costs.
- (k) The PHA shall not; (1) determine or adjust any claims for payment or disputes arising there under between the Contractor and its subcontractors or material suppliers; or, (2) withhold any moneys for the protection of the subcontractors or material suppliers. The failure or refusal of the PHA to withhold moneys from the Contractor shall in no wise impair the obligations of any surety or sureties under any bonds furnished under this contract.

28. Contract Modifications

- (a) Only the Contracting Officer has authority to modify any term or condition of this contract. Any contract modification shall be authorized in writing.
- (b) The Contracting Officer may modify the contract unilaterally (1) pursuant to a specific authorization stated in a contract clause (e.g., Changes); or (2) for administrative matters which do not change the rights or

responsibilities of the parties (e.g., change in the PHA address). All other contract modifications shall be in the form of supplemental agreements signed by the Contractor and the Contracting Officer.

- (c) When a proposed modification requires the approval of HUD prior to its issuance (e.g., a change order that exceeds the PHA's approved threshold), such modification shall not be effective until the required approval is received by the PHA.

29. Changes

- (a) The Contracting Officer may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract including changes:
 - (1) In the specifications (including drawings and designs);
 - (2) In the method or manner of performance of the work;
 - (3) PHA-furnished facilities, equipment, materials, services, or site; or,
 - (4) Directing the acceleration in the performance of the work.
- (b) Any other written order or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating (1) the date, circumstances and source of the order and (2) that the Contractor regards the order as a change order.
- (c) Except as provided in this clause, no order, statement or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.
- (d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for a adjustment based on defective specifications, no proposal for any change under paragraph (b) above shall be allowed for any costs incurred more than 20 days (5 days for oral orders) before the Contractor gives written notice as required. In the case of defective specifications for which the PHA is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.
- (e) The Contractor must assert its right to an adjustment under this clause within 30 days after (1) receipt of a written change order under paragraph (a) of this clause, or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting a written statement describing the general nature and the amount of the proposal. If the facts justify it, the Contracting Officer may extend the period for submission. The proposal may be included in the notice required under paragraph (b) above. No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.
- (f) The Contractor's written proposal for equitable adjustment shall be submitted in the form of a lump sum proposal supported with an itemized breakdown of all increases and decreases in the contract in at least the following details:

- (1) Direct Costs. Materials (list individual items, the quantity and unit cost of each, and the aggregate cost); Transportation and delivery costs associated with materials; Labor breakdowns by hours or unit costs (identified with specific work to be performed); Construction equipment exclusively necessary for the change; Costs of preparation and/ or revision to shop drawings resulting from the change; Worker's Compensation and Public Liability Insurance; Employment taxes under FICA and FUTA; and, Bond Costs when size of change warrants revision.
- (2) Indirect Costs. Indirect costs may include overhead, general and administrative expenses, and fringe benefits not normally treated as direct costs.
- (3) Profit. The amount of profit shall be negotiated and may vary according to the nature, extent, and complexity of the work required by the change. The allowability of the direct and indirect costs shall be determined in accordance with the Contract Cost Principles and Procedures for Commercial Firms in Part 31 of the Federal Acquisition Regulation (48 CFR 1-31), as implemented by HUD Handbook 2210.18, in effect on the date of this contract. The Contractor shall not be allowed a profit on the profit received by any subcontractor. Equitable adjustments for deleted work shall include a credit for profit and may include a credit for indirect costs. On proposals covering both increases and decreases in the amount of the contract, the application of indirect costs and profit shall be on the net-change in direct costs for the Contractor or subcontractor performing the work.
- (g) The Contractor shall include in the proposal its request for time extension (if any), and shall include sufficient information and dates to demonstrate whether and to what extent the change will delay the completion of the contract in its entirety.
- (h) The Contracting Officer shall act on proposals within 30 days after their receipt, or notify the Contractor of the date when such action will be taken.
- (i) Failure to reach an agreement on any proposal shall be a dispute under the clause entitled Disputes herein. Nothing in this clause, however, shall excuse the Contractor from proceeding with the contract as changed.
- (j) Except in an emergency endangering life or property, no change shall be made by the Contractor without a prior order from the Contracting Officer.

30. Suspension of Work

- (a) The Contracting Officer may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the PHA.
- (b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified (or within a reasonable time if not specified) in this contract an adjustment shall be made for any increase in the cost of performance of the contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have

been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor or for which any equitable adjustment is provided for or excluded under any other provision of this contract.

- (c) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order); and, (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

31. Disputes

- (a) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under the contract, unlike a claim relating to the contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission may be converted to a claim by complying with the requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.
- (b) Except for disputes arising under the clauses entitled Labor Standards - Davis Bacon and Related Acts, herein, all disputes arising under or relating to this contract, including any claims for damages for the alleged breach thereof which are not disposed of by agreement, shall be resolved under this clause.
- (c) All claims by the Contractor shall be made in writing and submitted to the Contracting Officer for a written decision. A claim by the PHA against the Contractor shall be subject to a written decision by the Contracting Officer.
- (d) The Contracting Officer shall, within 60 (unless otherwise indicated) days after receipt of the request, decide the claim or notify the Contractor of the date by which the decision will be made.
- (e) The Contracting Officer's decision shall be final unless the Contractor (1) appeals in writing to a higher level in the PHA in accordance with the PHA's policy and procedures, (2) refers the appeal to an independent mediator or arbitrator, or (3) files suit in a court of competent jurisdiction. Such appeal must be made within (30 unless otherwise indicated) days after receipt of the Contracting Officer's decision.
- (f) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under or relating to the contract, and comply with any decision of the Contracting Officer.

32. Default

- (a) If the Contractor refuses or fails to prosecute the work, or any separable part thereof, with the diligence that will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete said work within this time, the Contracting Officer may, by written notice to the Contractor, terminate the right to

proceed with the work (or separable part of the work) that has been delayed. In this event, the PHA may take over the work and complete it, by contract or otherwise, and may take possession of and use any materials, equipment, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the PHA resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the PHA in completing the work.

- (b) The Contractor's right to proceed shall not be terminated or the Contractor charged with damages under this clause if—
- (1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include (i) acts of God, or of the public enemy, (ii) acts of the PHA or other governmental entity in either its sovereign or contractual capacity, (iii) acts of another contractor in the performance of a contract with the PHA, (iv) fires, (v) floods, (vi) epidemics, (vii) quarantine restrictions, (viii) strikes, (ix) freight embargoes, (x) unusually severe weather, or (xi) delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and
 - (2) The Contractor, within days (10 days unless otherwise indicated) from the beginning of such delay (unless extended by the Contracting Officer) notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of the delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, time for completing the work shall be extended by written modification to the contract. The findings of the Contracting Officer shall be reduced to a written decision which shall be subject to the provisions of the Disputes clause of this contract.
- (c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been for convenience of the PHA.

33. Liquidated Damages

- (a) If the Contractor fails to complete the work within the time specified in the contract, or any extension, as specified in the clause entitled Default of this contract, the Contractor shall pay to the PHA as liquidated damages, the sum of \$ _____ [Contracting Officer insert amount] for each day of delay. If different completion dates are specified in the contract for separate parts or stages of the work, the amount of liquidated damages shall be assessed on those parts or stages which are delayed. To the extent that the Contractor's delay or nonperformance is excused under another clause in this contract, liquidated damages shall not be due the PHA. The Contractor remains liable for damages caused other than by delay.
- (b) If the PHA terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final

completion of the work together with any increased costs occasioned the PHA in completing the work.

- (c) If the PHA does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

34. Termination for Convenience

- (a) The Contracting Officer may terminate this contract in whole, or in part, whenever the Contracting Officer determines that such termination is in the best interest of the PHA. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which the performance of the work under the contract is terminated, and the date upon which such termination becomes effective.
- (b) If the performance of the work is terminated, either in whole or in part, the PHA shall be liable to the Contractor for reasonable and proper costs resulting from such termination upon the receipt by the PHA of a properly presented claim setting out in detail: (1) the total cost of the work performed to date of termination less the total amount of contract payments made to the Contractor; (2) the cost (including reasonable profit) of settling and paying claims under subcontracts and material orders for work performed and materials and supplies delivered to the site, payment for which has not been made by the PHA to the Contractor or by the Contractor to the subcontractor or supplier; (3) the cost of preserving and protecting the work already performed until the PHA or assignee takes possession thereof or assumes responsibility therefore; (4) the actual or estimated cost of legal and accounting services reasonably necessary to prepare and present the termination claim to the PHA; and (5) an amount constituting a reasonable profit on the value of the work performed by the Contractor.
- (c) The Contracting Officer will act on the Contractor's claim within days (60 days unless otherwise indicated) of receipt of the Contractor's claim.
- (d) Any disputes with regard to this clause are expressly made subject to the provisions of the Disputes clause of this contract.

35. Assignment of Contract

The Contractor shall not assign or transfer any interest in this contract; except that claims for monies due or to become due from the PHA under the contract may be assigned to a bank, trust company, or other financial institution. Such assignments of claims shall only be made with the written concurrence of the Contracting Officer. If the Contractor is a partnership, this contract shall inure to the benefit of the surviving or remaining member(s) of such partnership as approved by the Contracting Officer.

36. Insurance

- (a) Before commencing work, the Contractor and each subcontractor shall furnish the PHA with certificates of insurance showing the following insurance is in force and will insure all operations under the Contract:
- (1) Workers' Compensation, in accordance with state or Territorial Workers' Compensation laws.
 - (2) Commercial General Liability with a combined single limit for bodily injury and property damage of not less than \$ _____ [Contracting Officer insert amount]

per occurrence to protect the Contractor and each subcontractor against claims for bodily injury or death and damage to the property of others. This shall cover the use of all equipment, hoists, and vehicles on the site(s) not covered by Automobile Liability under (3) below. If the Contractor has a "claims made" policy, then the following additional requirements apply: the policy must provide a "retroactive date" which must be on or before the execution date of the Contract; and the extended reporting period may not be less than five years following the completion date of the Contract.

- (3) Automobile Liability on owned and non-owned motor vehicles used on the site(s) or in connection therewith for a combined single limit for bodily injury and property damage of not less than \$ _____ [Contracting Officer insert amount] per occurrence.
- (b) Before commencing work, the Contractor shall furnish the PHA with a certificate of insurance evidencing that Builder's Risk (fire and extended coverage) Insurance on all work in place and/or materials stored at the building site(s), including foundations and building equipment, is in force. The Builder's Risk Insurance shall be for the benefit of the Contractor and the PHA as their interests may appear and each shall be named in the policy or policies as an insured. The Contractor in installing equipment supplied by the PHA shall carry insurance on such equipment from the time the Contractor takes possession thereof until the Contract work is accepted by the PHA. The Builder's Risk Insurance need not be carried on excavations, piers, footings, or foundations until such time as work on the superstructure is started. It need not be carried on landscape work. Policies shall furnish coverage at all times for the full cash value of all completed construction, as well as materials in place and/or stored at the site(s), whether or not partial payment has been made by the PHA. The Contractor may terminate this insurance on buildings as of the date taken over for occupancy by the PHA. The Contractor is not required to carry Builder's Risk Insurance for modernization work which does not involve structural alterations or additions and where the PHA's existing fire and extended coverage policy can be endorsed to include such work.
- (c) All insurance shall be carried with companies which are financially responsible and admitted to do business in the State in which the project is located. If any such insurance is due to expire during the construction period, the Contractor (including subcontractors, as applicable) shall not permit the coverage to lapse and shall furnish evidence of coverage to the Contracting Officer. All certificates of insurance, as evidence of coverage, shall provide that no coverage may be canceled or non-renewed by the insurance company until at least 30 days prior written notice has been given to the Contracting Officer.

37. Subcontracts

- (a) Definitions. As used in this contract -
- (1) "Subcontract" means any contract, purchase order, or other purchase agreement, including modifications and change orders to the foregoing, entered into by a subcontractor to furnish supplies, materials, equipment, and services for the performance of the prime contract or a subcontract.

(2) "Subcontractor" means any supplier, vendor, or firm that furnishes supplies, materials, equipment, or services to or for the Contractor or another subcontractor.

- (b) The Contractor shall not enter into any subcontract with any subcontractor who has been temporarily denied participation in a HUD program or who has been suspended or debarred from participating in contracting programs by any agency of the United States Government or of the state in which the work under this contract is to be performed.
- (c) The Contractor shall be as fully responsible for the acts or omissions of its subcontractors, and of persons either directly or indirectly employed by them as for the acts or omissions of persons directly employed by the Contractor.
- (d) The Contractor shall insert appropriate clauses in all subcontracts to bind subcontractors to the terms and conditions of this contract insofar as they are applicable to the work of subcontractors.
- (e) Nothing contained in this contract shall create any contractual relationship between any subcontractor and the PHA or between the subcontractor and HUD.

38. Subcontracting with Small and Minority Firms, Women's Business Enterprise, and Labor Surplus Area Firms

The Contractor shall take the following steps to ensure that, whenever possible, subcontracts are awarded to small business firms, minority firms, women's business enterprises, and labor surplus area firms:

- (a) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
- (b) Ensuring that small and minority businesses and women's business enterprises are solicited whenever they are potential sources;
- (c) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses and women's business enterprises;
- (d) Establishing delivery schedules, where the requirements of the contract permit, which encourage participation by small and minority businesses and women's business enterprises; and
- (e) Using the services and assistance of the U.S. Small Business Administration, the Minority Business Development Agency of the U.S. Department of Commerce, and State and local governmental small business agencies.

39. Equal Employment Opportunity

During the performance of this contract, the Contractor agrees as follows:

- (a) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, disability, or national origin.
- (b) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, disability, or national origin. Such action shall include, but not be limited to, (1) employment, (2) upgrading, (3) demotion, (4) transfer, (5) recruitment or recruitment advertising, (6) layoff or termination, (7) rates of pay or other forms of compensation, and (8) selection for training including apprenticeship.

(c) The Contractor agrees to post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.

(d) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor/Seller, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(e) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(f) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(g) The Contractor shall furnish all information and reports required by Executive Order 11246, as amended, Section 503 of the Rehabilitation Act of 1973, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto. The Contractor shall permit access to its books, records, and accounts by the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(h) In the event of a that the Contractor is in non-compliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor/seller may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(i) The contractor/seller will include the provisions of paragraphs (a) through (h) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each sub[contractor/seller] or vendor. The [contractor/seller] will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the [contractor/seller] becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the [contractor/seller] may request the United States to enter into such litigation to protect the interests of the United States.

(j) Compliance with the requirements of this clause shall be to the maximum extent consistent with, but not in derogation of, compliance with section 7(b) of the Indian Self-Determination and Education Assistance Act and the Indian Preference clause of this contract.

40. Employment, Training, and Contracting Opportunities for Low-Income Persons, Section 3 of the Housing and Urban Development Act of 1968.

(a) The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

(b) The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 135 regulations.

(c) The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

(d) The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.

(e) The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR Part 135.

(f) Noncompliance with HUD's regulations in 24 CFR Part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

(g) With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

41. Interest of Members of Congress

No member of or delegate to the Congress of the United States of America shall be admitted to any share or part of this contract or to any benefit that may arise therefrom.

42. Interest of Members, Officers, or Employees and Former Members, Officers, or Employees

No member, officer, or employee of the PHA, no member of the governing body of the locality in which the project is situated, no member of the governing body of the locality in which the PHA was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this contract or the proceeds thereof.

43. Limitations on Payments made to Influence Certain Federal Financial Transactions

- (a) The Contractor agrees to comply with Section 1352 of Title 31, United States Code which prohibits the use of Federal appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.
- (b) The Contractor further agrees to comply with the requirement of the Act to furnish a disclosure (OMB Standard Form LLL, Disclosure of Lobbying Activities) if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

44. Royalties and Patents

The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringement of any patent rights and shall save the PHA harmless from loss on account thereof; except that the PHA shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified and the Contractor has no reason to believe that the specified design, process, or product is an infringement. If, however, the Contractor has reason to believe that any design, process or product specified is an infringement of a patent, the Contractor shall promptly notify the Contracting Officer. Failure to give such notice shall make the Contractor responsible for resultant loss.

45. Examination and Retention of Contractor's Records

- (a) The PHA, HUD, or Comptroller General of the United States, or any of their duly authorized representatives shall, until 3 years after final payment under this contract, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audit, examination, excerpts, and transcriptions.
- (b) The Contractor agrees to include in first-tier subcontracts under this contract a clause substantially the same as paragraph (a) above. "Subcontract," as used in this clause, excludes purchase orders not exceeding \$10,000.
- (c) The periods of access and examination in paragraphs (a) and (b) above for records relating to (1) appeals under the Disputes clause of this contract, (2) litigation or settlement of claims arising from the performance of this contract, or (3) costs and expenses of this contract to which the PHA, HUD, or Comptroller General or any of their duly authorized representatives has taken exception shall continue until disposition of such appeals, litigation, claims, or exceptions.

46. Labor Standards - Davis-Bacon and Related Acts

If the total amount of this contract exceeds \$2,000, the Federal labor standards set forth in the clause below shall apply to the development or construction work to be performed under the contract.

- (a) Minimum Wages.
 - (1) All laborers and mechanics employed under this contract in the development or construction of the project(s) involved will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the regular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall

be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

- (2) (i) Any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met: (A) The work to be performed by the classification requested is not performed by a classification in the wage determination; and (B) The classification is utilized in the area by the construction industry; and (C) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (ii) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employee Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary.
- (iii) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary.
- (iv) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (a)(2)(ii) or (iii) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in classification.
- (3) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- (4) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the

amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

- (b) Withholding of funds. HUD or its designee shall, upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working in the construction or development of the project, all or part of the wages required by the contract, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the Contractor, disburse such amounts withheld for and on account of the Contractor or subcontractor to the respective employees to whom they are due.
- (c) Payrolls and basic records.
- (1) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working in the construction or development of the project. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under 29 CFR 5.5(a)(1)(iv), that the wages of any laborer or mechanic include the amount of costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

- (2) (i) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under subparagraph (c)(1) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The Contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1214-0149.)
- (ii) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
- (A) That the payroll for the payroll period contains the information required to be maintained under paragraph (c) (1) of this clause and that such information is correct and complete;
- (B) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3; and
- (C) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (iii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirements for submission of the "Statement of Compliance" required by subparagraph (c)(2)(ii) of this clause.
- (iv) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.
- (3) The Contractor or subcontractor shall make the records required under subparagraph (c)(1) available for inspection, copying, or transcription by authorized representatives of HUD or its designee, the Contracting Officer, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to

make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

- (d) (1) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship and Training, Employer and Labor Services (OATELS), or with a State Apprenticeship Agency recognized by OATELS, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by OATELS or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event OATELS, or a State Apprenticeship Agency recognized by OATELS, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- (2) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under

the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (3) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.
- (e) Compliance with Copeland Act requirements. The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.
- (f) Contract termination; debarment. A breach of this contract clause may be grounds for termination of the contract and for debarment as a Contractor and a subcontractor as provided in 29 CFR 5.12.
- (g) Compliance with Davis-Bacon and related Act requirements. All rulings and interpretations of the Davis-Bacon and related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.
- (h) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this clause shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the PHA, HUD, the U.S. Department of Labor, or the employees or their representatives.
- (i) Certification of eligibility.
 - (1) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

- (2) No part of this contract shall be subcontracted to any person or firm ineligible for award of a United States Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - (3) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.
- (j) Contract Work Hours and Safety Standards Act. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.
- (1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics, including watchmen and guards, shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.
 - (2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the provisions set forth in subparagraph (j)(1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic (including watchmen and guards) employed in violation of the provisions set forth in subparagraph (j)(1) of this clause, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by provisions set forth in subparagraph (j)(1) of this clause.
 - (3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions set forth in subparagraph (j)(2) of this clause.
- (k) Subcontracts. The Contractor or subcontractor shall insert in any subcontracts all the provisions contained in this clause, and such other clauses as HUD or its designee may by appropriate instructions require, and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all these provisions.

47. Non-Federal Prevailing Wage Rates

- (a) Any prevailing wage rate (including basic hourly rate and any fringe benefits), determined under State or tribal law to be prevailing, with respect to any employee in any trade or position employed under the contract, is inapplicable to the contract and shall not be enforced against the Contractor or any subcontractor, with respect to employees engaged under the contract whenever such non-Federal prevailing wage rate exceeds:
 - (1) The applicable wage rate determined by the Secretary of Labor pursuant to the Davis-Bacon Act (40 U.S.C. 3141 et seq.) to be prevailing in the locality with respect to such trade;
- (b) An applicable apprentice wage rate based thereon specified in an apprenticeship program registered with the U.S. Department of Labor (DOL) or a DOL-recognized State Apprenticeship Agency; or
- (c) An applicable trainee wage rate based thereon specified in a DOL-certified trainee program.

48. Procurement of Recovered Materials.

- (a) In accordance with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, the Contractor shall procure items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition. The Contractor shall procure items designated in the EPA guidelines that contain the highest percentage of recovered materials practicable unless the Contractor determines that such items: (1) are not reasonably available in a reasonable period of time; (2) fail to meet reasonable performance standards, which shall be determined on the basis of the guidelines of the National Institute of Standards and Technology, if applicable to the item; or (3) are only available at an unreasonable price.
- (b) Paragraph (a) of this clause shall apply to items purchased under this contract where: (1) the Contractor purchases in excess of \$10,000 of the item under this contract; or (2) during the preceding Federal fiscal year, the Contractor: (i) purchased any amount of the items for use under a contract that was funded with Federal appropriations and was with a Federal agency or a State agency or agency of a political subdivision of a State; and (ii) purchased a total of in excess of \$10,000 of the item both under and outside that contract.

Schedule of Amounts for Contract Payments

U.S. Department of Housing and Urban Development
Office of Public and Indian Housing

OMB Approval No. 2577-0157
(Exp. 11/30/2023)

No progress payments shall be made to the contractor unless a schedule of amounts for contract payments in accordance with the construction contract is received.

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. HUD may not conduct or sponsor, and an applicant is not required to respond to a collection of information unless it displays a currently valid OMB control number. Construction practices and HUD administrative requirements establish the need that HAs maintain certain records or submit certain documents in conjunction with the oversight of the award of construction contracts for the construction of new low-income housing developments or modernization of existing developments. These forms are used by HAs to provide information on the construction progress schedule and schedule of amounts for contract payments. Responses to the collection of information are required to obtain a benefit or to retain a benefit. The information requested does not lend itself to confidentiality.

Project Name and Location	Project Number
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Name, Address, and Zip Code of Contractor

Nature of Contract	Contract Number
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Approved for Contractor by	Title	Date (mm/dd/yyyy)
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Approved for Architect by	Title	Date (mm/dd/yyyy)
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Approved for Owner by	Title	Date (mm/dd/yyyy)
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Item No. (1)	Description of Item (2)	Quantity (3)	Unit of Measure (4)	Unit Price in Place (5)	Amount of Sub-Item (6)	Amount of Principal Item (7)

Total Amount of Contract or Carried Forward	\$
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To the best of my knowledge, all the information stated herein, as well as any information provided in the accompaniment herewith, is true and accurate.
Warning: HUD will prosecute false claims and statements. Conviction may result in criminal and/or civil penalties. (18 U.S.C. 1001, 1010, 1012; 31 U.S.C. 3729, 3802)

Signature of authorized representative	Date signed (mm/dd/yyyy)
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Instructions for Preparation of form HUD-51000

1. A separate breakdown is required for each project and prime contract instructions for preparation are given below.
 - a. **Heading.** Enter all identifying information required for both forms.
 - b. **Columns 1 and 2.** In column 1, enter the item numbers starting with No. 1, and in column 2 enter each principal division of work incorporated in the contract work.
 - (1) **Master List.** The Master list contains the basic items into which any construction contract may be subdivided for the purpose of preparing the Construction Progress Schedule and the Periodical Estimates for Partial Payments. Only those items shall be selected which apply to the particular contract. To ensure uniformity, no change shall be made in the item numbers. Generally, about 25 to 40 major items appear in a contract.
 - (2) **Items Subdivided.** In the Contractor's breakdown, against which all periodical estimates will be checked prior to payment, each major item must be subdivided into sub-items pertinent to the project involved and in agreement with the Contractor's intended basis for requesting monthly payments.
 - c. **Column 3.** Enter the total quantity for each sub-item of each principal division of work listed in the breakdown.
 - d. **Column 4.** Enter the appropriate unit of measure for each sub-item of work opposite the quantities described in column 3, such as "sq. ft.," "cu. yd.," "tons," "lb.," "lumber per M/BM," "brickwork per M," etc., applicable to the particular sub-item. Items shown on "lump sum" or equivalent basis will be paid for only on completion of the whole item and not on a percentage of completion basis.
 - e. **Column 5.** Enter the unit price, in place, of each sub-item of work.
 - f. **Column 6.** Enter the amount of each sub-item obtained by multiplying the quantities in column 3 by the corresponding unit prices in column 5.
 - g. **Column 7.** Enter the amount of principal item only, obtained by adding the amounts of all sub-items of each principal division of work listed in column 6. Continue with the breakdown on form HUD-51000.
 - h. The "Schedule of Amounts for Contract Payments" shall be signed and dated in the space provided at the bottom of each sheet of the form by the individual who prepared the breakdown for the Contractor.
2. The minimum number of copies required for each submission for approval is an original and two copies. When approved, one fully approved copy will be returned to the Contractor.

Master List of Items

Item No.	Division of Work	Item No.	Division of Work	Item No.	Division of Work
1	Bond	20	Rough Carpentry		
2	General Conditions	21	Metal Bucks	44	Retaining Walls
3	Demolition & Clearing	22	Caulking	45	Storm Sewers
	Structures	23	Weatherstripping	46	Sanitary Sewers
4	General Excavation	24	Lath & Plastering-Drywall	47	Water Distribution System
5	Footing Excavation	25	Stucco	48	Gas Distribution System
6	Backfill	26	Finish Carpentry	49	Electrical Distribution System
7	Foundation Piles & Caissons	27	Finish Hardware	50	Street & Yard Lighting
8	Concrete Foundations	28	Glass & Glazing	51	Fire & Police Alarm System
9	Concrete Superstructures	29	Metal Doors	52	Fire Protection System
10	Reinforcing Steel	30	Metal Base & Trim	53	Street Work
11	Waterproofing & Dampproofing	31	Toilet Partitions	54	Yard Work
12	Spandrel Waterproofing	32	Floors	55	(Other)
13	Structural Steel	33	Painting & Decorating	56	(Other)
14	Masonry	34	Screens		
15	Stonework	35	Plumbing		Equipment
16	Miscellaneous & Ornamental Metal	36	Heating	57	Shades & Drapery Rods
17	Metal Windows	37	Ventilating System	58	Ranges
18	Roofing	38	Electrical	59	Refrigerators
19	Sheet Metal	39	Elevators	60	Kitchen Cabinets & Work Tables
		40	Elevator Enclosures—Metal	61	Laundry Equipment
		41	Incinerators—Masonry & Parts	62	(Other)
		42	(Other)		
		43	(Other)	63	Punch List ¹ / ₂
				64	Lawns & Planting

1 General Conditions should be 3% to 5% of contract amount.

2 Punch List should be approximately 1/2 of 1% or \$30 per dwelling unit, whichever is greater.

"General Decision Number: TX20230067 01/27/2023

Superseded General Decision Number: TX20220067

State: Texas

Construction Type: Residential

County: Harris County in Texas.

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023
1	01/13/2023
2	01/27/2023

ELEV0031-002 01/01/2023

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 49.15	37.335+a+b

Footnotes:

A. 6% under 5 years based on regular hourly rate for all hours worked. 8% over 5 years based on regular hourly rate for all hours worked.

B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day.

 * SFTX0669-001 01/01/2023

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers).....	\$ 33.11	23.30

 SHEE0054-008 04/01/2020

	Rates	Fringes
Sheetmetal Worker (Excluding HVAC Work).....	\$ 29.70	13.85

 * SUTX2005-030 12/15/2005

	Rates	Fringes
Bricklayer.....	\$ 15.00 **	
Plasterer.....	\$ 16.60	
Tile setter.....	\$ 14.08 **	
Acoustical Ceiling Installer.....	\$ 12.50 **	
Carpenter (Includes Batt/Blown Insulation, Formwork & Overhead Door Installation).....	\$ 12.06 **	1.41
Carport Structural Supports Installer.....	\$ 11.46 **	2.61
Cement Manson/Concrete Finisher.....	\$ 13.68 **	.75
Drywall Finishers.....	\$ 12.00 **	
Drywall Hanger.....	\$ 12.71 **	
Electrician(Incl. Low Voltage Wiring and Installation of Alarms).....	\$ 17.05	6.32
Gutter and Siding Installer.....	\$ 18.59	1.41
HVAC MECHANIC (Pipe & System Installation Only).....	\$ 12.82 **	

Ironworker		
Ornamental.....	\$ 16.29	
Reinforcing.....	\$ 11.25 **	2.35
Structural.....	\$ 17.21	
Laborers:		
Common.....	\$ 8.88 **	1.10
Landscape and Irrigation....	\$ 9.02 **	
Mason Tender Brick.....	\$ 9.97 **	.68
Mason Tender Cement.....	\$ 9.46 **	.68
Pipelayer.....	\$ 10.06 **	
Plaster Tender.....	\$ 11.10 **	
Painter:		
Brush, Roller, and Spray....	\$ 11.41 **	
Parking Lot Striping.....	\$ 14.21 **	
Plumbers (Excluding HVAC Pipe)...	\$ 17.96	1.15
Power Equipment Operator		
Backhoe.....	\$ 13.55 **	.69
Bulldozer.....	\$ 12.67 **	.69
Forklift.....	\$ 12.54 **	
Front End Loader.....	\$ 12.00 **	.69
Grader.....	\$ 13.67 **	
Roofers.....	\$ 10.00 **	
Sheet Metal Worker (HVAC Duct Only).....	\$ 12.76 **	1.95
Soft Floor Layers, Carpet and Vinyl.....	\$ 14.50 **	
Truck drivers.....	\$ 13.43 **	

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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 ** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010

08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"

EXHIBIT A

PRE-BID CONFERENCE AGENDA

**IFB 24 - 29 Renovation of Roofs and Exterior Walls at various
location at Historic Rental Initiative Residents at Victoria
Place, 1520 Bailey St, Houston Tx 77019.**

Time and Date: 10:00 A.M. Central Daylight Time (“CDT”) July 19, 2024

1. Welcome
2. Introductions
3. General
 - 3.1 Please send an email to Purchasing@housingforhouston.com stating that you are interested in attending this meeting.
 - 3.2 Oral statements made by HHA, or anyone else is not binding, unless they are incorporated into the above solicitation via an Amendment
 - 3.3 Monitor HHA’s website for Amendments to the above solicitation.
4. Review Solicitation
 - 4.1 Overview of Administrative / Submittal Requirements
 - Questions must be sent to Purchasing@housingforhouston.com
 - Pay attention to Section 4.0 Procurement Schedule, and Section 8.0 Submittals
 - 4.2 Overview of Project / Technical Requirements
6. Recap Procurement Schedule
7. Review of Section 8.0 Submittals
 - 7.1 Assist with completion of HUD documents.
 - 7.2 Answer questions regarding document submittal
8. Adjourn

Exhibit B
Scope of Work (SOW)
Replace/Renovate Roofs and Exterior Walls

The successful bidder for this project will provide a turnkey service including but, not limited to, taking included design documents and providing all necessary supplemental work Replacement, restoration, repairs, and related renovations to roofs and exterior walls on single family residential homes of the Historic Rental Initiative Residences at various locations within Fourth Ward community in Houston, Texas.

In addition, the successful bidder is to provide all necessary licenses, permits, design, labor, personnel, supervision, transportation, materials, tools, supplies, equipment, machinery, signage, warning tape, barricades, lights, insurance, and any other ancillary item(s) or resource(s) needed.

General Contractor Requirements

1. Ensure:

1.1. Any

1.1.1. Materials used and/or required to perform the work are to be stored away from excessive rain, daylight, and other exterior elements. Any damaged material installed will have to be removed and remediated to the satisfaction of HHA at contractor's expense.

1.1.2. Discrepancy or misinterpretation in this SOW must be brought to the attention of HHA prior to commencement of work. Any work performed prior to HHA approval will not be authorized as a change order and will be at the contractor's expense.

1.2. All

1.2.1. Work will be performed on schedule and in compliance with all Local, State, and Federal Building and Environmental Safety Codes.

1.2.2. Debris on the jobsite will be properly disposed of at the end of each work day. Maintain an accessible site and do not interrupt the use of the property.

1.2.3. Materials and finishes: wall /ceiling texture and paint are to match existing. Any deviation must be brought to HHA's attention before commencement of work that may result in non-matching finishing. Material and finishes deviations will not be considered as a change order and will be at the contractor's expense.

1.2.4. Notify HHA immediately if the presence of any mold or asbestos is detected during the removal of existing heaters and materials.

1.2.4.1. HHA will be responsible for the cost to remediate any mold or asbestos detected during the removal of existing shingles and materials

1.2.5. Field verify existing condition.

1.2.6. A Superintendent or Manager representing the General Contractor will be available and on-site during working hours and through the duration of the Project.

1.2.7. A one (1) year warranty is provided upon completion of all work.
Walk-through

2. Units to be professionally cleaned upon completion.

3. Contractor to notify HHA Project Manager as units near completion to arrange walk-through.

4. HHA representative to sign-off on unit as complete if;

4.1. All work designated for the unit has been completed free of defects; and

4.2. Meets HHA standards

Price Sheet

The undersigned agrees to provide all the necessary labor, personnel, supervision, equipment, insurance, transportation, licenses, permits, materials, tools, supplies, any other ancillary item(s), or resource(s) needed to supply and deliver as specified in **Exhibit Scope of Work (SOW)** at the following fixed price:

Item	Description	Total
1	Materials	\$ _____
2	Labor (Davis Bacon Wages) Attachment J	\$ _____
2	Overhead	\$ _____
3	Profit	\$ _____
4	Total Bid Price for ALL Work in Exhibit (SOW):	\$ _____
	Scope of Work	\$ _____

NAME OF CONTRACTOR / OFFEROR / FIRM / INDIVIDUAL / CORPORATION

COMPLETE ADDRESS

CITY, STATE, ZIP CODE

E-MAIL ADDRESS

PHONE NUMBER / FAX NUMBER

MANUAL OR E-SIGNATURE

TITLE



7122 WORCESTER DRIVE , SUITE A , SPRING , TEXAS 77379 ~ 281.209.1724
7600 CHEVY CHASE DRIVE , BUILDING 2 , SUITE 300 , AUSTIN , TEXAS 78752 ~ 800.966.6088
10000 N. CENTRAL EXPRESSWAY , SUITE 400 , DALLAS , TEXAS 75231 ~ 800.966.6088
950 BANNOCK STREET , SUITE 1100 , BOISE , IDAHO 83702 ~ 208.292.9130

**REPLACEMENT/RENOVATIONS
OF
ROOFS AND EXTERIOR WALLS
AT**

**HISTORIC RENTAL INITIATIVE RESIDENCES
VARIOUS LOCATIONS
HOUSTON, TEXAS**

**PREPARED FOR
HOUSTON HOUSING AUTHORITY
2640 FOUNTAIN VIEW
HOUSTON, TEXAS 77057**



**PREPARED BY
PRICE CONSULTING, INC.
7122 WORCESTER, SUITE A
SPRING, TEXAS 77379
TEXAS REGISTERED ENGINEERING FIRM NO. F-3814**



**PCI PROJECT NUMBER 12141.23.01
APRIL 8, 2024**



**HOUSTON HOUSING AUTHORITY
HISTORIC RENTAL INITIATIVE RESIDENCES
HOUSTON, TEXAS**

DOCUMENT 00 01 02

PROJECT DIRECTORY

PROJECT:

Replacement/Renovations
of Roofs and Exterior Walls
Historic Rental Initiative Residences
Various Locations
Houston, Texas

OWNER:

Houston Housing Authority
2640 Fountain View Dr.; Suite 3017
Houston, Texas 77057

Contacts:

Mr. Jay S. Mason, Director, REID
Email: JMason@houstonhousing.com

Mr. Tamon A. Williams, Manager of Construction Services
Email: TWilliams2@houstonhousing.com

Mr. Stedman Esene, Sr. Construction Coordinator
Email: SEsne@houstonhousing.com

**CONSULTANT/
ENGINEER:**

Price Consulting, Inc.
7122 Worcester Drive, Suite A
Spring, Texas 77379

Phone: 281-209-1724

Cell: 281-827-9250

Contact:

Mr. Karl A. Schaack, P.E., RRC
Email: kschaack@priceconsulting.com

END OF DOCUMENT 00 01 02

**HOUSTON HOUSING AUTHORITY
HISTORIC RENTAL INITIATIVE RESIDENCES
HOUSTON, TEXAS**

DOCUMENT 00 01 10

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**HOUSTON HOUSING AUTHORITY
HISTORIC RENTAL INITIATIVE RESIDENCES
HOUSTON, TEXAS**

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**HOUSTON HOUSING AUTHORITY
HISTORIC RENTAL INITIATIVE RESIDENCES
HOUSTON, TEXAS**

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**HOUSTON HOUSING AUTHORITY
HISTORIC RENTAL INITIATIVE RESIDENCES
HOUSTON, TEXAS**

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END OF DOCUMENT 00 01 15

**HOUSTON HOUSING AUTHORITY
HISTORIC RENTAL INITIATIVE RESIDENCES
HOUSTON, TEXAS**

DOCUMENT 00 22 13

SUPPLEMENTAL INFORMATION TO BIDDERS

PART ONE - GENERAL

1.01 GENERAL:

- A. The following data is presented for informative purposes only. Dimensional reports created from aerial imagery by others are included herein. Contractor is responsible for verifying all field conditions that may impact both the bid or the proposed manufacturer's requirements.

PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF DOCUMENT 00 22 13

Precise Aerial Measurement Report



1500 Andrews St, Houston, TX 77019

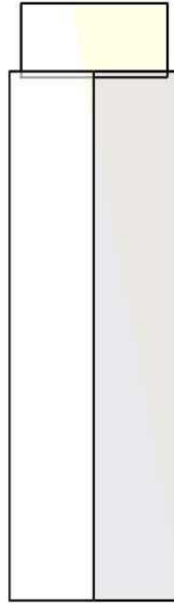
Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com

1500 Andrews St, Houston, TX 77019




In this 3D model, facets appear as semi-transparent to reveal overhangs.

Report Details	Roof/Wall Details	Report Contents
Report:55102982	Total Roof Area =910 sq ft Total Roof Facets =3 Predominant Pitch =10/12 Number of Stories <=1 Total Ridges/Hips =45 ft Total Valleys =0 ft Total Rakes =51 ft Total Eaves =102 ft Total Wall Area = 1508.6 sq ft Total Wall Facets = 6 Total Siding Area = 1340.0 sq ft Total Masonry Area = 168.6 sq ft	Images2 Length Diagram.....5 Pitch Diagram.....6 Area Diagram7 Notes Diagram8 3D Wall Area Diagram.....9 Report Summary.....14

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston TX 77022
 Phone: 713-325-0700





Disclaimer: This report was produced using EagleView Extended Coverage Technology. Due to a variety of reasons including but not limited to tree coverage, poor images, low photo resolution or other blockages, this report DOES NOT offer an accuracy guarantee. EagleView recommends that anyone using this report field verify the measurements.
Measurements provided by EagleView

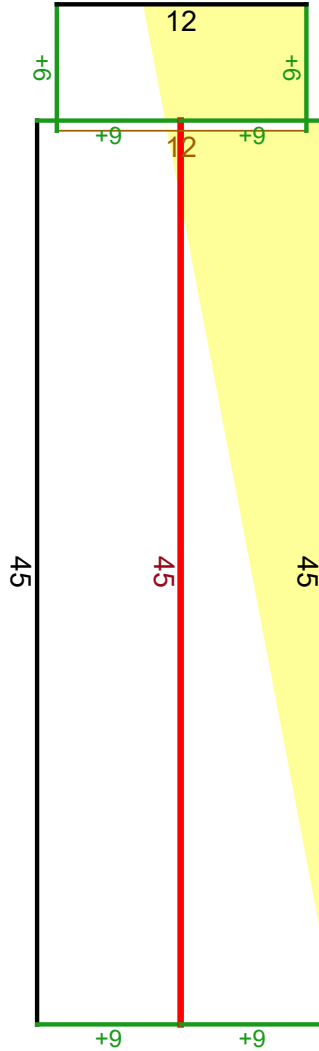
Length Diagram

Shaded areas should be verified

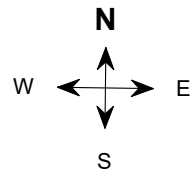
Total Line Lengths:
Ridges = 45 ft
Hips = 0 ft

Valleys = 0 ft
Rakes = 51 ft
Eaves = 102 ft

Flashing = 13 ft
Step flashing = 0 ft
Parapets = 0 ft



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Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

Disclaimer: This report was produced using EagleView Extended Coverage Technology. Due to a variety of reasons including, but not limited to: tree coverage, poor images, low photo resolution or other blockages; this report DOES NOT offer an accuracy guarantee. EagleView recommends that anyone using this report field verify the yellow-shaded sections.



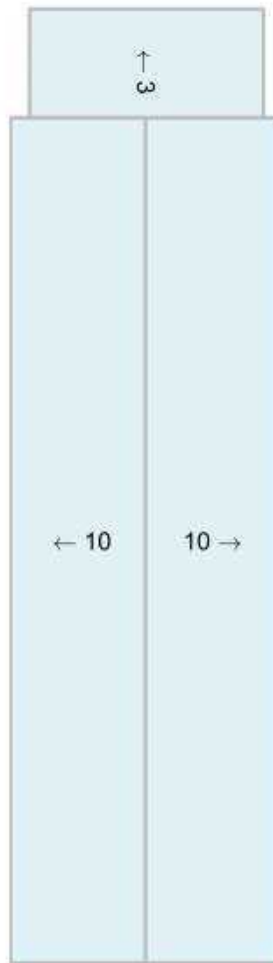
Report: 55102982

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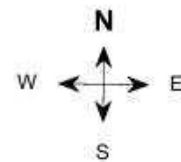
Pitch Diagram

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 10/12.

Disclaimer: With Extended Coverage, only the predominant pitch may be noted due to resolution of photo. Refer to pitch table for more information.



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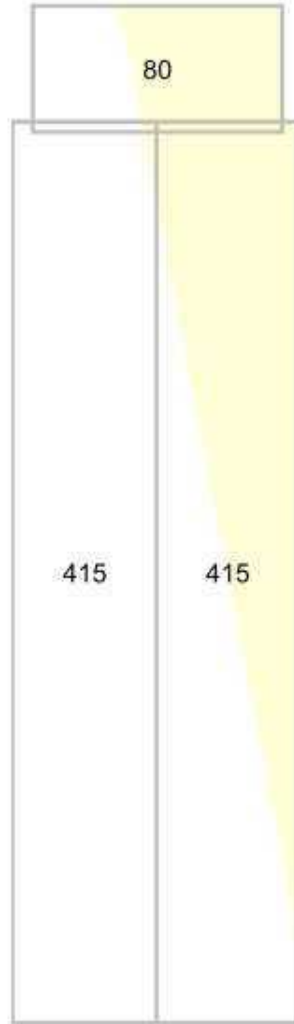
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9). Blue shading indicates a pitch of 3/12 and greater.

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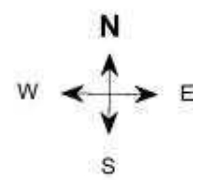


Area Diagram

Total Area = 910 sq ft, with 3 facets.



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Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

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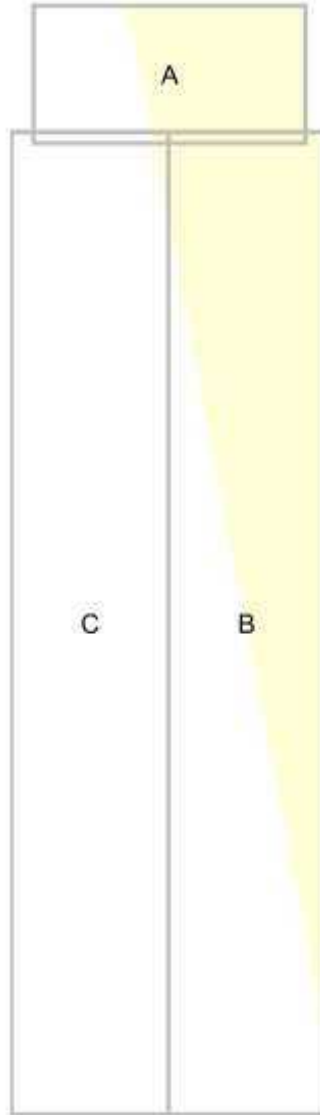


Report: 55102982

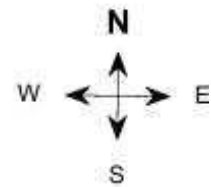
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Notes Diagram

Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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Note: On-site verification of yellow shaded areas is needed. Details are on the Summary Page.



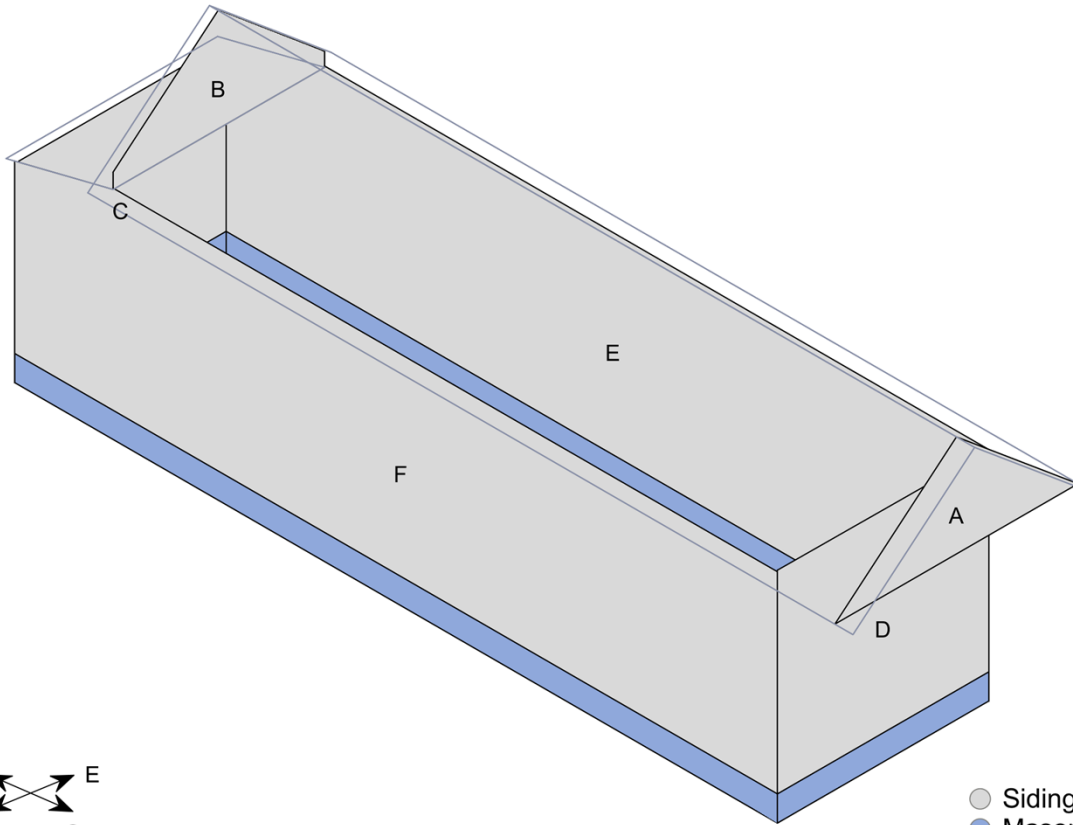
Report: 55102982

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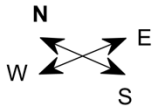
Wall Area Diagram

Total Wall Area = 1508.6 sq ft, with 6 facets.

Total Wall Area with Windows and Doors = 1509.0 sq ft



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● Siding
● Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	119.2	18.3
B	42.3	0.0
Total	161.5	18.3

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	498.2	66.0
Total	498.2	66.0

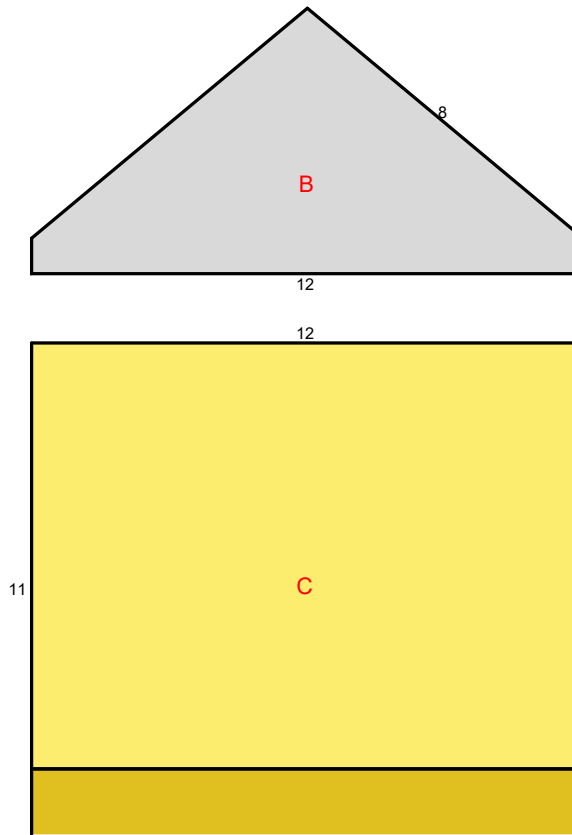
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	139.9	18.3
A	42.2	0.0
Total	182.1	18.3

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	498.2	66.0
Total	498.2	66.0

North Elevation Diagram



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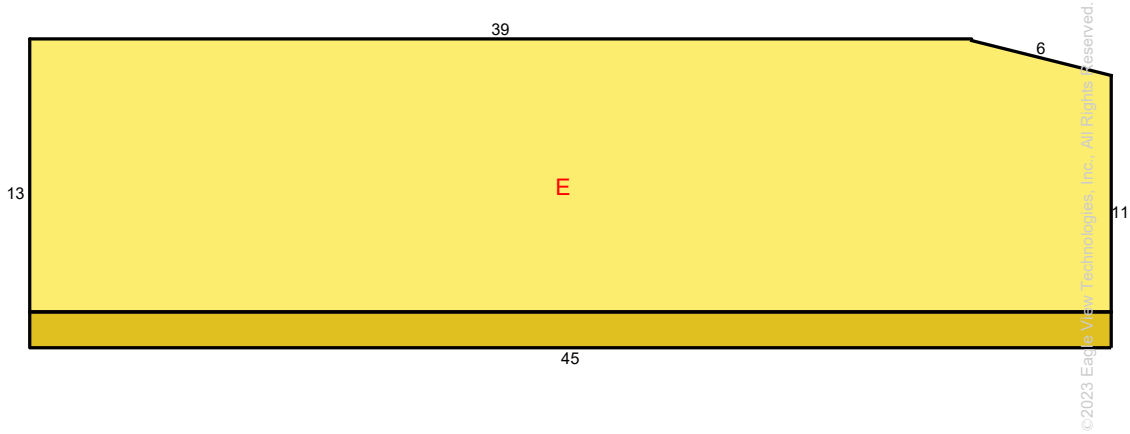
- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	119.2	18.3
B	42.3	0.0
Total	161.5	18.3

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.



East Elevation Diagram



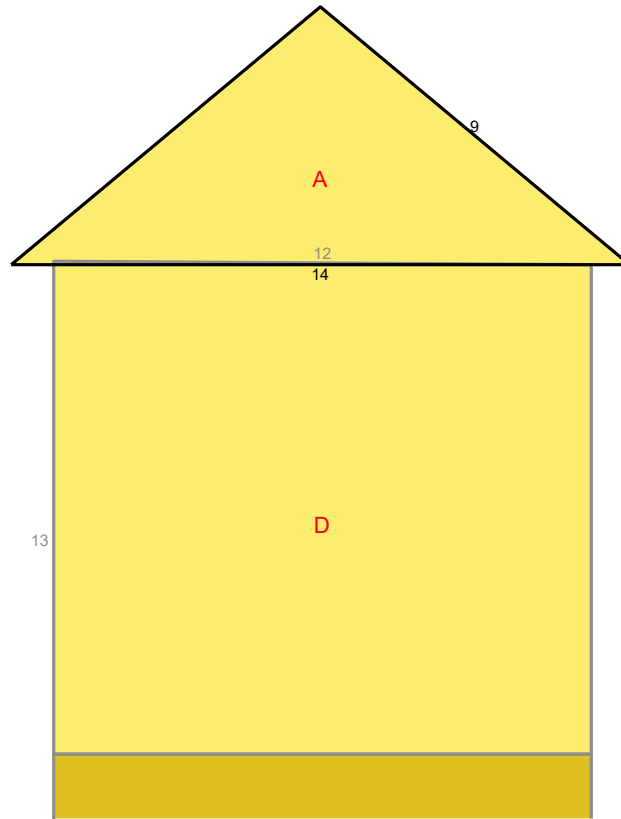
- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	498.2	66.0
Total	498.2	66.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.



South Elevation Diagram



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- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	139.9	18.3
A	42.2	0.0
Total	182.1	18.3

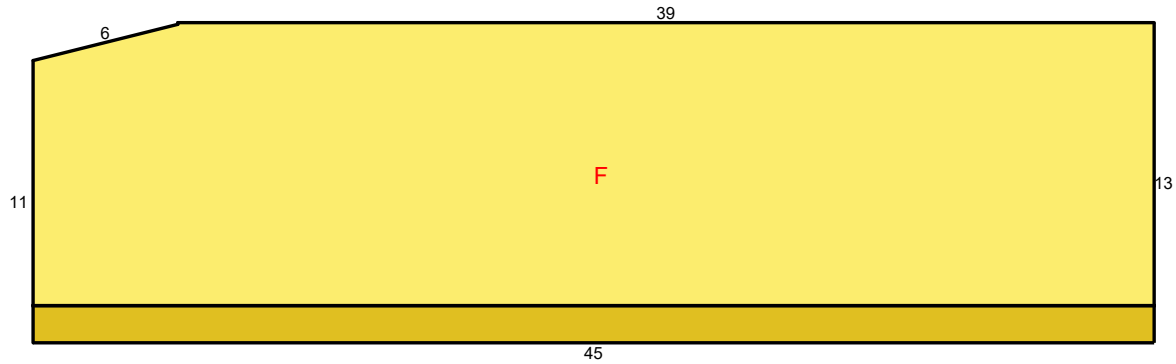
Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.



Report: 55102982

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West Elevation Diagram



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- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	498.2	66.0
Total	498.2	66.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.



Report Summary

Below is a measurement summary using the values presented in this report.

All Structures

Areas per Pitch

Roof Pitches	3/12	10/12
Area (sq ft)	79.9	830.0
% of Roof	8.8%	91.2%

Disclaimer: The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch. With Extended Coverage, only the predominant pitch may be noted due to resolution of photo. With Extended Coverage, EagleView recommends field verifying yellow-shaded sections and pitch utilizing the Facet Area Based Upon Pitch Table below.

Structure Complexity

Simple

Normal

Complex

Waste Calculation

NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the **Lengths, Areas, and Pitches** section below.

Waste %	0%	5%	8%	10%	12%	15%	20%	25%	30%
Area (Sq ft)	910	956	983	1002	1020	1047	1092	1138	1183
Squares *	9.33	9.66	10.00	10.33	10.33	10.66	11.00	11.66	12.00
	Measured			Suggested					

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

† Rakes are defined as roof edges that are sloped (not level).
‡ Eaves are defined as roof edges that are not sloped and level.



All Structures Totals

Total Roof Facets = 3

Lengths, Areas and Pitches

Ridges = 45 ft (1 Ridges)
 Hips = 0 ft (0 Hips).
 Valleys = 0 ft (0 Valleys)
 Rakes⁺ = 51 ft (6 Rakes)
 Eaves/Starter⁺ = 102 ft (3 Eaves)
 Drip Edge (Eaves + Rakes) = 153 ft (9 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 13 ft (1 Lengths)
 Step flashing = 0 ft (0 Lengths)
 Predominant Pitch = 10/12
Total Area (All Pitches) = 910 sq ft

Property Location

Longitude = -95.3823108
 Latitude = 29.7558930

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1500+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1500+Andrews+St,Houston,TX,77019

Disclaimer: This report was produced using EagleView Extended Coverage Technology. Due to a variety of reasons including, but not limited to: tree coverage, poor images, low photo resolution or other blockages; this report DOES NOT offer an accuracy guarantee. EagleView recommends that anyone using this report field verify the yellow-shaded sections.



Report: 55102982

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Facet Area (sq ft) Based Upon Pitch

The area for each facet appears in the column under the appropriate pitch.

Facet	Pitch(inches per foot)										
	0	2	4	6	8	10	12	14	16	18	20
A	77.5	78.6	81.7	86.6	93.1	100.9	109.6	119.1	129.2	139.7	150.6
B	318.8	323.2	336.0	356.4	383.1	415.0	450.9	489.9	531.3	574.7	619.6
C	318.8	323.2	336.0	356.4	383.1	415.0	450.9	489.9	531.3	574.7	619.6
Total	715	725	754	799	859	931	1011	1099	1192	1289	1390

Each value is rounded to the nearest square foot. The totals are based on the unrounded values.

Disclaimer: This report was produced using EagleView Extended Coverage Technology. Due to a variety of reasons including, but not limited to: tree coverage, poor images, low photo resolution or other blockages; this report DOES NOT offer an accuracy guarantee. EagleView recommends that anyone using this report field verify the yellow-shaded sections.



Precise Aerial Measurement Report



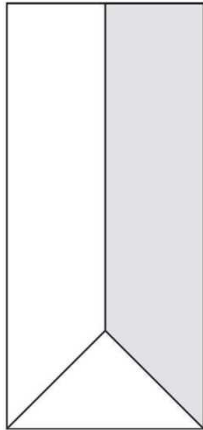
1501 Andrews St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 1,095 sq ft
 Total Roof Facets = 3
 Predominant Pitch = 7/12
 Number of Stories <= 1
 Total Ridges/Hips = 67 ft
 Total Valleys = 0 ft
 Total Rakes = 25 ft
 Total Eaves = 112 ft
 Total Wall Area = 971.2 sq ft
 Total Wall Facets = 10
 Total Siding Area = 941.8 sq ft
 Total Masonry Area = 29.4 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

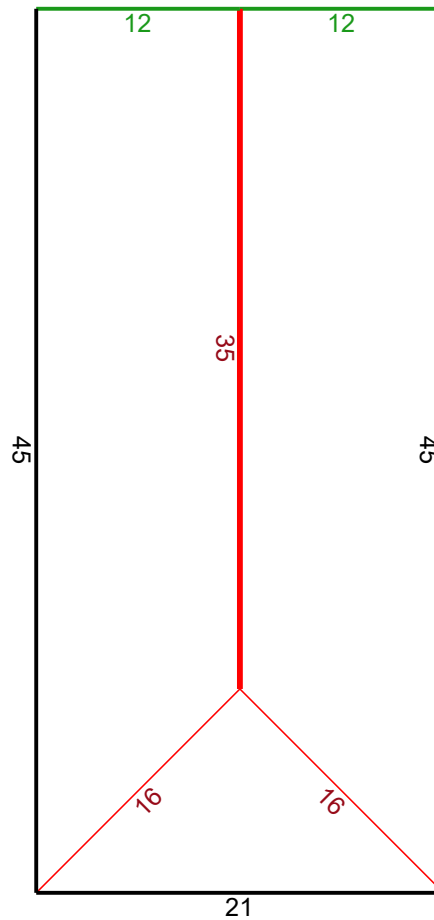
LENGTH DIAGRAM

Total Line Lengths:

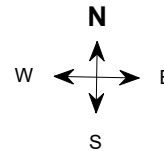
Ridges = 35 ft
Hips = 32 ft

Valleys = 0 ft
 Rakes = 25 ft
 Eaves = 112 ft

Flashing = 0 ft
 Step flashing = 0 ft
 Parapets = 0 ft



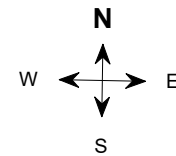
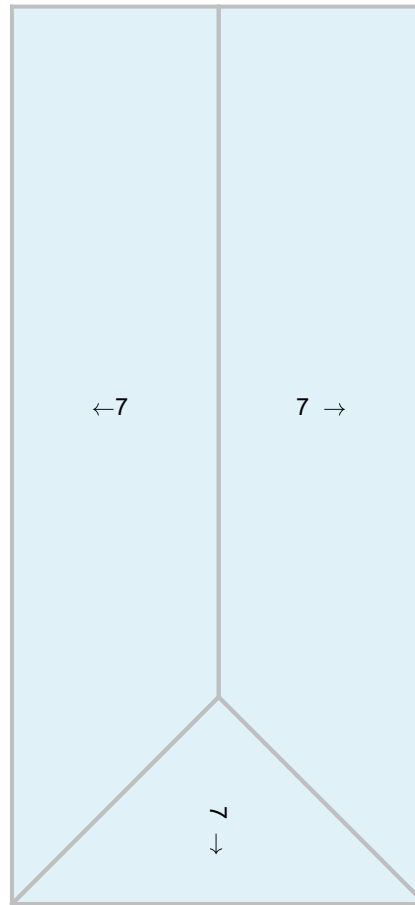
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Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 7/12

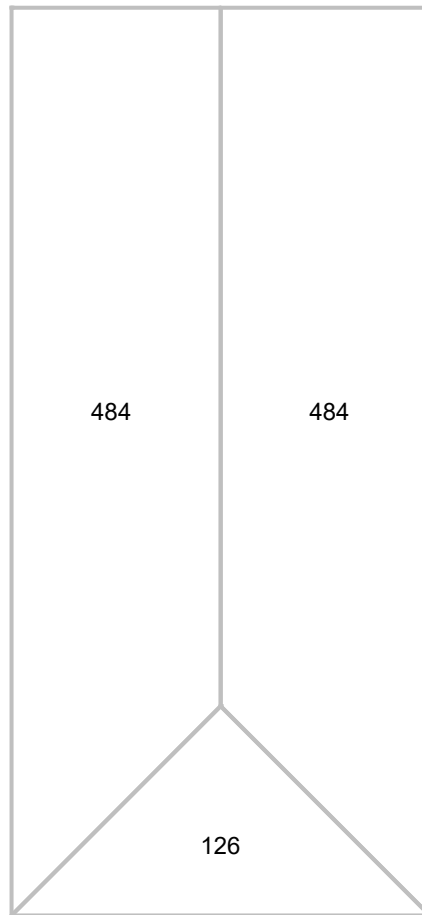


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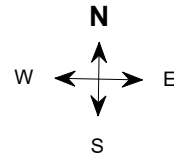
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 1,095 sq ft, with 3 facets.



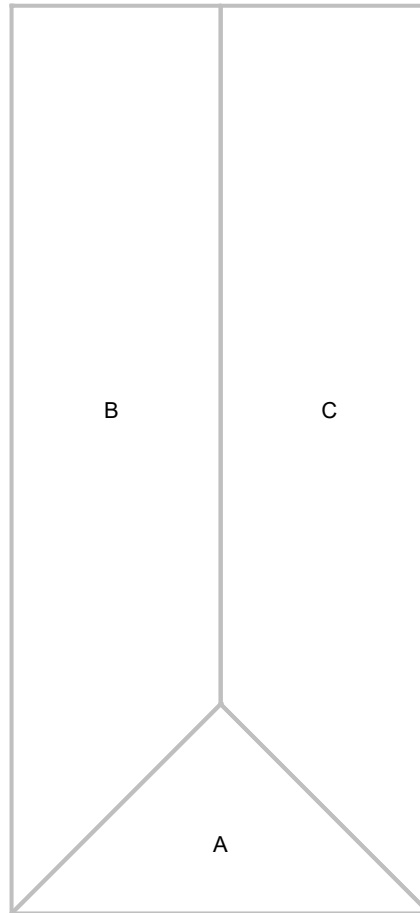
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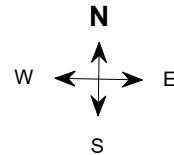
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

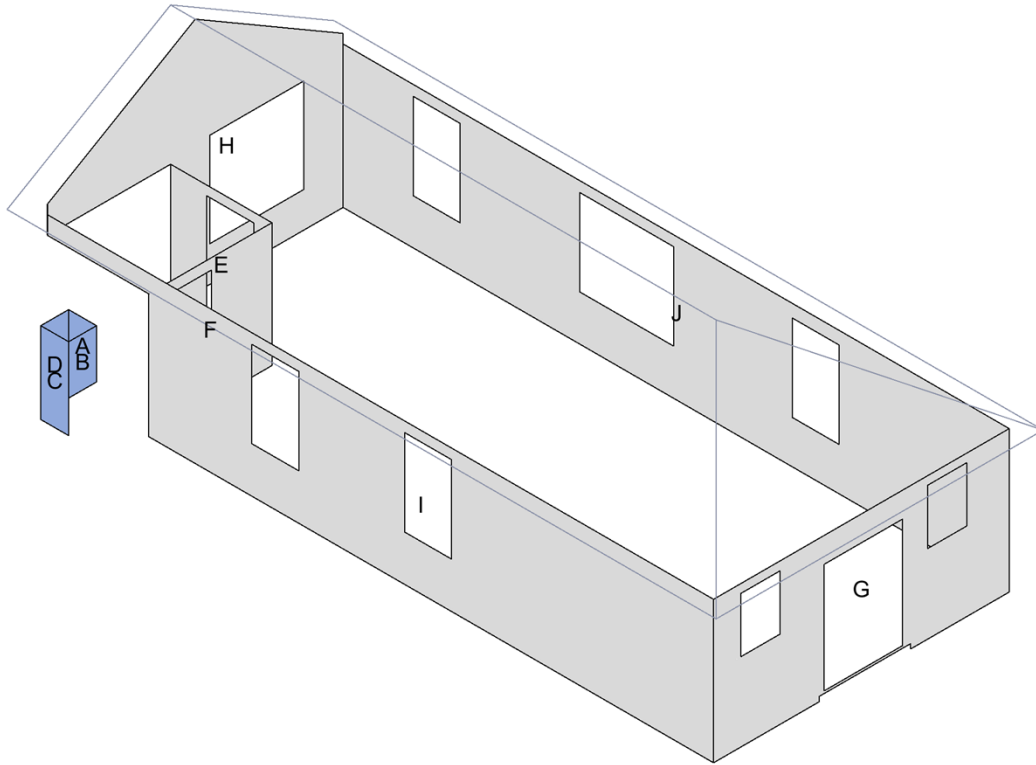
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



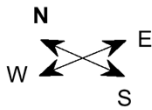
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WALL AREA DIAGRAM



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- Siding
- Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	41.1	0.0
D	0.0	9.2
H	135.5	0.0
Total	176.6	9.2

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	318.4	0.0
A	0.0	5.5
Total	318.4	5.5

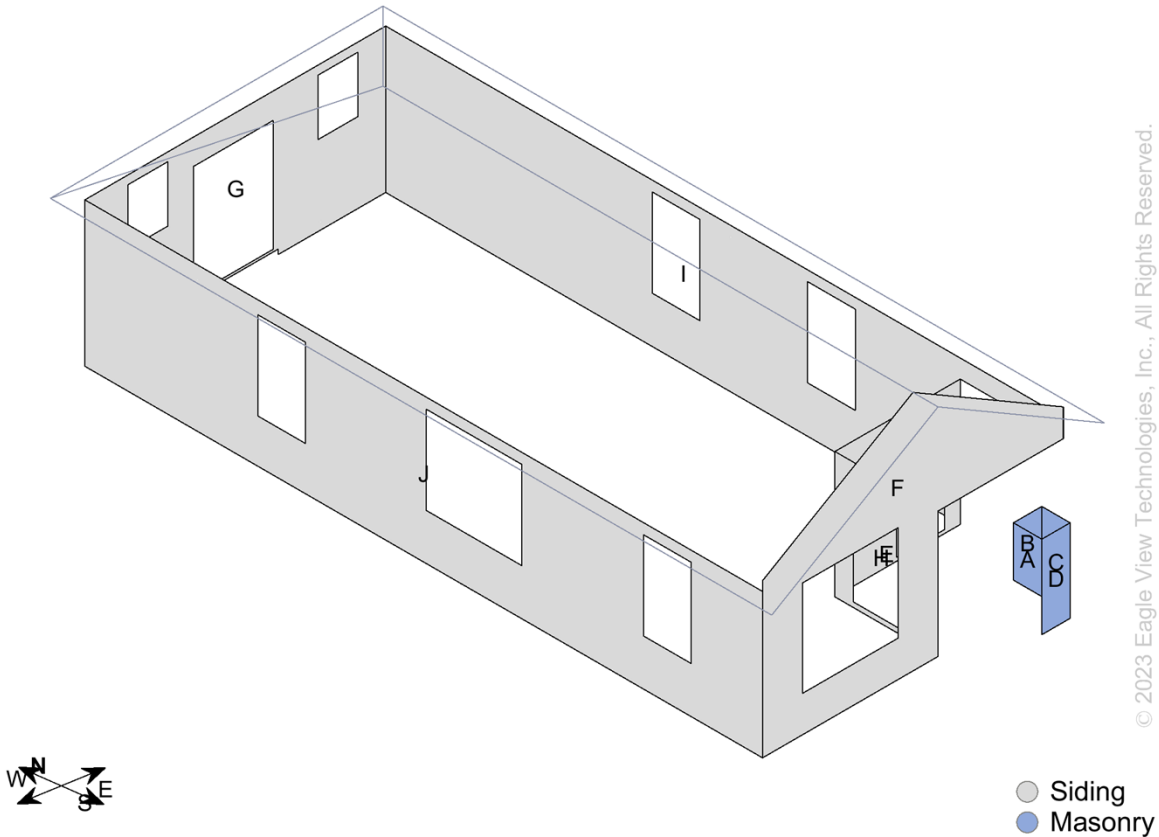
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
G	116.4	0.0
B	0.0	5.5
Total	116.4	5.5

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	30.1	0.0
I	300.3	0.0
C	0.0	9.2
Total	330.4	9.2

ALTERNATE WALL AREA



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	41.1	0.0
D	0.0	9.2
H	135.5	0.0
Total	176.6	9.2

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	318.4	0.0
A	0.0	5.5
Total	318.4	5.5

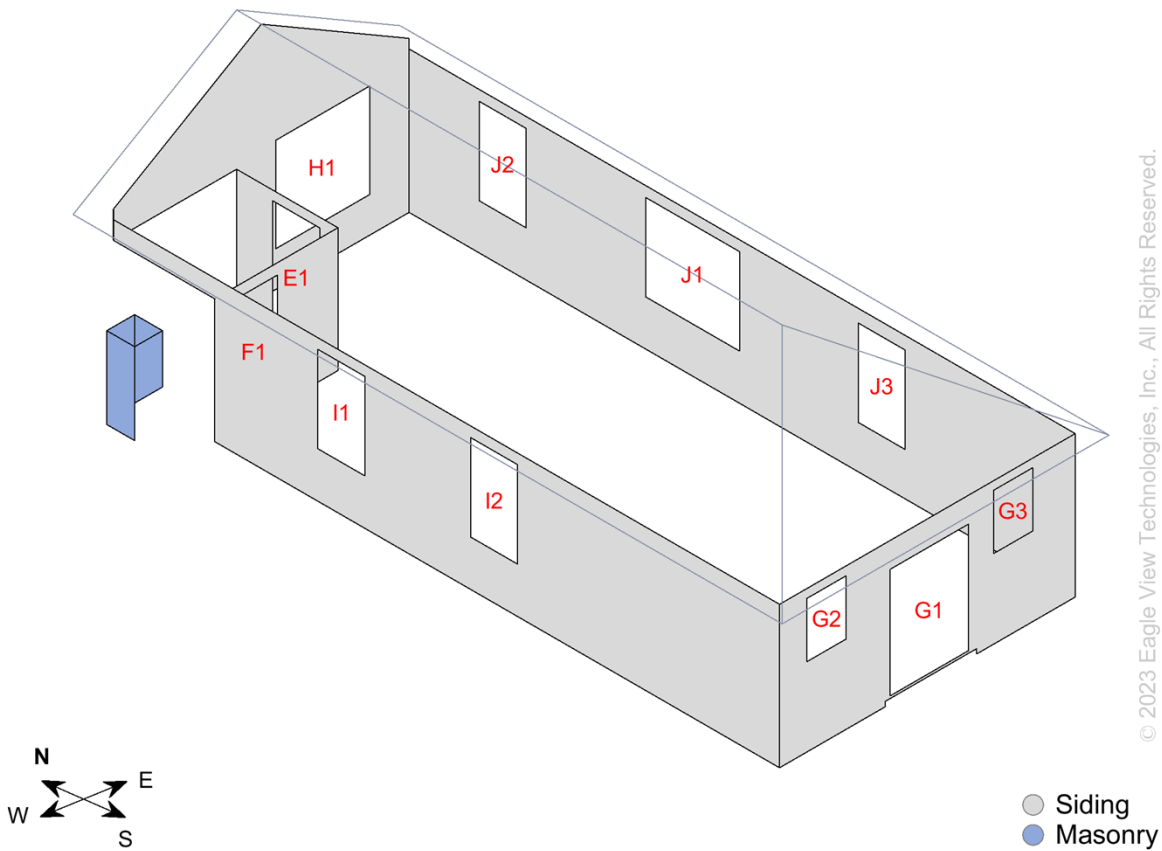
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
G	116.4	0.0
B	0.0	5.5
Total	116.4	5.5

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	30.1	0.0
I	300.3	0.0
C	0.0	9.2
Total	330.4	9.2

WINDOW AND DOOR DIAGRAM



Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
F1	21.0	20.0	3.0 x 7.0
H1	36.0	24.0	6.0 x 6.0
Total	57.0	44.0	n/a

South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
G1	35.0	24.0	5.0 x 7.0
G2	8.8	12.0	2.5 x 3.5
G3	8.8	12.0	2.5 x 3.5
Total	52.6	48.0	n/a

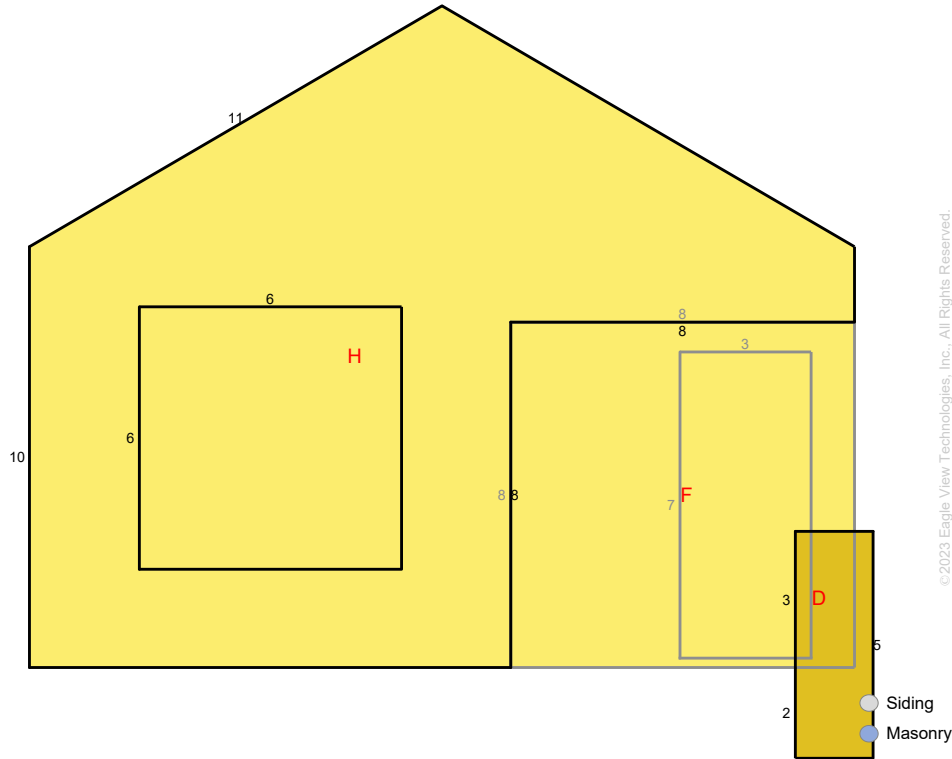
East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
J1	33.0	23.0	6.0 x 5.5
J2	16.5	17.0	3.0 x 5.5
J3	16.5	17.0	3.0 x 5.5
Total	66.0	57.0	n/a

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
E1	21.0	20.0	3.0 x 7.0
I1	16.5	17.0	3.0 x 5.5
I2	16.5	17.0	3.0 x 5.5
Total	54.0	54.0	n/a

NORTH ELEVATION DIAGRAM

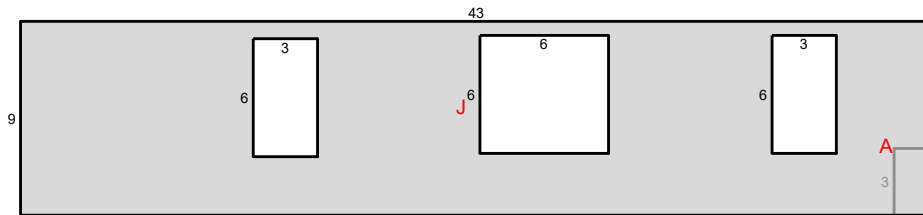


Top of Siding Walls = 29.7 ft
 Bottom of Siding Walls = 26.8 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
F	41.1	0.0	21.0	20.0	1
D	0.0	9.2	0	0	0
H	135.5	0.0	36.0	24.0	1
Total	176.6	9.2	57.0	44.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



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- Siding
- Masonry

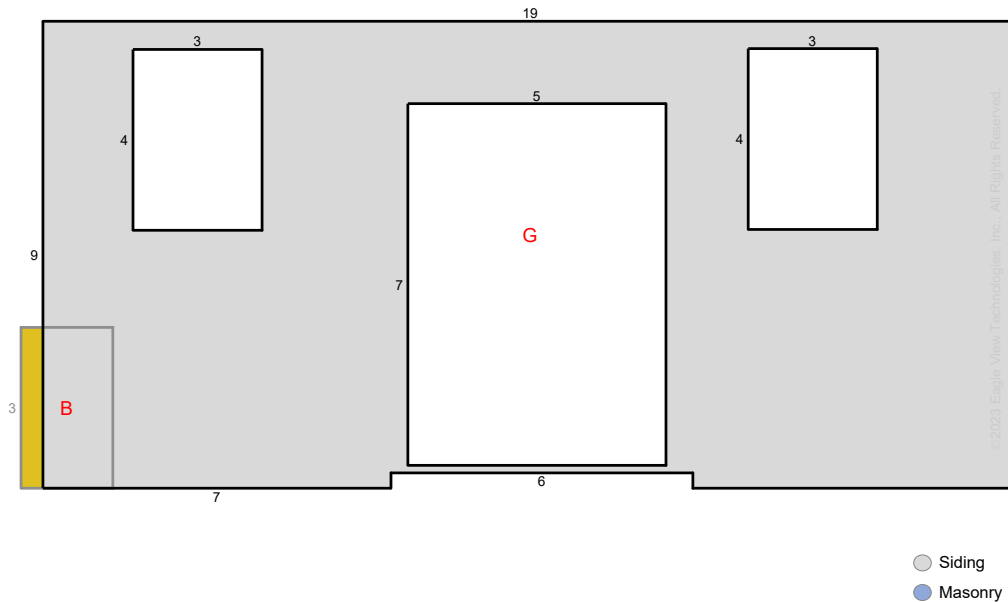
Top of Siding Walls = 42.5 ft

Bottom of Siding Walls = 42.5 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
J	318.4	0.0	66.0	57.0	3
A	0.0	5.5	0	0	0
Total	318.4	5.5	66.0	57.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM

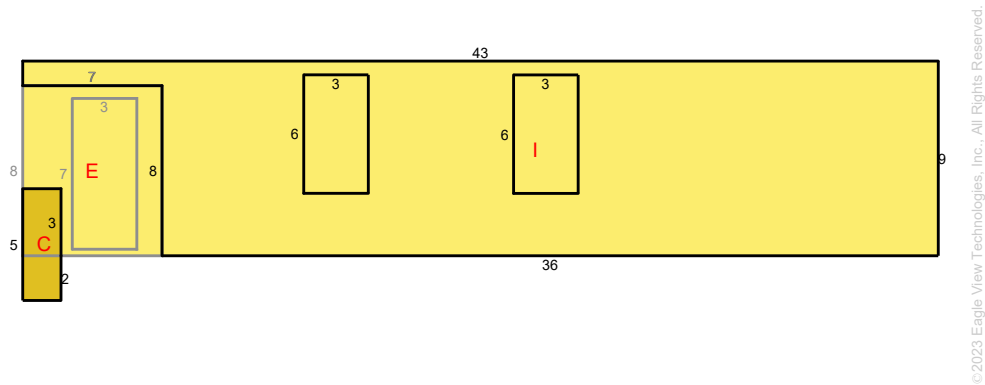


Top of Siding Walls = 18.9 ft
 Bottom of Siding Walls = 18.8 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
G	116.4	0.0	52.6	48.0	3
B	0.0	5.5	0	0	0
Total	116.4	5.5	52.6	48.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



- Siding
- Masonry

Top of Siding Walls = 49.0 ft

Bottom of Siding Walls = 49.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
E	30.1	0.0	21.0	20.0	1
I	300.3	0.0	33.0	34.0	2
C	0.0	9.2	0	0	0
Total	330.4	9.2	54.0	54.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch	
Roof Pitches	7/12
Area (sq ft)	1094.4
% of Roof	99.9%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

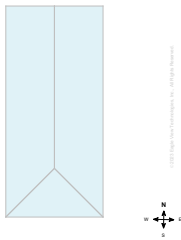
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	3%	8%	11%	13%	15%	18%	23%	28%
Area (Sq ft)	1095	1128	1183	1216	1238	1260	1293	1347	1402
Squares *	11.00	11.33	12.00	12.33	12.66	12.66	13.00	13.66	14.33
	Measured				Suggested				

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 3

Lengths, Areas and Pitches

Ridges = 35 ft (1 Ridges)
 Hips = 32 ft (2 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 25 ft (2 Rakes)
 Eaves/Starter‡ = 112 ft (3 Eaves)
 Drip Edge (Eaves + Rakes) = 137 ft (5 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 0 ft (0 Lengths)
 Predominant Pitch = 7/12
Total Area (All Pitches) = 1,095 sq ft

Property Location

Longitude = -95.3823117
 Latitude = 29.7556602

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1501 Andrews St, Houston, TX 77019

Report: 55102984

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1501+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1501+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	942	1,036	1,045	1,055	1,064	1,074	1,083	1,130
Squares	9.4	10.4	10.5	10.5	10.6	10.7	10.8	11.3

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	29	32	33	33	33	34	34	35
Squares	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 971.2 ft²

Siding = 941.8 ft²

Masonry = 29.4 ft²

General Totals

Wall Facets = 10

Windows & Doors = 11

Window and Door Area = 229.6 ft²

Window & Door Perimeter = 203.0 ft

Fascia (Eaves + Rakes) = 137 ft

Top of Siding Walls = 140.1 ft

Bottom of Siding Walls = 137.2 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	8.5 ft	0.0 ft	0.0 ft	8.5 ft
Outside Corners	46.3 ft	14.5 ft	0.0 ft	60.8 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3823117
Latitude = 29.7556602

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1501 Andrews St, Houston, TX 77019

Report: 55102984

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



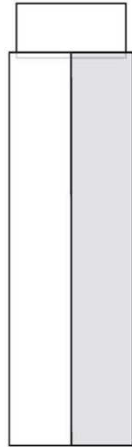
1502 Andrews St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 874 sq ft
 Total Roof Facets = 3
 Predominant Pitch = 9/12
 Number of Stories > 1
 Total Ridges/Hips = 46 ft
 Total Valleys = 0 ft
 Total Rakes = 48 ft
 Total Eaves = 103 ft
 Total Wall Area = 1200.4 sq ft
 Total Wall Facets = 6
 Total Siding Area = 1200.4 sq ft
 Total Masonry Area = 0.0 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

Total Line Lengths:

Ridges = 46 ft
Hips = 0 ft

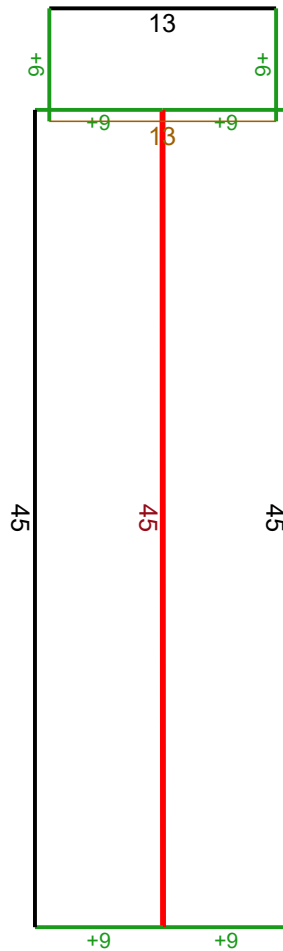
Valleys = 0 ft

Rakes = 48 ft

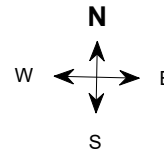
Eaves = 103 ft

Flashing = 13 ft

Step flashing = 0 ft

Parapets = 0 ft


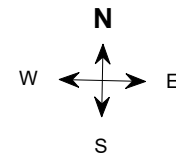
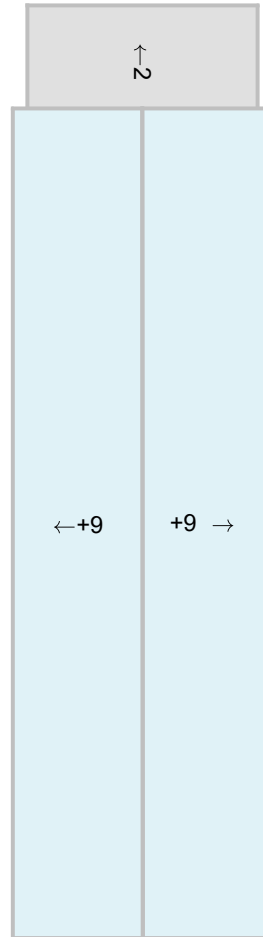
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Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 9/12

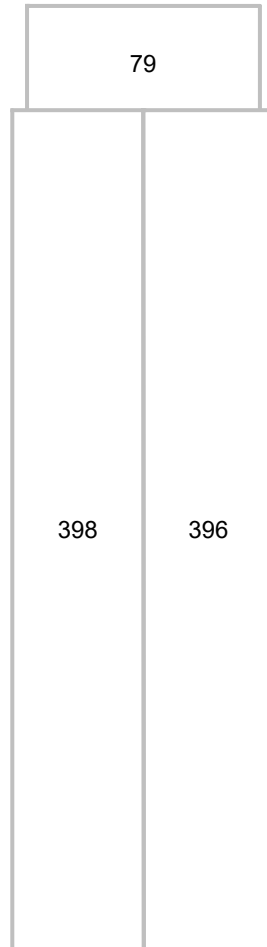


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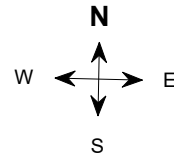
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater. Gray shading indicates flat, 1/12 or 2/12 pitches.

AREA DIAGRAM

Total Area = 874 sq ft, with 3 facets.



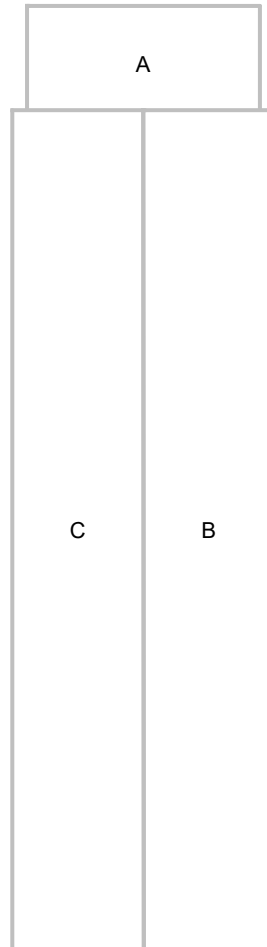
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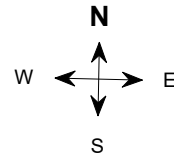
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

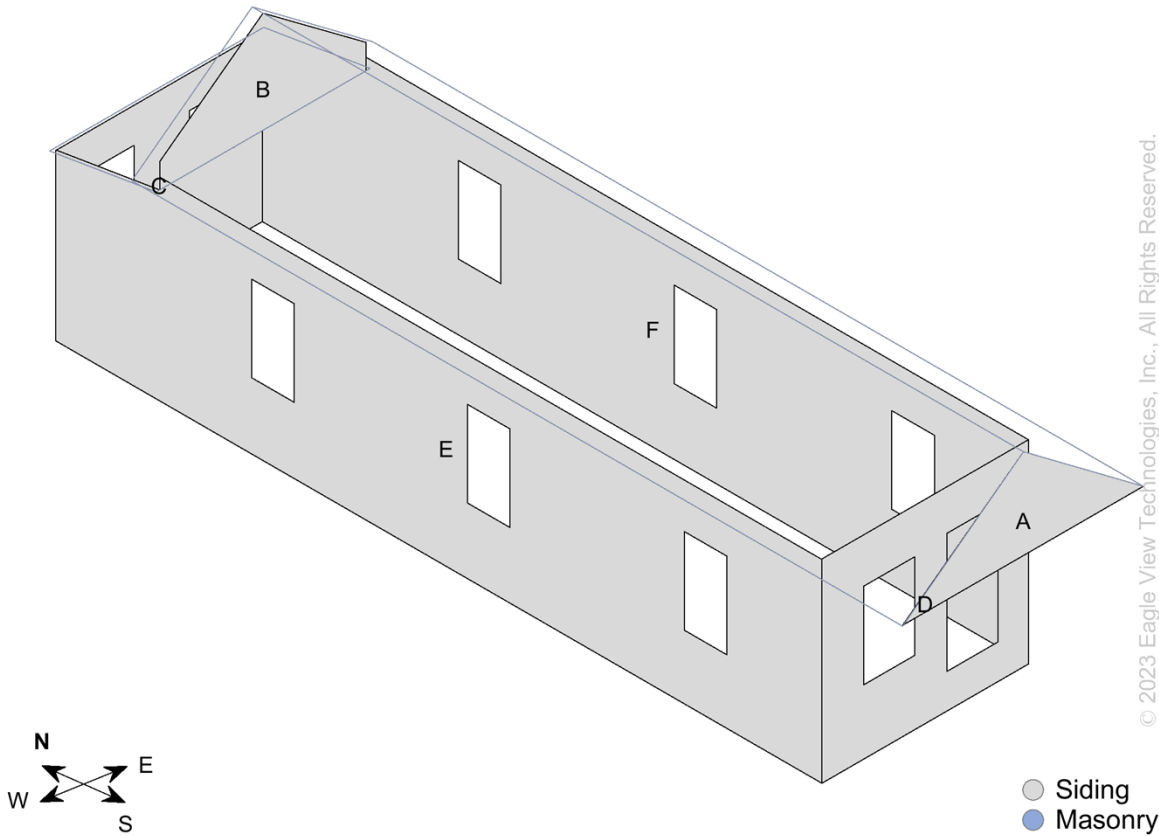
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



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North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	88.2	0.0
Total	88.2	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	465.1	0.0
Total	465.1	0.0

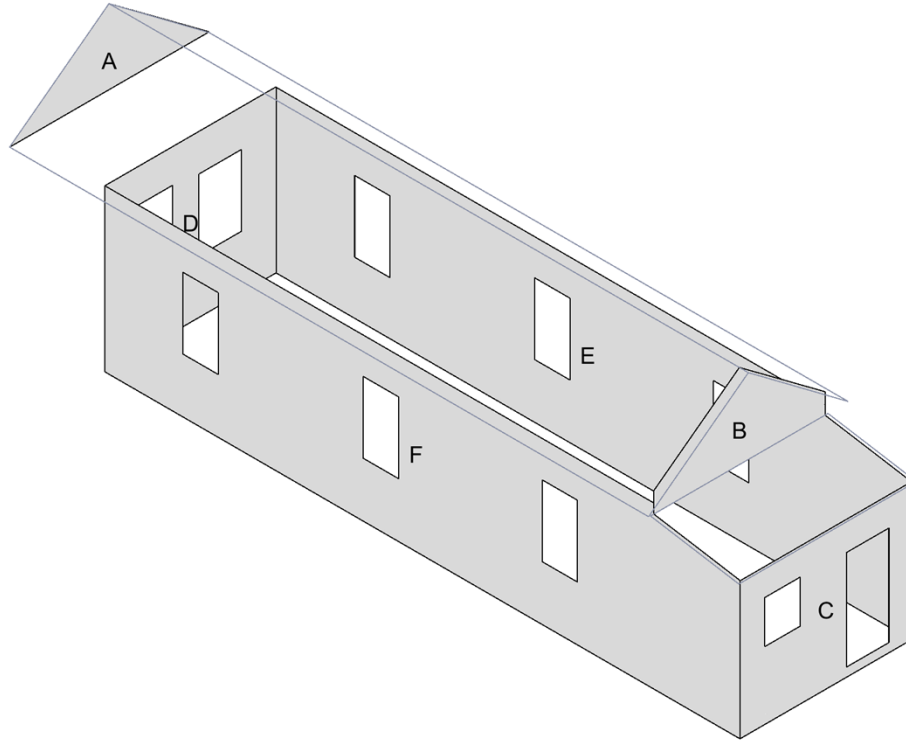
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	44.5	0.0
D	101.4	0.0
A	37.1	0.0
Total	183.0	0.0

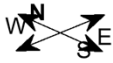
West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	464.1	0.0
Total	464.1	0.0

ALTERNATE WALL AREA



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● Siding
● Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	88.2	0.0
Total	88.2	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	465.1	0.0
Total	465.1	0.0

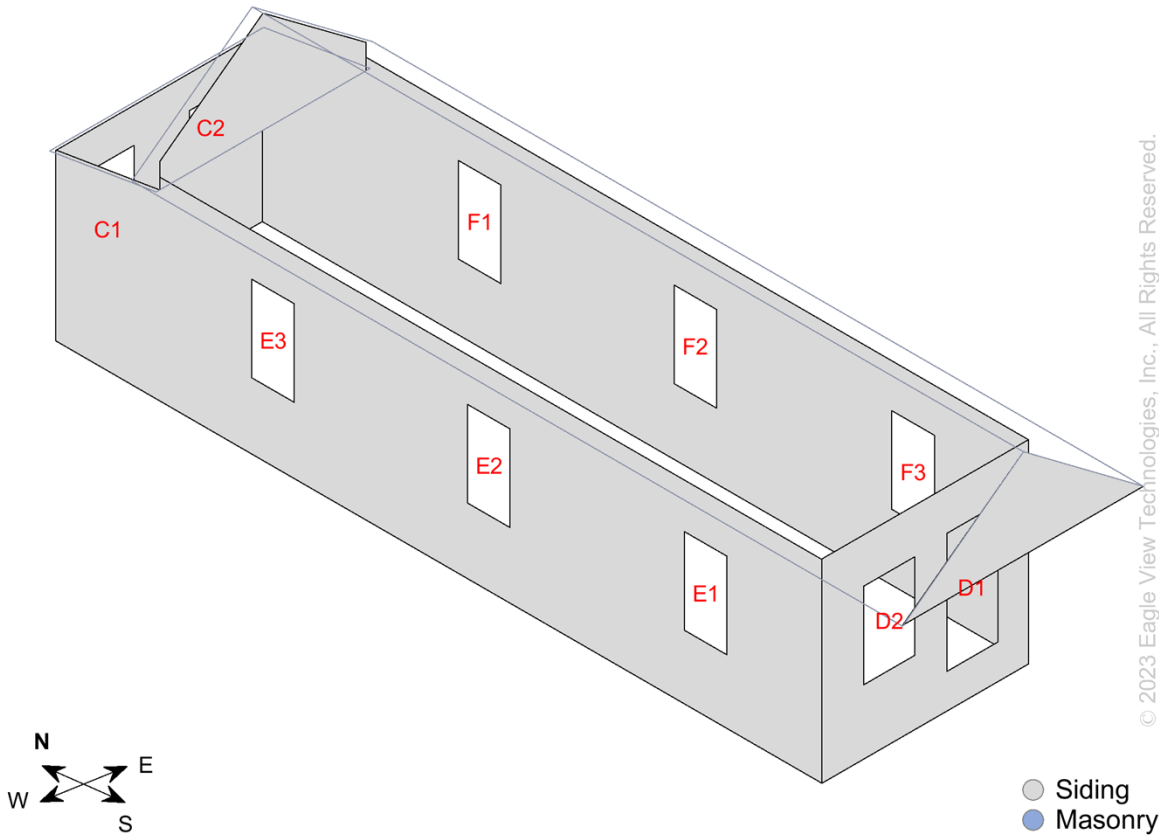
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	44.5	0.0
D	101.4	0.0
A	37.1	0.0
Total	183.0	0.0

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	464.1	0.0
Total	464.1	0.0

WINDOW AND DOOR DIAGRAM



Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
C1	21.0	20.0	3.0 x 7.0
C2	7.5	11.0	2.5 x 3.0
Total	28.5	31.0	n/a

South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
D1	21.0	20.0	3.0 x 7.0
D2	15.0	16.0	3.0 x 5.0
Total	36.0	36.0	n/a

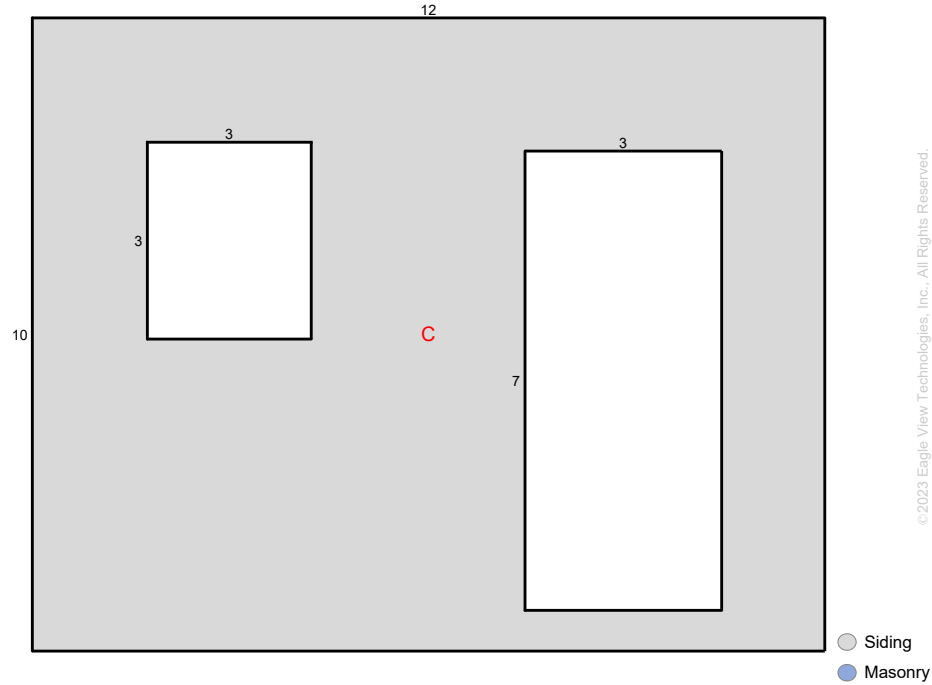
East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
F1	12.5	15.0	2.5 x 5.0
F2	12.5	15.0	2.5 x 5.0
F3	12.5	15.0	2.5 x 5.0
Total	37.5	45.0	n/a

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
E1	12.5	15.0	2.5 x 5.0
E2	12.5	15.0	2.5 x 5.0
E3	12.5	15.0	2.5 x 5.0
Total	37.5	45.0	n/a

NORTH ELEVATION DIAGRAM

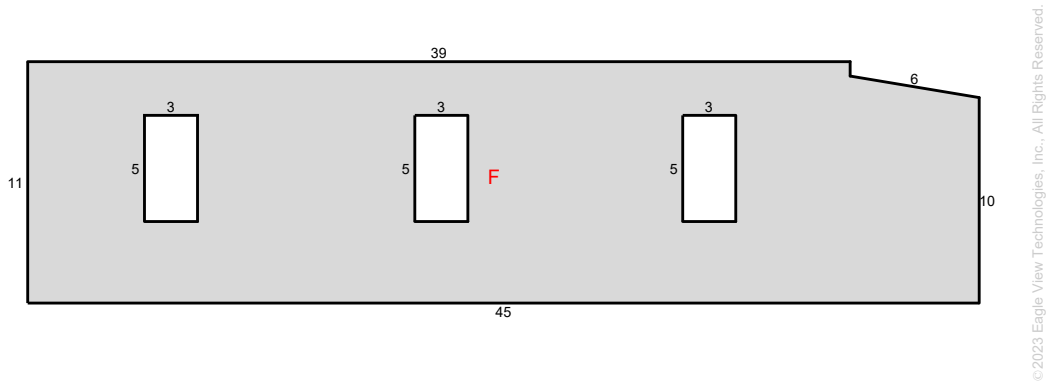


Top of Siding Walls = 12.1 ft
Bottom of Siding Walls = 12.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
C	88.2	0.0	28.5	31.0	2
Total	88.2	0.0	28.5	31.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM

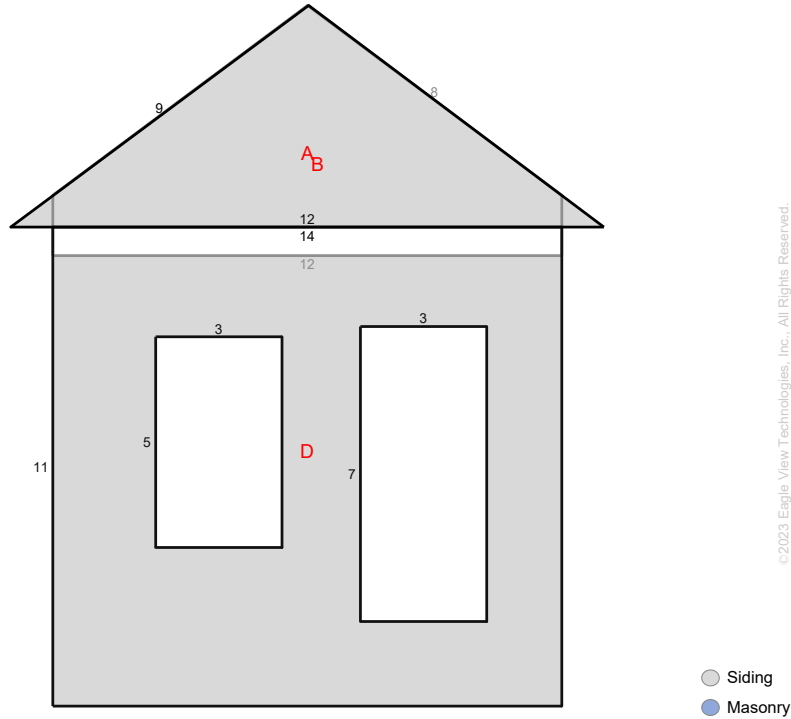


Top of Siding Walls = 45.0 ft
Bottom of Siding Walls = 44.8 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
F	465.1	0.0	37.5	45.0	3
Total	465.1	0.0	37.5	45.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM

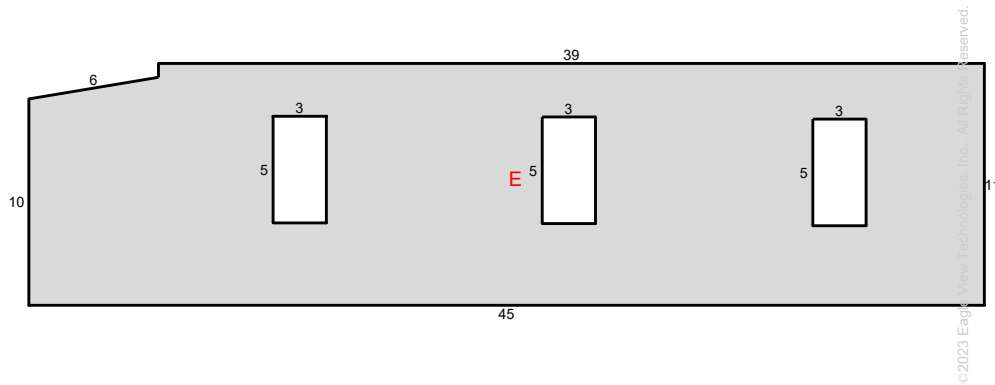


Top of Siding Walls = 44.7 ft
 Bottom of Siding Walls = 38.3 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
B	44.5	0.0	0	0	0
D	101.4	0.0	36.0	36.0	2
A	37.1	0.0	0	0	0
Total	183.0	0.0	36.0	36.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



- Siding
- Masonry

Top of Siding Walls = 45.0 ft
 Bottom of Siding Walls = 44.8 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
E	464.1	0.0	37.5	45.0	3
Total	464.1	0.0	37.5	45.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch		
Roof Pitches	2/12	9/12
Area (sq ft)	79.2	794.6
% of Roof	9.1%	90.9%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

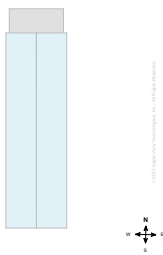
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	4%	9%	12%	14%	16%	19%	24%	29%
Area (Sq ft)	795	827	867	891	907	923	947	986	1026
Squares *	8.00	8.33	9.00	9.00	9.33	9.33	9.66	10.00	10.33
	Measured				Suggested				

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 3

Lengths, Areas and Pitches

Ridges = 46 ft (1 Ridges)
 Hips = 0 ft (0 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 48 ft (6 Rakes)
 Eaves/Starter‡ = 103 ft (3 Eaves)
 Drip Edge (Eaves + Rakes) = 151 ft (9 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 13 ft (1 Lengths)
 Step flashing = 0 ft (0 Lengths)
 Predominant Pitch = 9/12
Total Area (All Pitches) = 874 sq ft

Property Location

Longitude = -95.3823719
 Latitude = 29.7558859

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1502 Andrews St, Houston, TX 77019

Report: 55102985

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1502+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1502+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	1,200	1,320	1,332	1,344	1,356	1,368	1,380	1,440
Squares	12	13.2	13.3	13.4	13.6	13.7	13.8	14.4

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	0	0	0	0	0	0	0	0
Squares	0	0	0	0	0	0	0	0

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 1200.4 ft²

Siding = 1200.4 ft²

Masonry = 0.0 ft²

General Totals

Wall Facets = 6

Windows & Doors = 10

Window and Door Area = 139.5 ft²

Window & Door Perimeter = 157.0 ft

Fascia (Eaves + Rakes) = 151 ft

Top of Siding Walls = 146.8 ft

Bottom of Siding Walls = 140.0 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners	46.4 ft	0.0 ft	0.0 ft	46.4 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3823719

Latitude = 29.7558859

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1502 Andrews St, Houston, TX 77019

Report: 55102985

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



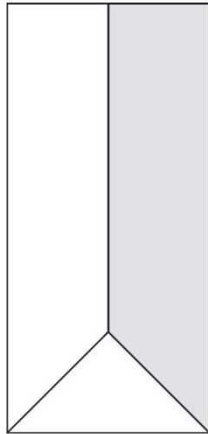
1503 Andrews St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 1,104 sq ft
 Total Roof Facets = 3
 Predominant Pitch = 7/12
 Number of Stories <= 1
 Total Ridges/Hips = 68 ft
 Total Valleys = 0 ft
 Total Rakes = 25 ft
 Total Eaves = 112 ft
 Total Wall Area = 934.5 sq ft
 Total Wall Facets = 10
 Total Siding Area = 908.9 sq ft
 Total Masonry Area = 25.6 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

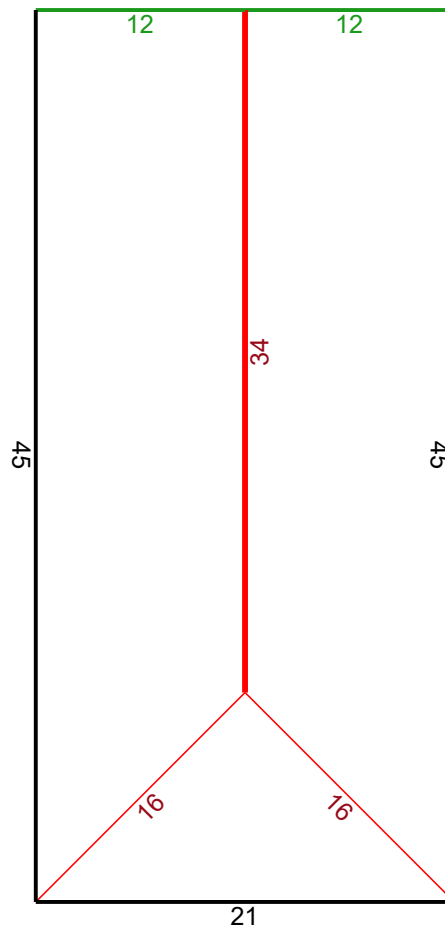
LENGTH DIAGRAM

Total Line Lengths:

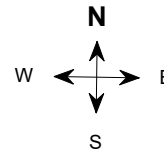
Ridges = 35 ft
Hips = 33 ft

Valleys = 0 ft
 Rakes = 25 ft
 Eaves = 112 ft

Flashing = 0 ft
 Step flashing = 0 ft
 Parapets = 0 ft



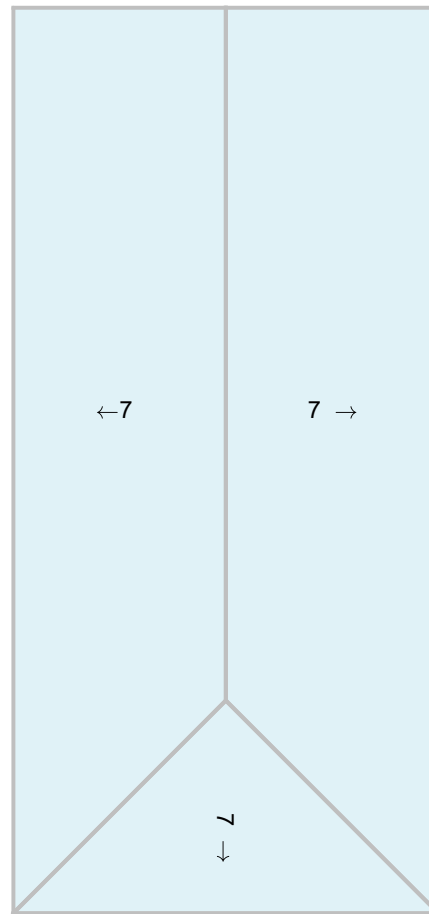
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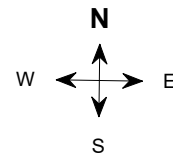
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 7/12



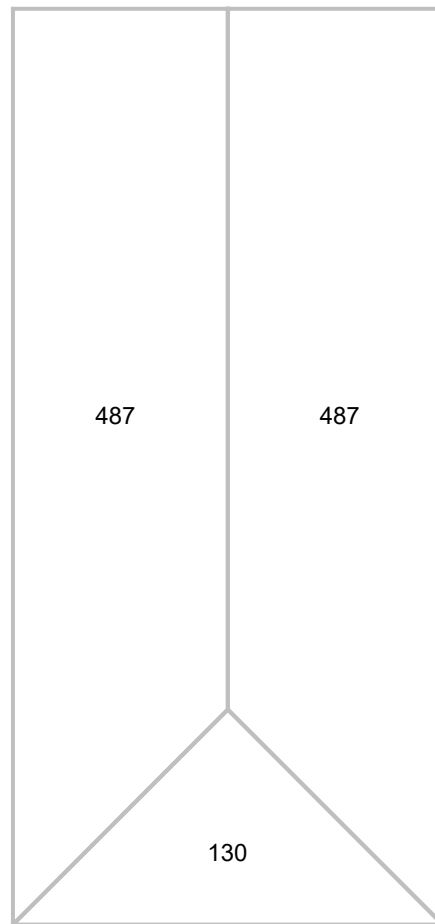
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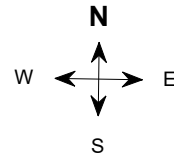
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 1,104 sq ft, with 3 facets.



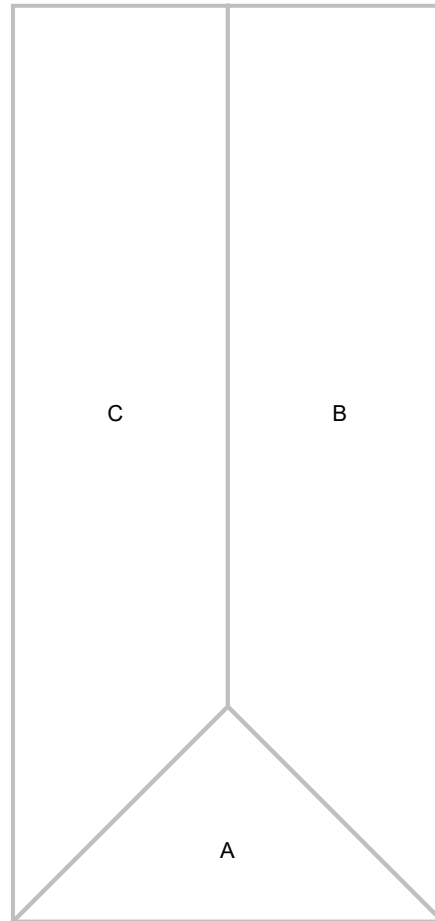
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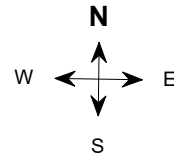
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

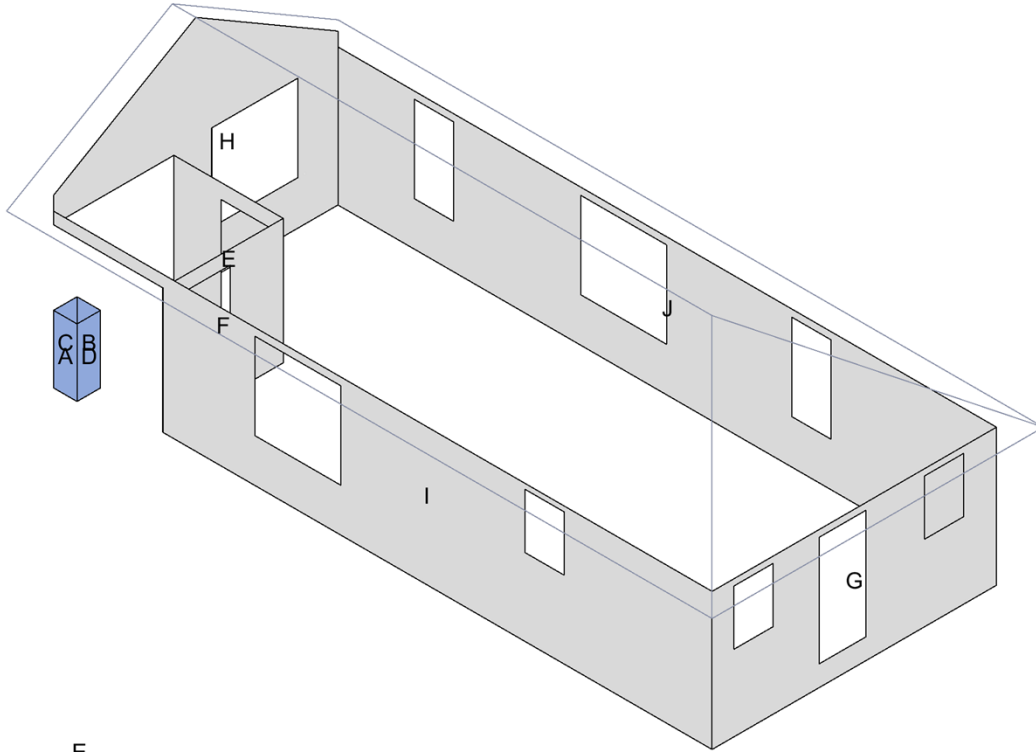
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



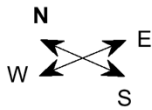
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WALL AREA DIAGRAM



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● Siding
● Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	0.0	6.4
H	131.0	0.0
F	40.4	0.0
Total	171.4	6.4

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	0.0	6.4
J	309.8	0.0
Total	309.8	6.4

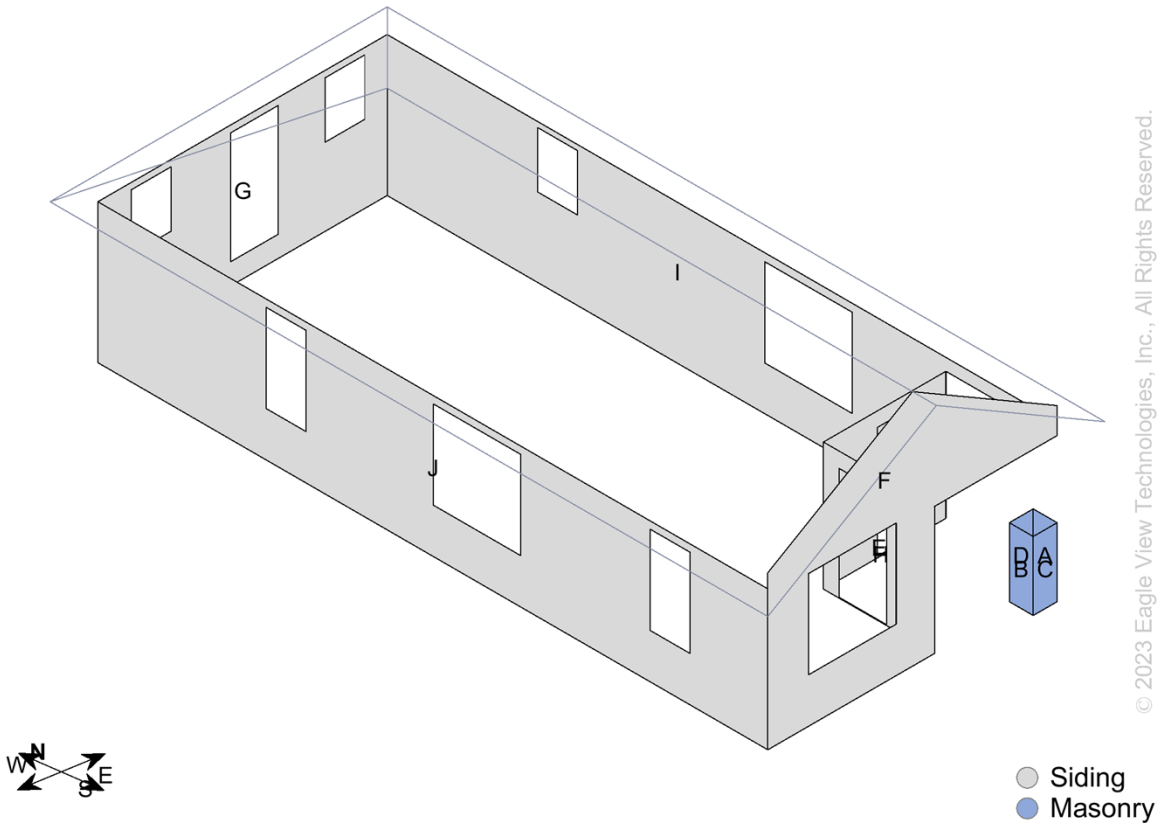
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
G	120.2	0.0
D	0.0	6.4
Total	120.2	6.4

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	0.0	6.4
I	272.7	0.0
E	34.8	0.0
Total	307.5	6.4

ALTERNATE WALL AREA



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North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	0.0	6.4
H	131.0	0.0
F	40.4	0.0
Total	171.4	6.4

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	0.0	6.4
J	309.8	0.0
Total	309.8	6.4

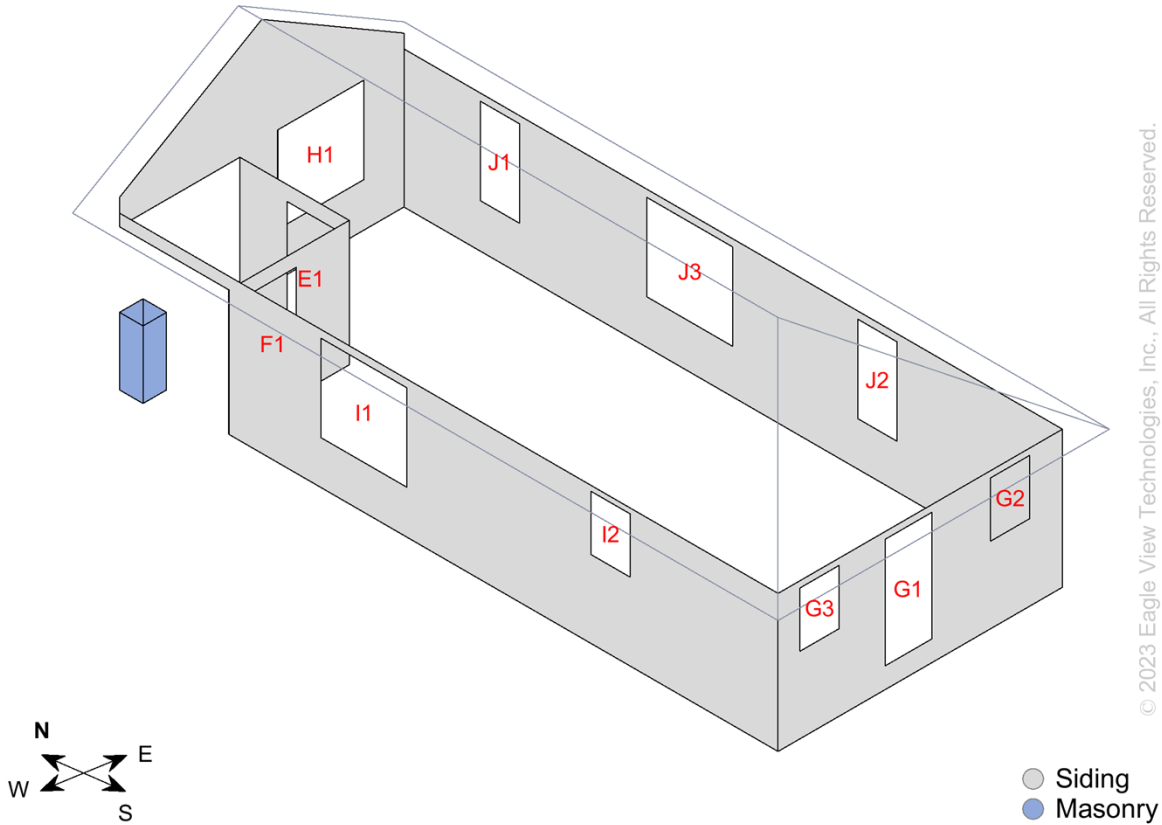
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
G	120.2	0.0
D	0.0	6.4
Total	120.2	6.4

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	0.0	6.4
I	272.7	0.0
E	34.8	0.0
Total	307.5	6.4

WINDOW AND DOOR DIAGRAM



Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
F1	21.0	20.0	3.0 x 7.0
H1	30.3	22.0	5.5 x 5.5
Total	51.3	42.0	n/a

South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
G1	21.0	20.0	3.0 x 7.0
G2	8.7	12.0	2.5 x 3.5
G3	8.7	12.0	2.5 x 3.5
Total	38.4	44.0	n/a

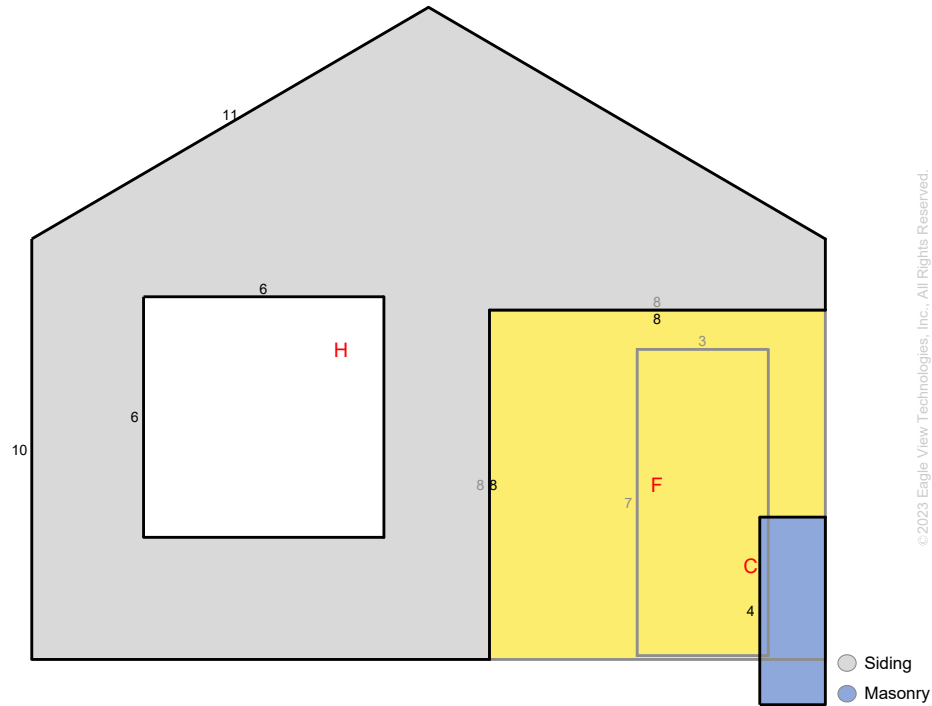
East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
J1	13.7	16.0	2.5 x 5.5
J2	13.7	16.0	2.5 x 5.5
J3	30.2	22.0	5.5 x 5.5
Total	57.6	54.0	n/a

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
E1	21.0	20.0	3.0 x 7.0
I1	30.3	22.0	5.5 x 5.5
I2	8.7	12.0	2.5 x 3.5
Total	60.0	54.0	n/a

NORTH ELEVATION DIAGRAM

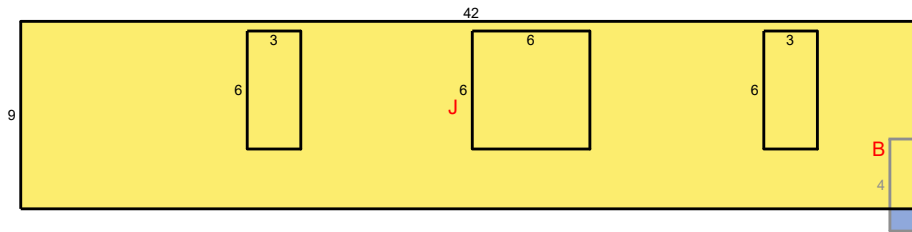


Top of Siding Walls = 28.7 ft
 Bottom of Siding Walls = 25.9 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
C	0.0	6.4	0	0	0
H	131.0	0.0	30.3	22.0	1
F	40.4	0.0	21.0	20.0	1
Total	171.4	6.4	51.3	42.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



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- Siding
- Masonry

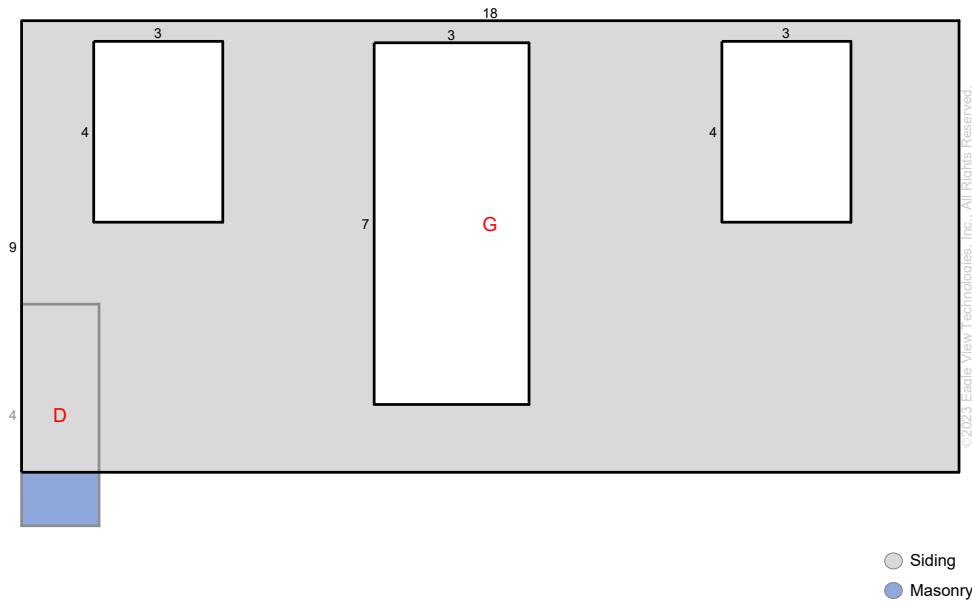
Top of Siding Walls = 42.1 ft

Bottom of Siding Walls = 42.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
B	0.0	6.4	0	0	0
J	309.8	0.0	57.6	54.0	3
Total	309.8	6.4	57.6	54.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM

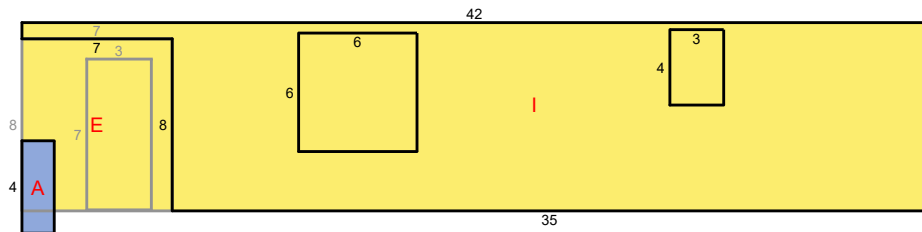


Top of Siding Walls = 18.2 ft
Bottom of Siding Walls = 18.2 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
G	120.2	0.0	38.4	44.0	3
D	0.0	6.4	0	0	0
Total	120.2	6.4	38.4	44.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



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- Siding
- Masonry

Top of Siding Walls = 49.1 ft
 Bottom of Siding Walls = 49.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
A	0.0	6.4	0	0	0
I	272.7	0.0	39.0	34.0	2
E	34.8	0.0	21.0	20.0	1
Total	307.5	6.4	60.0	54.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch	
Roof Pitches	7/12
Area (sq ft)	1103.6
% of Roof	100%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

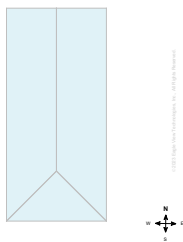
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	5%	10%	13%	15%	17%	20%	25%	30%
Area (Sq ft)	1104	1160	1215	1248	1270	1292	1325	1380	1436
Squares *	11.33	11.66	12.33	12.66	13.00	13.00	13.33	14.00	14.66
	Measured				Suggested				

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 3

Lengths, Areas and Pitches

Ridges = 35 ft (1 Ridges)
 Hips = 33 ft (2 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 25 ft (2 Rakes)
 Eaves/Starter‡ = 112 ft (3 Eaves)
 Drip Edge (Eaves + Rakes) = 137 ft (5 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 0 ft (0 Lengths)
 Predominant Pitch = 7/12
Total Area (All Pitches) = 1,104 sq ft

Property Location

Longitude = -95.3823825
 Latitude = 29.7556628

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1503 Andrews St, Houston, TX 77019

Report: 55102990

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1503+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1503+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	909	1,000	1,009	1,018	1,027	1,036	1,045	1,091
Squares	9.1	10	10.1	10.2	10.3	10.4	10.5	10.9

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	26	28	28	29	29	29	29	31
Squares	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 934.5 ft²

Siding = 908.9 ft²

Masonry = 25.6 ft²

General Totals

Wall Facets = 10

Windows & Doors = 11

Window and Door Area = 207.3 ft²

Window & Door Perimeter = 194.0 ft

Fascia (Eaves + Rakes) = 137 ft

Top of Siding Walls = 138.1 ft

Bottom of Siding Walls = 135.3 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	8.0 ft	0.0 ft	0.0 ft	8.0 ft
Outside Corners	46.4 ft	17.2 ft	0.0 ft	63.6 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3823825

Latitude = 29.7556628

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

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Report: 55102990

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Precise Aerial Measurement Report



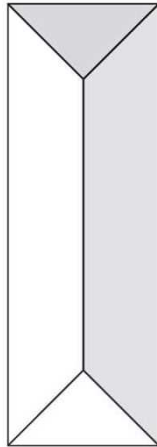
1504 Andrews St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
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 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 921 sq ft
 Total Roof Facets = 4
 Predominant Pitch = 7/12
 Number of Stories <= 1
 Total Ridges/Hips = 83 ft
 Total Valleys = 0 ft
 Total Rakes = 0 ft
 Total Eaves = 130 ft
 Total Wall Area = 1014.7 sq ft
 Total Wall Facets = 6
 Total Siding Area = 982.8 sq ft
 Total Masonry Area = 31.9 sq ft

Measurements provided by www.eagleview.com



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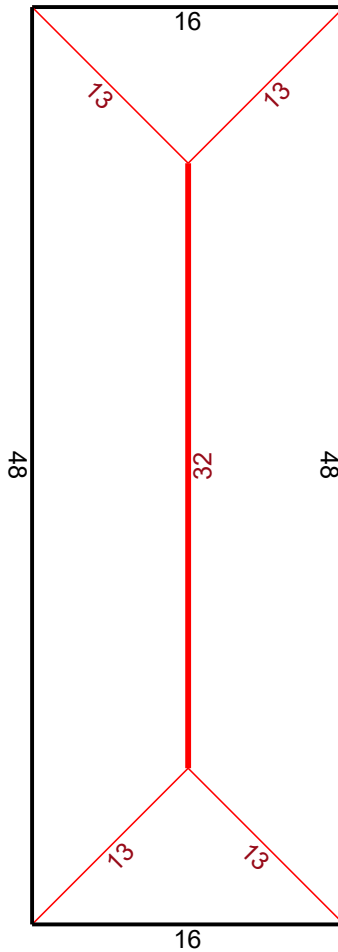
LENGTH DIAGRAM

Total Line Lengths:

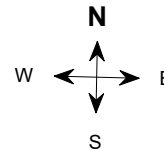
Ridges = 32 ft
Hips = 51 ft

Valleys = 0 ft
 Rakes = 0 ft
 Eaves = 130 ft

Flashing = 0 ft
 Step flashing = 0 ft
 Parapets = 0 ft



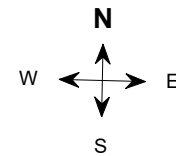
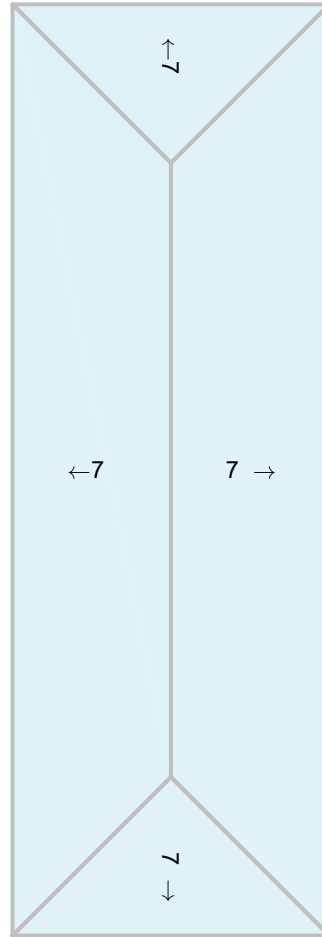
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Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 7/12

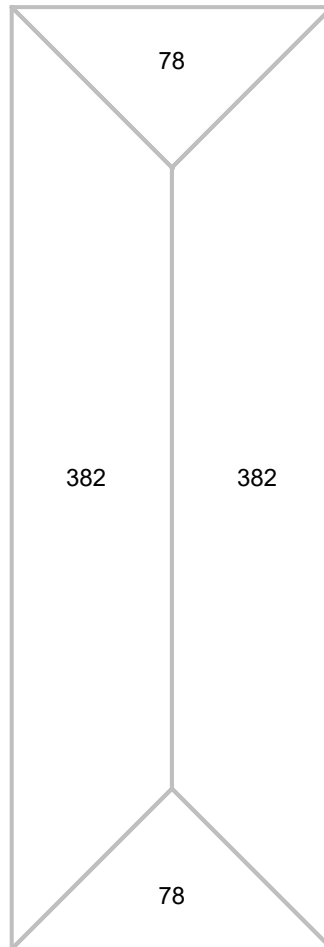


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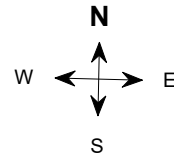
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 921 sq ft, with 4 facets.



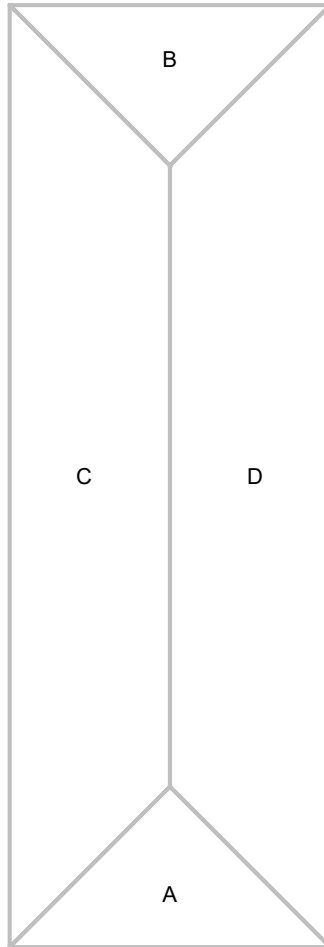
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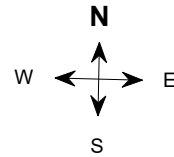
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

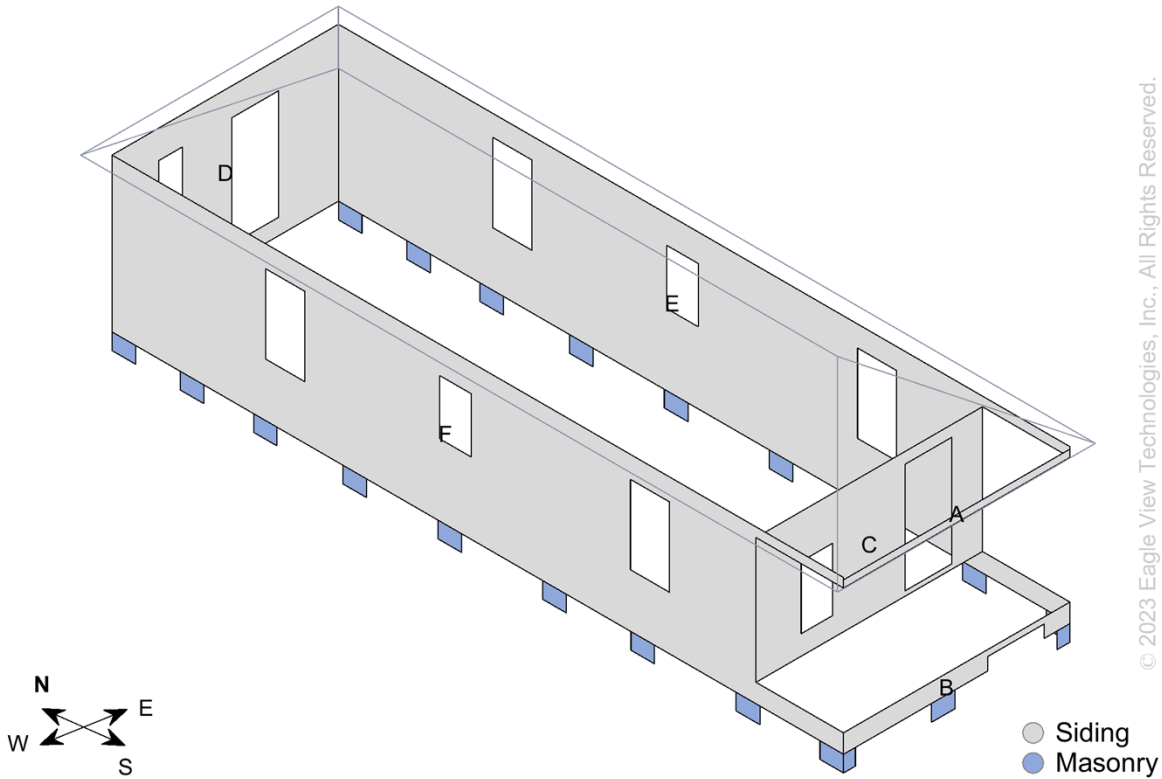
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



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North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	115.2	0.0
Total	115.2	0.0

South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	86.7	0.0
A	6.6	0.0
B	14.3	3.3
Total	107.6	3.3

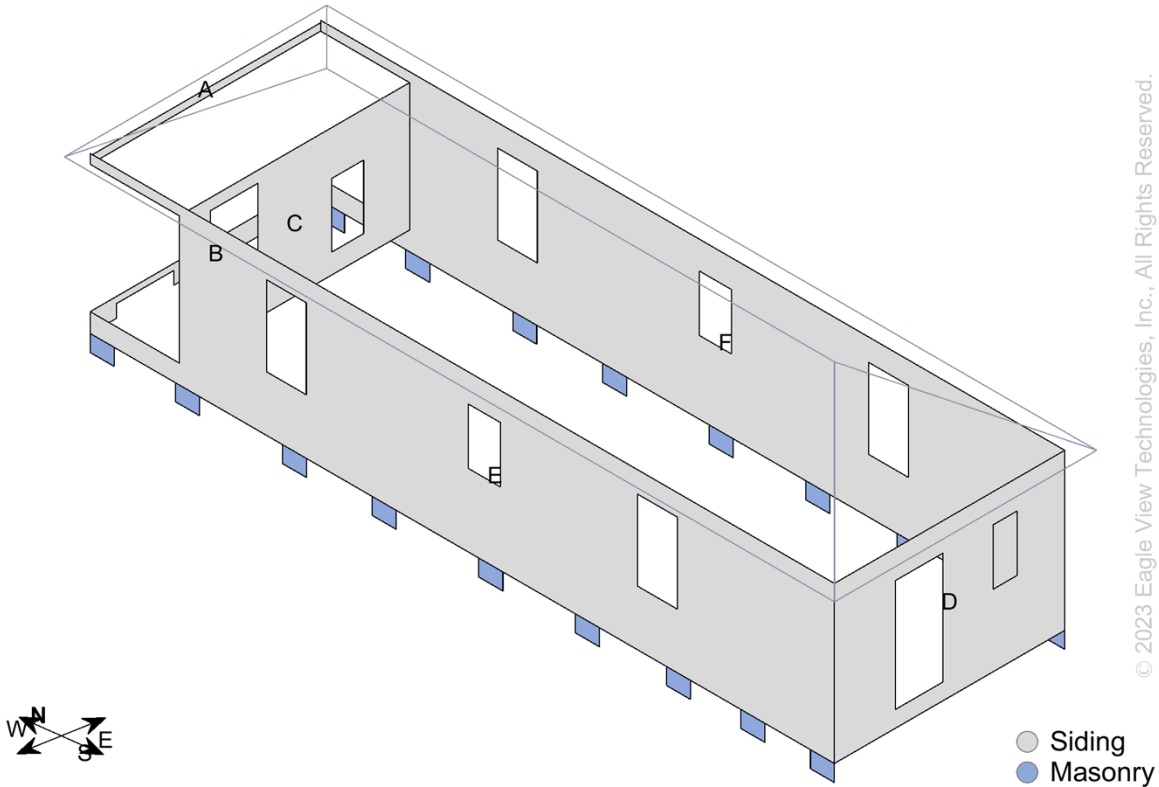
East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	380.0	14.3
Total	380.0	14.3

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	380.0	14.3
Total	380.0	14.3

ALTERNATE WALL AREA



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	115.2	0.0
Total	115.2	0.0

South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	86.7	0.0
A	6.6	0.0
B	14.3	3.3
Total	107.6	3.3

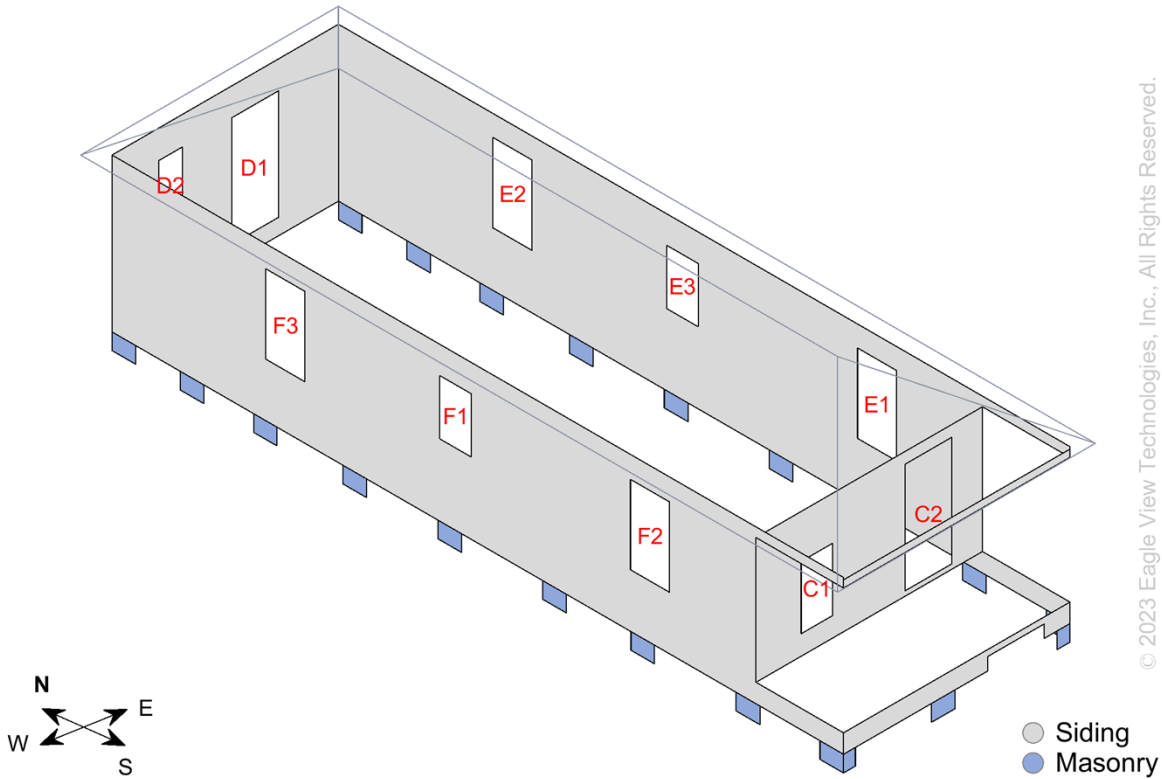
East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	380.0	14.3
Total	380.0	14.3

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	380.0	14.3
Total	380.0	14.3

WINDOW AND DOOR DIAGRAM



Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
D1	21.0	20.0	3.0 x 7.0
D2	5.2	10.0	1.5 x 3.5
Total	26.2	30.0	n/a

South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
C1	8.0	12.0	2.0 x 4.0
C2	21.0	20.0	3.0 x 7.0
Total	29.0	32.0	n/a

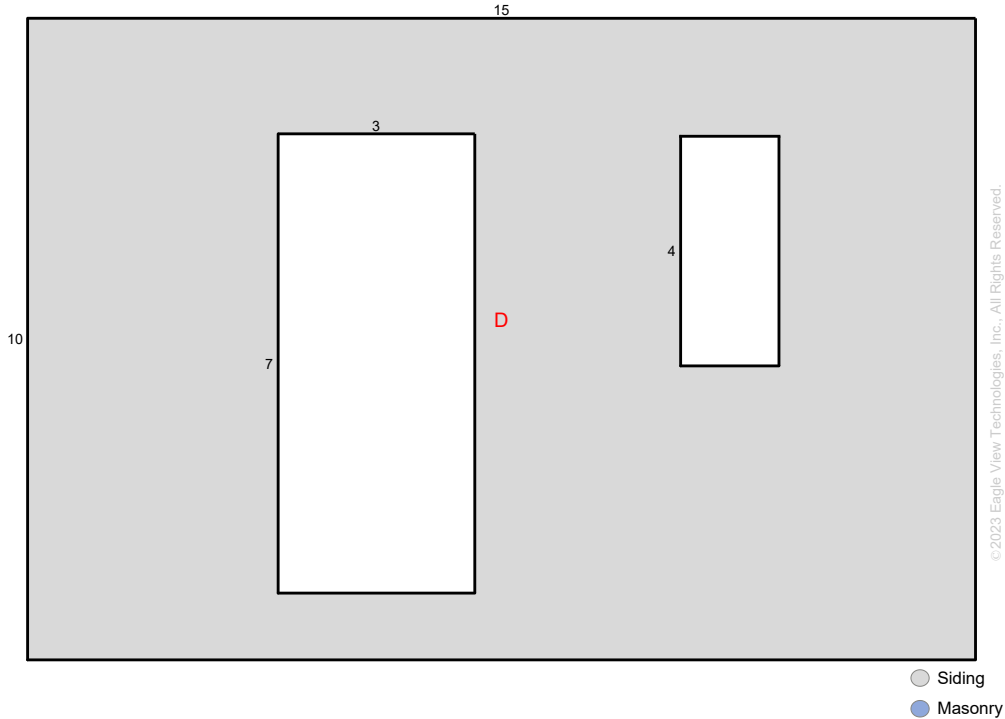
East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
E1	12.5	15.0	2.5 x 5.0
E2	12.5	15.0	2.5 x 5.0
E3	7.0	11.0	2.0 x 3.5
Total	32.0	41.0	n/a

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
F1	7.0	11.0	2.0 x 3.5
F2	12.5	15.0	2.5 x 5.0
F3	12.5	15.0	2.5 x 5.0
Total	32.0	41.0	n/a

NORTH ELEVATION DIAGRAM

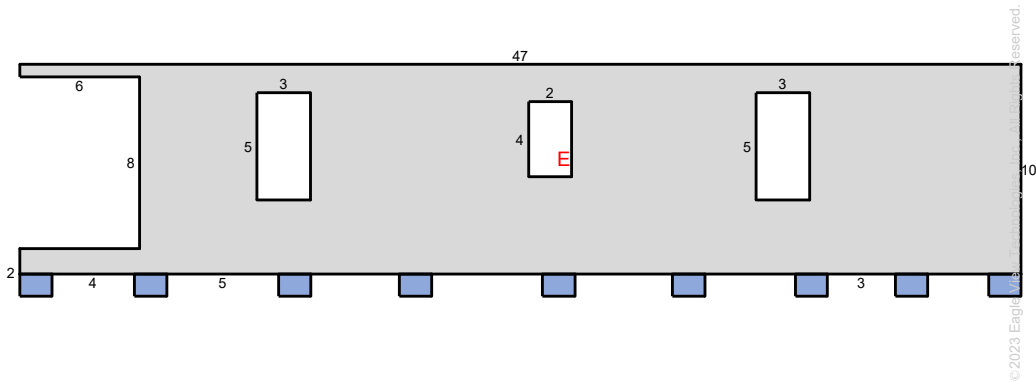


Top of Siding Walls = 14.5 ft
 Bottom of Siding Walls = 14.5 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
D	115.2	0.0	26.2	30.0	2
Total	115.2	0.0	26.2	30.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



- Siding
- Masonry

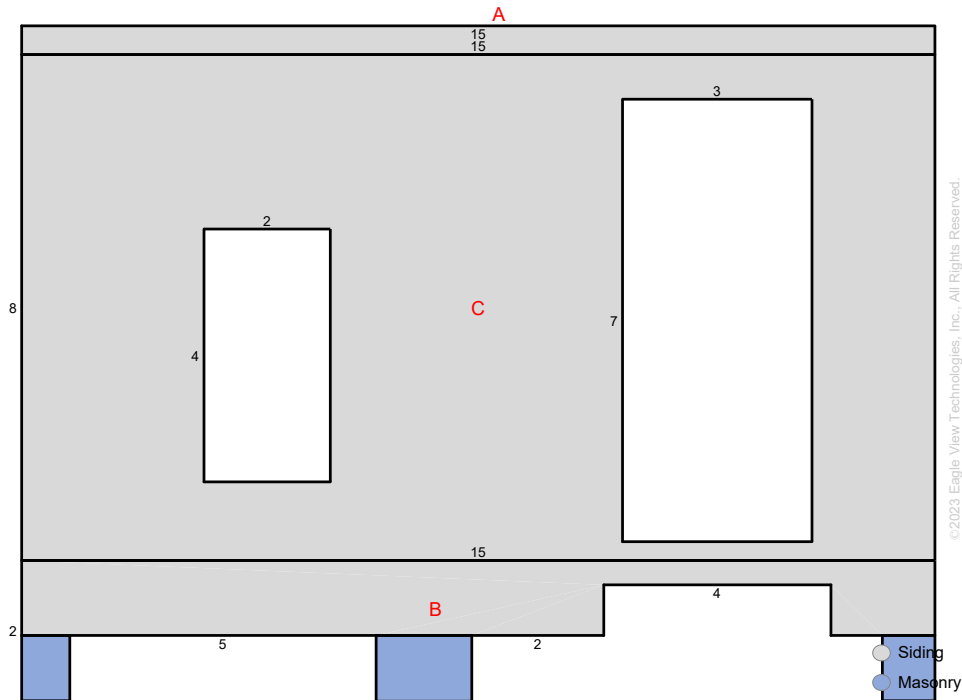
Top of Siding Walls = 52.3 ft

Bottom of Siding Walls = 52.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
E	380.0	14.3	32.0	41.0	3
Total	380.0	14.3	32.0	41.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM

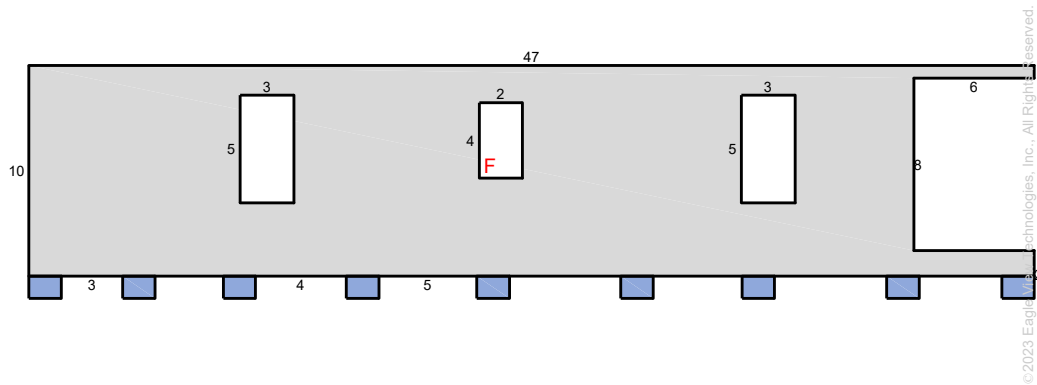


Top of Siding Walls = 43.5 ft
 Bottom of Siding Walls = 43.5 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
C	86.7	0.0	29.0	32.0	2
A	6.6	0.0	0	0	0
B	14.3	3.3	0	0	0
Total	107.6	3.3	29.0	32.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



- Siding
- Masonry

Top of Siding Walls = 52.3 ft

Bottom of Siding Walls = 52.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
F	380.0	14.3	32.0	41.0	3
Total	380.0	14.3	32.0	41.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch	
Roof Pitches	7/12
Area (sq ft)	921.0
% of Roof	100%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

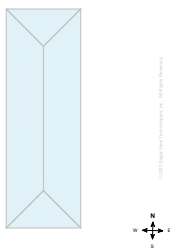
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	5%	10%	15%	18%	20%	22%	25%	30%
Area (Sq ft)	921	968	1014	1060	1087	1106	1124	1152	1198
Squares *	9.33	10.00	10.33	10.66	11.00	11.33	11.33	11.66	12.00
	Measured					Suggested			

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 4

Lengths, Areas and Pitches

Ridges = 32 ft (1 Ridges)
 Hips = 51 ft (4 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 0 ft (0 Rakes)
 Eaves/Starter‡ = 130 ft (4 Eaves)
 Drip Edge (Eaves + Rakes) = 130 ft (4 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 0 ft (0 Lengths)
 Predominant Pitch = 7/12

Total Area (All Pitches) = 921 sq ft

Property Location

Longitude = -95.3824386
 Latitude = 29.7558671

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1504 Andrews St, Houston, TX 77019

Report: 55102993

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1504+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1504+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	983	1,081	1,091	1,101	1,111	1,120	1,130	1,179
Squares	9.8	10.8	10.9	11	11.1	11.2	11.3	11.8

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	32	35	35	36	36	36	37	38
Squares	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 1014.7 ft²

Siding = 982.8 ft²

Masonry = 31.9 ft²

General Totals

Wall Facets = 6

Windows & Doors = 10

Window and Door Area = 119.2 ft²

Window & Door Perimeter = 144.0 ft

Fascia (Eaves + Rakes) = 130 ft

Top of Siding Walls = 162.6 ft

Bottom of Siding Walls = 162.2 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	1.6 ft	0.0 ft	0.0 ft	1.6 ft
Outside Corners	41.2 ft	40.0 ft	0.0 ft	81.2 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3824386
Latitude = 29.7558671

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

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Report: 55102993

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Precise Aerial Measurement Report



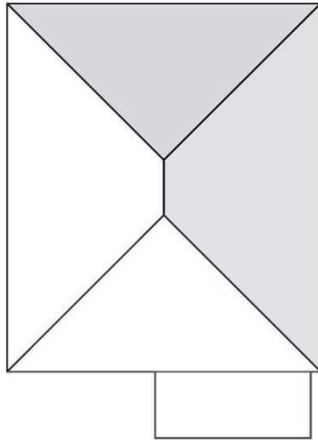
1505 Andrews St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
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tel. 713 325 0700
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d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
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 Address: 8701 W Hardy Rd
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 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 1,167 sq ft
 Total Roof Facets = 5
 Predominant Pitch = 8/12
 Number of Stories <= 1
 Total Ridges/Hips = 92 ft
 Total Valleys = 0 ft
 Total Rakes = 12 ft
 Total Eaves = 121 ft
 Total Wall Area = 1163.4 sq ft
 Total Wall Facets = 13
 Total Siding Area = 1053.8 sq ft
 Total Masonry Area = 109.6 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

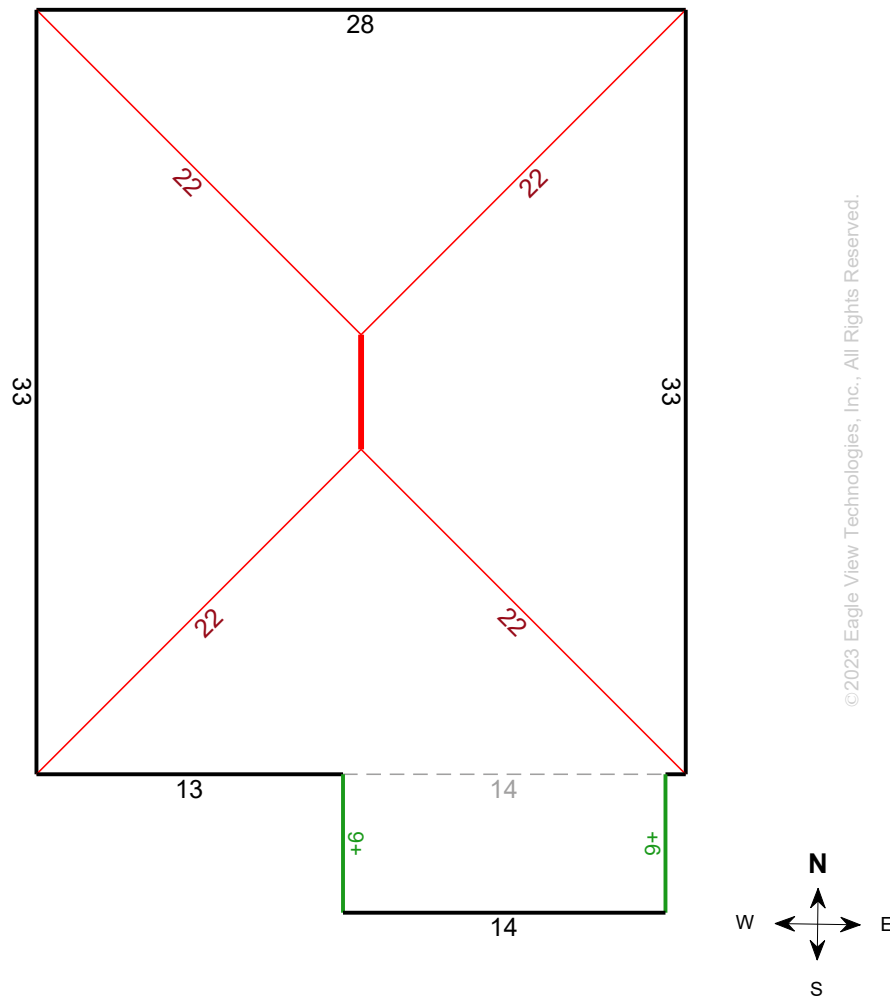
LENGTH DIAGRAM

Total Line Lengths:

Ridges = 5 ft
Hips = 87 ft

Valleys = 0 ft
 Rakes = 12 ft
 Eaves = 121 ft

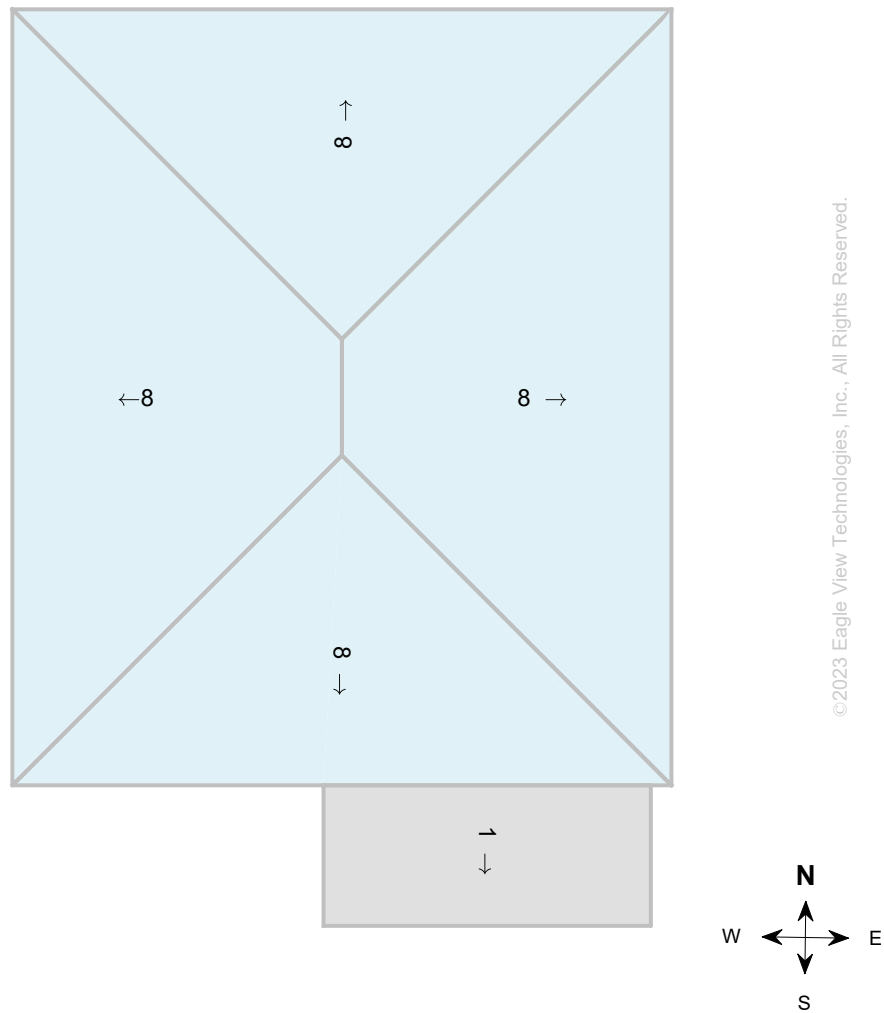
Flashing = 0 ft
 Step flashing = 0 ft
 Parapets = 0 ft



Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

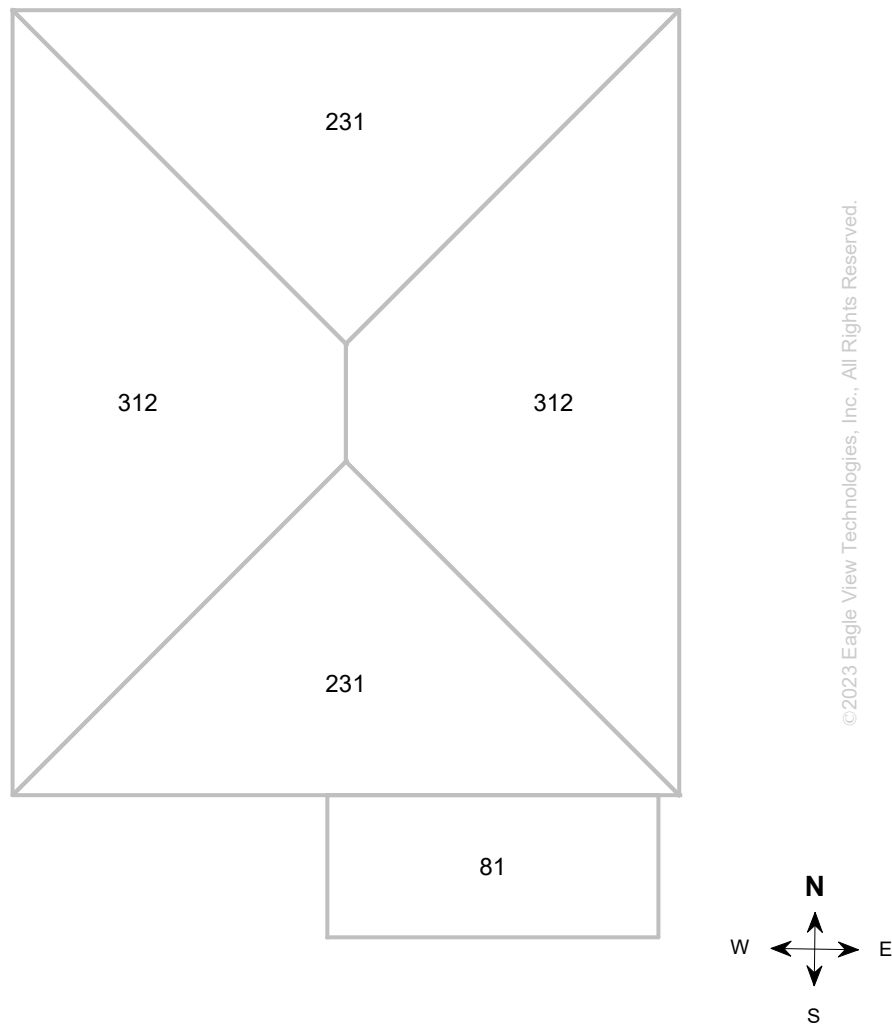
Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 8/12



Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater. Gray shading indicates flat, 1/12 or 2/12 pitches.

AREA DIAGRAM

Total Area = 1,167 sq ft, with 5 facets.

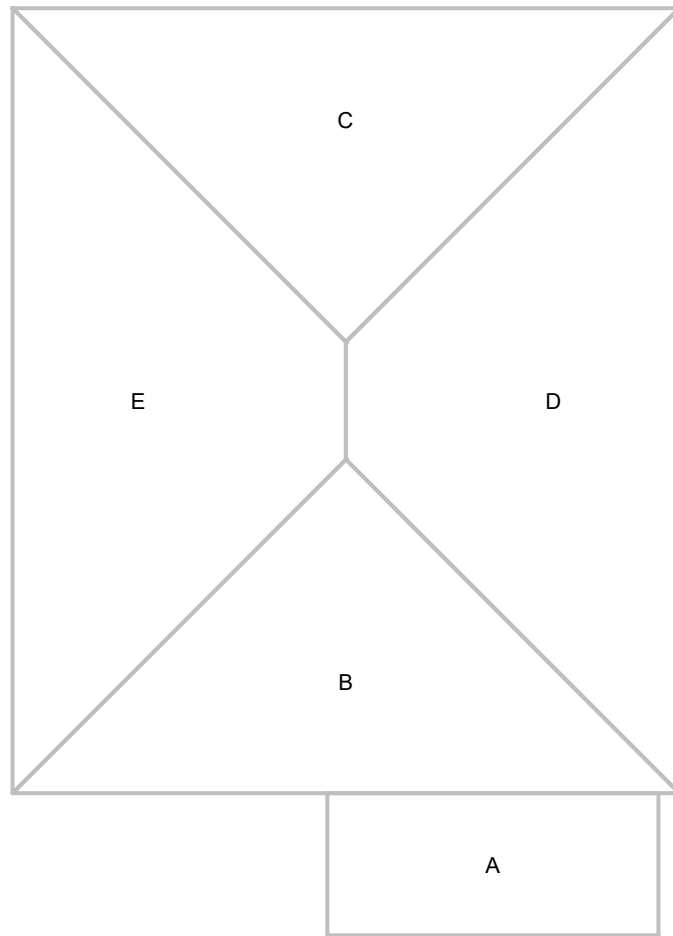


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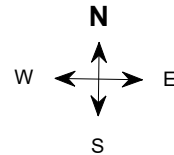
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

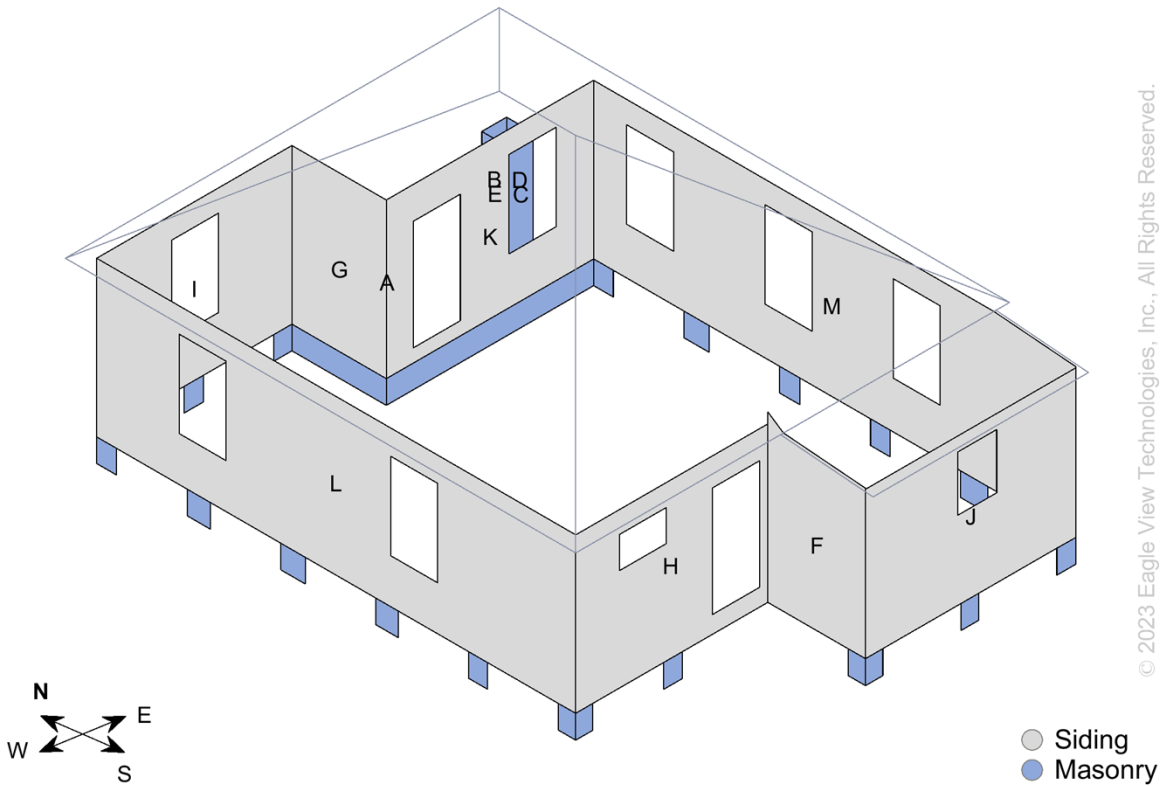
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



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North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	0.0	9.6
A	0.0	1.6
K	93.3	19.6
I	106.6	5.1
Total	199.9	35.9

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	0.0	10.3
M	253.4	12.3
G	59.6	8.9
Total	313.0	31.5

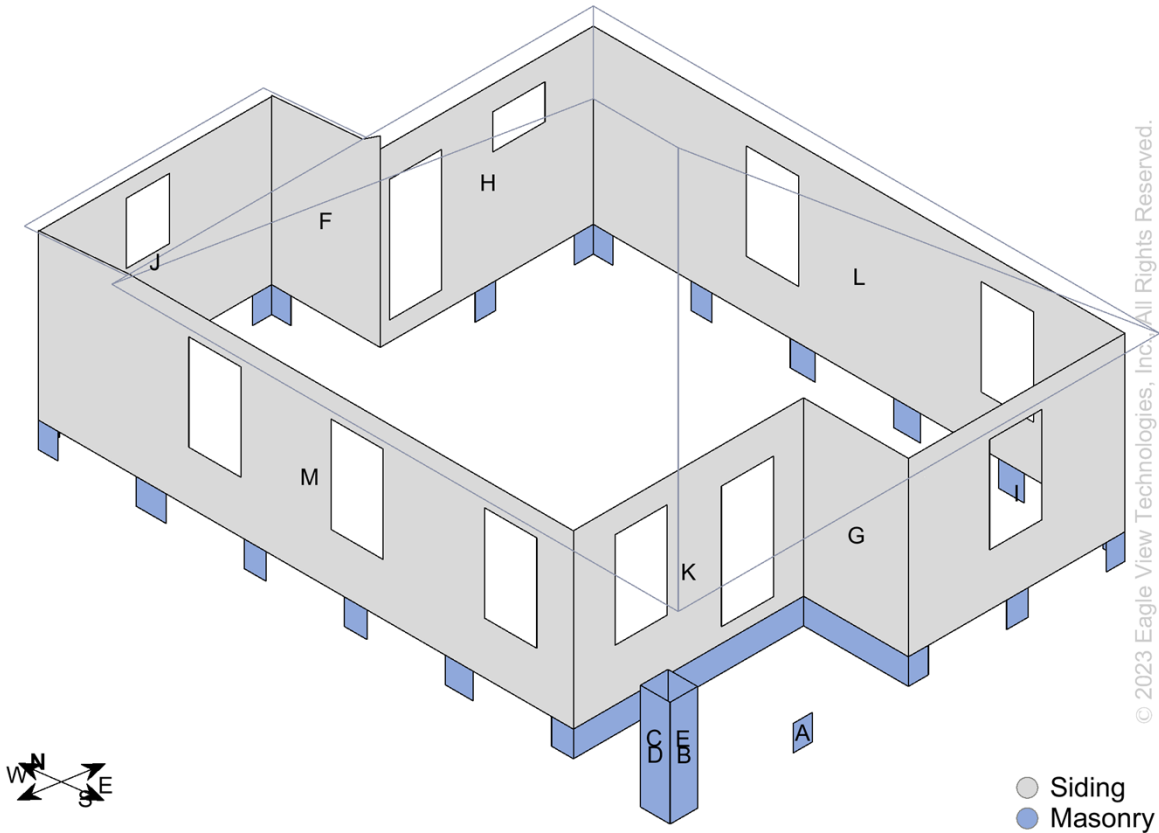
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	0.0	9.6
J	117.1	5.2
H	94.0	3.4
Total	211.1	18.2

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	0.0	10.3
F	60.7	1.7
L	269.1	12.0
Total	329.8	24.0

ALTERNATE WALL AREA



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	0.0	9.6
A	0.0	1.6
K	93.3	19.6
I	106.6	5.1
Total	199.9	35.9

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	0.0	10.3
M	253.4	12.3
G	59.6	8.9
Total	313.0	31.5

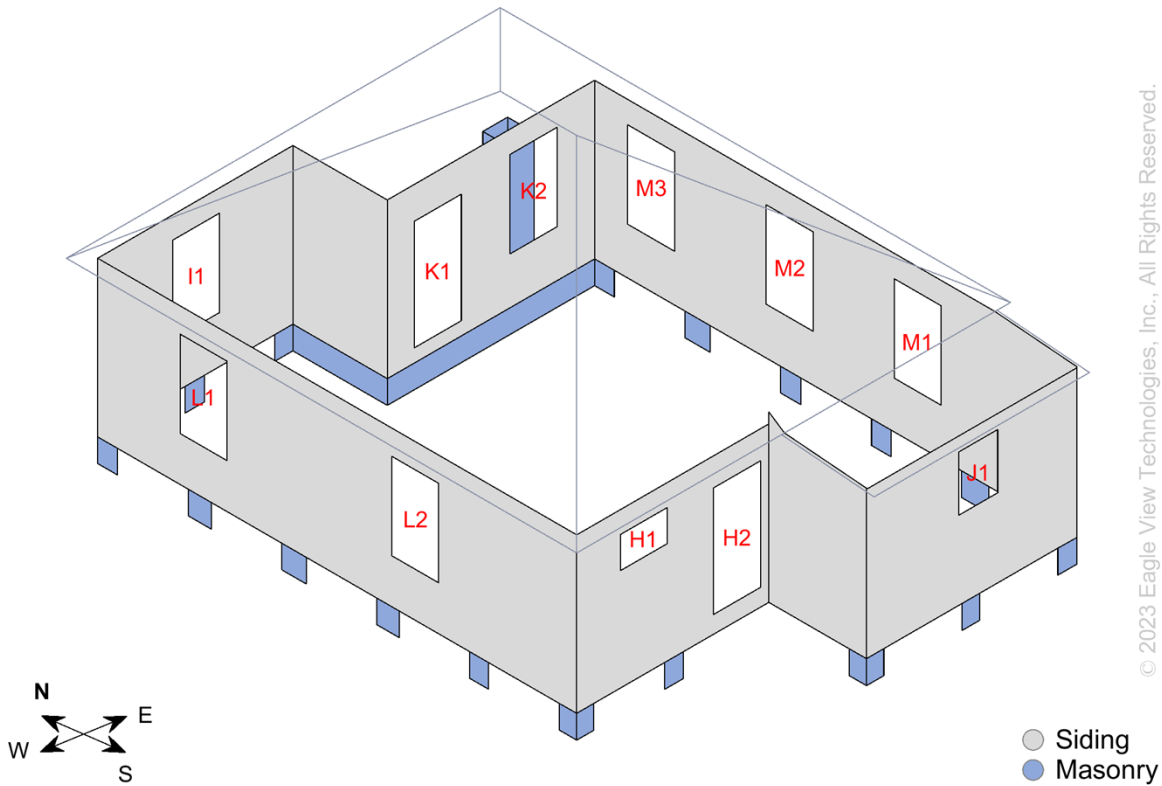
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	0.0	9.6
J	117.1	5.2
H	94.0	3.4
Total	211.1	18.2

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	0.0	10.3
F	60.7	1.7
L	269.1	12.0
Total	329.8	24.0

WINDOW AND DOOR DIAGRAM



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Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
I1	16.5	17.0	3.0 x 5.5
K1	21.0	20.0	3.0 x 7.0
K2	16.5	17.0	3.0 x 5.5
Total	54.0	54.0	n/a

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
M1	16.5	17.0	3.0 x 5.5
M2	16.5	17.0	3.0 x 5.5
M3	16.5	17.0	3.0 x 5.5
Total	49.5	51.0	n/a

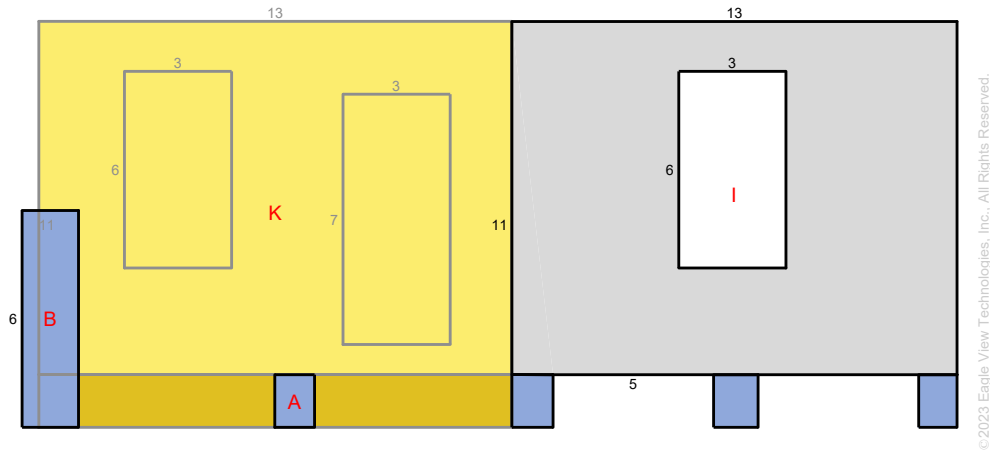
South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
H1	6.0	10.0	3.0 x 2.0
H2	21.0	20.0	3.0 x 7.0
J1	8.8	12.0	2.5 x 3.5
Total	35.8	42.0	n/a

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
L1	16.5	17.0	3.0 x 5.5
L2	16.5	17.0	3.0 x 5.5
Total	33.0	34.0	n/a

NORTH ELEVATION DIAGRAM



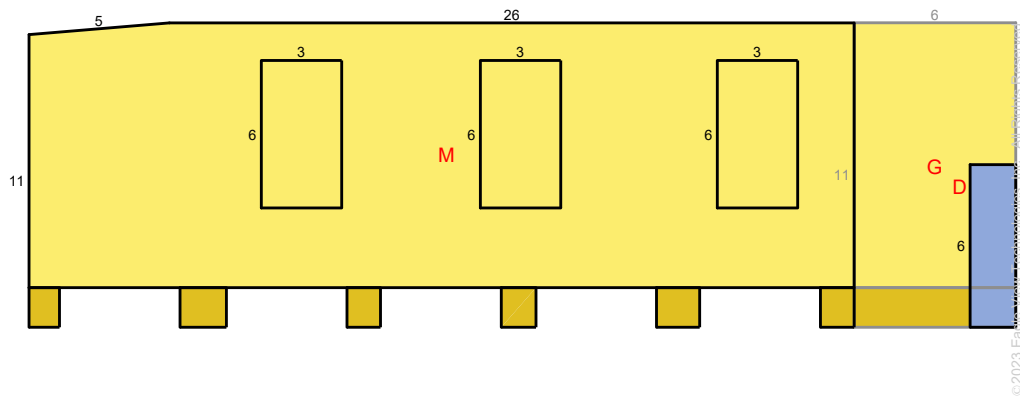
● Siding
 ● Masonry

Top of Siding Walls = 25.7 ft
 Bottom of Siding Walls = 25.7 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
B	0.0	9.6	0	0	0
A	0.0	1.6	0	0	0
K	93.3	19.6	37.5	37.0	2
I	106.6	5.1	16.5	17.0	1
Total	199.9	35.9	54.0	54.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



● Siding
● Masonry

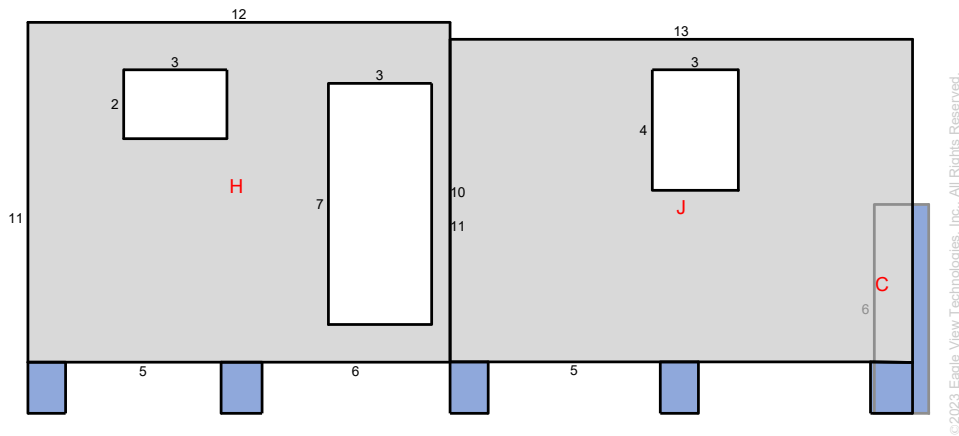
Top of Siding Walls = 37.1 ft

Bottom of Siding Walls = 36.8 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
D	0.0	10.3	0	0	0
M	253.4	12.3	49.5	51.0	3
G	59.6	8.9	0	0	0
Total	313.0	31.5	49.5	51.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM



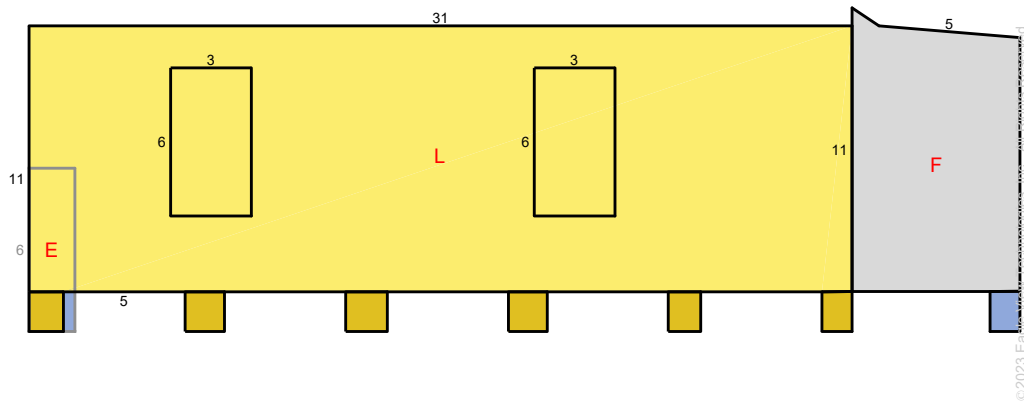
- Siding
- Masonry

Top of Siding Walls = 25.7 ft
 Bottom of Siding Walls = 26.8 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
C	0.0	9.6	0	0	0
J	117.1	5.2	8.8	12.0	1
H	94.0	3.4	27.0	30.0	2
Total	211.1	18.2	35.8	42.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



● Siding
 ● Masonry

Top of Siding Walls = 37.1 ft
 Bottom of Siding Walls = 36.7 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
E	0.0	10.3	0	0	0
F	60.7	1.7	0	0	0
L	269.1	12.0	33.0	34.0	2
Total	329.8	24.0	33.0	34.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch		
Roof Pitches	1/12	8/12
Area (sq ft)	81.5	1085.2
% of Roof	7%	93%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

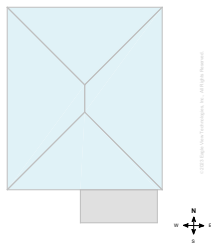
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	5%	10%	15%	18%	20%	22%	25%	30%
Area (Sq ft)	1086	1141	1195	1249	1282	1304	1325	1358	1412
Squares *	11.00	11.66	12.00	12.66	13.00	13.33	13.33	13.66	14.33
	Measured					Suggested			

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 5

Lengths, Areas and Pitches

Ridges = 5 ft (1 Ridges)
 Hips = 87 ft (4 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 12 ft (2 Rakes)
 Eaves/Starter‡ = 121 ft (6 Eaves)
 Drip Edge (Eaves + Rakes) = 133 ft (8 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 0 ft (0 Lengths)
 Predominant Pitch = 8/12
Total Area (All Pitches) = 1,167 sq ft

Property Location

Longitude = -95.3825343
 Latitude = 29.7556584

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1505 Andrews St, Houston, TX 77019

Report: 55102995

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1505+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1505+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	1,054	1,159	1,170	1,180	1,191	1,201	1,212	1,265
Squares	10.5	11.6	11.7	11.8	11.9	12	12.1	12.6

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	110	121	122	123	124	125	126	132
Squares	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 1163.4 ft²

Siding = 1053.8 ft²

Masonry = 109.6 ft²

General Totals

Wall Facets = 13

Windows & Doors = 11

Window and Door Area = 172.3 ft²

Window & Door Perimeter = 181.0 ft

Fascia (Eaves + Rakes) = 133 ft

Top of Siding Walls = 125.6 ft

Bottom of Siding Walls = 126.0 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	21.0 ft	1.5 ft	0.0 ft	22.5 ft
Outside Corners	60.8 ft	33.4 ft	0.0 ft	94.2 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3825343

Latitude = 29.7556584

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1505 Andrews St, Houston, TX 77019

Report: 55102995

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



1506 Andrews St, Houston, TX 77019

Prepared for you by

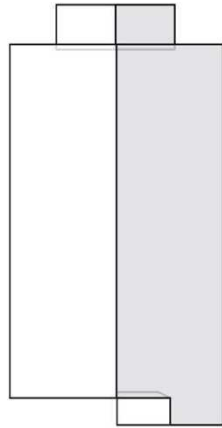
d7 ROOFING®
& METAL LLC

8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com

1506 Andrews St, Houston, TX 77019

Report: 55102997



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 1,908 sq ft
 Total Roof Facets = 5
 Predominant Pitch = 9/12
 Number of Stories <= 1
 Total Ridges/Hips = 58 ft
 Total Valleys = 0 ft
 Total Rakes = 101 ft
 Total Eaves = 116 ft
 Total Wall Area = 2697.5 sq ft
 Total Wall Facets = 8
 Total Siding Area = 2697.5 sq ft
 Total Masonry Area = 0.0 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

Total Line Lengths:

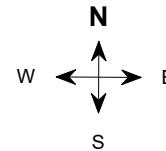
Ridges = 58 ft
Hips = 0 ft

Valleys = 0 ft
 Rakes = 101 ft
 Eaves = 116 ft

Flashing = 0 ft
 Step flashing = 30 ft
 Parapets = 0 ft



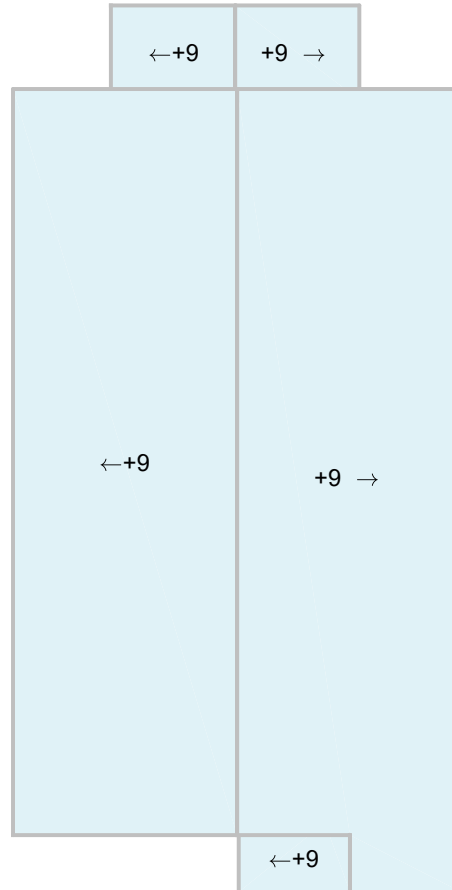
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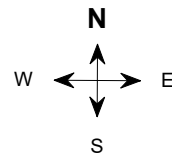
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 9/12



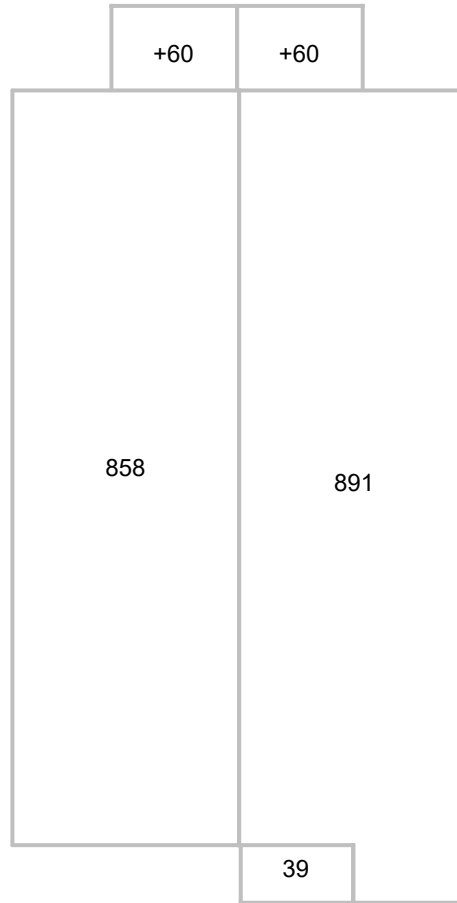
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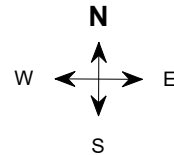
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 1,908 sq ft, with 5 facets.



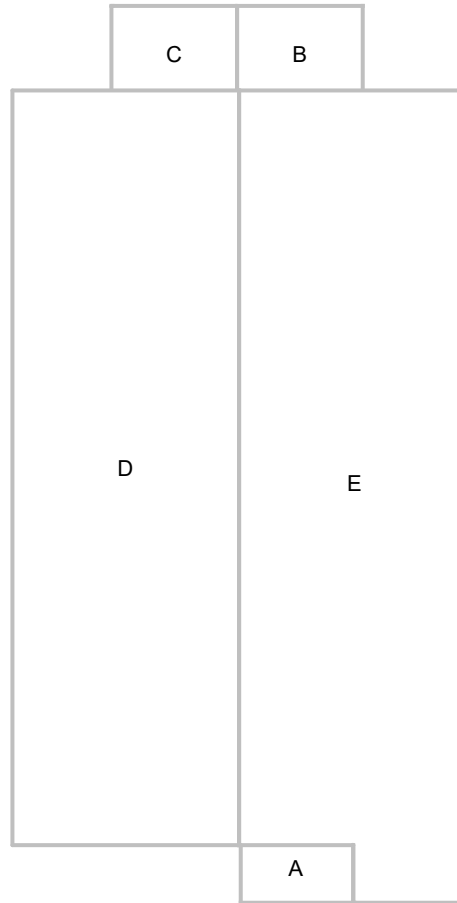
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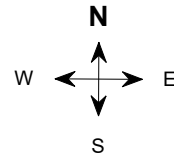
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

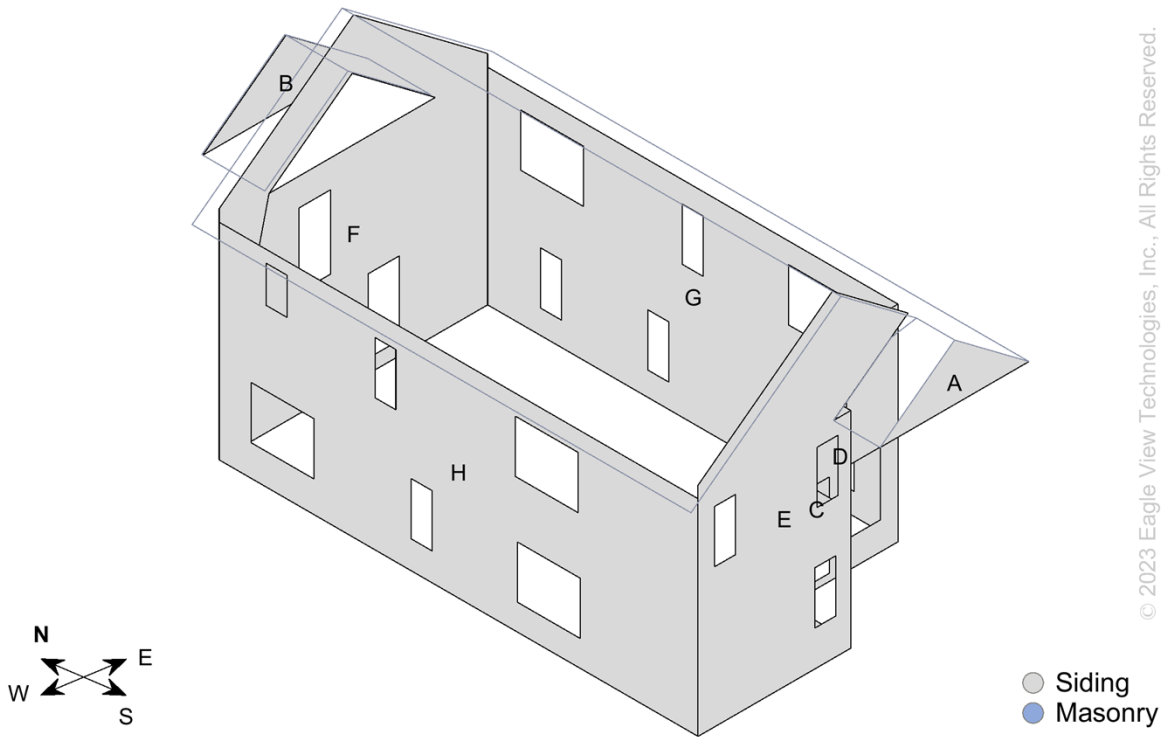
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	570.3	0.0
B	47.6	0.0
Total	617.9	0.0

South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	158.8	0.0
A	38.1	0.0
E	374.2	0.0
Total	571.1	0.0

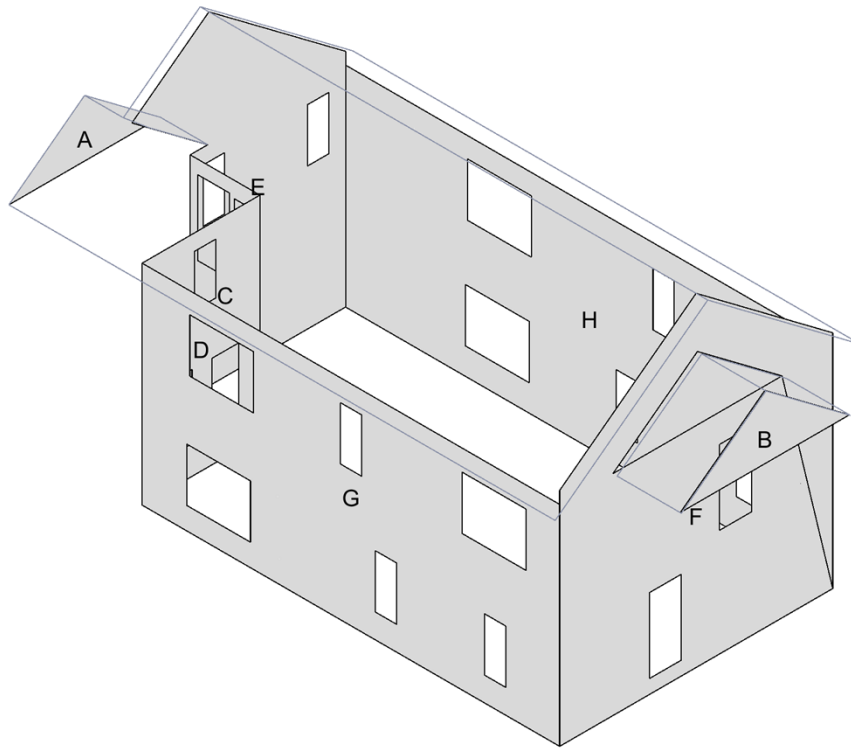
East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	66.8	0.0
G	654.7	0.0
Total	721.5	0.0

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	787.0	0.0
Total	787.0	0.0

ALTERNATE WALL AREA



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- Siding
- Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	570.3	0.0
B	47.6	0.0
Total	617.9	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	66.8	0.0
G	654.7	0.0
Total	721.5	0.0

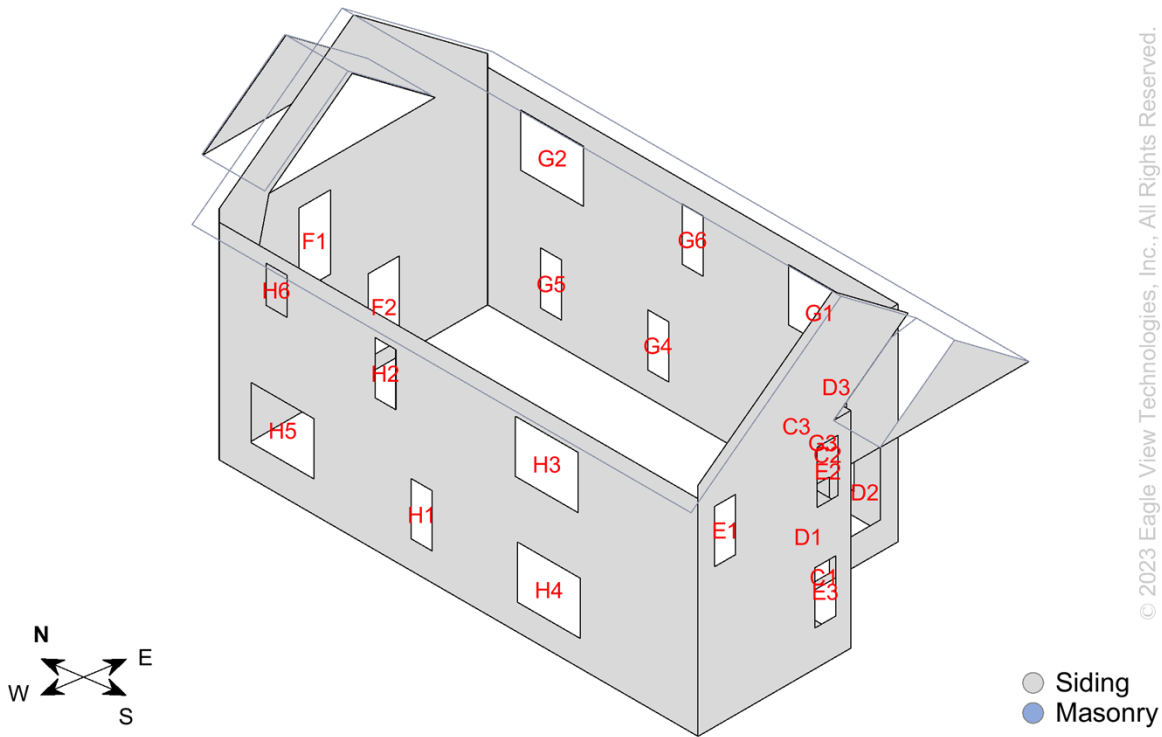
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	158.8	0.0
A	38.1	0.0
E	374.2	0.0
Total	571.1	0.0

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	787.0	0.0
Total	787.0	0.0

WINDOW AND DOOR DIAGRAM



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Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
F1	21.0	20.0	3.0 x 7.0
F2	21.0	20.0	3.0 x 7.0
Total	42.0	40.0	n/a

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
C1	32.0	24.0	4.0 x 8.0
C2	21.0	20.0	3.0 x 7.0
C3	9.6	13.6	2.0 x 4.8
G1	30.0	22.0	6.0 x 5.0
G2	30.0	22.0	6.0 x 5.0
G3	30.0	22.0	6.0 x 5.0
G4	10.0	14.0	2.0 x 5.0
G5	10.0	14.0	2.0 x 5.0
G6	10.0	14.0	2.0 x 5.0
Total	182.6	165.6	n/a

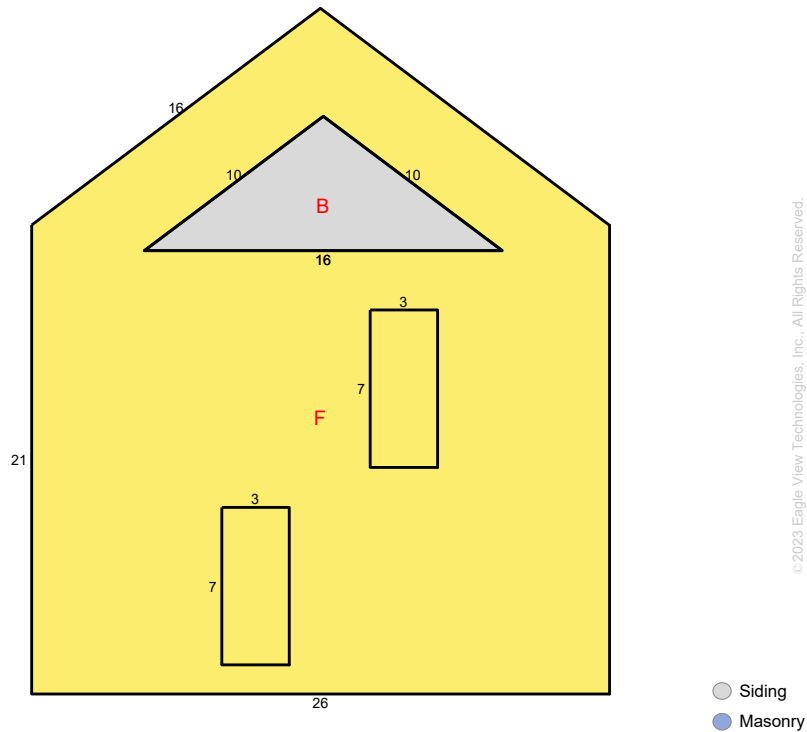
South

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
D1	32.0	24.0	4.0 x 8.0
D2	18.1	18.0	3.0 x 6.0
D3	9.6	13.6	2.0 x 4.8
E1	10.0	14.0	2.0 x 5.0
E2	10.0	14.0	2.0 x 5.0
E3	10.0	14.0	2.0 x 5.0
Total	89.7	97.6	n/a

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
H1	10.0	14.0	2.0 x 5.0
H2	10.0	14.0	2.0 x 5.0
H3	30.0	22.0	6.0 x 5.0
H4	30.0	22.0	6.0 x 5.0
H5	30.0	22.0	6.0 x 5.0
H6	7.0	11.0	2.0 x 3.5
Total	117.0	105.0	n/a

NORTH ELEVATION DIAGRAM

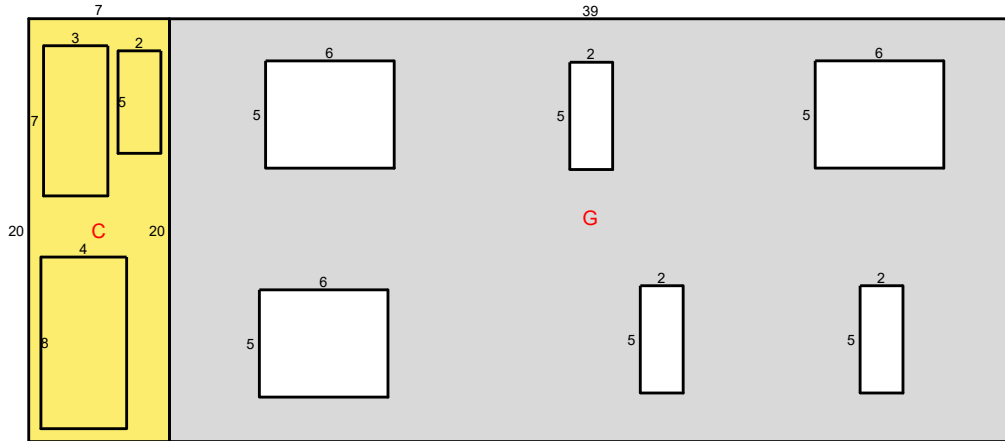


Top of Siding Walls = 68.1 ft
 Bottom of Siding Walls = 61.6 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
F	570.3	0.0	42.0	40.0	2
B	47.6	0.0	0	0	0
Total	617.9	0.0	42.0	40.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



● Siding
● Masonry

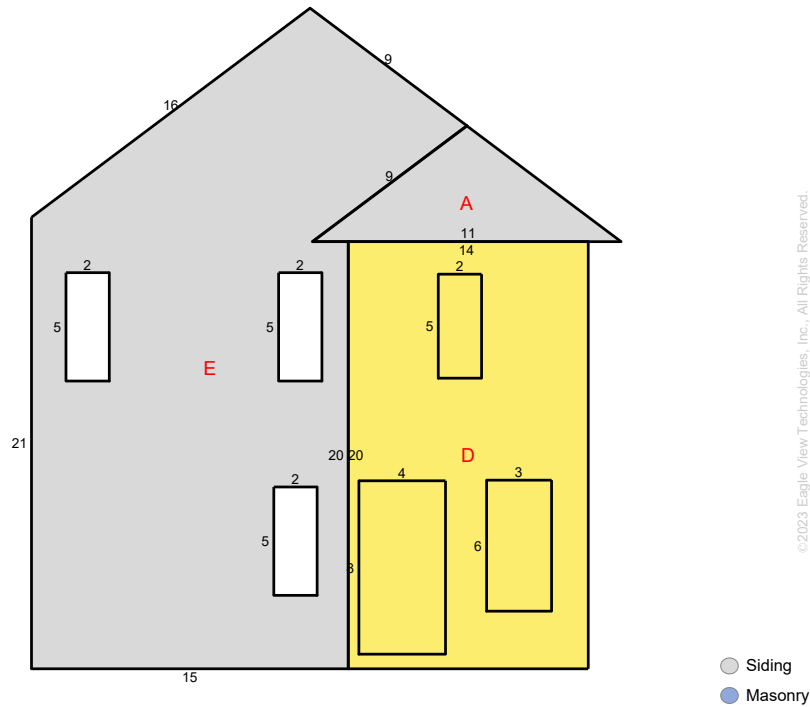
Top of Siding Walls = 45.9 ft

Bottom of Siding Walls = 45.9 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
C	66.8	0.0	62.6	57.6	3
G	654.7	0.0	120.0	108.0	6
Total	721.5	0.0	182.6	165.6	9

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM

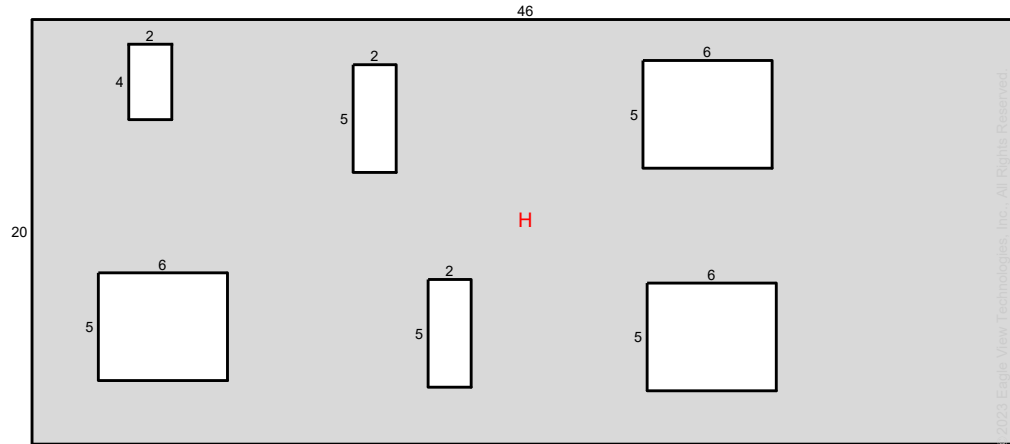


Top of Siding Walls = 55.7 ft
 Bottom of Siding Walls = 48.9 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
D	158.8	0.0	59.7	55.6	3
A	38.1	0.0	0	0	0
E	374.2	0.0	30.0	42.0	3
Total	571.1	0.0	89.7	97.6	6

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



- Siding
- Masonry

Top of Siding Walls = 45.9 ft
Bottom of Siding Walls = 45.9 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
H	787.0	0.0	117.0	105.0	6
Total	787.0	0.0	117.0	105.0	6

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch	
Roof Pitches	9/12
Area (sq ft)	1907.9
% of Roof	100%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

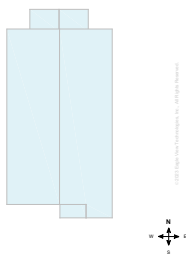
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	2%	5%	7%	9%	12%	17%	22%	27%
Area (Sq ft)	1908	1947	2004	2042	2080	2137	2233	2328	2424
Squares *	19.33	19.66	20.33	20.66	21.00	21.66	22.33	23.33	24.33
	Measured			Suggested					

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 5

Lengths, Areas and Pitches

Ridges = 58 ft (3 Ridges)
 Hips = 0 ft (0 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 101 ft (8 Rakes)
 Eaves/Starter‡ = 116 ft (5 Eaves)
 Drip Edge (Eaves + Rakes) = 217 ft (13 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 30 ft (4 Lengths)
 Predominant Pitch = 9/12
Total Area (All Pitches) = 1,908 sq ft

Property Location

Longitude = -95.3825187
 Latitude = 29.7558891

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1506 Andrews St, Houston, TX 77019

Report: 55102997

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1506+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1506+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	2,698	2,967	2,994	3,021	3,048	3,075	3,102	3,237
Squares	27	29.7	29.9	30.2	30.5	30.8	31	32.4

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	0	0	0	0	0	0	0	0
Squares	0	0	0	0	0	0	0	0

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 2697.5 ft²

Siding = 2697.5 ft²

Masonry = 0.0 ft²

General Totals

Wall Facets = 8

Windows & Doors = 23

Window and Door Area = 431.3 ft²

Window & Door Perimeter = 408.2 ft

Fascia (Eaves + Rakes) = 217 ft

Top of Siding Walls = 215.6 ft

Bottom of Siding Walls = 202.3 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	19.7 ft	0.0 ft	0.0 ft	19.7 ft
Outside Corners	102.9 ft	0.0 ft	0.0 ft	102.9 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3825187
Latitude = 29.7558891

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1506 Andrews St, Houston, TX 77019

Report: 55102997

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Precise Aerial Measurement Report



1507 Andrews St, Houston, TX 77019

Prepared for you by

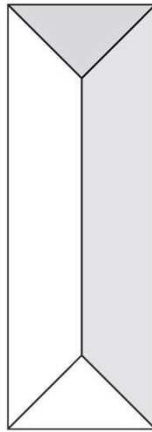


8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com

1507 Andrews St, Houston, TX 77019

Report: 55103000



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact:	Michael A Delgado
Company:	D7 Roofing & Metal LLC
Address:	8701 W Hardy Rd Houston, TX 77022
Phone:	713-325-0700

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MEASUREMENTS

Total Roof Area = 912 sq ft
 Total Roof Facets = 4
 Predominant Pitch = 6/12
 Number of Stories <= 1
 Total Ridges/Hips = 83 ft
 Total Valleys = 0 ft
 Total Rakes = 0 ft
 Total Eaves = 131 ft
 Total Wall Area = 993.8 sq ft
 Total Wall Facets = 5
 Total Siding Area = 993.8 sq ft
 Total Masonry Area = 0.0 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

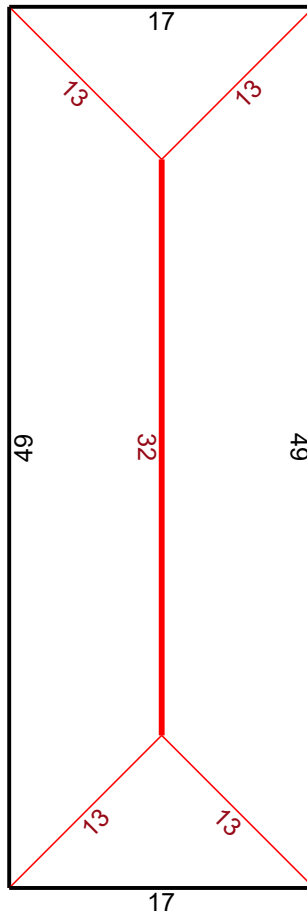
LENGTH DIAGRAM

Total Line Lengths:

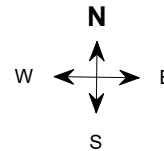
Ridges = 32 ft
Hips = 51 ft

Valleys = 0 ft
 Rakes = 0 ft
 Eaves = 131 ft

Flashing = 0 ft
 Step flashing = 0 ft
 Parapets = 0 ft



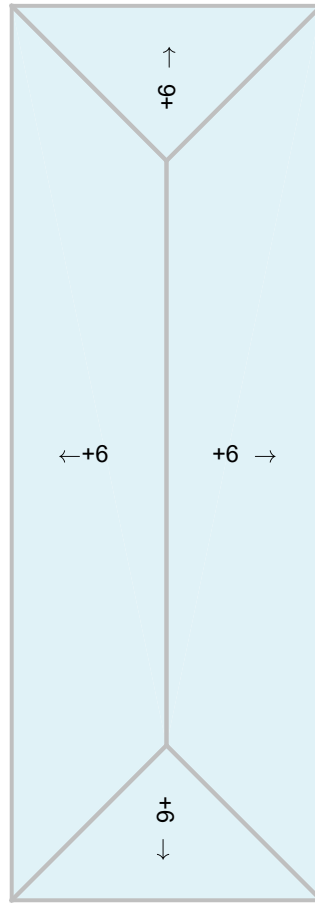
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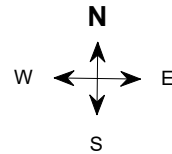
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 6/12



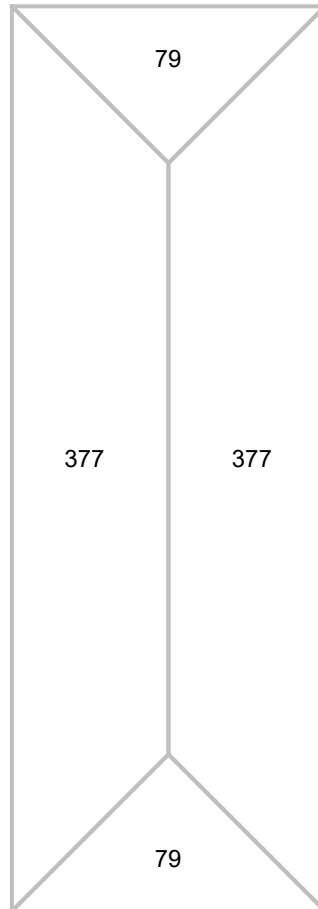
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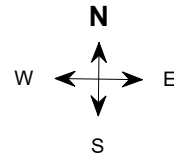
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 912 sq ft, with 4 facets.



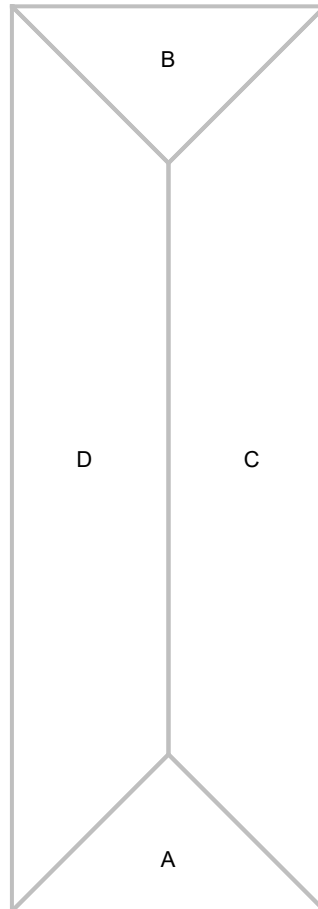
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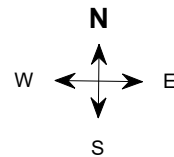
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

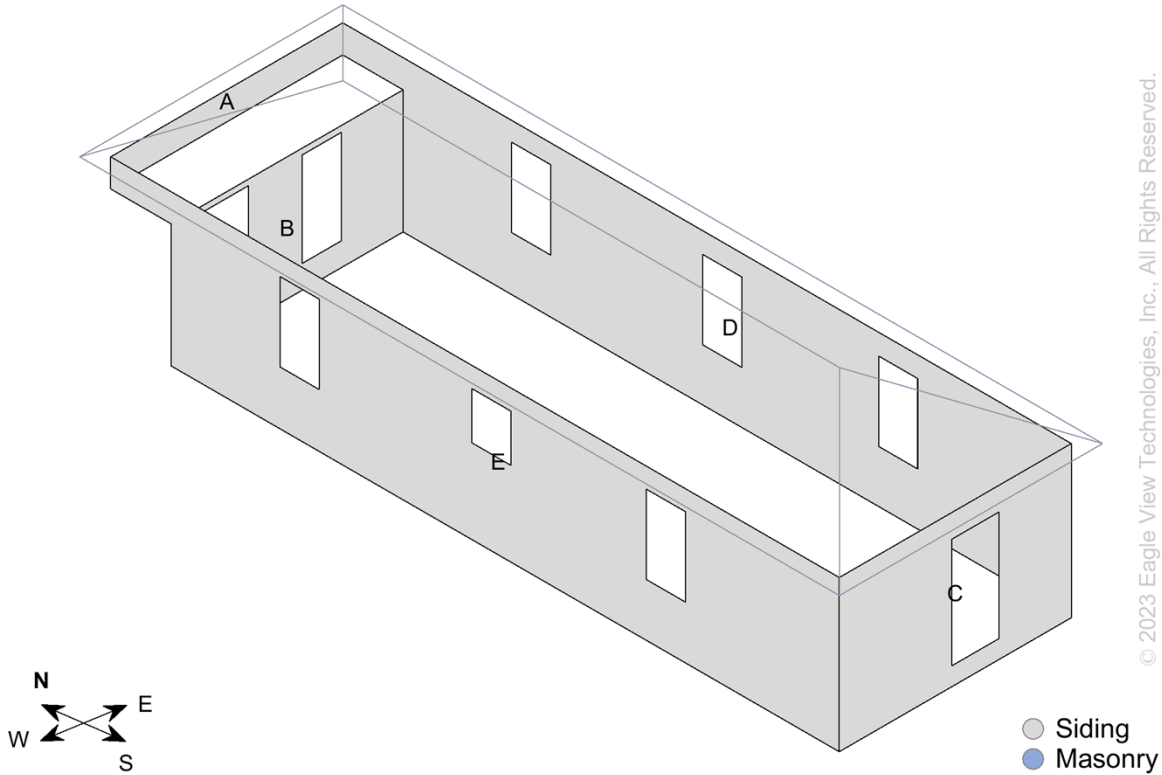
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



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North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	26.3	0.0
B	80.4	0.0
Total	106.7	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	380.2	0.0
Total	380.2	0.0

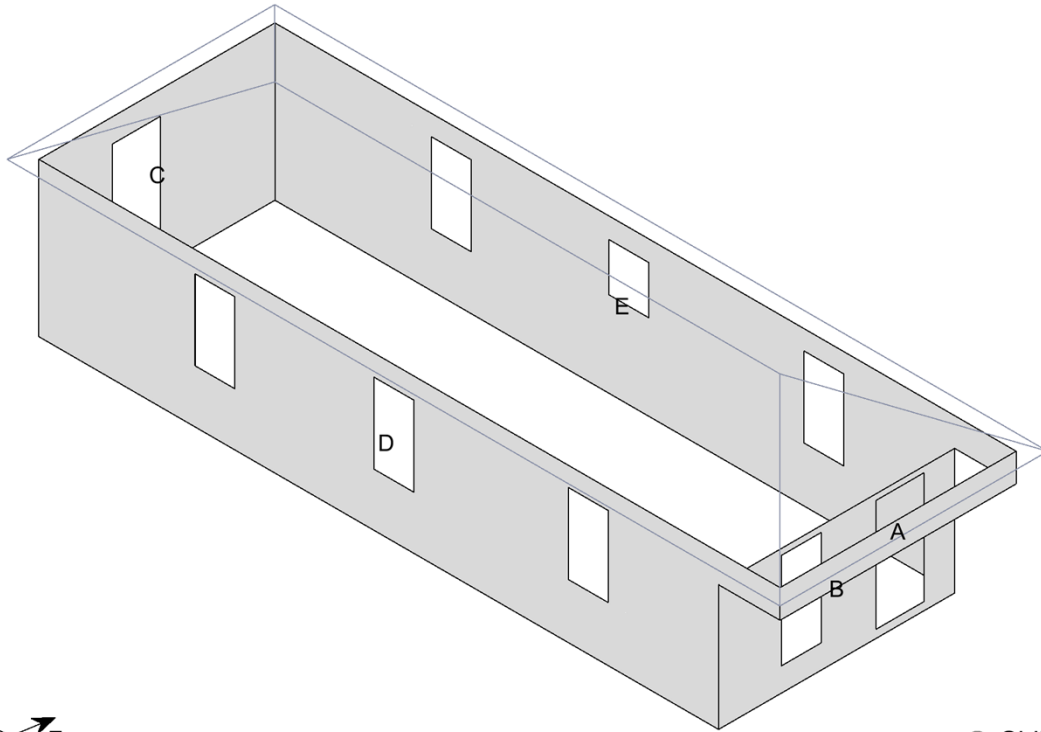
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	121.7	0.0
Total	121.7	0.0

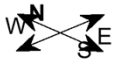
West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	385.2	0.0
Total	385.2	0.0

ALTERNATE WALL AREA



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- Siding
- Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	26.3	0.0
B	80.4	0.0
Total	106.7	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	380.2	0.0
Total	380.2	0.0

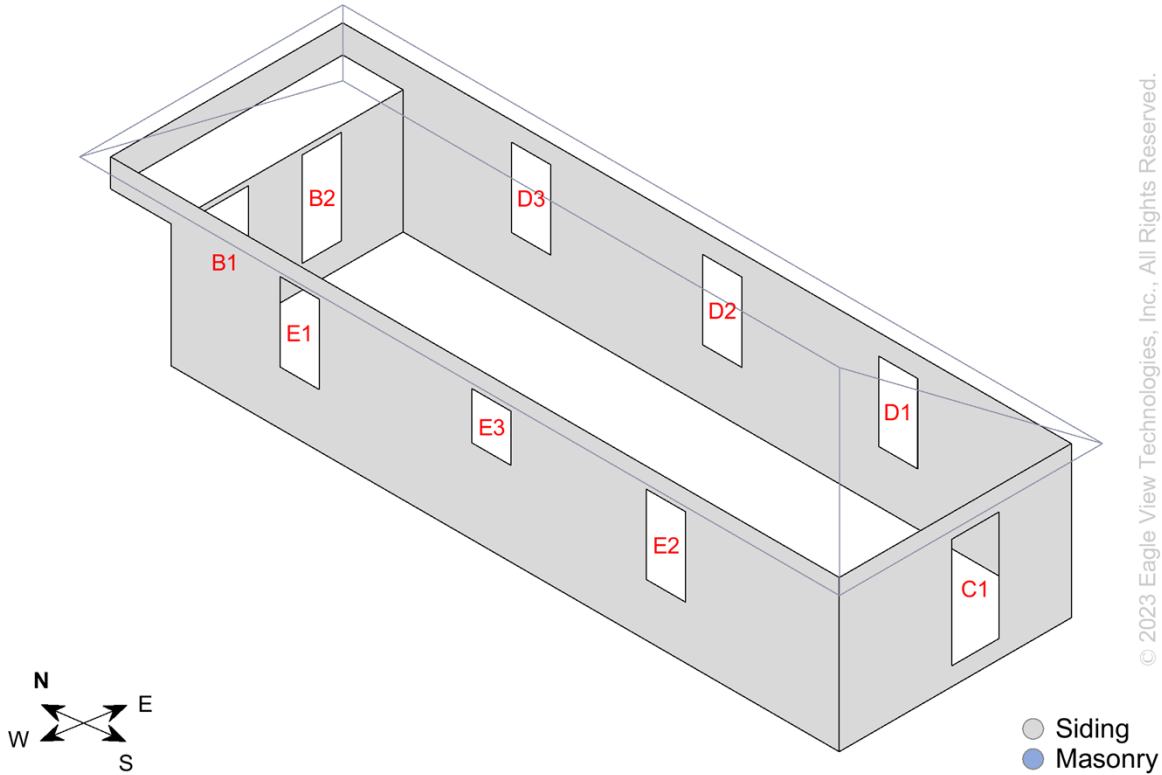
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	121.7	0.0
Total	121.7	0.0

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	385.2	0.0
Total	385.2	0.0

WINDOW AND DOOR DIAGRAM



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Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
B1	21.0	20.0	3.0 x 7.0
B2	15.0	17.0	2.5 x 6.0
Total	36.0	37.0	n/a

South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
C1	21.0	20.0	3.0 x 7.0
Total	21.0	20.0	n/a

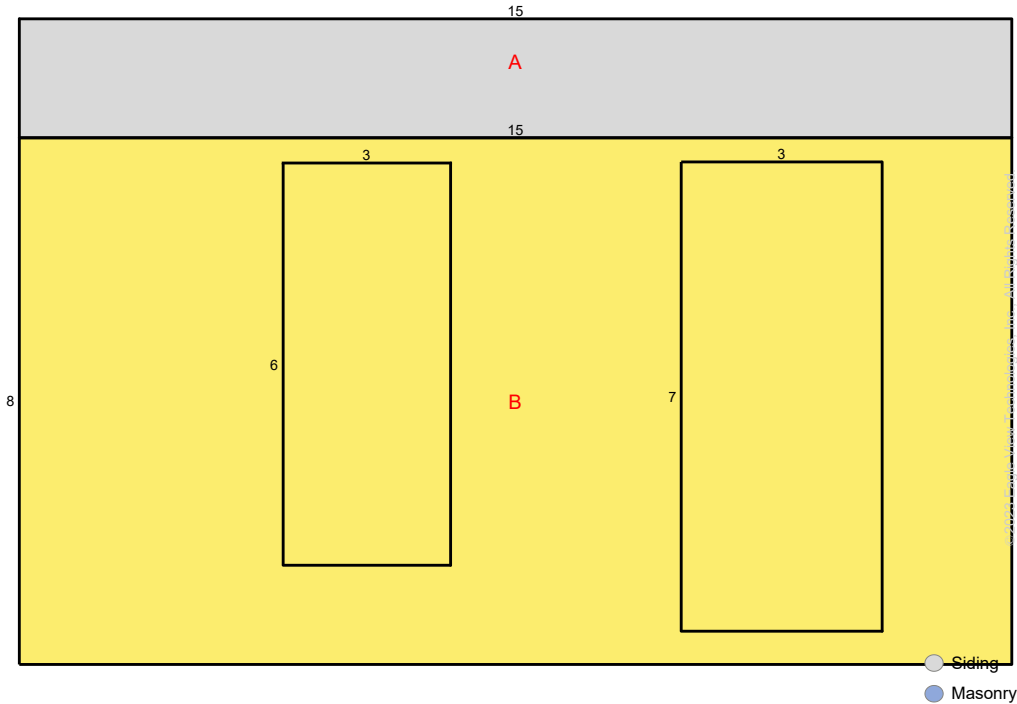
East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
D1	12.5	15.0	2.5 x 5.0
D2	12.5	15.0	2.5 x 5.0
D3	12.5	15.0	2.5 x 5.0
Total	37.5	45.0	n/a

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
E1	12.5	15.0	2.5 x 5.0
E2	12.5	15.0	2.5 x 5.0
E3	7.5	11.0	2.5 x 3.0
Total	32.5	41.0	n/a

NORTH ELEVATION DIAGRAM

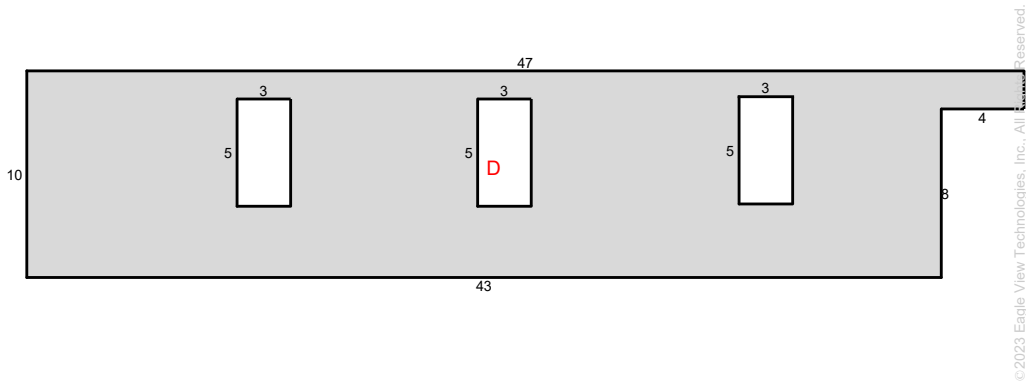


Top of Siding Walls = 29.6 ft
 Bottom of Siding Walls = 29.6 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
A	26.3	0.0	0	0	0
B	80.4	0.0	36.0	37.0	2
Total	106.7	0.0	36.0	37.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



- Siding
- Masonry

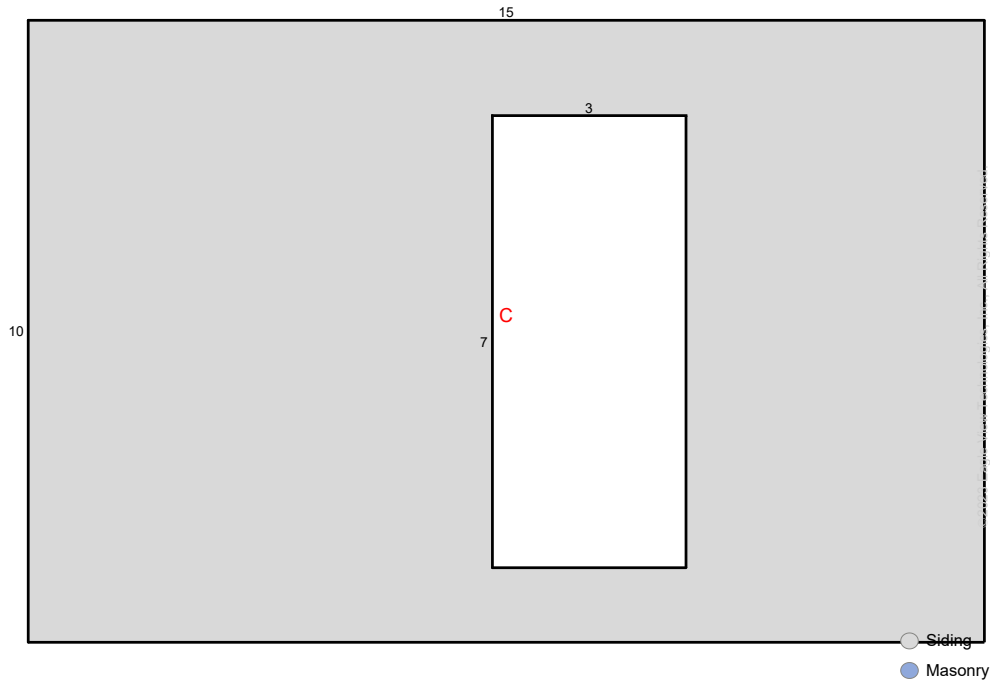
Top of Siding Walls = 46.5 ft

Bottom of Siding Walls = 46.6 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
D	380.2	0.0	37.5	45.0	3
Total	380.2	0.0	37.5	45.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM

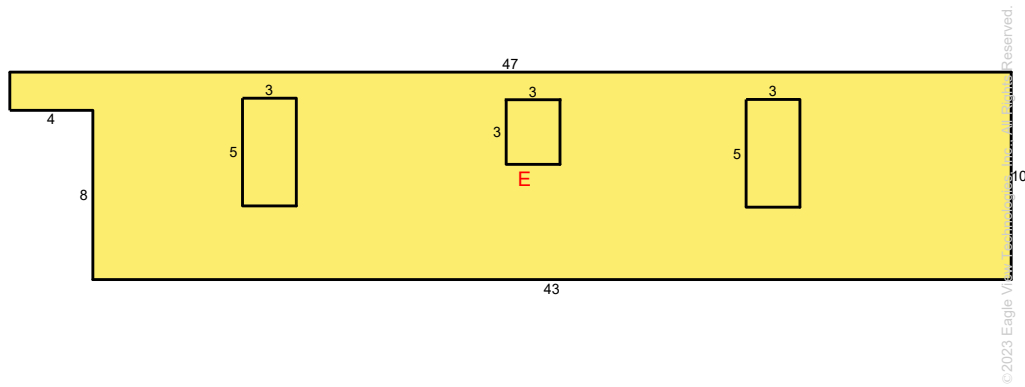


Top of Siding Walls = 14.8 ft
 Bottom of Siding Walls = 14.8 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
C	121.7	0.0	21.0	20.0	1
Total	121.7	0.0	21.0	20.0	1

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



- Siding
- Masonry

Top of Siding Walls = 46.5 ft

Bottom of Siding Walls = 46.6 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
E	385.2	0.0	32.5	41.0	3
Total	385.2	0.0	32.5	41.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch	
Roof Pitches	6/12
Area (sq ft)	911.8
% of Roof	100%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

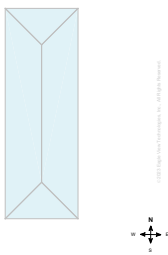
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	6%	11%	16%	19%	21%	23%	26%	31%
Area (Sq ft)	912	967	1013	1058	1086	1104	1122	1150	1195
Squares *	9.33	10.00	10.33	10.66	11.00	11.33	11.33	11.66	12.00
	Measured					Suggested			

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 4

Lengths, Areas and Pitches

Ridges = 32 ft (1 Ridges)
 Hips = 51 ft (4 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 0 ft (0 Rakes)
 Eaves/Starter‡ = 131 ft (4 Eaves)
 Drip Edge (Eaves + Rakes) = 131 ft (4 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 0 ft (0 Lengths)
 Predominant Pitch = 6/12
Total Area (All Pitches) = 912 sq ft

Property Location

Longitude = -95.3826246
 Latitude = 29.7556542

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1507 Andrews St, Houston, TX 77019

Report: 55103000

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1507+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1507+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	994	1,093	1,103	1,113	1,123	1,133	1,143	1,193
Squares	9.9	10.9	11	11.1	11.2	11.3	11.4	11.9

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	0	0	0	0	0	0	0	0
Squares	0	0	0	0	0	0	0	0

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 993.8 ft²

Siding = 993.8 ft²

Masonry = 0.0 ft²

General Totals

Wall Facets = 5

Windows & Doors = 9

Window and Door Area = 127.0 ft²

Window & Door Perimeter = 143.0 ft

Fascia (Eaves + Rakes) = 131 ft

Top of Siding Walls = 137.4 ft

Bottom of Siding Walls = 137.6 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners	40.6 ft	0.0 ft	0.0 ft	40.6 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3826246

Latitude = 29.7556542

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1507 Andrews St, Houston, TX 77019

Report: 55103000

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



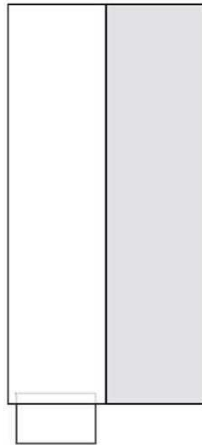
1509 Andrews St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 1,322 sq ft
 Total Roof Facets = 3
 Predominant Pitch = 7/12
 Number of Stories > 1
 Total Ridges/Hips = 48 ft
 Total Valleys = 0 ft
 Total Rakes = 66 ft
 Total Eaves = 104 ft
 Total Wall Area = 2149.0 sq ft
 Total Wall Facets = 16
 Total Siding Area = 2123.0 sq ft
 Total Masonry Area = 26.0 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

Total Line Lengths:

Ridges = 48 ft
Hips = 0 ft

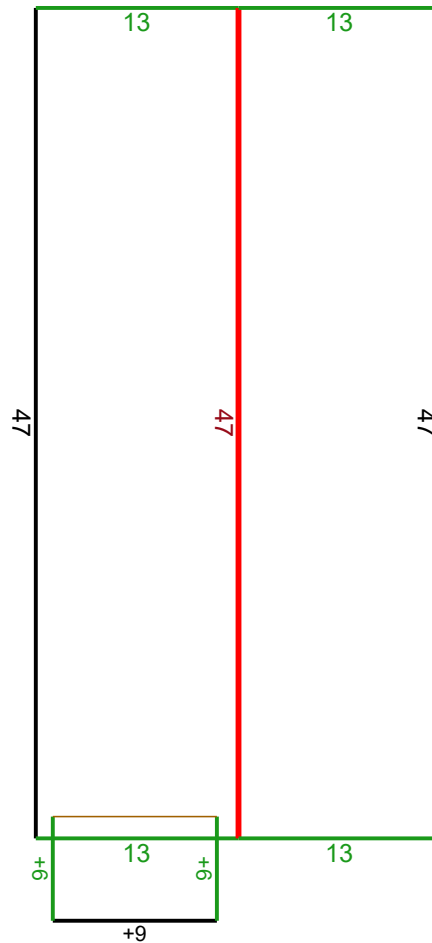
Valleys = 0 ft

Rakes = 66 ft

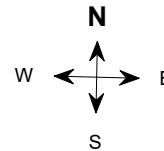
Eaves = 104 ft

Flashing = 10 ft

Step flashing = 0 ft

Parapets = 0 ft


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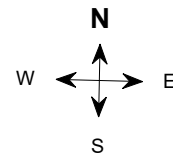
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 7/12



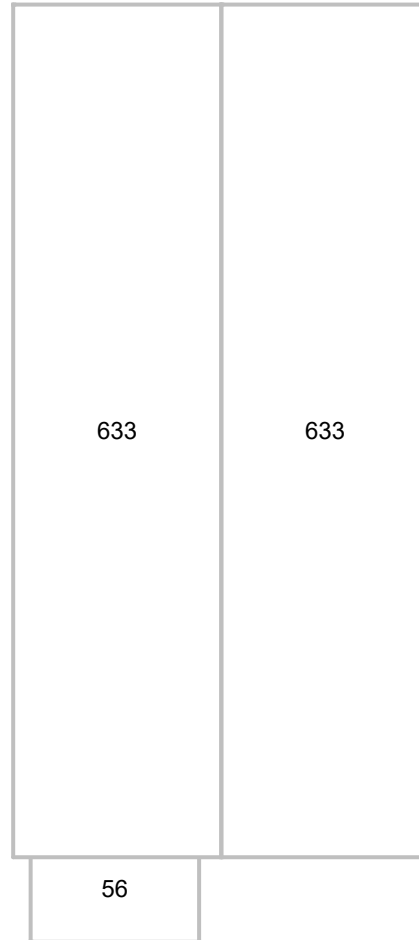
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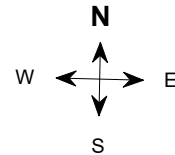
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater. Gray shading indicates flat, 1/12 or 2/12 pitches.

AREA DIAGRAM

Total Area = 1,322 sq ft, with 3 facets.



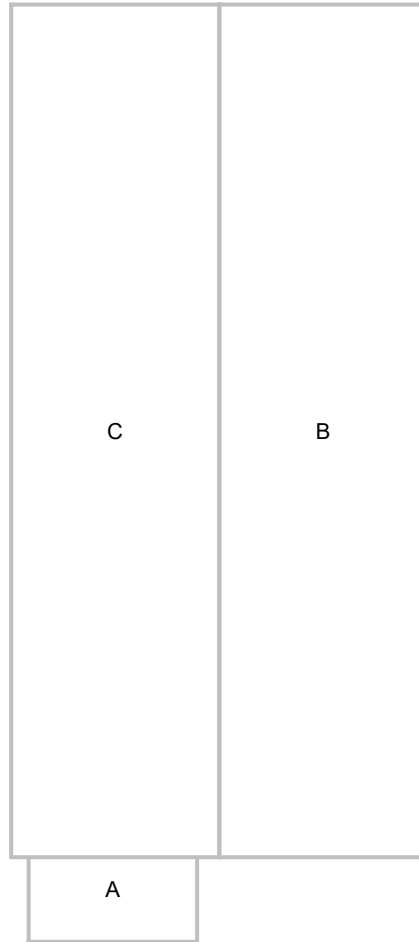
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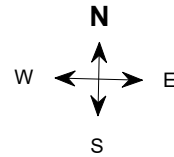
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

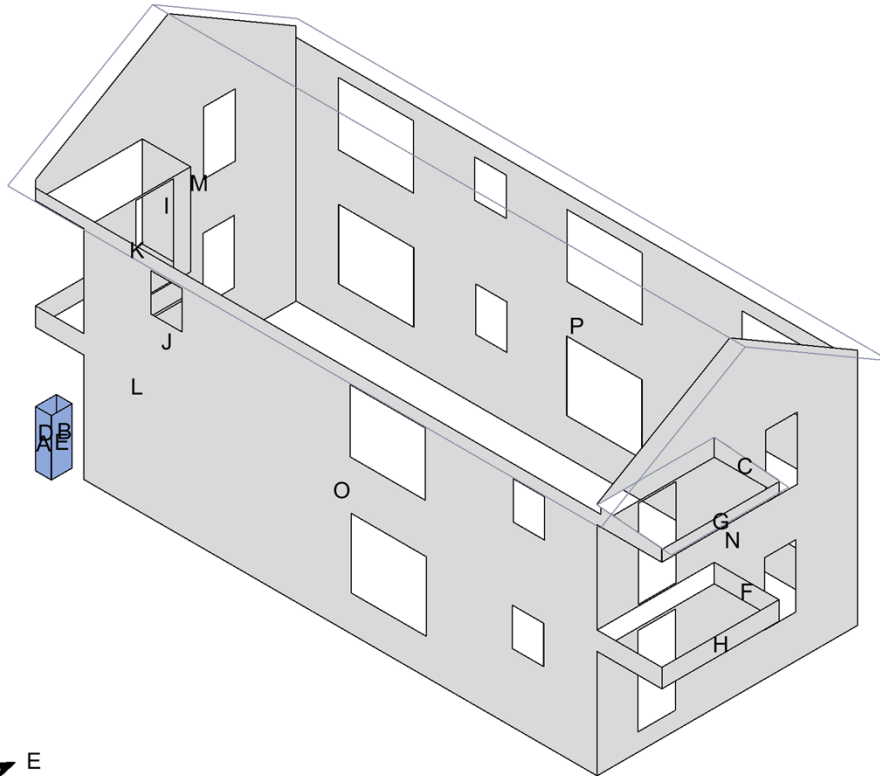
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



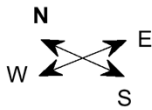
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WALL AREA DIAGRAM



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● Siding
● Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
K	41.0	0.0
L	31.3	0.0
D	0.0	7.4
M	295.9	0.0
Total	368.2	7.4

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	7.7	0.0
C	6.1	0.0
B	0.0	5.6
P	611.7	0.0
Total	625.5	5.6

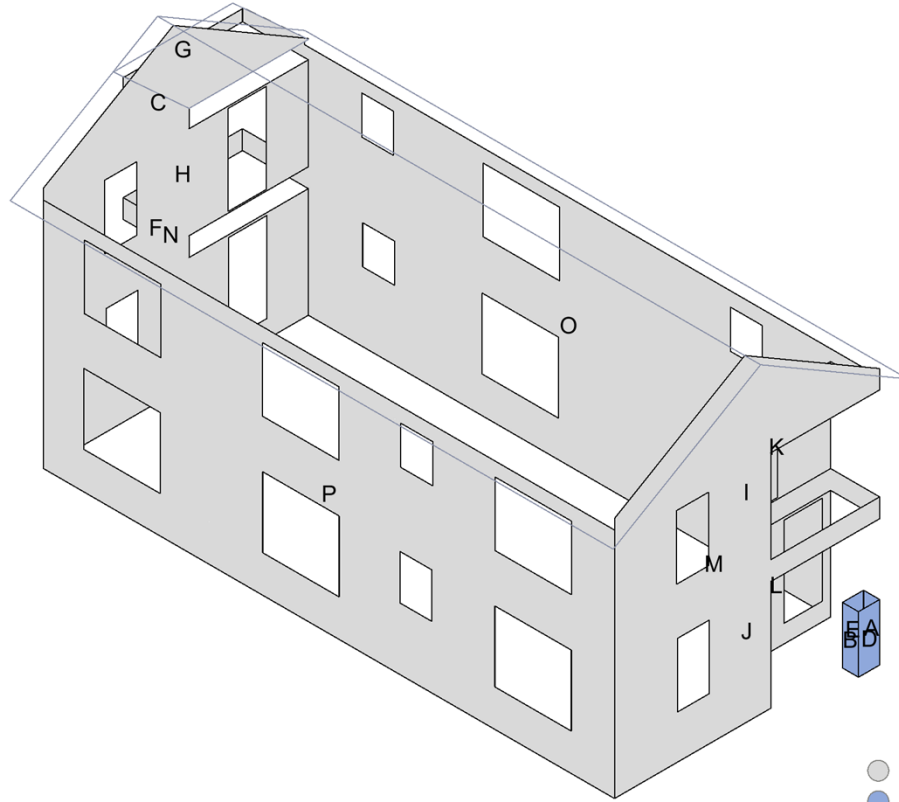
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	13.9	0.0
G	8.3	0.0
E	0.0	7.4
N	362.4	0.0
Total	384.6	7.4

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	33.1	0.0
I	27.9	0.0
A	0.0	5.6
O	683.7	0.0
Total	744.7	5.6

ALTERNATE WALL AREA



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North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
K	41.0	0.0
L	31.3	0.0
D	0.0	7.4
M	295.9	0.0
Total	368.2	7.4

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	7.7	0.0
C	6.1	0.0
B	0.0	5.6
P	611.7	0.0
Total	625.5	5.6

South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	13.9	0.0
G	8.3	0.0
E	0.0	7.4
N	362.4	0.0

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	33.1	0.0
I	27.9	0.0
A	0.0	5.6
O	683.7	0.0

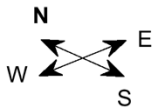
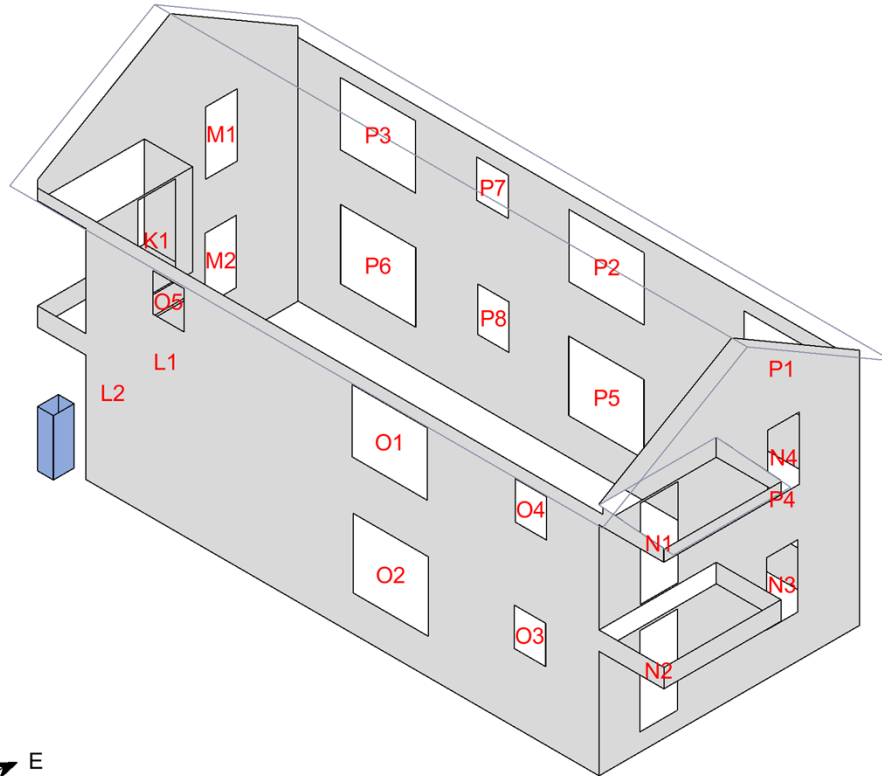
1509 Andrews St, Houston, TX 77019

Report: 55103017

Total	384.6	7.4
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Total	744.7	5.6
--------------	--------------	------------

WINDOW AND DOOR DIAGRAM



- Siding
- Masonry

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Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
K1	21.0	20.0	3.0 x 7.0
L1	21.0	20.0	3.0 x 7.0
L2	21.0	20.0	3.0 x 7.0
M1	12.5	15.0	2.5 x 5.0
M2	12.5	15.0	2.5 x 5.0
Total	88.0	90.0	n/a

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
P1	30.0	22.0	6.0 x 5.0
P2	30.0	22.0	6.0 x 5.0
P3	30.0	22.0	6.0 x 5.0
P4	33.0	23.0	6.0 x 5.5
P5	33.0	23.0	6.0 x 5.5
P6	33.0	23.0	6.0 x 5.5
P7	7.5	11.0	2.5 x 3.0
P8	8.8	12.0	2.5 x 3.5
Total	205.3	158.0	n/a

South

West

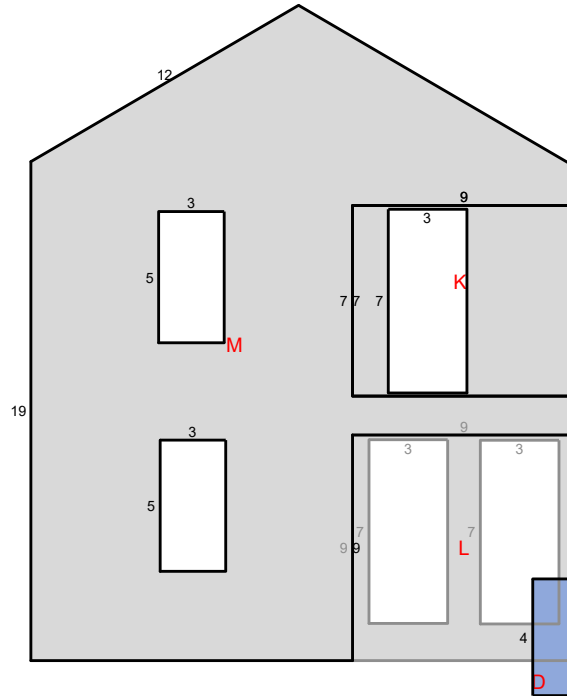
1509 Andrews St, Houston, TX 77019

Report: 55103017

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
N1	21.0	20.0	3.0 x 7.0
N2	21.0	20.0	3.0 x 7.0
N3	12.5	15.0	2.5 x 5.0
N4	12.5	15.0	2.5 x 5.0
Total	67.0	70.0	n/a

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
O1	30.0	22.0	6.0 x 5.0
O2	33.0	23.0	6.0 x 5.5
O3	7.5	11.0	2.5 x 3.0
O4	7.5	11.0	2.5 x 3.0
O5	7.5	11.0	2.5 x 3.0
Total	85.5	78.0	n/a

NORTH ELEVATION DIAGRAM



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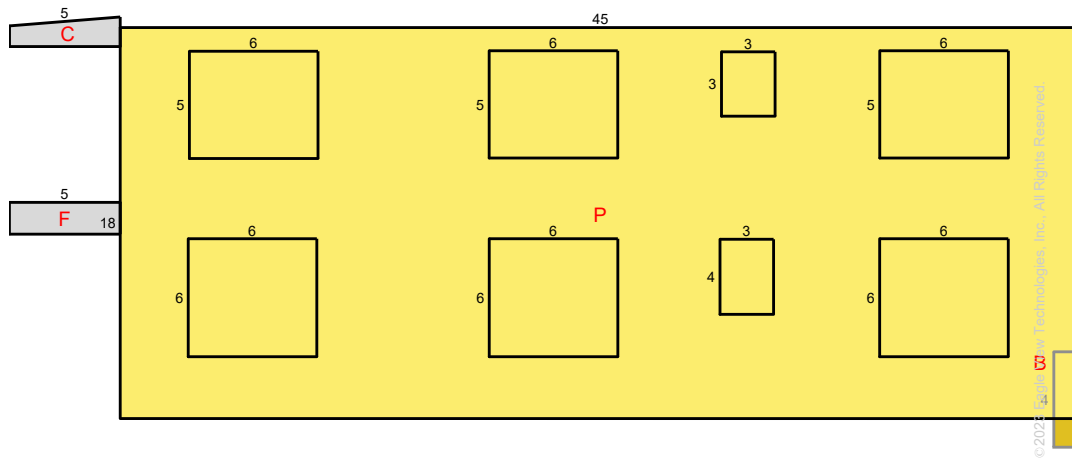
- Siding
- Masonry

Top of Siding Walls = 49.6 ft
Bottom of Siding Walls = 46.3 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
K	41.0	0.0	21.0	20.0	1
L	31.3	0.0	42.0	40.0	2
D	0.0	7.4	0	0	0
M	295.9	0.0	25.0	30.0	2
Total	368.2	7.4	88.0	90.0	5

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



- Siding
- Masonry

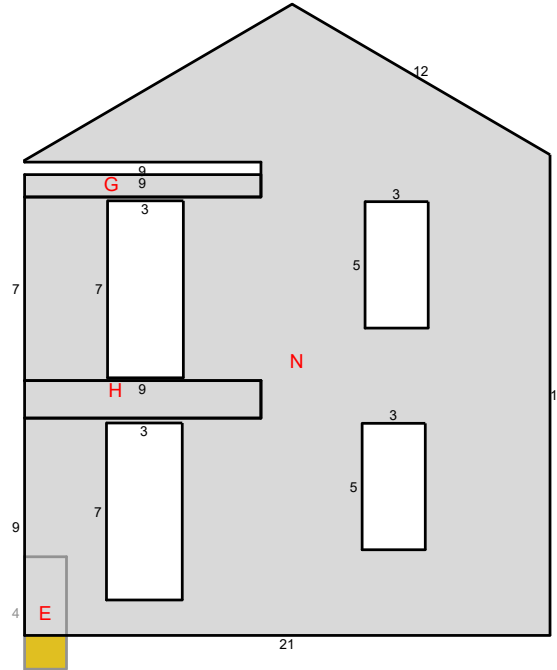
Top of Siding Walls = 55.2 ft

Bottom of Siding Walls = 55.2 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
F	7.7	0.0	0	0	0
C	6.1	0.0	0	0	0
B	0.0	5.6	0	0	0
P	611.7	0.0	205.3	158.0	8
Total	625.5	5.6	205.3	158.0	8

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM



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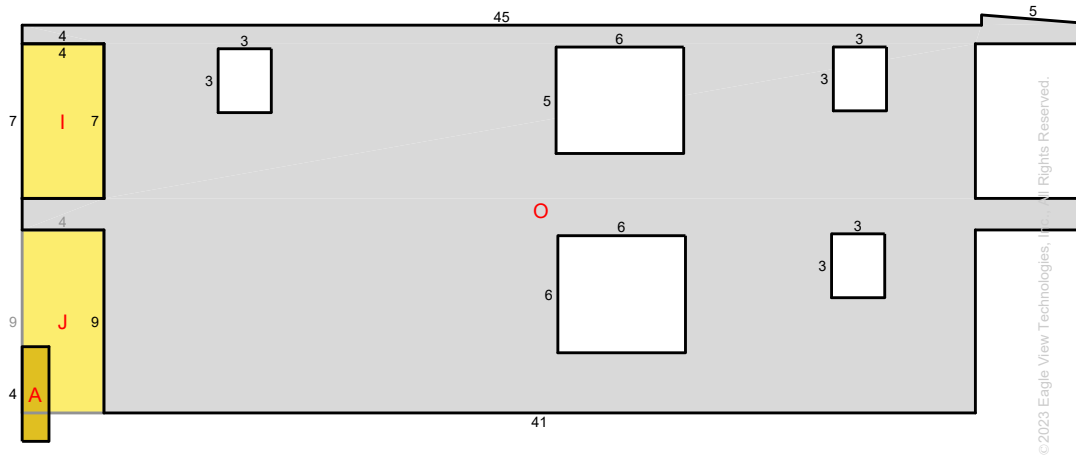
- Siding
- Masonry

Top of Siding Walls = 61.7 ft
 Bottom of Siding Walls = 58.4 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
H	13.9	0.0	0	0	0
G	8.3	0.0	0	0	0
E	0.0	7.4	0	0	0
N	362.4	0.0	67.0	70.0	4
Total	384.6	7.4	67.0	70.0	4

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



- Siding
- Masonry

Top of Siding Walls = 66.6 ft
 Bottom of Siding Walls = 66.6 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
J	33.1	0.0	0	0	0
I	27.9	0.0	0	0	0
A	0.0	5.6	0	0	0
O	683.7	0.0	85.5	78.0	5
Total	744.7	5.6	85.5	78.0	5

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch		
Roof Pitches	1/12	7/12
Area (sq ft)	55.7	1266.2
% of Roof	4.2%	95.8%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

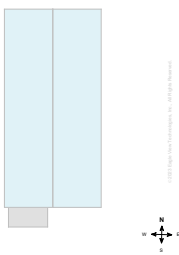
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	3%	6%	8%	10%	13%	18%	23%	28%
Area (Sq ft)	1267	1306	1344	1369	1394	1432	1496	1559	1622
Squares *	13.00	13.33	13.66	14.00	14.00	14.33	15.00	15.66	16.33
	Measured			Suggested					

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 3

Lengths, Areas and Pitches

Ridges = 48 ft (1 Ridges)
 Hips = 0 ft (0 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 66 ft (6 Rakes)
 Eaves/Starter‡ = 104 ft (3 Eaves)
 Drip Edge (Eaves + Rakes) = 170 ft (9 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 10 ft (1 Lengths)
 Step flashing = 0 ft (0 Lengths)
 Predominant Pitch = 7/12
Total Area (All Pitches) = 1,322 sq ft

Property Location

Longitude = -95.3827053
 Latitude = 29.7556459

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1509 Andrews St, Houston, TX 77019

Report: 55103017

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1509+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1509+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	2,123	2,335	2,357	2,378	2,399	2,420	2,441	2,548
Squares	21.2	23.4	23.6	23.8	24	24.2	24.4	25.5

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	26	29	29	29	29	30	30	31
Squares	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 2149.0 ft²

Siding = 2123.0 ft²

Masonry = 26.0 ft²

General Totals

Wall Facets = 16

Windows & Doors = 22

Window and Door Area = 445.8 ft²

Window & Door Perimeter = 396.0 ft

Fascia (Eaves + Rakes) = 170 ft

Top of Siding Walls = 233.1 ft

Bottom of Siding Walls = 226.5 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	18.8 ft	0.0 ft	0.0 ft	18.8 ft
Outside Corners	93.8 ft	17.6 ft	0.0 ft	111.4 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3827053

Latitude = 29.7556459

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1509 Andrews St, Houston, TX 77019

Report: 55103017

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



1517 Andrews St, Houston, TX 77019

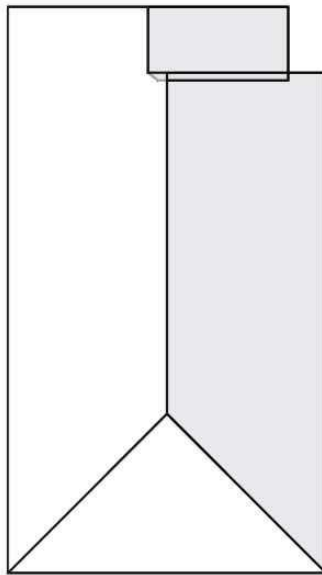
Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com

1517 Andrews St, Houston, TX 77019



In this 3D model, facets appear as semi-transparent to reveal overhangs.

Report Details	Roof/Wall Details	Report Contents
Report:55102898	Total Roof Area =1,974 sq ft Total Roof Facets =4 Predominant Pitch =6/12 Number of Stories <=1 Total Ridges/Hips =89 ft Total Valleys =0 ft Total Rakes =51 ft Total Eaves =145 ft Total Wall Area = 1525.5 sq ft Total Wall Facets = 14 Total Siding Area = 1416.7 sq ft Total Masonry Area = 108.8 sq ft	Images2 Length Diagram.....5 Pitch Diagram.....6 Area Diagram7 Notes Diagram8 3D Wall Area Diagram.....9 Alternate 3D Wall View.....10 Window and Door Diagram.....11 Report Summary.....16 Wall Measurement Summary18

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston TX 77022
 Phone: 713-325-0700



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Measurements provided by EagleView

Length Diagram

Shaded areas should be verified

Total Line Lengths:

Ridges = 41 ft

Hips = 48 ft

Valleys = 0 ft

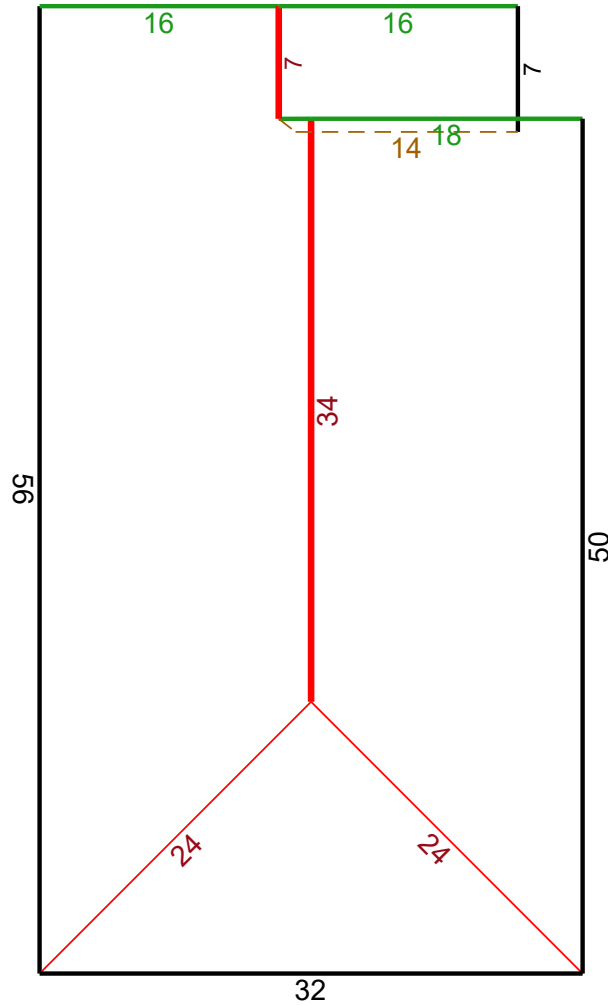
Rakes = 51 ft

Eaves = 145 ft

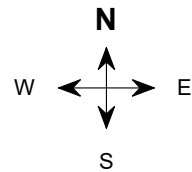
Flashing = 0 ft

Step flashing = 16 ft

Parapets = 0 ft



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Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

Disclaimer: This report was produced using EagleView Extended Coverage Technology. Due to a variety of reasons including, but not limited to: tree coverage, poor images, low photo resolution or other blockages; this report DOES NOT offer an accuracy guarantee. EagleView recommends that anyone using this report field verify the yellow-shaded sections.



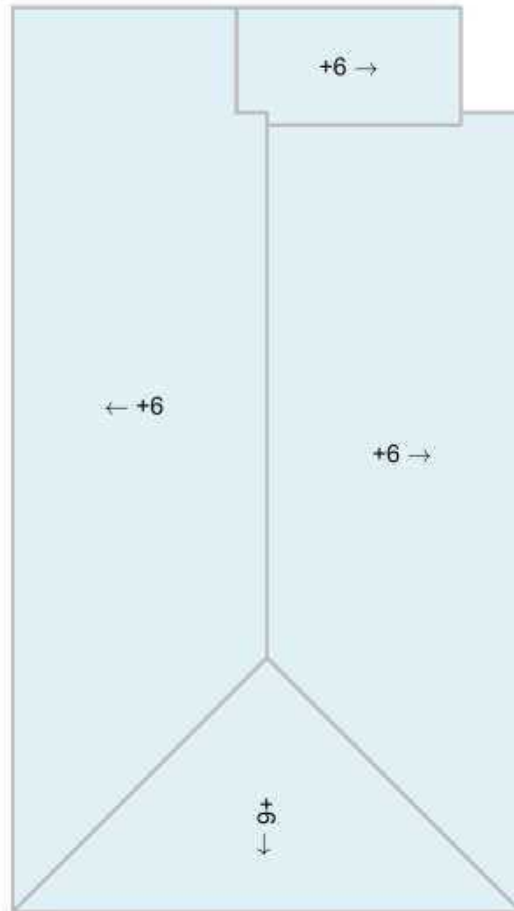
Report: 55102898

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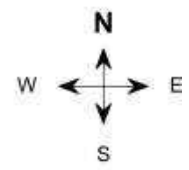
Pitch Diagram

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 6/12.

Disclaimer: With Extended Coverage, only the predominant pitch may be noted due to resolution of photo. Refer to pitch table for more information.



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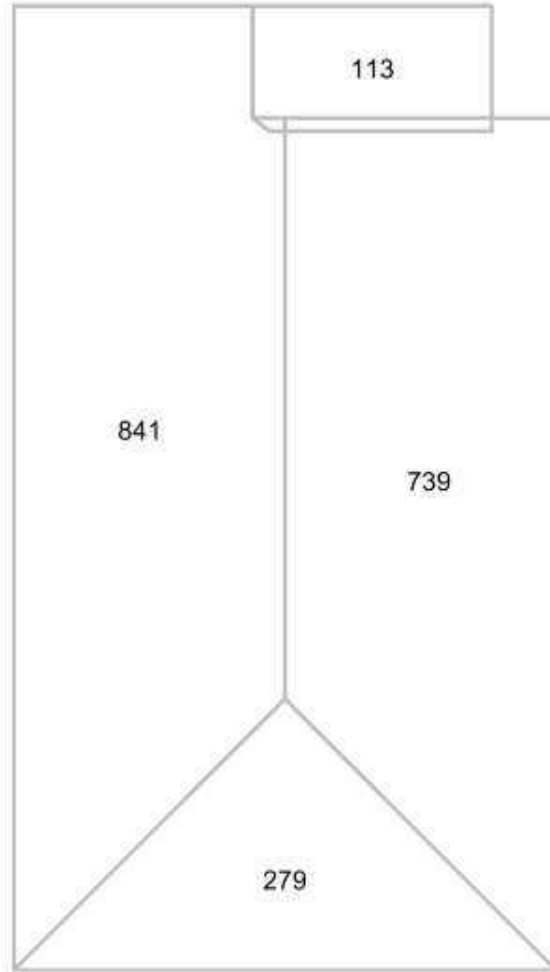
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9). Blue shading indicates a pitch of 3/12 and greater.

Disclaimer: This report was produced using EagleView Extended Coverage Technology. Due to a variety of reasons including, but not limited to: tree coverage, poor images, low photo resolution or other blockages; this report DOES NOT offer an accuracy guarantee. EagleView recommends that anyone using this report field verify the yellow-shaded sections.

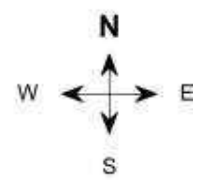


Area Diagram

Total Area = 1,974 sq ft, with 4 facets.



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Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

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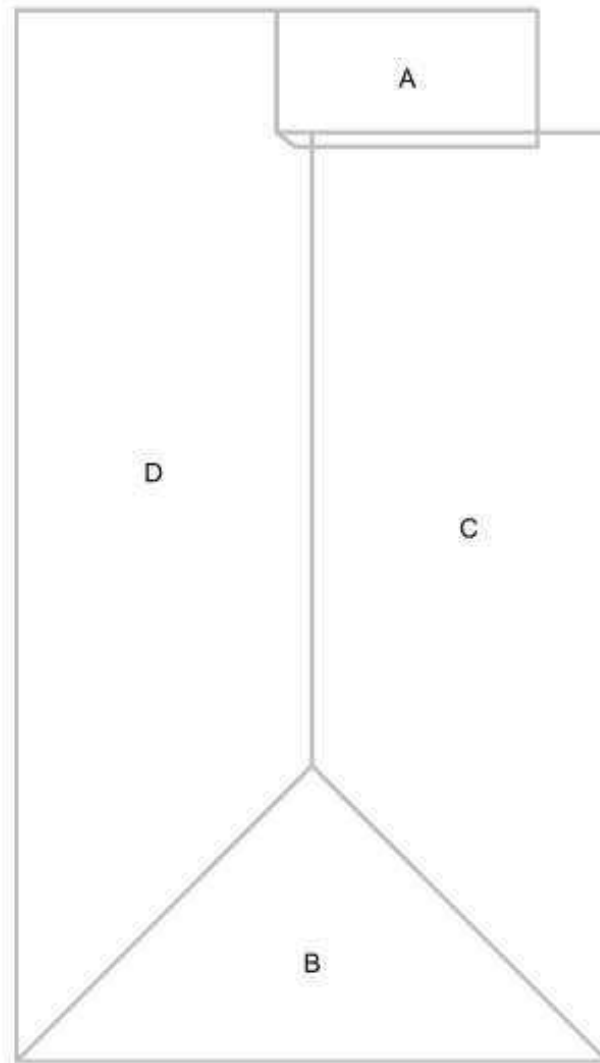


Report: 55102898

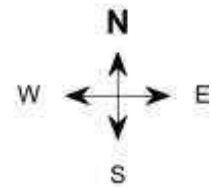
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Notes Diagram

Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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Note: On-site verification of yellow shaded areas is needed. Details are on the Summary Page.



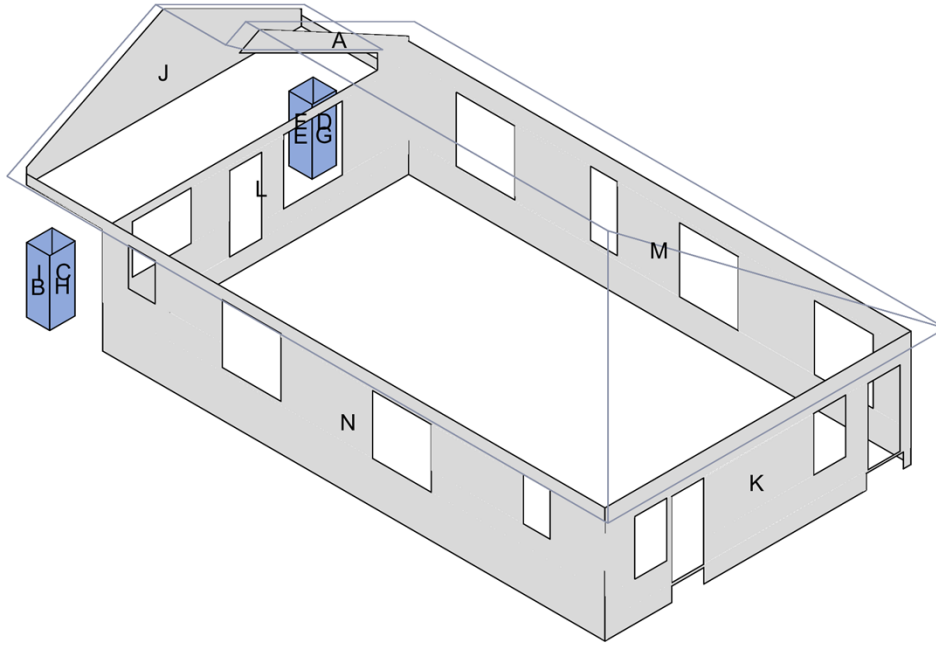
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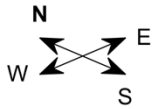
Wall Area Diagram

Total Wall Area = 1525.5 sq ft, with 14 facets.

Total Wall Area with Windows and Doors = 1870.0 sq ft



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● Siding
● Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
I	0.0	14.4
F	0.0	13.7
J	119.6	0.0
L	231.5	0.0
Total	351.1	28.1

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	0.0	13.1
M	394.6	0.0
D	0.0	13.2
A	6.4	0.0
Total	401.0	26.3

South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	0.0	14.4
G	0.0	13.7
K	228.8	0.0
Total	228.8	28.1

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	0.0	13.1
E	0.0	13.2
N	435.8	0.0
Total	435.8	26.3



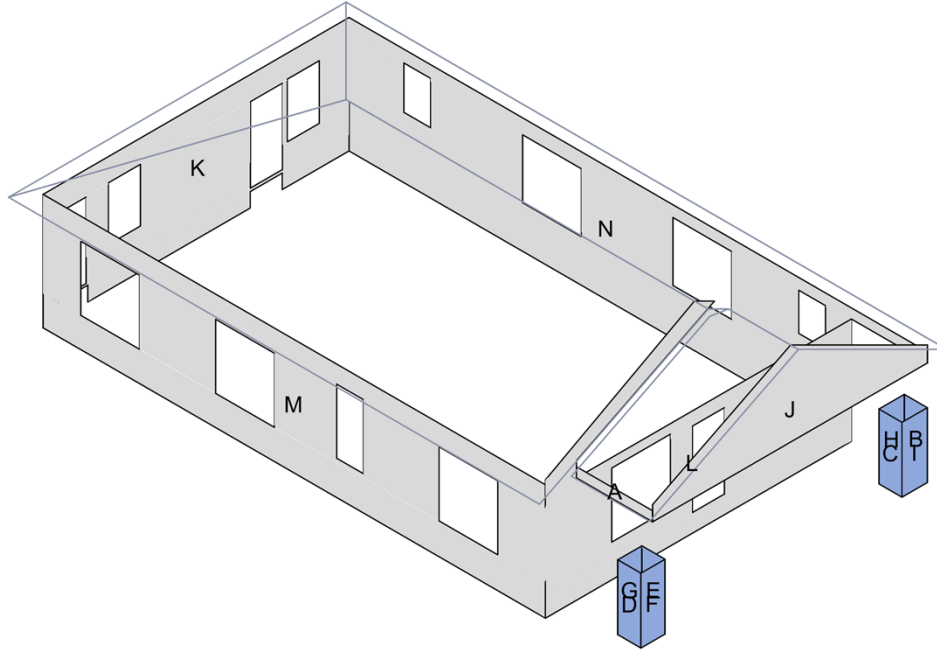
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Alternate Wall View

Total Wall Area = 1525.5 sq ft, with 14 facets.

Total Wall Area with Windows and Doors = 1870.0 sq ft



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● Siding
● Masonry

Note: Window & door measurements include trim.

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
I	0.0	14.4
F	0.0	13.7
J	119.6	0.0
L	231.5	0.0
Total	351.1	28.1

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	0.0	13.1
M	394.6	0.0
D	0.0	13.2
A	6.4	0.0
Total	401.0	26.3

South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	0.0	14.4
G	0.0	13.7
K	228.8	0.0
Total	228.8	28.1

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	0.0	13.1
E	0.0	13.2
N	435.8	0.0
Total	435.8	26.3



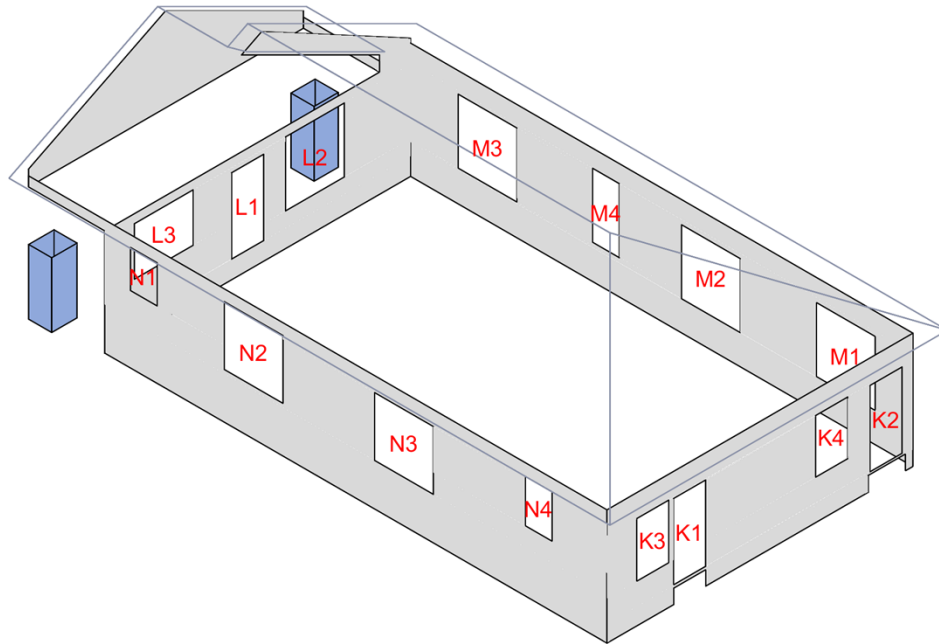
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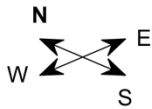
Window and Door Diagram

Total Window and Door Area = 344.3 sq ft, with 15 windows and doors

Total Window and Door Perimeter = 290.2 ft



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● Siding
● Masonry

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
L1	21.0	20.0	3.0 x 7.0
L2	33.0	23.0	5.5 x 6.0
L3	24.8	20.0	5.5 x 4.5
Total	78.8	63.0	n/a

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
M1	33.0	23.0	5.5 x 6.0
M2	33.0	23.0	5.5 x 6.0
M3	33.0	23.0	5.5 x 6.0
M4	15.0	17.0	2.5 x 6.0
Total	114.0	86.0	n/a

South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
K1	21.0	20.0	3.0 x 7.0
K2	21.0	20.0	3.0 x 7.0
K3	15.2	16.2	3.0 x 5.1
K4	15.0	16.0	3.0 x 5.0
Total	72.2	72.2	n/a

West

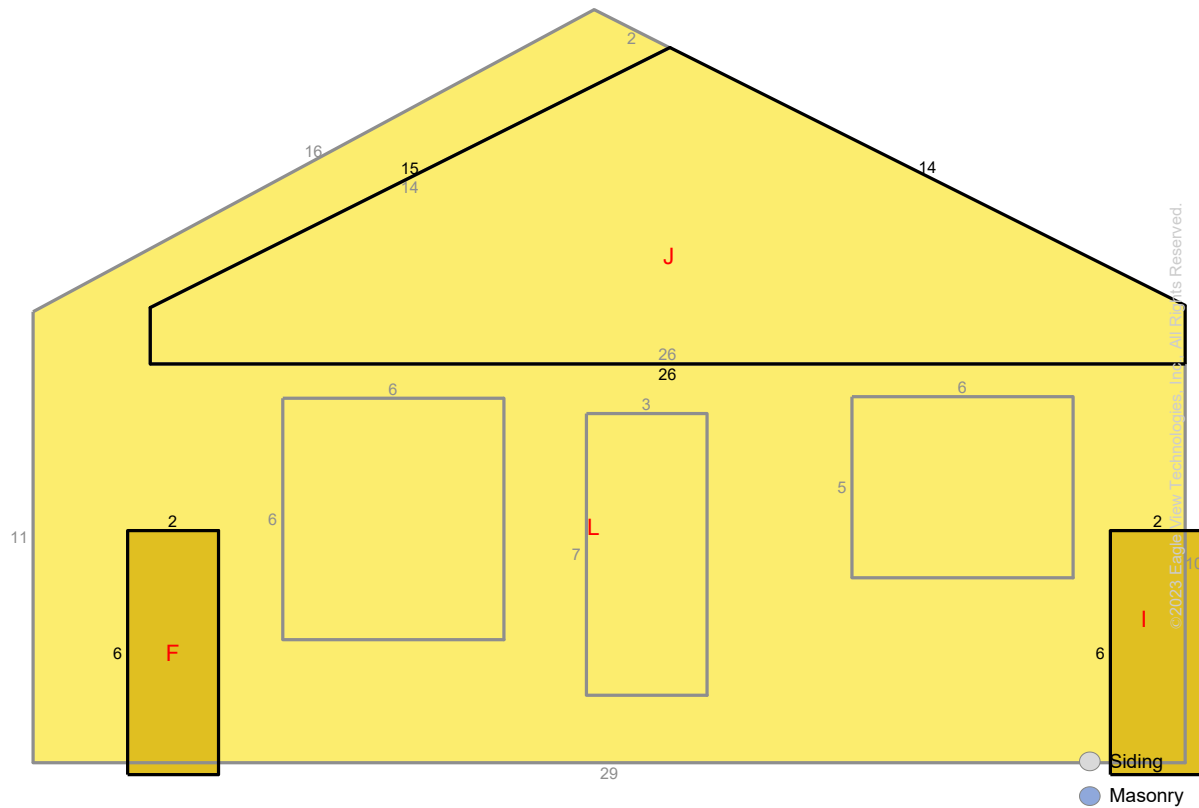
Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
N1	8.7	12.0	2.5 x 3.5
N2	30.3	22.0	5.5 x 5.5
N3	30.3	22.0	5.5 x 5.5
N4	10.0	13.0	2.5 x 4.0
Total	79.3	69.0	n/a



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North Elevation Diagram

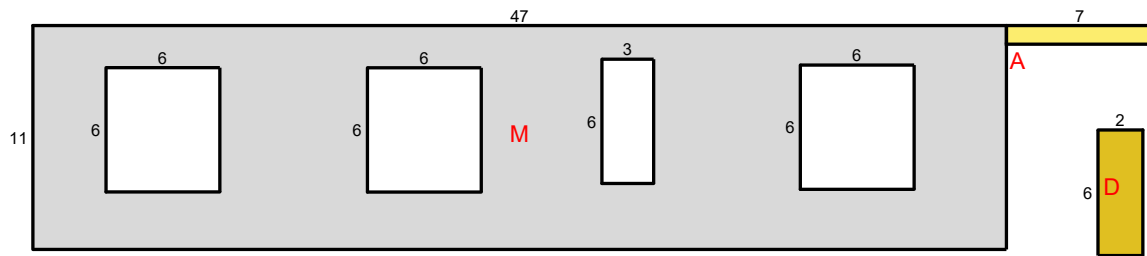


Top of Siding Walls = 72.4 ft
 Bottom of Siding Wall = 68.8 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
I	0.0	14.4	0	0	0
F	0.0	13.7	0	0	0
J	119.6	0.0	0	0	0
L	231.5	0.0	78.8	63.0	3
Total	351.1	28.1	78.8	63.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

East Elevation Diagram



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- Siding
- Masonry

Top of Siding Walls = 54.1 ft
 Bottom of Siding Walls = 54.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
C	0.0	13.1	0	0	0
M	394.6	0.0	114.0	86.0	4
D	0.0	13.2	0	0	0
A	6.4	0.0	0	0	0
Total	401.0	26.3	114.0	86.0	4

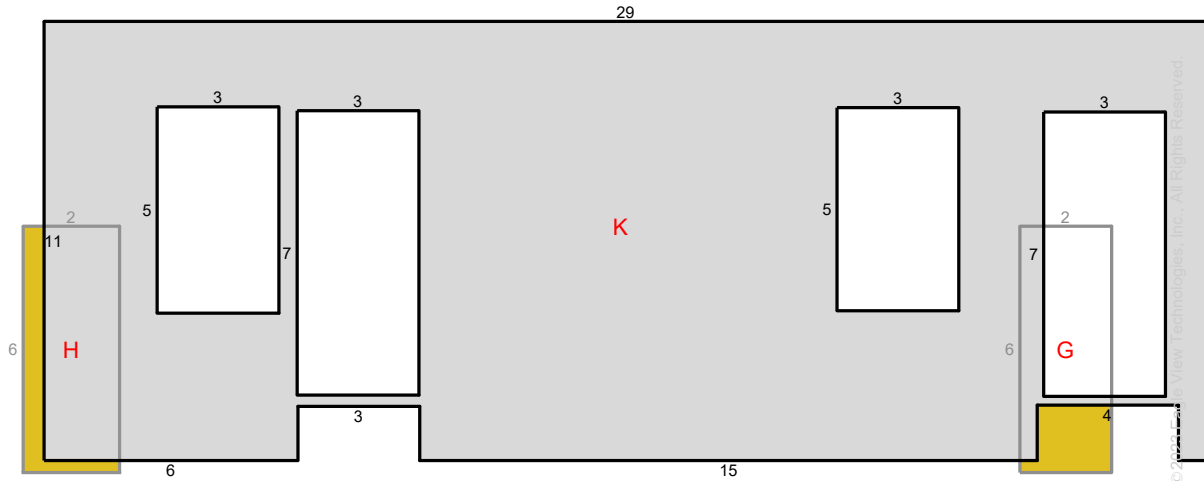
Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



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South Elevation Diagram



Top of Siding Walls = 28.7 ft
 Bottom of Siding Walls = 28.7 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
H	0.0	14.4	0	0	0
G	0.0	13.7	0	0	0
K	228.8	0.0	72.2	72.2	4
Total	228.8	28.1	72.2	72.2	4

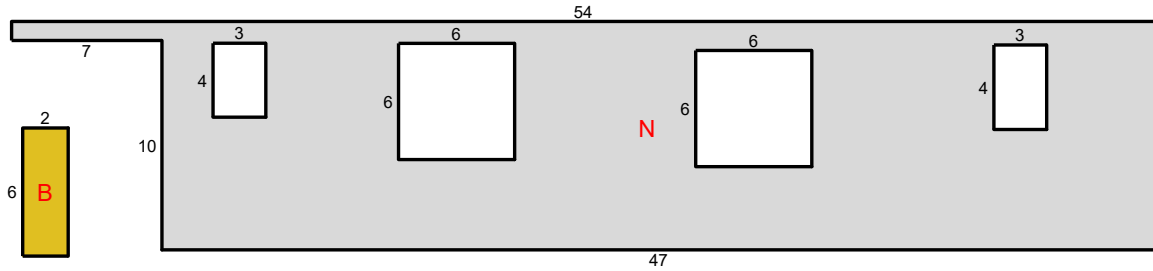
Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



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West Elevation Diagram



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- Siding
- Masonry

Top of Siding Walls = 54.2 ft

Bottom of Siding Walls = 54.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
B	0.0	13.1	0	0	0
E	0.0	13.2	0	0	0
N	435.8	0.0	79.3	69.0	4
Total	435.8	26.3	79.3	69.0	4

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



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Report Summary

Below is a measurement summary using the values presented in this report.

All Structures

Areas per Pitch

Roof Pitches	6/12
Area (sq ft)	1973.2
% of Roof	100%

Disclaimer: The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch. With Extended Coverage, only the predominant pitch may be noted due to resolution of photo. With Extended Coverage, EagleView recommends field verifying yellow-shaded sections and pitch utilizing the Facet Area Based Upon Pitch Table below.

Structure Complexity

Simple

Normal

Complex

Waste Calculation

NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the **Lengths, Areas, and Pitches** section below.

Waste %	0%	5%	8%	10%	12%	15%	20%	25%	30%
Area (Sq ft)	1974	2073	2132	2172	2211	2271	2369	2468	2567
Squares *	20.00	21.00	21.33	22.00	22.33	23.00	24.00	25.00	26.00
	Measured			Suggested					

* Squares are rounded up to the 1/3 of a square

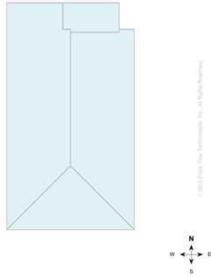
Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

† Rakes are defined as roof edges that are sloped (not level).
‡ Eaves are defined as roof edges that are not sloped and level.



All Structures Totals

Total Roof Facets = 4

Lengths, Areas and Pitches

Ridges = 41 ft (2 Ridges)
 Hips = 48 ft (2 Hips).
 Valleys = 0 ft (0 Valleys)
 Rakes⁺ = 51 ft (4 Rakes)
 Eaves/Starter⁺ = 145 ft (4 Eaves)
 Drip Edge (Eaves + Rakes) = 196 ft (8 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 16 ft (2 Lengths)
 Predominant Pitch = 6/12
Total Area (All Pitches) = 1,974 sq ft

Property Location

Longitude = -95.3829996
 Latitude = 29.7556306

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1517+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1517+Andrews+St,Houston,TX,77019

Disclaimer: This report was produced using EagleView Extended Coverage Technology. Due to a variety of reasons including, but not limited to: tree coverage, poor images, low photo resolution or other blockages; this report DOES NOT offer an accuracy guarantee. EagleView recommends that anyone using this report field verify the yellow-shaded sections.



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Wall Measurement Summary

Below is a measurement summary using the values presented in this report.

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	1,417	1,558	1,573	1,587	1,601	1,615	1,629	1,700
Squares	14.2	15.6	15.7	15.9	16	16.2	16.3	17

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	109	120	121	122	123	124	125	131
Squares	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 1525.5 ft²

Siding = 1416.7 ft²

Masonry = 108.8 ft²

General Totals

Wall Facets = 14

Windows & Doors = 15

Window and Door Area = 344.3 ft²

Window & Door Perimeter = 290.2 ft

Fascia (Eaves + Rakes) = 196

Top of Siding Walls = 209.4 ft

Bottom of Siding Walls = 205.7 ft

Property Location

Longitude = -95.3829996

Latitude = 29.7556306

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	6.8 ft	0.0 ft	0.0 ft	6.8 ft
Outside Corners	46.5 ft	48.8 ft	0.0 ft	95.3 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.



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Facet Area (sq ft) Based Upon Pitch

The area for each facet appears in the column under the appropriate pitch.

Facet	Pitch(inches per foot)										
	0	2	4	6	8	10	12	14	16	18	20
A	101.5	102.9	107.0	113.5	122.0	132.1	143.5	156.0	169.2	183.0	197.3
B	249.9	253.3	263.4	279.4	300.3	325.3	353.4	384.0	416.5	450.5	485.7
C	661.2	670.3	697.0	739.2	794.7	860.7	935.1	1016.0	1102.0	1192.0	1285.1
D	752.3	762.7	793.0	841.1	904.2	979.3	1063.9	1156.0	1253.8	1356.2	1462.2
Total	1765	1789	1860	1973	2121	2297	2496	2712	2942	3182	3430

Each value is rounded to the nearest square foot. The totals are based on the unrounded values.

Disclaimer: This report was produced using EagleView Extended Coverage Technology. Due to a variety of reasons including, but not limited to: tree coverage, poor images, low photo resolution or other blockages; this report DOES NOT offer an accuracy guarantee. EagleView recommends that anyone using this report field verify the yellow-shaded sections.



Precise Aerial Measurement Report



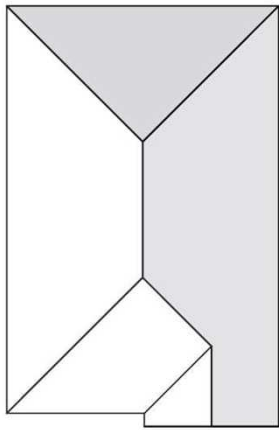
1518 Andrews St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

- Total Roof Area =1,453 sq ft
- Total Roof Facets =5
- Predominant Pitch =7/12
- Number of Stories >1
- Total Ridges/Hips =100 ft
- Total Valleys =11 ft
- Total Rakes =17 ft
- Total Eaves =133 ft
- Total Penetrations =7
- Total Penetrations Perimeter = 28 ft
- Total Penetrations Area = 7 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

Total Line Lengths:

Ridges = 23 ft
Hips = 77 ft

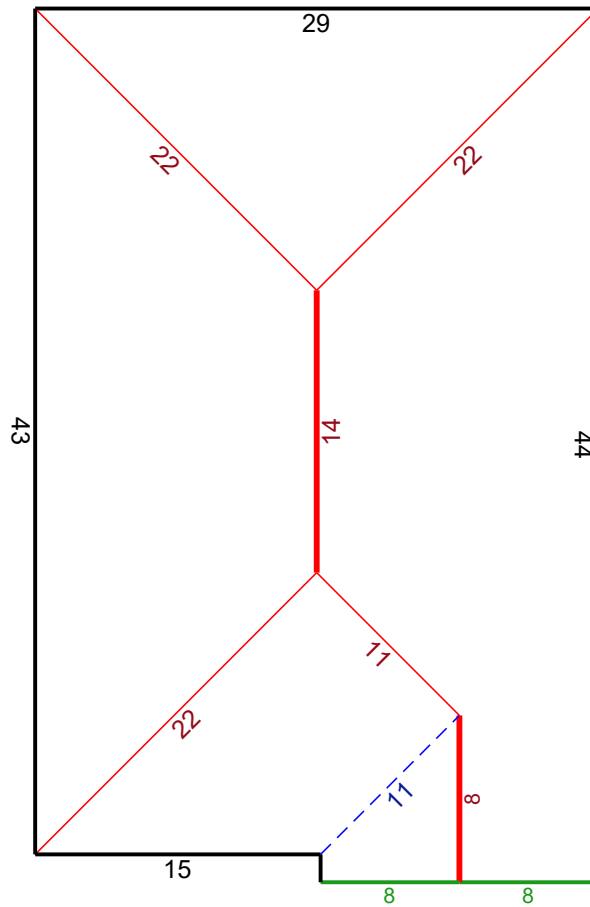
Valleys = 11 ft

Rakes = 17 ft

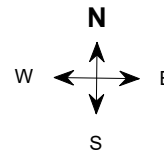
Eaves = 133 ft

Flashing = 0 ft

Step flashing = 0 ft

Parapets = 0 ft


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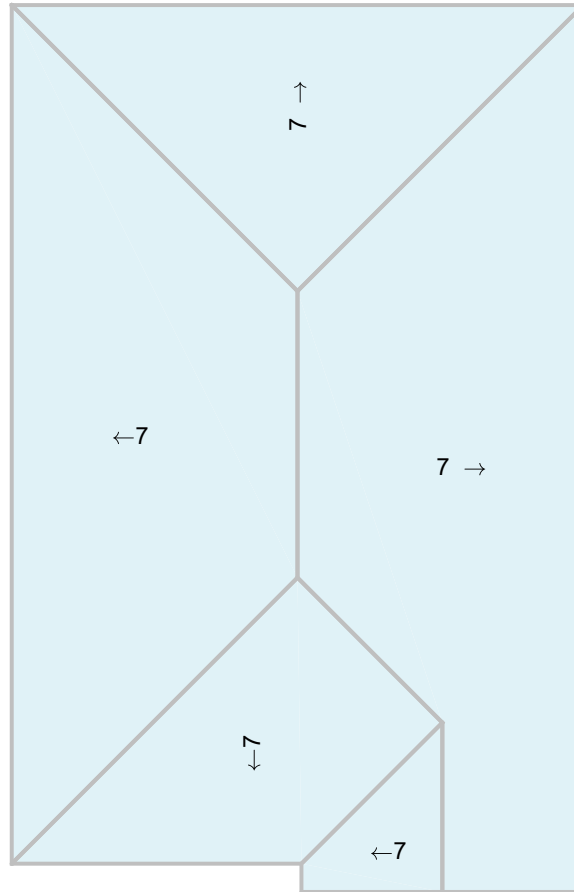
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

1518 Andrews St, Houston, TX 77019

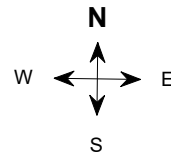
Report: 55103008

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 7/12



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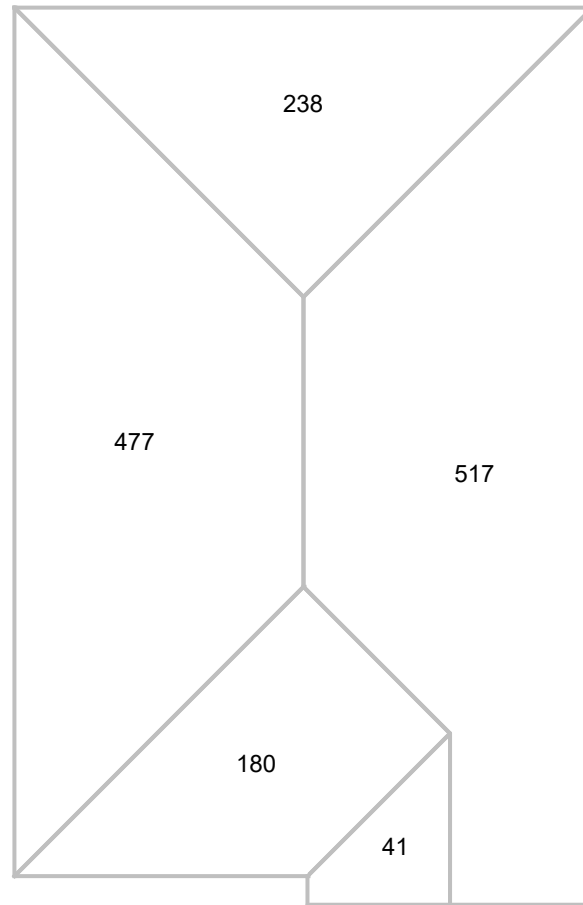
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

1518 Andrews St, Houston, TX 77019

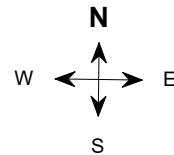
Report: 55103008

AREA DIAGRAM

Total Area = 1,453 sq ft, with 5 facets.



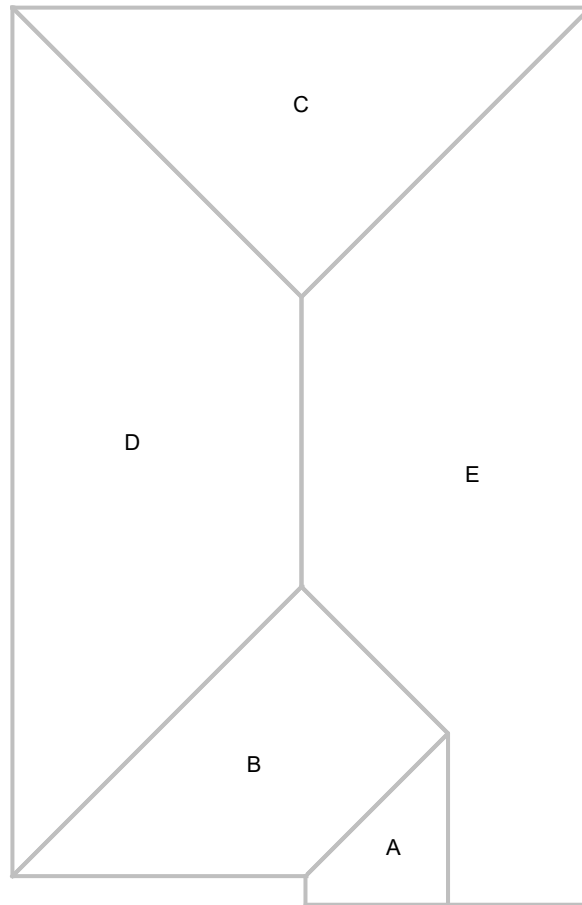
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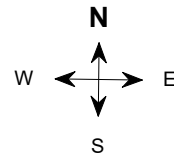
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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1518 Andrews St, Houston, TX 77019

Report: 55103008

PENETRATIONS NOTES DIAGRAM

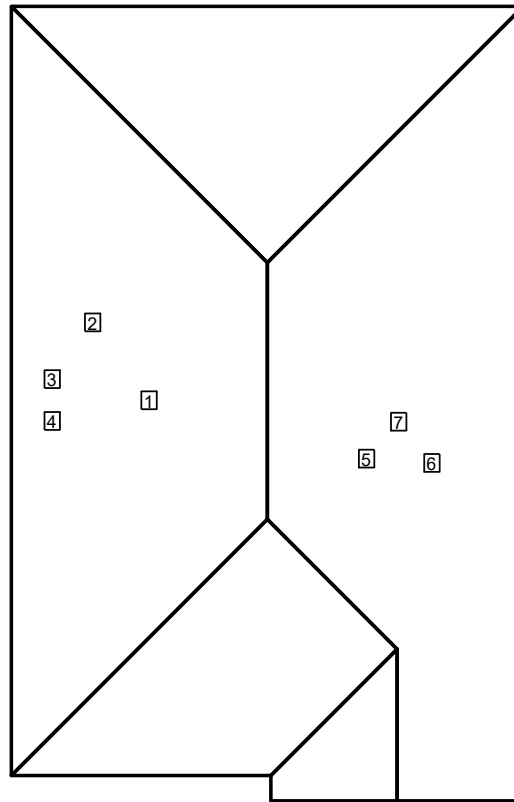
Penetrations are labeled from smallest to largest for easy reference.

Total Penetrations = 7

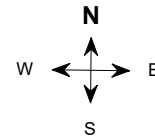
Total Penetrations Area = 7 sq ft

Total Penetrations Perimeter = 28 ft

Total Roof Area Less Penetrations = 1,446 sq ft



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REPORT SUMMARY

All Structures

Areas per Pitch	
Roof Pitches	7/12
Area (sq ft)	1452.9
% of Roof	100%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

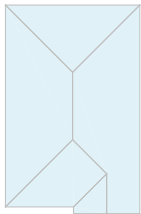
Waste Calculation Table							
Waste %	0%	10%	12%	15%	17%	20%	22%
Area (sq ft)	1,453	1598.3	1627.4	1671.0	1700.0	1743.6	1772.7
Squares	14.5	16.0	16.3	16.7	17.0	17.4	17.7

This table shows the total roof area and squares (rounded up to the nearest decimal) based upon different waste percentages. The waste factor is subject to the complexity of the roof, individual roofing techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only roof area is included in these waste calculations. Additional materials needed for ridge, hip, valley, and starter lengths are not included.

Penetrations	1-7								
Area (sq ft)	1								
Perimeter (ft)	4								

Any measured penetration smaller than 3.0x3.0 Feet may need field verification. Accuracy is not guaranteed. The total penetration area is not subtracted from the total roof area.

All Structures Totals



Total Roof Facets = 5
Total Penetrations = 7

Lengths, Areas and Pitches

Ridges = 23 ft (2 Ridges)
 Hips = 77 ft (4 Hips)
 Valleys = 11 ft (1 Valleys)
 Rakes† = 17 ft (2 Rakes)
 Eaves/Starter‡ = 133 ft (5 Eaves)
 Drip Edge (Eaves + Rakes) = 150 ft (7 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 0 ft (0 Lengths)
 Total Penetrations Area = 7 sq ft
 Total Roof Area Less Penetrations = 1,446 sq ft
 Total Penetrations Perimeter = 28 ft
 Predominant Pitch = 7/12
Total Area (All Pitches) = 1,453 sq ft

Property Location

Longitude = -95.3830160
 Latitude = 29.7558792

Notes

This was ordered as a commercial property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).
 ‡ Eaves are defined as roof edges that are not sloped and level.

1518 Andrews St, Houston, TX 77019

Report: 55103008

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1518+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1518+Andrews+St,Houston,TX,77019

1518 Andrews St, Houston, TX 77019

Report: 55103008

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Precise Aerial Measurement Report



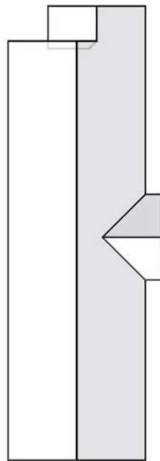
1602 Andrews St, Houston, TX 77019

Prepared for you by

D7 ROOFING®
& METAL LLC

8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 1,611 sq ft
 Total Roof Facets = 5
 Predominant Pitch = 9/12
 Number of Stories > 1
 Total Ridges/Hips = 74 ft
 Total Valleys = 20 ft
 Total Rakes = 74 ft
 Total Eaves = 125 ft
 Total Wall Area = 2650.1 sq ft
 Total Wall Facets = 12
 Total Siding Area = 2496.4 sq ft
 Total Masonry Area = 153.7 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

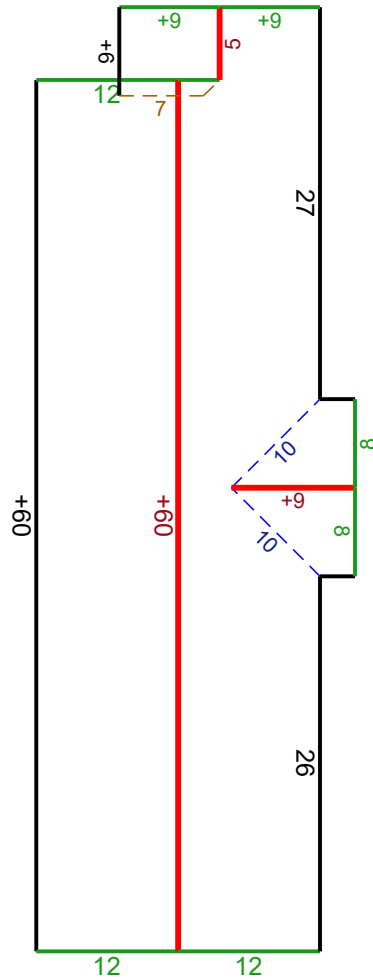
LENGTH DIAGRAM

Total Line Lengths:

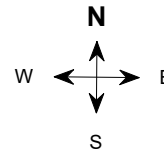
Ridges = 74 ft
Hips = 0 ft

Valleys = 20 ft
 Rakes = 74 ft
 Eaves = 125 ft

Flashing = 0 ft
 Step flashing = 10 ft
 Parapets = 0 ft



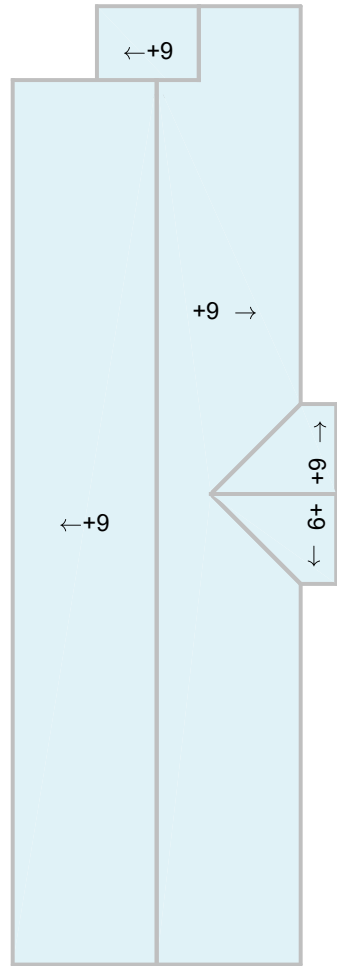
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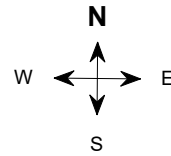
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 9/12



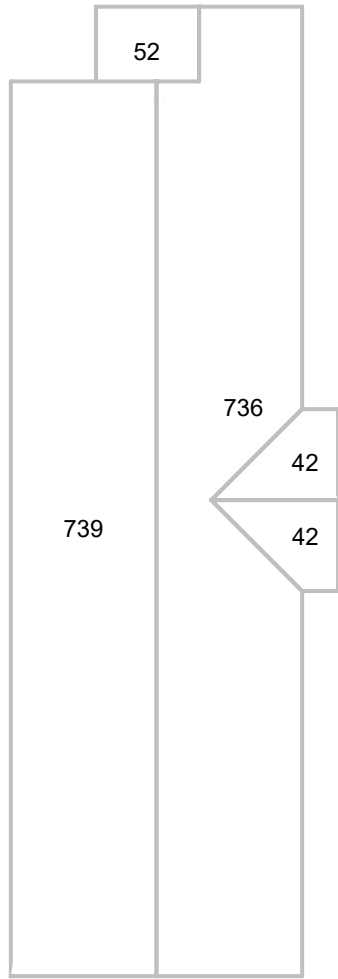
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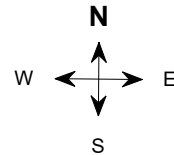
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 1,611 sq ft, with 5 facets.



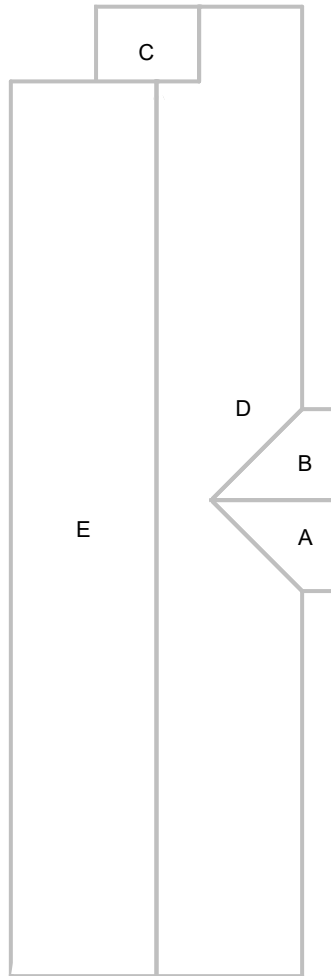
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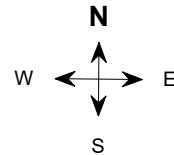
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

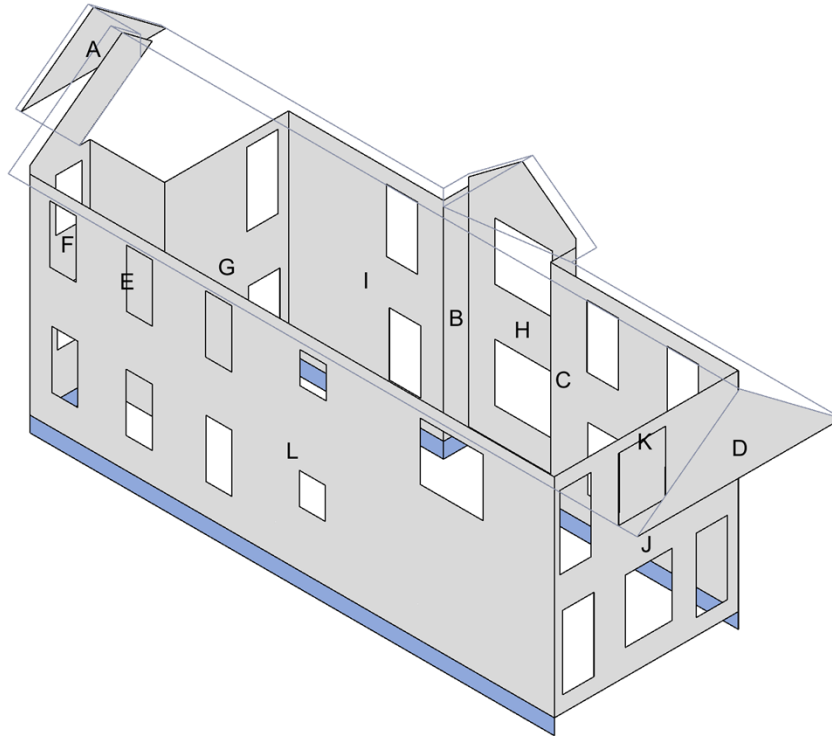
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



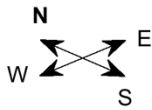
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WALL AREA DIAGRAM



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● Siding
● Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	36.1	0.0
G	195.6	0.0
F	125.4	8.5
B	48.4	3.6
Total	405.5	12.1

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	142.5	0.0
I	260.5	21.9
H	171.6	15.2
K	287.5	26.6
Total	862.1	63.7

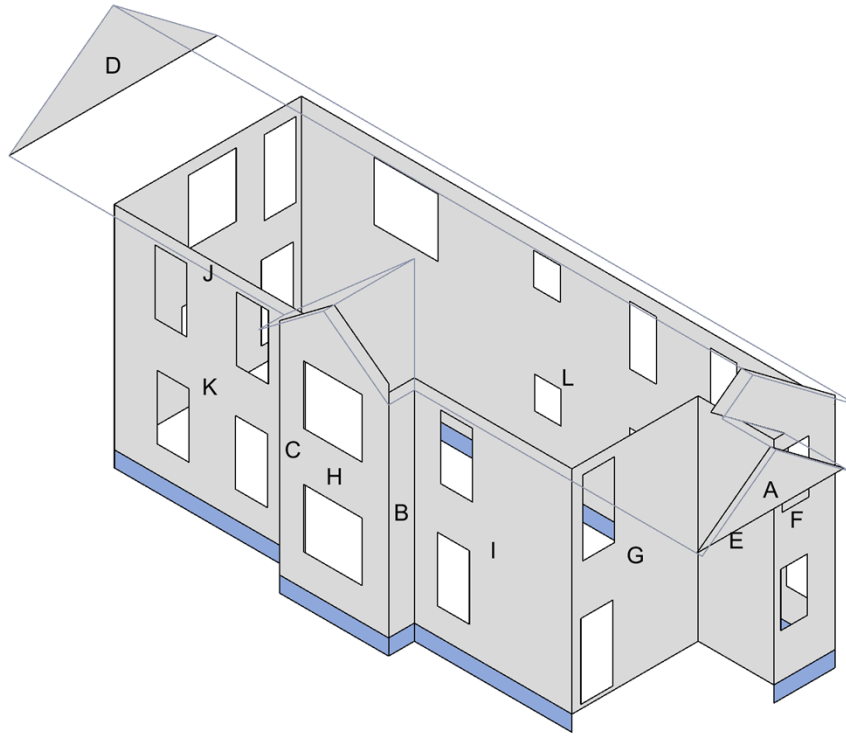
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	72.2	0.0
J	235.5	0.0
C	48.4	3.6
Total	356.1	3.6

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
L	872.7	74.3
Total	872.7	74.3

ALTERNATE WALL AREA



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- Siding
- Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	36.1	0.0
G	195.6	0.0
F	125.4	8.5
B	48.4	3.6
Total	405.5	12.1

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	142.5	0.0
I	260.5	21.9
H	171.6	15.2
K	287.5	26.6
Total	862.1	63.7

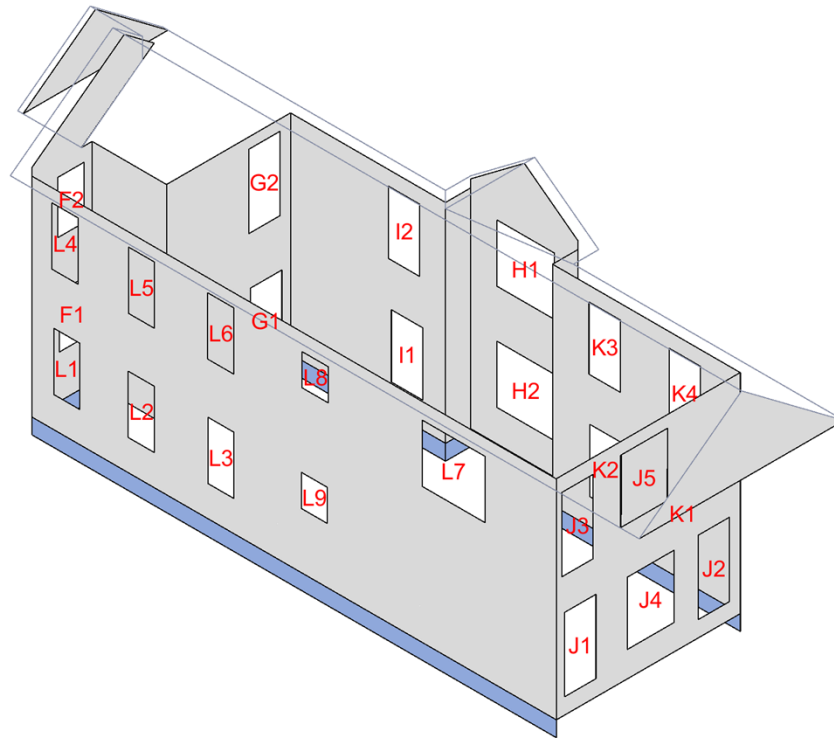
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	72.2	0.0
J	235.5	0.0
C	48.4	3.6
Total	356.1	3.6

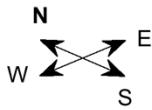
West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
L	872.7	74.3
Total	872.7	74.3

WINDOW AND DOOR DIAGRAM



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● Siding
● Masonry

Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
F1	12.5	15.0	2.5 x 5.0
F2	12.5	15.0	2.5 x 5.0
G1	21.0	20.0	3.0 x 7.0
G2	21.0	20.0	3.0 x 7.0
Total	67.0	70.0	n/a

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
H1	30.2	22.0	5.5 x 5.5
H2	30.2	22.0	5.5 x 5.5
I1	18.0	18.0	3.0 x 6.0
I2	18.0	18.0	3.0 x 6.0
K1	18.0	18.0	3.0 x 6.0
K2	18.0	18.0	3.0 x 6.0
K3	18.0	18.0	3.0 x 6.0
K4	18.0	18.0	3.0 x 6.0
Total	168.4	152.0	n/a

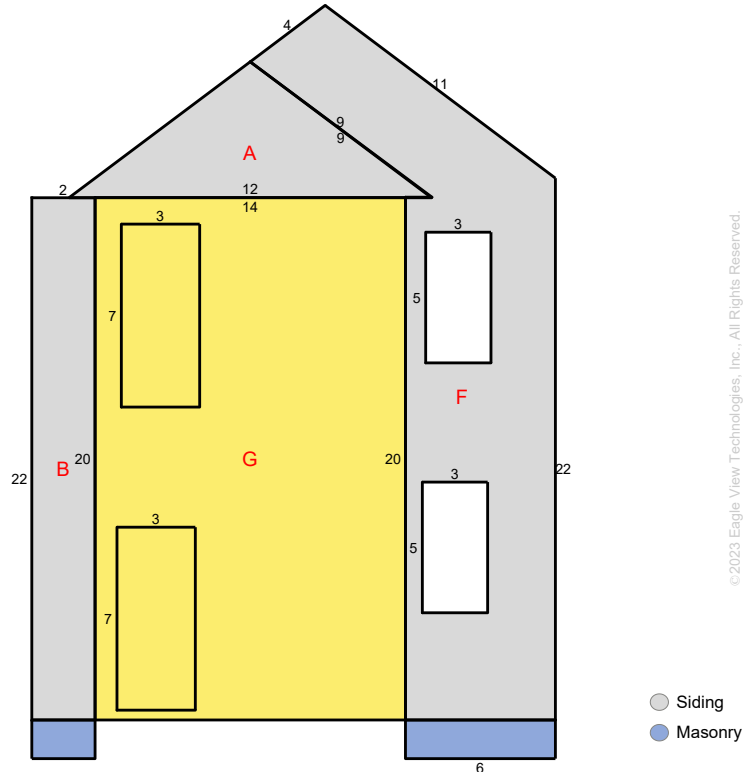
South

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
J1	21.0	20.0	3.0 x 7.0
J2	21.0	20.0	3.0 x 7.0
J3	21.0	20.0	3.0 x 7.0
J4	27.0	21.0	4.5 x 6.0
J5	27.0	21.0	4.5 x 6.0
Total	117.0	102.0	n/a

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
L1	13.8	16.0	2.5 x 5.5
L2	13.8	16.0	2.5 x 5.5
L3	13.8	16.0	2.5 x 5.5
L4	13.8	16.0	2.5 x 5.5
L5	13.7	16.0	2.5 x 5.5
L6	13.8	16.0	2.5 x 5.5
L7	33.0	23.0	6.0 x 5.5
L8	7.5	11.0	2.5 x 3.0
L9	7.5	11.0	2.5 x 3.0
Total	130.7	141.0	n/a

NORTH ELEVATION DIAGRAM

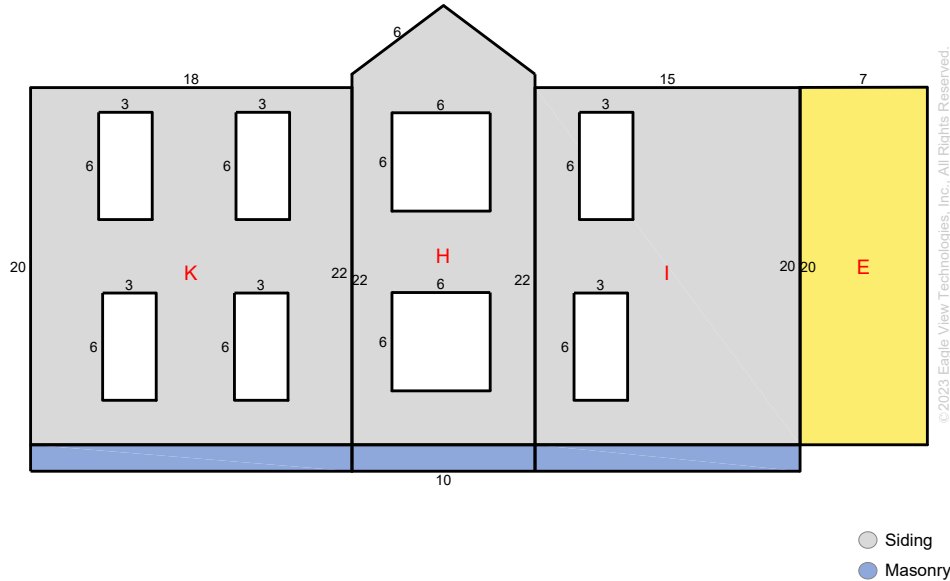


Top of Siding Walls = 47.3 ft
 Bottom of Siding Walls = 42.6 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
A	36.1	0.0	0	0	0
G	195.6	0.0	42.0	40.0	2
F	125.4	8.5	25.0	30.0	2
B	48.4	3.6	0	0	0
Total	405.5	12.1	67.0	70.0	4

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



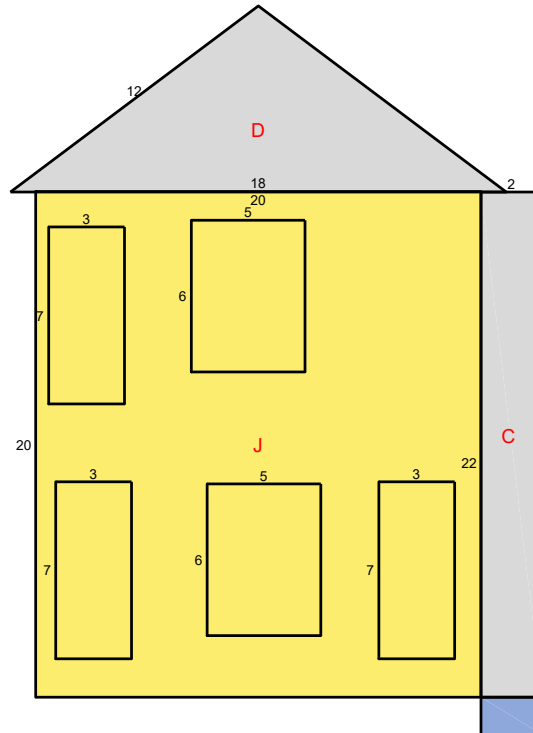
Top of Siding Walls = 52.7 ft

Bottom of Siding Walls = 50.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
E	142.5	0.0	0	0	0
I	260.5	21.9	36.0	36.0	2
H	171.6	15.2	60.4	44.0	2
K	287.5	26.6	72.0	72.0	4
Total	862.1	63.7	168.4	152.0	8

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM



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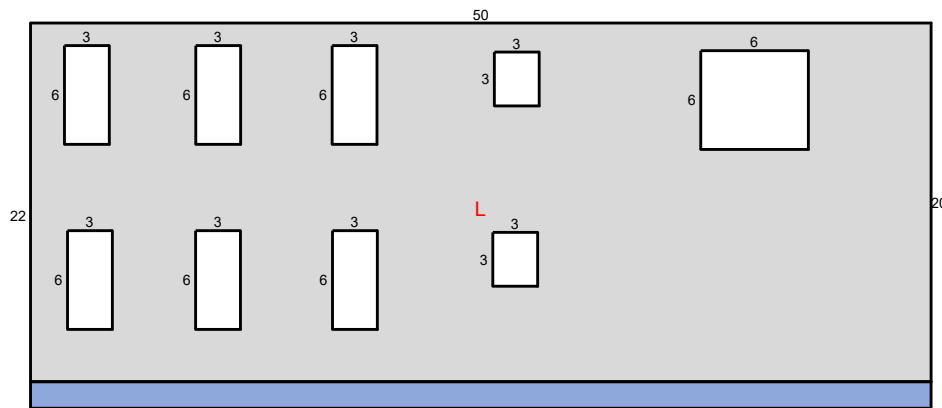
- Siding
- Masonry

Top of Siding Walls = 44.6 ft
 Bottom of Siding Walls = 39.6 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
D	72.2	0.0	0	0	0
J	235.5	0.0	117.0	102.0	5
C	48.4	3.6	0	0	0
Total	356.1	3.6	117.0	102.0	5

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



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- Siding
- Masonry

Top of Siding Walls = 50.2 ft
 Bottom of Siding Walls = 50.2 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
L	872.7	74.3	130.7	141.0	9
Total	872.7	74.3	130.7	141.0	9

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch	
Roof Pitches	9/12
Area (sq ft)	1611.0
% of Roof	100%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

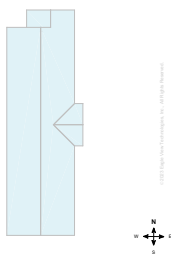
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	5%	8%	10%	12%	15%	20%	25%	30%
Area (Sq ft)	1611	1692	1740	1773	1805	1853	1934	2014	2095
Squares *	16.33	17.00	17.66	18.00	18.33	18.66	19.66	20.33	21.00
	Measured			Suggested					

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 5

Lengths, Areas and Pitches

Ridges = 74 ft (3 Ridges)
 Hips = 0 ft (0 Hips)
 Valleys = 20 ft (2 Valleys)
 Rakes† = 74 ft (8 Rakes)
 Eaves/Starter‡ = 125 ft (6 Eaves)
 Drip Edge (Eaves + Rakes) = 199 ft (14 Lengths)
 Parapet Walls = 0 (0 Lengths)
 Flashing = 0 ft (0 Lengths)
 Step flashing = 10 ft (2 Lengths)
 Predominant Pitch = 9/12
Total Area (All Pitches) = 1,611 sq ft

Property Location

Longitude = -95.3831988
 Latitude = 29.7559095

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1602 Andrews St, Houston, TX 77019

Report: 55102893

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1602+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1602+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	2,496	2,746	2,771	2,796	2,821	2,846	2,871	2,996
Squares	25	27.5	27.7	28	28.2	28.5	28.7	30

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	154	169	171	172	174	175	177	184
Squares	1.5	1.7	1.7	1.7	1.7	1.8	1.8	1.8

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 2650.1 ft²

Siding = 2496.4 ft²

Masonry = 153.7 ft²

General Totals

Wall Facets = 12

Windows & Doors = 26

Window and Door Area = 483.1 ft²

Window & Door Perimeter = 465.0 ft

Fascia (Eaves + Rakes) = 199 ft

Top of Siding Walls = 194.8 ft

Bottom of Siding Walls = 182.5 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	61.4 ft	3.0 ft	0.0 ft	64.4 ft
Outside Corners	142.1 ft	4.5 ft	0.0 ft	146.6 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3831988

Latitude = 29.7559095

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1602 Andrews St, Houston, TX 77019

Report: 55102893

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



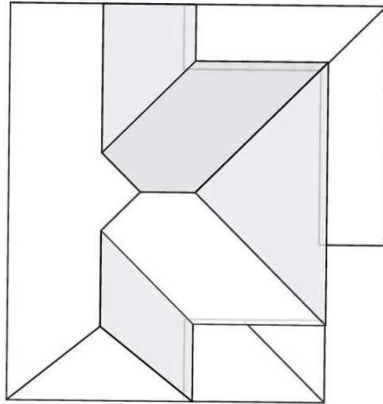
1603 Andrews St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
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In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

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MEASUREMENTS

Total Roof Area = 1,261 sq ft
 Total Roof Facets = 11
 Predominant Pitch = 8/12
 Number of Stories > 1
 Total Ridges/Hips = 115 ft
 Total Valleys = 26 ft
 Total Rakes = 26 ft
 Total Eaves = 166 ft
 Total Wall Area = 1334.5 sq ft
 Total Wall Facets = 12
 Total Siding Area = 1334.5 sq ft
 Total Masonry Area = 0.0 sq ft

Measurements provided by www.eagleview.com



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www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

Total Line Lengths:

Ridges = 27 ft
Hips = 88 ft

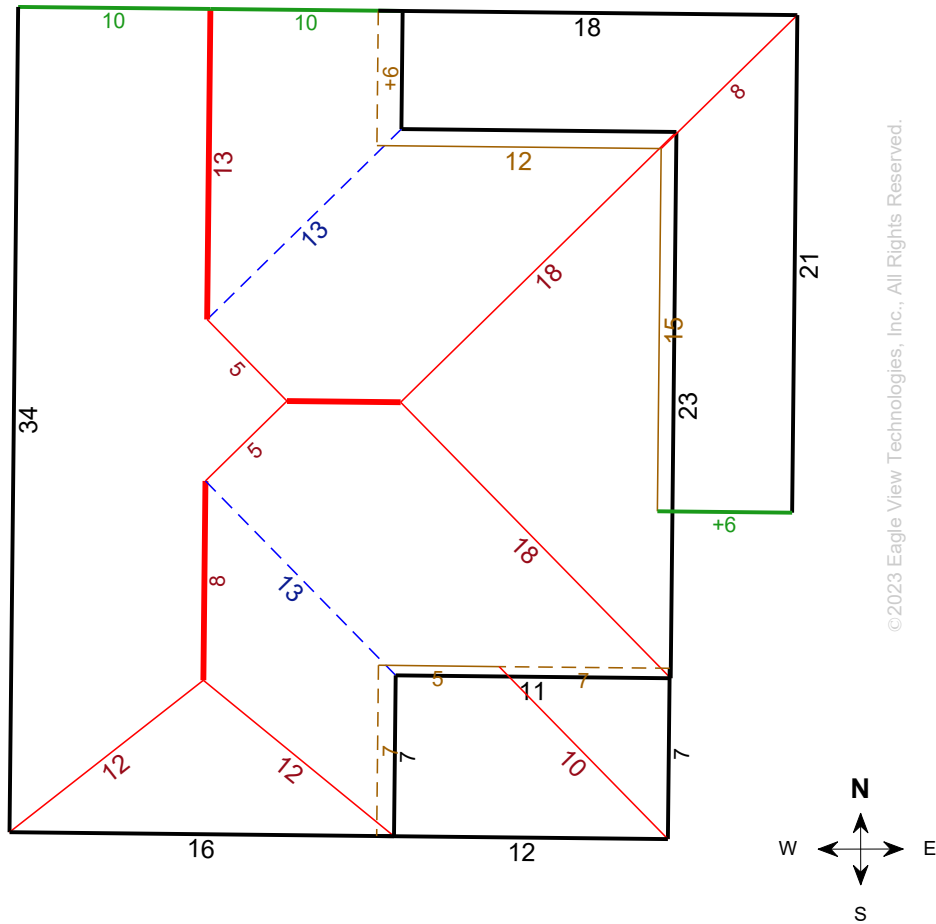
Valleys = 26 ft

Rakes = 26 ft

Eaves = 166 ft

Flashing = 32 ft

Step flashing = 21 ft

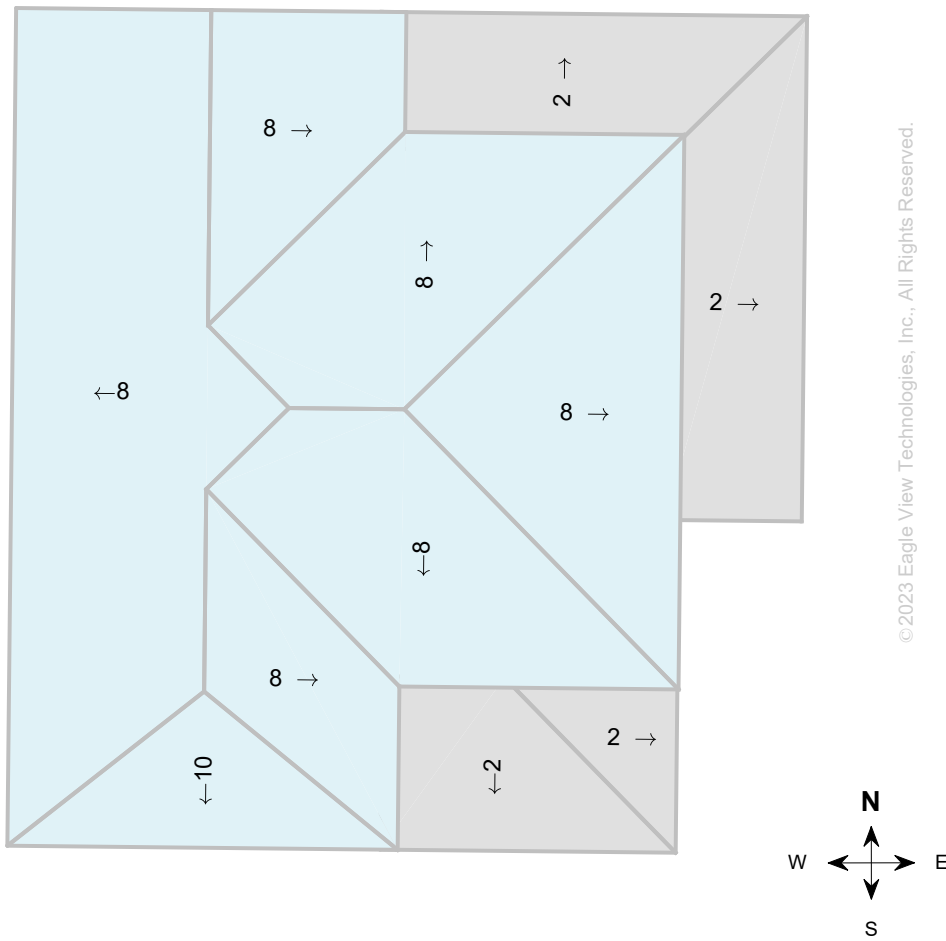
Parapets = 0 ft


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Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 8/12

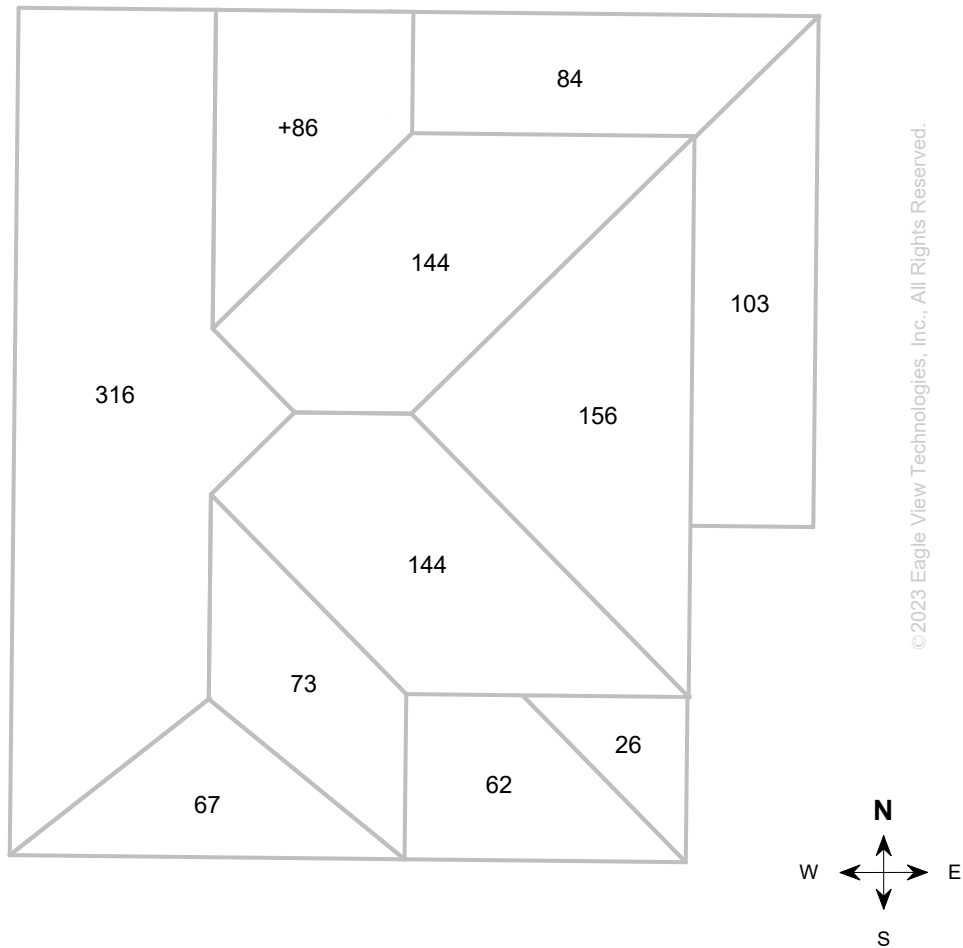


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Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater. Gray shading indicates flat, 1/12 or 2/12 pitches.

AREA DIAGRAM

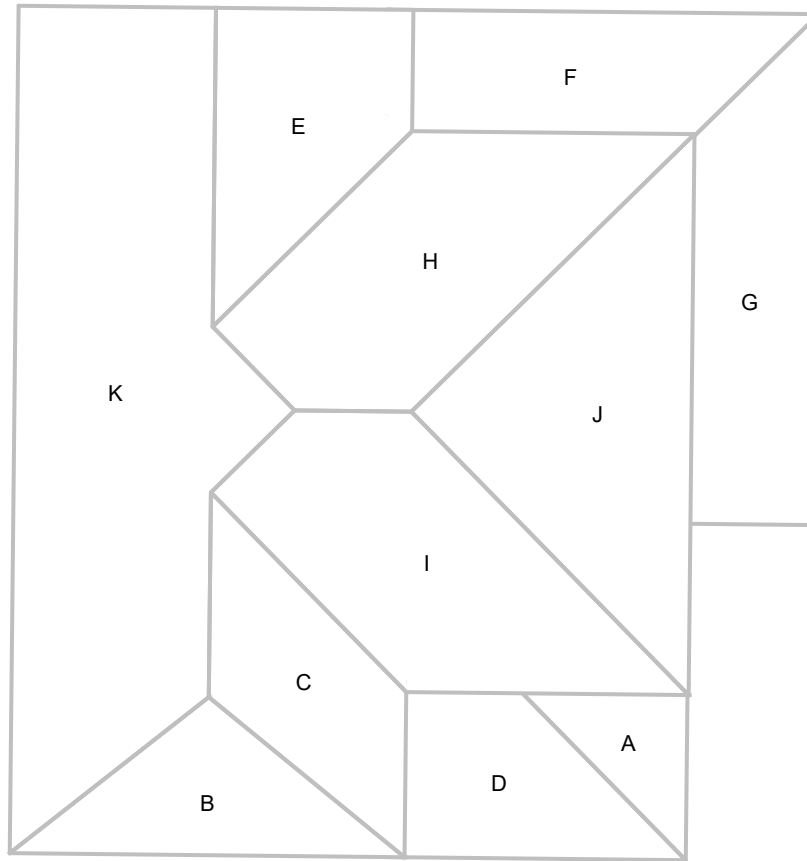
Total Area = 1,261 sq ft, with 11 facets.



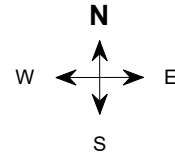
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

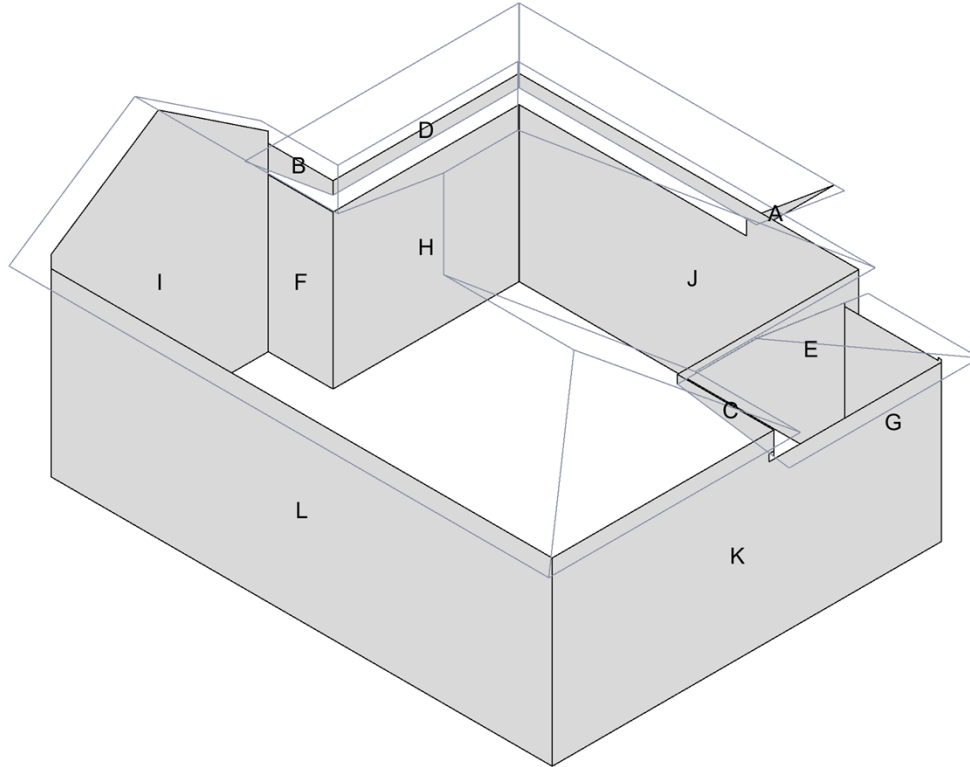
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



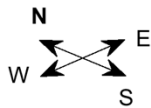
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WALL AREA DIAGRAM



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● Siding
● Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	116.2	0.0
D	9.5	0.0
I	201.8	0.0
Total	327.5	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	236.3	0.0
C	6.2	0.0
B	4.7	0.0
F	40.4	0.0
G	61.1	0.0
Total	348.7	0.0

South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
K	268.9	0.0
E	18.5	0.0
A	2.6	0.0
Total	290.0	0.0

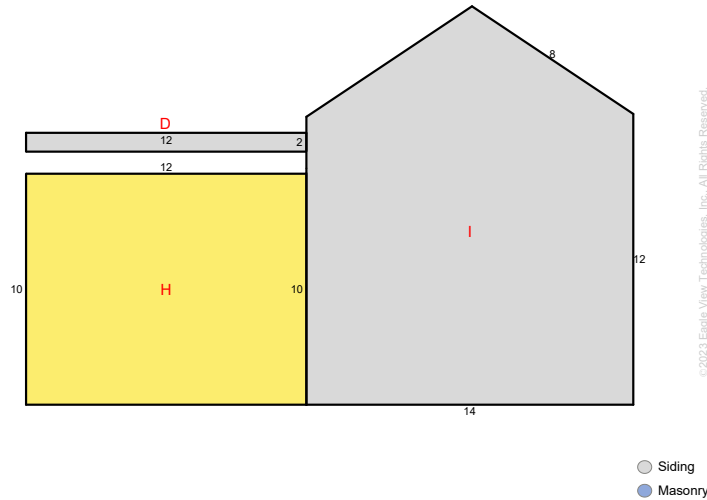
West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
L	368.3	0.0
Total	368.3	0.0

1603 Andrews St, Houston, TX 77019

Report: 55102916

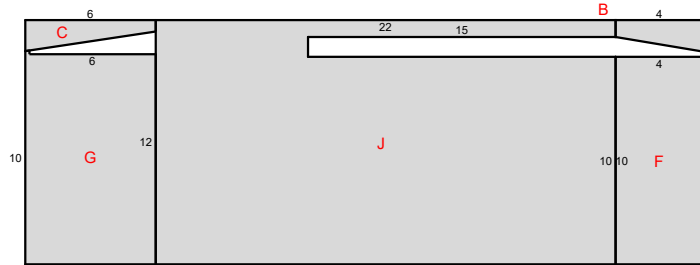
NORTH ELEVATION DIAGRAM



Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	116.2	0.0
D	9.5	0.0
I	201.8	0.0
Total	327.5	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

EAST ELEVATION DIAGRAM



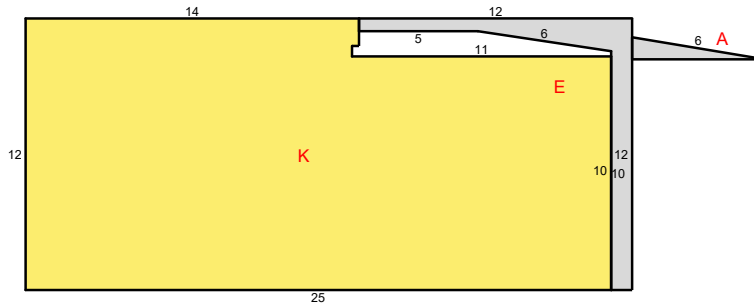
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- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	236.3	0.0
C	6.2	0.0
B	4.7	0.0
F	40.4	0.0
G	61.1	0.0
Total	348.7	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

SOUTH ELEVATION DIAGRAM



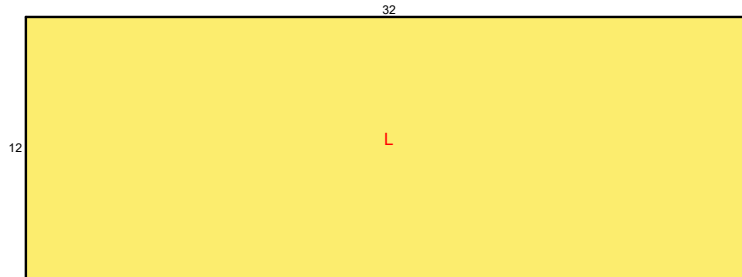
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- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
K	268.9	0.0
E	18.5	0.0
A	2.6	0.0
Total	290.0	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

WEST ELEVATION DIAGRAM



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- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
L	368.3	0.0
Total	368.3	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

REPORT SUMMARY

All Structures

Areas per Pitch			
Roof Pitches	2/12	8/12	10/12
Area (sq ft)	274.4	919.1	67.3
% of Roof	21.8%	72.9%	5.3%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

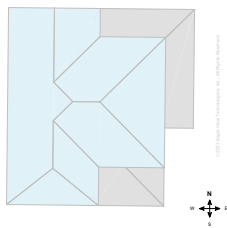
Structure Complexity		
Simple	Normal	Complex

Waste Calculation										
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.										
Waste %	0%	10%	15%	20%	23%	25%	27%	30%	35%	
Area (Sq ft)	987	1086	1136	1185	1215	1234	1254	1284	1333	
Squares *	10.00	11.00	11.66	12.00	12.33	12.66	12.66	13.00	13.33	
	Measured					Suggested				

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 11

Lengths, Areas and Pitches

- Ridges = 27 ft (3 Ridges)
- Hips = 88 ft (8 Hips)
- Valleys = 26 ft (2 Valleys)
- Rakes† = 26 ft (3 Rakes)
- Eaves/Starter‡ = 166 ft (11 Eaves)
- Drip Edge (Eaves + Rakes) = 192 ft (14 Lengths)
- Parapet Walls = 0 (0 Lengths).
- Flashing = 32 ft (3 Lengths)
- Step flashing = 21 ft (3 Lengths)
- Predominant Pitch = 8/12

Total Area (All Pitches) = 1,261 sq ft

Property Location

Longitude = -95.3832029
 Latitude = 29.7556447

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).
 ‡ Eaves are defined as roof edges that are not sloped and level.

1603 Andrews St, Houston, TX 77019

Report: 55102916

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1603+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1603+Andrews+St,Houston,TX,77019

1603 Andrews St, Houston, TX 77019

Report: 55102916

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



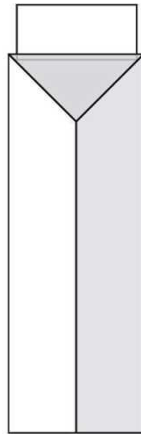
1604 Andrews St, Houston, TX 77019

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In this 3D model, facets appear as semi-transparent to reveal overhangs.

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MEASUREMENTS

Total Roof Area = 996 sq ft
 Total Roof Facets = 4
 Predominant Pitch = 8/12
 Number of Stories <= 1
 Total Ridges/Hips = 64 ft
 Total Valleys = 0 ft
 Total Rakes = 33 ft
 Total Eaves = 123 ft
 Total Wall Area = 1046.3 sq ft
 Total Wall Facets = 11
 Total Siding Area = 950.4 sq ft
 Total Masonry Area = 95.9 sq ft

Measurements provided by www.eagleview.com



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LENGTH DIAGRAM

Total Line Lengths:

Ridges = 38 ft
Hips = 26 ft

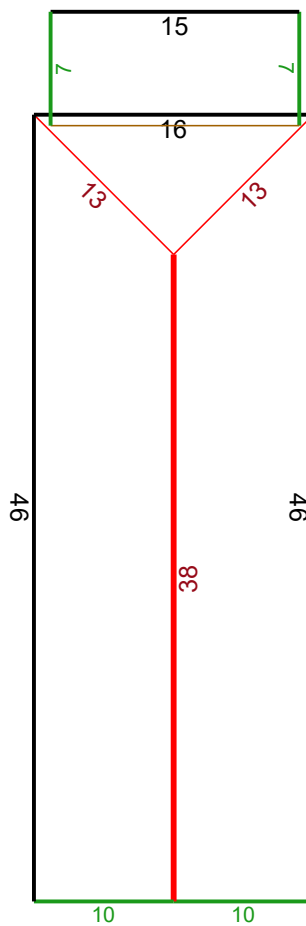
Valleys = 0 ft

Rakes = 33 ft

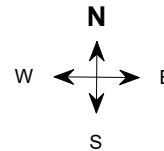
Eaves = 123 ft

Flashing = 15 ft

Step flashing = 0 ft

Parapets = 0 ft


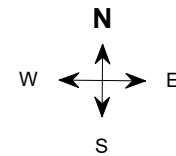
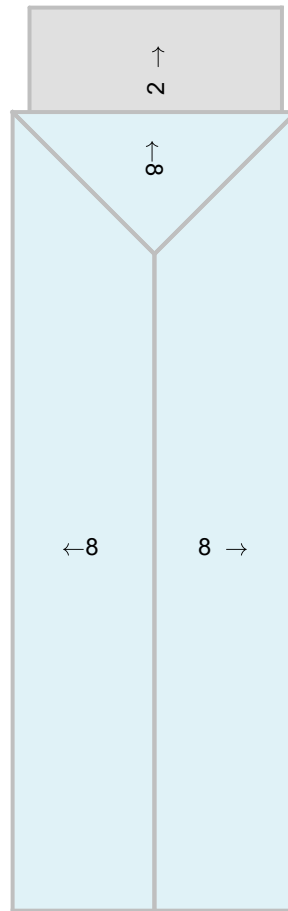
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Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 8/12

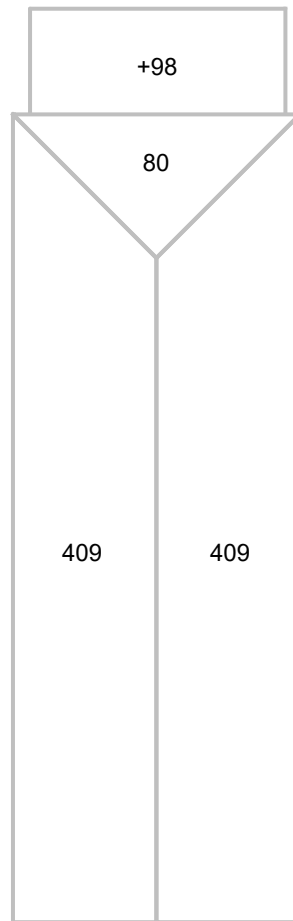


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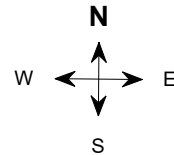
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater. Gray shading indicates flat, 1/12 or 2/12 pitches.

AREA DIAGRAM

Total Area = 996 sq ft, with 4 facets.



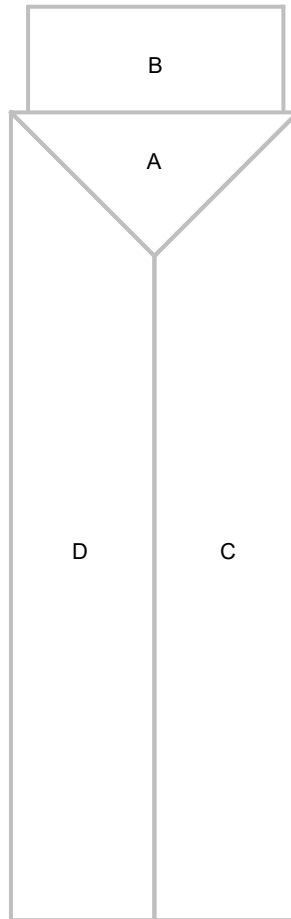
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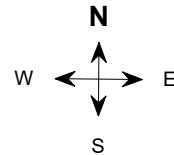
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

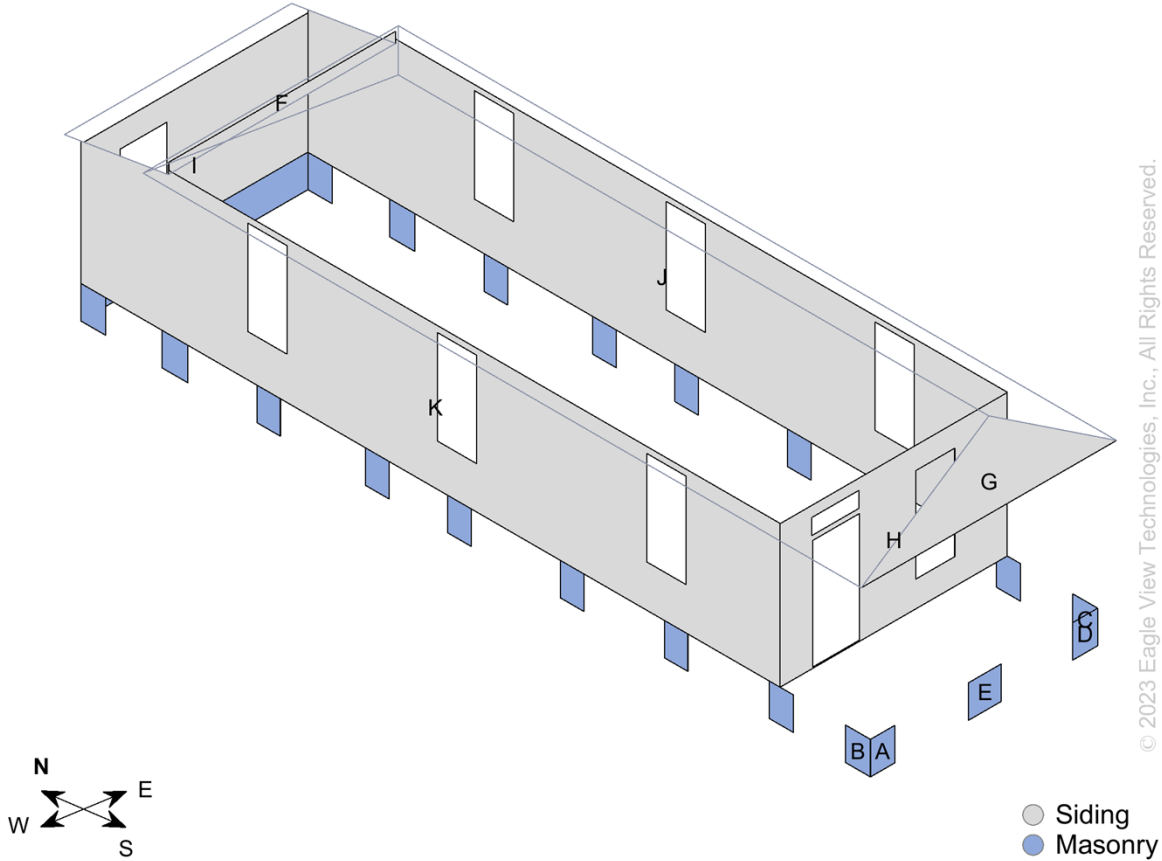
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



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North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	9.8	0.0
I	93.2	27.6
Total	103.0	27.6

South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	92.2	0.0
G	44.3	0.0
E	0.0	4.4
D	0.0	3.3
A	0.0	3.2
Total	136.5	10.9

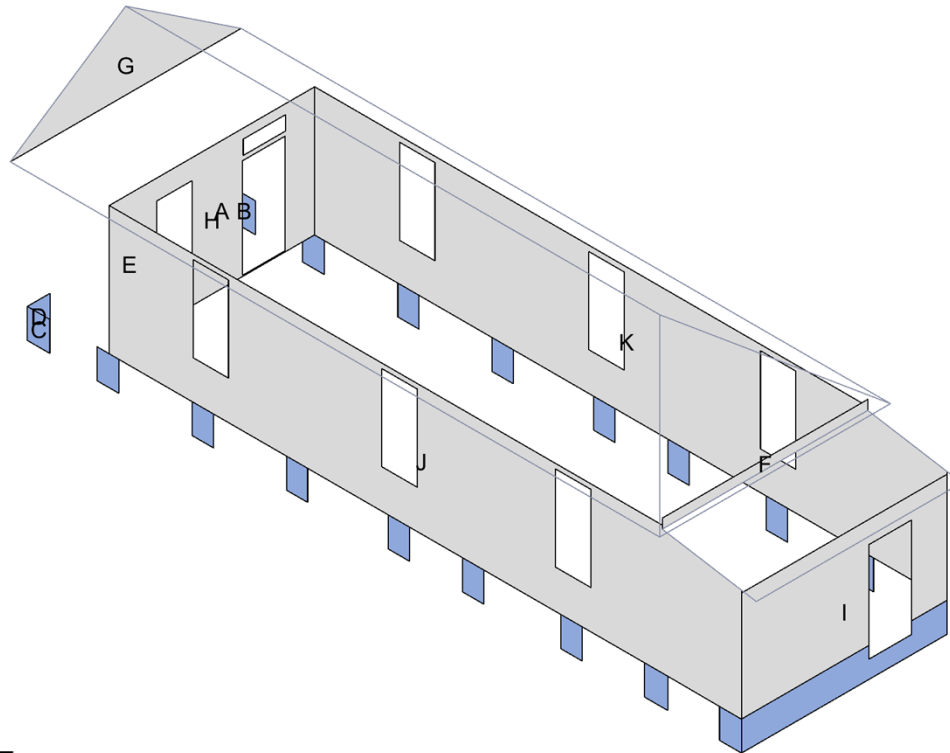
East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	0.0	3.3
J	355.2	25.3
Total	355.2	28.6

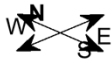
West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	0.0	3.3
K	355.7	25.5
Total	355.7	28.8

ALTERNATE WALL AREA



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- Siding
- Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	9.8	0.0
I	93.2	27.6
Total	103.0	27.6

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	0.0	3.3
J	355.2	25.3
Total	355.2	28.6

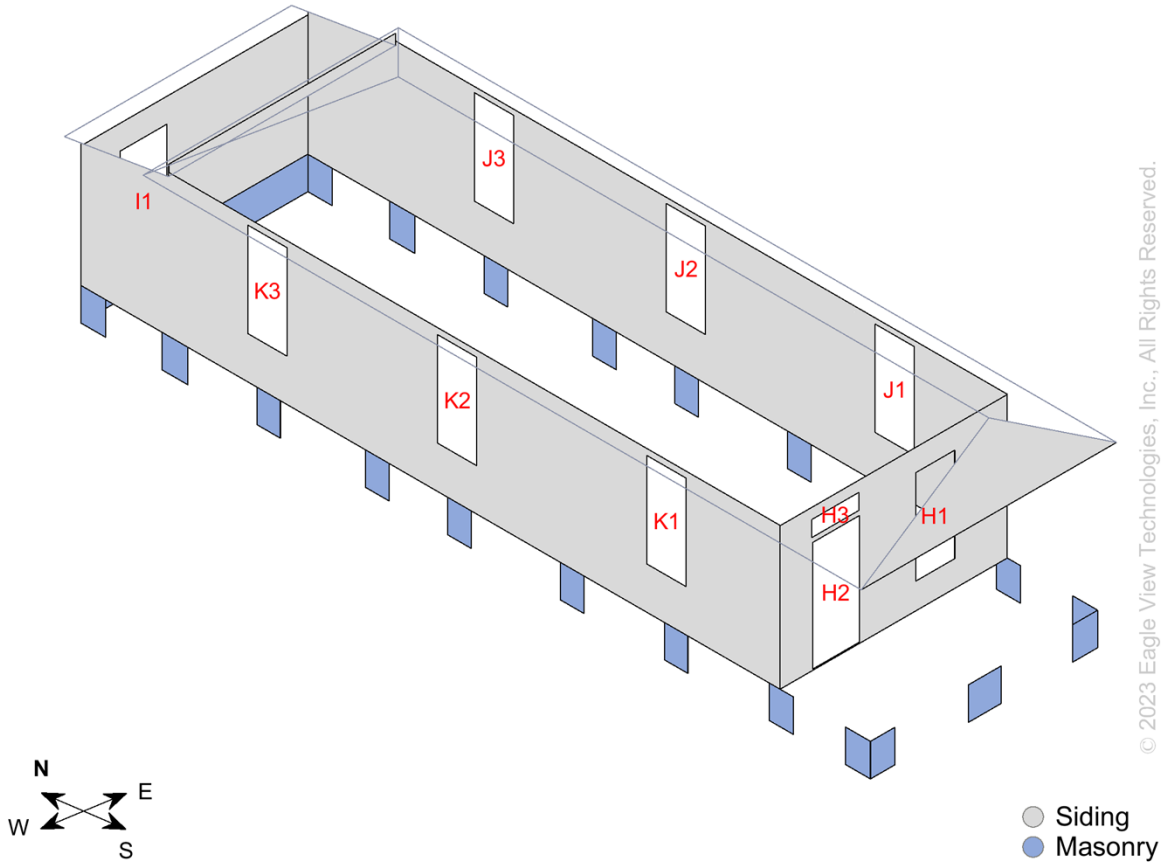
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	92.2	0.0
G	44.3	0.0
E	0.0	4.4
D	0.0	3.3
A	0.0	3.2
Total	136.5	10.9

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	0.0	3.3
K	355.7	25.5
Total	355.7	28.8

WINDOW AND DOOR DIAGRAM



Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
I1	21.0	20.0	3.0 x 7.0
Total	21.0	20.0	n/a

South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
H1	15.0	17.0	2.5 x 6.0
H2	21.0	20.0	3.0 x 7.0
H3	3.0	8.0	3.0 x 1.0
Total	39.0	45.0	n/a

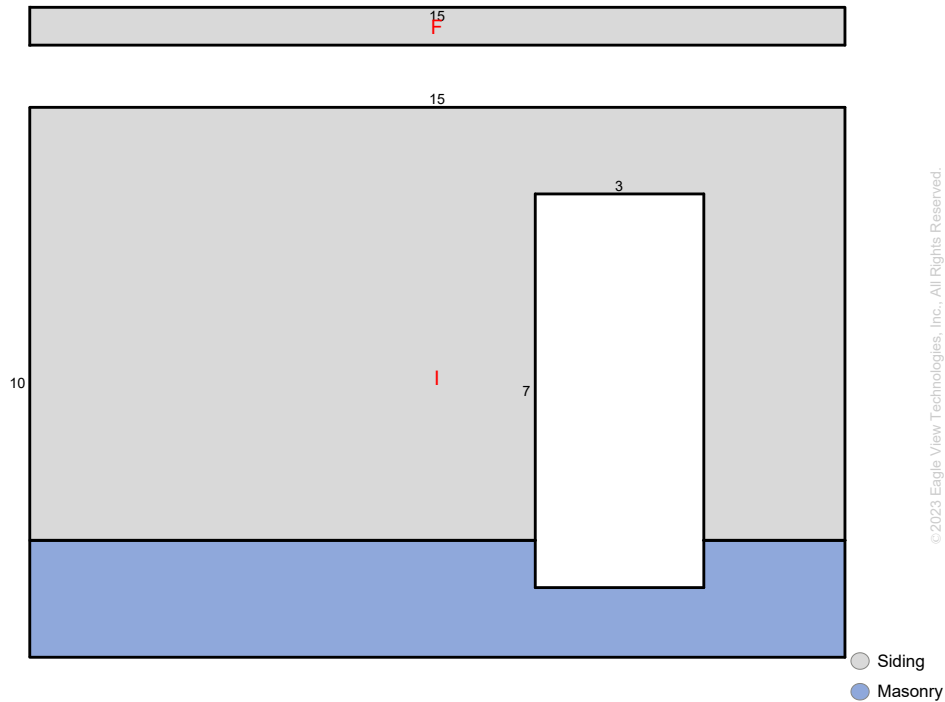
East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
J1	15.0	17.0	2.5 x 6.0
J2	15.0	17.0	2.5 x 6.0
J3	15.0	17.0	2.5 x 6.0
Total	45.0	51.0	n/a

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
K1	15.0	17.0	2.5 x 6.0
K2	15.0	17.0	2.5 x 6.0
K3	15.0	17.0	2.5 x 6.0
Total	45.0	51.0	n/a

NORTH ELEVATION DIAGRAM

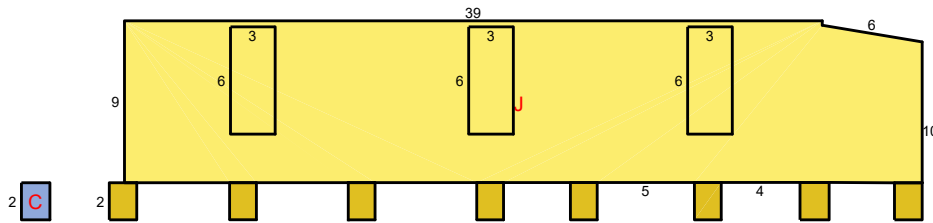


Top of Siding Walls = 29.0 ft
 Bottom of Siding Walls = 29.0 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
F	9.8	0.0	0	0	0
I	93.2	27.6	21.0	20.0	1
Total	103.0	27.6	21.0	20.0	1

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



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- Siding
- Masonry

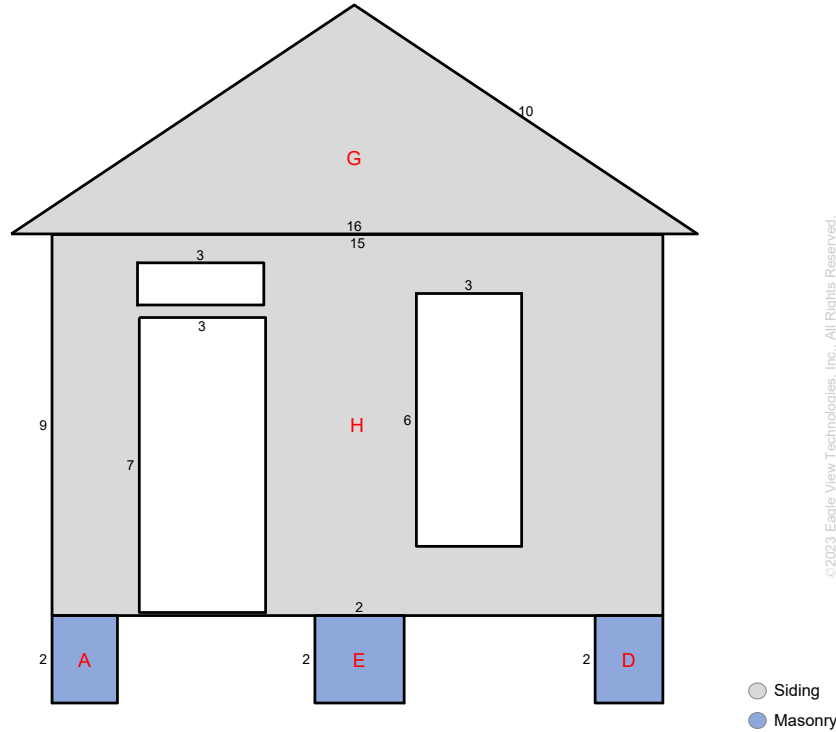
Top of Siding Walls = 44.9 ft

Bottom of Siding Walls = 44.6 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
C	0.0	3.3	0	0	0
J	355.2	25.3	45.0	51.0	3
Total	355.2	28.6	45.0	51.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM



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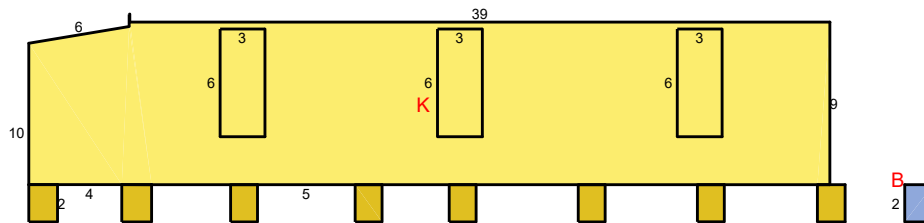
- Siding
- Masonry

Top of Siding Walls = 34.1 ft
 Bottom of Siding Walls = 30.8 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
H	92.2	0.0	39.0	45.0	3
G	44.3	0.0	0	0	0
E	0.0	4.4	0	0	0
D	0.0	3.3	0	0	0
A	0.0	3.2	0	0	0
Total	136.5	10.9	39.0	45.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



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- Siding
- Masonry

Top of Siding Walls = 44.8 ft
 Bottom of Siding Walls = 44.6 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
B	0.0	3.3	0	0	0
K	355.7	25.5	45.0	51.0	3
Total	355.7	28.8	45.0	51.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch		
Roof Pitches	2/12	8/12
Area (sq ft)	97.6	898.2
% of Roof	9.8%	90.2%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

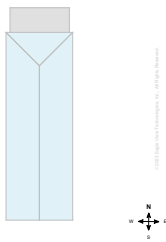
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	5%	10%	13%	15%	17%	20%	25%	30%
Area (Sq ft)	899	944	989	1016	1034	1052	1079	1124	1169
Squares *	9.00	9.66	10.00	10.33	10.66	10.66	11.00	11.33	12.00
	Measured				Suggested				

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 4

Lengths, Areas and Pitches

Ridges = 38 ft (1 Ridges)
 Hips = 26 ft (2 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 33 ft (4 Rakes)
 Eaves/Starter‡ = 123 ft (4 Eaves)
 Drip Edge (Eaves + Rakes) = 156 ft (8 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 15 ft (1 Lengths)
 Step flashing = 0 ft (0 Lengths)
 Predominant Pitch = 8/12

Total Area (All Pitches) = 996 sq ft

Property Location

Longitude = -95.3832864

Latitude = 29.7558686

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1604 Andrews St, Houston, TX 77019

Report: 55102899

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1604+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1604+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	950	1,045	1,055	1,064	1,074	1,083	1,093	1,140
Squares	9.5	10.5	10.5	10.6	10.7	10.8	10.9	11.4

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	96	105	106	107	108	109	110	115
Squares	1	1.1	1.1	1.1	1.1	1.1	1.1	1.2

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 1046.3 ft²

Siding = 950.4 ft²

Masonry = 95.9 ft²

General Totals

Wall Facets = 11

Windows & Doors = 10

Window and Door Area = 150.0 ft²

Window & Door Perimeter = 167.0 ft

Fascia (Eaves + Rakes) = 156 ft

Top of Siding Walls = 152.8 ft

Bottom of Siding Walls = 149.0 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners	35.2 ft	84.0 ft	0.0 ft	119.2 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3832864

Latitude = 29.7558686

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1604 Andrews St, Houston, TX 77019

Report: 55102899

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Precise Aerial Measurement Report



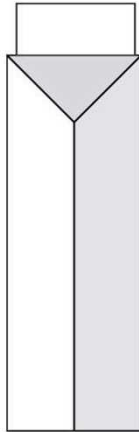
1606 Andrews St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 1,005 sq ft
 Total Roof Facets = 4
 Predominant Pitch = 8/12
 Number of Stories <= 1
 Total Ridges/Hips = 64 ft
 Total Valleys = 0 ft
 Total Rakes = 33 ft
 Total Eaves = 109 ft
 Total Wall Area = 982.5 sq ft
 Total Wall Facets = 5
 Total Siding Area = 982.5 sq ft
 Total Masonry Area = 0.0 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

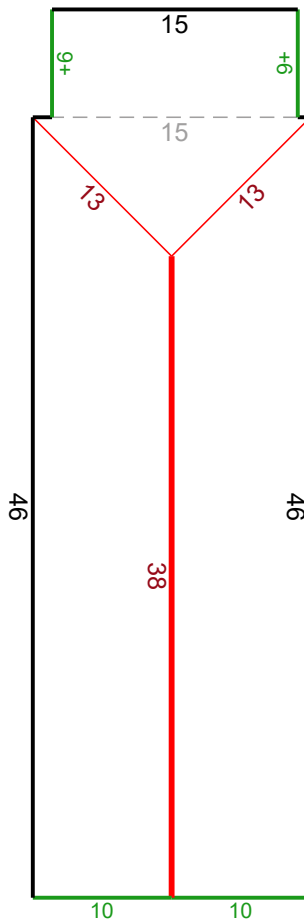
LENGTH DIAGRAM

Total Line Lengths:

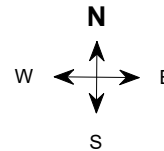
Ridges = 38 ft
Hips = 26 ft

Valleys = 0 ft
 Rakes = 33 ft
 Eaves = 109 ft

Flashing = 0 ft
 Step flashing = 0 ft
 Parapets = 0 ft



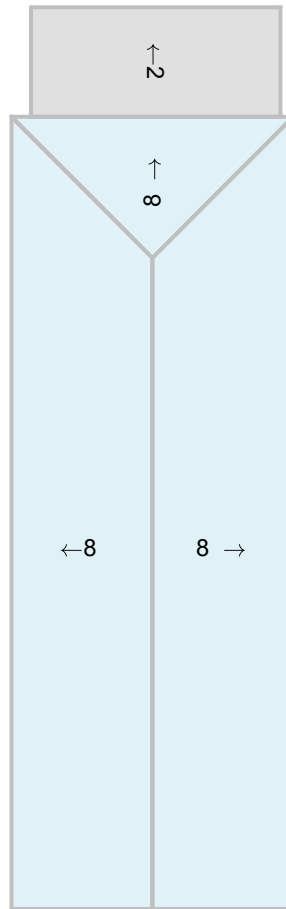
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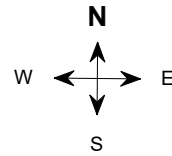
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 8/12



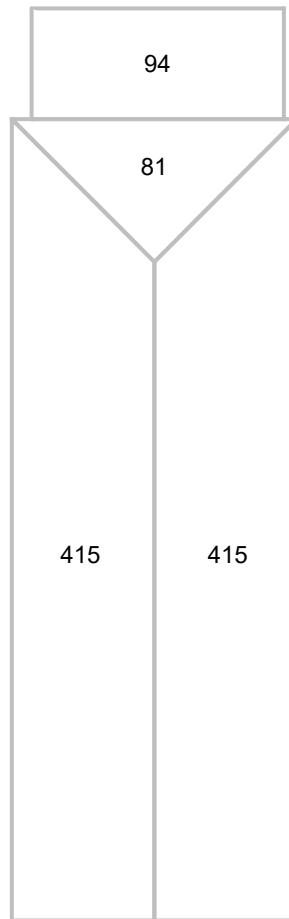
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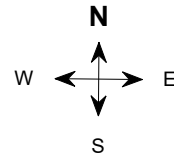
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater. Gray shading indicates flat, 1/12 or 2/12 pitches.

AREA DIAGRAM

Total Area = 1,005 sq ft, with 4 facets.



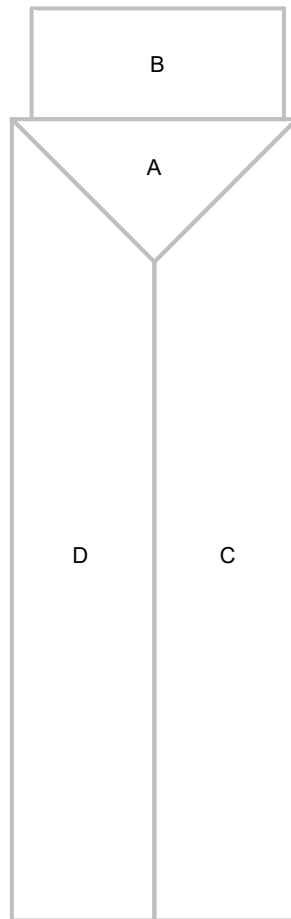
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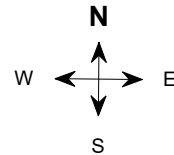
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

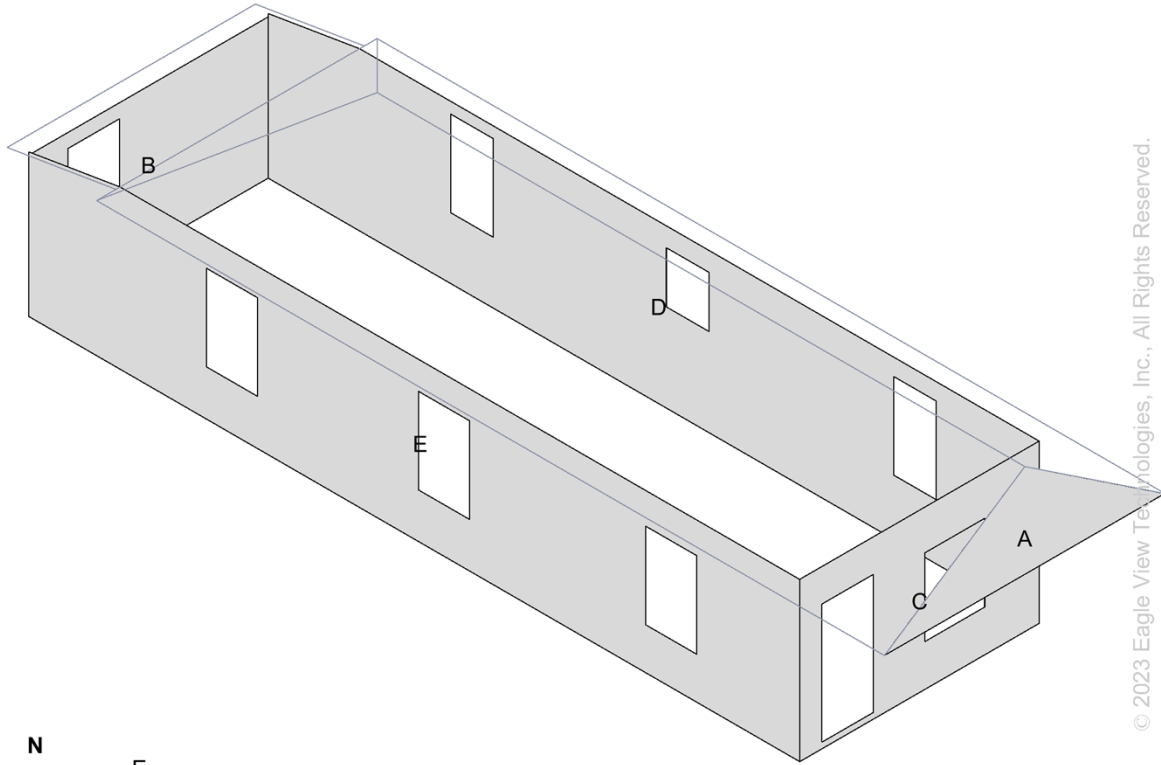
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



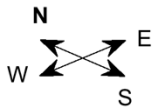
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WALL AREA DIAGRAM



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- Siding
- Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	93.6	0.0
Total	93.6	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	381.9	0.0
Total	381.9	0.0

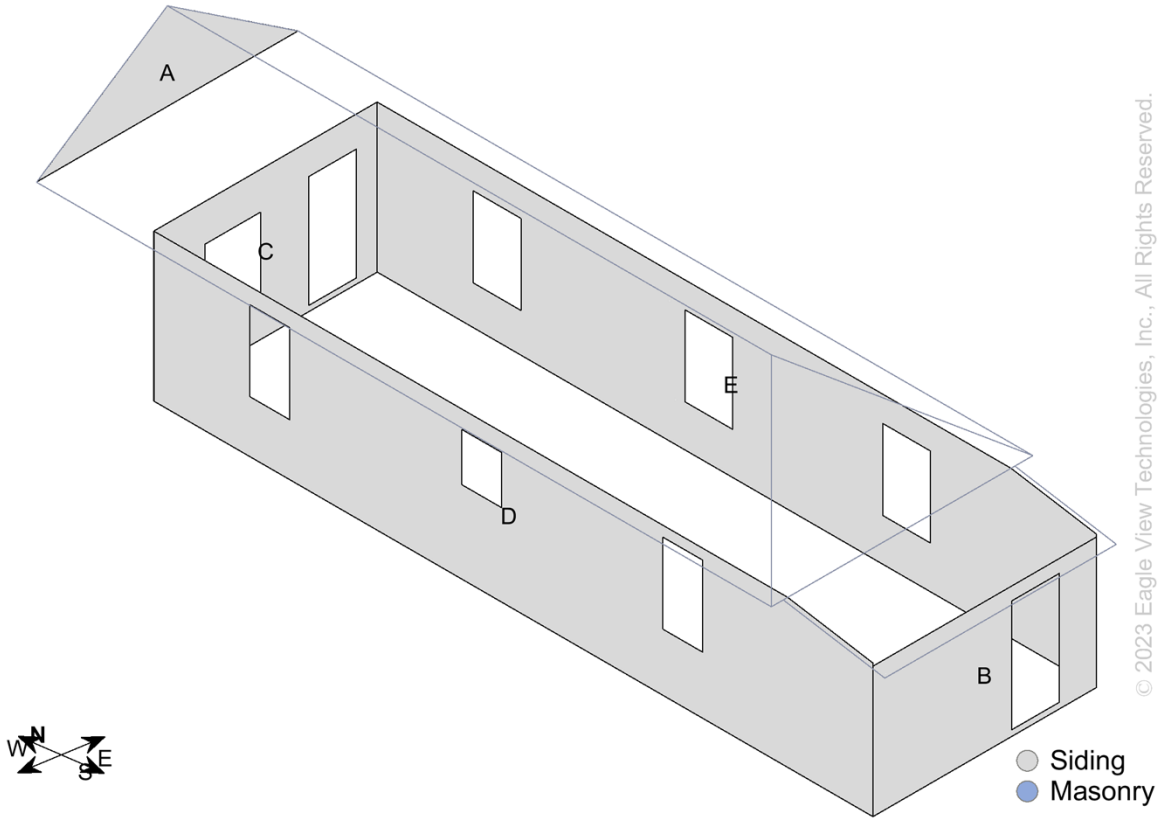
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	44.8	0.0
C	92.8	0.0
Total	137.6	0.0

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	369.4	0.0
Total	369.4	0.0

ALTERNATE WALL AREA



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	93.6	0.0
Total	93.6	0.0

South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	44.8	0.0
C	92.8	0.0
Total	137.6	0.0

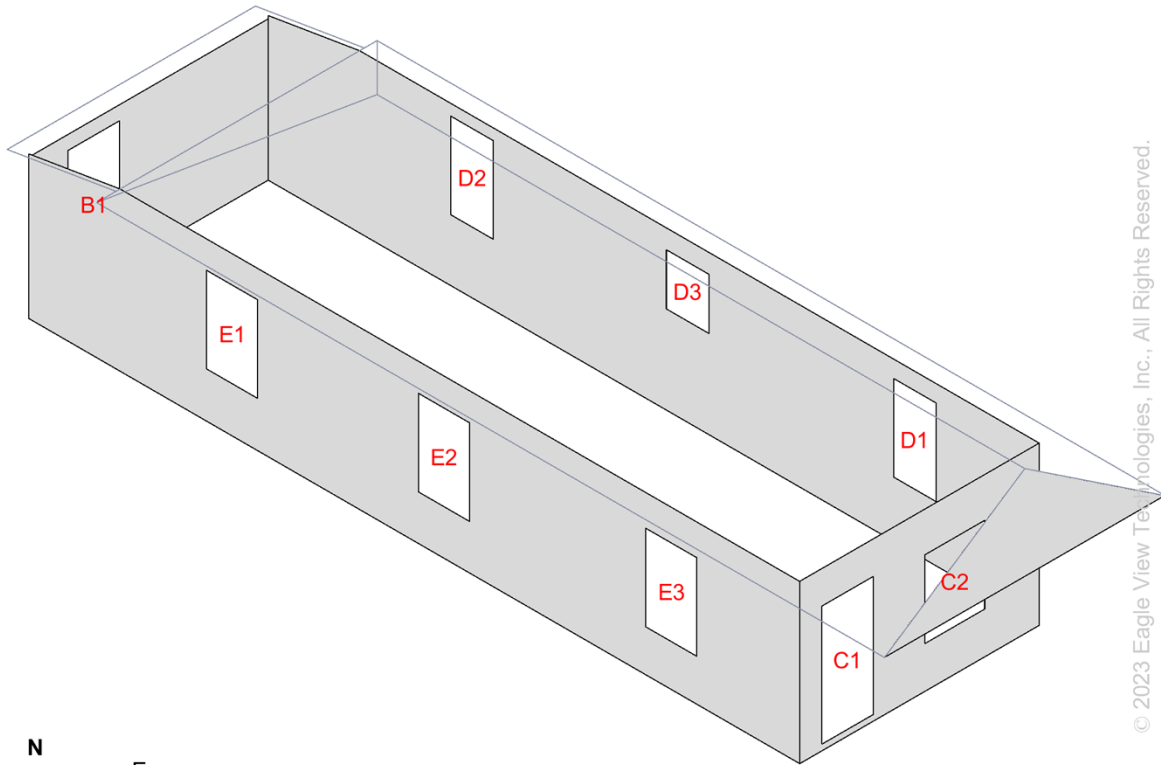
East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	381.9	0.0
Total	381.9	0.0

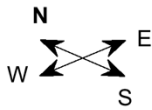
West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	369.4	0.0
Total	369.4	0.0

WINDOW AND DOOR DIAGRAM



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- Siding
- Masonry

Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
B1	21.0	20.0	3.0 x 7.0
Total	21.0	20.0	n/a

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
D1	12.5	15.0	2.5 x 5.0
D2	12.5	15.0	2.5 x 5.0
D3	7.5	11.0	2.5 x 3.0
Total	32.5	41.0	n/a

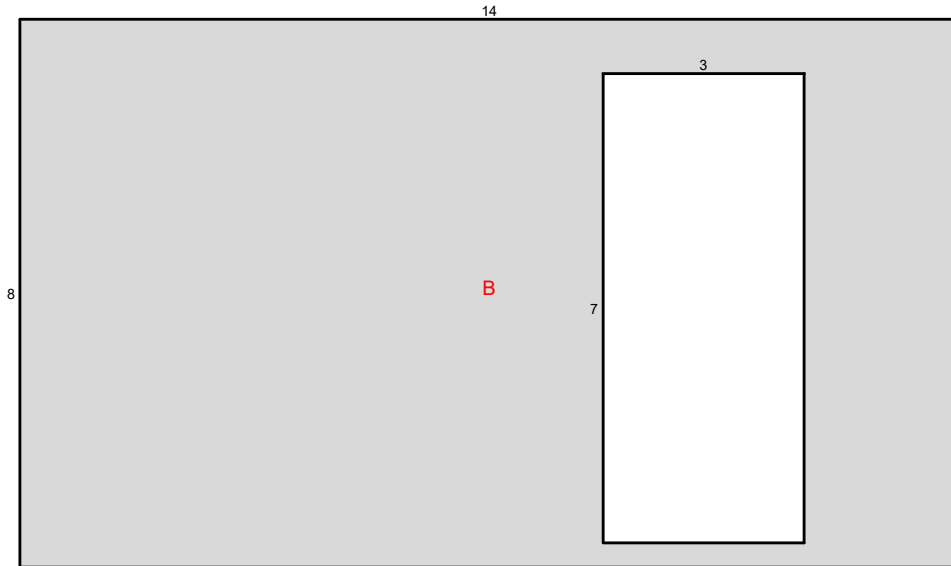
South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
C1	21.0	20.0	3.0 x 7.0
C2	15.7	16.0	3.5 x 4.5
Total	36.7	36.0	n/a

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
E1	15.0	16.0	3.0 x 5.0
E2	15.0	16.0	3.0 x 5.0
E3	15.0	16.0	3.0 x 5.0
Total	45.0	48.0	n/a

NORTH ELEVATION DIAGRAM



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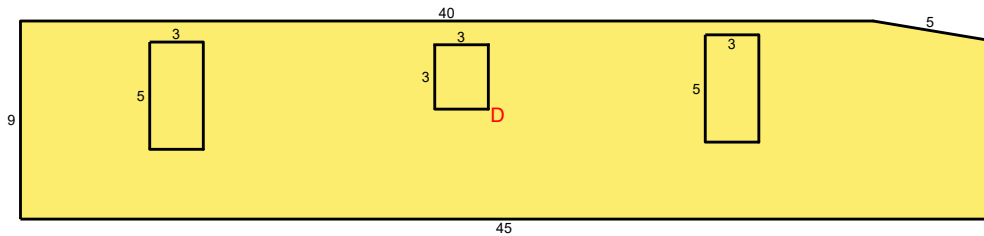
- Siding
- Masonry

Top of Siding Walls = 14.0 ft
 Bottom of Siding Walls = 14.0 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
B	93.6	0.0	21.0	20.0	1
Total	93.6	0.0	21.0	20.0	1

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



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- Siding
- Masonry

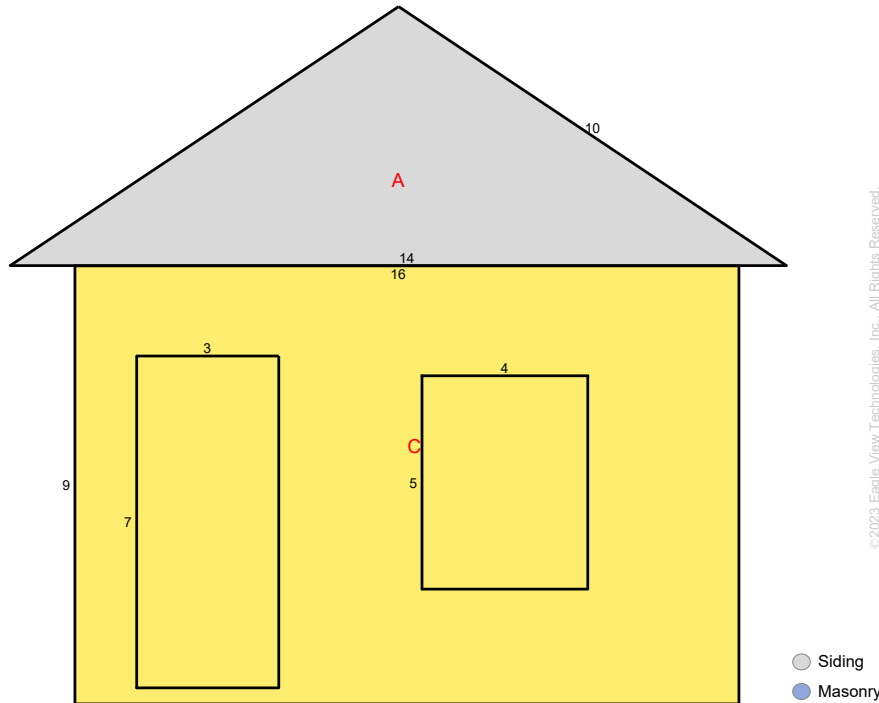
Top of Siding Walls = 45.4 ft

Bottom of Siding Walls = 45.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
D	381.9	0.0	32.5	41.0	3
Total	381.9	0.0	32.5	41.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM

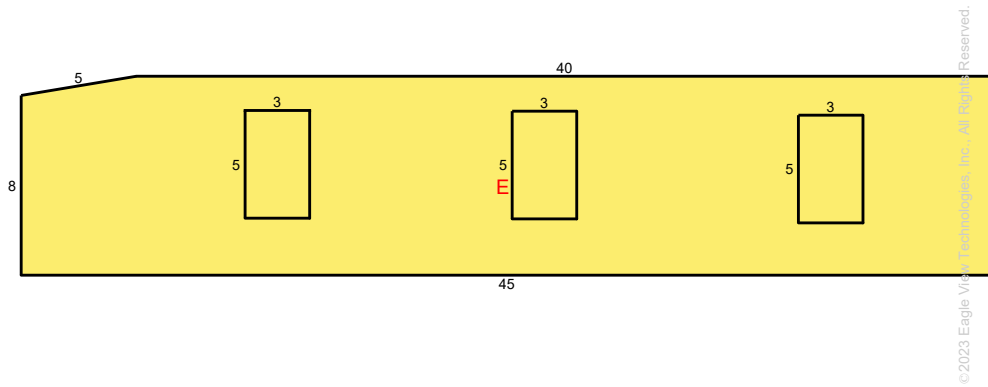


Top of Siding Walls = 33.7 ft
 Bottom of Siding Walls = 30.4 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
A	44.8	0.0	0	0	0
C	92.8	0.0	36.7	36.0	2
Total	137.6	0.0	36.7	36.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



- Siding
- Masonry

Top of Siding Walls = 45.5 ft
 Bottom of Siding Walls = 45.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
E	369.4	0.0	45.0	48.0	3
Total	369.4	0.0	45.0	48.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch		
Roof Pitches	2/12	8/12
Area (sq ft)	93.9	910.2
% of Roof	9.3%	90.6%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

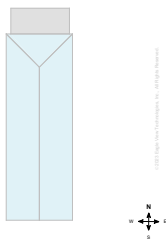
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	4%	9%	12%	14%	16%	19%	24%	29%
Area (Sq ft)	911	948	993	1021	1039	1057	1085	1130	1176
Squares *	9.33	9.66	10.00	10.33	10.66	10.66	11.00	11.33	12.00
	Measured				Suggested				

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 4

Lengths, Areas and Pitches

Ridges = 38 ft (1 Ridges)
 Hips = 26 ft (2 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 33 ft (4 Rakes)
 Eaves/Starter‡ = 109 ft (5 Eaves)
 Drip Edge (Eaves + Rakes) = 142 ft (9 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 0 ft (0 Lengths)
 Predominant Pitch = 8/12
Total Area (All Pitches) = 1,005 sq ft

Property Location

Longitude = -95.3833569
 Latitude = 29.7558722

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1606 Andrews St, Houston, TX 77019

Report: 55102905

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1606+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1606+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	982	1,081	1,091	1,100	1,110	1,120	1,130	1,179
Squares	9.8	10.8	10.9	11	11.1	11.2	11.3	11.8

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	0	0	0	0	0	0	0	0
Squares	0	0	0	0	0	0	0	0

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 982.5 ft²

Siding = 982.5 ft²

Masonry = 0.0 ft²

General Totals

Wall Facets = 5

Windows & Doors = 9

Window and Door Area = 135.2 ft²

Window & Door Perimeter = 145.0 ft

Fascia (Eaves + Rakes) = 142 ft

Top of Siding Walls = 138.6 ft

Bottom of Siding Walls = 134.6 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners	35.0 ft	0.0 ft	0.0 ft	35.0 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3833569

Latitude = 29.7558722

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1606 Andrews St, Houston, TX 77019

Report: 55102905

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Precise Aerial Measurement Report



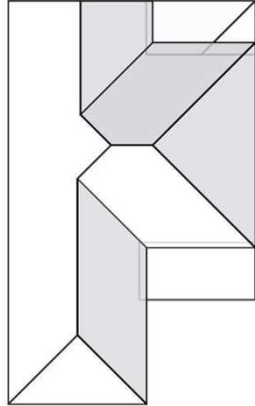
1607 Andrews St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 1,354 sq ft
 Total Roof Facets = 10
 Predominant Pitch = 7/12
 Number of Stories > 1
 Total Ridges/Hips = 117 ft
 Total Valleys = 25 ft
 Total Rakes = 26 ft
 Total Eaves = 165 ft
 Total Wall Area = 1520.0 sq ft
 Total Wall Facets = 11
 Total Siding Area = 1371.6 sq ft
 Total Masonry Area = 148.4 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

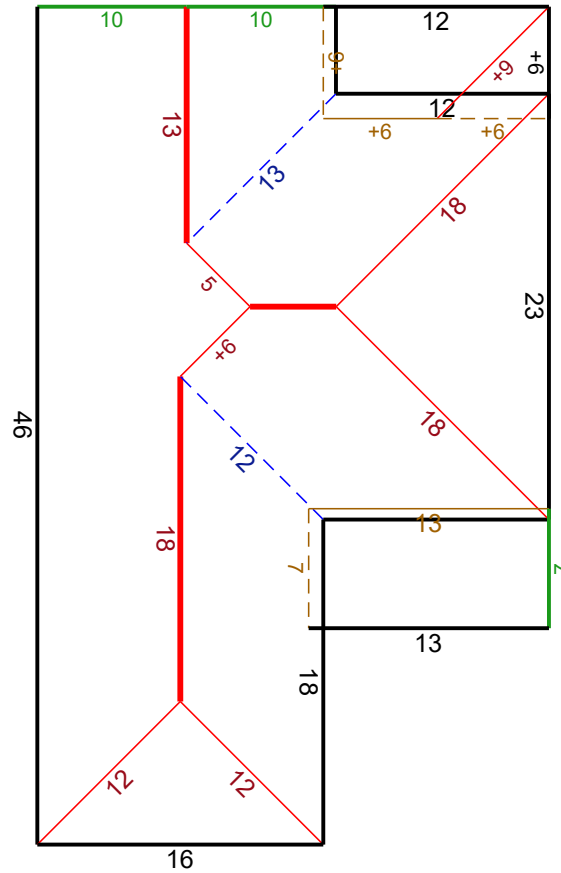
LENGTH DIAGRAM

Total Line Lengths:

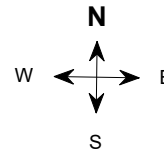
Ridges = 36 ft
Hips = 81 ft

Valleys = 25 ft
Rakes = 26 ft
Eaves = 165 ft

Flashing = 20 ft
Step flashing = 20 ft
Parapets = 0 ft



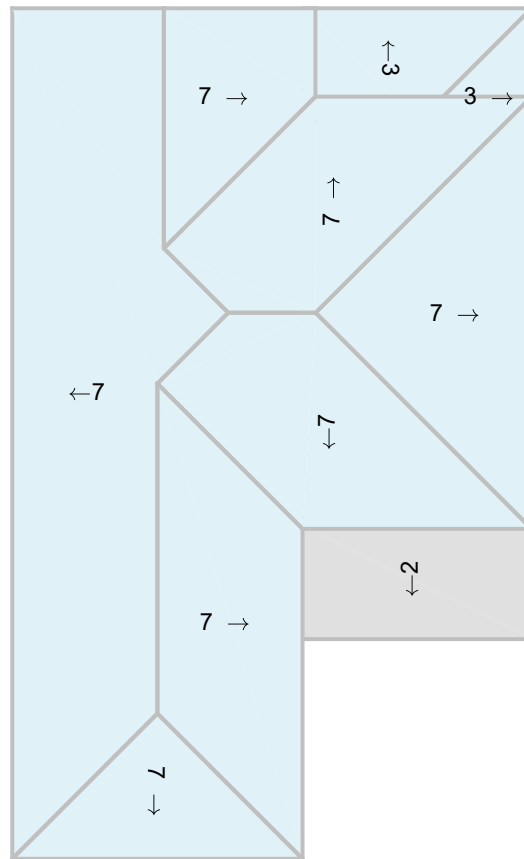
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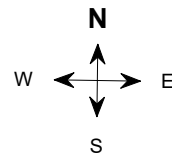
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 7/12



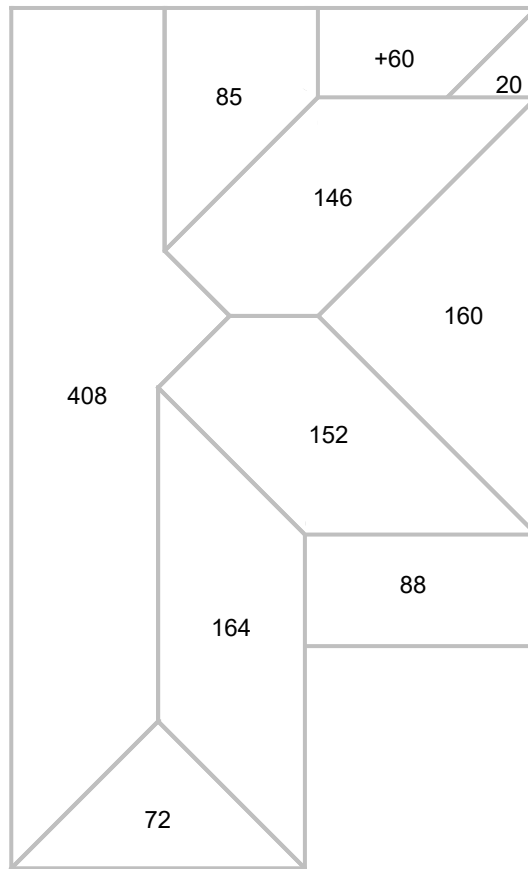
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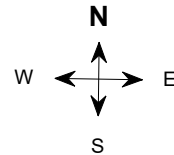
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater. Gray shading indicates flat, 1/12 or 2/12 pitches.

AREA DIAGRAM

Total Area = 1,354 sq ft, with 10 facets.



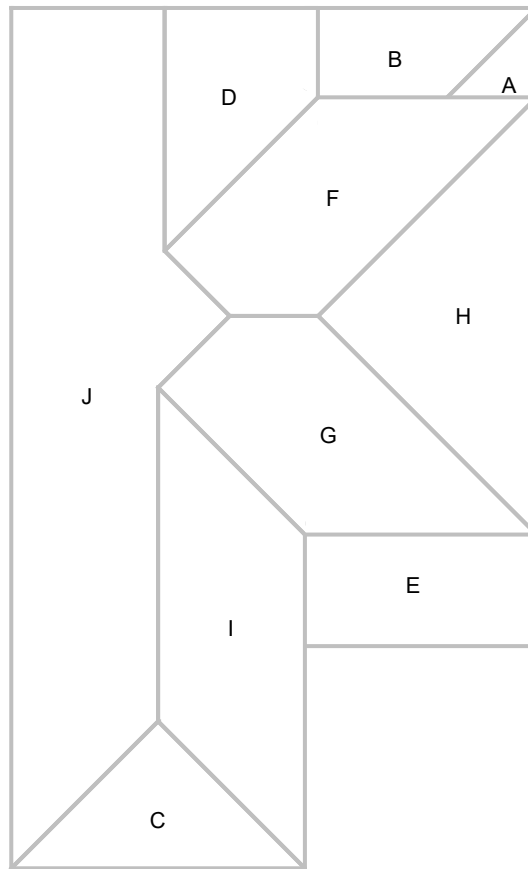
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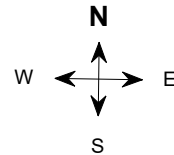
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

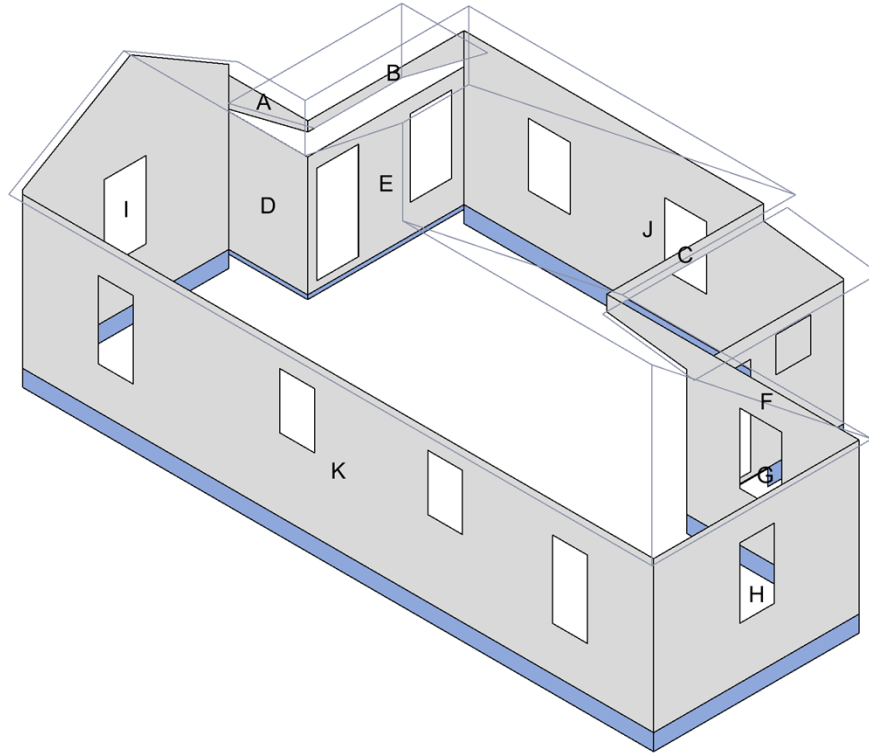
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



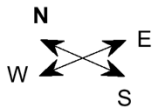
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WALL AREA DIAGRAM



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● Siding
● Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	58.9	3.3
B	10.2	0.0
I	182.9	17.5
Total	252.0	20.8

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	48.6	1.7
A	7.9	0.0
G	127.4	14.7
J	259.9	32.3
Total	443.8	48.7

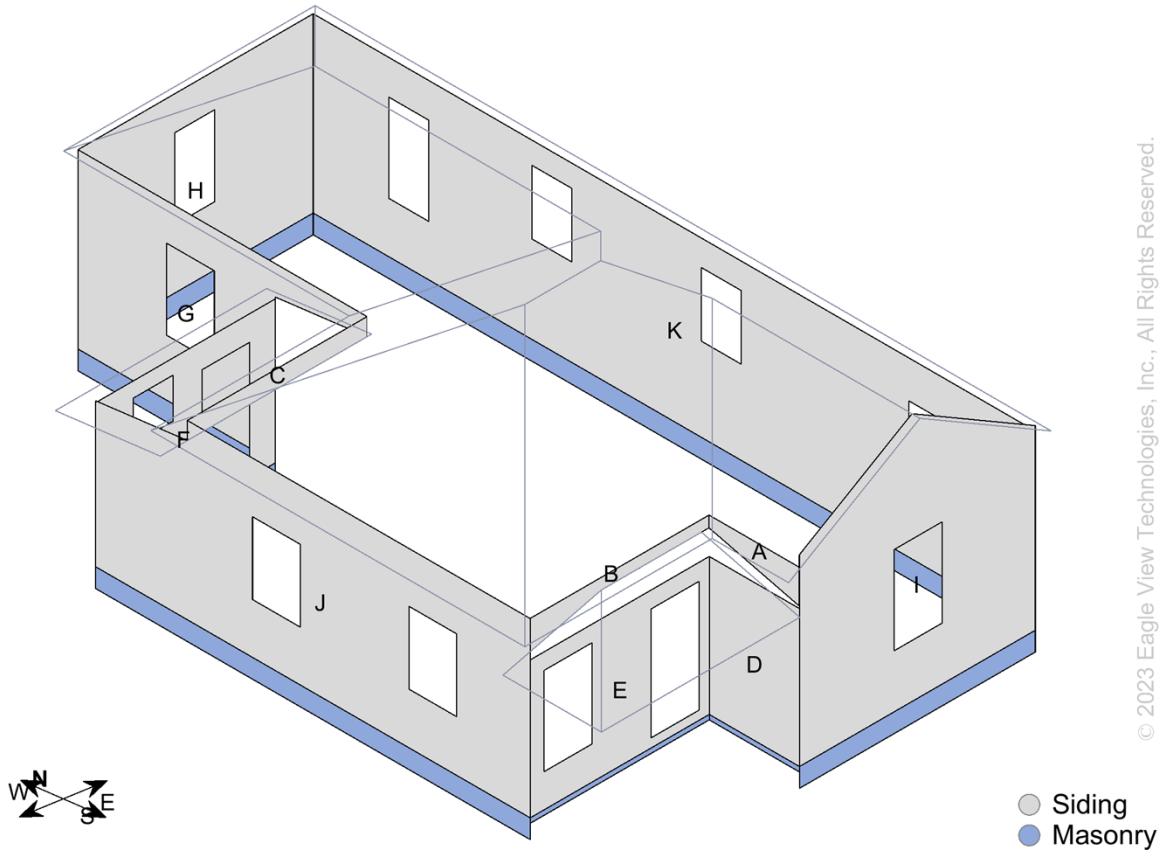
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	12.3	0.0
H	147.3	17.5
F	73.2	7.8
Total	232.8	25.3

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
K	443.0	53.6
Total	443.0	53.6

ALTERNATE WALL AREA



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North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	58.9	3.3
B	10.2	0.0
I	182.9	17.5
Total	252.0	20.8

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	48.6	1.7
A	7.9	0.0
G	127.4	14.7
J	259.9	32.3
Total	443.8	48.7

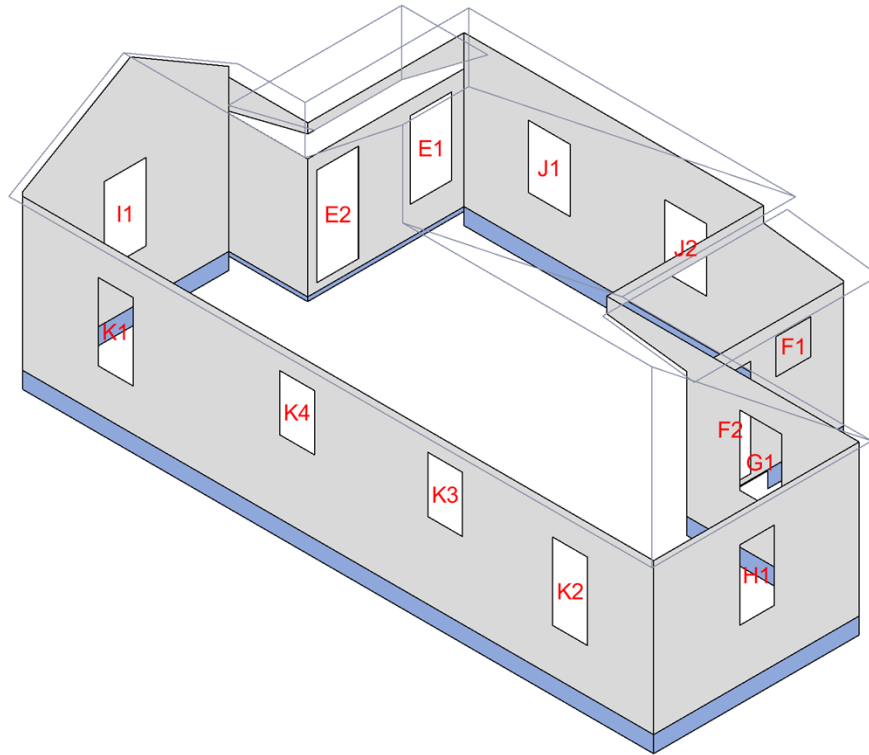
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	12.3	0.0
H	147.3	17.5
F	73.2	7.8
Total	232.8	25.3

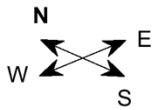
West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
K	443.0	53.6
Total	443.0	53.6

WINDOW AND DOOR DIAGRAM



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● Siding
● Masonry

Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
E1	16.5	17.0	3.0 x 5.5
E2	21.0	20.0	3.0 x 7.0
I1	16.5	17.0	3.0 x 5.5
Total	54.0	54.0	n/a

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
G1	15.0	16.0	3.0 x 5.0
J1	13.5	15.0	3.0 x 4.5
J2	13.5	15.0	3.0 x 4.5
Total	42.0	46.0	n/a

South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
F1	6.2	10.0	2.5 x 2.5
F2	21.0	20.0	3.0 x 7.0
H1	12.5	15.0	2.5 x 5.0
Total	39.7	45.0	n/a

West

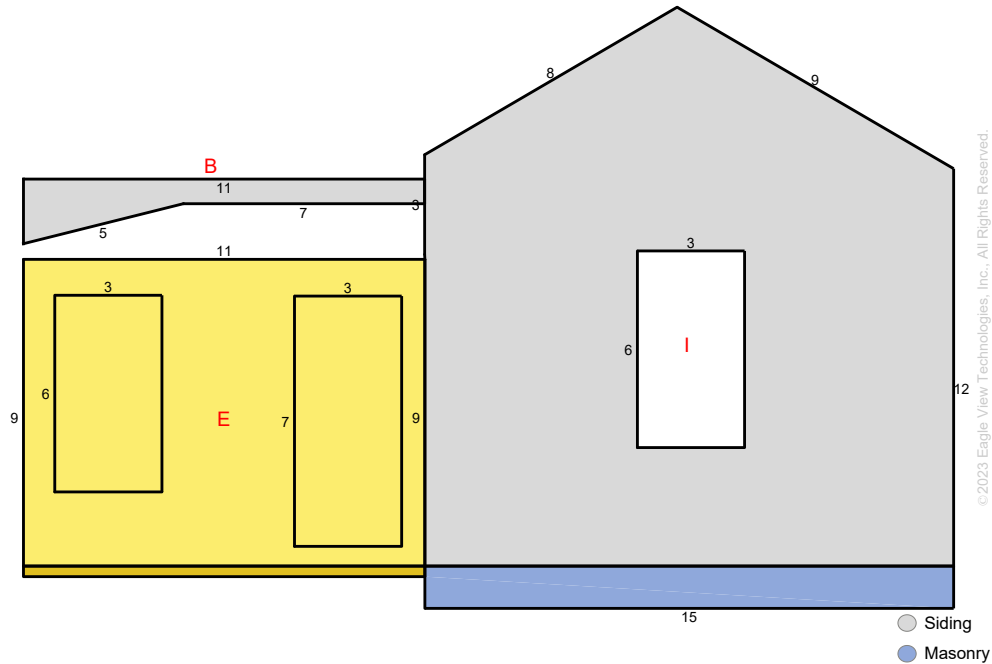
Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
K1	13.7	16.0	2.5 x 5.5
K2	13.7	16.0	2.5 x 5.5
K3	10.0	13.0	2.5 x 4.0
K4	10.0	13.0	2.5 x 4.0

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Total	47.4	58.0	n/a
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NORTH ELEVATION DIAGRAM

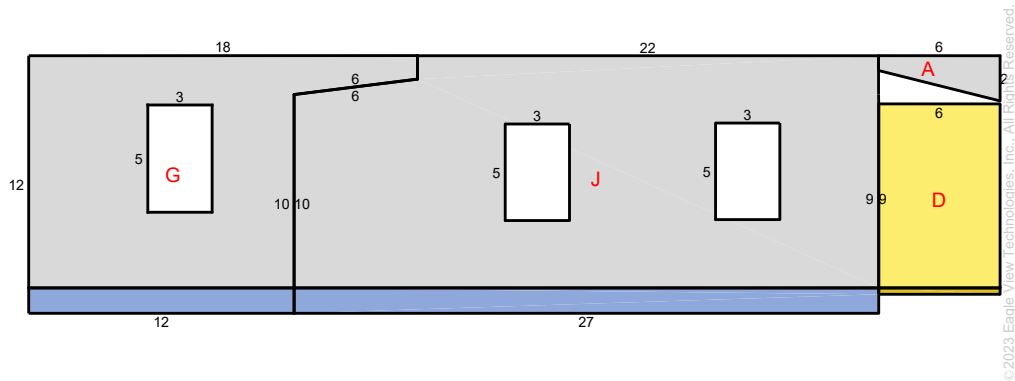


Top of Siding Walls = 39.6 ft
 Bottom of Siding Walls = 37.4 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
E	58.9	3.3	37.5	37.0	2
B	10.2	0.0	0	0	0
I	182.9	17.5	16.5	17.0	1
Total	252.0	20.8	54.0	54.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



- Siding
- Masonry

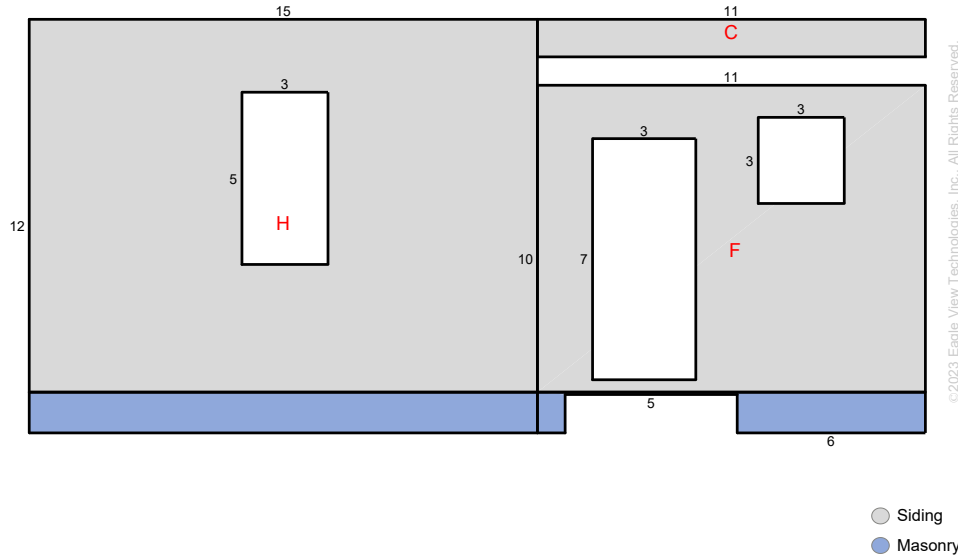
Top of Siding Walls = 57.1 ft

Bottom of Siding Walls = 57.0 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
D	48.6	1.7	0	0	0
A	7.9	0.0	0	0	0
G	127.4	14.7	15.0	16.0	1
J	259.9	32.3	27.0	30.0	2
Total	443.8	48.7	42.0	46.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM

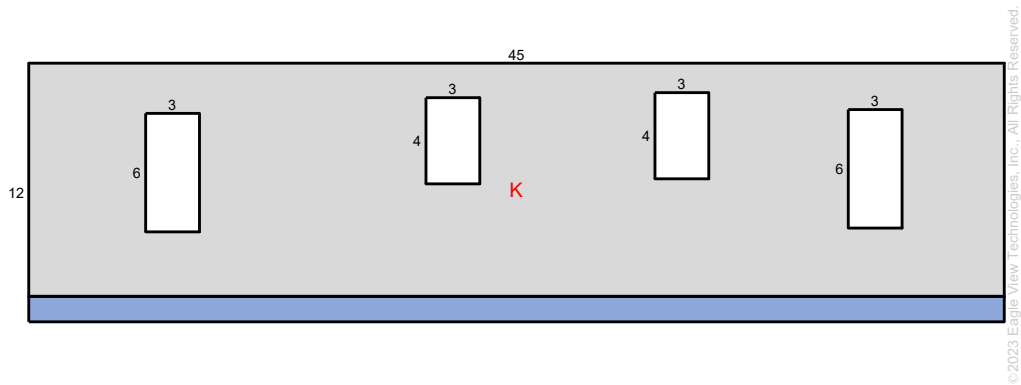


Top of Siding Walls = 37.5 ft
Bottom of Siding Walls = 37.4 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
C	12.3	0.0	0	0	0
H	147.3	17.5	12.5	15.0	1
F	73.2	7.8	27.2	30.0	2
Total	232.8	25.3	39.7	45.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



- Siding
- Masonry

Top of Siding Walls = 45.3 ft
 Bottom of Siding Walls = 45.3 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
K	443.0	53.6	47.4	58.0	4
Total	443.0	53.6	47.4	58.0	4

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch			
Roof Pitches	2/12	3/12	7/12
Area (sq ft)	88.1	79.2	1186.6
% of Roof	6.5%	5.8%	87.6%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

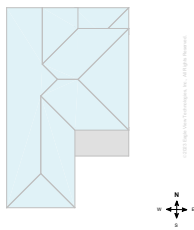
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	9%	14%	19%	22%	24%	26%	29%	34%
Area (Sq ft)	1266	1380	1444	1507	1545	1570	1596	1634	1697
Squares *	12.66	14.00	14.66	15.33	15.66	16.00	16.00	16.66	17.00
	Measured					Suggested			

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 10

Lengths, Areas and Pitches

Ridges = 36 ft (3 Ridges)
 Hips = 81 ft (7 Hips)
 Valleys = 25 ft (2 Valleys)
 Rakes† = 26 ft (3 Rakes)
 Eaves/Starter‡ = 165 ft (10 Eaves)
 Drip Edge (Eaves + Rakes) = 191 ft (13 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 20 ft (2 Lengths)
 Step flashing = 20 ft (3 Lengths)
 Predominant Pitch = 7/12
Total Area (All Pitches) = 1,354 sq ft

Property Location

Longitude = -95.3834624
 Latitude = 29.7555998

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

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Report: 55102923

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1607+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1607+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	1,372	1,509	1,522	1,536	1,550	1,564	1,577	1,646
Squares	13.7	15.1	15.2	15.4	15.5	15.6	15.8	16.5

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	148	163	165	166	168	169	171	178
Squares	1.5	1.6	1.6	1.7	1.7	1.7	1.7	1.8

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 1520.0 ft²

Siding = 1371.6 ft²

Masonry = 148.4 ft²

General Totals

Wall Facets = 11

Windows & Doors = 13

Window and Door Area = 183.1 ft²

Window & Door Perimeter = 203.0 ft

Fascia (Eaves + Rakes) = 191 ft

Top of Siding Walls = 179.5 ft

Bottom of Siding Walls = 177.1 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	20.5 ft	3.7 ft	0.0 ft	24.2 ft
Outside Corners	66.1 ft	5.4 ft	0.0 ft	71.5 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3834624

Latitude = 29.7555998

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

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Report: 55102923

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



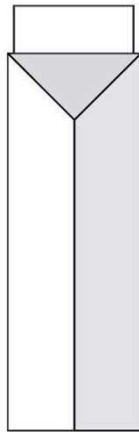
1608 Andrews St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 988 sq ft
 Total Roof Facets = 4
 Predominant Pitch = 8/12
 Number of Stories <= 1
 Total Ridges/Hips = 64 ft
 Total Valleys = 0 ft
 Total Rakes = 32 ft
 Total Eaves = 109 ft
 Total Wall Area = 1244.4 sq ft
 Total Wall Facets = 5
 Total Siding Area = 1123.2 sq ft
 Total Masonry Area = 121.2 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

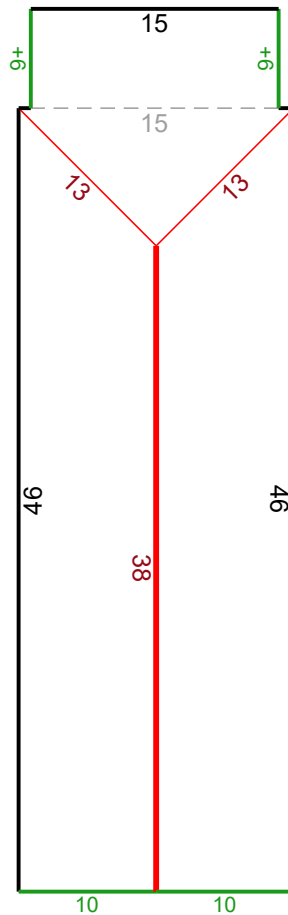
LENGTH DIAGRAM

Total Line Lengths:

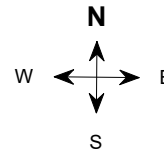
Ridges = 38 ft
Hips = 26 ft

Valleys = 0 ft
 Rakes = 32 ft
 Eaves = 109 ft

Flashing = 0 ft
 Step flashing = 0 ft
 Parapets = 0 ft



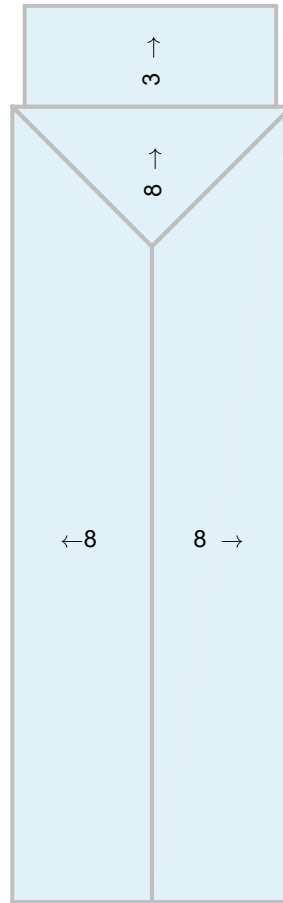
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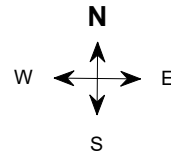
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 8/12



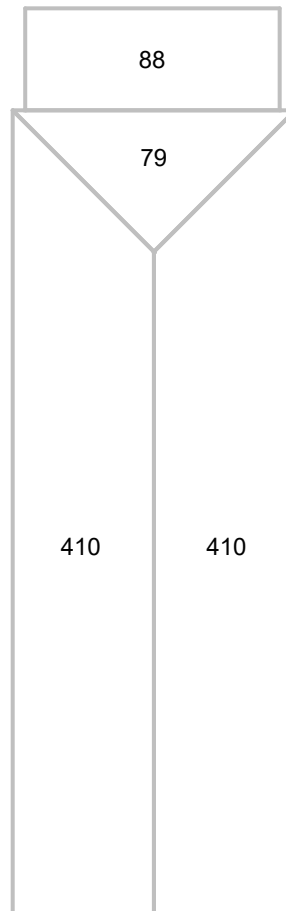
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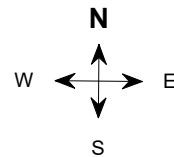
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 988 sq ft, with 4 facets.



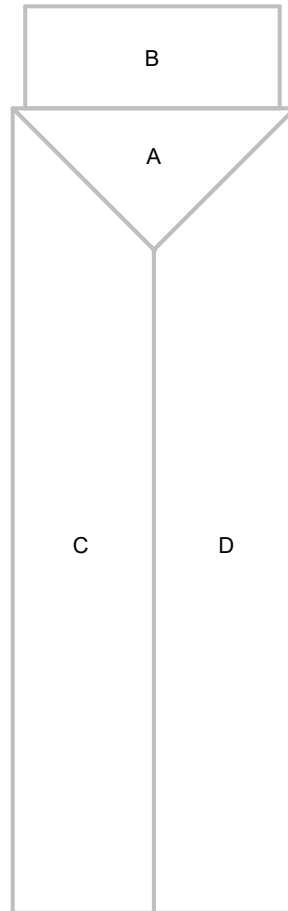
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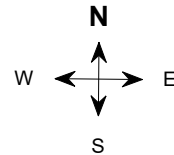
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

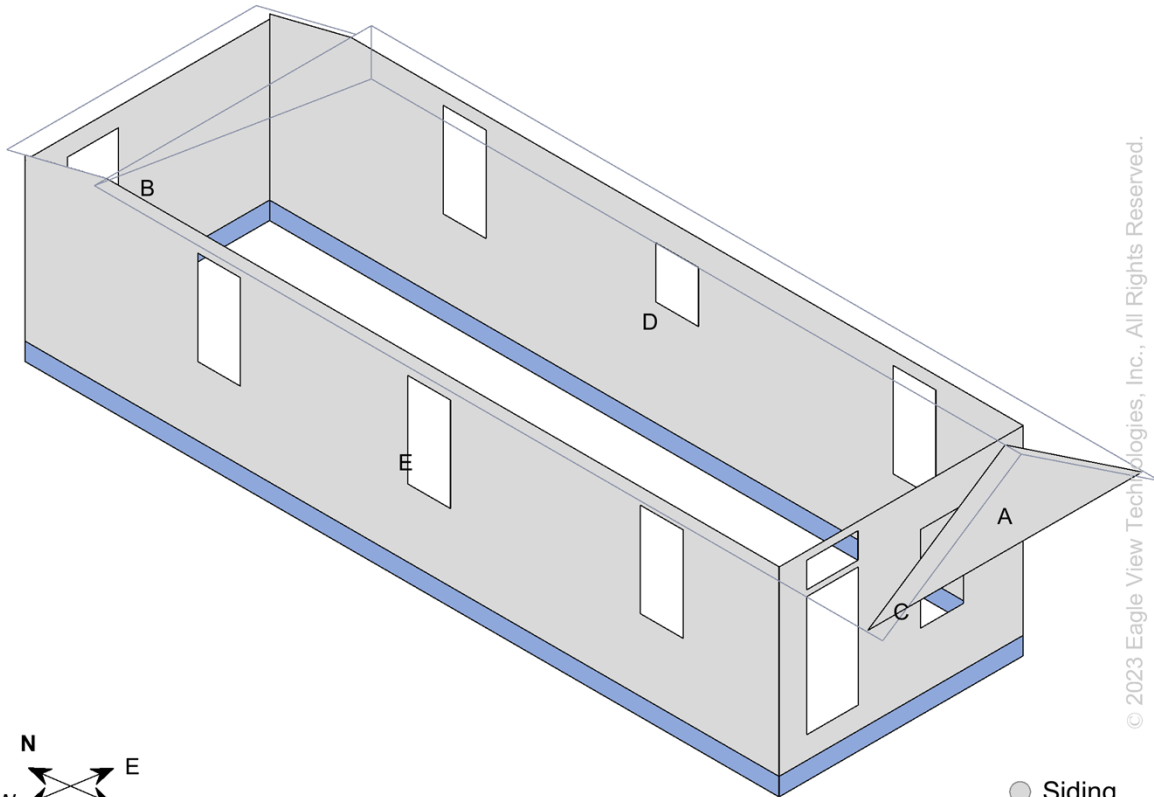
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



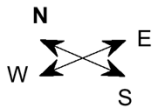
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WALL AREA DIAGRAM



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● Siding
● Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	110.1	14.8
Total	110.1	14.8

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	431.0	45.8
Total	431.0	45.8

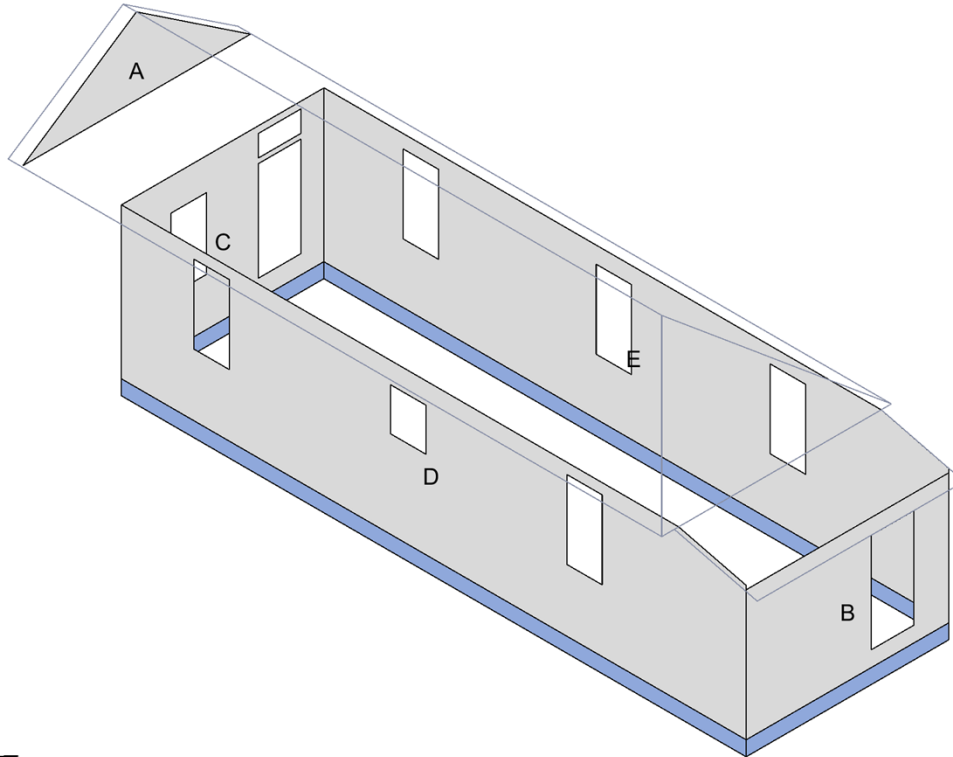
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	43.3	0.0
C	113.9	14.8
Total	157.2	14.8

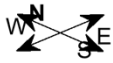
West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	424.9	45.8
Total	424.9	45.8

ALTERNATE WALL AREA



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● Siding
● Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	110.1	14.8
Total	110.1	14.8

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	431.0	45.8
Total	431.0	45.8

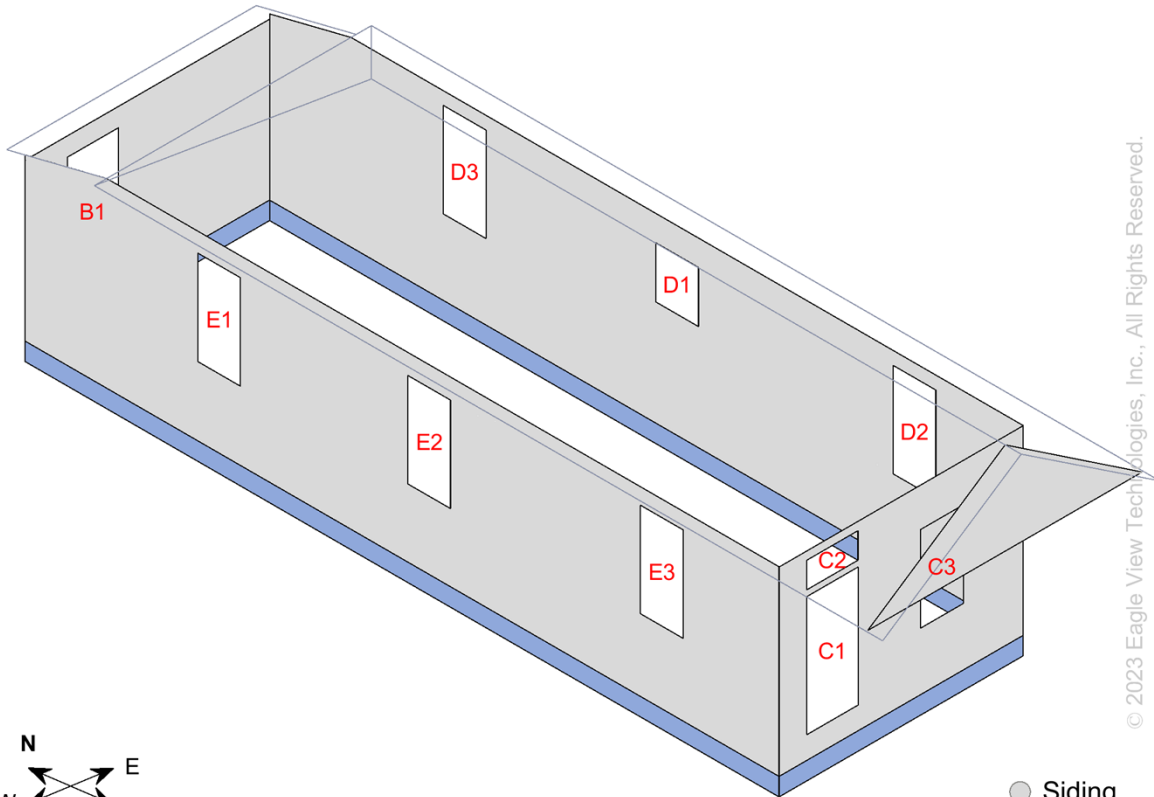
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	43.3	0.0
C	113.9	14.8
Total	157.2	14.8

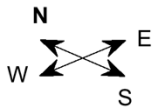
West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	424.9	45.8
Total	424.9	45.8

WINDOW AND DOOR DIAGRAM



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- Siding
- Masonry

Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
B1	21.0	20.0	3.0 x 7.0
Total	21.0	20.0	n/a

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
D1	7.5	11.0	2.5 x 3.0
D2	13.7	16.0	2.5 x 5.5
D3	13.7	16.0	2.5 x 5.5
Total	34.9	43.0	n/a

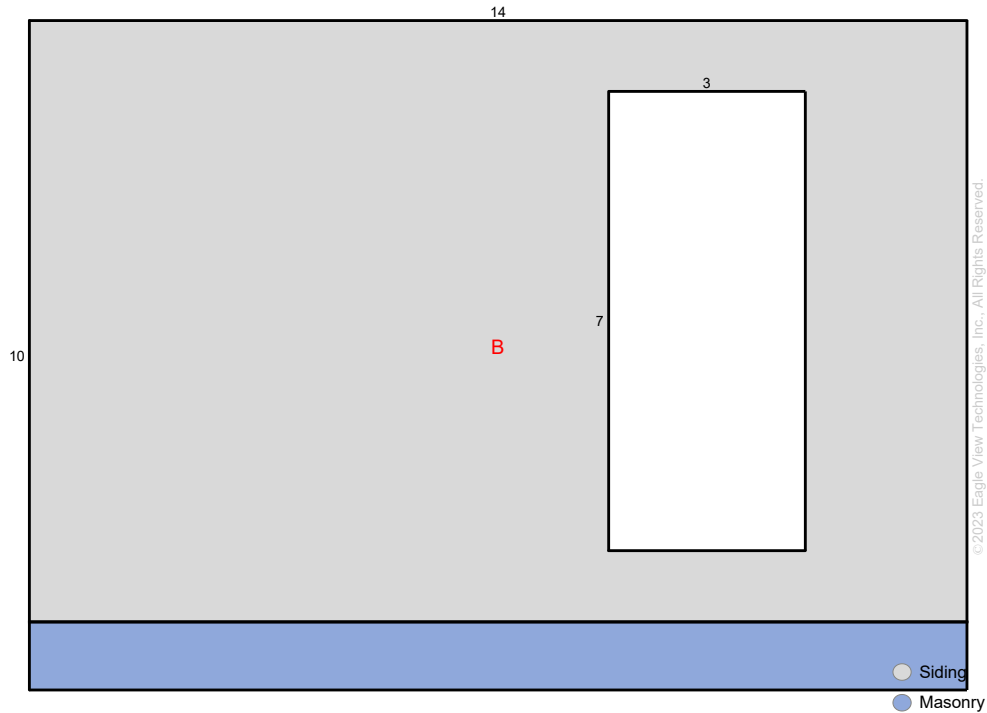
South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
C1	21.0	20.0	3.0 x 7.0
C2	4.5	9.0	3.0 x 1.5
C3	12.5	15.0	2.5 x 5.0
Total	38.0	44.0	n/a

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
E1	13.7	16.0	2.5 x 5.5
E2	13.7	16.0	2.5 x 5.5
E3	13.7	16.0	2.5 x 5.5
Total	41.1	48.0	n/a

NORTH ELEVATION DIAGRAM



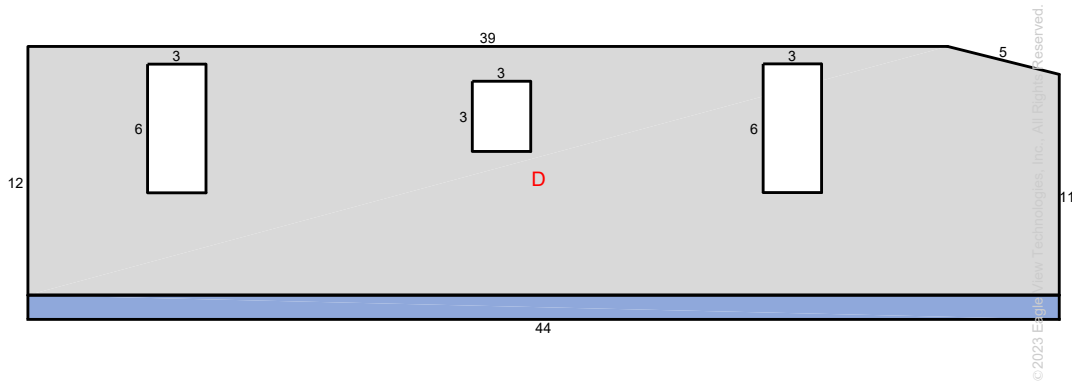
Top of Siding Walls = 14.3 ft

Bottom of Siding Walls = 14.3 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
B	110.1	14.8	21.0	20.0	1
Total	110.1	14.8	21.0	20.0	1

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



- Siding
- Masonry

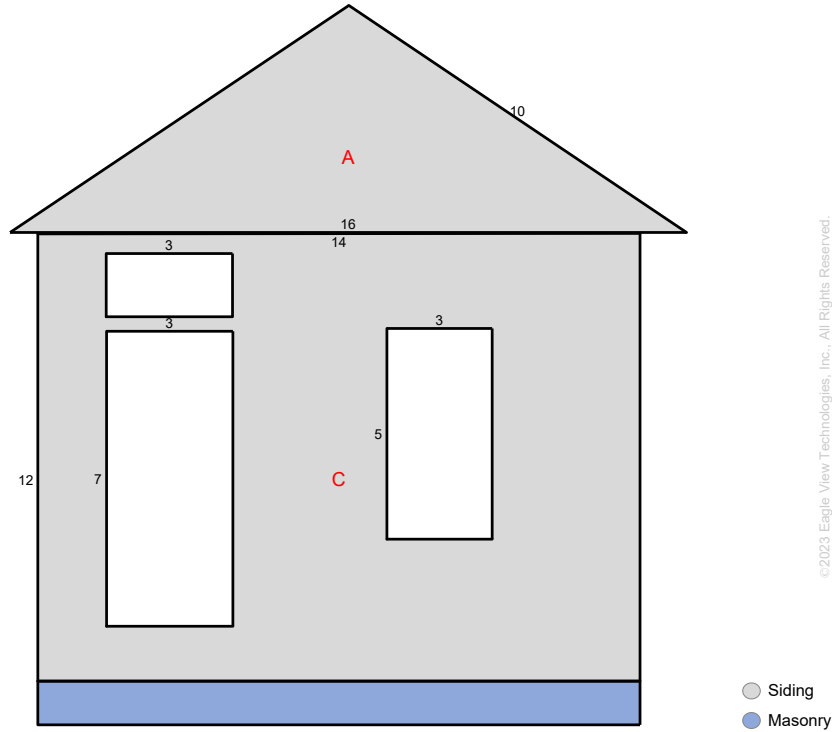
Top of Siding Walls = 44.4 ft

Bottom of Siding Walls = 44.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
D	431.0	45.8	34.9	43.0	3
Total	431.0	45.8	34.9	43.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM

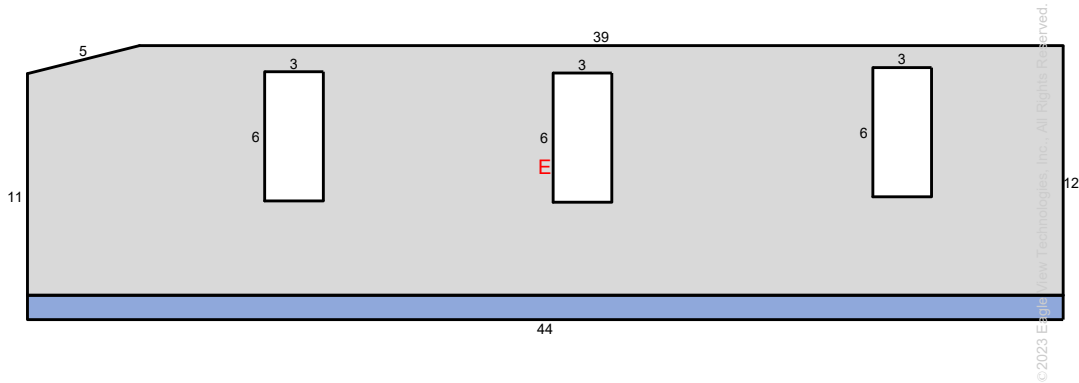


Top of Siding Walls = 33.7 ft
 Bottom of Siding Walls = 30.4 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
A	43.3	0.0	0	0	0
C	113.9	14.8	38.0	44.0	3
Total	157.2	14.8	38.0	44.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



- Siding
- Masonry

Top of Siding Walls = 44.4 ft

Bottom of Siding Walls = 44.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
E	424.9	45.8	41.1	48.0	3
Total	424.9	45.8	41.1	48.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch		
Roof Pitches	3/12	8/12
Area (sq ft)	88.1	899.4
% of Roof	8.9%	91%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

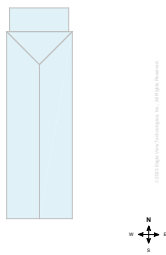
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	5%	10%	13%	15%	17%	20%	25%	30%
Area (Sq ft)	988	1038	1087	1117	1137	1156	1186	1235	1285
Squares *	10.00	10.66	11.00	11.33	11.66	11.66	12.00	12.66	13.00
	Measured				Suggested				

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 4

Lengths, Areas and Pitches

Ridges = 38 ft (1 Ridges)
 Hips = 26 ft (2 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 32 ft (4 Rakes)
 Eaves/Starter‡ = 109 ft (5 Eaves)
 Drip Edge (Eaves + Rakes) = 141 ft (9 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 0 ft (0 Lengths)
 Predominant Pitch = 8/12
Total Area (All Pitches) = 988 sq ft

Property Location

Longitude = -95.3834262
 Latitude = 29.7558731

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1608 Andrews St, Houston, TX 77019

Report: 55102911

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1608+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1608+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	1,123	1,236	1,247	1,258	1,269	1,280	1,292	1,348
Squares	11.2	12.4	12.5	12.6	12.7	12.8	12.9	13.5

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	121	133	135	136	137	138	139	145
Squares	1.2	1.3	1.3	1.4	1.4	1.4	1.4	1.5

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 1244.4 ft²

Siding = 1123.2 ft²

Masonry = 121.2 ft²

General Totals

Wall Facets = 5

Windows & Doors = 10

Window and Door Area = 135.0 ft²

Window & Door Perimeter = 155.0 ft

Fascia (Eaves + Rakes) = 141 ft

Top of Siding Walls = 136.8 ft

Bottom of Siding Walls = 132.9 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners	40.0 ft	4.0 ft	0.0 ft	44.0 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3834262

Latitude = 29.7558731

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1608 Andrews St, Houston, TX 77019

Report: 55102911

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



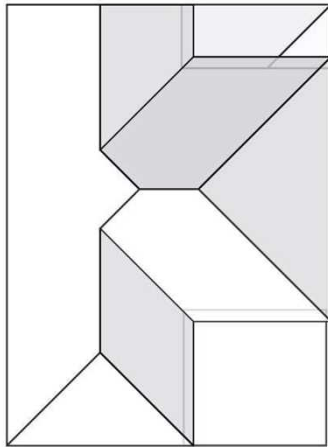
1609 Andrews St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact:	Michael A Delgado
Company:	D7 Roofing & Metal LLC
Address:	8701 W Hardy Rd Houston, TX 77022
Phone:	713-325-0700

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MEASUREMENTS

Total Roof Area = 1,285 sq ft
 Total Roof Facets = 10
 Predominant Pitch = 7/12
 Number of Stories <= 1
 Total Ridges/Hips = 109 ft
 Total Valleys = 25 ft
 Total Rakes = 31 ft
 Total Eaves = 150 ft
 Total Wall Area = 1150.1 sq ft
 Total Wall Facets = 10
 Total Siding Area = 1150.1 sq ft
 Total Masonry Area = 0.0 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

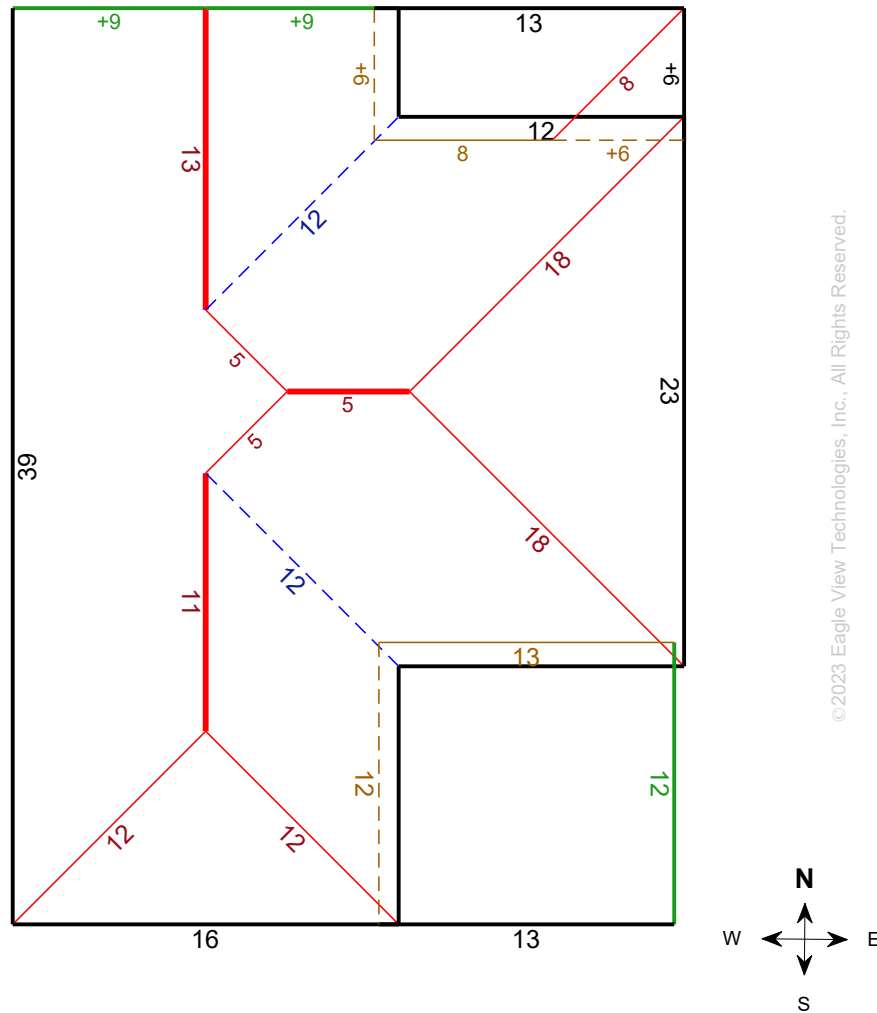
www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

Total Line Lengths:

Ridges = 29 ft
Hips = 80 ft

 Valleys = 25 ft
 Rakes = 31 ft
 Eaves = 150 ft

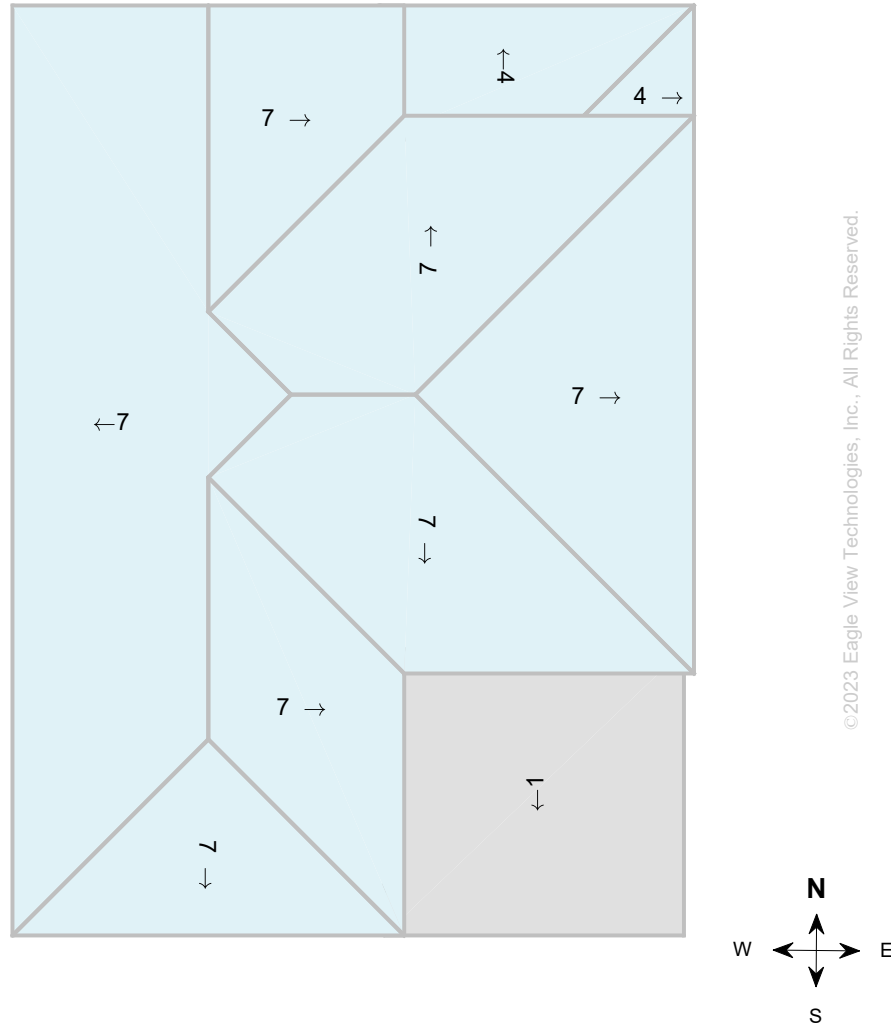
 Flashing = 20 ft
 Step flashing = 24 ft
 Parapets = 0 ft


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Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

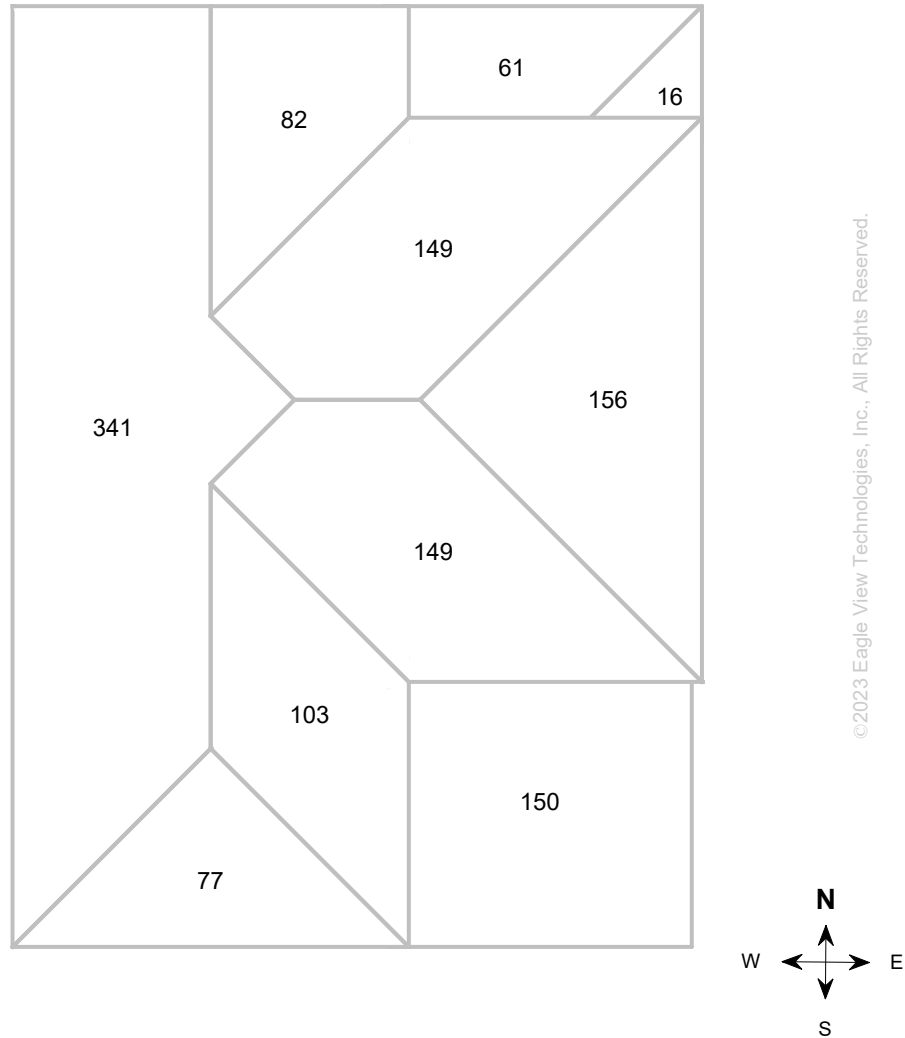
Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 7/12



Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater. Gray shading indicates flat, 1/12 or 2/12 pitches.

AREA DIAGRAM

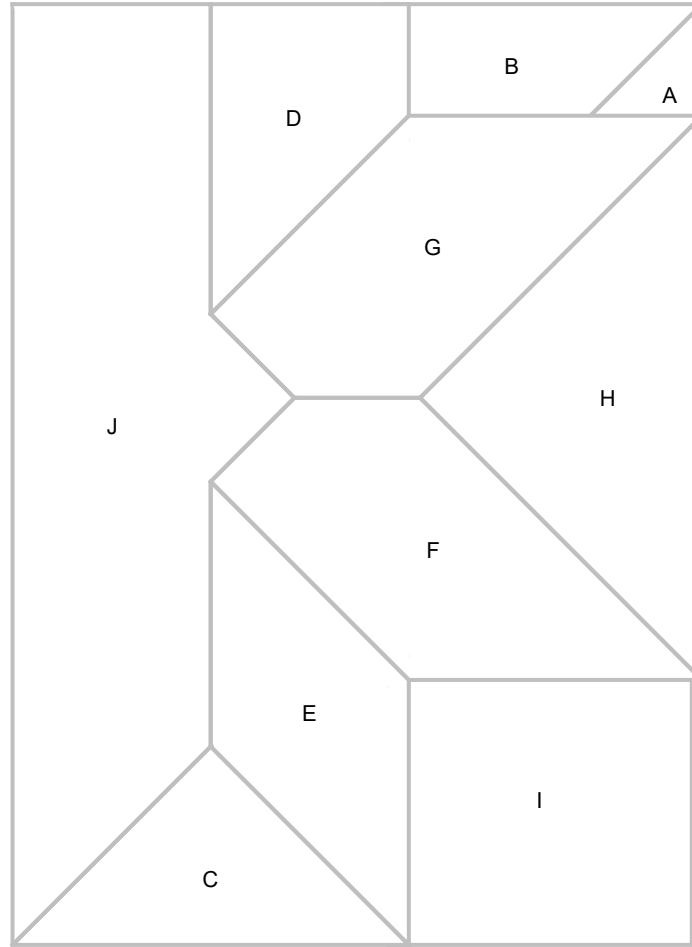
Total Area = 1,285 sq ft, with 10 facets.



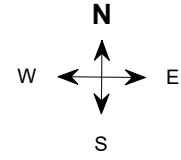
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

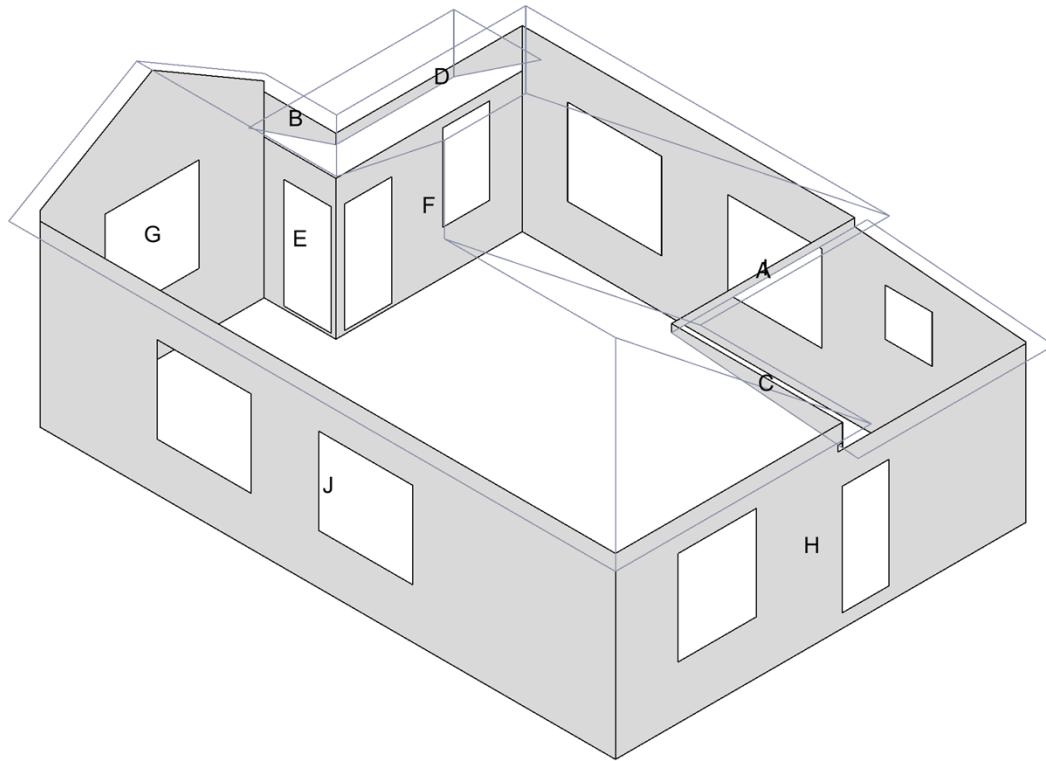
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



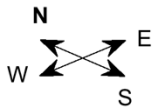
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WALL AREA DIAGRAM



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- Siding
- Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	68.3	0.0
D	10.8	0.0
G	165.2	0.0
Total	244.3	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	19.8	0.0
B	6.4	0.0
C	10.5	0.0
I	280.8	0.0
Total	317.5	0.0

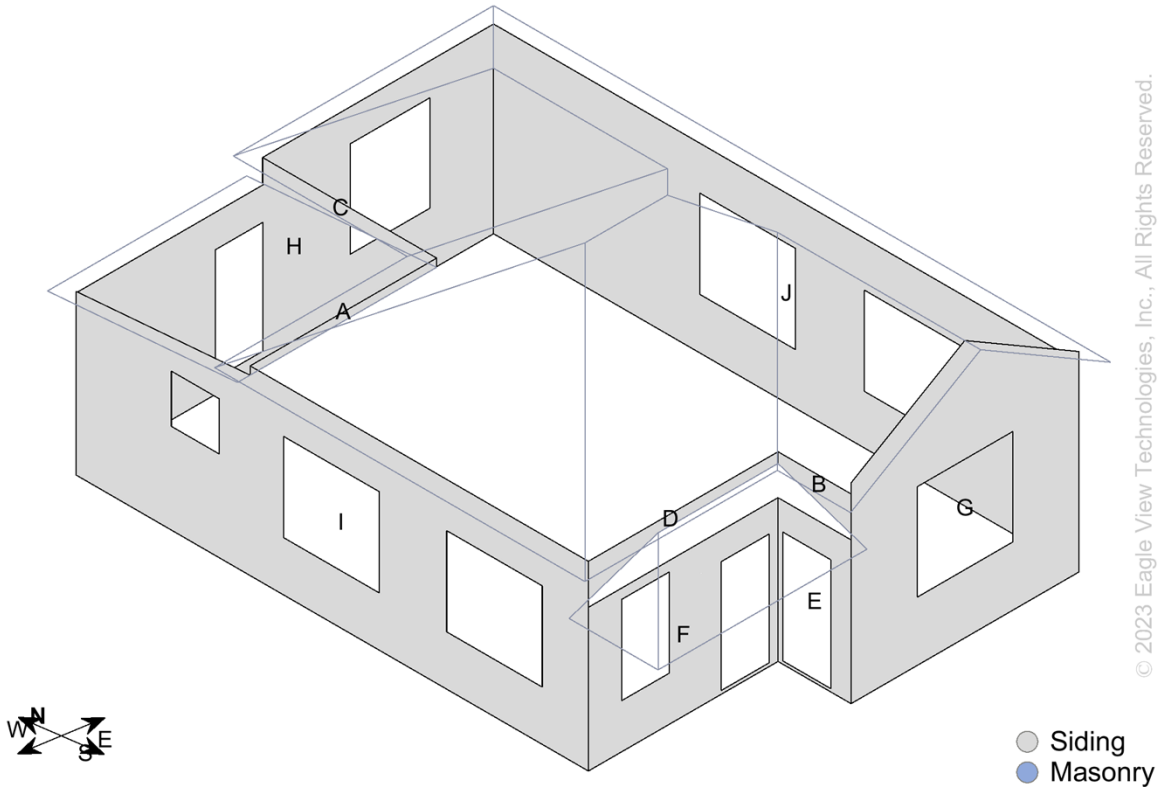
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	5.9	0.0
H	229.9	0.0
Total	235.8	0.0

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	352.5	0.0
Total	352.5	0.0

ALTERNATE WALL AREA



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	68.3	0.0
D	10.8	0.0
G	165.2	0.0
Total	244.3	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	19.8	0.0
B	6.4	0.0
C	10.5	0.0
I	280.8	0.0
Total	317.5	0.0

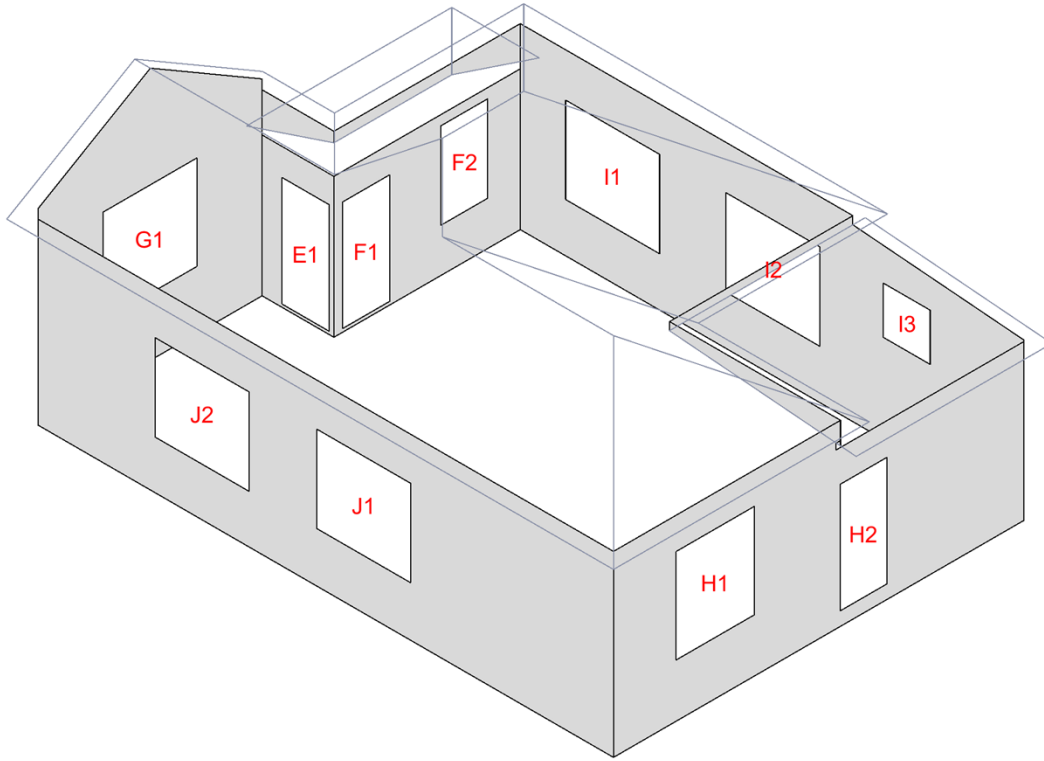
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	5.9	0.0
H	229.9	0.0
Total	235.8	0.0

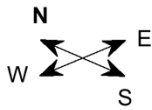
West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	352.5	0.0
Total	352.5	0.0

WINDOW AND DOOR DIAGRAM



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- Siding
- Masonry

Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
F1	21.0	20.0	3.0 x 7.0
F2	16.5	17.0	3.0 x 5.5
G1	36.0	24.0	6.0 x 6.0
Total	73.5	61.0	n/a

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
E1	21.0	20.0	3.0 x 7.0
I1	33.0	23.0	6.0 x 5.5
I2	33.0	23.0	6.0 x 5.5
I3	9.0	12.0	3.0 x 3.0
Total	96.0	78.0	n/a

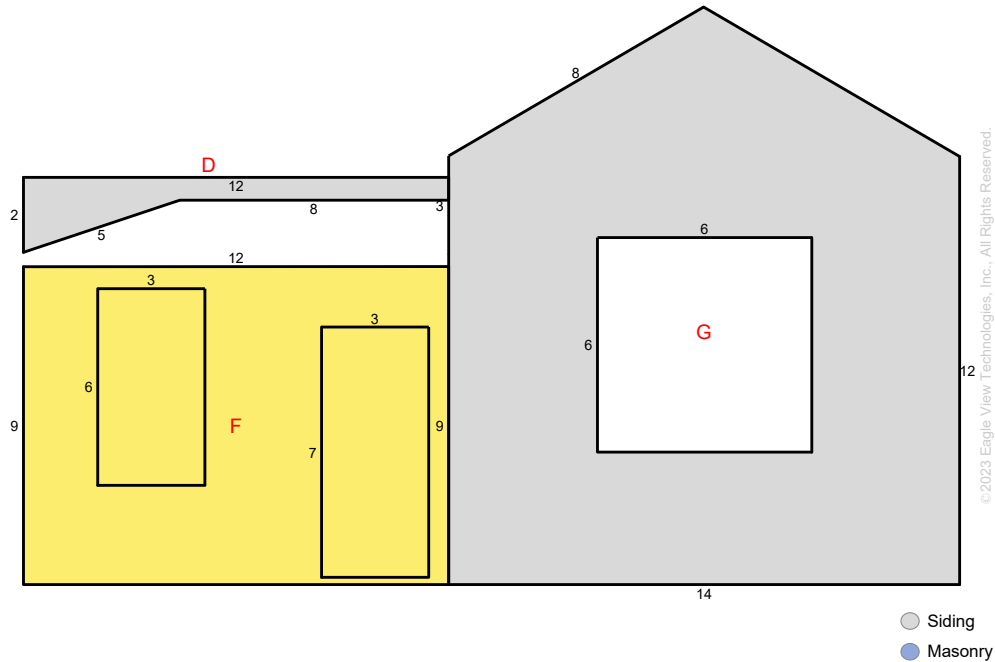
South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
H1	30.0	22.0	5.0 x 6.0
H2	21.0	20.0	3.0 x 7.0
Total	51.0	42.0	n/a

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
J1	33.0	23.0	6.0 x 5.5
J2	33.0	23.0	6.0 x 5.5
Total	66.0	46.0	n/a

NORTH ELEVATION DIAGRAM

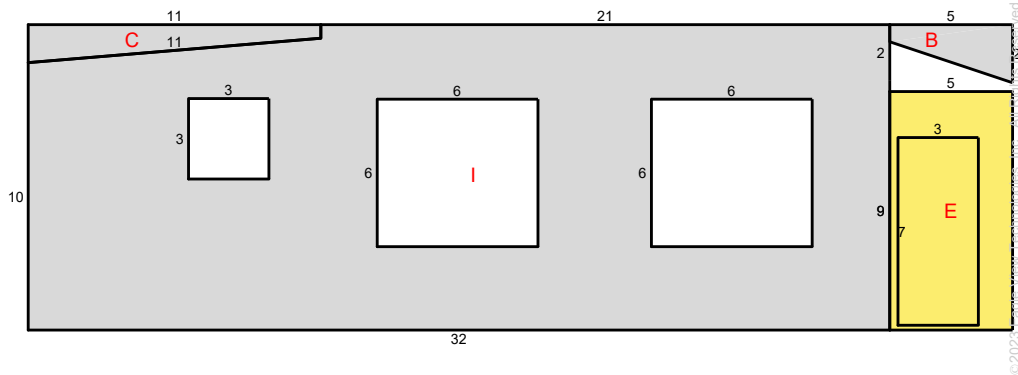


Top of Siding Walls = 40.4 ft
Bottom of Siding Walls = 38.3 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
F	68.3	0.0	37.5	37.0	2
D	10.8	0.0	0	0	0
G	165.2	0.0	36.0	24.0	1
Total	244.3	0.0	73.5	61.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



● Siding
● Masonry

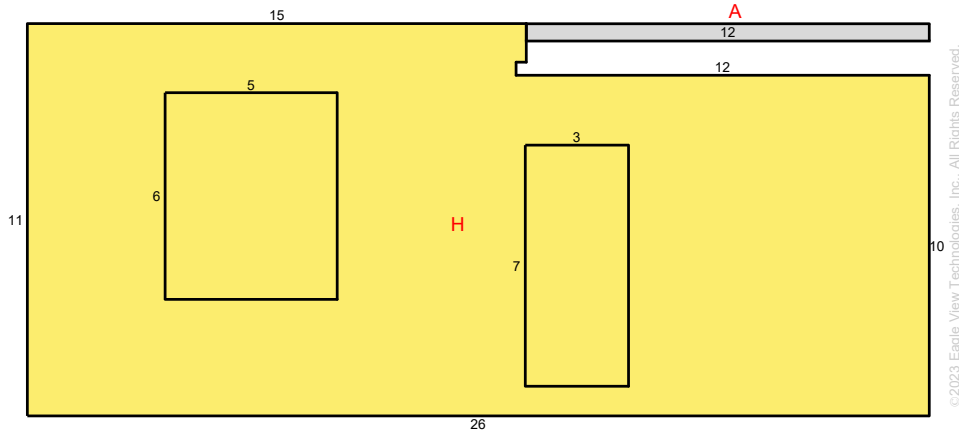
Top of Siding Walls = 52.4 ft

Bottom of Siding Walls = 52.6 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
E	19.8	0.0	21.0	20.0	1
B	6.4	0.0	0	0	0
C	10.5	0.0	0	0	0
I	280.8	0.0	75.0	58.0	3
Total	317.5	0.0	96.0	78.0	4

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM



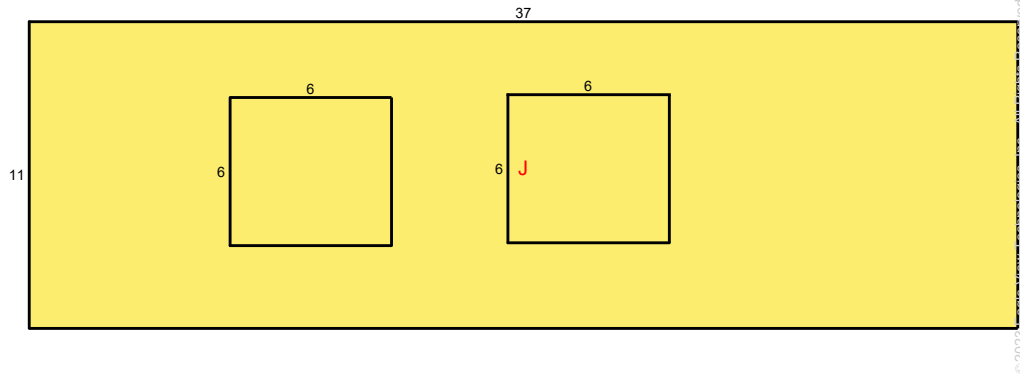
- Siding
- Masonry

Top of Siding Walls = 37.9 ft
Bottom of Siding Walls = 37.9 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
A	5.9	0.0	0	0	0
H	229.9	0.0	51.0	42.0	2
Total	235.8	0.0	51.0	42.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



- Siding
- Masonry

Top of Siding Walls = 36.7 ft
 Bottom of Siding Walls = 36.7 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
J	352.5	0.0	66.0	46.0	2
Total	352.5	0.0	66.0	46.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch			
Roof Pitches	1/12	4/12	7/12
Area (sq ft)	149.5	77.1	1057.5
% of Roof	11.6%	6%	82.3%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

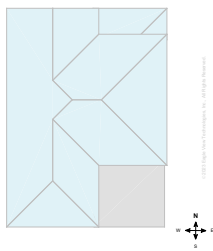
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	9%	14%	19%	22%	24%	26%	29%	34%
Area (Sq ft)	1135	1238	1294	1351	1385	1408	1431	1465	1521
Squares *	11.66	12.66	13.00	13.66	14.00	14.33	14.33	14.66	15.33
	Measured					Suggested			

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 10

Lengths, Areas and Pitches

Ridges = 29 ft (3 Ridges)
 Hips = 80 ft (7 Hips)
 Valleys = 25 ft (2 Valleys)
 Rakes† = 31 ft (3 Rakes)
 Eaves/Starter‡ = 150 ft (10 Eaves)
 Drip Edge (Eaves + Rakes) = 181 ft (13 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 20 ft (2 Lengths)
 Step flashing = 24 ft (3 Lengths)
 Predominant Pitch = 7/12
Total Area (All Pitches) = 1,285 sq ft

Property Location

Longitude = -95.3836120
 Latitude = 29.7556084

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1609 Andrews St, Houston, TX 77019

Report: 55102936

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1609+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1609+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	1,150	1,265	1,277	1,288	1,300	1,311	1,323	1,380
Squares	11.5	12.7	12.8	12.9	13	13.1	13.2	13.8

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	0	0	0	0	0	0	0	0
Squares	0	0	0	0	0	0	0	0

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 1150.1 ft²

Siding = 1150.1 ft²

Masonry = 0.0 ft²

General Totals

Wall Facets = 10

Windows & Doors = 11

Window and Door Area = 286.5 ft²

Window & Door Perimeter = 227.0 ft

Fascia (Eaves + Rakes) = 181 ft

Top of Siding Walls = 167.4 ft

Bottom of Siding Walls = 165.5 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	11.2 ft	0.0 ft	0.0 ft	11.2 ft
Outside Corners	60.3 ft	0.0 ft	0.0 ft	60.3 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3836120

Latitude = 29.7556084

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1609 Andrews St, Houston, TX 77019

Report: 55102936

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Precise Aerial Measurement Report



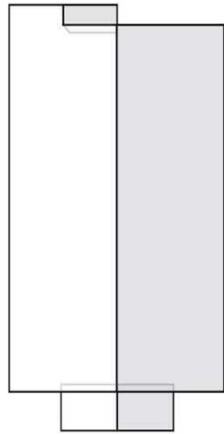
1613 Andrews St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 1,865 sq ft
 Total Roof Facets = 5
 Predominant Pitch = 9/12
 Number of Stories > 1
 Total Ridges/Hips = 57 ft
 Total Valleys = 0 ft
 Total Rakes = 98 ft
 Total Eaves = 115 ft
 Total Wall Area = 2709.7 sq ft
 Total Wall Facets = 8
 Total Siding Area = 2709.7 sq ft
 Total Masonry Area = 0.0 sq ft

Measurements provided by www.eagleview.com



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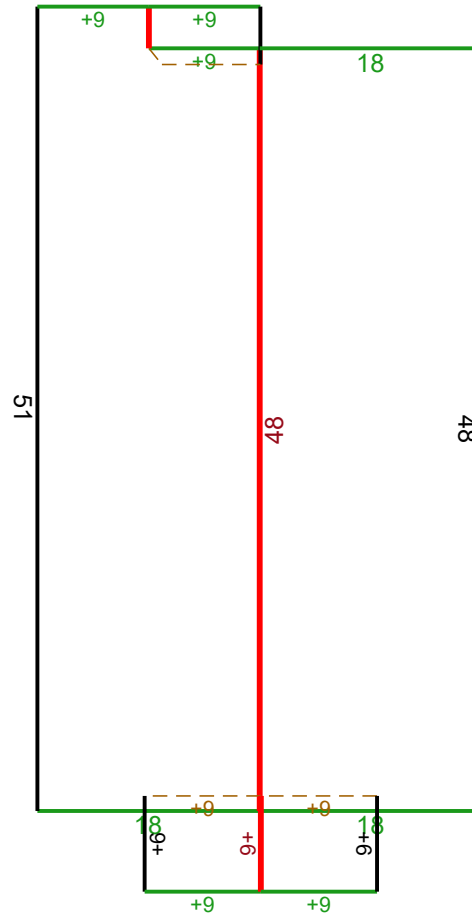
www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

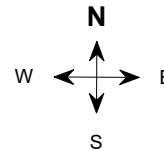
Total Line Lengths:

Ridges = 57 ft
Hips = 0 ft

 Valleys = 0 ft
 Rakes = 98 ft
 Eaves = 115 ft

 Flashing = 0 ft
 Step flashing = 28 ft
 Parapets = 0 ft


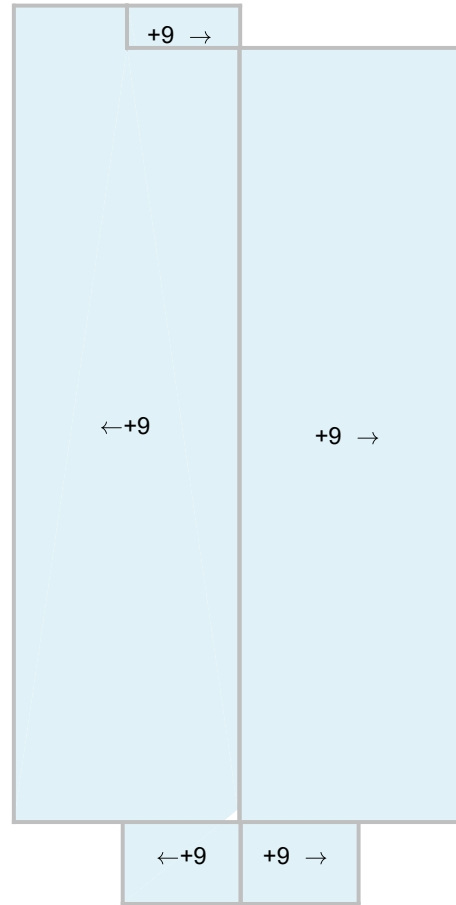
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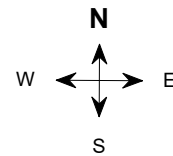
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 9/12



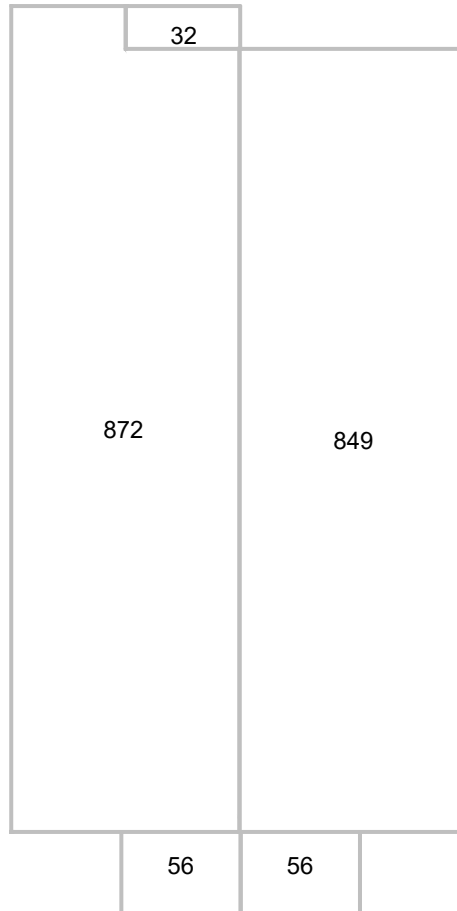
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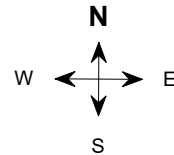
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 1,865 sq ft, with 5 facets.



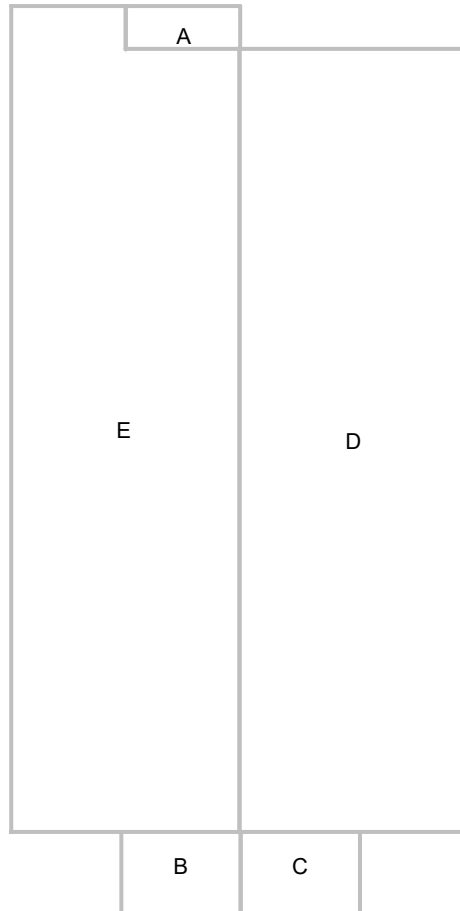
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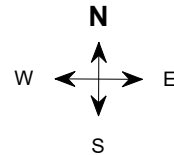
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

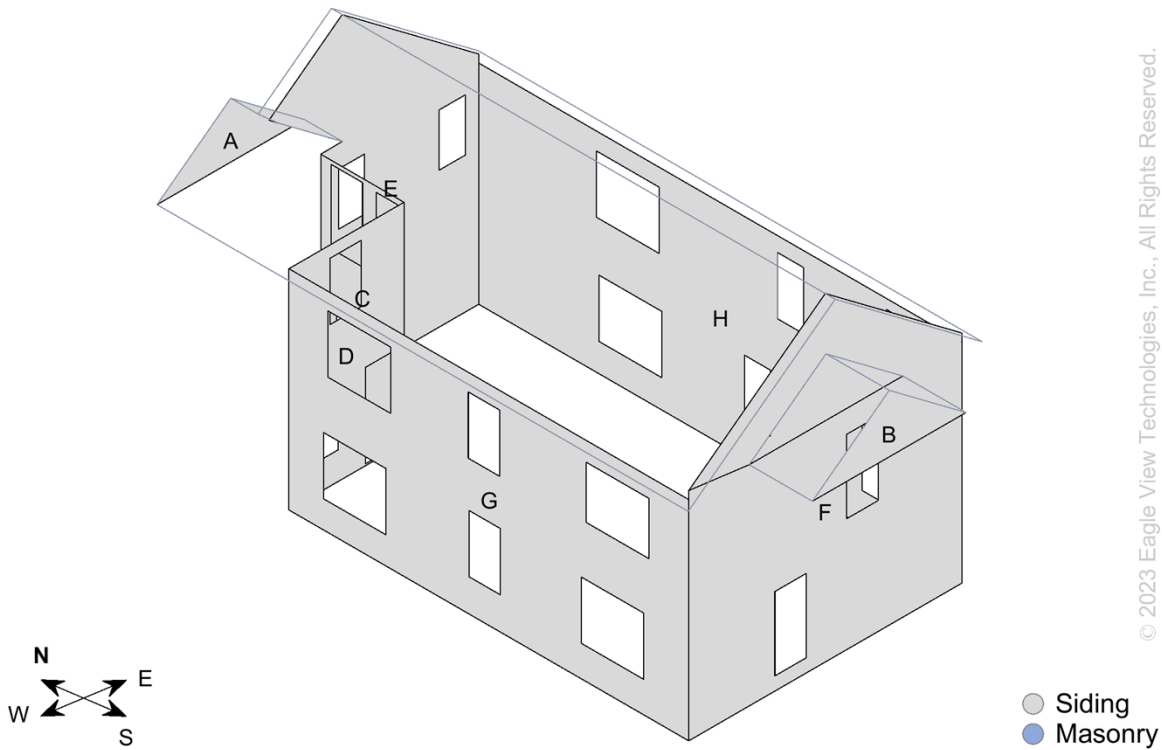
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	163.6	0.0
A	37.4	0.0
E	376.0	0.0
Total	577.0	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	793.1	0.0
Total	793.1	0.0

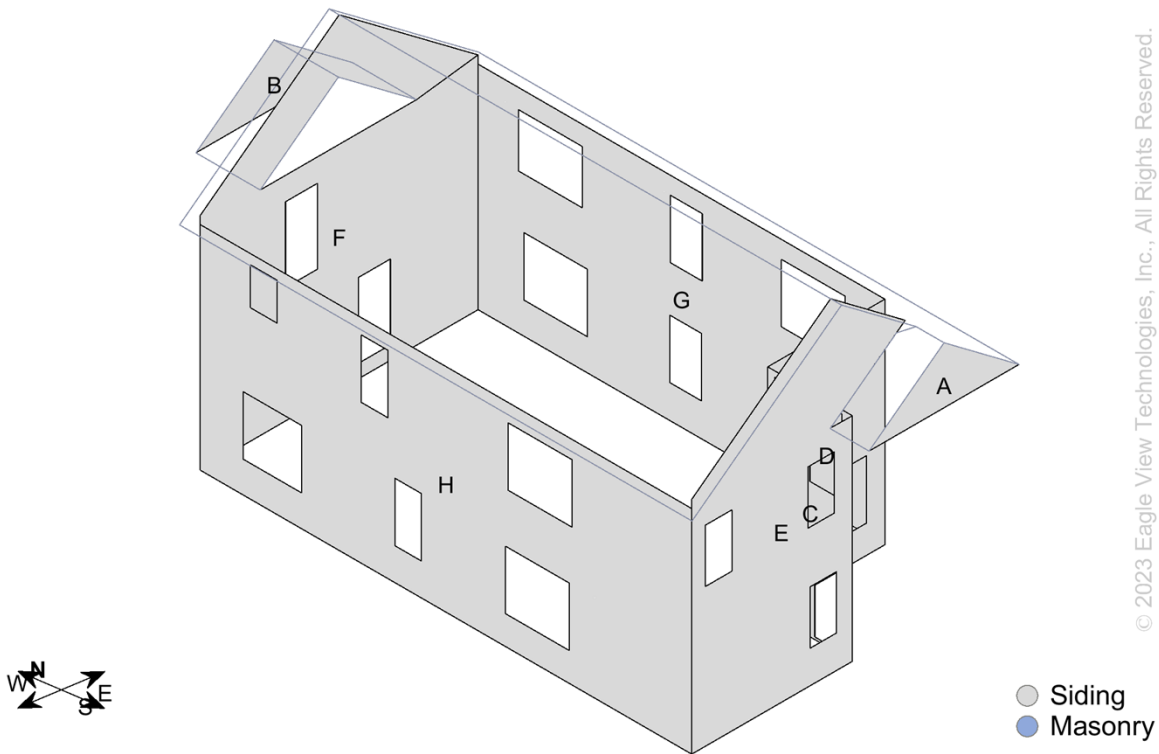
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	588.4	0.0
B	40.6	0.0
Total	629.0	0.0

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
G	604.2	0.0
C	106.4	0.0
Total	710.6	0.0

ALTERNATE WALL AREA



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	163.6	0.0
A	37.4	0.0
E	376.0	0.0
Total	577.0	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	793.1	0.0
Total	793.1	0.0

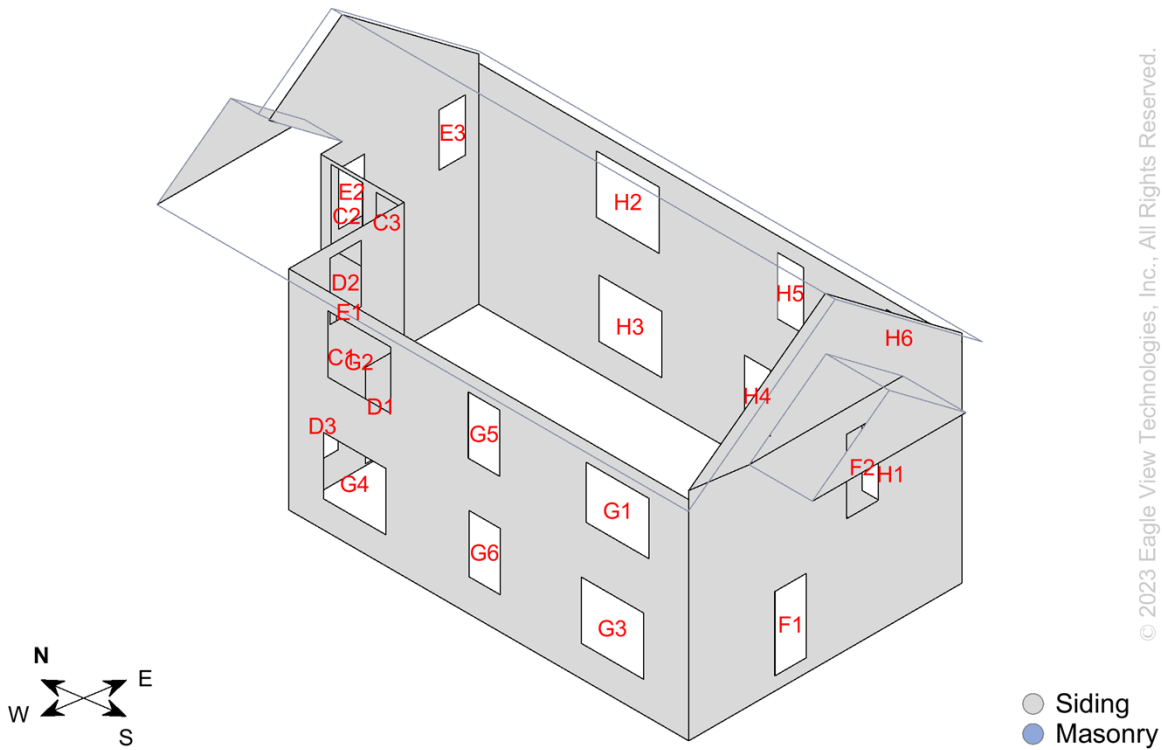
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	588.4	0.0
B	40.6	0.0
Total	629.0	0.0

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
G	604.2	0.0
C	106.4	0.0
Total	710.6	0.0

WINDOW AND DOOR DIAGRAM



Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
D1	24.0	22.0	3.0 x 8.0
D2	16.5	17.0	3.0 x 5.5
D3	16.5	17.0	3.0 x 5.5
E1	12.5	15.0	2.5 x 5.0
E2	12.5	15.0	2.5 x 5.0
E3	12.5	15.0	2.5 x 5.0
Total	94.5	101.0	n/a

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
H1	30.3	22.0	5.5 x 5.5
H2	33.0	23.0	6.0 x 5.5
H3	33.0	23.0	6.0 x 5.5
H4	13.8	16.0	2.5 x 5.5
H5	13.8	16.0	2.5 x 5.5
H6	8.8	12.0	2.5 x 3.5
Total	132.7	112.0	n/a

South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
F1	21.0	20.0	3.0 x 7.0

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
C1	24.0	22.0	3.0 x 8.0

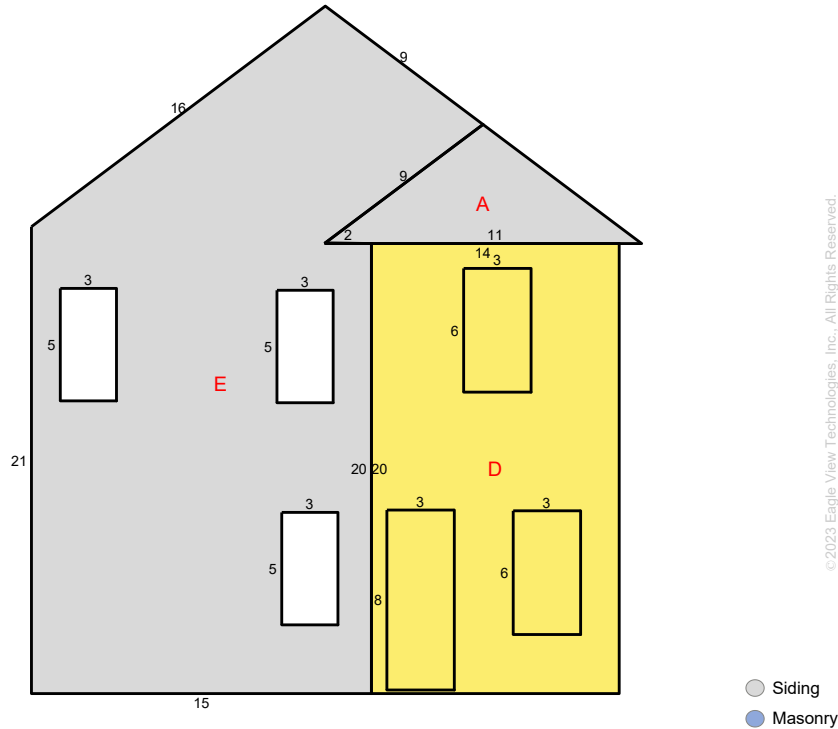
1613 Andrews St, Houston, TX 77019

Report: 55102941

F2	21.0	20.0	3.0 x 7.0
Total	42.0	40.0	n/a

C2	21.0	20.0	3.0 x 7.0
C3	8.0	12.0	2.0 x 4.0
G1	30.0	22.0	6.0 x 5.0
G2	33.0	23.0	6.0 x 5.5
G3	33.0	23.0	6.0 x 5.5
G4	33.0	23.0	6.0 x 5.5
G5	16.5	17.0	3.0 x 5.5
G6	16.5	17.0	3.0 x 5.5
Total	215.0	179.0	n/a

NORTH ELEVATION DIAGRAM

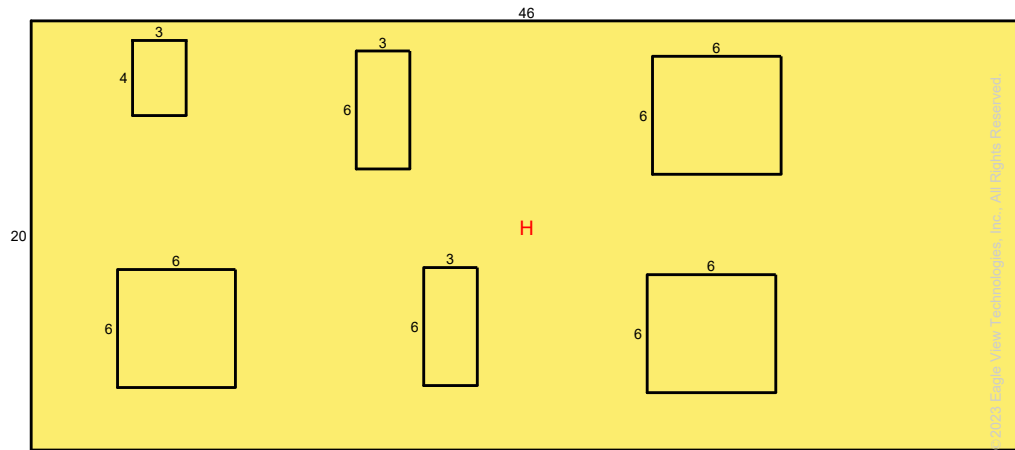


Top of Siding Walls = 55.8 ft
 Bottom of Siding Walls = 49.0 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
D	163.6	0.0	57.0	56.0	3
A	37.4	0.0	0	0	0
E	376.0	0.0	37.5	45.0	3
Total	577.0	0.0	94.5	101.0	6

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



- Siding
- Masonry

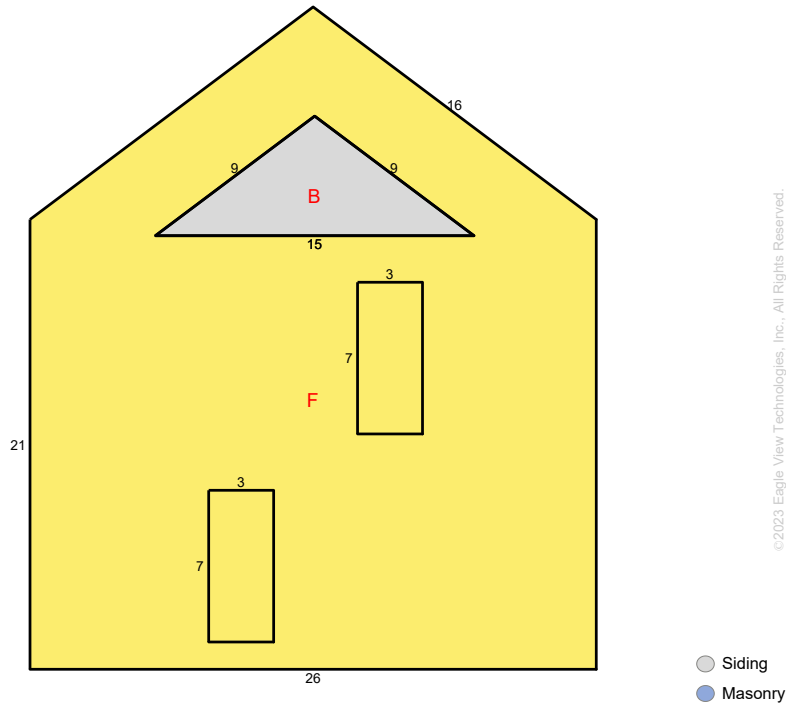
Top of Siding Walls = 46.3 ft

Bottom of Siding Walls = 46.3 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
H	793.1	0.0	132.7	112.0	6
Total	793.1	0.0	132.7	112.0	6

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM

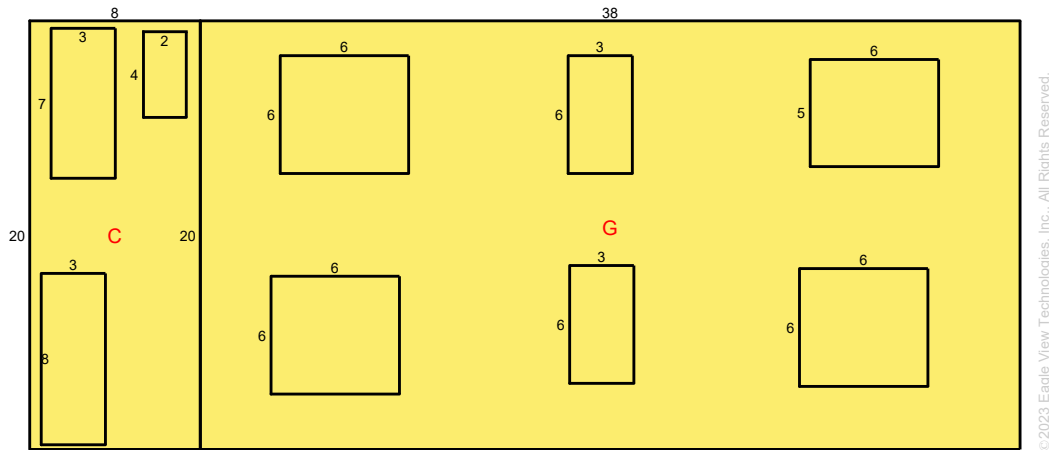


Top of Siding Walls = 65.7 ft
Bottom of Siding Walls = 59.3 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
F	588.4	0.0	42.0	40.0	2
B	40.6	0.0	0	0	0
Total	629.0	0.0	42.0	40.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



- Siding
- Masonry

Top of Siding Walls = 46.3 ft

Bottom of Siding Walls = 46.3 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
G	604.2	0.0	162.0	125.0	6
C	106.4	0.0	53.0	54.0	3
Total	710.6	0.0	215.0	179.0	9

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch	
Roof Pitches	9/12
Area (sq ft)	1864.2
% of Roof	100%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

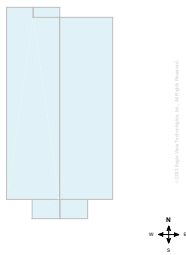
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	3%	6%	8%	10%	13%	18%	23%	28%
Area (Sq ft)	1865	1921	1977	2015	2052	2108	2201	2294	2388
Squares *	18.66	19.33	20.00	20.33	20.66	21.33	22.33	23.00	24.00
	Measured			Suggested					

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 5

Lengths, Areas and Pitches

Ridges = 57 ft (3 Ridges)
 Hips = 0 ft (0 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 98 ft (8 Rakes)
 Eaves/Starter‡ = 115 ft (5 Eaves)
 Drip Edge (Eaves + Rakes) = 213 ft (13 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 28 ft (4 Lengths)
 Predominant Pitch = 9/12
Total Area (All Pitches) = 1,865 sq ft

Property Location

Longitude = -95.3837282
 Latitude = 29.7555872

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1613 Andrews St, Houston, TX 77019

Report: 55102941

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1613+Andrews+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1613+Andrews+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	2,710	2,981	3,008	3,035	3,062	3,089	3,116	3,252
Squares	27.1	29.8	30.1	30.3	30.6	30.9	31.2	32.5

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	0	0	0	0	0	0	0	0
Squares	0	0	0	0	0	0	0	0

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 2709.7 ft²

Siding = 2709.7 ft²

Masonry = 0.0 ft²

General Totals

Wall Facets = 8

Windows & Doors = 23

Window and Door Area = 484.2 ft²

Window & Door Perimeter = 432.0 ft

Fascia (Eaves + Rakes) = 213 ft

Top of Siding Walls = 214.1 ft

Bottom of Siding Walls = 200.9 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	20.0 ft	0.0 ft	0.0 ft	20.0 ft
Outside Corners	102.4 ft	0.0 ft	0.0 ft	102.4 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3837282

Latitude = 29.7555872

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

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Report: 55102941

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Precise Aerial Measurement Report



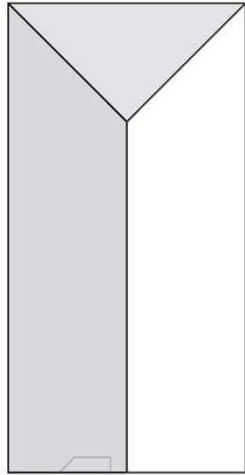
1309 Gillette St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

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tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact:	Michael A Delgado
Company:	D7 Roofing & Metal LLC
Address:	8701 W Hardy Rd Houston, TX 77022
Phone:	713-325-0700

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MEASUREMENTS

Total Roof Area = 1,248 sq ft
 Total Roof Facets = 4
 Predominant Pitch = 7/12
 Number of Stories <= 1
 Total Ridges/Hips = 71 ft
 Total Valleys = 0 ft
 Total Rakes = 33 ft
 Total Eaves = 117 ft
 Total Wall Area = 1209.9 sq ft
 Total Wall Facets = 10
 Total Siding Area = 1176.5 sq ft
 Total Masonry Area = 33.4 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

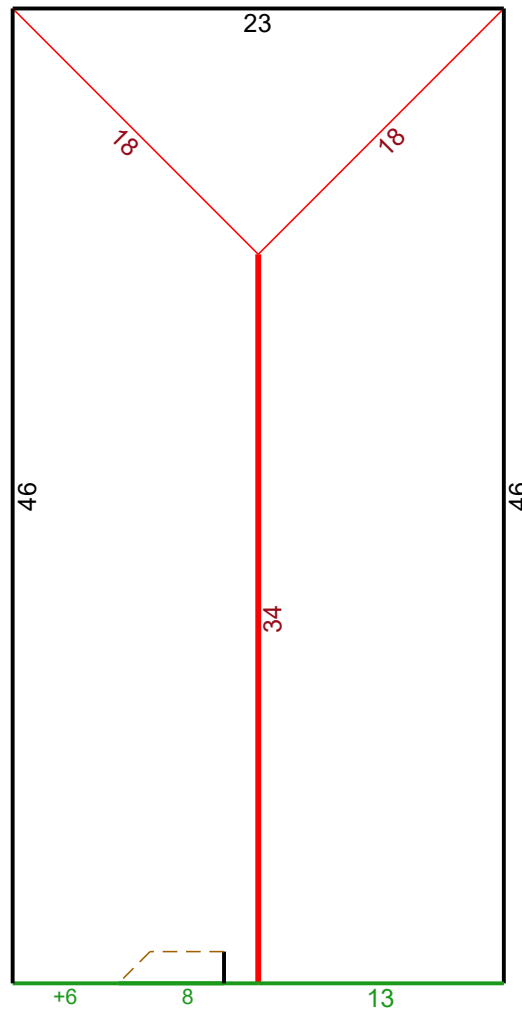
LENGTH DIAGRAM

Total Line Lengths:

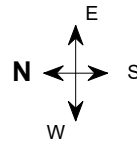
Ridges = 35 ft
Hips = 36 ft

Valleys = 0 ft
Rakes = 33 ft
Eaves = 117 ft

Flashing = 0 ft
Step flashing = 7 ft
Parapets = 0 ft



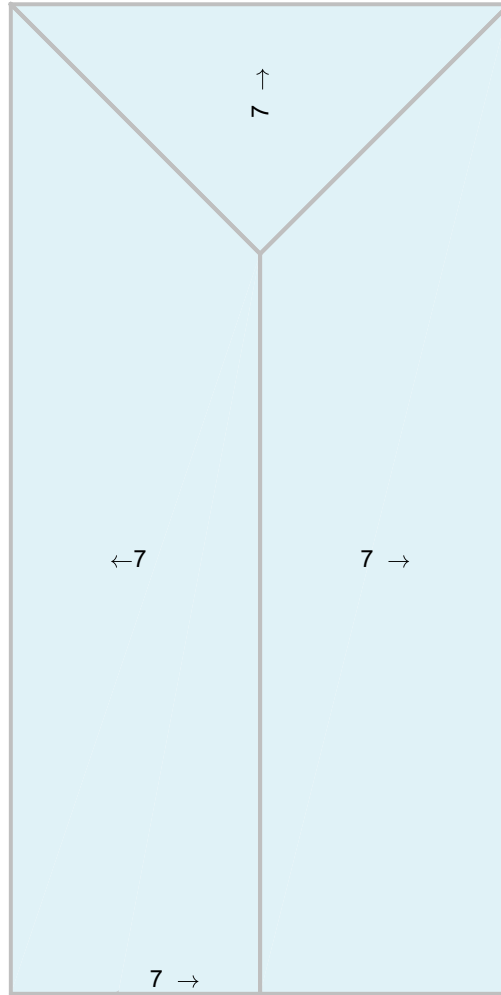
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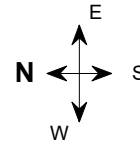
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 7/12



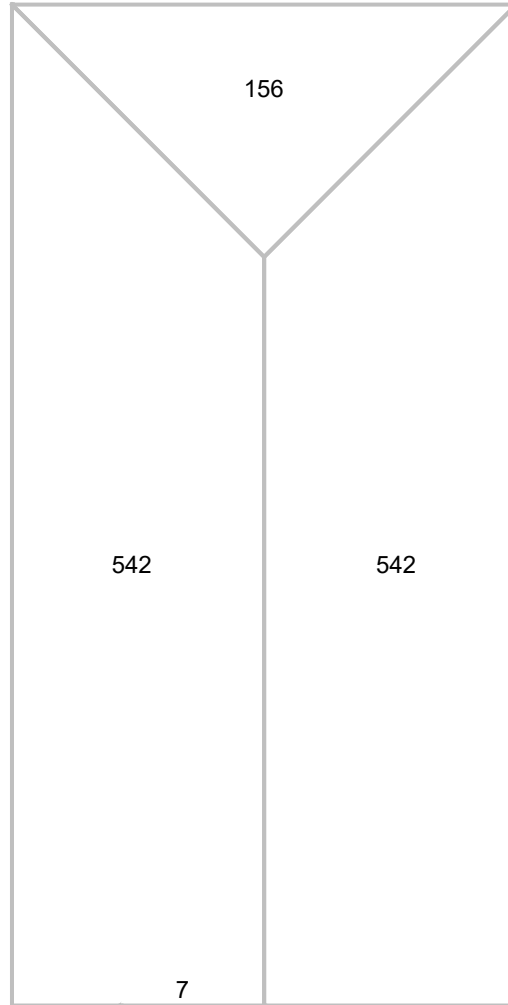
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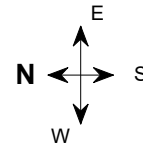
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 1,248 sq ft, with 4 facets.



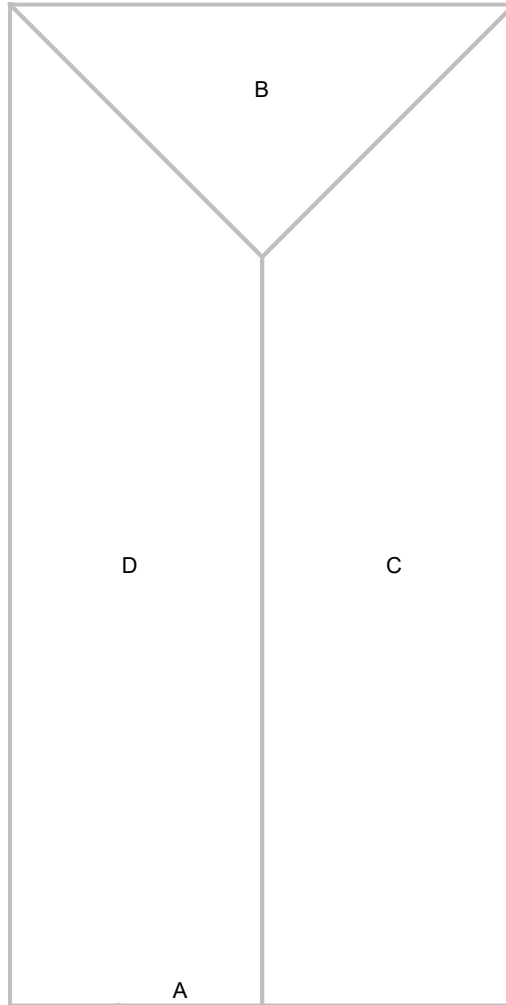
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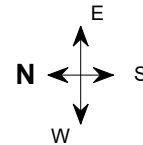
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

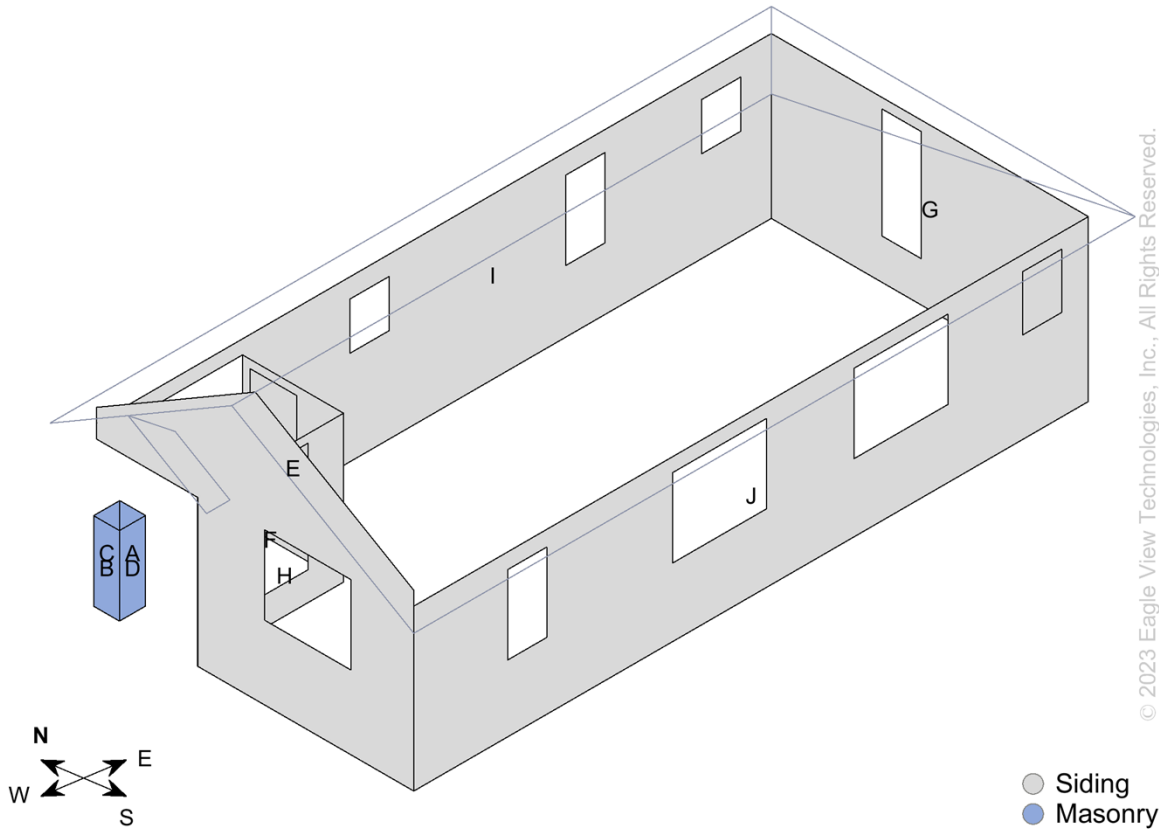
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	66.0	0.0
I	326.0	0.0
C	0.0	8.4
Total	392.0	8.4

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
G	189.4	0.0
A	0.0	8.3
Total	189.4	8.3

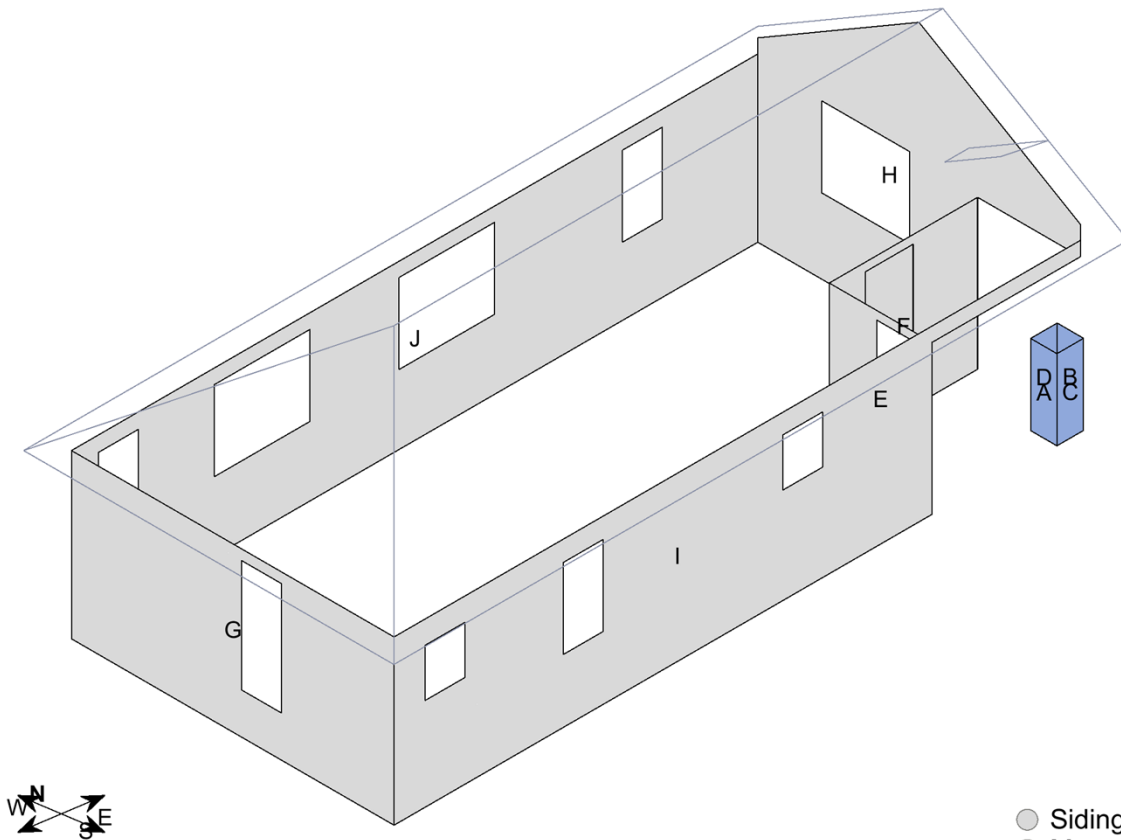
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	359.2	0.0
D	0.0	8.4
Total	359.2	8.4

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	39.2	0.0
H	196.7	0.0
B	0.0	8.3
Total	235.9	8.3

ALTERNATE WALL AREA



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- Siding
- Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	66.0	0.0
I	326.0	0.0
C	0.0	8.4
Total	392.0	8.4

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
G	189.4	0.0
A	0.0	8.3
Total	189.4	8.3

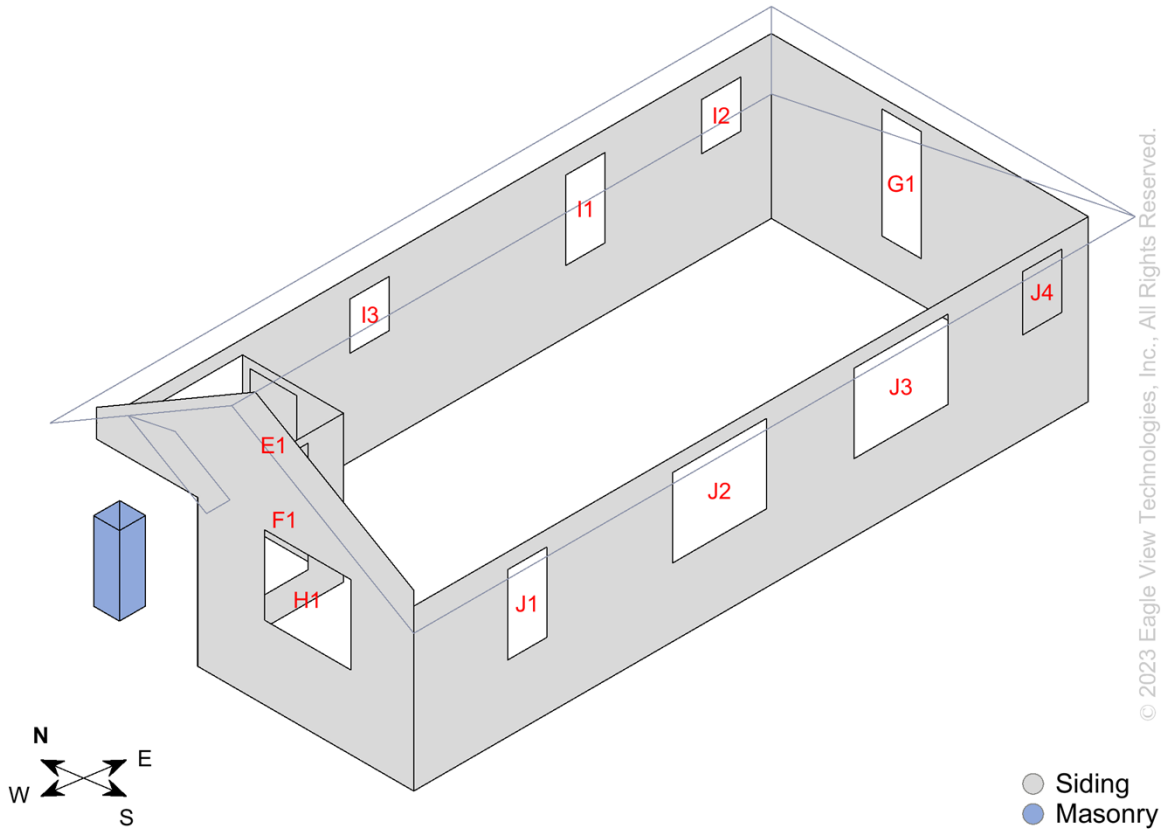
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	359.2	0.0
D	0.0	8.4
Total	359.2	8.4

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	39.2	0.0
H	196.7	0.0
B	0.0	8.3
Total	235.9	8.3

WINDOW AND DOOR DIAGRAM



Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
F1	21.0	20.0	3.0 x 7.0
I1	12.5	15.0	2.5 x 5.0
I2	7.5	11.0	2.5 x 3.0
I3	7.5	11.0	2.5 x 3.0
Total	48.5	57.0	n/a

South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
J1	12.5	15.0	2.5 x 5.0
J2	30.0	22.0	6.0 x 5.0
J3	30.0	22.0	6.0 x 5.0

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
G1	17.6	19.0	2.5 x 7.0
Total	17.6	19.0	n/a

West

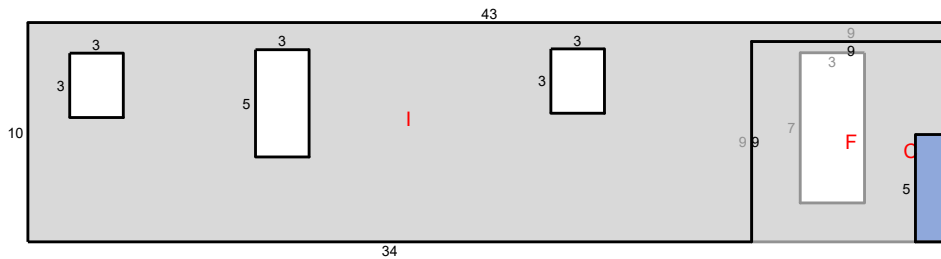
Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
E1	21.0	20.0	3.0 x 7.0
H1	27.5	21.0	5.5 x 5.0
Total	48.5	41.0	n/a

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J4	8.8	12.0	2.5 x 3.5
Total	81.3	71.0	n/a

NORTH ELEVATION DIAGRAM



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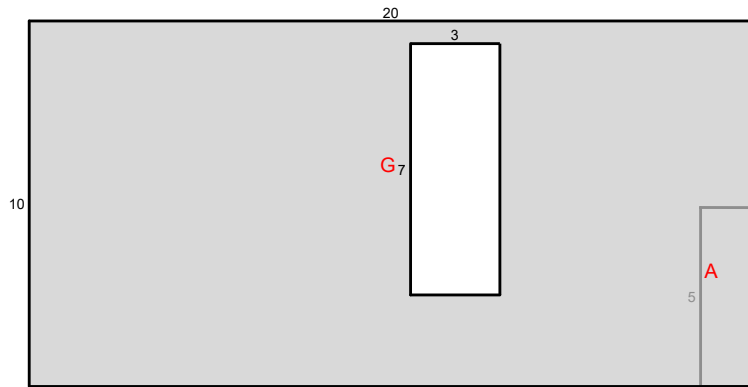
● Siding
● Masonry

Top of Siding Walls = 52.4 ft
Bottom of Siding Walls = 52.4 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
F	66.0	0.0	21.0	20.0	1
I	326.0	0.0	27.5	37.0	3
C	0.0	8.4	0	0	0
Total	392.0	8.4	48.5	57.0	4

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



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- Siding
- Masonry

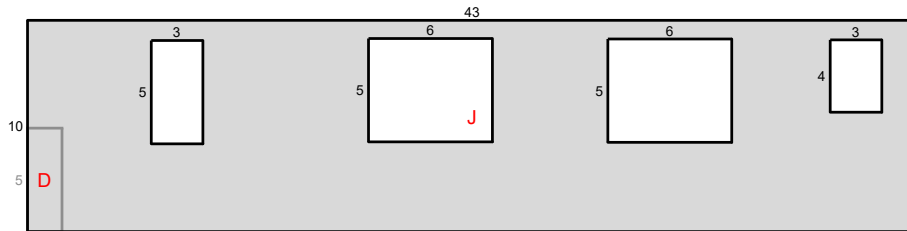
Top of Siding Walls = 20.2 ft

Bottom of Siding Walls = 20.2 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
G	189.4	0.0	17.6	19.0	1
A	0.0	8.3	0	0	0
Total	189.4	8.3	17.6	19.0	1

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM



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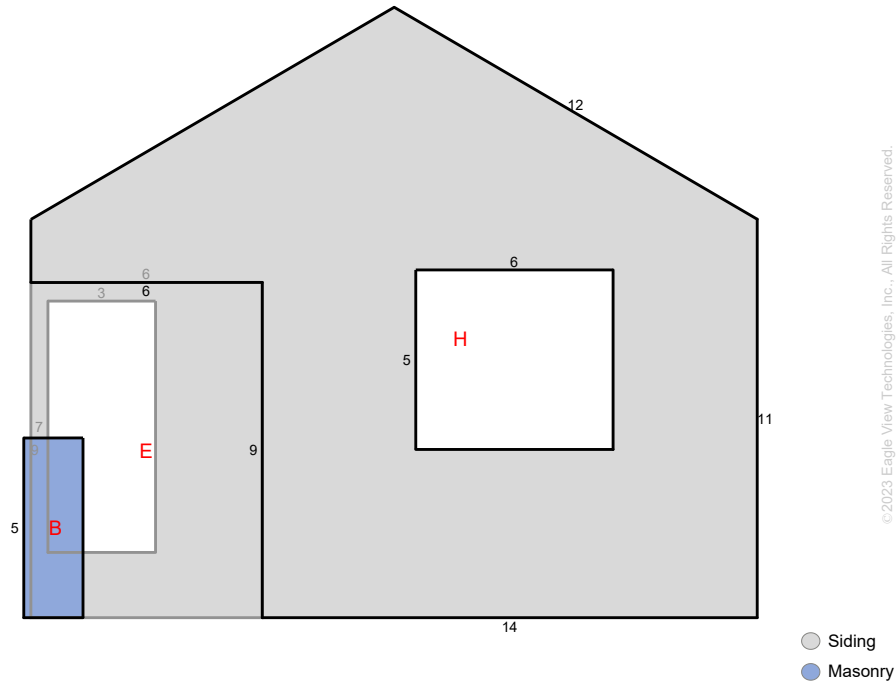
- Siding
- Masonry

Top of Siding Walls = 43.1 ft
Bottom of Siding Walls = 43.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
J	359.2	0.0	81.3	71.0	4
D	0.0	8.4	0	0	0
Total	359.2	8.4	81.3	71.0	4

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



Top of Siding Walls = 29.8 ft
 Bottom of Siding Walls = 26.6 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
E	39.2	0.0	21.0	20.0	1
H	196.7	0.0	27.5	21.0	1
B	0.0	8.3	0	0	0
Total	235.9	8.3	48.5	41.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch	
Roof Pitches	7/12
Area (sq ft)	1247.1
% of Roof	99.9%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

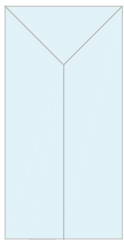
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	3%	8%	11%	13%	15%	18%	23%	28%
Area (Sq ft)	1248	1286	1348	1386	1411	1436	1473	1536	1598
Squares *	12.66	13.00	13.66	14.00	14.33	14.66	15.00	15.66	16.00
	Measured				Suggested				

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 4

Lengths, Areas and Pitches

Ridges = 35 ft (1 Ridges)
 Hips = 36 ft (2 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 33 ft (4 Rakes)
 Eaves/Starter‡ = 117 ft (4 Eaves)
 Drip Edge (Eaves + Rakes) = 150 ft (8 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 7 ft (2 Lengths)
 Predominant Pitch = 7/12
Total Area (All Pitches) = 1,248 sq ft

Property Location

Longitude = -95.3829918
 Latitude = 29.7554127

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

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Report: 55102908

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1309+Gillette+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1309+Gillette+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	1,176	1,294	1,306	1,318	1,329	1,341	1,353	1,412
Squares	11.8	12.9	13.1	13.2	13.3	13.4	13.5	14.1

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	33	37	37	37	38	38	38	40
Squares	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 1209.9 ft²

Siding = 1176.5 ft²

Masonry = 33.4 ft²

General Totals

Wall Facets = 10

Windows & Doors = 11

Window and Door Area = 195.9 ft²

Window & Door Perimeter = 188.0 ft

Fascia (Eaves + Rakes) = 150 ft

Top of Siding Walls = 145.5 ft

Bottom of Siding Walls = 142.3 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	9.3 ft	0.0 ft	0.0 ft	9.3 ft
Outside Corners	53.7 ft	20.0 ft	0.0 ft	73.7 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3829918

Latitude = 29.7554127

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

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Report: 55102908

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



1310 Gillette St, Houston, TX 77019

Prepared for you by

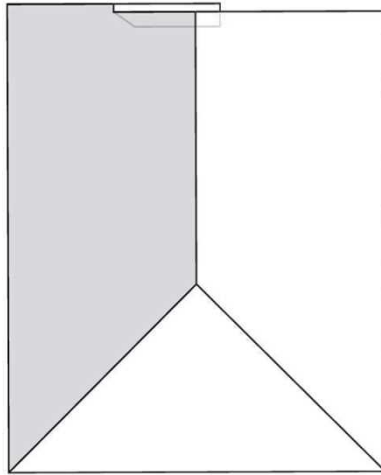


8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com

1310 Gillette St, Houston, TX 77019

Report: 55102972



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact:	Michael A Delgado
Company:	D7 Roofing & Metal LLC
Address:	8701 W Hardy Rd Houston, TX 77022
Phone:	713-325-0700

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MEASUREMENTS

Total Roof Area = 1,060 sq ft
 Total Roof Facets = 4
 Predominant Pitch = 7/12
 Number of Stories <= 1
 Total Ridges/Hips = 63 ft
 Total Valleys = 0 ft
 Total Rakes = 41 ft
 Total Eaves = 96 ft
 Total Wall Area = 974.9 sq ft
 Total Wall Facets = 12
 Total Siding Area = 931.5 sq ft
 Total Masonry Area = 43.4 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

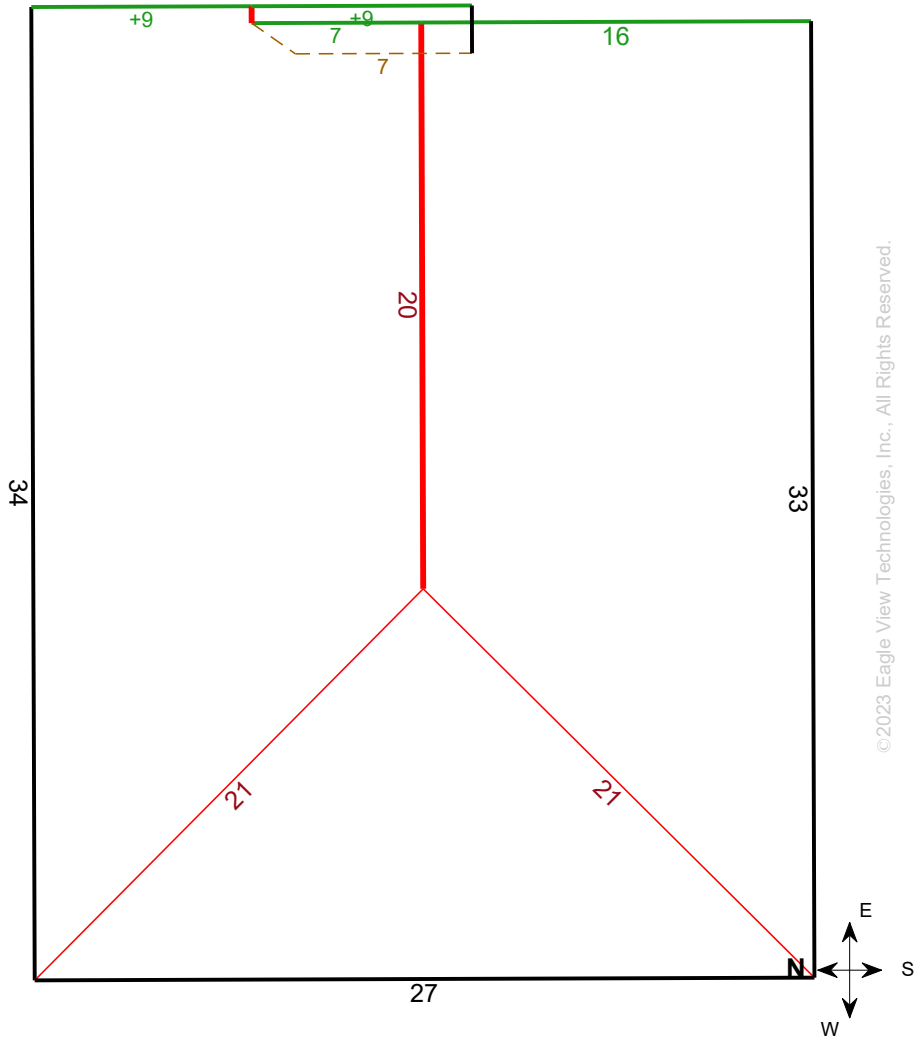
www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

Total Line Lengths:

Ridges = 21 ft
Hips = 42 ft

 Valleys = 0 ft
 Rakes = 41 ft
 Eaves = 96 ft

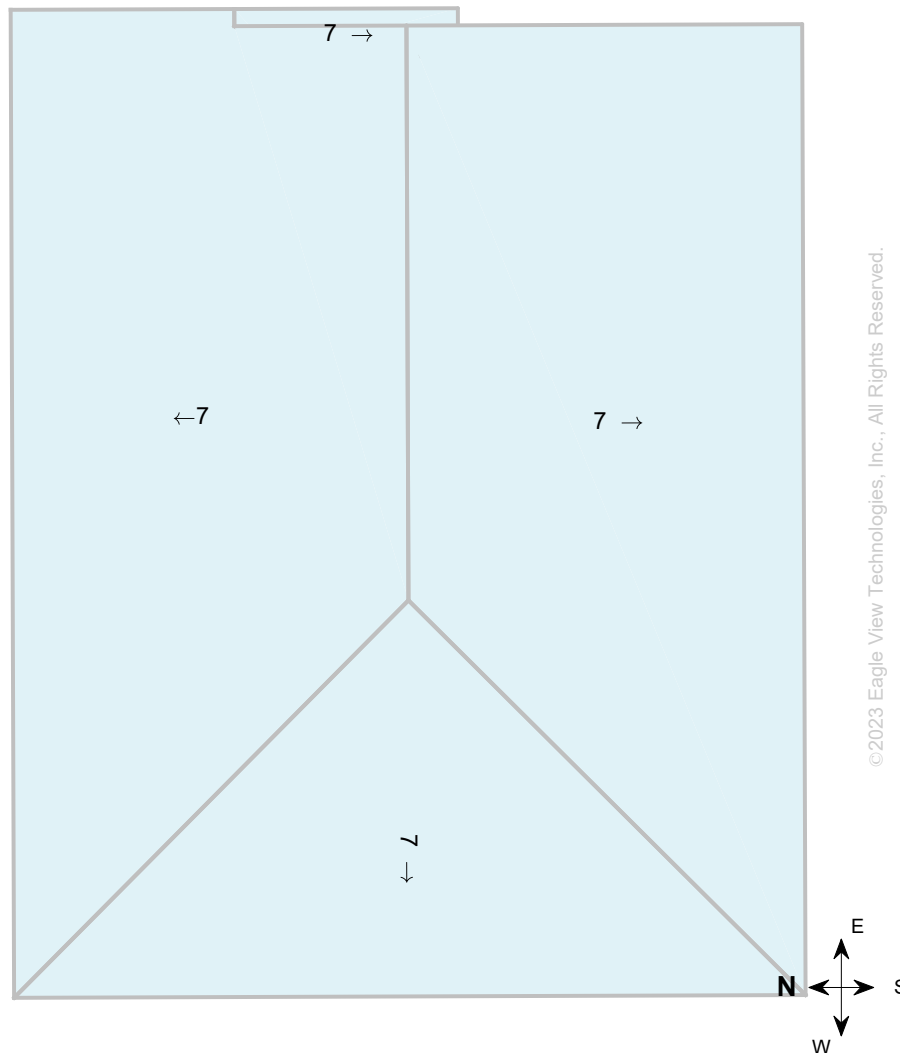
 Flashing = 0 ft
 Step flashing = 10 ft
 Parapets = 0 ft


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Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 7/12



Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

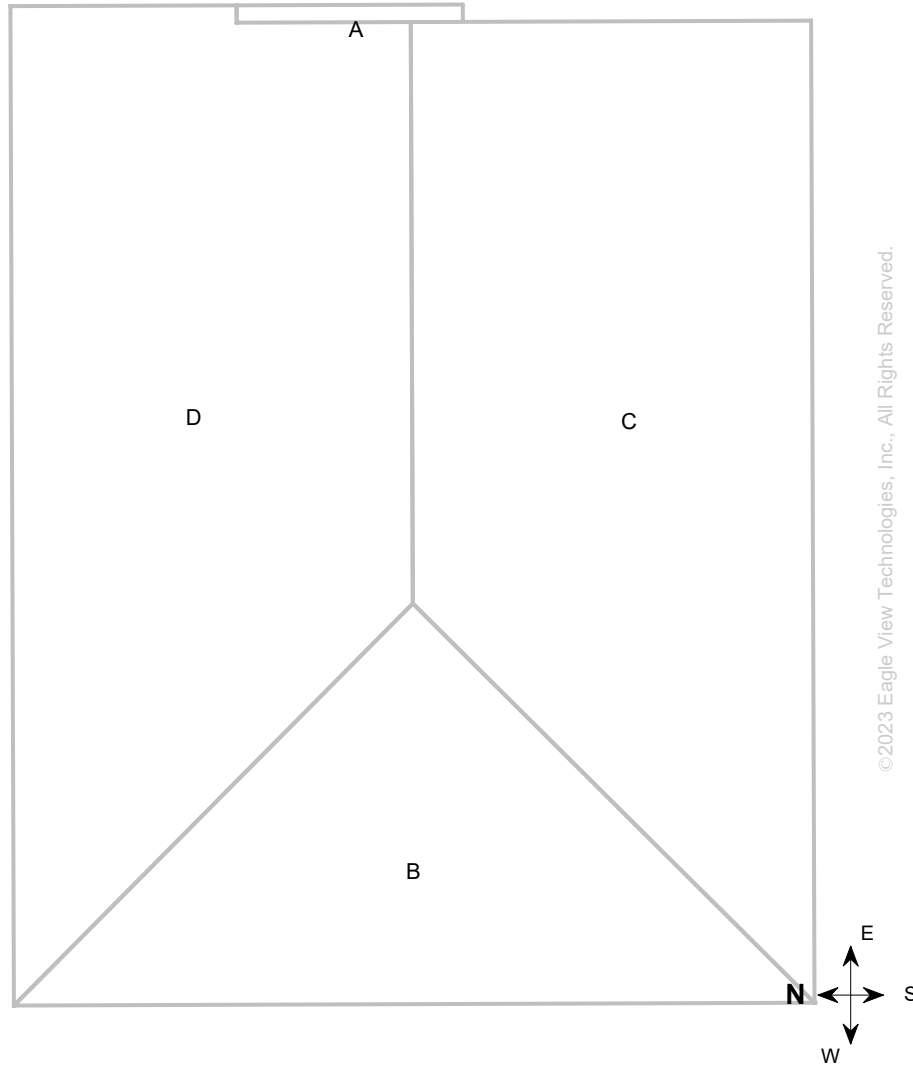
Total Area = 1,060 sq ft, with 4 facets.



Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

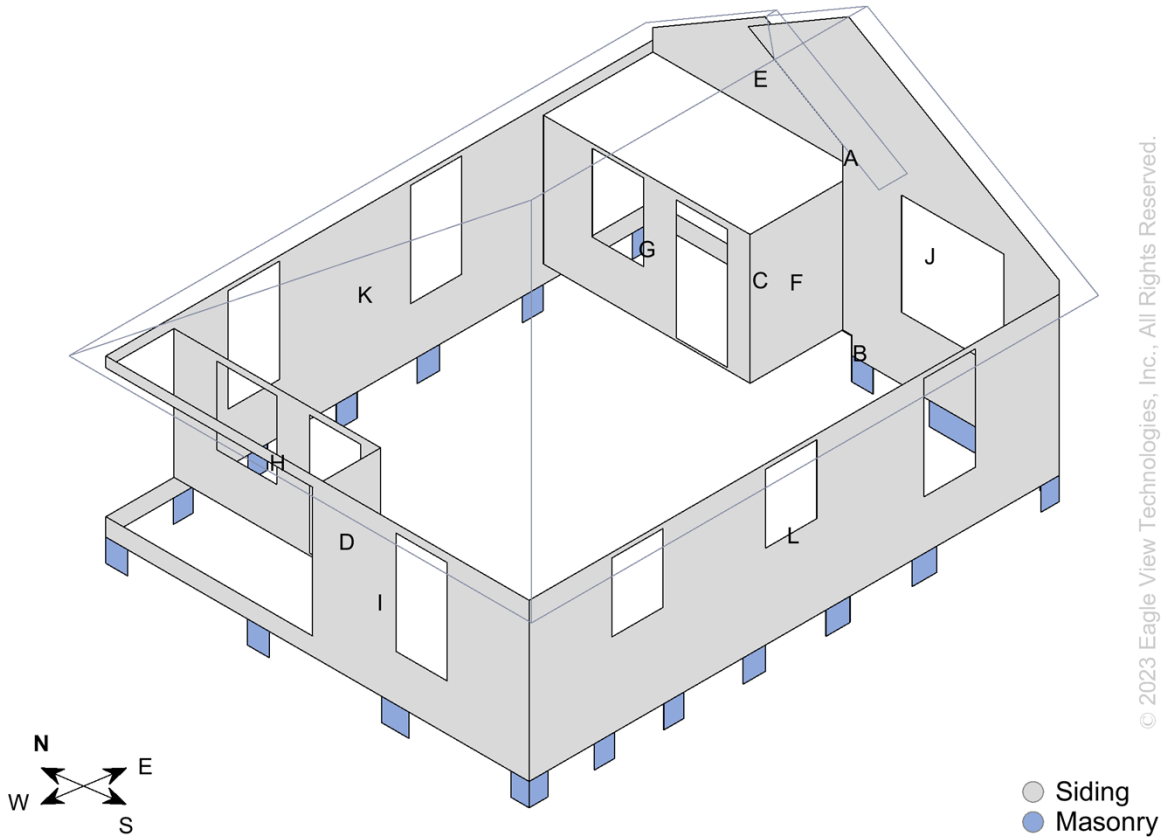
NOTES DIAGRAM

Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	30.1	0.0
F	40.9	0.0
K	179.6	11.1
Total	250.6	11.1

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
G	56.7	0.0
E	39.8	0.0
C	13.1	5.5
J	153.9	6.9
Total	263.5	12.4

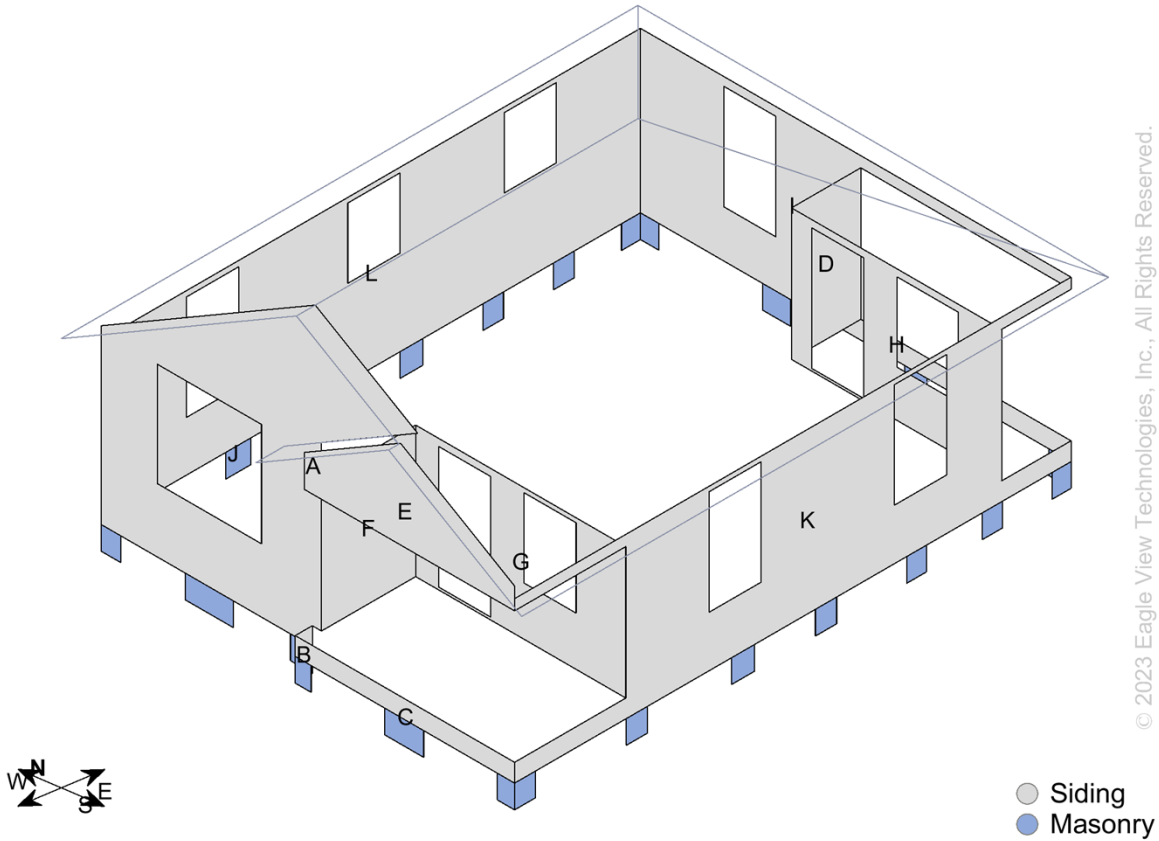
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	0.6	0.0
B	1.0	1.3
L	243.0	11.6
Total	244.6	12.9

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	54.5	0.0
I	118.3	7.0
Total	172.8	7.0

ALTERNATE WALL AREA



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	30.1	0.0
F	40.9	0.0
K	179.6	11.1
Total	250.6	11.1

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
G	56.7	0.0
E	39.8	0.0
C	13.1	5.5
J	153.9	6.9
Total	263.5	12.4

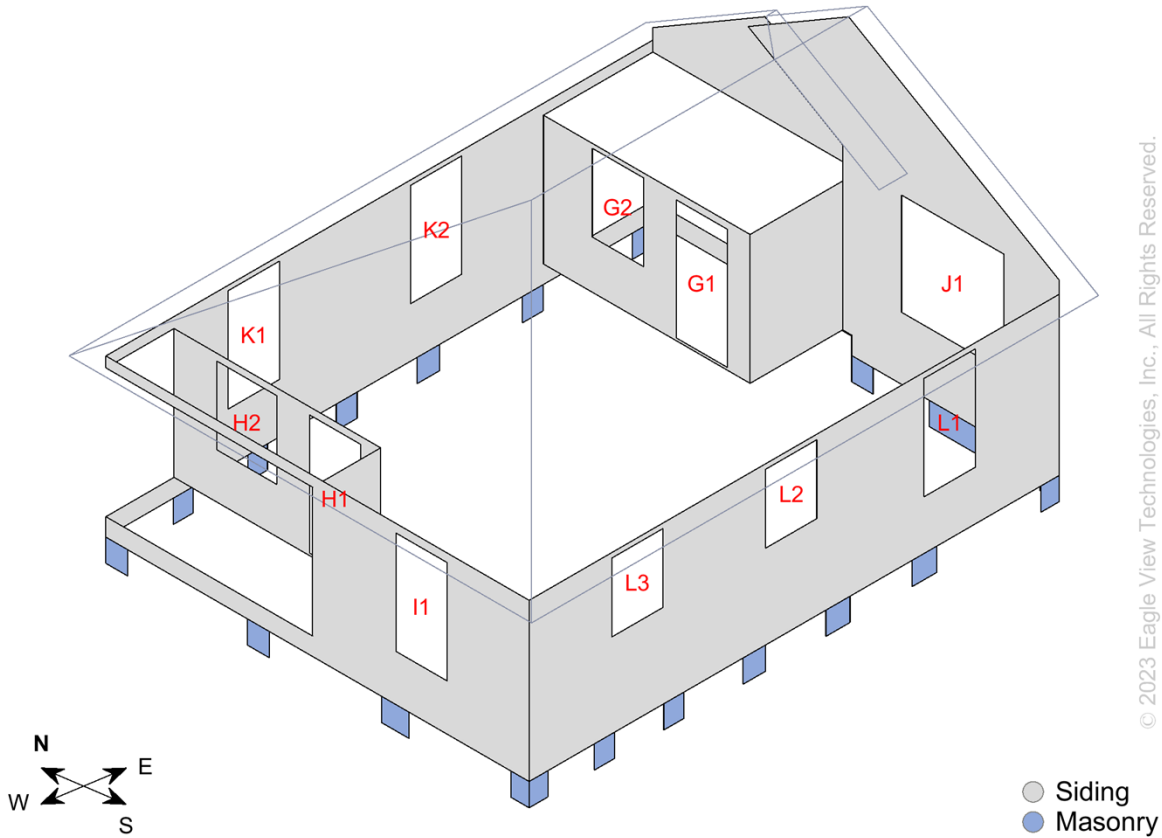
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	0.6	0.0
B	1.0	1.3
L	243.0	11.6
Total	244.6	12.9

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	54.5	0.0
I	118.3	7.0
Total	172.8	7.0

WINDOW AND DOOR DIAGRAM



Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
K1	18.0	18.0	3.0 x 6.0
K2	18.0	18.0	3.0 x 6.0
Total	36.0	36.0	n/a

South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
L1	18.0	18.0	3.0 x 6.0
L2	12.0	14.0	3.0 x 4.0
L3	12.0	14.0	3.0 x 4.0
Total	42.0	46.0	n/a

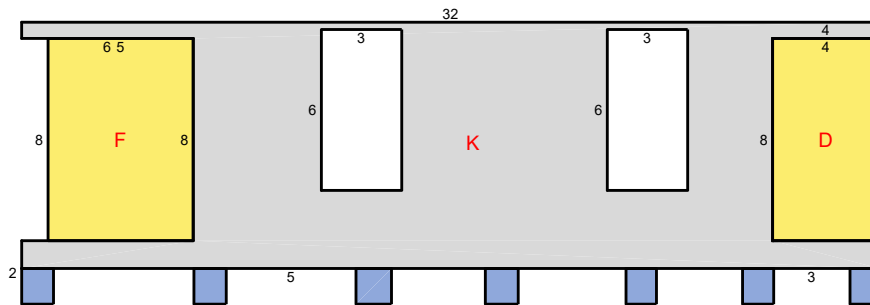
East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
G1	21.0	20.0	3.0 x 7.0
G2	13.5	15.0	3.0 x 4.5
J1	35.7	23.8	6.0 x 5.9
Total	70.2	58.8	n/a

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
H1	21.0	20.0	3.0 x 7.0
H2	15.8	16.0	3.5 x 4.5
I1	18.0	18.0	3.0 x 6.0
Total	54.8	54.0	n/a

NORTH ELEVATION DIAGRAM



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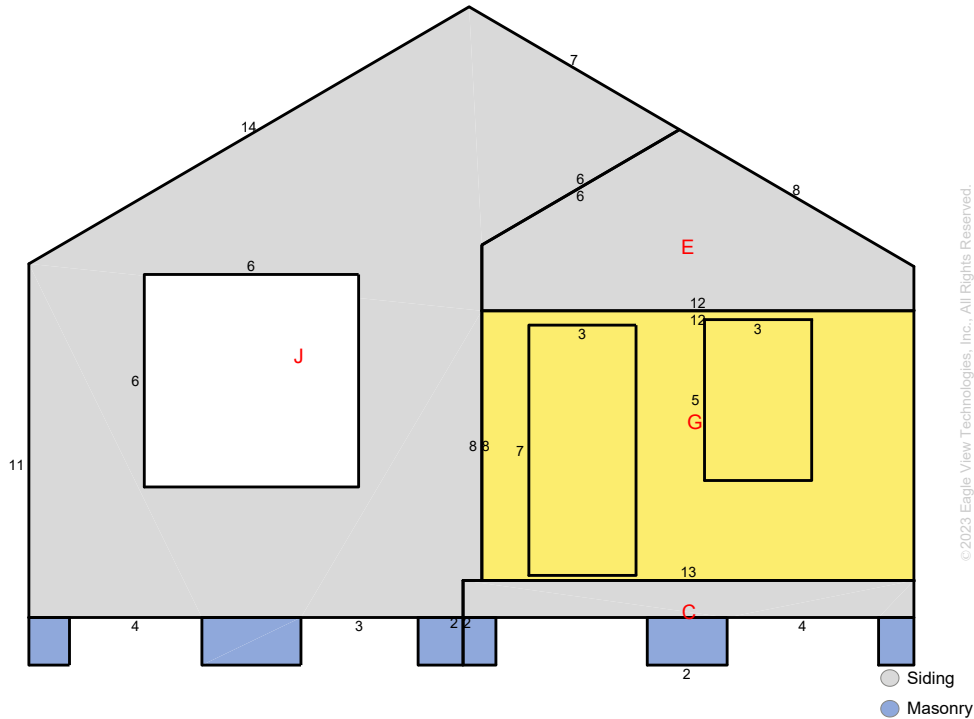
- Siding
- Masonry

Top of Siding Walls = 51.8 ft
 Bottom of Siding Walls = 51.6 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
D	30.1	0.0	0	0	0
F	40.9	0.0	0	0	0
K	179.6	11.1	36.0	36.0	2
Total	250.6	11.1	36.0	36.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



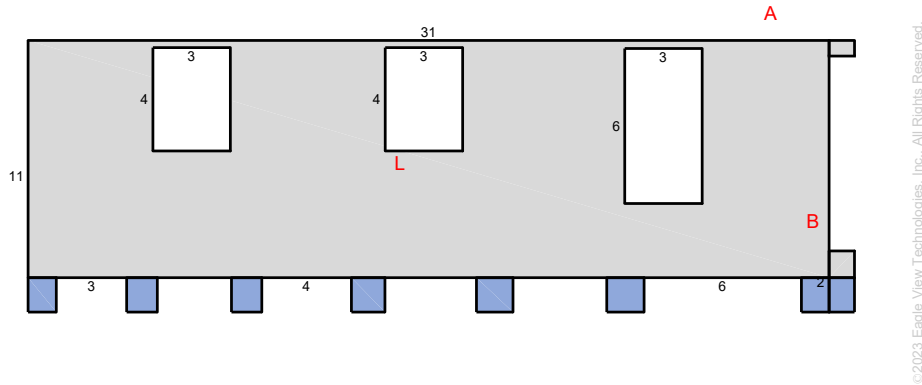
Top of Siding Walls = 59.8 ft

Bottom of Siding Walls = 55.8 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
G	56.7	0.0	34.5	35.0	2
E	39.8	0.0	0	0	0
C	13.1	5.5	0	0	0
J	153.9	6.9	35.7	23.8	1
Total	263.5	12.4	70.2	58.8	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM



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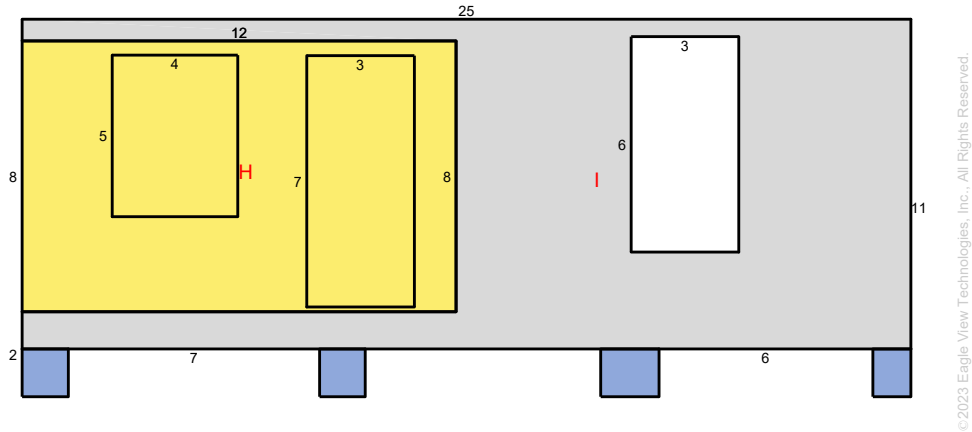
- Siding
- Masonry

Top of Siding Walls = 33.1 ft
 Bottom of Siding Walls = 33.0 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
A	0.6	0.0	0	0	0
B	1.0	1.3	0	0	0
L	243.0	11.6	42.0	46.0	3
Total	244.6	12.9	42.0	46.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



● Siding
 ● Masonry

Top of Siding Walls = 49.0 ft
 Bottom of Siding Walls = 49.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
H	54.5	0.0	36.8	36.0	2
I	118.3	7.0	18.0	18.0	1
Total	172.8	7.0	54.8	54.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch	
Roof Pitches	7/12
Area (sq ft)	1059.1
% of Roof	99.9%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

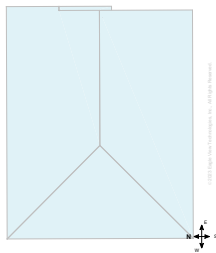
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	4%	9%	12%	14%	16%	19%	24%	29%
Area (Sq ft)	1060	1103	1156	1188	1209	1230	1262	1315	1368
Squares *	10.66	11.33	11.66	12.00	12.33	12.33	12.66	13.33	14.00
	Measured				Suggested				

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 4

Lengths, Areas and Pitches

Ridges = 21 ft (2 Ridges)
 Hips = 42 ft (2 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 41 ft (4 Rakes)
 Eaves/Starter‡ = 96 ft (4 Eaves)
 Drip Edge (Eaves + Rakes) = 137 ft (8 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 10 ft (2 Lengths)
 Predominant Pitch = 7/12
Total Area (All Pitches) = 1,060 sq ft

Property Location

Longitude = -95.3832043
 Latitude = 29.7553362

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1310 Gillette St, Houston, TX 77019

Report: 55102972

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1310+Gillette+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1310+Gillette+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	932	1,025	1,034	1,043	1,053	1,062	1,071	1,118
Squares	9.3	10.2	10.3	10.4	10.5	10.6	10.7	11.2

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	43	48	48	49	49	49	50	52
Squares	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 974.9 ft²

Siding = 931.5 ft²

Masonry = 43.4 ft²

General Totals

Wall Facets = 12

Windows & Doors = 11

Window and Door Area = 203.0 ft²

Window & Door Perimeter = 194.8 ft

Fascia (Eaves + Rakes) = 137 ft

Top of Siding Walls = 193.7 ft

Bottom of Siding Walls = 189.5 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	17.8 ft	1.3 ft	0.0 ft	19.1 ft
Outside Corners	56.9 ft	55.9 ft	0.0 ft	112.8 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3832043

Latitude = 29.7553362

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1310 Gillette St, Houston, TX 77019

Report: 55102972

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



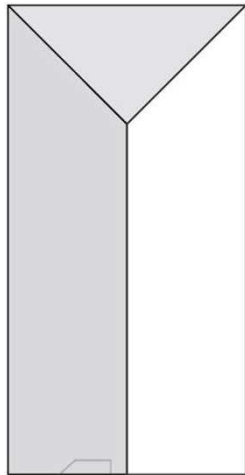
1313 Gillette St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact:	Michael A Delgado
Company:	D7 Roofing & Metal LLC
Address:	8701 W Hardy Rd Houston, TX 77022
Phone:	713-325-0700

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Area Diagram	6
Notes Diagram.....	7
3D Wall Area Diagram	8
Elevation Diagrams	9
Report Summary	13

MEASUREMENTS

Total Roof Area = 1,254 sq ft
 Total Roof Facets = 4
 Predominant Pitch = 7/12
 Number of Stories <= 1
 Total Ridges/Hips = 71 ft
 Total Valleys = 0 ft
 Total Rakes = 33 ft
 Total Eaves = 118 ft
 Total Wall Area = 1391.1 sq ft
 Total Wall Facets = 10
 Total Siding Area = 1301.2 sq ft
 Total Masonry Area = 89.9 sq ft

Measurements provided by www.eagleview.com



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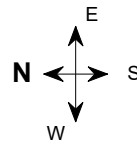
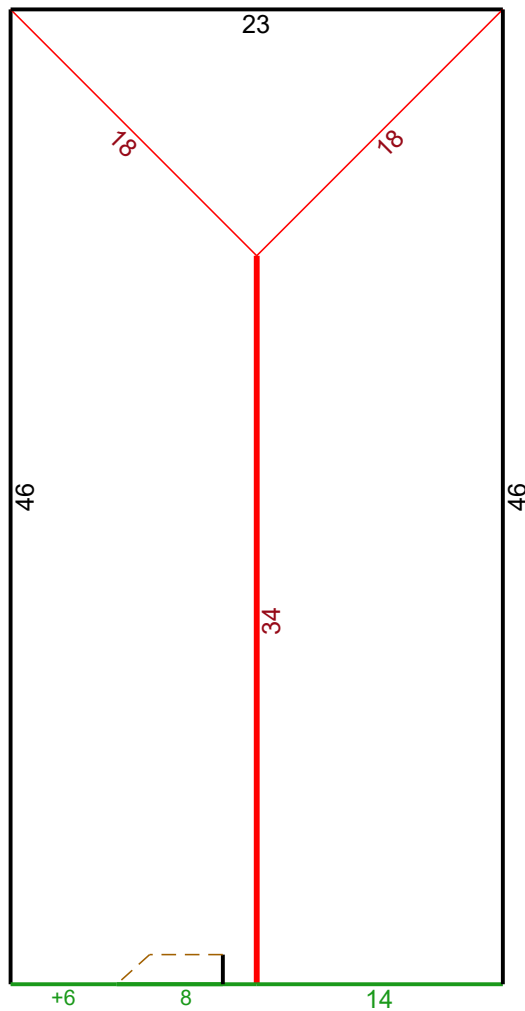
www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

Total Line Lengths:

Ridges = 35 ft
Hips = 36 ft

 Valleys = 0 ft
 Rakes = 33 ft
 Eaves = 118 ft

 Flashing = 0 ft
 Step flashing = 7 ft
 Parapets = 0 ft


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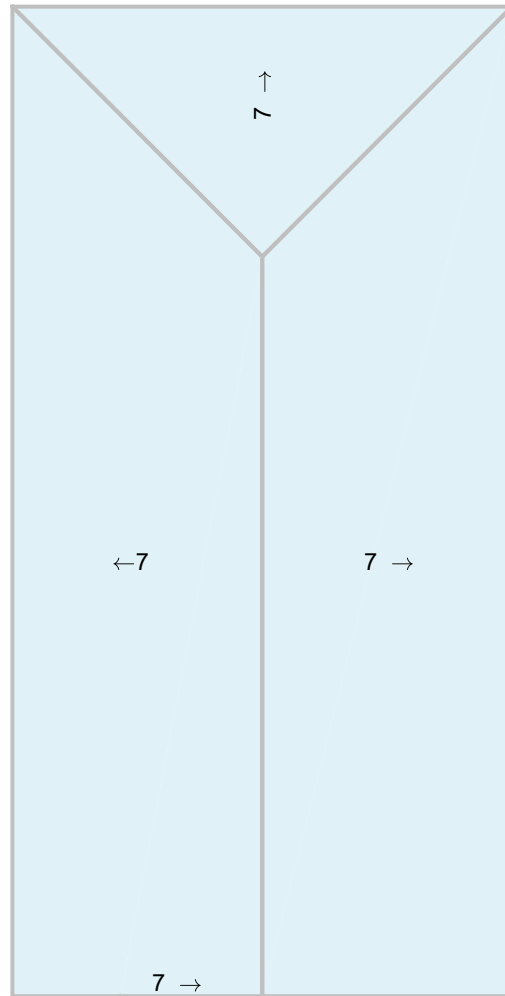
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

1313 Gillette St, Houston, TX 77019

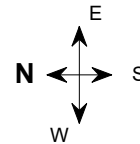
Report: 55102914

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 7/12



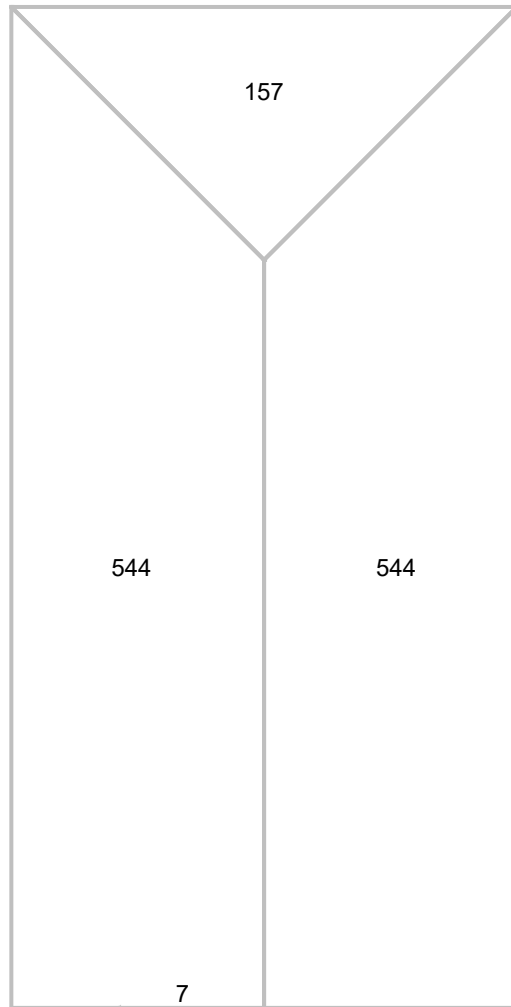
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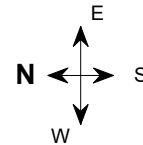
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 1,254 sq ft, with 4 facets.



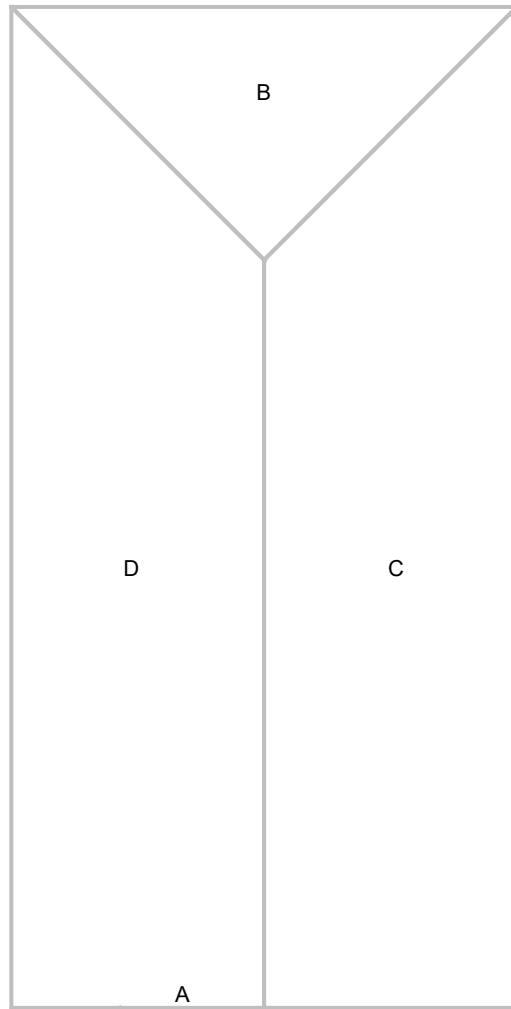
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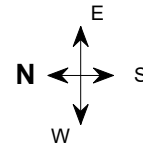
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

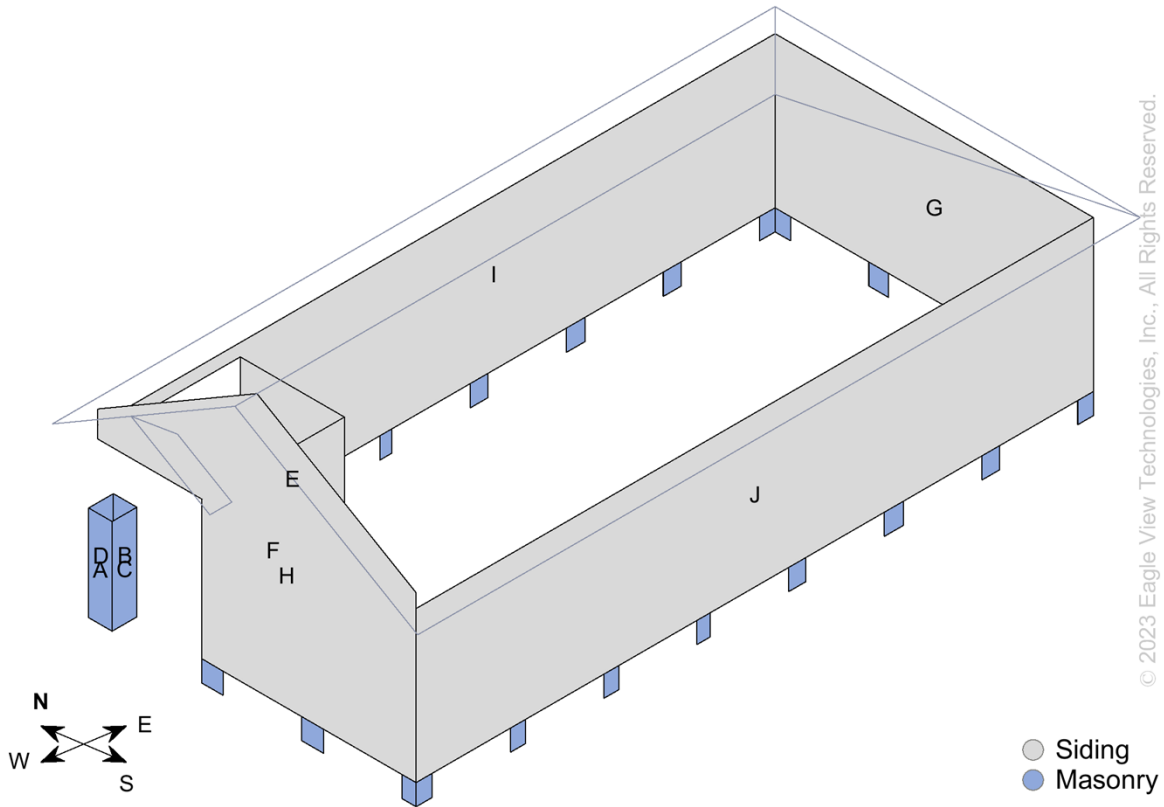
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	0.0	9.6
I	335.6	9.5
F	80.3	12.2
Total	415.9	31.3

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	0.0	9.1
G	195.7	5.9
Total	195.7	15.0

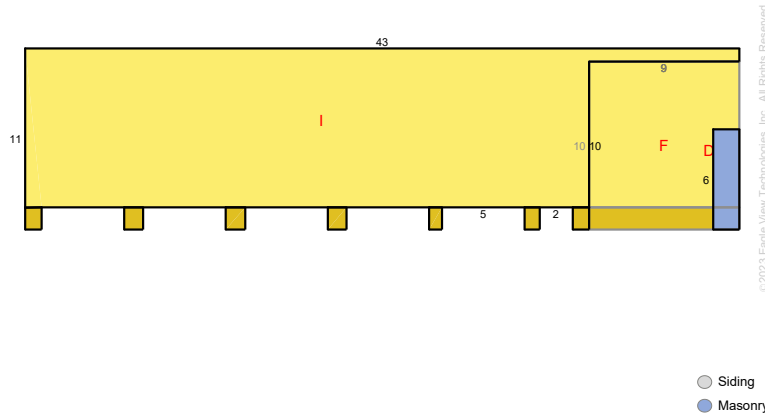
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	0.0	9.6
J	416.1	11.1
Total	416.1	20.7

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	0.0	9.1
E	58.6	8.9
H	214.9	4.9
Total	273.5	22.9

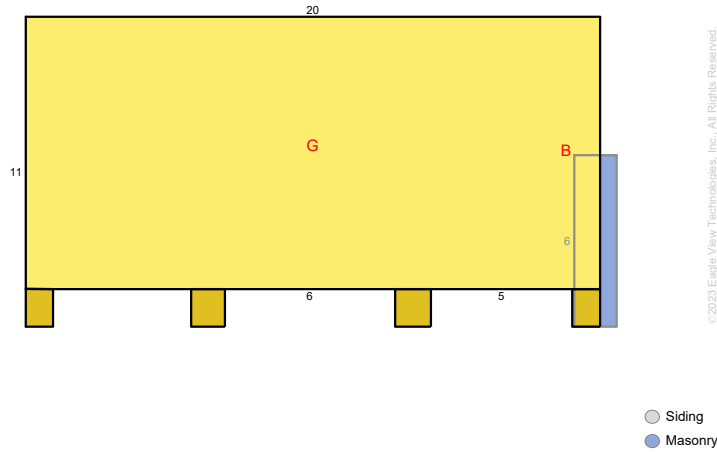
NORTH ELEVATION DIAGRAM



Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	0.0	9.6
I	335.6	9.5
F	80.3	12.2
Total	415.9	31.3

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

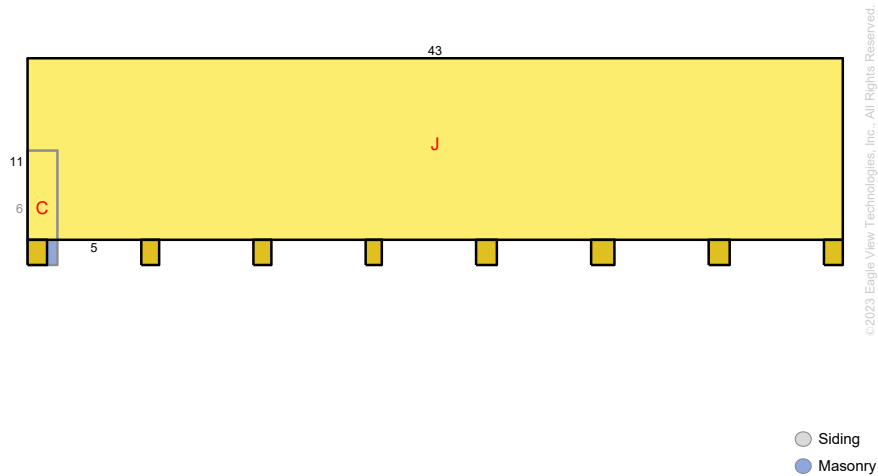
EAST ELEVATION DIAGRAM



Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	0.0	9.1
G	195.7	5.9
Total	195.7	15.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

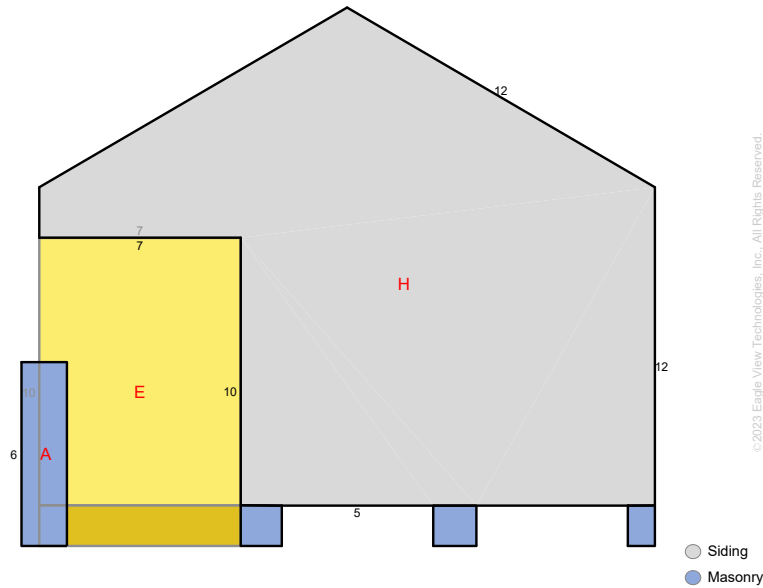
SOUTH ELEVATION DIAGRAM



Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	0.0	9.6
J	416.1	11.1
Total	416.1	20.7

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

WEST ELEVATION DIAGRAM



Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	0.0	9.1
E	58.6	8.9
H	214.9	4.9
Total	273.5	22.9

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

REPORT SUMMARY

All Structures

Areas per Pitch

Roof Pitches	7/12
Area (sq ft)	1253.2
% of Roof	99.9%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

Structure Complexity

Simple	Normal	Complex
--------	--------	---------

Waste Calculation

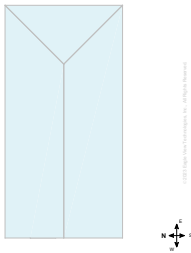
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the **Lengths, Areas, and Pitches** section below.

Waste %	0%	2%	7%	10%	12%	14%	17%	22%	27%
Area (Sq ft)	1254	1280	1342	1380	1405	1430	1468	1530	1593
Squares *	12.66	13.00	13.66	14.00	14.33	14.33	15.00	15.33	16.00
	Measured				Suggested				

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 4

Lengths, Areas and Pitches

Ridges = 35 ft (1 Ridges)
 Hips = 36 ft (2 Hips).
 Valleys = 0 ft (0 Valleys)
 Rakes† = 33 ft (4 Rakes)
 Eaves/Starter‡ = 118 ft (4 Eaves)
 Drip Edge (Eaves + Rakes) = 151 ft (8 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 7 ft (2 Lengths)
 Predominant Pitch = 7/12

Total Area (All Pitches) = 1,254 sq ft

Property Location

Longitude = -95.3829784
 Latitude = 29.7553108

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).
 ‡ Eaves are defined as roof edges that are not sloped and level.

1313 Gillette St, Houston, TX 77019

Report: 55102914

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1313+Gillette+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1313+Gillette+St,Houston,TX,77019

1313 Gillette St, Houston, TX 77019

Report: 55102914

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



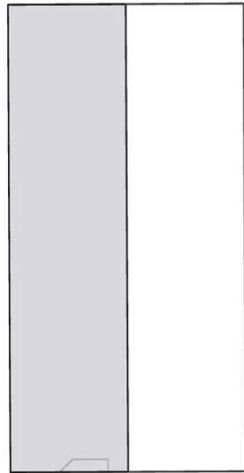
1315 Gillette St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact:	Michael A Delgado
Company:	D7 Roofing & Metal LLC
Address:	8701 W Hardy Rd Houston, TX 77022
Phone:	713-325-0700

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MEASUREMENTS

Total Roof Area = 1,152 sq ft
 Total Roof Facets = 3
 Predominant Pitch = 6/12
 Number of Stories <= 1
 Total Ridges/Hips = 46 ft
 Total Valleys = 0 ft
 Total Rakes = 57 ft
 Total Eaves = 92 ft
 Total Wall Area = 1115.3 sq ft
 Total Wall Facets = 10
 Total Siding Area = 1088.3 sq ft
 Total Masonry Area = 27.0 sq ft

Measurements provided by www.eagleview.com



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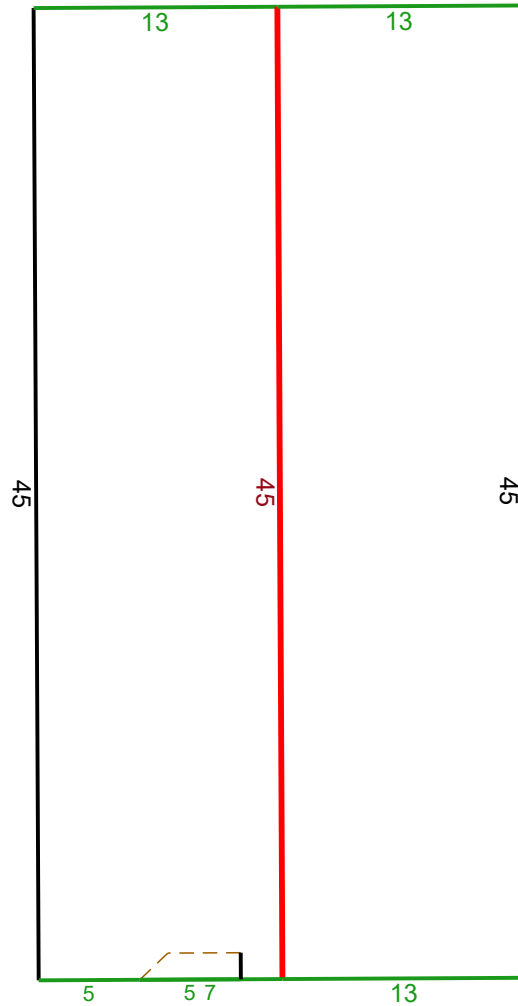
www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

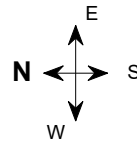
Total Line Lengths:

Ridges = 46 ft
 Hips = 0 ft

 Valleys = 0 ft
 Rakes = 57 ft
 Eaves = 92 ft

 Flashing = 0 ft
 Step flashing = 6 ft
 Parapets = 0 ft


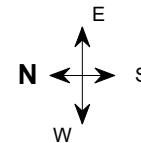
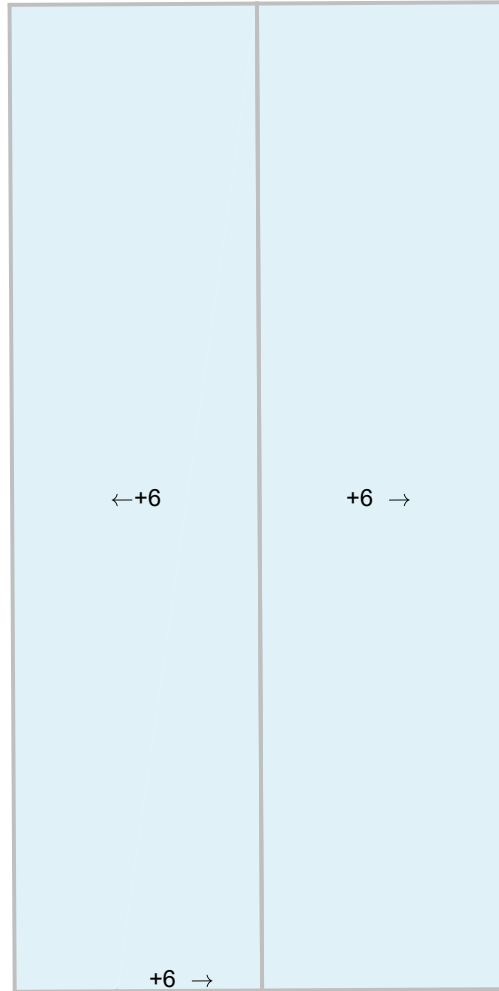
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Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 6/12

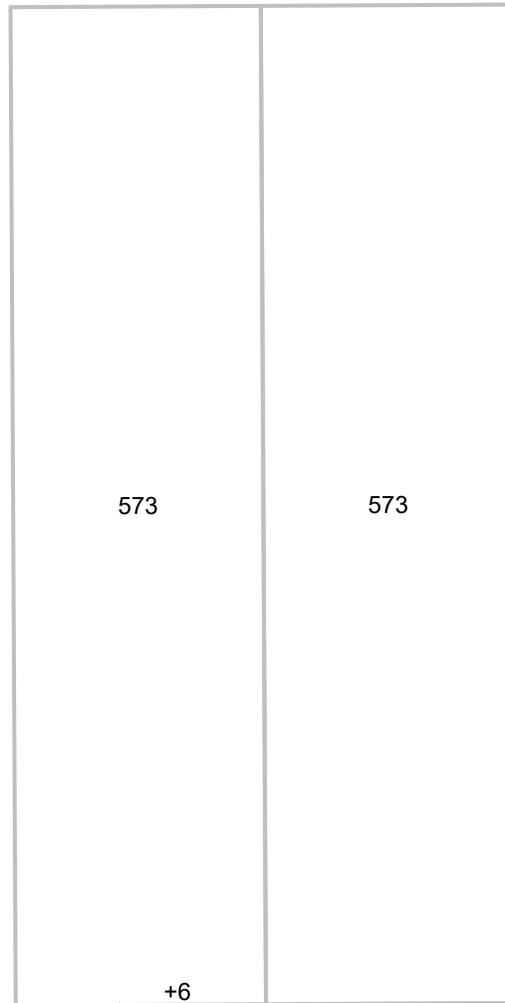


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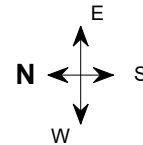
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 1,152 sq ft, with 3 facets.



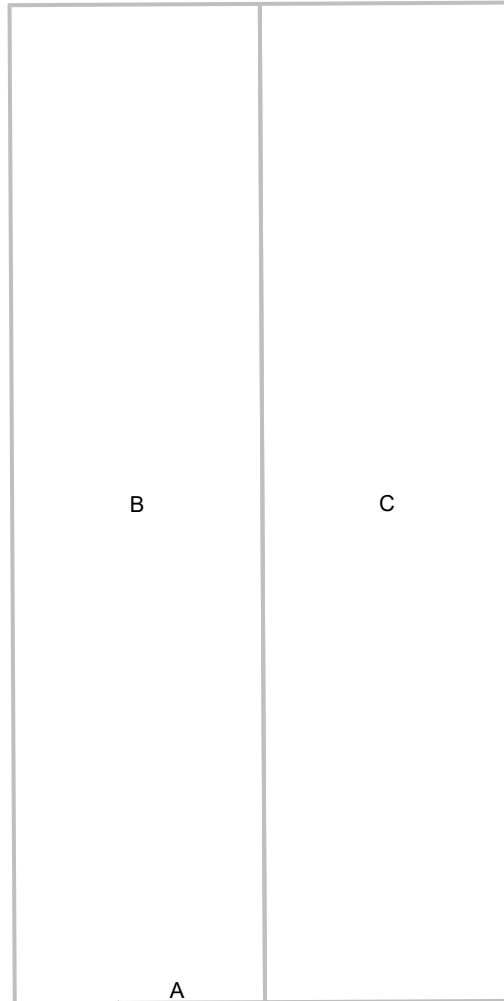
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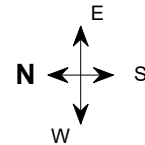
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

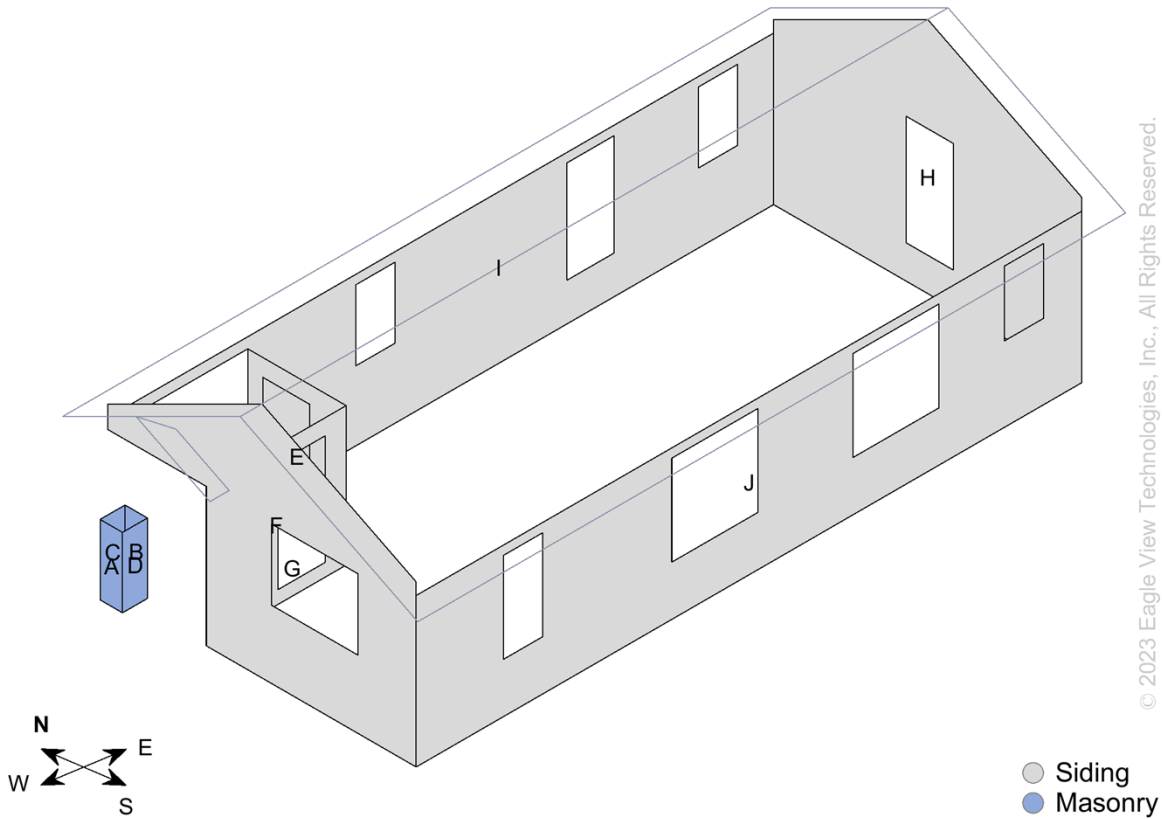
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



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North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	57.7	0.0
C	0.0	7.1
I	282.5	0.0
Total	340.2	7.1

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	228.9	0.0
B	0.0	6.4
Total	228.9	6.4

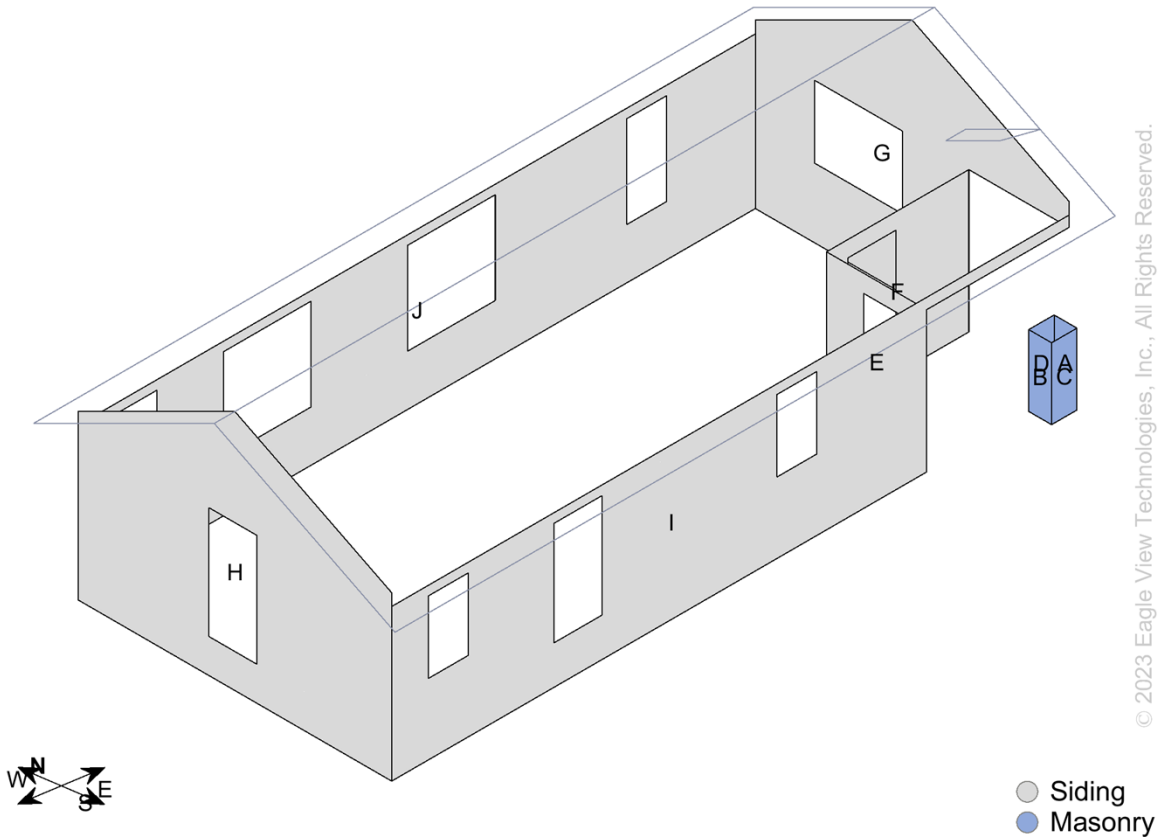
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	0.0	7.1
J	315.1	0.0
Total	315.1	7.1

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	34.4	0.0
A	0.0	6.4
G	169.7	0.0
Total	204.1	6.4

ALTERNATE WALL AREA



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	57.7	0.0
C	0.0	7.1
I	282.5	0.0
Total	340.2	7.1

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	228.9	0.0
B	0.0	6.4
Total	228.9	6.4

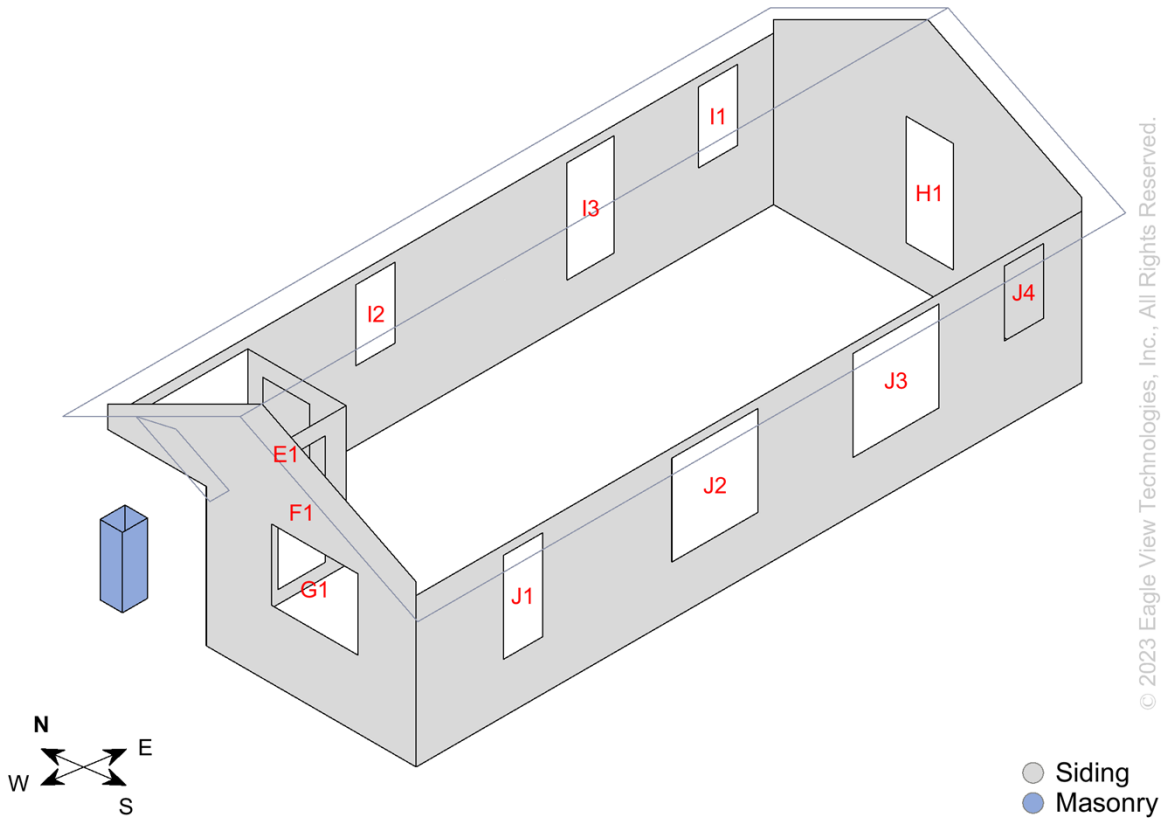
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	0.0	7.1
J	315.1	0.0
Total	315.1	7.1

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	34.4	0.0
A	0.0	6.4
G	169.7	0.0
Total	204.1	6.4

WINDOW AND DOOR DIAGRAM



Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
F1	21.0	20.0	3.0 x 7.0
I1	11.2	14.0	2.5 x 4.5
I2	11.2	14.0	2.5 x 4.5
I3	19.5	19.0	3.0 x 6.5
Total	62.9	67.0	n/a

South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
J1	14.4	16.4	2.5 x 5.7
J2	31.6	22.4	5.5 x 5.7
J3	31.6	22.4	5.5 x 5.7

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
H1	21.0	20.0	3.0 x 7.0
Total	21.0	20.0	n/a

West

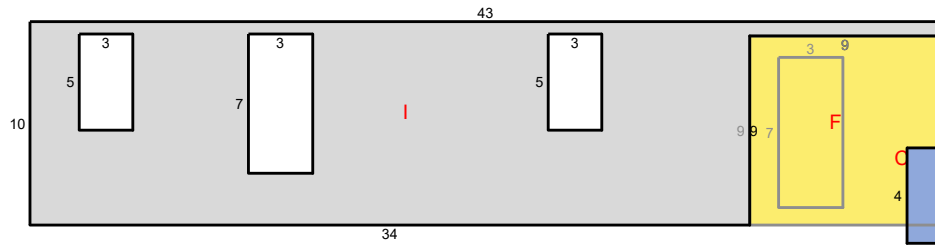
Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
E1	21.0	20.0	3.0 x 7.0
G1	24.7	20.0	5.5 x 4.5
Total	45.7	40.0	n/a

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J4	10.3	13.2	2.5 x 4.1
Total	87.9	74.4	n/a

NORTH ELEVATION DIAGRAM



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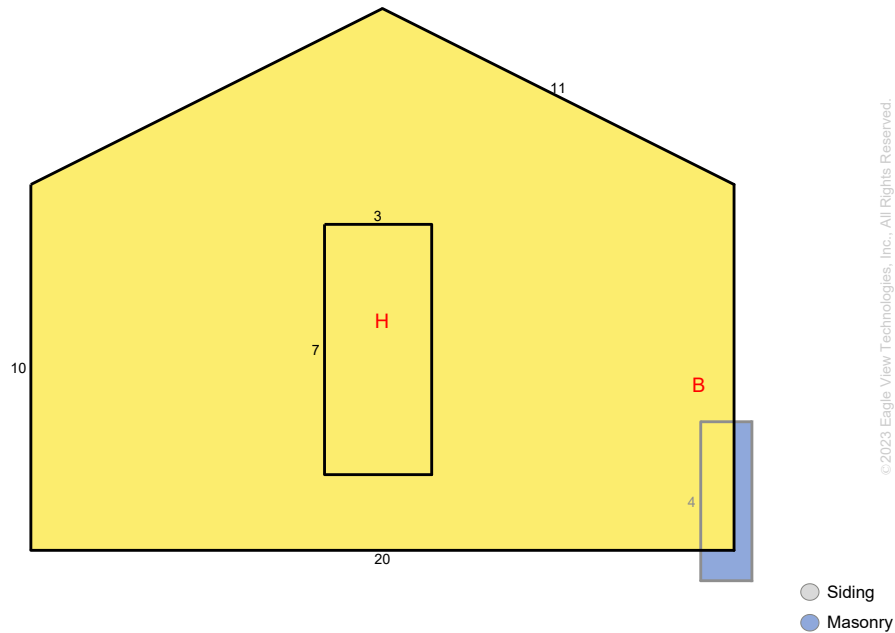
● Siding
● Masonry

Top of Siding Walls = 51.4 ft
Bottom of Siding Walls = 51.4 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
F	57.7	0.0	21.0	20.0	1
C	0.0	7.1	0	0	0
I	282.5	0.0	41.9	47.0	3
Total	340.2	7.1	62.9	67.0	4

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



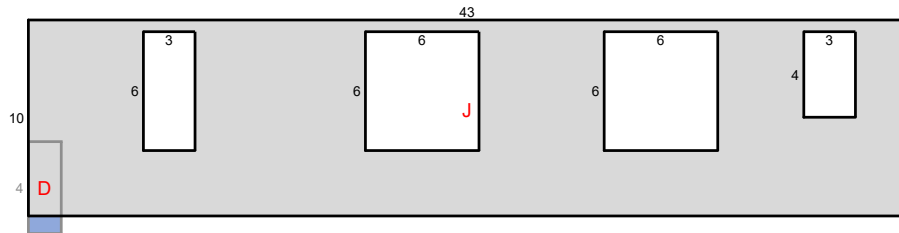
Top of Siding Walls = 22.0 ft

Bottom of Siding Walls = 19.7 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
H	228.9	0.0	21.0	20.0	1
B	0.0	6.4	0	0	0
Total	228.9	6.4	21.0	20.0	1

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM



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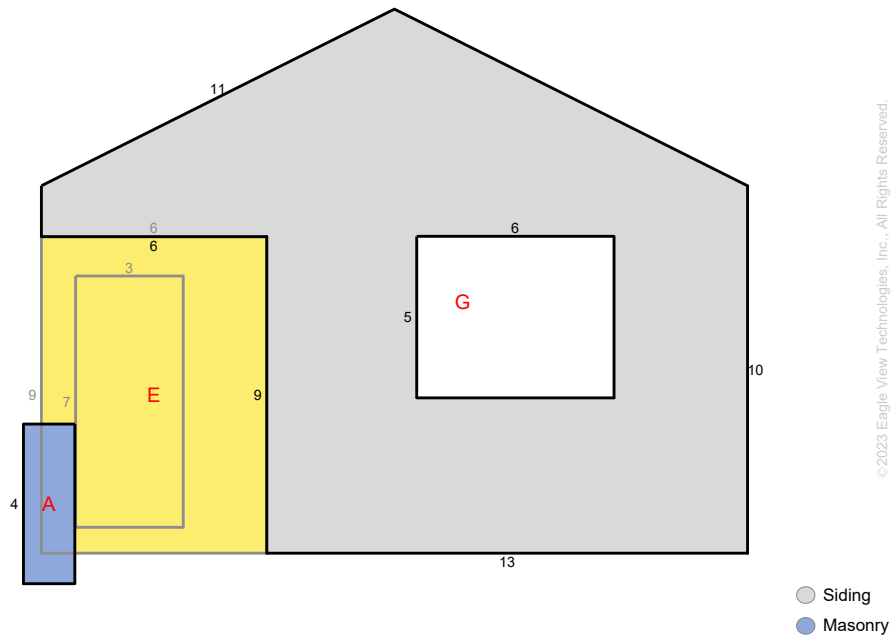
- Siding
- Masonry

Top of Siding Walls = 42.5 ft
 Bottom of Siding Walls = 42.5 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
D	0.0	7.1	0	0	0
J	315.1	0.0	87.9	74.4	4
Total	315.1	7.1	87.9	74.4	4

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



Top of Siding Walls = 28.3 ft
 Bottom of Siding Walls = 26.0 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
E	34.4	0.0	21.0	20.0	1
A	0.0	6.4	0	0	0
G	169.7	0.0	24.7	20.0	1
Total	204.1	6.4	45.7	40.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch	
Roof Pitches	6/12
Area (sq ft)	1152.0
% of Roof	100%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

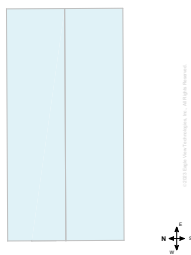
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	5%	8%	10%	12%	15%	20%	25%	30%
Area (Sq ft)	1152	1210	1245	1268	1291	1325	1383	1440	1498
Squares *	11.66	12.33	12.66	13.00	13.00	13.33	14.00	14.66	15.00
	Measured			Suggested					

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 3

Lengths, Areas and Pitches

Ridges = 46 ft (1 Ridges)
 Hips = 0 ft (0 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 57 ft (6 Rakes)
 Eaves/Starter‡ = 92 ft (3 Eaves)
 Drip Edge (Eaves + Rakes) = 149 ft (9 Lengths)
 Parapet Walls = 0 (0 Lengths)
 Flashing = 0 ft (0 Lengths)
 Step flashing = 6 ft (2 Lengths)
 Predominant Pitch = 6/12
Total Area (All Pitches) = 1,152 sq ft

Property Location

Longitude = -95.3829925
 Latitude = 29.7552064

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

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Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1315+Gillette+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1315+Gillette+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	1,088	1,197	1,208	1,219	1,230	1,241	1,252	1,306
Squares	10.9	12	12.1	12.2	12.3	12.4	12.5	13.1

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	27	30	30	30	31	31	31	32
Squares	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 1115.3 ft²

Siding = 1088.3 ft²

Masonry = 27.0 ft²

General Totals

Wall Facets = 10

Windows & Doors = 11

Window and Door Area = 217.5 ft²

Window & Door Perimeter = 201.4 ft

Fascia (Eaves + Rakes) = 149 ft

Top of Siding Walls = 144.2 ft

Bottom of Siding Walls = 139.6 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	8.8 ft	0.0 ft	0.0 ft	8.8 ft
Outside Corners	49.6 ft	17.6 ft	0.0 ft	67.2 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3829925

Latitude = 29.7552064

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

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Report: 55102918

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



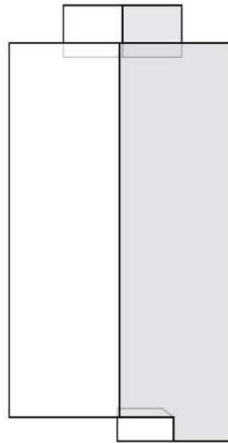
1506 Ruthven St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 1,897 sq ft
 Total Roof Facets = 5
 Predominant Pitch = 9/12
 Number of Stories > 1
 Total Ridges/Hips = 59 ft
 Total Valleys = 0 ft
 Total Rakes = 98 ft
 Total Eaves = 118 ft
 Total Wall Area = 3176.0 sq ft
 Total Wall Facets = 11
 Total Siding Area = 2936.1 sq ft
 Total Masonry Area = 239.9 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

Total Line Lengths:

Ridges = 59 ft
Hips = 0 ft

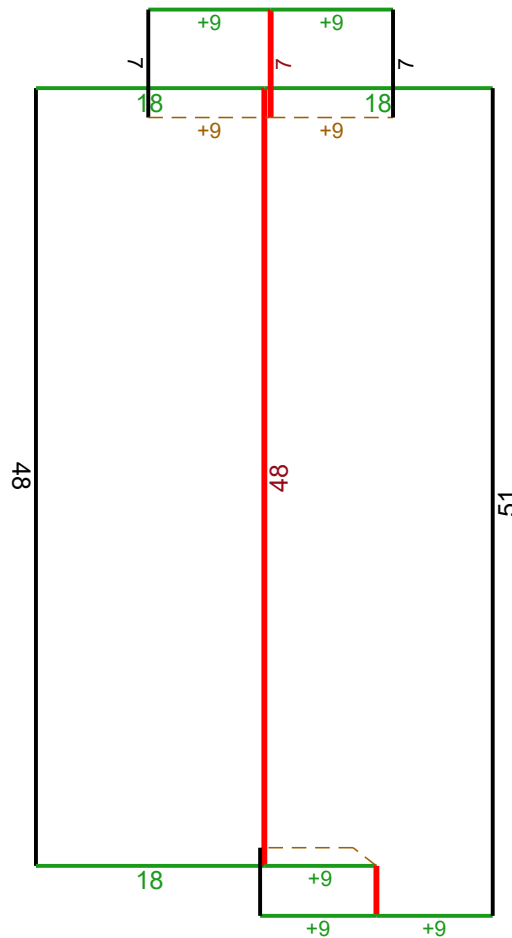
Valleys = 0 ft

Rakes = 98 ft

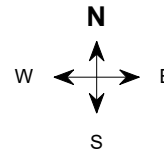
Eaves = 118 ft

Flashing = 0 ft

Step flashing = 28 ft

Parapets = 0 ft


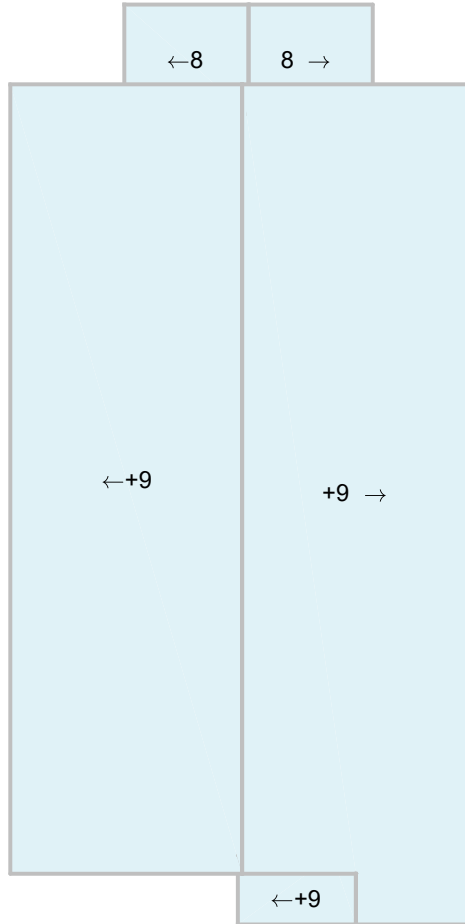
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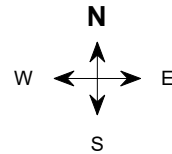
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 9/12



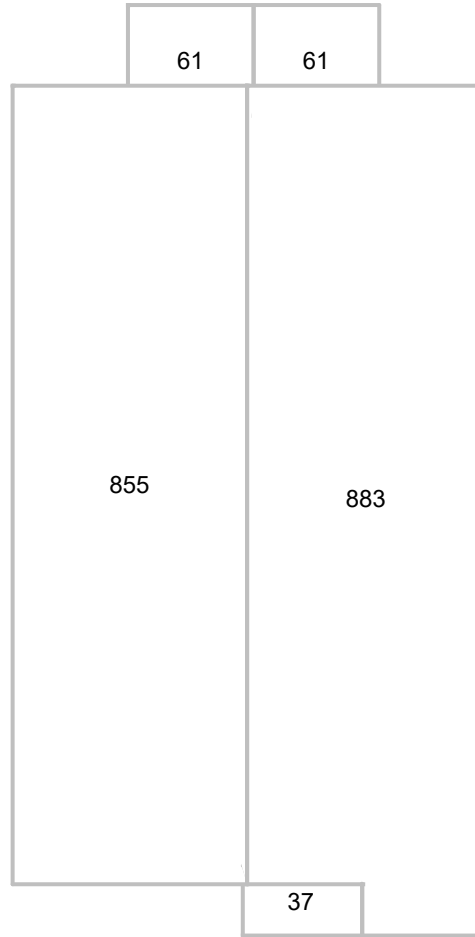
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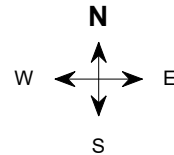
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 1,897 sq ft, with 5 facets.



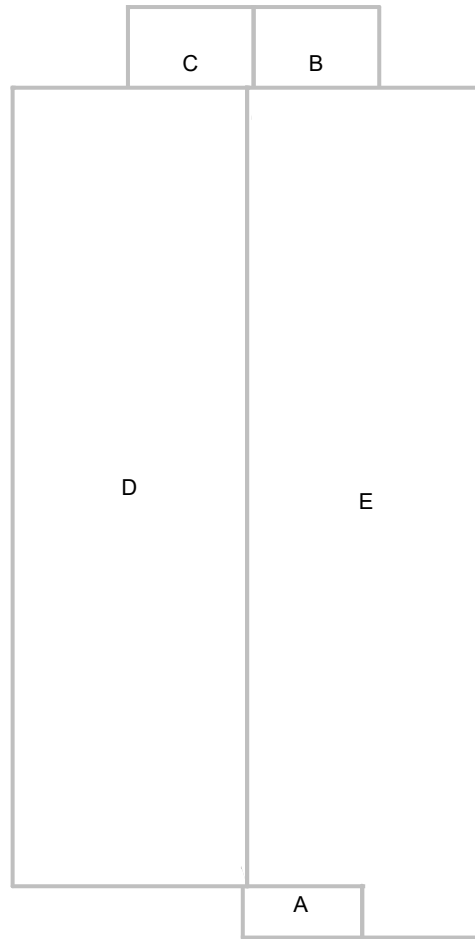
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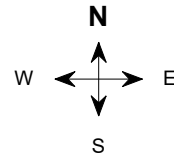
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

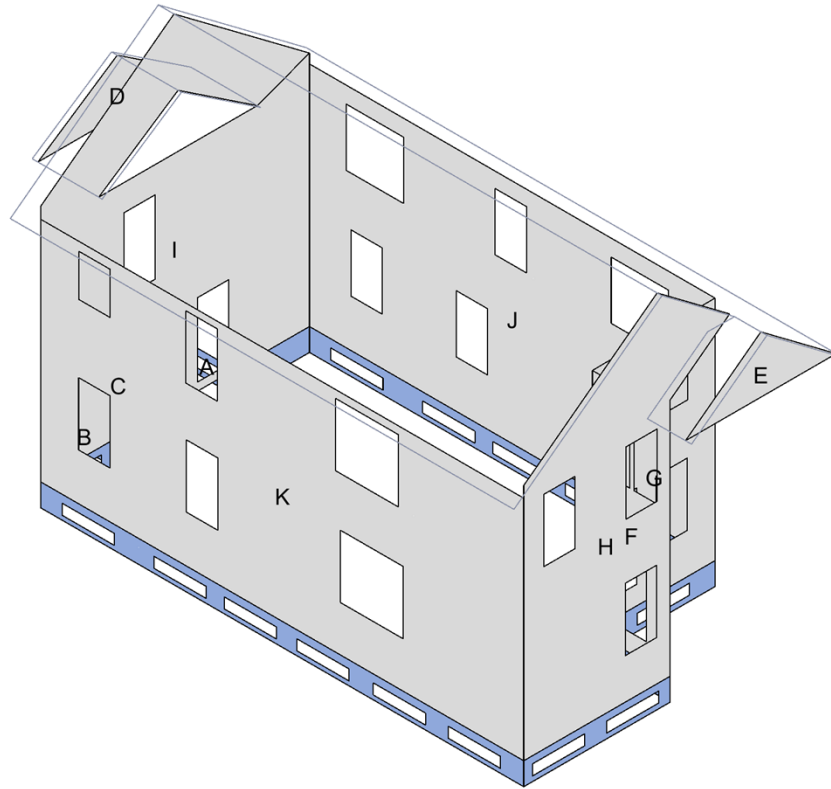
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



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- Siding
- Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	38.5	0.0
C	0.0	15.2
I	630.0	25.2
Total	668.5	40.4

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	705.7	58.6
F	95.0	16.0
A	0.0	7.4
Total	800.7	82.0

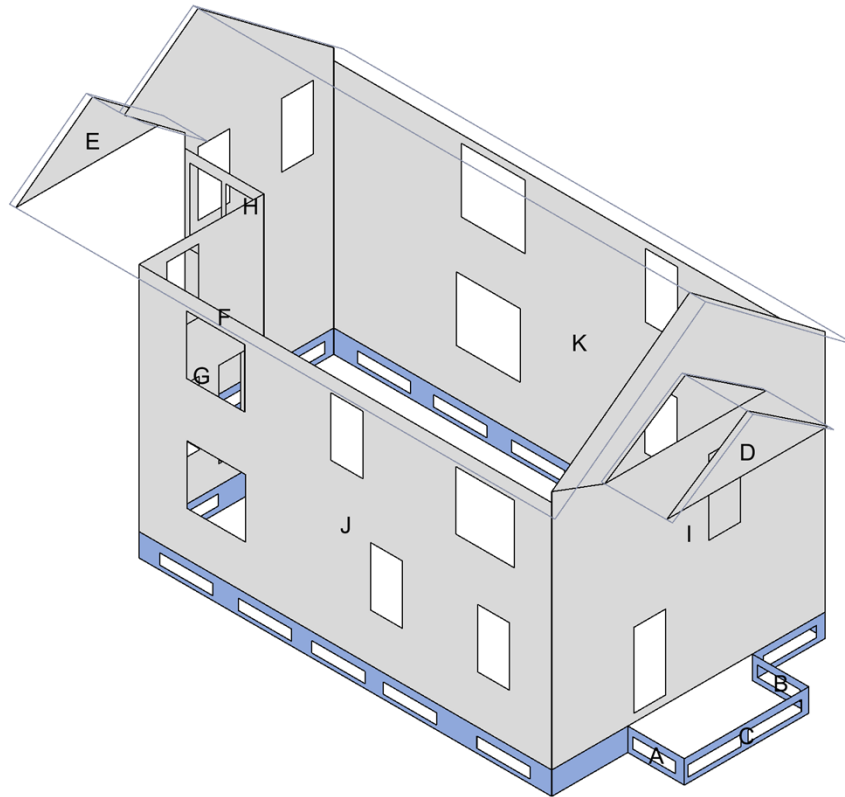
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	363.0	20.2
E	39.1	0.0
G	194.9	20.3
Total	597.0	40.5

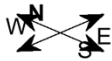
West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
K	869.9	69.6
B	0.0	7.4
Total	869.9	77.0

ALTERNATE WALL AREA



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- Siding
- Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	38.5	0.0
C	0.0	15.2
I	630.0	25.2
Total	668.5	40.4

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	705.7	58.6
F	95.0	16.0
A	0.0	7.4
Total	800.7	82.0

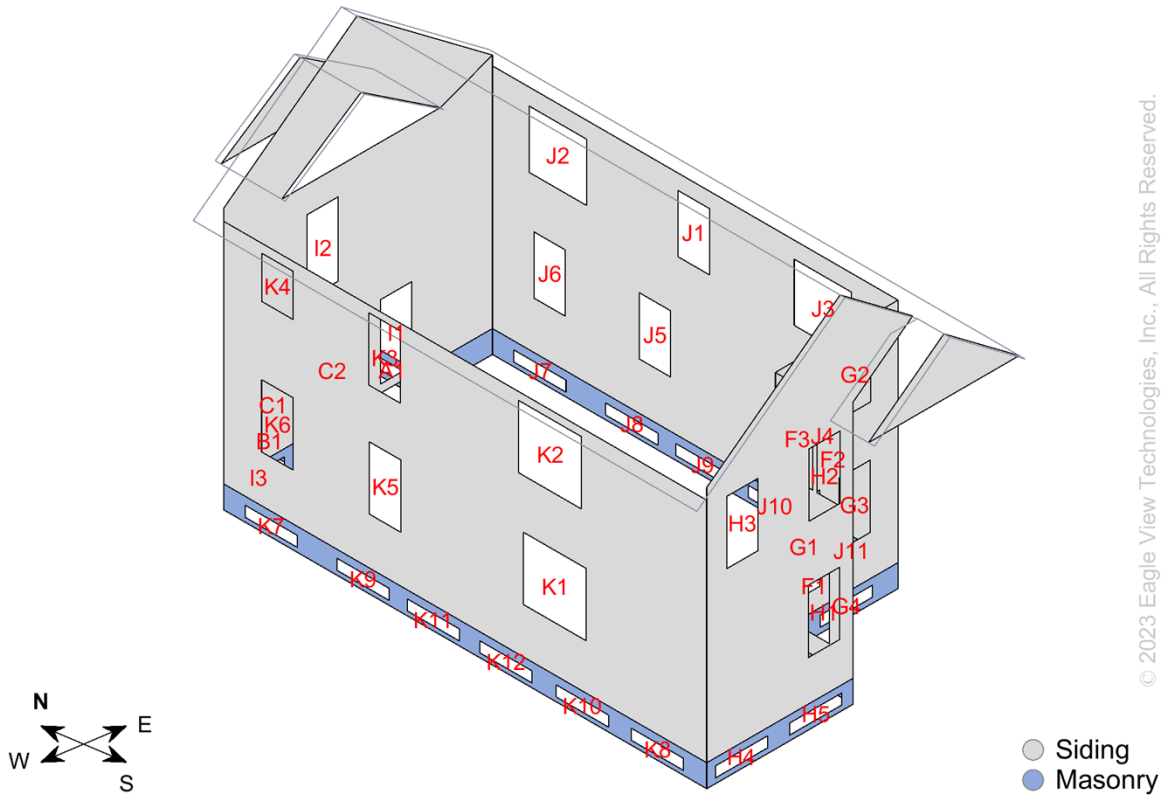
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	363.0	20.2
E	39.1	0.0
G	194.9	20.3
Total	597.0	40.5

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
K	869.9	69.6
B	0.0	7.4
Total	869.9	77.0

WINDOW AND DOOR DIAGRAM



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Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
C1	5.0	12.0	5.0 x 1.0
C2	5.0	12.0	5.0 x 1.0
I1	21.0	20.0	3.0 x 7.0
I2	21.0	20.0	3.0 x 7.0
I3	5.0	12.0	5.0 x 1.0
Total	57.0	76.0	n/a

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
A1	4.0	10.0	4.0 x 1.0
F1	24.0	22.0	3.0 x 8.0
F2	21.0	20.0	3.0 x 7.0
F3	21.0	20.0	3.0 x 7.0
J1	16.5	17.0	3.0 x 5.5
J2	30.3	22.0	5.5 x 5.5
J3	30.3	22.0	5.5 x 5.5
J4	30.3	22.0	5.5 x 5.5
J5	16.5	17.0	3.0 x 5.5
J6	16.5	17.0	3.0 x 5.5
J7	5.0	12.0	5.0 x 1.0
J8	5.0	12.0	5.0 x 1.0

South

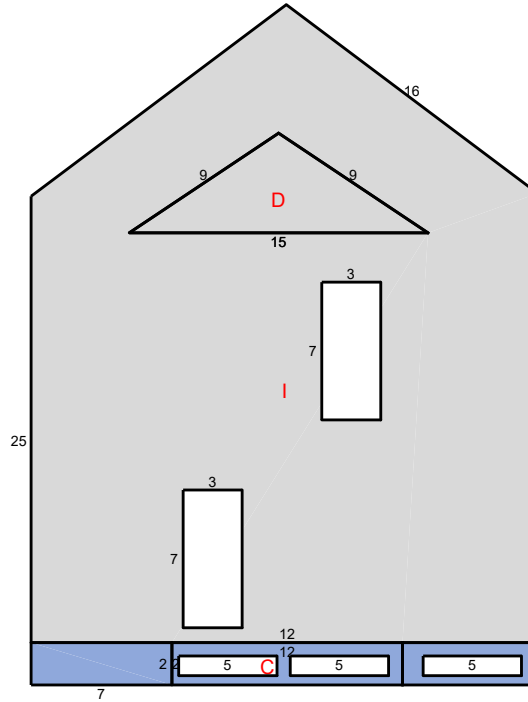
Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
G1	24.0	22.0	3.0 x 8.0
G2	18.0	18.0	3.0 x 6.0
G3	18.0	18.0	3.0 x 6.0
G4	5.0	12.0	5.0 x 1.0
H1	18.0	18.0	3.0 x 6.0
H2	18.0	18.0	3.0 x 6.0
H3	18.0	18.0	3.0 x 6.0
H4	5.0	12.0	5.0 x 1.0
H5	5.0	12.0	5.0 x 1.0
Total	129.0	148.0	n/a

J9	5.0	12.0	5.0 x 1.0
J10	5.0	12.0	5.0 x 1.0
J11	5.0	12.0	5.0 x 1.0
Total	235.4	249.0	n/a

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
B1	4.0	10.0	4.0 x 1.0
K1	36.0	24.0	6.0 x 6.0
K2	36.0	24.0	6.0 x 6.0
K3	18.0	18.0	3.0 x 6.0
K4	12.0	14.0	3.0 x 4.0
K5	18.0	18.0	3.0 x 6.0
K6	18.0	18.0	3.0 x 6.0
K7	5.0	12.0	5.0 x 1.0
K8	5.0	12.0	5.0 x 1.0
K9	5.0	12.0	5.0 x 1.0
K10	5.0	12.0	5.0 x 1.0
K11	5.0	12.0	5.0 x 1.0
K12	5.0	12.0	5.0 x 1.0
Total	172.0	198.0	n/a

NORTH ELEVATION DIAGRAM



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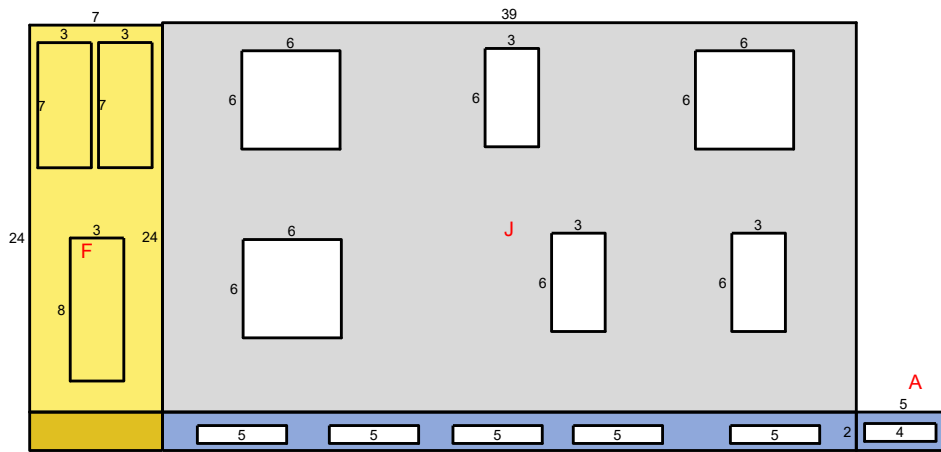
- Siding
- Masonry

Top of Siding Walls = 65.6 ft
Bottom of Siding Walls = 59.2 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
D	38.5	0.0	0	0	0
C	0.0	15.2	10.0	24.0	2
I	630.0	25.2	47.0	52.0	3
Total	668.5	40.4	57.0	76.0	5

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



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- Siding
- Masonry

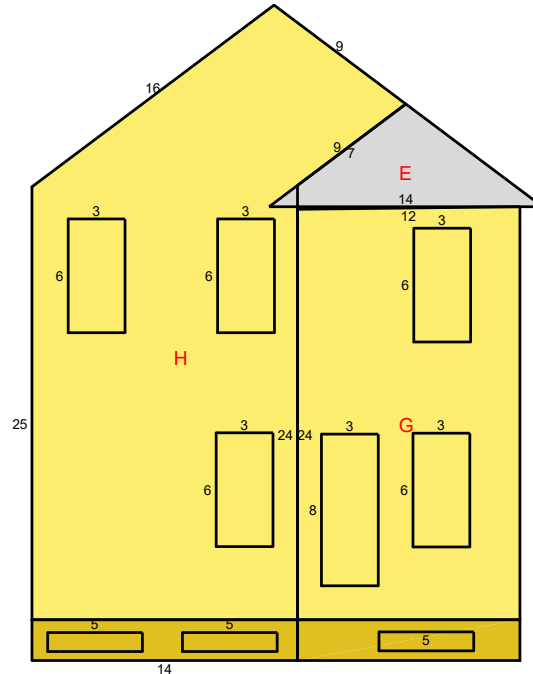
Top of Siding Walls = 46.2 ft

Bottom of Siding Walls = 46.2 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
J	705.7	58.6	165.4	177.0	11
F	95.0	16.0	66.0	62.0	3
A	0.0	7.4	4.0	10.0	1
Total	800.7	82.0	235.4	249.0	15

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM



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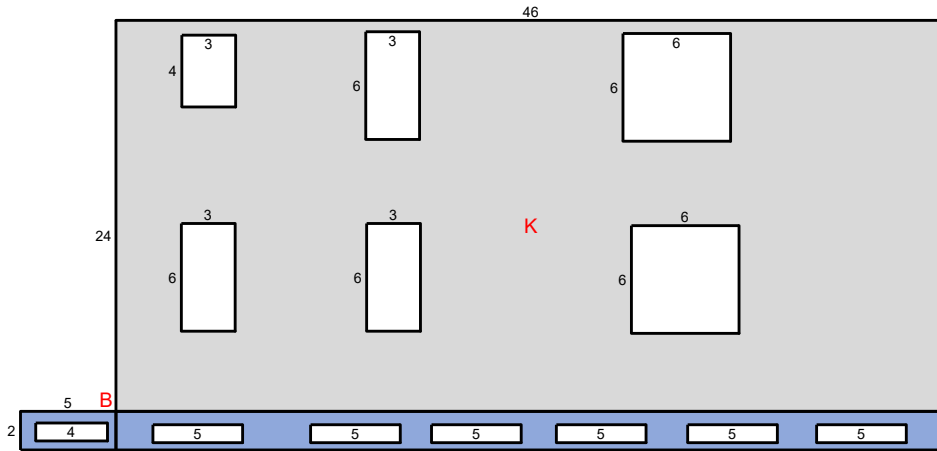
- Siding
- Masonry

Top of Siding Walls = 54.4 ft
 Bottom of Siding Walls = 47.2 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
H	363.0	20.2	64.0	78.0	5
E	39.1	0.0	0	0	0
G	194.9	20.3	65.0	70.0	4
Total	597.0	40.5	129.0	148.0	9

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



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- Siding
- Masonry

Top of Siding Walls = 46.3 ft
Bottom of Siding Walls = 46.3 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
K	869.9	69.6	168.0	188.0	12
B	0.0	7.4	4.0	10.0	1
Total	869.9	77.0	172.0	198.0	13

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch		
Roof Pitches	8/12	9/12
Area (sq ft)	122.2	1774.8
% of Roof	6.4%	93.6%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

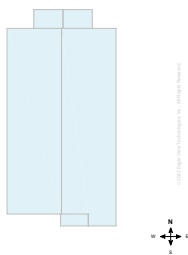
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	2%	5%	7%	9%	12%	17%	22%	27%
Area (Sq ft)	1897	1935	1992	2030	2068	2125	2220	2315	2410
Squares *	19.00	19.66	20.00	20.33	21.00	21.33	22.33	23.33	24.33
	Measured			Suggested					

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 5

Lengths, Areas and Pitches

Ridges = 59 ft (3 Ridges)
 Hips = 0 ft (0 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 98 ft (8 Rakes)
 Eaves/Starter‡ = 118 ft (5 Eaves)
 Drip Edge (Eaves + Rakes) = 216 ft (13 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 28 ft (4 Lengths)
 Predominant Pitch = 9/12
Total Area (All Pitches) = 1,897 sq ft

Property Location

Longitude = -95.3824641
 Latitude = 29.7552735

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1506 Ruthven St, Houston, TX 77019

Report: 55102927

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1506+Ruthven+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1506+Ruthven+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	2,936	3,230	3,259	3,288	3,318	3,347	3,377	3,523
Squares	29.4	32.3	32.6	32.9	33.2	33.5	33.8	35.2

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	240	264	266	269	271	273	276	288
Squares	2.4	2.6	2.7	2.7	2.7	2.7	2.8	2.9

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 3176.0 ft²

Siding = 2936.1 ft²

Masonry = 239.9 ft²

General Totals

Wall Facets = 11

Windows & Doors = 42

Window and Door Area = 593.4 ft²

Window & Door Perimeter = 671.0 ft

Fascia (Eaves + Rakes) = 216 ft

Top of Siding Walls = 212.5 ft

Bottom of Siding Walls = 198.9 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	21.6 ft	6.6 ft	0.0 ft	28.2 ft
Outside Corners	111.7 ft	15.4 ft	0.0 ft	127.1 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3824641
Latitude = 29.7552735

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1506 Ruthven St, Houston, TX 77019

Report: 55102927

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



1508 Ruthven St, Houston, TX 77019

Prepared for you by

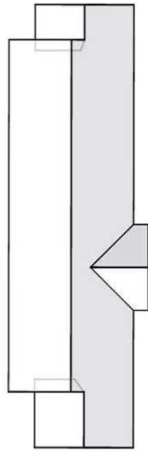


8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com

1508 Ruthven St, Houston, TX 77019

Report: 55102944



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact:	Michael A Delgado
Company:	D7 Roofing & Metal LLC
Address:	8701 W Hardy Rd Houston, TX 77022
Phone:	713-325-0700

TABLE OF CONTENTS

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Length Diagram	4
Pitch Diagram	5
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Notes Diagram	7
3D Wall Area Diagram	8
Elevation Diagrams	9
Report Summary	13

MEASUREMENTS

Total Roof Area = 1,523 sq ft
 Total Roof Facets = 6
 Predominant Pitch = 9/12
 Number of Stories <= 1
 Total Ridges/Hips = 75 ft
 Total Valleys = 21 ft
 Total Rakes = 81 ft
 Total Eaves = 128 ft
 Total Wall Area = 1574.1 sq ft
 Total Wall Facets = 10
 Total Siding Area = 1574.1 sq ft
 Total Masonry Area = 0.0 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

Total Line Lengths:

Ridges = 75 ft
Hips = 0 ft

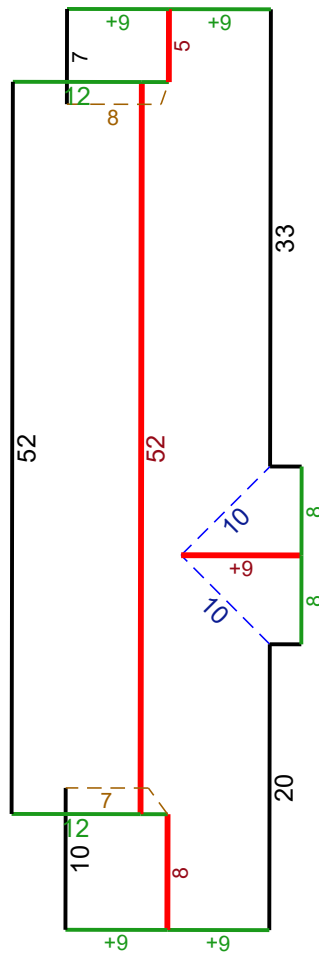
Valleys = 21 ft

Rakes = 81 ft

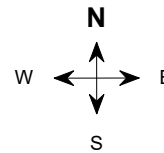
Eaves = 128 ft

Flashing = 0 ft

Step flashing = 20 ft

Parapets = 0 ft


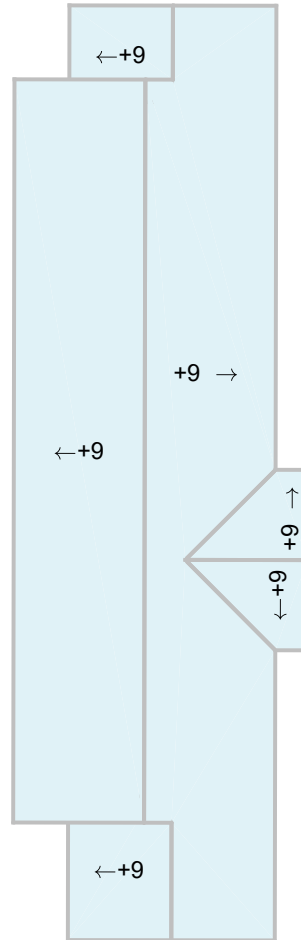
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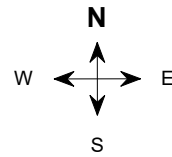
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 9/12



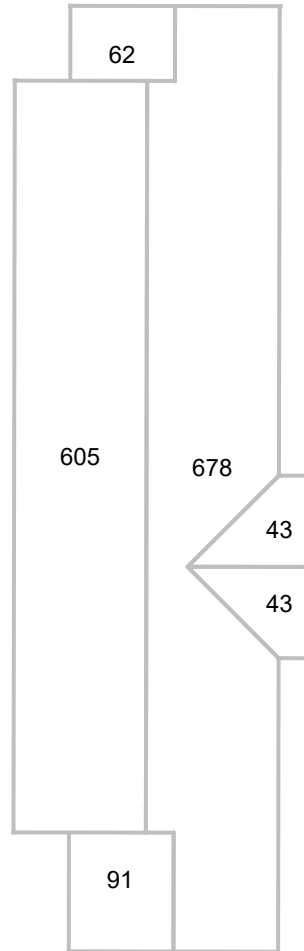
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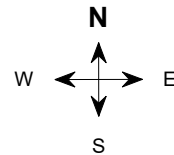
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 1,523 sq ft, with 6 facets.



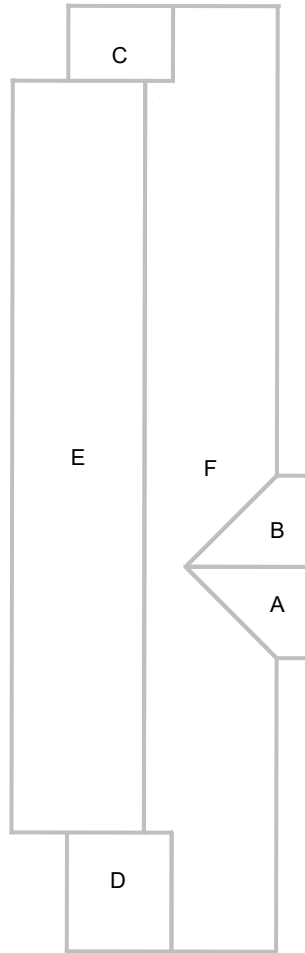
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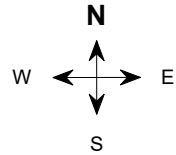
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

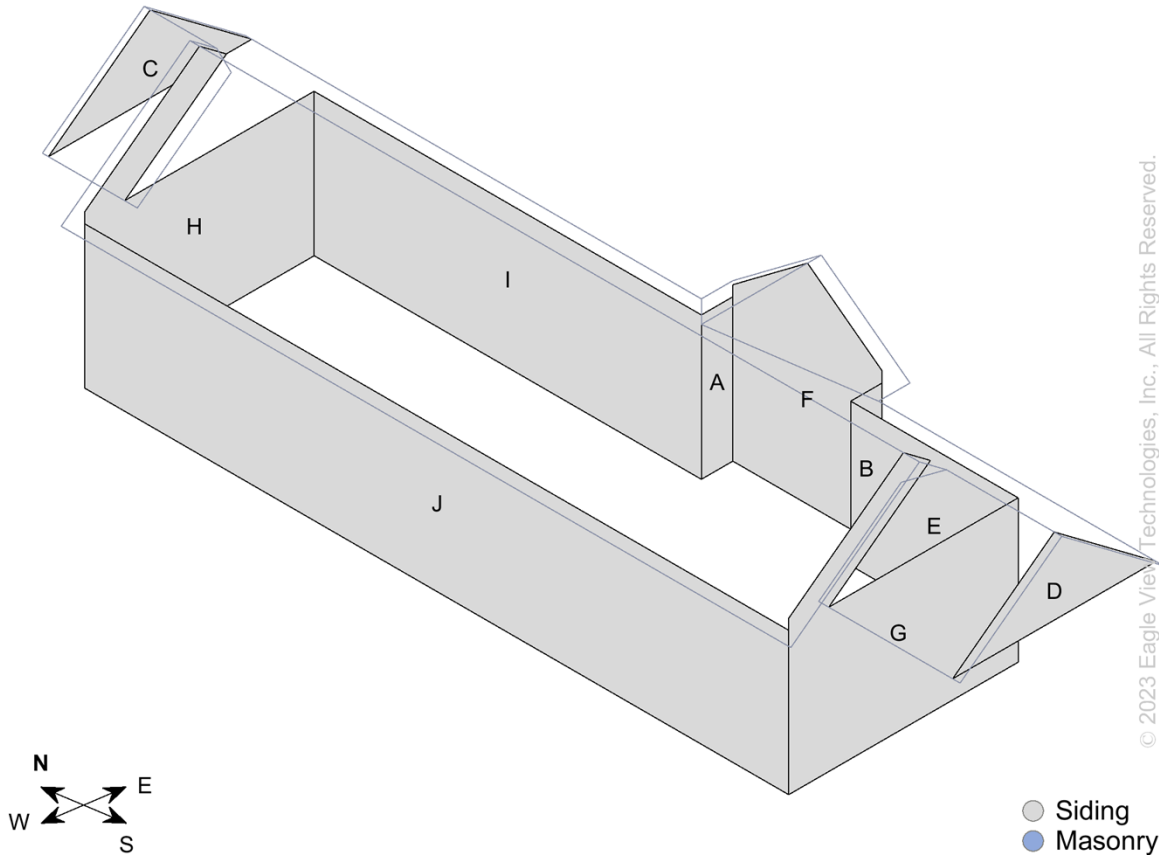
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	23.1	0.0
H	192.2	0.0
C	39.9	0.0
Total	255.2	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	123.0	0.0
F	139.3	0.0
I	284.4	0.0
Total	546.7	0.0

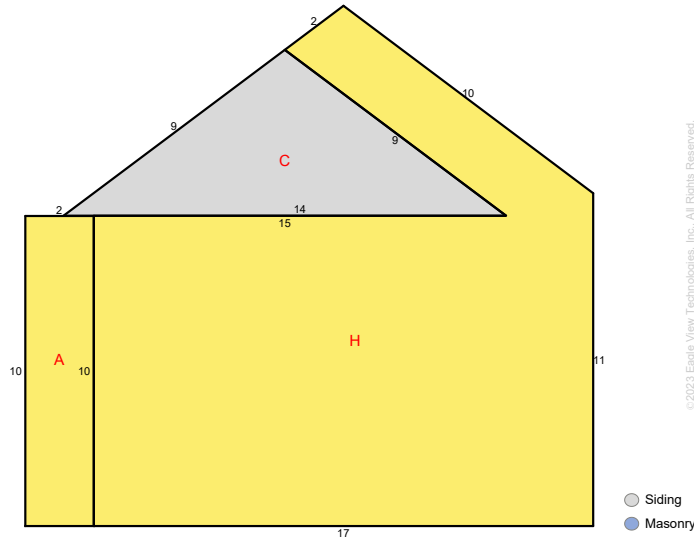
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	23.1	0.0
D	40.0	0.0
G	192.1	0.0
Total	255.2	0.0

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	517.0	0.0
Total	517.0	0.0

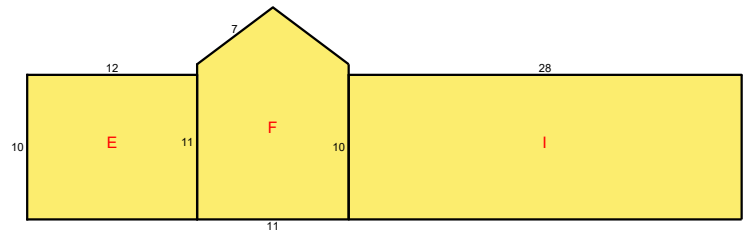
NORTH ELEVATION DIAGRAM



Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	23.1	0.0
H	192.2	0.0
C	39.9	0.0
Total	255.2	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

EAST ELEVATION DIAGRAM



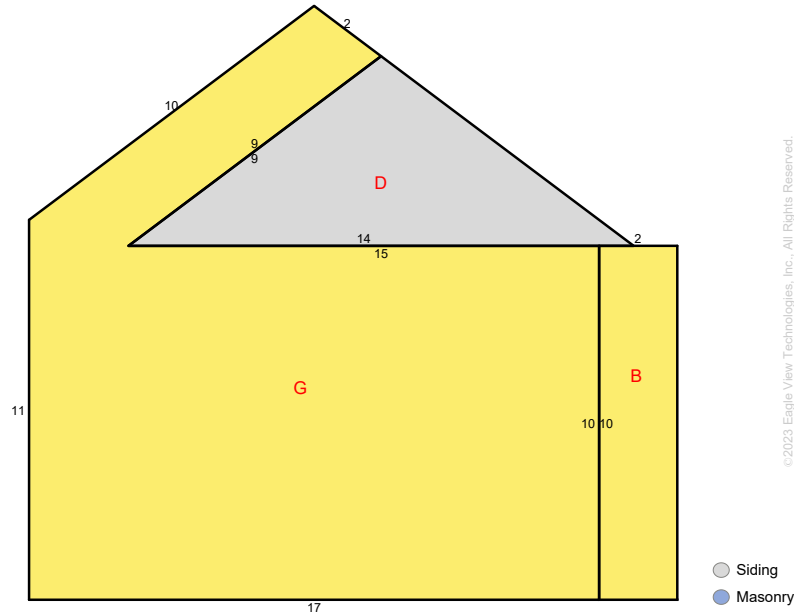
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- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	123.0	0.0
F	139.3	0.0
I	284.4	0.0
Total	546.7	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

SOUTH ELEVATION DIAGRAM



Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	23.1	0.0
D	40.0	0.0
G	192.1	0.0
Total	255.2	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

1508 Ruthven St, Houston, TX 77019

Report: 55102944

WEST ELEVATION DIAGRAM



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- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	517.0	0.0
Total	517.0	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

REPORT SUMMARY

All Structures

Areas per Pitch

Roof Pitches	9/12
Area (sq ft)	1522.9
% of Roof	100%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

Structure Complexity

Simple	Normal	Complex
--------	--------	---------

Waste Calculation

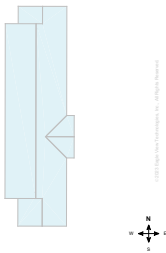
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the **Lengths, Areas, and Pitches** section below.

Waste %	0%	2%	7%	10%	12%	14%	17%	22%	27%
Area (Sq ft)	1523	1554	1630	1676	1706	1737	1782	1859	1935
Squares *	15.33	15.66	16.33	17.00	17.33	17.66	18.00	18.66	19.66
	Measured				Suggested				

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 6

Lengths, Areas and Pitches

Ridges = 75 ft (4 Ridges)
 Hips = 0 ft (0 Hips).
 Valleys = 21 ft (2 Valleys)
 Rakes† = 81 ft (10 Rakes)
 Eaves/Starter‡ = 128 ft (7 Eaves)
 Drip Edge (Eaves + Rakes) = 209 ft (17 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 20 ft (4 Lengths)
 Predominant Pitch = 9/12

Total Area (All Pitches) = 1,523 sq ft

Property Location

Longitude = -95.3825625
 Latitude = 29.7552828

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).
 ‡ Eaves are defined as roof edges that are not sloped and level.

1508 Ruthven St, Houston, TX 77019

Report: 55102944

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1508+Ruthven+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1508+Ruthven+St,Houston,TX,77019

1508 Ruthven St, Houston, TX 77019

Report: 55102944

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Precise Aerial Measurement Report



1510 Ruthven St, Houston, TX 77019

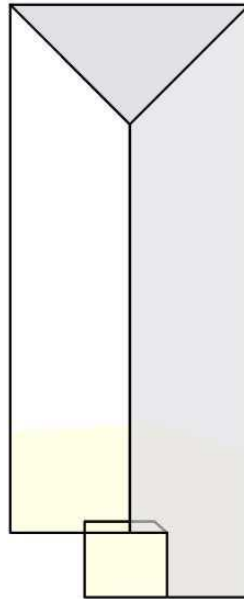
Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com

1510 Ruthven St, Houston, TX 77019




In this 3D model, facets appear as semi-transparent to reveal overhangs.

Report Details	Roof/Wall Details	Report Contents
Report:55102947	Total Roof Area =1,125 sq ft Total Roof Facets =4 Predominant Pitch =6/12 Number of Stories <=1 Total Ridges/Hips =72 ft Total Valleys =0 ft Total Rakes =31 ft Total Eaves =123 ft Total Wall Area = 1216.1 sq ft Total Wall Facets = 8 Total Siding Area = 1216.1 sq ft Total Masonry Area = 0.0 sq ft	Images2 Length Diagram.....5 Pitch Diagram.....6 Area Diagram7 Notes Diagram8 3D Wall Area Diagram.....9 Report Summary.....14

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston TX 77022
 Phone: 713-325-0700





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Measurements provided by EagleView

Length Diagram

Shaded areas should be verified

Total Line Lengths:

Ridges = 41 ft

Hips = 31 ft

Valleys = 0 ft

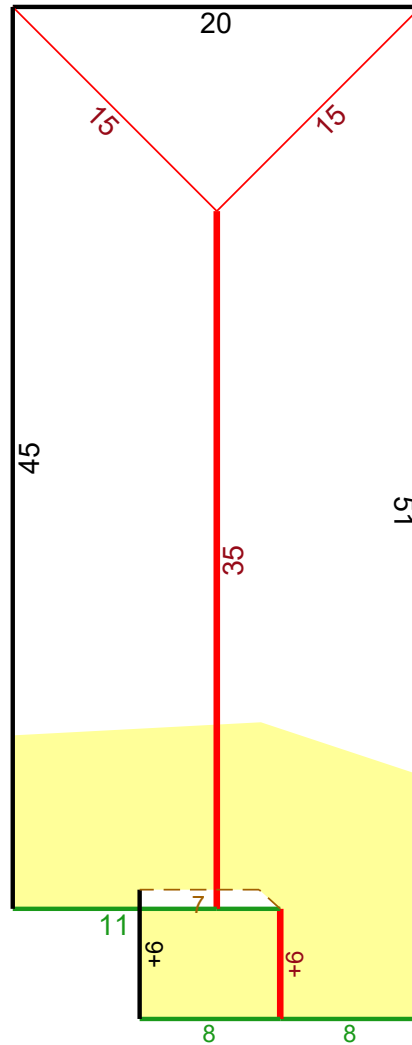
Rakes = 31 ft

Eaves = 123 ft

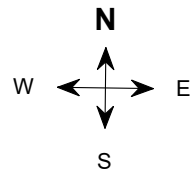
Flashing = 0 ft

Step flashing = 9 ft

Parapets = 0 ft



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Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

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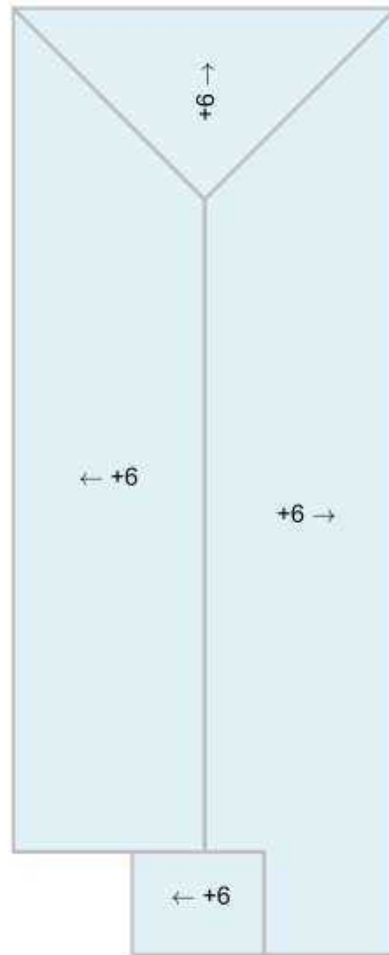
Report: 55102947

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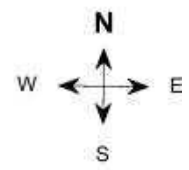
Pitch Diagram

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 6/12.

Disclaimer: With Extended Coverage, only the predominant pitch may be noted due to resolution of photo. Refer to pitch table for more information.



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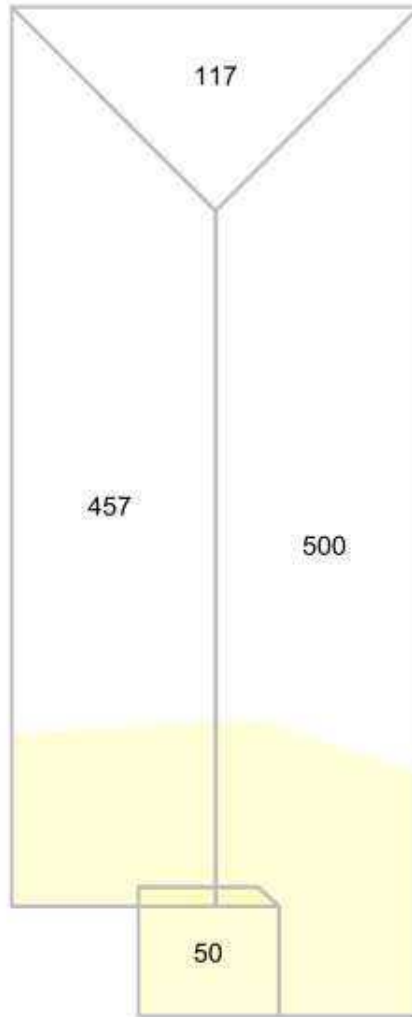
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9). Blue shading indicates a pitch of 3/12 and greater.

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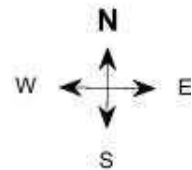


Area Diagram

Total Area = 1,125 sq ft, with 4 facets.



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Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

Disclaimer: This report was produced using EagleView Extended Coverage Technology. Due to a variety of reasons including, but not limited to: tree coverage, poor images, low photo resolution or other blockages; this report DOES NOT offer an accuracy guarantee. EagleView recommends that anyone using this report field verify the yellow-shaded sections.

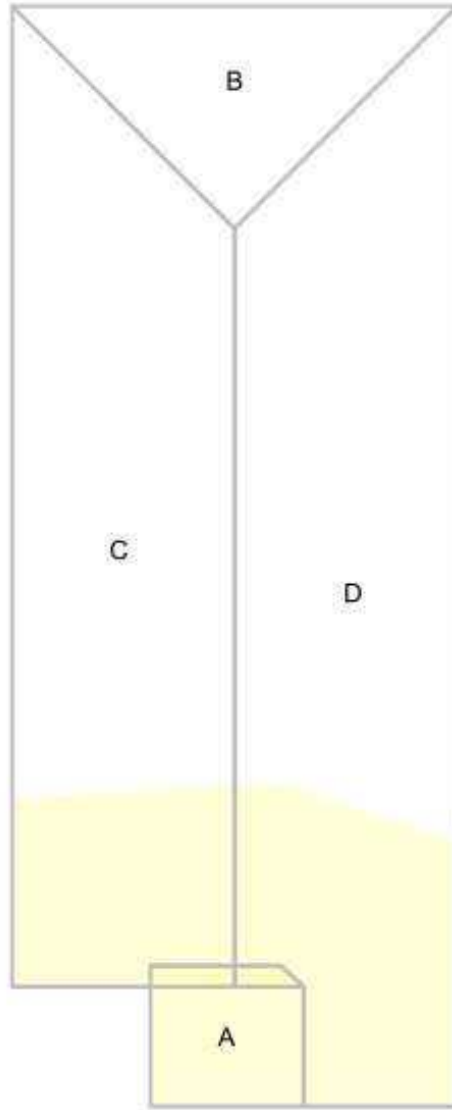


Report: 55102947

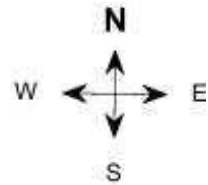
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Notes Diagram

Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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Note: On-site verification of yellow shaded areas is needed. Details are on the Summary Page.



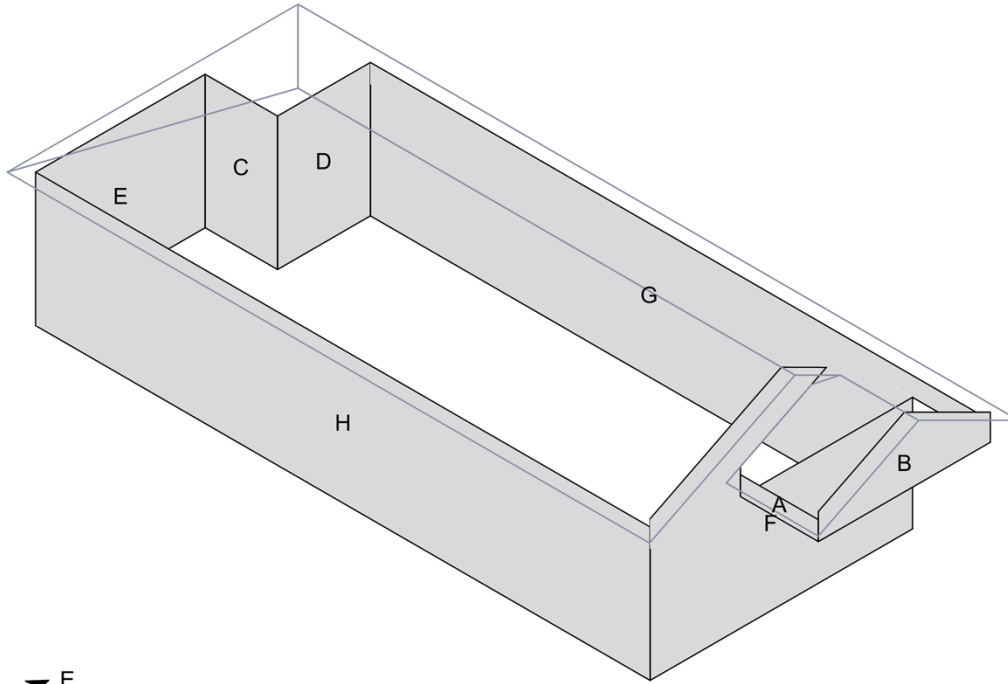
Report: 55102947

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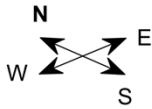
Wall Area Diagram

Total Wall Area = 1216.1 sq ft, with 8 facets.

Total Wall Area with Windows and Doors = 1217.0 sq ft



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- Siding
- Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	60.9	0.0
E	111.2	0.0
Total	172.1	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	47.4	0.0
Total	47.4	0.0

South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	40.3	0.0
F	183.4	0.0
Total	223.7	0.0

West

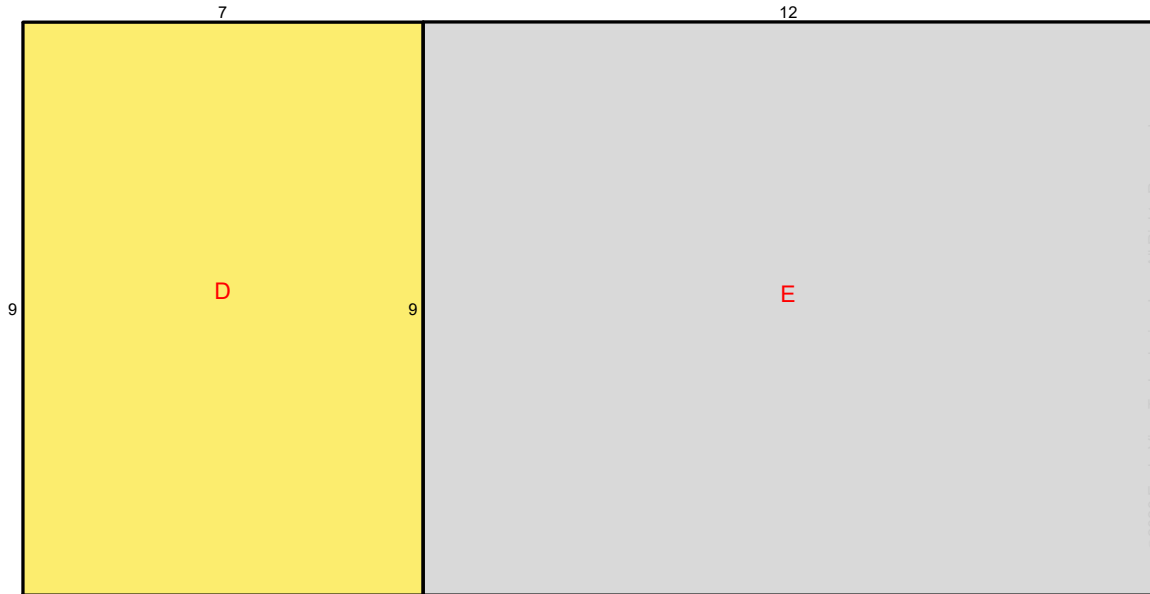
Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	402.9	0.0
A	7.3	0.0
G	362.7	0.0
Total	772.9	0.0



Report: 55102947

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North Elevation Diagram



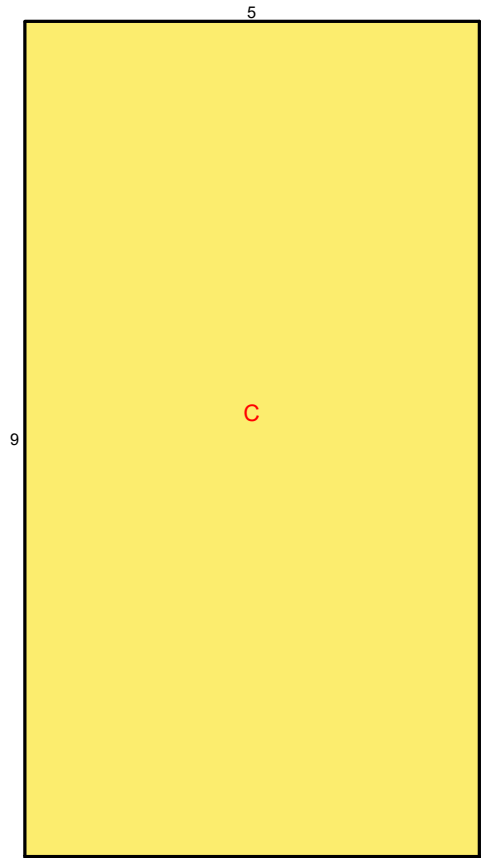
- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	60.9	0.0
E	111.2	0.0
Total	172.1	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.



East Elevation Diagram



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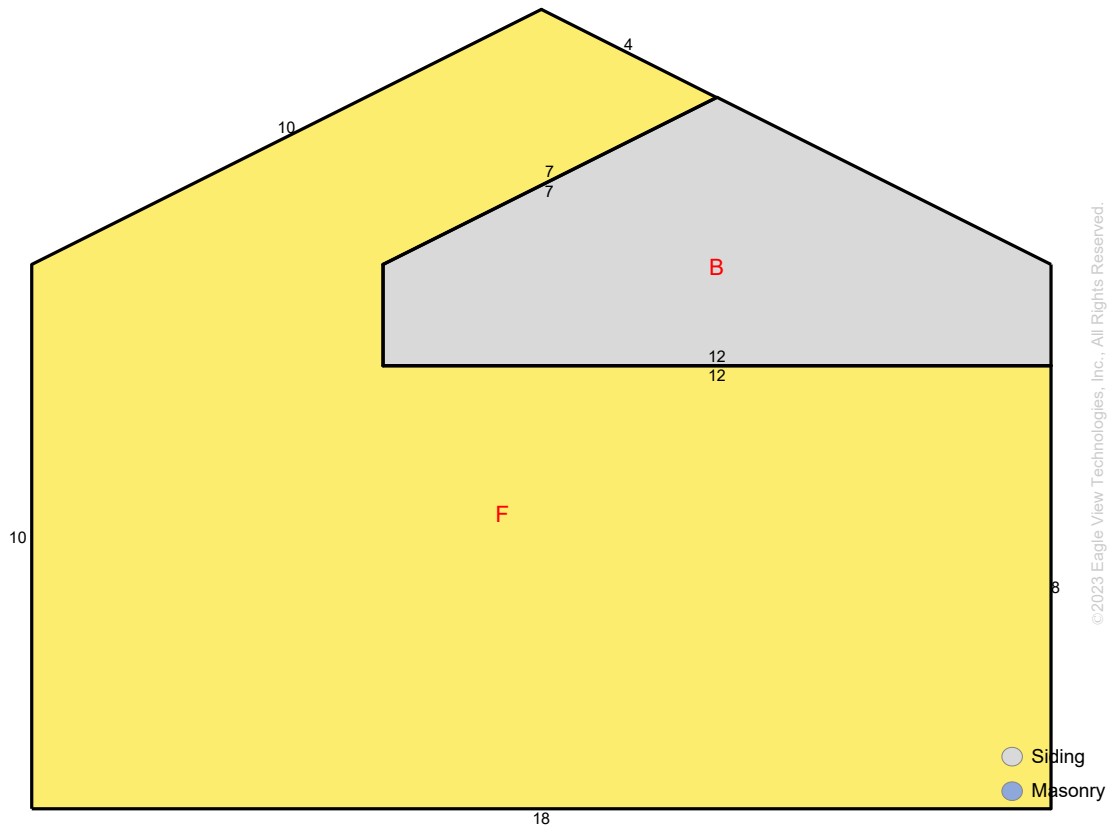
- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	47.4	0.0
Total	47.4	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.



South Elevation Diagram



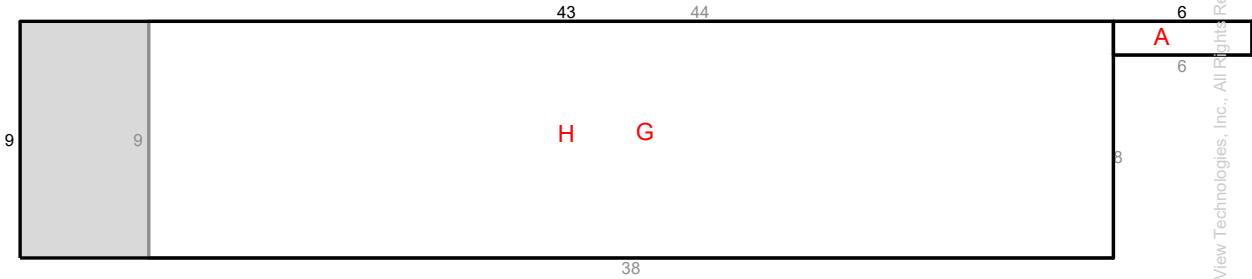
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Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	40.3	0.0
F	183.4	0.0
Total	223.7	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.



West Elevation Diagram



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- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	402.9	0.0
A	7.3	0.0
G	362.7	0.0
Total	772.9	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.



Report Summary

Below is a measurement summary using the values presented in this report.

All Structures

Areas per Pitch

Roof Pitches	6/12
Area (sq ft)	1124.2
% of Roof	99.9%

Disclaimer: The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch. With Extended Coverage, only the predominant pitch may be noted due to resolution of photo. With Extended Coverage, EagleView recommends field verifying yellow-shaded sections and pitch utilizing the Facet Area Based Upon Pitch Table below.

Structure Complexity

Simple

Normal

Complex

Waste Calculation

NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the **Lengths, Areas, and Pitches** section below.

Waste %	0%	3%	8%	11%	13%	15%	18%	23%	28%
Area (Sq ft)	1125	1159	1215	1249	1272	1294	1328	1384	1440
Squares *	11.33	11.66	12.33	12.66	13.00	13.00	13.33	14.00	14.66
	Measured				Suggested				

* Squares are rounded up to the 1/3 of a square

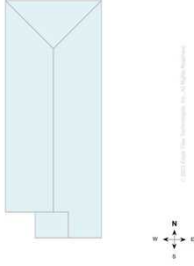
Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

† Rakes are defined as roof edges that are sloped (not level).
‡ Eaves are defined as roof edges that are not sloped and level.



All Structures Totals

Total Roof Facets = 4

Lengths, Areas and Pitches

Ridges = 41 ft (2 Ridges)
 Hips = 31 ft (2 Hips).
 Valleys = 0 ft (0 Valleys)
 Rakes⁺ = 31 ft (4 Rakes)
 Eaves/Starter⁺ = 123 ft (4 Eaves)
 Drip Edge (Eaves + Rakes) = 154 ft (8 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 9 ft (2 Lengths)
 Predominant Pitch = 6/12
Total Area (All Pitches) = 1,125 sq ft

Property Location

Longitude = -95.3826473

Latitude = 29.7552602

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1510+Ruthven+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1510+Ruthven+St,Houston,TX,77019

Disclaimer: This report was produced using EagleView Extended Coverage Technology. Due to a variety of reasons including, but not limited to: tree coverage, poor images, low photo resolution or other blockages; this report DOES NOT offer an accuracy guarantee. EagleView recommends that anyone using this report field verify the yellow-shaded sections.



Report: 55102947

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Facet Area (sq ft) Based Upon Pitch

The area for each facet appears in the column under the appropriate pitch.

Facet	Pitch(inches per foot)										
	0	2	4	6	8	10	12	14	16	18	20
A	45.0	45.6	47.4	50.3	54.1	58.6	63.6	69.1	75.0	81.1	87.5
B	104.4	105.8	110.0	116.7	125.5	135.9	147.6	160.4	174.0	188.2	202.9
C	408.7	414.3	430.8	456.9	491.2	532.0	578.0	628.0	681.2	736.8	794.4
D	447.5	453.7	471.7	500.3	537.8	582.5	632.9	687.6	745.8	806.7	869.8
Total	1006	1019	1060	1124	1209	1309	1422	1545	1676	1813	1955

Each value is rounded to the nearest square foot. The totals are based on the unrounded values.

Disclaimer: This report was produced using EagleView Extended Coverage Technology. Due to a variety of reasons including, but not limited to: tree coverage, poor images, low photo resolution or other blockages; this report DOES NOT offer an accuracy guarantee. EagleView recommends that anyone using this report field verify the yellow-shaded sections.



Precise Aerial Measurement Report



1512 Ruthven St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
Company: D7 Roofing & Metal LLC
Address: 8701 W Hardy Rd
 Houston, TX 77022
Phone: 713-325-0700

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Notes Diagram.....	7
3D Wall Area Diagram	8
Elevation Diagrams	9
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MEASUREMENTS

Total Roof Area = 1,196 sq ft
 Total Roof Facets = 4
 Predominant Pitch = 5/12
 Number of Stories <= 1
 Total Ridges/Hips = 77 ft
 Total Valleys = 0 ft
 Total Rakes = 29 ft
 Total Eaves = 135 ft
 Total Wall Area = 1180.0 sq ft
 Total Wall Facets = 7
 Total Siding Area = 1180.0 sq ft
 Total Masonry Area = 0.0 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

www.eagleview.com/Guarantee.aspx

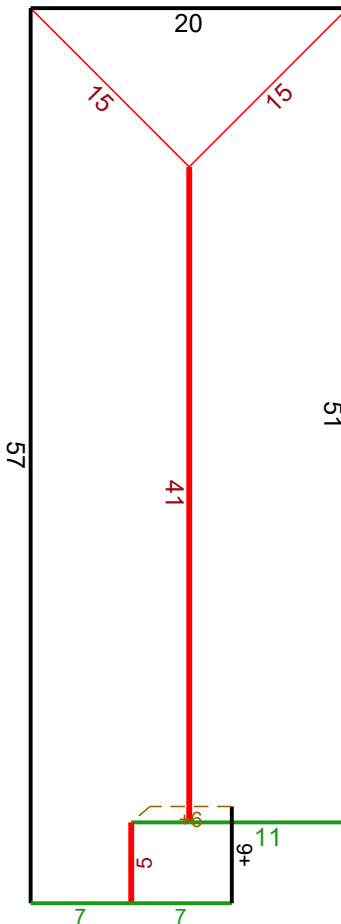
LENGTH DIAGRAM

Total Line Lengths:

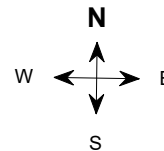
Ridges = 47 ft
Hips = 30 ft

Valleys = 0 ft
 Rakes = 29 ft
 Eaves = 135 ft

Flashing = 0 ft
 Step flashing = 8 ft
 Parapets = 0 ft



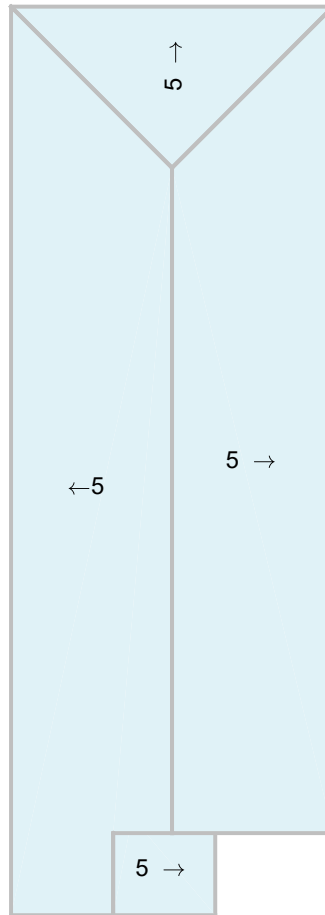
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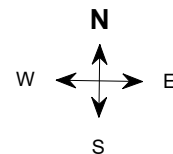
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 5/12



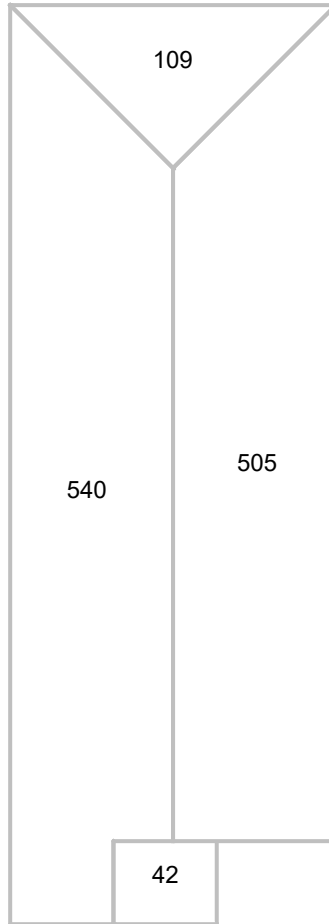
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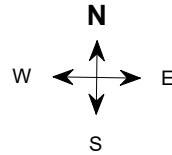
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 1,196 sq ft, with 4 facets.



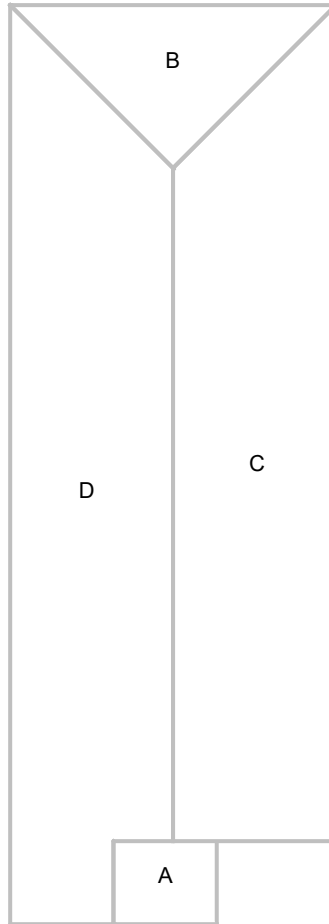
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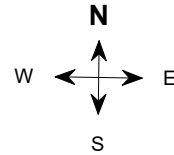
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

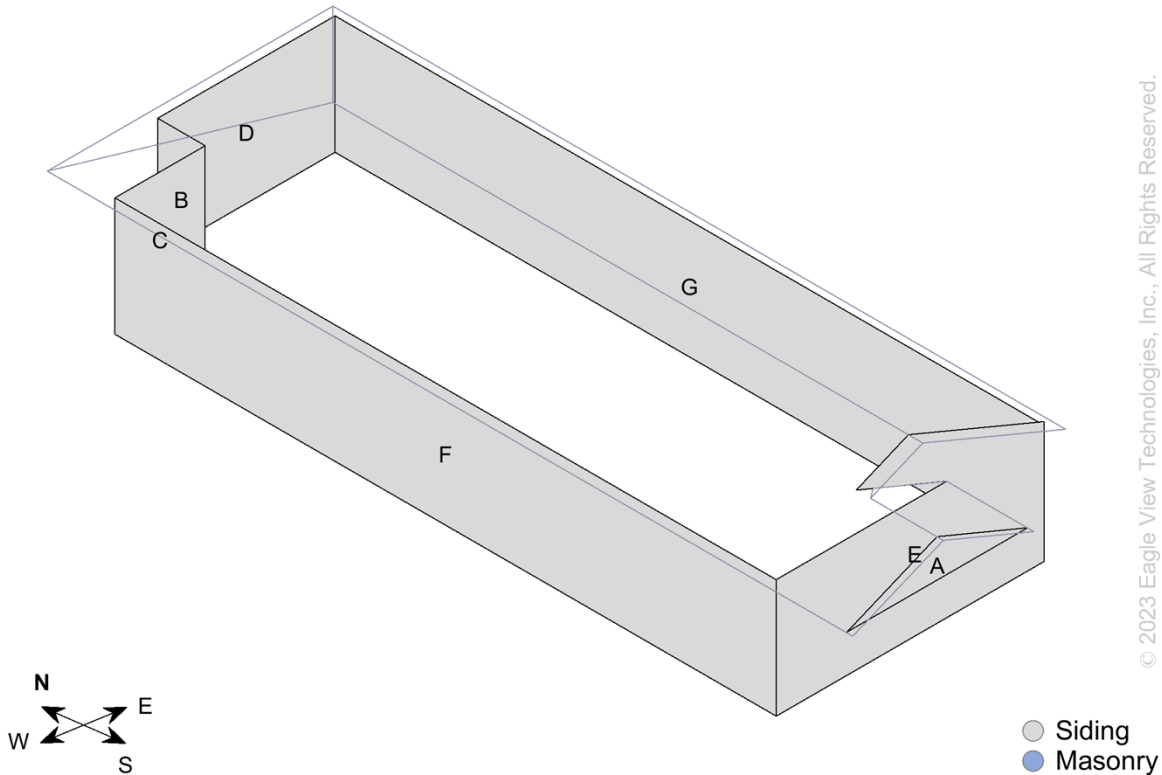
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



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North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	103.4	0.0
C	52.6	0.0
Total	156.0	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
G	413.1	0.0
Total	413.1	0.0

South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	16.8	0.0
E	181.0	0.0
Total	197.8	0.0

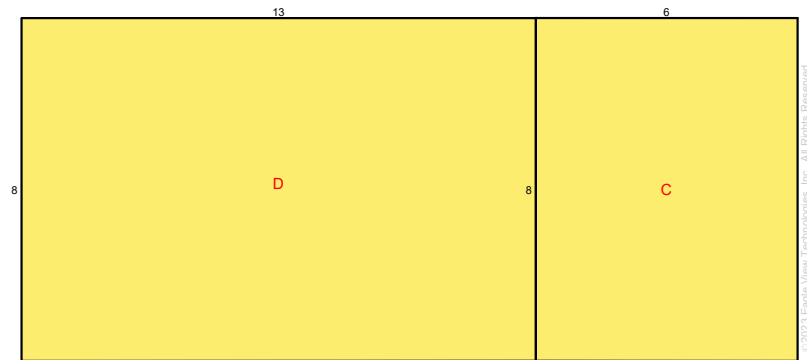
West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	27.7	0.0
F	385.4	0.0
Total	413.1	0.0

1512 Ruthven St, Houston, TX 77019

Report: 55102974

NORTH ELEVATION DIAGRAM



- Siding
- Masonry

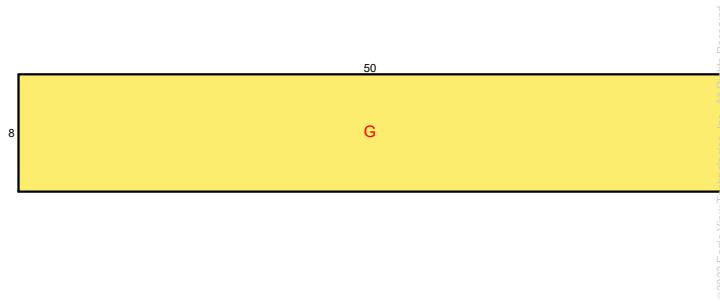
Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
D	103.4	0.0
C	52.6	0.0
Total	156.0	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

1512 Ruthven St, Houston, TX 77019

Report: 55102974

EAST ELEVATION DIAGRAM

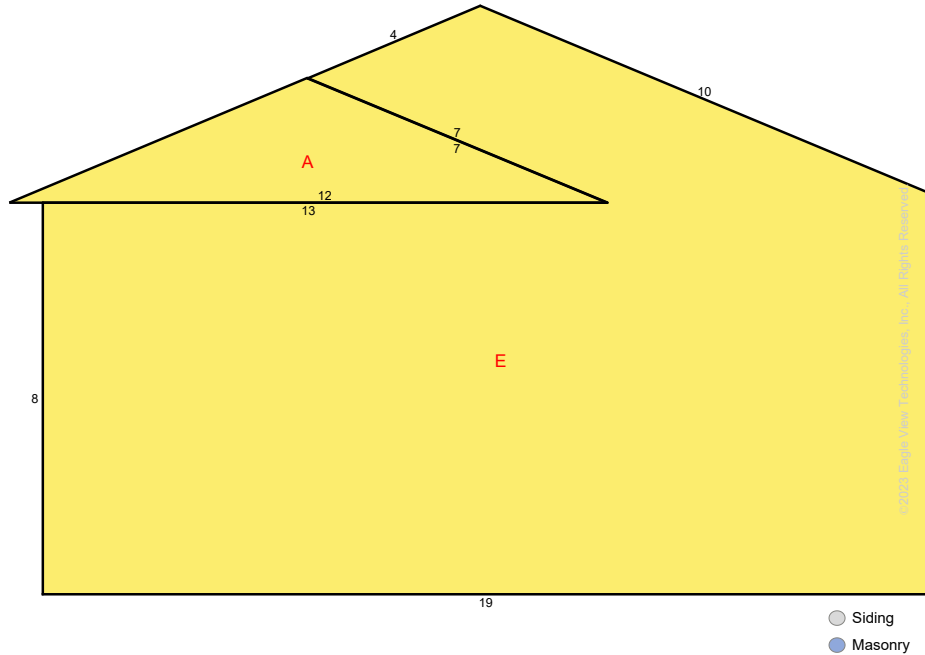


- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
G	413.1	0.0
Total	413.1	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

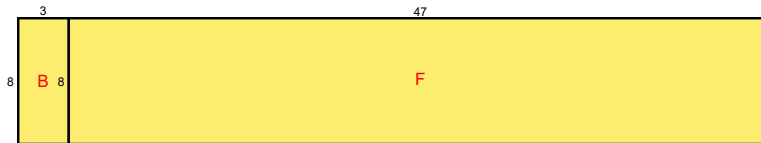
SOUTH ELEVATION DIAGRAM



Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	16.8	0.0
E	181.0	0.0
Total	197.8	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

WEST ELEVATION DIAGRAM



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- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	27.7	0.0
F	385.4	0.0
Total	413.1	0.0

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

REPORT SUMMARY

All Structures

Areas per Pitch

Roof Pitches	5/12
Area (sq ft)	1195.6
% of Roof	100%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

Structure Complexity

Simple	Normal	Complex
--------	--------	---------

Waste Calculation

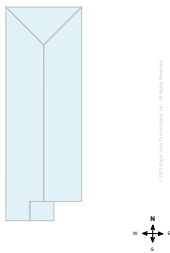
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the **Lengths, Areas, and Pitches** section below.

Waste %	0%	5%	10%	13%	15%	17%	20%	25%	30%
Area (Sq ft)	1196	1256	1316	1352	1376	1400	1436	1495	1555
Squares *	12.00	12.66	13.33	13.66	14.00	14.00	14.66	15.00	15.66
	Measured				Suggested				

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 4

Lengths, Areas and Pitches

- Ridges = 47 ft (2 Ridges)
- Hips = 30 ft (2 Hips).
- Valleys = 0 ft (0 Valleys)
- Rakes† = 29 ft (4 Rakes)
- Eaves/Starter‡ = 135 ft (4 Eaves)
- Drip Edge (Eaves + Rakes) = 164 ft (8 Lengths)
- Parapet Walls = 0 (0 Lengths).
- Flashing = 0 ft (0 Lengths)
- Step flashing = 8 ft (2 Lengths)
- Predominant Pitch = 5/12

Total Area (All Pitches) = 1,196 sq ft

Property Location

Longitude = -95.3827285
 Latitude = 29.7552436

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).
 ‡ Eaves are defined as roof edges that are not sloped and level.

1512 Ruthven St, Houston, TX 77019

Report: 55102974

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1512+Ruthven+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1512+Ruthven+St,Houston,TX,77019

1512 Ruthven St, Houston, TX 77019

Report: 55102974

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



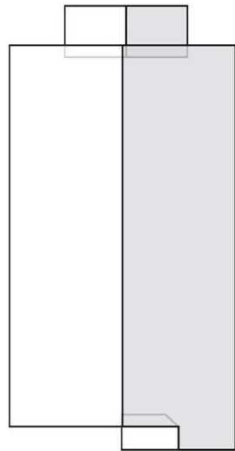
1514 Ruthven St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 1,921 sq ft
 Total Roof Facets = 5
 Predominant Pitch = 9/12
 Number of Stories > 1
 Total Ridges/Hips = 58 ft
 Total Valleys = 0 ft
 Total Rakes = 100 ft
 Total Eaves = 118 ft
 Total Wall Area = 2587.8 sq ft
 Total Wall Facets = 8
 Total Siding Area = 2587.8 sq ft
 Total Masonry Area = 0.0 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

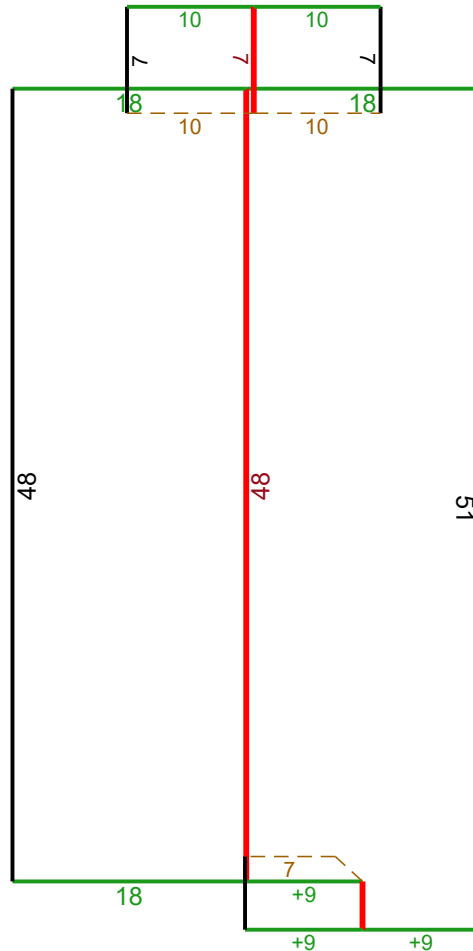
www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

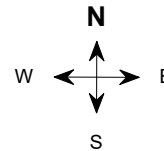
Total Line Lengths:

Ridges = 58 ft
 Hips = 0 ft

 Valleys = 0 ft
 Rakes = 100 ft
 Eaves = 118 ft

 Flashing = 0 ft
 Step flashing = 29 ft
 Parapets = 0 ft


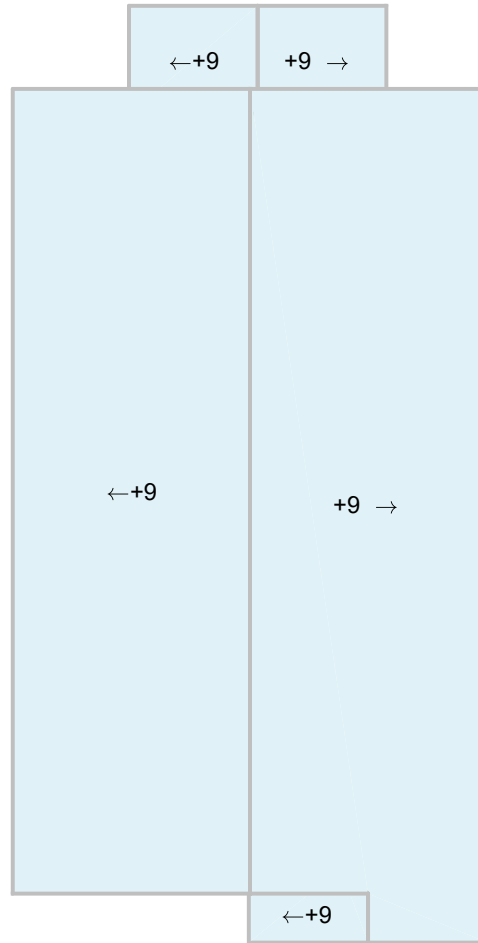
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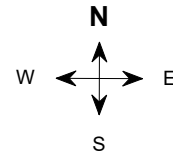
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 9/12



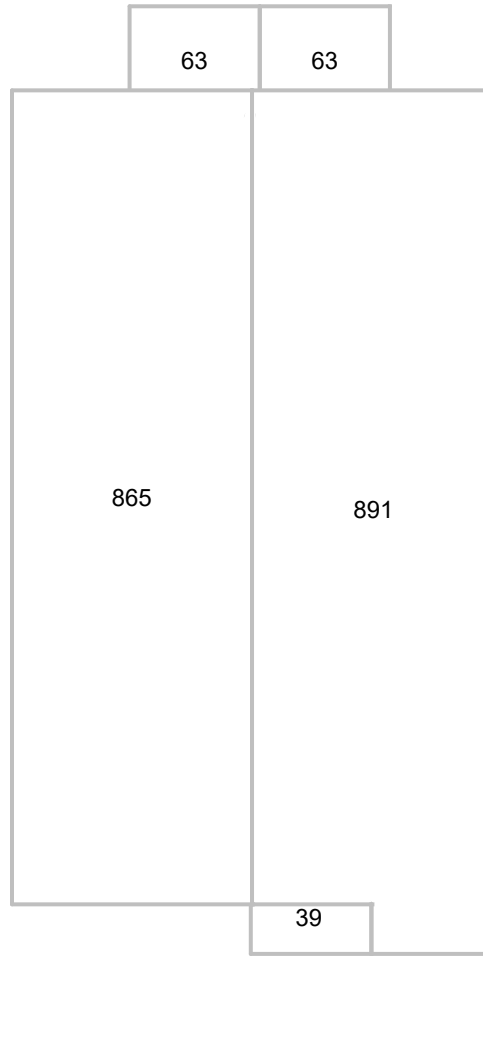
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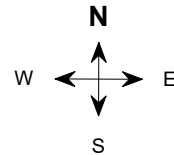
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 1,921 sq ft, with 5 facets.



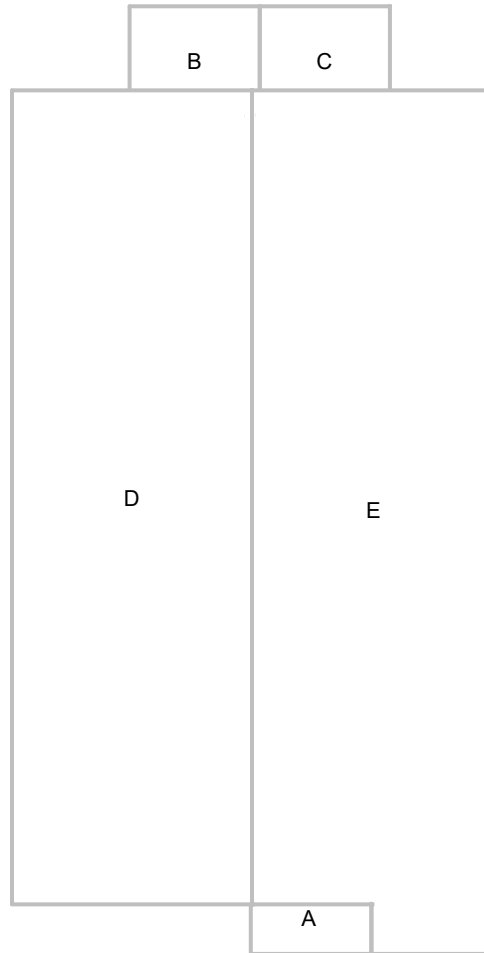
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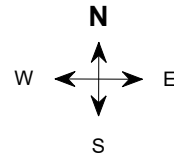
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

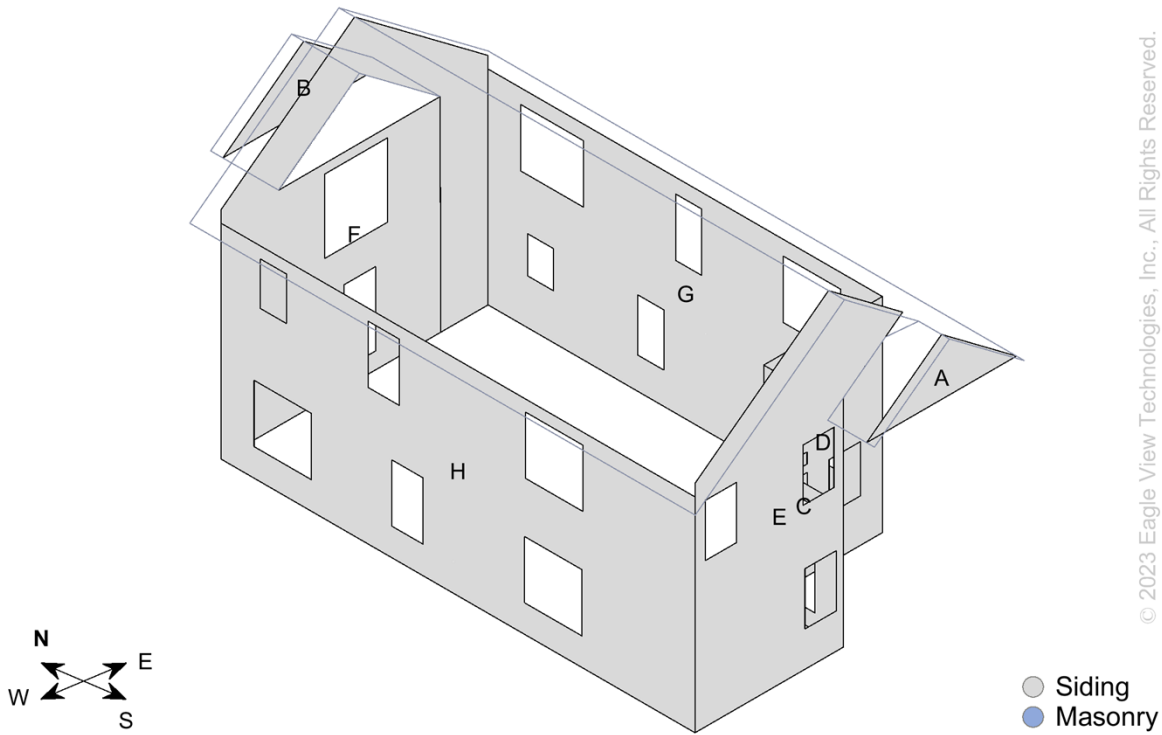
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	45.0	0.0
F	543.8	0.0
Total	588.8	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	83.2	0.0
G	613.2	0.0
Total	696.4	0.0

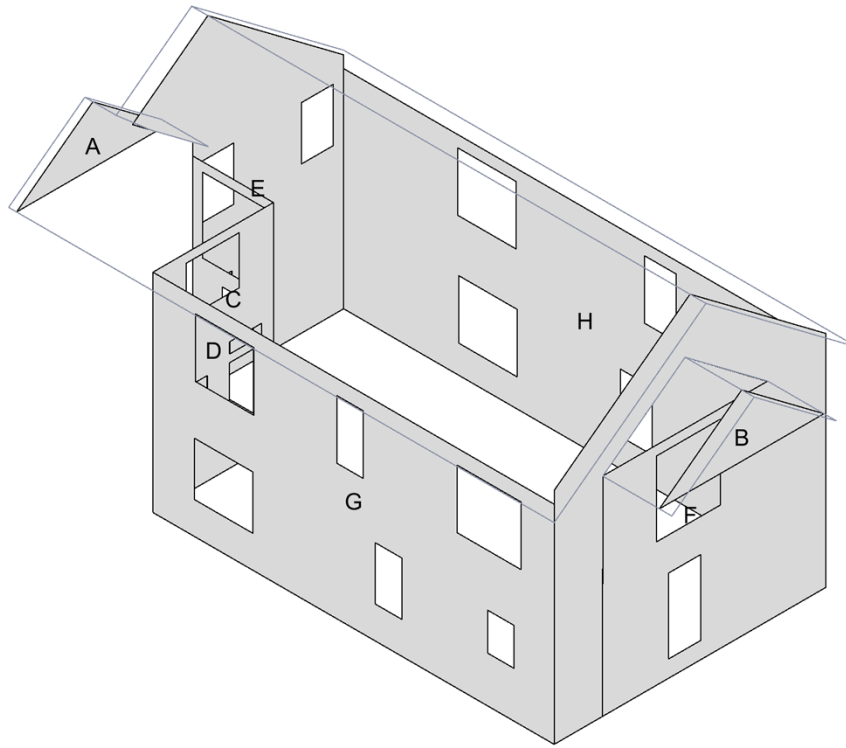
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	38.7	0.0
E	347.6	0.0
D	162.3	0.0
Total	548.6	0.0

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	754.0	0.0
Total	754.0	0.0

ALTERNATE WALL AREA



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- Siding
- Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	45.0	0.0
F	543.8	0.0
Total	588.8	0.0

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	83.2	0.0
G	613.2	0.0
Total	696.4	0.0

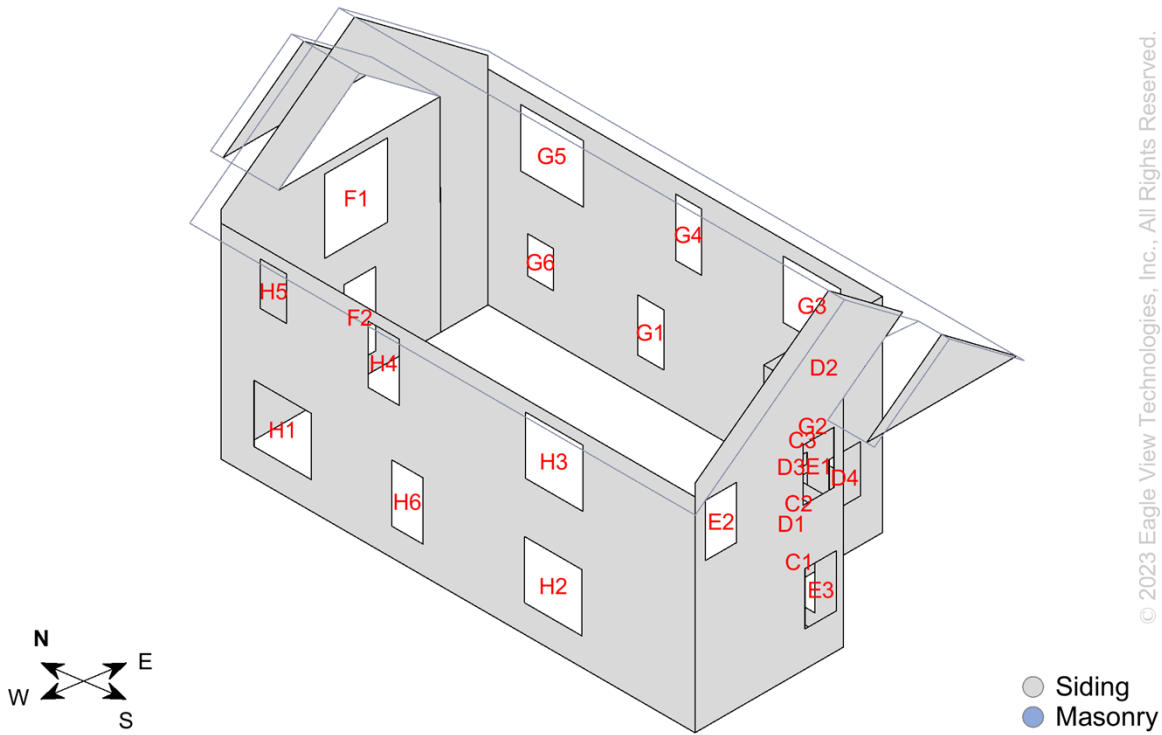
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
A	38.7	0.0
E	347.6	0.0
D	162.3	0.0
Total	548.6	0.0

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	754.0	0.0
Total	754.0	0.0

WINDOW AND DOOR DIAGRAM



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Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
F1	42.0	26.0	6.0 x 7.0
F2	21.0	20.0	3.0 x 7.0
Total	63.0	46.0	n/a

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
C1	21.0	20.0	3.0 x 7.0
C2	3.0	8.0	3.0 x 1.0
C3	42.0	26.0	6.0 x 7.0
G1	12.5	15.0	2.5 x 5.0
G2	27.5	21.0	5.5 x 5.0
G3	30.3	22.0	5.5 x 5.5
G4	13.8	16.0	2.5 x 5.5
G5	33.1	23.0	6.0 x 5.5
G6	8.7	12.0	2.5 x 3.5
Total	191.9	163.0	n/a

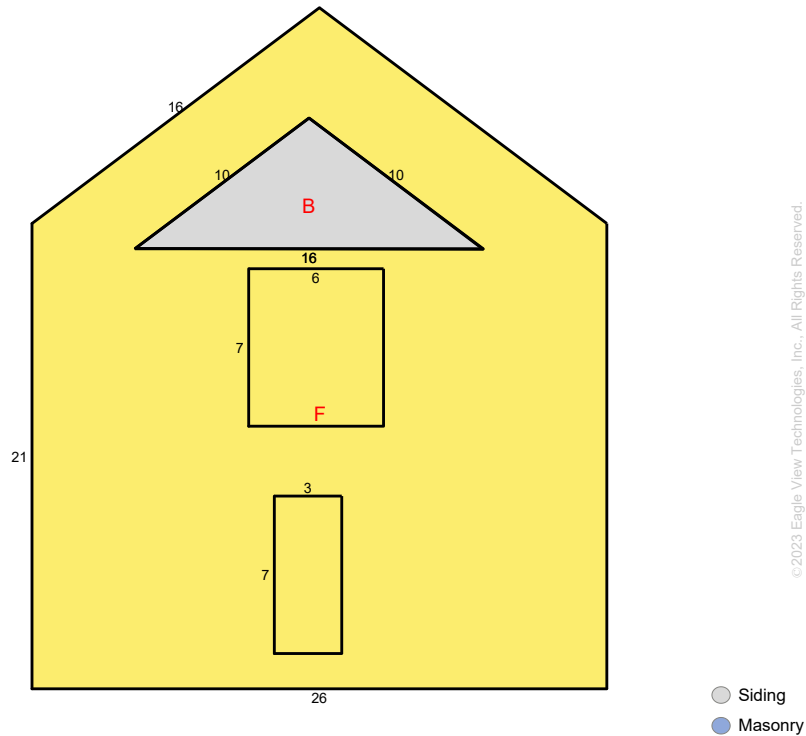
South

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
D1	21.0	20.0	3.0 x 7.0
D2	22.5	19.0	5.0 x 4.5
D3	3.0	8.0	3.0 x 1.0
D4	13.5	15.0	3.0 x 4.5
E1	15.0	16.0	3.0 x 5.0
E2	15.0	16.0	3.0 x 5.0
E3	15.0	16.0	3.0 x 5.0
Total	105.0	110.0	n/a

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
H1	30.2	22.0	5.5 x 5.5
H2	30.2	22.0	5.5 x 5.5
H3	30.2	22.0	5.5 x 5.5
H4	16.5	17.0	3.0 x 5.5
H5	10.3	13.2	2.5 x 4.1
H6	16.5	17.0	3.0 x 5.5
Total	133.9	113.2	n/a

NORTH ELEVATION DIAGRAM

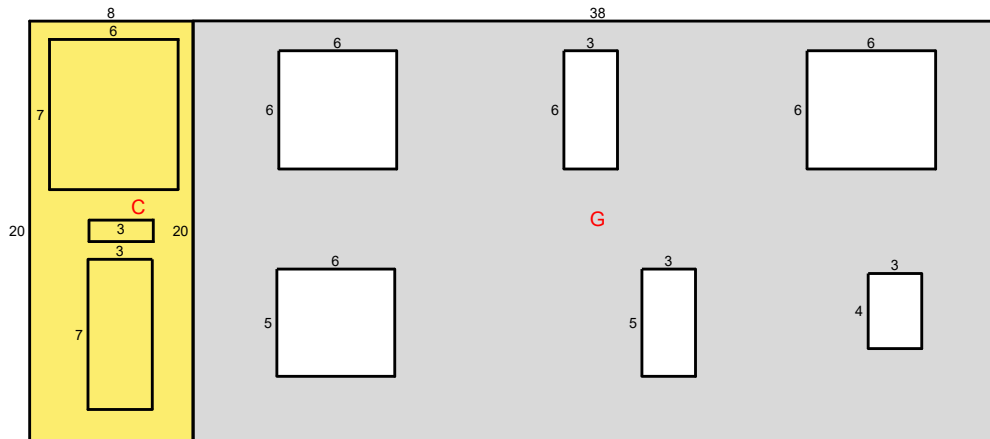


Top of Siding Walls = 66.9 ft
 Bottom of Siding Walls = 60.4 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
B	45.0	0.0	0	0	0
F	543.8	0.0	63.0	46.0	2
Total	588.8	0.0	63.0	46.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



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- Siding
- Masonry

Top of Siding Walls = 45.4 ft

Bottom of Siding Walls = 45.4 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
C	83.2	0.0	66.0	54.0	3
G	613.2	0.0	125.9	109.0	6
Total	696.4	0.0	191.9	163.0	9

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM

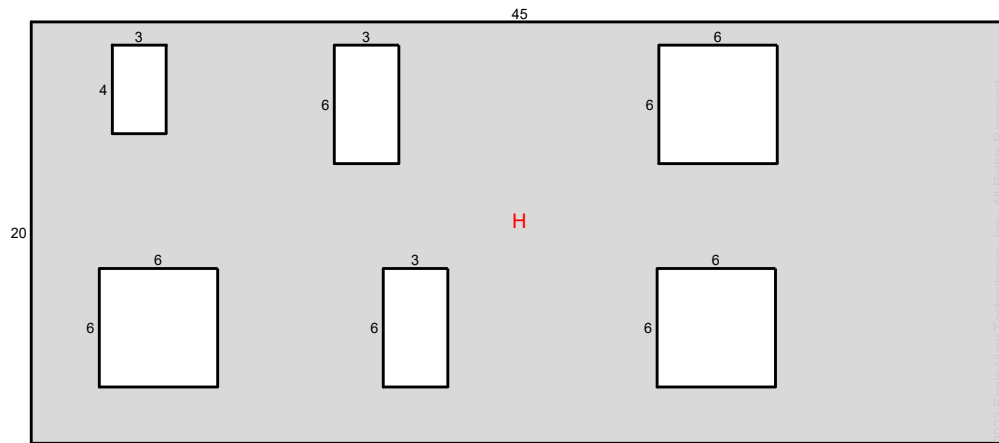


Top of Siding Walls = 54.3 ft
 Bottom of Siding Walls = 47.1 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
A	38.7	0.0	0	0	0
E	347.6	0.0	45.0	48.0	3
D	162.3	0.0	60.0	62.0	4
Total	548.6	0.0	105.0	110.0	7

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



- Siding
- Masonry

Top of Siding Walls = 45.4 ft

Bottom of Siding Walls = 45.4 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
H	754.0	0.0	133.9	113.2	6
Total	754.0	0.0	133.9	113.2	6

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch	
Roof Pitches	9/12
Area (sq ft)	1920.5
% of Roof	100%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

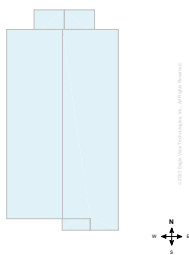
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	3%	6%	8%	10%	13%	18%	23%	28%
Area (Sq ft)	1921	1979	2037	2075	2114	2171	2267	2363	2459
Squares *	19.33	20.00	20.66	21.00	21.33	22.00	23.00	23.66	24.66
	Measured			Suggested					

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 5

Lengths, Areas and Pitches

Ridges = 58 ft (3 Ridges)
 Hips = 0 ft (0 Hips)
 Valleys = 0 ft (0 Valleys)
 Rakes† = 100 ft (8 Rakes)
 Eaves/Starter‡ = 118 ft (5 Eaves)
 Drip Edge (Eaves + Rakes) = 218 ft (13 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 29 ft (4 Lengths)
 Predominant Pitch = 9/12
Total Area (All Pitches) = 1,921 sq ft

Property Location

Longitude = -95.3828196
 Latitude = 29.7552546

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1514 Ruthven St, Houston, TX 77019

Report: 55102976

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1514+Ruthven+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1514+Ruthven+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	2,588	2,847	2,872	2,898	2,924	2,950	2,976	3,105
Squares	25.9	28.5	28.7	29	29.2	29.5	29.8	31.1

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	0	0	0	0	0	0	0	0
Squares	0	0	0	0	0	0	0	0

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 2587.8 ft²

Siding = 2587.8 ft²

Masonry = 0.0 ft²

General Totals

Wall Facets = 8

Windows & Doors = 24

Window and Door Area = 493.8 ft²

Window & Door Perimeter = 432.2 ft

Fascia (Eaves + Rakes) = 218 ft

Top of Siding Walls = 212.0 ft

Bottom of Siding Walls = 198.3 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	19.6 ft	0.0 ft	0.0 ft	19.6 ft
Outside Corners	102.4 ft	0.0 ft	0.0 ft	102.4 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3828196
 Latitude = 29.7552546

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1514 Ruthven St, Houston, TX 77019

Report: 55102976

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



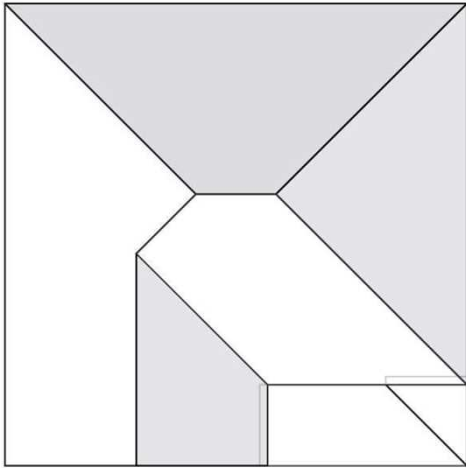
1602 Ruthven St, Houston, TX 77019

Prepared for you by



8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact: Michael A Delgado
 Company: D7 Roofing & Metal LLC
 Address: 8701 W Hardy Rd
 Houston, TX 77022
 Phone: 713-325-0700

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MEASUREMENTS

Total Roof Area = 922 sq ft
 Total Roof Facets = 7
 Predominant Pitch = 8/12
 Number of Stories <= 1
 Total Ridges/Hips = 85 ft
 Total Valleys = 13 ft
 Total Rakes = 19 ft
 Total Eaves = 107 ft
 Total Wall Area = 1136.3 sq ft
 Total Wall Facets = 10
 Total Siding Area = 1011.9 sq ft
 Total Masonry Area = 124.4 sq ft

Measurements provided by www.eagleview.com

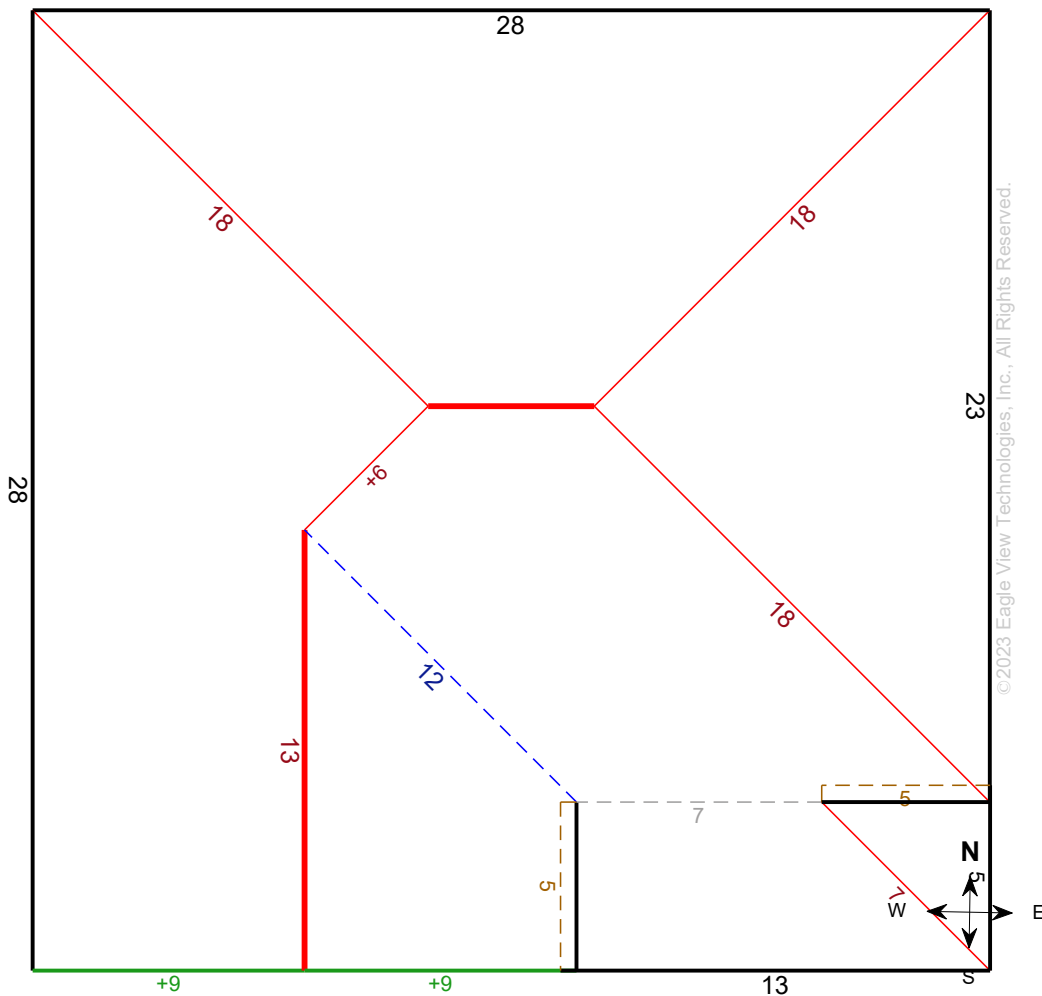


Certified Accurate

www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

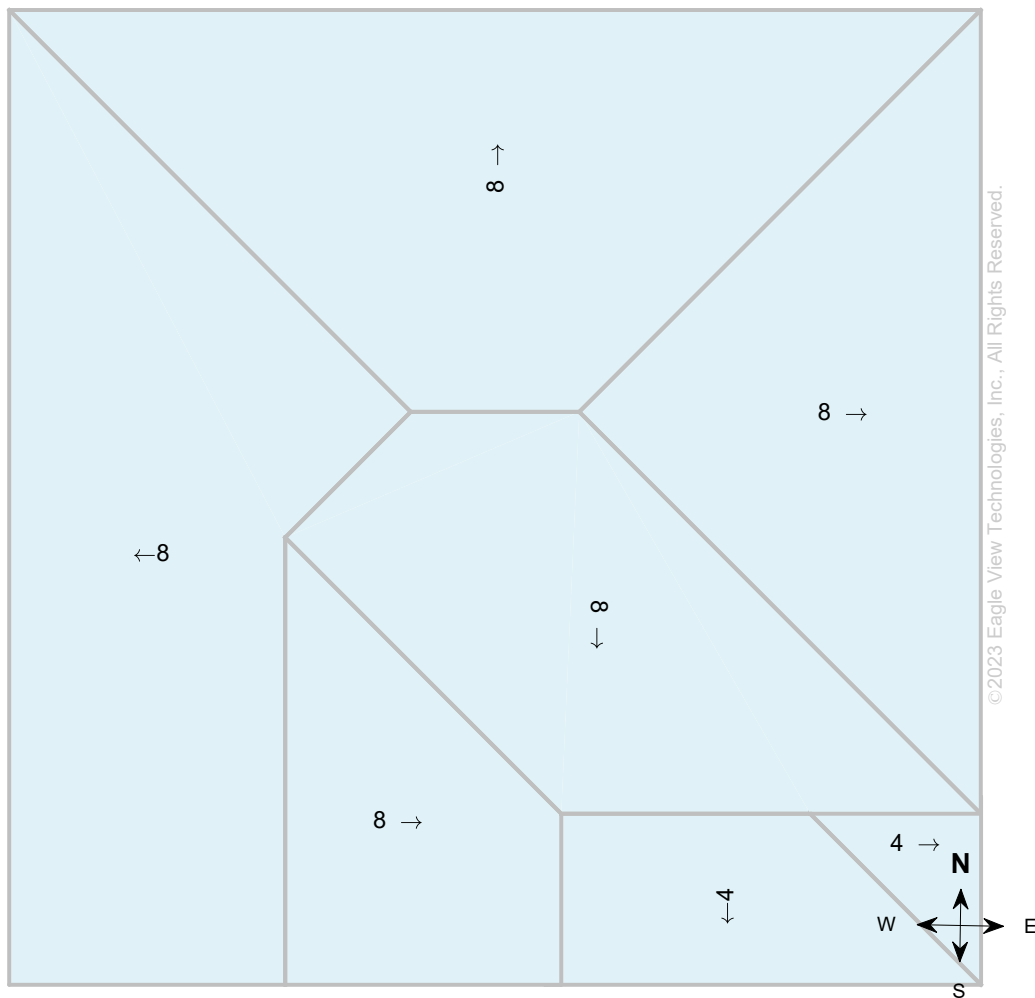
Total Line Lengths:

Ridges = 18 ft
Hips = 67 ft
Valleys = 13 ft
Rakes = 19 ft
Eaves = 107 ft
Flashing = 1 ft
Step flashing = 11 ft
Parapets = 0 ft


Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

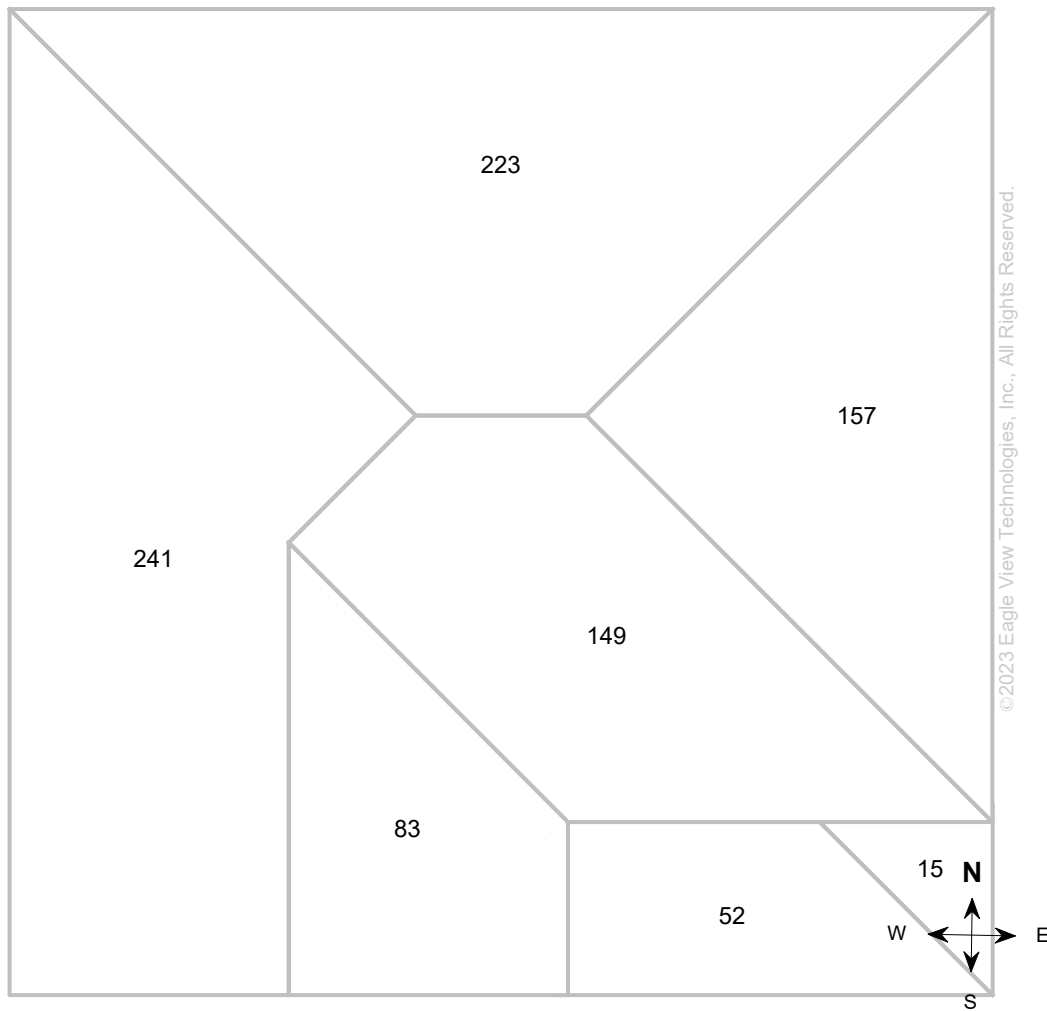
Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 8/12



Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

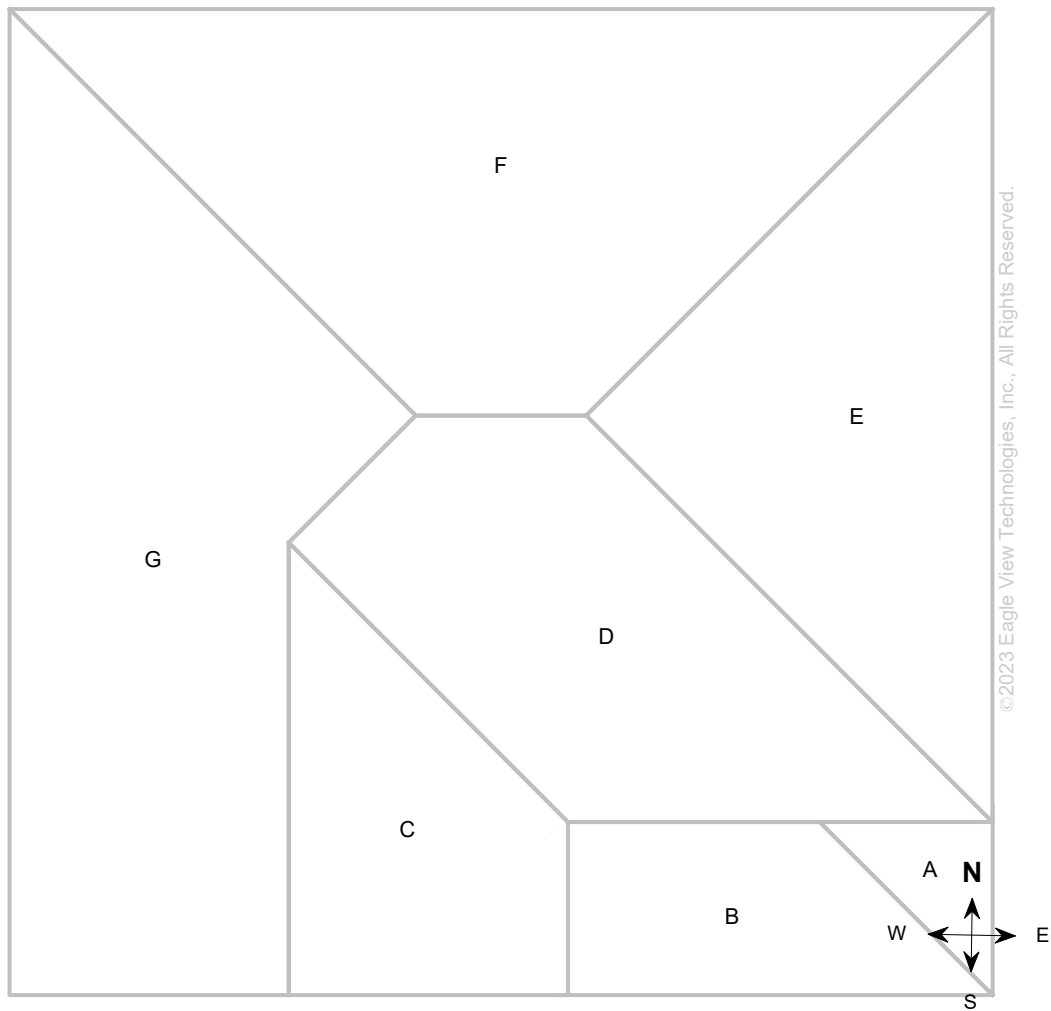
Total Area = 922 sq ft, with 7 facets.



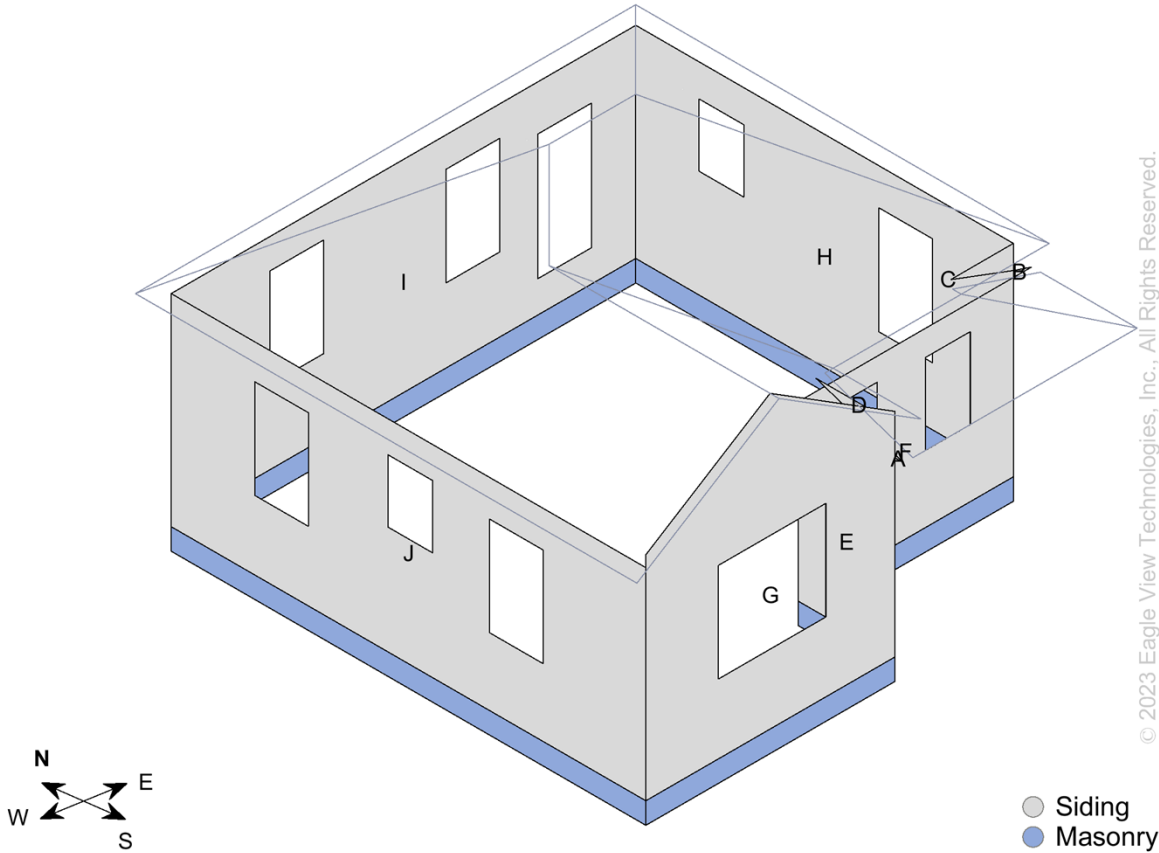
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

Roof facets are labeled from smallest to largest (A to Z) for easy reference.



WALL AREA DIAGRAM



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● Siding
● Masonry

North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	0.2	0.0
I	238.8	30.8
Total	239.0	30.8

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	52.1	6.4
H	211.4	25.0
D	3.2	0.0
Total	266.7	31.4

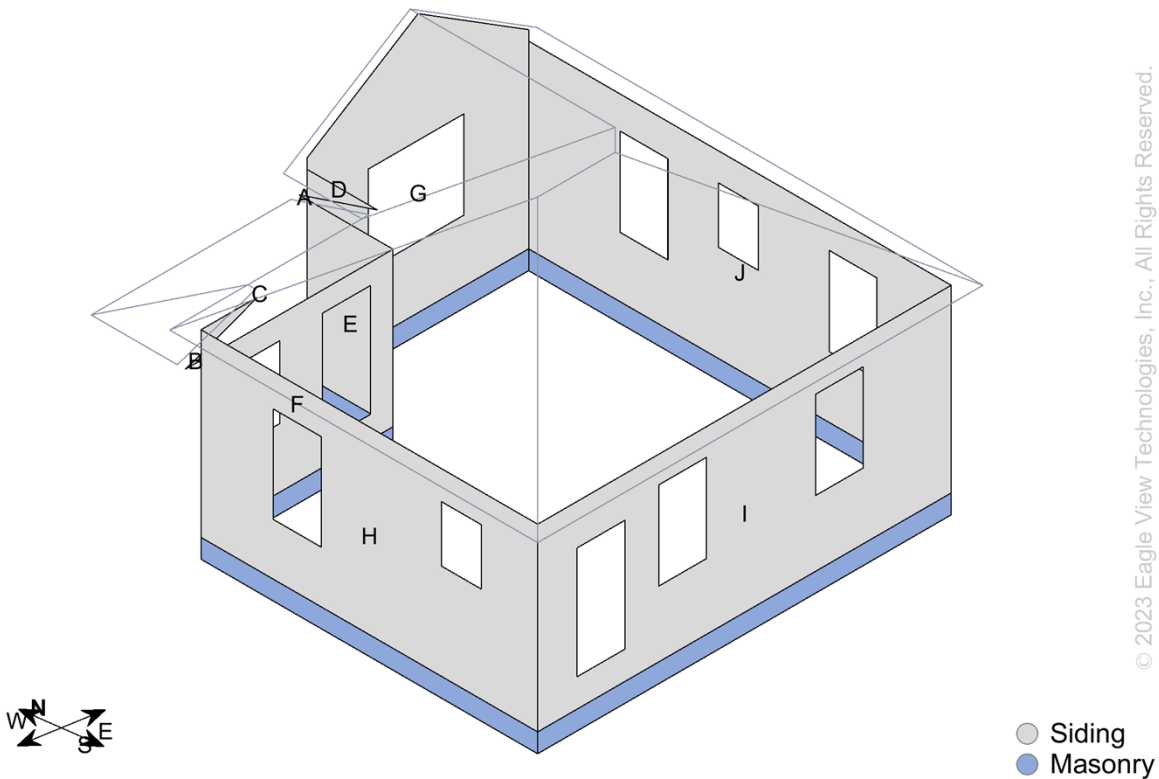
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	83.8	14.3
G	162.8	16.5
C	2.3	0.0
Total	248.9	30.8

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	257.3	31.4
A	0.0	0.0
Total	257.3	31.4

ALTERNATE WALL AREA



North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	0.2	0.0
I	238.8	30.8
Total	239.0	30.8

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
E	52.1	6.4
H	211.4	25.0
D	3.2	0.0
Total	266.7	31.4

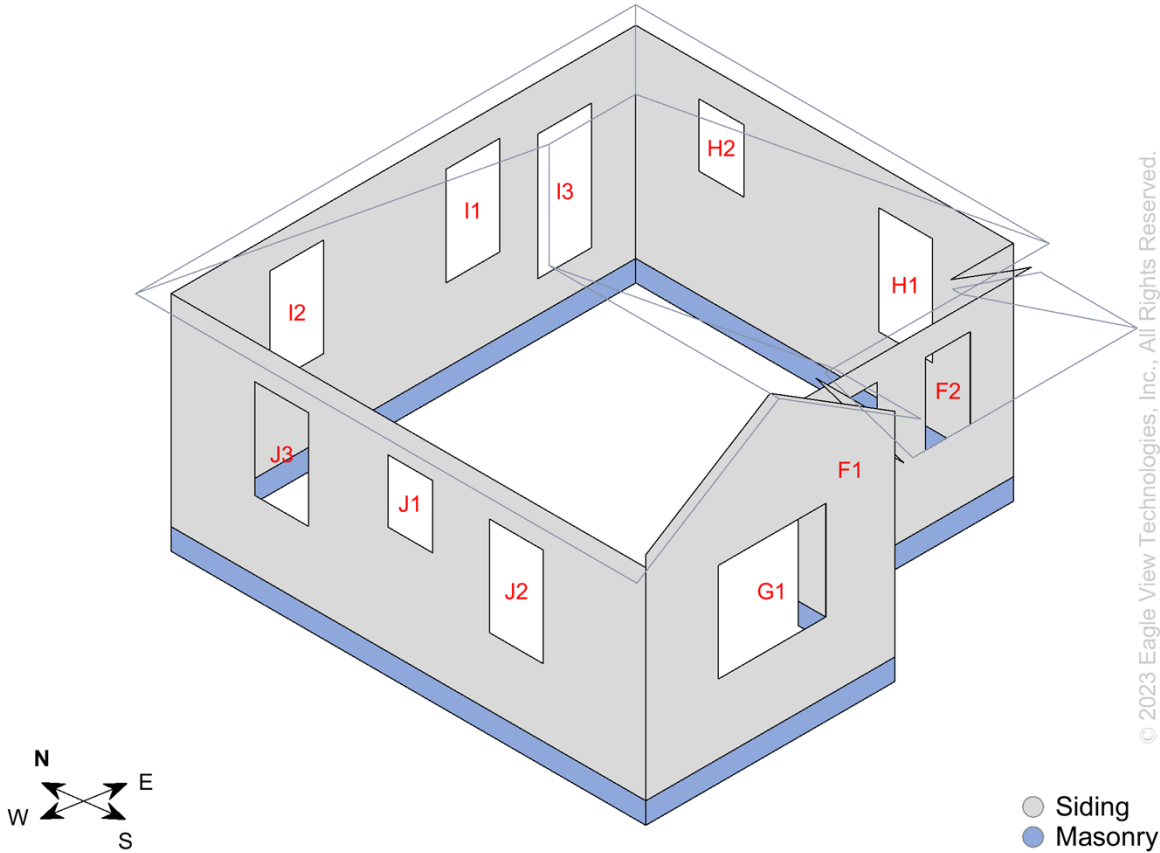
South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
F	83.8	14.3
G	162.8	16.5
C	2.3	0.0
Total	248.9	30.8

West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
J	257.3	31.4
A	0.0	0.0
Total	257.3	31.4

WINDOW AND DOOR DIAGRAM



Note: Window & door measurements include trim.

North

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
I1	16.5	17.0	3.0 x 5.5
I2	16.5	17.0	3.0 x 5.5
I3	21.0	20.0	3.0 x 7.0
Total	54.0	54.0	n/a

East

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
H1	18.0	18.0	3.0 x 6.0
H2	8.7	12.0	2.5 x 3.5
Total	26.7	30.0	n/a

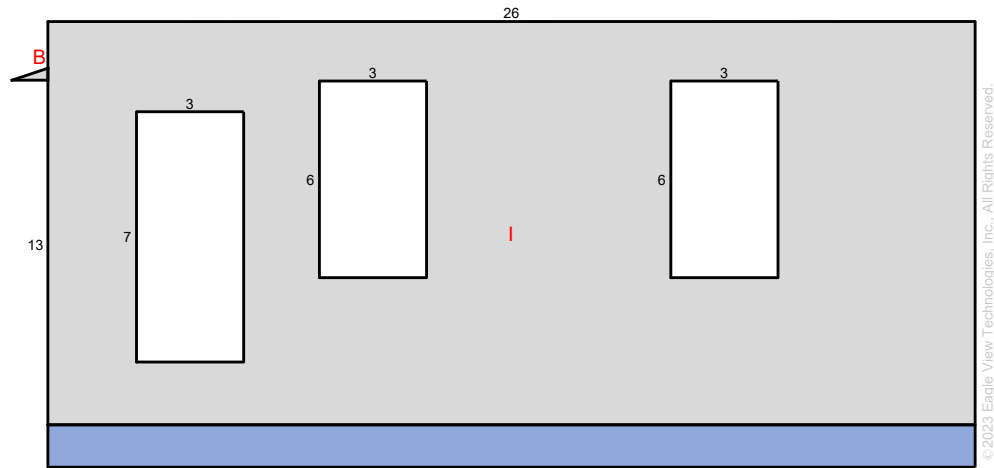
South

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
F1	21.0	20.0	3.0 x 7.0
F2	11.2	14.0	2.5 x 4.5
G1	33.0	23.0	6.0 x 5.5
Total	65.2	57.0	n/a

West

Window/Door	Area (ft ²)	Perimeter (ft)	Dimensions W x H (ft)
J1	8.7	12.0	2.5 x 3.5
J2	16.5	17.0	3.0 x 5.5
J3	16.5	17.0	3.0 x 5.5
Total	41.7	46.0	n/a

NORTH ELEVATION DIAGRAM



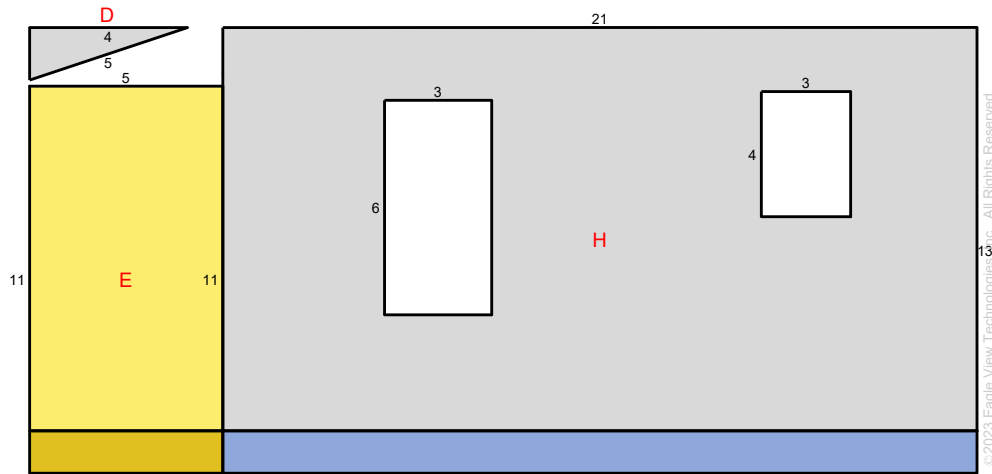
- Siding
- Masonry

Top of Siding Walls = 27.1 ft
 Bottom of Siding Walls = 27.0 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
B	0.2	0.0	0	0	0
I	238.8	30.8	54.0	54.0	3
Total	239.0	30.8	54.0	54.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

EAST ELEVATION DIAGRAM



● Siding
● Masonry

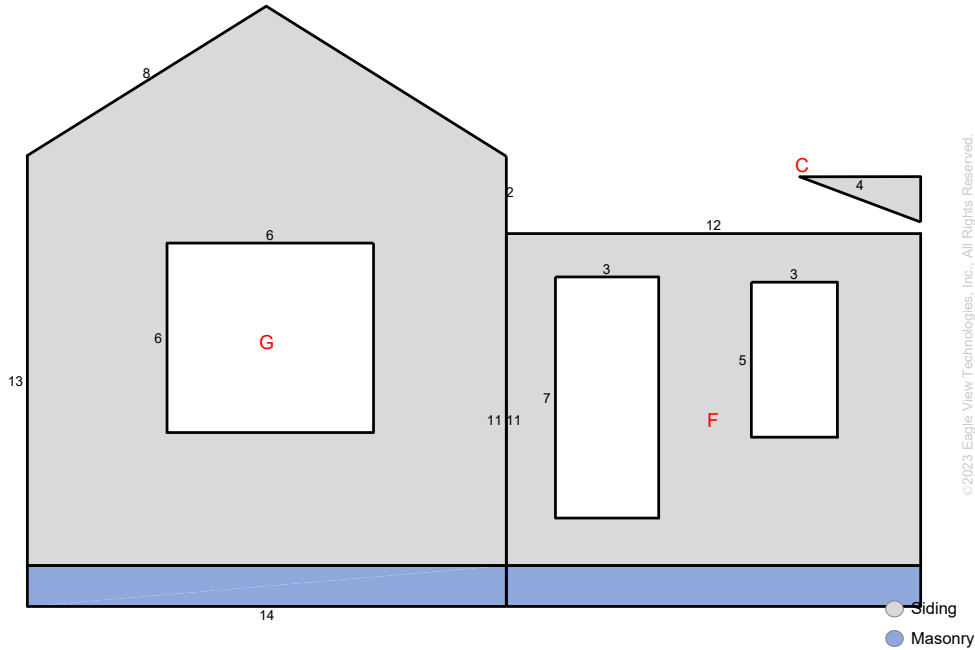
Top of Siding Walls = 31.9 ft

Bottom of Siding Walls = 32.2 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
E	52.1	6.4	0	0	0
H	211.4	25.0	26.7	30.0	2
D	3.2	0.0	0	0	0
Total	266.7	31.4	26.7	30.0	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

SOUTH ELEVATION DIAGRAM



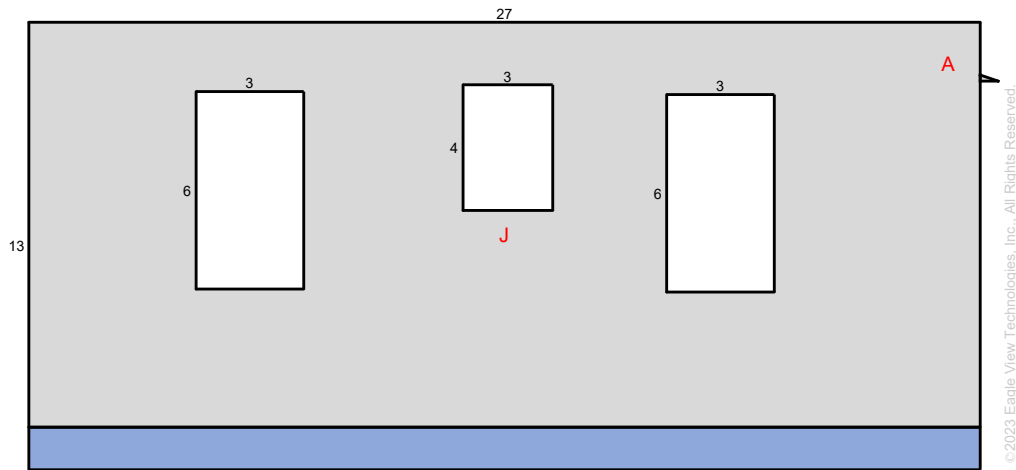
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Top of Siding Walls = 40.4 ft
 Bottom of Siding Walls = 38.3 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
F	83.8	14.3	32.2	34.0	2
G	162.8	16.5	33.0	23.0	1
C	2.3	0.0	0	0	0
Total	248.9	30.8	65.2	57.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

WEST ELEVATION DIAGRAM



- Siding
- Masonry

Top of Siding Walls = 27.0 ft
 Bottom of Siding Walls = 27.0 ft

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)	Window & Door Area (ft ²)	Window & Door Perimeter (ft)	Window & Door Count
J	257.3	31.4	41.7	46.0	3
A	0.0	0.0	0	0	0
Total	257.3	31.4	41.7	46.0	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Measurement Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.

REPORT SUMMARY

All Structures

Areas per Pitch		
Roof Pitches	4/12	8/12
Area (sq ft)	67.6	853.7
% of Roof	7.3%	92.6%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

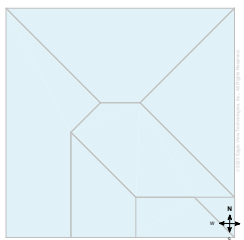
Structure Complexity		
Simple	Normal	Complex

Waste Calculation									
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the Lengths, Areas, and Pitches section below.									
Waste %	0%	8%	13%	18%	21%	23%	25%	28%	33%
Area (Sq ft)	922	996	1042	1088	1116	1135	1153	1181	1227
Squares *	9.33	10.00	10.66	11.00	11.33	11.66	11.66	12.00	12.33
	Measured					Suggested			

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 7

Lengths, Areas and Pitches

Ridges = 18 ft (2 Ridges)
 Hips = 67 ft (5 Hips)
 Valleys = 13 ft (1 Valleys)
 Rakes† = 19 ft (2 Rakes)
 Eaves/Starter‡ = 107 ft (7 Eaves)
 Drip Edge (Eaves + Rakes) = 126 ft (9 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 1 ft (2 Lengths)
 Step flashing = 11 ft (2 Lengths)
 Predominant Pitch = 8/12
Total Area (All Pitches) = 922 sq ft

Property Location

Longitude = -95.3832074
 Latitude = 29.7552072

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1602 Ruthven St, Houston, TX 77019

Report: 55102975

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1602+Ruthven+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1602+Ruthven+St,Houston,TX,77019

WALL MEASUREMENT SUMMARY

Wall Area Waste Calculations

Siding Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	1,012	1,113	1,123	1,133	1,143	1,154	1,164	1,214
Squares	10.1	11.1	11.2	11.3	11.4	11.5	11.6	12.1

Masonry Material

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (ft ²)	124	137	138	139	141	142	143	149
Squares	1.2	1.4	1.4	1.4	1.4	1.4	1.4	1.5

The tables above show the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Total Lengths & Areas

Wall Area excluding Windows & Doors

Total = 1136.3 ft²

Siding = 1011.9 ft²

Masonry = 124.4 ft²

General Totals

Wall Facets = 10

Windows & Doors = 11

Window and Door Area = 187.6 ft²

Window & Door Perimeter = 187.0 ft

Fascia (Eaves + Rakes) = 126 ft

Top of Siding Walls = 126.4 ft

Bottom of Siding Walls = 124.5 ft

Corner Totals

	Siding to Siding	Masonry to Masonry	Siding to Masonry	Total
Inside Corners	10.4 ft	1.2 ft	0.0 ft	11.6 ft
Outside Corners	58.9 ft	6.0 ft	0.0 ft	64.9 ft
Inside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft
Outside Corners > 90	0.0 ft	0.0 ft	0.0 ft	0.0 ft

Property Location

Longitude = -95.3832074

Latitude = 29.7552072

Notes

There were no changes to the structure in the past four years.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

1602 Ruthven St, Houston, TX 77019

Report: 55102975

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

Precise Aerial Measurement Report



1608 Ruthven St, Houston, TX 77019

Prepared for you by

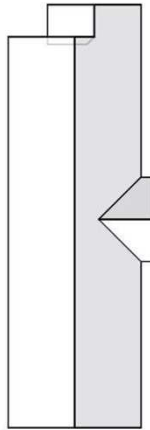


8701 W Hardy Rd
Houston, TX 77022

Michael A Delgado
tel. 713 325 0700
email: mdelgado@d7roofingtx.com
d7roofingtx.com

1608 Ruthven St, Houston, TX 77019

Report: 55102978



In this 3D model, facets appear as semi-transparent to reveal overhangs.

PREPARED FOR

Contact:	Michael A Delgado
Company:	D7 Roofing & Metal LLC
Address:	8701 W Hardy Rd Houston, TX 77022
Phone:	713-325-0700

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MEASUREMENTS

Total Roof Area = 1,697 sq ft
 Total Roof Facets = 5
 Predominant Pitch = 9/12
 Number of Stories > 1
 Total Ridges/Hips = 86 ft
 Total Valleys = 11 ft
 Total Rakes = 77 ft
 Total Eaves = 124 ft
 Total Wall Area = 3042.5 sq ft
 Total Wall Facets = 12
 Total Siding Area = 2895.9 sq ft
 Total Masonry Area = 146.6 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

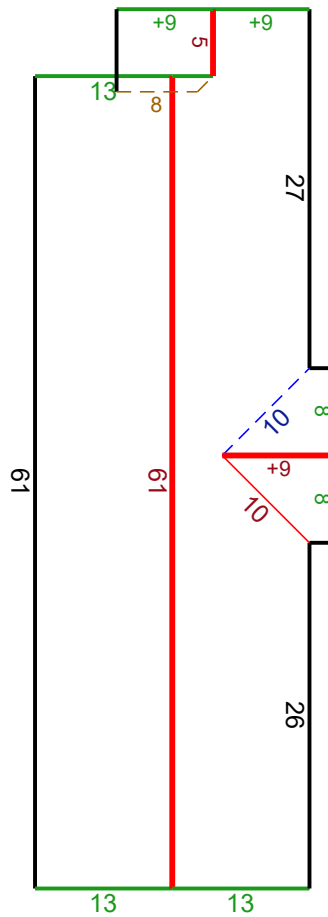
www.eagleview.com/Guarantee.aspx

LENGTH DIAGRAM

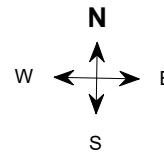
Total Line Lengths:

Ridges = 75 ft
Hips = 11 ft

 Valleys = 11 ft
 Rakes = 77 ft
 Eaves = 124 ft

 Flashing = 0 ft
 Step flashing = 10 ft
Parapets = 0 ft


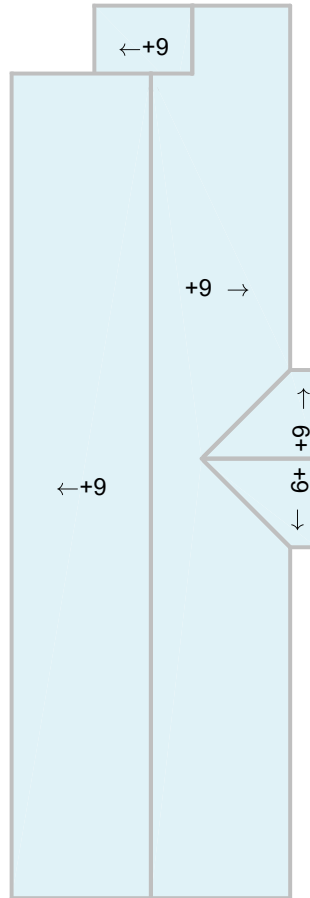
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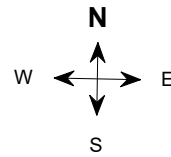
Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 9/12



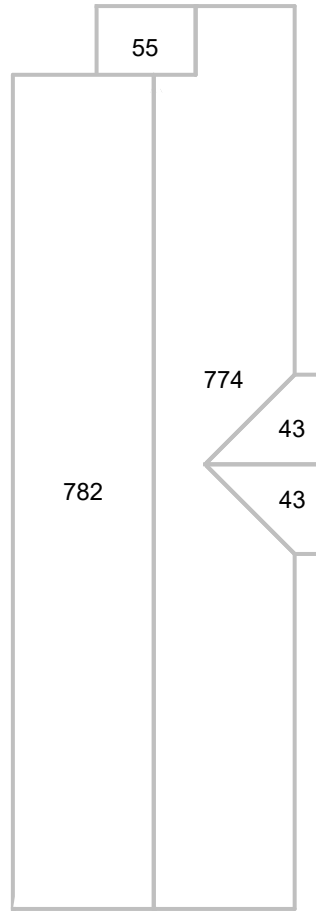
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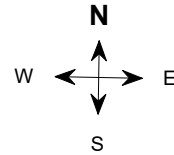
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

AREA DIAGRAM

Total Area = 1,697 sq ft, with 5 facets.



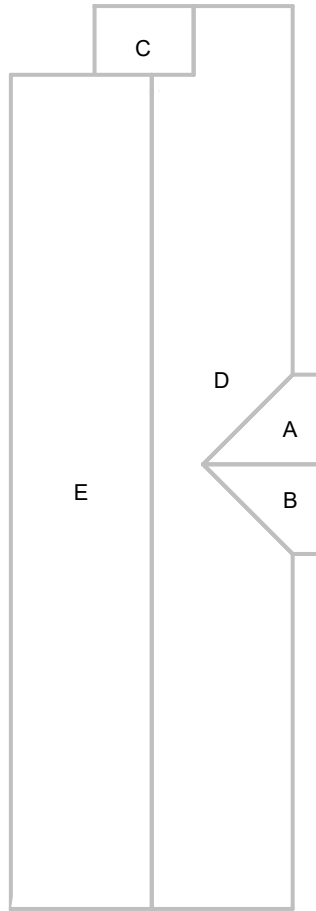
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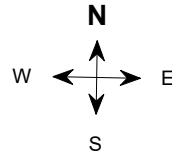
Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

NOTES DIAGRAM

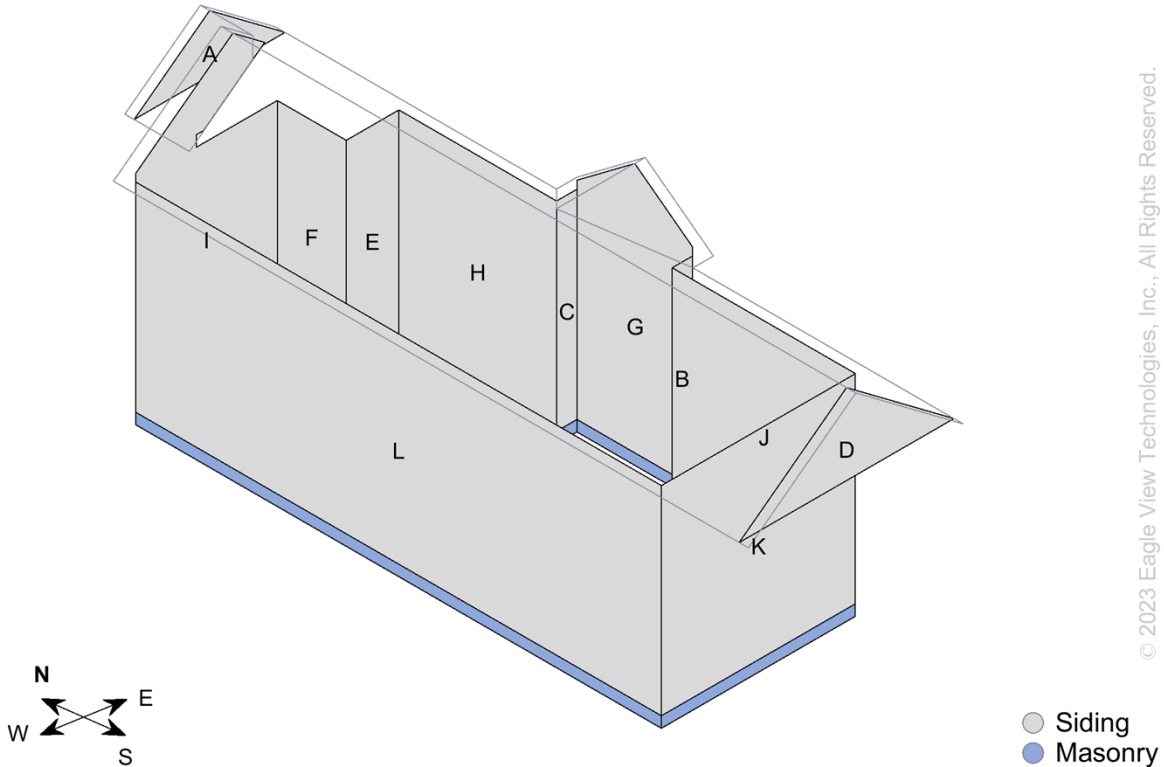
Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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WALL AREA DIAGRAM



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North

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	37.3	2.0
I	298.6	14.0
A	39.2	0.0
E	96.3	5.2
Total	471.4	21.2

East

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	288.2	15.6
J	335.0	18.2
G	242.7	11.5
F	126.3	6.8
Total	992.2	52.1

South

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	37.3	2.0
K	354.7	19.2
D	79.3	0.0
Total	471.3	21.2

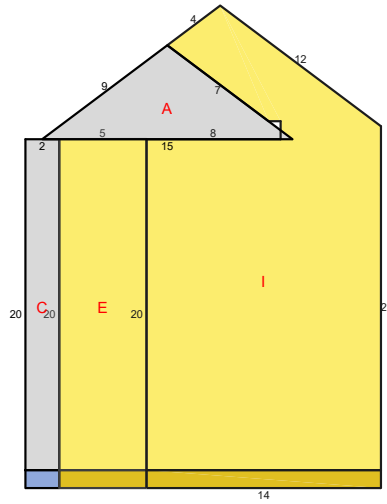
West

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
L	961.0	52.1
Total	961.0	52.1

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Report: 55102978

NORTH ELEVATION DIAGRAM



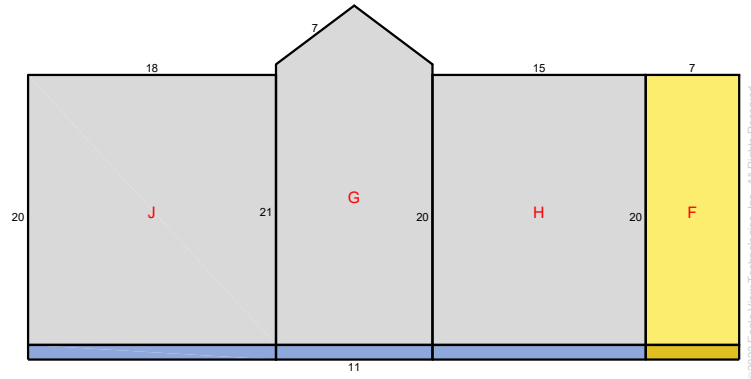
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- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
C	37.3	2.0
I	298.6	14.0
A	39.2	0.0
E	96.3	5.2
Total	471.4	21.2

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

EAST ELEVATION DIAGRAM

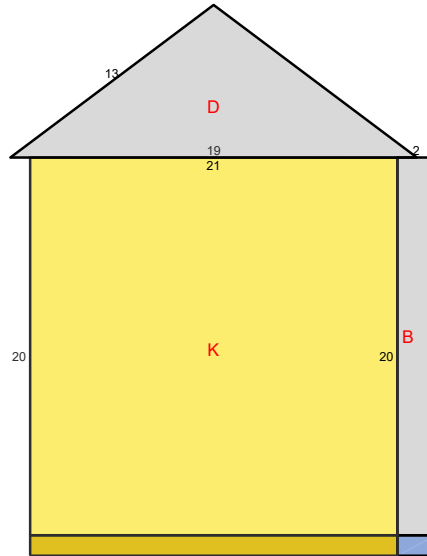


● Siding
● Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
H	288.2	15.6
J	335.0	18.2
G	242.7	11.5
F	126.3	6.8
Total	992.2	52.1

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

SOUTH ELEVATION DIAGRAM



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- Siding
- Masonry

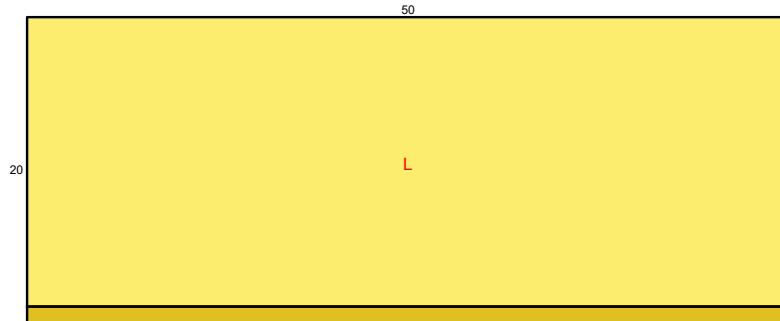
Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
B	37.3	2.0
K	354.7	19.2
D	79.3	0.0
Total	471.3	21.2

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

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Report: 55102978

WEST ELEVATION DIAGRAM



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- Siding
- Masonry

Wall	Siding Wall Area (ft ²)	Masonry Wall Area (ft ²)
L	961.0	52.1
Total	961.0	52.1

Note: On-site verification of yellow shaded areas is needed. This diagram shows segment lengths rounded to the nearest whole number. The wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length. Windows and doors have not been subtracted from these measurements.

REPORT SUMMARY

All Structures

Areas per Pitch

Roof Pitches	9/12
Area (sq ft)	1696.2
% of Roof	100%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

Structure Complexity

Simple	Normal	Complex
--------	--------	---------

Waste Calculation

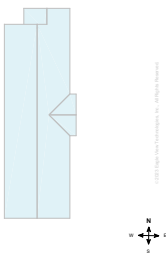
NOTE: This waste calculation table is for asphalt shingle roofing applications. All values in table below only include roof areas of 3/12 pitch or greater. For total measurements of all pitches, please refer to the **Lengths, Areas, and Pitches** section below.

Waste %	0%	5%	8%	10%	12%	15%	20%	25%	30%
Area (Sq ft)	1697	1782	1833	1867	1901	1952	2037	2122	2207
Squares *	17.00	18.00	18.33	19.00	19.33	19.66	20.66	21.33	22.33
	Measured			Suggested					

* Squares are rounded up to the 1/3 of a square

Additional materials needed for ridge, hip, and starter lengths are not included in the above table. The provided suggested waste factor is intended to serve as a guide—actual waste percentages may differ based upon several variables that EagleView does not control. These waste factor variables include, but are not limited to, individual installation techniques, crew experiences, asphalt shingle material subtleties, and potential salvage from the site. Individual results may vary from the suggested waste factor that EagleView has provided. The suggested waste is not to replace or substitute for experience or judgment as to any given replacement or repair work.

All Structures Totals



Total Roof Facets = 5

Lengths, Areas and Pitches

Ridges = 75 ft (3 Ridges)
 Hips = 11 ft (1 Hips).
 Valleys = 11 ft (1 Valleys)
 Rakes† = 77 ft (8 Rakes)
 Eaves/Starter‡ = 124 ft (6 Eaves)
 Drip Edge (Eaves + Rakes) = 201 ft (14 Lengths)
 Parapet Walls = 0 (0 Lengths).
 Flashing = 0 ft (0 Lengths)
 Step flashing = 10 ft (2 Lengths)
 Predominant Pitch = 9/12

Total Area (All Pitches) = 1,697 sq ft

Property Location

Longitude = -95.3834599
 Latitude = 29.7552920

Notes

This was ordered as a residential property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).

‡ Eaves are defined as roof edges that are not sloped and level.

1608 Ruthven St, Houston, TX 77019

Report: 55102978

Online Maps

Online map of property

http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=1608+Ruthven+St,Houston,TX,77019

Directions from D7 Roofing & Metal LLC to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=8701+W+Hardy+Rd,Houston,TX,77022&daddr=1608+Ruthven+St,Houston,TX,77019

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Report: 55102978

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.

**HOUSTON HOUSING AUTHORITY
HISTORIC RENTAL INITIATIVE RESIDENCES
HOUSTON, TEXAS**

SECTION 01 00 00

GENERAL REQUIREMENTS

PART ONE - GENERAL

This Section governs the entire Work. Refer to Construction Documents for additional scope of work.

1.01 MATERIALS AND WORKMANSHIP:

- A. Use materials that are:
 - 1. New and of high quality suited to the use intended.
 - 2. Suitable for the function intended.
 - 3. Corresponding in quality to related materials in the absence of a complete Specification.
 - 4. Of good appearance where exposed to view.
 - 5. Of one manufacturer or source for the same specific purpose, with uniform appearance and physical properties.
 - 6. Plainly marked, and delivered to the site in their original unopened containers when the nature of the materials is suitable for containers.
- B. Follow supplier's instructions for the uses, limitations, and installation of his products. When full instructions do not accompany the products, request them before proceeding.
- C. Perform high quality professional workmanship. Join materials to uniform, accurate fit so they meet with straight lines, free of smears or overlaps.
- D. Install materials appropriately level, plumb, and at accurate right angles or flush with adjoining materials. Attach materials that will not fail until materials joined are broken or permanently deformed.

1.02 MISCELLANEOUS DUTIES:

- A. Layout: Establish and maintain bench marks, and all other grades, lines, and levels necessary for the Work. Report errors or inconsistencies before commencing work. Confirm proper placement of the construction on the Site after all lines are staked out.
- B. Verify existing conditions and their compatibility to the Construction Documents. Variations must be brought to the attention of Engineer before proceeding.
- C. Not-in-Contract Work: Arrange to accommodate. When information is inadequate, request further instructions before proceeding.
- D. Access Facilities: Provide safe, reasonably convenient access facilities to the Work for the Owner and authorized inspectors and observers.

**HOUSTON HOUSING AUTHORITY
HISTORIC RENTAL INITIATIVE RESIDENCES
HOUSTON, TEXAS**

1.03 REPLACEMENT MATERIAL:

- A. For Owner's Future Use: If any specific amounts are called for in the individual sections, provide the specified amounts. If none are specified and a surplus is left, request instructions from Owner before discarding surplus.
- B. The testing laboratory shall be approved by owner and paid for by Contractor for testing requirements as noted in individual specification sections.

END OF SECTION 01 00 00

SECTION 01 07 50

DEFINITIONS

PART ONE - GENERAL

1.01 SECTION INCLUDES:

- A. Definitions for construction terminology not otherwise defined in Contract Documents.
- B. Definitions for special terminology used for this Project.

1.02 ABANDONED - (NO LONGER NECESSARY OR IN USE):

- A. "Remove" items so noted, or later defined, as an all inclusive responsibility within this contract. Pay for all work in connection with removal of these items, including municipal, disposal, utility, and service charges. Dispose of all "Excess".

1.03 ADDITION - (TO ADD TO AND BE INCORPORATED) ALSO TO "ADD":

- A. Work supplementary to that indicated to accomplish that which is required by the Contract Documents. To bring to a new condition; to extend, fasten, patch, and match to that which is existing.

1.04 DEFECTIVE - (NOT ACCEPTABLE):

- A. Refer to Conditions of the Contract, that which does not conform to the Contract Documents. As it applies to "Salvage", in addition to the above, shall mean "unsuitable".

1.05 EXCESS - (NOT REQUIRED):

- A. More quantity than required to conform to the Contract Documents and not desired by the Owner. Debris shall be considered "Excess" and not be used as fill or be buried on this site. Remove "Excess" from the site and legally dispose of. "Excess" "Suitable" "Salvage" shall be property of Contractor unless otherwise specified.

1.06 EXISTING - (PRESENTLY THERE):

- A. Also may be noted "original". Present conditions and assumed locations, if known, as of the Date of Contract Documents.

1.07 NEW - (TO BE INCORPORATED) NOT EXISTING:

- A. Refer to various specification sections for requirements of Work to be incorporated.

1.08 REINSTALL - (TO INCORPORATE AS WAS ONCE DONE):

- A. "Remove" and "salvage" existing from its location, if it does exist. "Restore", "Renovate", or "Remodel" and "Reinstall: in its existing location. Reincorporate and "re-work" the original work to the extent required by the Contract Documents.
- B. If the "Existing" item, so indicated, is missing, defective, or unsuitable as "Existing", then "Reconstruct" only that portion with "New" products and incorporate as was original. Syn. Replace.

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HISTORIC RENTAL INITIATIVE RESIDENCES
HOUSTON, TEXAS**

1.09 RELOCATE - ("REINSTALL" IN A NEW LOCATION):

A. "Reinstall" in a new location as indicated on Drawings.

1.10 REMAIN - (TO LEAVE WHERE IT IS EXISTING):

A. The final location of an item in its "existing" position, however, this shall not mandate the fact that this item will not move during this contract, specifically in order to "Preserve" or "Rework".

1.11 REMOVE - (TO TAKE FROM EXISTING LOCATION):

A. Work required to extract a portion or whole by one or a combination of methods and moved to a new location.

1. "Abandoned": Remove items by dismantling, excavation, extraction, or demolition, if acceptable.

2. Salvage: Remove by disassembly. "Relocate".

3. Products: Where a specific portion of component of an assembly or whole is to be removed, take all precautions to prevent damage, defacement, and displacement to the "existing" to remain (i.e., mortar, bricks, and finishes).

1.12 RENOVATE - (TO REPAIR AND MAKE NEW):

A. The process required to bring an item to a present new standard of condition required by the Contract Documents (e.g., to "rework" "existing" "suitable" "salvage" "products" and perform "new" work and "additions" required). (Syn. rehabilitate, recondition, repair.)

1.13 REPLACE - (TO TAKE THE PLACE OF):

A. "Remove" "existing" unserviceable product and provide "new" product in place of unserviceable product.

1.14 REUSE - (TO USE AS ONCE WAS):

A. The use of "suitable" "salvage" for incorporation or re-incorporation in the Work. "Remove", "Relocate", and "Reinstall" as required for "Reuse".

1.15 SALVAGE - (TO BECOME ABANDONED):

A. "Remove", protect, "preserve" incomplete material condition as found "existing". Also to "Save". Determine suitability for incorporation in this Contract. Store at a location mutually agreed upon. Dispose of all "Excess".

1.16 UNKNOWN - (NOT SHOWN ON DRAWINGS):

A. Products beneath surfaces indicated by drawings and encountered during the Work. Immediately support, shore, and protect. Immediately notify the Consultant and authority having jurisdiction. Allow free access for inspection. "Preserve" in proper condition until the Consultant determines definition and interpretation of Work. Take such measures as required for protection, reinforcement, or adjustment.

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HISTORIC RENTAL INITIATIVE RESIDENCES
HOUSTON, TEXAS**

PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF SECTION 01 07 50

SECTION 01 11 00

SUMMARY OF WORK

PART ONE - GENERAL

1.01 SECTION INCLUDES:

- A. Replacement, restoration, repairs, and related renovations to roofs and exterior walls on single family residential homes of the Historic Rental Initiative Residences at various locations within Fourth Ward community in Houston, Texas. Work includes, but is not limited to, the following:
1. Remove and replace sealants in exterior joints around window frames and door frames.
 2. Remove and replace/and or install sealant between wall penetrations and siding.
 3. Remove and replace sheet metal flashings.
 4. Replace trim at windows, doors, and corners of buildings with new fiber cement trim.
 5. Replace existing siding with new fiber cement siding.
 6. Install new weather-resistive barrier and related flashings on exterior walls.
 7. Install and paint siding and trim, fascia, soffit, and other related components on exterior walls.
 8. Clean and paint existing doors, columns, handrails, and other related existing components to remain on exterior walls.
 9. Remove and replace shingle roofing and underlayment.
 10. Remove and replace deteriorated plywood, OSB, and/or wood plank roof deck.
 11. Remove and replace flashings at walls, eaves, rakes, and miscellaneous penetrations in roofs.
 12. Replace gravity vents and heat exhaust vents in shingle roofs.
 13. Remove and replace soffit and fascia.
 14. Repair deteriorated/damaged wood rafter tails.
 15. Install vinyl lattice along bottom edges of exterior walls.

1.02 WEATHER PROTECTION:

- A. Maintain weatherproofing of exterior walls/roof during work.
- B. Contractor shall have at the work site, a sufficient amount of moisture proof coverings to provide quick temporary protection in event of a rapid change in the weather.

1.03 CONTRACTOR'S USE OF PREMISES:

- A. Confine operations at site to areas permitted by law, ordinances, permits and to limits of Contract as shown on Contract Documents.
- B. Do not unreasonably encumber site with materials or equipment.
- C. Do not load structure with weight that will endanger structure.
- D. Assume full responsibility for protection and safekeeping of products stored on premises.
- E. Move stored products which interfere with operations of HHA/resident.

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- F. Obtain and pay for use of additional storage or work areas needed for operations.
- G. Coordinate use of premises under direction of HHA/resident's Representative.
- H. Use of Site for Work and Storage:
 - 1. Restrict Work to areas indicated on Drawings.
 - 2. Store materials off site except for minor amounts of material which may be stored at designated staging area as approved by HHA.
 - 3. Access site in areas approved by HHA.
 - 4. Restrict parking to specific areas as approved by HHA.
 - 5. Restrict debris removal to HHA-approved area of building site.
 - 6. Protect existing buildings in areas where work is to be performed.
- I. Maintenance of Access and Operations:
 - 1. Do not perform operations that would interrupt or delay residents daily operations.
 - 2. Maintain access to existing building, facilities, parking, streets, and walkways; especially fire lanes.
 - 3. Schedule demolition and renovation operations with HHA in such a manner as to allow HHA/resident operations to continue with minimum interruption.
 - 4. During period of construction, do not obstruct exit ways of occupied areas in any manner.
- J. Maintenance of Existing Services:
 - 1. Do not disrupt existing utility services to existing building.
 - 2. Maintain environmental control in existing building, especially temperature, humidity, and dust control.
 - 3. Provide temporary lines and connections as required to maintain existing mechanical and electrical services in building.
 - 4. Notify HHA a minimum of four days prior to each required interruption of mechanical or electrical services in building. These interruptions shall be only at such times and for lengths of time as approved by HHA. In no event shall interruption occur without prior approval of HHA.
- K. Building Access:
 - 1. Access to construction areas shall be as designated by HHA.
 - 2. Contractor will not have access to building interiors except as pre-arranged with HHA.

1.04 BUILDING OCCUPANCY:

- A. Owner/residents will occupy premises during entire period of construction for the conduct of normal, daily operations. Cooperate with HHA/Owner's Representative in all construction operations to minimize conflict and to facilitate HHA/resident usage.
- B. Contractor shall conduct his operations so as to ensure least inconvenience to HHA's/resident's operations.
- C. Contractor shall take precautions to avoid excessive noise or vibration that would disturb HHA's/resident's operations. When directed by HHA, Contractor shall perform certain operations at designated time of day or night in order to minimize disturbance to HHA's/resident's operations.
- D. Contractor shall take all necessary precautions to assure a watertight condition in the operation portion of the building during construction.

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PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF SECTION 01 11 00

SECTION 01 31 19

PROJECT MEETINGS

PART ONE - GENERAL

1.01 PRE-CONSTRUCTION CONFERENCE:

- A. A Pre-construction Conference will be held at the site at a time to be designated by Owner.
- B. Representatives of Contractor, including project superintendent, foreman, and all subcontractors, shall meet with Owner or his appointed representative.

1.02 AGENDA:

- A. As a minimum, the following items will be on meeting agenda:
 - 1. Designation of all personnel.
 - 2. Communication.
 - 3. Construction Schedule.
 - 4. Critical work sequencing and deck repair procedures.
 - 5. Existing facilities and maintenance of operation.
 - 6. Submittals procedures.
 - 7. Project record documents procedures.
 - 8. Processing Field and Change Orders.
 - 9. Contractor is to prepare all pre-construction meeting agenda and prepare meeting minutes.

1.03 AGENDA FOR PRE-CONSTRUCTION MEETING

- A. Attendance:
 - 1. Owner (Representative).
 - 2. Consultant and On-site Inspector.
 - 3. Contractor (Manager, Superintendent, and Foreman).
 - 4. Subcontractors.
 - 5. Material Suppliers (if required).
- B. Sign-in list for all attending including names, title, phone number, and company.
- C. Contract Review:
 - 1. Execution.
 - 2. Insurance certificates.
 - 3. Bid review.
 - 4. Schedule of values and progress payment processing.
 - 5. Notice to proceed and start date.
 - 6. Bond, lien, and permit requirements.
 - 7. Project communications and problem resolution.
 - 8. Change order and additional work order processing.

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- D. Job Site Conditions and Requirements:
 - 1. Services (temporary):
 - a. Water.
 - b. Power (110, 220).
 - c. Sanitary facilities.
 - d. Parking areas.
 - e. Telephone access.
 - f. Review each of the above as to who shall furnish each, restrictions, and scheduling.
 - 2. Site Access and Restrictions:
 - a. Set-up areas, material storage, and handling.
 - b. Protection of buildings, grounds, and building interior.
 - 3. Working Area and Preparation:
 - a. Review work flow and schedule.
 - b. Preparation work by other trades.
 - c. Protection of existing roof and deck.
- E. Technical Sections:
 - 1. Review submittals.
 - 2. Function of on-site inspector and other on site personnel.
 - 3. Material storage methods.
 - 4. Roof drainage conditions.
 - 5. Coordination of work with other trades; and Owner.
 - 6. Testing.
 - 7. System review.
 - 8. Manufacturer inspections:
 - a. Inspection scheduled.
 - b. Final inspection and issuance of warranty.
- F. Safety and Security - Review Contractor responsibilities, and establish Owner monitoring procedures.
- G. Summary and Questions
- H. Exchange phone numbers, business cards, and emergency and daily contacts.
- I. Issue record of meeting minutes to all attendees.

1.04 AGENDA FOR PROJECT MEETING

- A. Attendance:
 - 1. Owner (Representative, if desired by Owner).
 - 2. Consultant.
 - 3. Contractor (Manager, Superintendent, and Foreman).
 - 4. Subcontractors.
- B. Sign-in list for all attending, including names, titles, phone numbers, and company name.

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C. Project Review:

1. Problem resolution.
2. Project communication.
3. Change order and/or additional work.
4. Review projected work flow and schedule against work completed to date.
5. Progress payment processing.

D. Job Site Conditions:

1. Review set-up area, material storage, and handling.
2. Review work to date against schedule.
3. Review work by other trades.
4. Review quality of work to-date with Contractor and Manufacturer.
5. Contractor is to prepare all construction meeting agenda and prepare meeting minutes.

PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF SECTION 01 31 19

SECTION 01 33 00

SUBMITTALS

PART ONE - GENERAL

1.01 SECTION INCLUDES:

- A. Submittals required by Specification Sections and as listed in attached List of Submittals.

1.02 REQUIRED SUBMITTALS:

- A. Copy of the Contractor's executed insurance certificate.
- B. Copy of the Contractor's executed payment and performance bonds.
- C. Shop drawings of details.
- D. Manufacturer's product data sheets and Safety Data Sheets (SDS) on each material proposed for usage.
- E. Sample of warranties/guarantees that are to be issued upon project completion.
- F. Submit list of subcontractors proposed to perform work.
- G. Detailed project schedule showing work phasing and proposed daily progress schedule.
- H. Permits, notices, and approvals of governing bodies or agencies.

1.03 SHOP DRAWINGS:

- A. Original drawings, prepared by Contractor, subcontractor, supplier, or distributor, which illustrate some portion of the Work, showing fabrication, layout, setting, or erection details, prepared by a qualified detailer.
- B. Prepare shop drawings for those details specific to the subject project. Indicate on a drawing the proposed location of detail presented on shop drawing.
- C. Submit shop drawings showing layout, joining, profiles, and anchorages of fabricated work.

1.04 PRODUCT DATA:

- A. Submit manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data for each material proposed for use in construction.
 - 1. Clearly mark each copy to identify pertinent materials, products, or models.
 - 2. Show dimensions and clearances required.
 - 3. Show performance characteristics and capacities.
 - 4. Indicate the Specification Section and sub-paragraph that applies to each submittal.

1.05 SAMPLES:

- A. Physical examples to illustrate materials, equipment, and workmanship; and to establish standards by which completed Work is judged, if requested.

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1.06 CONTRACTOR RESPONSIBILITIES:

- A. Review shop drawings, product data, and samples prior to submission. Initial, sign, or stamp, certifying the Contractor's review of the submittal.
- B. Verify:
 - 1. Field measurements.
 - 2. Field construction criteria.
 - 3. Catalog numbers and similar data.
- C. Coordinate each submittal with requirements of Work and of Contract Documents.
- D. Contractor's responsibility for errors and omissions in submittals is not relieved by Engineer/Consultant review of submittals.
- E. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by the Engineer's/Consultant's review of submittals, unless Consultant gives written acceptance of specific deviations.
- F. Notify Engineer/Consultant, in writing at time of submission, of deviations in submittals from requirements of Contract Documents.
- G. Begin no work which requires submittals until return of submittals with Engineer's/Consultant's indicating review and indication to proceed as noted. Work performed prior to submission and approval of submittals may be subject for rejection.
- H. Any unforeseen condition should be brought to the attention of the Engineer/Consultant and HHA prior to performing any work.

1.07 SUBMISSION REQUIREMENTS:

- A. Schedule submissions to the Engineer/Consultant immediately after Contract award.
- B. Submit one electronic copy of submittals.
- C. Submit three of each sample requested.
- D. Accompany submittals with transmittal letter containing:
 - 1. Date.
 - 2. Project title and number.
 - 3. Contractor's name and address.
 - 4. The number of each submittal.
 - 5. Notification of deviations from Contract Documents.
- E. Provide submittals bound together with a Cover and Table of Contents.

1.08 RE-SUBMISSION REQUIREMENTS:

- A. Product Data and Samples: Submit new data and samples as required for initial submittal.
- B. Shop Drawings:
 - 1. Revise initial drawings as required and re-submit as specified for initial submittal.
 - 2. Indicate on drawings any changes which have been made other than those requested by Owner.

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1.09 DISTRIBUTION OF SUBMITTALS AFTER REVIEW:

- A. Engineer/Consultant will retain copy of approved submittals.
- B. Engineer/Consultant will forward copy of approved submittals to Owner.
- C. Engineer/Consultant will return copy of approved submittals to Contractor.
- D. Contractor shall distribute copy of approved submittals as required for construction.

1.10 LIST OF SUBMITTALS:

SECTION 01 33 00 - SUBMITTALS

- Submittals – 1 electronic copy.

SECTION 01 60 00 - MATERIAL AND EQUIPMENT

- Substitution Request Form – 1 copy.

SECTION 01 70 00 - CONTRACT CLOSEOUT

- Warranties and Bonds.
- Evidence of Payment and Release of Liens.

SECTION 02 07 20 - MINOR DEMOLITION AND RENOVATION WORK

- Product Data.

SECTION 06 10 00 - ROUGH CARPENTRY

- Product Data.

SECTION 06 64 13 – PLASTIC LATTICE PANELING

- Product Data.

SECTION 07 27 19 - WEATHER-RESISTIVE BARRIER

- Product Data.
- Samples.

SECTION 07 31 13 - ASPHALT SHINGLES

- Product Data.
- Shop Drawings.
- Sample Warranty.

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SECTION 07 46 46 - FIBER-CEMENT SIDING

- Product Data.
- Shop Drawings.
- Sample Warranty.

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

- Product Data.
- Shop Drawings.
- Samples.
- Color Chart.

SECTION 07 92 00 - JOINT SEALANTS

- Product Data.
- Color Chart.

SECTION 09 91 00 - EXTERIOR PAINTING

- Product Data.
- Color Chart.

PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF SECTION 01 33 00

SECTION 01 35 16

ALTERATIONS PROJECT PROCEDURES

PART ONE - GENERAL

1.01 DESCRIPTION:

- A. Summary: The procedures and administrative requirements of this Section apply to all of the following Sections of the Specification which are involved in alterations to the existing building.
- B. Extent Notes: Cut into or partially remove portions of the existing building as necessary to make way for new construction. Include such work as:
 - 1. Cutting, moving, or removal of items shown to be cut, moved, or removed.
 - 2. Cutting, moving, or removal of items not shown to be cut, moved, or removed, but which must be cut, moved, or removed to allow new work to proceed. Work or items which are to remain in the finished work shall be patched or reinstalled after their cutting, moving, or removal, and their joints and finishes made to match adjacent or similar work.
 - 3. Removal of existing surface finishes as needed to install new work and finishes.
 - 4. Removal of abandoned items and removal of items serving no useful purpose, such as abandoned piping.
 - 5. Repair or removal of dangerous or unsanitary conditions resulting from alterations work.

1.02 SCHEDULING AND ACCESS:

- A. Work Sequence: Contractor shall submit detailed project plan with work sequence and phasing schedule.
- B. Security:
 - 1. Be solely responsible for job site security.
 - 2. Protect completed work and stored items from vandalism and theft.
 - 3. Contact Owner for access to all security areas.
- C. Maintenance of Access and Operations:
 - 1. During period of construction, Owner will continue to perform normal activities in existing building. Maintain proper and safe access to Owner-occupied areas at all times.
 - 2. Schedule demolition and remodeling operations with Owner in such a manner as to allow Owner operations to continue with minimum interruption.
 - 3. During period of construction, do not obstruct existing exit ways of Owner-occupied areas in any manner.
- D. Maintenance of Existing Services:
 - 1. Maintain environmental control in existing building, especially temperature, humidity, and dust control.
 - 2. Provide temporary lines and connections as required to maintain existing mechanical and electrical services in building.
 - 3. Equipment handling shall be limited to Owner-approved hours and may be limited to night time hours.

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4. Notify Owner a minimum of ninety-six hours prior to each required interruption of mechanical or electrical service in building. Such interruptions shall be only at such times and for lengths of time as approved by Owner. In no event shall interruption occur without prior approval of Owner.
- E. Temporary Barricades:
 1. Provide and erect barricades as necessary to protect ground personnel, employees, passersby, etc., from hazards resulting from the Work during construction operation.
 2. Prevent public access to construction activities, equipment, and storage areas.
- F. Building Access:
 1. Contractor will limit access to building interior except:
 - a. To install temporary enclosures, protections, and equipment.
 - b. During A/C modification and roof vent handling operations.
 - c. For project or medical emergency.
 2. Access to roof construction areas shall be by way of contractor-provided hoists or lifts for construction personnel.

1.03 ALTERATIONS, CUTTING AND PROTECTION:

- A. Extent:
 1. Perform cutting and removal of deck work so as not to cut or remove more than is necessary and so as not to damage adjacent work.
 2. Conduct work in such a manner as to minimize noise and to minimize accumulation and spread of dirt and dust.
 3. Perform cutting for ductwork and other rectangular openings with carborundum saw with approved dust arrestor.
- B. Securement of Openings: Protect all openings made in existing roofs, etc., with barricades to prevent accidents to Owner's and Contractor's personnel. If required by Owner, provide a workman at ground level inside the building at all times during the tear-off operations and when the roof deck or roofing is being installed. It will be the responsibility of this individual to alert personnel in the area of the work being performed overhead, to watch for falling debris, and to broom clean the area each day of any dirt that may result from the roof replacement operations.
- C. Responsibility and Assignment of Trades:
 1. Contractor shall assign the work of moving, removal, cutting, patching, and repair to trades under his supervision so as to cause the least damage to each type of work encountered, and so as to return the building as much as possible to the appearance of new work.
 2. Patching of finish materials shall be assigned to mechanics skilled in the work of the finish trade involved.
- D. Protection:
 1. Protect remaining finishes, equipment, and adjacent work from damage caused by cutting, moving, removal, and patching operations. Protect surfaces which will remain a part of the finished work.
 2. Cover existing walls and floors where necessary to prevent damage from construction operations.

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3. During demolition, cutting, and construction, provide positive dust control by wetting dusty debris and by completely sealing openings to Owner-occupied areas with temporary seals so as to prevent spread of dust and dirt to interior areas.
 4. After materials are installed, properly protect Work until final acceptance.
 5. Repair any damage resulting from construction operations without cost to Owner.
 6. Provide continuous security at openings cut into existing exterior walls and roofs during non-working hours. Prevent unauthorized entry into the existing facility through areas demolished or accessed as part of the Work.
- E. Special Protection:
1. Comply with welding and cutting precautions specified in Section 01500 - Temporary Facilities and Controls. In addition, provide Type I fire retardant enclosure around area of welding.
 2. Provide temporary weather protection over open roof penetrations until final flashing is completed.
 3. During equipment handling, provide a roof applicator at project with sufficient materials for temporary patching and sealing.
 4. Provide roof applicator at jobsite continuously during rainstorms which may occur while job is in progress to make temporary or emergency repairs.
- F. Debris:
1. Remove debris from the site daily. Removed material becomes property of the Contractor. Load removed material directly on trucks for removal from site. Dispose of removed material legally. Do not allow debris to enter sewers.
 2. Do not allow material accumulations to endanger structure.
 3. Cover and secure material accumulations as necessary to prevent the material from spreading over the rooftop or becoming airborne.
 4. Submit material storage and disposal plan for review prior to job start.

1.04 PATCHING, EXTENDING, AND MATCHING:

- A. Patch and extend existing work using skilled mechanics who are capable of matching the existing quality of workmanship. The quality of patched or extended work shall not be less than that which exists.
- B. In areas where any portion of an existing finished surface is damaged, lifted, stained, or otherwise made or found to be imperfect, patch or replace the imperfect portion of the surface with matching material.
- C. Provide adequate support or substrate for patching of finishes.
- D. Quality:
 1. In the Sections of the product and execution of Specifications which follow these General Requirements, no concerted attempt has been made to describe each of the various existing products that must be used to patch, match, extend, or replace existing work. Obtain all such products in time to complete the Work on schedule. Such products shall be provided in quality which is in no way inferior to the existing products.
 2. The quality of the products that exist in the building, as apparent during pre-bid site visits, shall serve as the Specification requirement for strength, appearance, and other characteristics.

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- E. Transitions:
1. Where new work abuts or finishes flush with existing work, make the transition as smooth and workmanlike as possible. Patched work shall match existing adjacent work in texture and appearance so as to make the patch or transition invisible to the eye at a distance of no closer than 3 feet (1m).
 2. Where masonry or other finished surface is cut in such a way that a smooth transition with new work is not possible, terminate the existing surface in a neat fashion along a straight line at a natural line of division and provide trim appropriate to the finished surface.
- F. Restore existing work that is damaged during construction to a condition equal to its condition at the time of the start of the Work, and to satisfaction of Owner.

1.05 REPAIR:

- A. Replace work damaged in the course of alterations, except at areas approved by Owner for repair.
- B. Where full removal of extensive amounts of almost-suitable work would be needed to replace damaged portions, then filling, straightening, and similar repair techniques, followed by finishing, will be permitted.
- C. If the repaired work is not brought up to the standard for new work, Owner will direct that it be cut out and replaced with new work.

PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF SECTION 01 35 16

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SECTION 01 40 00

QUALITY CONTROL

PART ONE - GENERAL

1.01 SECTION INCLUDES:

- A. General Quality Control.
- B. Manufacturers' Field Services.

1.02 QUALITY CONTROL, GENERAL:

- A. Maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce work of specified quality.
- B. Contractor shall be approved by manufacturer to perform the work for the specified guarantee period. Contractor shall have completed previous projects utilizing same materials and provide same warranty as specified herein.
- C. Examine each phase of Work and have defective conditions corrected before starting subsequent operations which would cover, or are dependent upon, work in question.
- D. Where visual examination is not sufficient use instruments with qualified operators to examine work.
- E. Utilize Owner's testing laboratory when services are necessary to assist Contractor in evaluating quality.

1.03 WORKMANSHIP:

- A. Comply with industry standards, except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. Utilize qualified personnel who have experience with the specified materials to produce workmanship of specified quality.
- C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, racking, and wind forces.
- D. Provide finishes to match accepted samples.

1.04 MANUFACTURER'S FIELD SERVICES:

- A. When specified in respective Specification Section, require manufacturer to provide qualified personnel to observe field conditions, conditions of surfaces and installation, quality of workmanship, and to make appropriate recommendations.
- B. Notify manufacturer's representative a minimum of two weeks prior to date of final inspection. Manufacturer's representative shall conduct an inspection of the completed roof before the final inspection, or shall attend the final inspection.

PART TWO - PRODUCTS

Not Used.

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PART THREE - EXECUTION

Not Used.

END OF SECTION 01 40 00

SECTION 01 43 39

MOCK-UPS

PART ONE - GENERAL

1.01 DESCRIPTION:

- A. Preparation of mock-ups representing proposed finished materials and/or systems/assemblies for review and approval.

1.02 QUALITY ASSURANCE:

- A. Contractor to prepare mock-ups utilizing materials proposed for the finished product and to simulate the desired appearance of the finished product.
- B. Construct mock-ups at locations on the building for review.
- C. Mock-ups shall be of appropriate size to depict finishes and connections.
- D. Materials, finishes, thickness, attachments, dimensions, and profiles shall be as specified herein and as shown within the project.
- E. Owner or Owner's Representative reserves the right to require any modifications deemed necessary. No requests for extra costs will be entertained unless an upgrade of the original design is involved.
- F. Mock-ups shall constitute standard of acceptance for remaining work.

1.03 SCHEDULE OF MOCK-UPS:

- A. Typical fiber cement siding and associated trim/accessories.
- B. Typical rafter tail repair.
- C. Typical sealant joint; two color options for each application.
- D. Sheet metal flashings; two color options.
- E. Gutters and downspouts.
- F. Typical painted finishes.

PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF SECTION 01 43 39

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART ONE - GENERAL

1.01 SANITARY FACILITIES:

- A. Provide adequate temporary chemical toilets at time Work is commenced.
- B. Maintain facilities in compliance with applicable health laws and regulations. Keep clean and unobtrusive.
- C. Upon completion of Work, remove these facilities and all traces thereof.

1.02 STORAGE OF MATERIALS:

- A. Provide suitable non-combustible, watertight coverings for storage of materials subject to damage by weather. Covering shall be of sufficient size to hold materials required on site at one time. Pallets shall be raised at least 6-inches (150mm) above ground, on heavy joists or sleepers.
- B. If temporary storage sheds are used, locate storage areas where directed, maintain in good condition, and remove storage sheds when so directed. Locate storage areas of combustible construction a minimum of 30 feet (10m) from existing building.
- C. Store materials on site unless otherwise approved by Owner.
- D. Cover and protect materials subject to damage by weather, including during transit.
- E. Do not use building as storage facility.
- F. Provide additional storage at no cost to Owner in the event that additional storage area is required beyond that provided at project site.
- G. Stored materials shall be available for inspection by Owner at all times.
- H. Store flammable and volatile liquids in sealed containers located a minimum of 20 feet from existing buildings.
- I. Transport flammable or volatile liquids in, and use from, U.L. listed safety cans.
- J. Deliver material and equipment in manufacturer's original packaging with all tags and labels intact and legible. Handle and store material and equipment in such a manner as to avoid damage. Liquid products shall be delivered sealed, in original containers.
- K. Proper storage of materials is the sole responsibility of Contractor. Protect all materials susceptible to moisture including, but not limited to, wood, and plywood in dry, above ground, watertight storage. Keep all labels intact and legible, clearly showing the product, manufacturer, and other pertinent information.
- L. Reject any materials becoming wet or damaged and remove from the jobsite immediately.
- M. Maintain products liable to degrade as a result of being frozen above 40 degrees Fahrenheit (4 degrees Celsius) in heated storage.
- N. Random samples of all materials susceptible to moisture will be taken at various stages of the installation to ensure no significant variations in moisture.

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1.03 TEMPORARY WATER:

- A. Make arrangements with Owner for water required for construction. Owner will pay for costs of water.
- B. Provide hoses for conveyance.

1.04 TEMPORARY ELECTRICAL ENERGY:

- A. Make arrangements with Owner for temporary electrical service for completion of the Work. Owner will pay energy charges for temporary power and lighting.
- B. Provide all necessary temporary wiring (in conduit if requested by Owner), extensions, and temporary lighting devices.

1.05 TEMPORARY LADDERS, SCAFFOLDS, HOISTS:

- A. Furnish and maintain temporary ramps, scaffolds, hoists, and other equipment as required for proper execution of Work.
- B. Such apparatus, equipment, and construction shall meet requirements of applicable federal, state, and local safety and labor laws.

1.06 GUARDRAILS, BARRICADES, AND TEMPORARY COVERINGS:

- A. Provide barricades as required to protect natural resources, site improvements, existing property, adjacent property, and passers-by.
- B. Where pedestrian traffic is through or adjacent to work areas, provide necessary guardrails and barricades to protect pedestrians and to prevent pedestrian access to Work areas.
- C. Remove guardrails and barricades at completion of construction.
- D. Provide suitable temporary watertight coverings over windows and other openings as required to protect building interiors from inclement weather.
- E. Provide suitable protection for stairs, sidewalks, and/or walls and floors in areas used for contractor to perform work.
- F. Provide protective fencing around storage areas.

1.07 PROTECTION:

- A. Maintain bench marks, monuments, and other reference points. If disturbed or destroyed, replace as directed.
- B. Protect existing adjacent streets, sidewalks, curbs, buildings, and property including trees, lawns, and plants.

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1.08 TEMPORARY FIRE PROTECTION:

- A. During construction, Contractor and his subcontractors and sub-subcontractors and their agents and employees shall comply with fire safety practices as outlined in NFPA Pamphlet 241 and local fire protection codes, and in addition shall:
1. Provide following stored pressure extinguishers during entire construction period:
 - a. One U.L. rating 4A-60B:C dry chemical fire extinguisher.
 - b. One U.L. rating 2A 2-1/2 gallon water fire extinguisher.
 - c. One U.L. rating 10B:C carbon dioxide fire extinguisher with horn and hose assembly.
 2. Contractor's superintendent or other assistant superintendents shall be appointed as project fire warden for entire construction period.
 3. Train workmen in proper use of each type fire extinguisher.
 4. Post telephone number of fire department, specific information regarding location of on-site fire fighting equipment, and procedures to be followed in event of fire.
 5. Maintain free access at all times to fire extinguisher equipment, street fire hydrants, and outside connections for standpipe hose systems.
 6. Maintain all exit facilities and access thereto, free of material and other obstructions.

1.09 EMPLOYEE CONTROL:

- A. Do not allow construction employees to enter Owner-occupied areas. Maintain construction traffic in designated access routes.

1.10 PARKING FACILITIES:

- A. Parking area for a designated number of construction personnel vehicles will be made available at the site by Owner.

1.11 CLEANING DURING CONSTRUCTION:

- A. Oversee cleaning and ensure that building and grounds are maintained free from accumulations of waste materials and rubbish.
- B. Sprinkle dusty debris with very fine water mist to control accumulation of dust. Do not use water in quantity so as to puddle.
- C. At not less than every day during progress of work, clean up work areas and access areas and dispose of waste materials, rubbish, and debris.
- D. At Contractor's option, on-site dump containers may be used for collection of waste materials, rubbish, and debris. Locate containers a minimum of 30 feet (10m) away from building entrances at a location acceptable to Owner. If used, remove containers when filled.
- E. Do not allow waste materials, rubbish, and debris to accumulate and become an unsightly or dangerous condition.
- F. Remove waste materials, rubbish, and debris from site and legally dispose of at public or private dumping areas off Owner's property.
- G. Keep streets and access to site free of rubbish and debris.

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1.13 PERMITS:

- A. Obtain and pay for all required local and state permits, licenses, and registrations. Work may be subject to ordinances, laws, codes, and regulations.
- B. Prior to bidding, notify Owner and Consultant of any violation, omission, or questions of compliance. Required corrections to Specifications will be made via Addenda prior to receipt of Bids.
- C. Be responsible for full compliance and bear cost of additional work not specified that may be required by authorities having jurisdiction.

1.14 REGULATORY REQUIREMENTS:

- A. International Building Code (IBC), latest edition; as amended by City of Humble.
- B. Occupation Safety and Health Administration (OSHA) requirements, as applicable.
- C. United States Environmental Protection Agency (EPA) requirements, as applicable.
- D. Adhere to all limitations, cautions, and regulatory standards referenced by the manufacturer of each material provided.

PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF SECTION 01 50 00

SECTION 01 60 00

MATERIAL AND EQUIPMENT

PART ONE - GENERAL

1.01 SECTION INCLUDES:

- A. Material and Equipment Incorporated Into Work:
 - 1. Conform to applicable specifications and standards.
 - 2. Comply with size, make, type, and quality specified, or as specifically approved in writing by Owner.
 - 3. Manufactured and Fabricated Products:
 - a. Design, fabricate and assemble in accordance with recognized industry standards.
 - b. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
 - c. Two or more items of same kind shall be identical, by same manufacturer.
 - d. Products suitable for service conditions.
 - e. Adhere to equipment capacities, sizes, and dimensions shown or specified unless variations are specifically approved in writing.
- B. Do not use material or equipment for purposes other than that for which it is designed or is specified.

1.02 REUSE OF EXISTING MATERIAL:

- A. Except as specifically indicated or specified, materials and equipment removed from existing structure shall not be used in completed Work.
- B. For material and equipment specifically indicated or specified to be reused in Work:
 - 1. Use special care in removal, handling, storage, and reinstallation to assure proper function in completed Work.
 - 2. Arrange for transportation, storage, and handling of products which require off-site storage, restoration, or renovation. Pay costs for such work.

1.03 MANUFACTURER'S INSTRUCTIONS:

- A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in installation, including two copies to Consultant.
 - 1. Maintain one set of complete instructions at jobsite during installation and until completion.
 - 2. Submit two copies to Consultant with appropriate Product Data submittal.
 - 3. Consultant will forward one copy to Owner.
- B. Handle, install, connect, clean, condition, and adjust products in strict accordance with such instructions and in conformity with specified requirements.
 - 1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with Consultant for further instructions.
 - 2. Do not proceed with work without clear instructions.

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- C. Perform Work in accordance with manufacturer's instructions. Do not omit preparatory steps or installation procedures unless specifically modified or exempted by Contract Documents.

1.04 TRANSPORTATION AND HANDLING:

- A. Arrange deliveries of products in accordance with construction schedules. Coordinate to avoid conflict with work and conditions at site.
1. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
 2. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.
- B. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

1.05 SUBSTITUTIONS AND PRODUCT OPTIONS:

- A. Contractor's Options:
1. For products specified only by reference standard, select any product meeting that standard, by any manufacturer.
 2. For products specified by naming several products or manufacturers, select any product and manufacturer named.
 3. Products specified by naming only one product and manufacturer are to establish a quality standard. For products other than the named product, submit request for substitution as specified below.
- B. Substitutions:
1. During Bidding, Owner/Consultant will consider written requests from Bidders and manufacturers for substitutions of products in place of those specified. Such requests must be received between initial solicitation and pricing submission. Requests received after that time will not be considered. Approval of proposed substitutions will be set forth in an Addendum or letter of approval. Requests for substitutions shall include data listed below.
 2. Submit two copies of request for each substitution, supported with complete data, drawings, and appropriate samples substantiating compliance of proposed substitution with Contract Documents, including:
 - a. Product description, performance and test data, and applicable reference standards.
 - b. Name and address of similar projects on which product was used and date of installation.
 - c. Itemized comparison of qualities of proposed substitution with that specified.
 - d. Changes required in other elements of Work because of substitution.
 - e. Affect on construction schedule.
 - f. Availability of maintenance service and source of replacement materials.

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- C. Contractor's Representation: Request for substitution constitutes a representation that Contractor:
1. Has investigated proposed product and determined that it is equal to or superior in all respects to that specified.
 2. Will provide same warranties for substitution as for product specified.
 3. Will coordinate installation of accepted substitution into Work and make such other changes as may be required for Work to be complete in all respects.
 4. Waives all claims for additional costs, under his responsibility, related to substitution which subsequently becomes apparent.
- D. Substitutions will be not be considered if:
1. They are indicated or implied on Shop Drawings or Product Data submittals without formal request submitted in accordance with this Section.
 2. They are submitted after time limit specified above.
 3. Acceptance will require substantial revision of Contract Documents.
- E. If substitution is not approved or accepted, Contractor shall furnish specified product.

PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF SECTION 01 60 00

SECTION 01 70 00

CONTRACT CLOSEOUT

PART ONE - GENERAL

1.01 GENERAL:

- A. Comply with requirements stated in Conditions of the Contract and in Specifications for administrative procedures in closing out the Work.

1.02 SUBSTANTIAL COMPLETION:

- A. Contractor: Shall notify Consultant that Project is substantially complete and schedule time for inspection.
- B. Consultant will make an inspection after notification.
- C. Should Consultant consider Work not complete:
 - 1. He will immediately notify Contractor, in writing, stating reasons.
 - 2. Contractor shall complete Work and send second written notice to Consultant certifying Project is substantially complete.
 - 3. Consultant will reinspect Work.

1.03 FINAL INSPECTION:

- A. Contractor shall submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Project has been inspected for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents.
 - 4. Equipment and systems have been tested in presence of Owner's Representative and are operational.
 - 5. Project is complete and ready for final inspection.
- B. Consultant will make final inspection after notification from Contractor.
- C. Should Consultant consider Work complete in accordance with requirements of Contract Documents, he will request Contractor to make Project Closeout submittals.
- D. Should Consultant consider Work not complete:
 - 1. He will notify Contractor in writing, issuing inspection list to Contractor with noted items requiring further consideration.
 - 2. Contractor shall take immediate steps to remedy the stated deficiencies and submit initialed inspection list to Consultant certifying Work is complete.
 - 3. Consultant will reinspect Work.

1.04 REINSPECTING COSTS:

- A. Should Consultant be required to perform subsequent inspections of the Work due to the failure of the Contractor to correct deficient work, Owner will compensate Consultant for additional services and deduct amount paid to Consultant from the final payment to Contractor.

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1.05 CLOSE-OUT SUBMITTALS:

- A. Evidence of compliance with requirements of governing authorities.
- B. Warranties and Bonds: Refer to requirements of this Section.
- C. Evidence of Payment and Release of Liens: Refer to requirements of General and Supplementary Conditions.

1.06 WARRANTY/GUARANTEE:

- A. Submit original and duplicate copies of both Contractor's Warranty and Manufacturer's Guarantee to Consultant for review. After review, Consultant will forward Warranty and Guarantee to Owner. Consultant shall approve final pay application (retainage) upon receipt of both Contractor's Warranty and Manufacturer's Guarantee.

1.07 EVIDENCE OF PAYMENTS AND RELEASE OF LIENS:

- A. Final Release and Waiver of Liens:
 - 1. Contractor's Waiver of Liens.
 - 2. Separate waivers of liens for subcontractors, suppliers, and others with lien rights against property of Owner, together with complete list of those parties.
- B. All submittals shall be notarized and sealed before delivery to Consultant.

1.08 FINAL ADJUSTMENT OF ACCOUNTS:

- A. Submit final statement of accounting to Consultant.
- B. Statement shall reflect all adjustments.
 - 1. Original Contract Sum.
 - 2. Additions and Deductions resulting from:
 - a. Previous Change Orders.
 - b. Deductions for uncorrected Work.
 - c. Deductions for Reinspection Payments.
 - 3. Total Contract Sum, as adjusted.
 - 4. Previous payments.
 - 5. Sum remaining due.
- C. Consultant will prepare final Change Order, reflecting approved adjustments to Contract Sum not previously made by Change Orders.

1.09 FINAL APPLICATION FOR PAYMENT:

- A. Submit final application in accordance with requirements of General Conditions.
- B. Owner's Representative shall review all data supplied for conformance with Contract Documents. When approved, Owner will accept the Work, release Contractor (except as to conditions of the Performance Bond, any legal rights of Owner, required guarantees, and correction of Faulty Work after final Payment), and make final payment to Contractor.
- C. Final payment will not be approved or released until receipt of proper close-out documents.

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PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF SECTION 01 70 00

SECTION 01 74 00

CLEANING

PART ONE - GENERAL

1.01 GENERAL:

- A. Maintain premises free from accumulations of waste, debris, and rubbish caused by construction operations.
- B. At completion of Work, remove waste materials, rubbish, tools, equipment, machinery, and surplus materials. Clean all sight-exposed surfaces. Leave project clean and ready for occupancy.

1.02 REQUIREMENTS OF REGULATORY AGENCIES:

- A. Codes and Standards: Applicable federal, state, and local codes and regulations relative to environmental safety regulations.
- B. Hazards Controls: Store volatile waste in covered metal containers and remove from premises daily. Prevent accumulation of wastes which create hazardous conditions.
- C. Pollution Control: Conduct clean-up and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1. Burning or burying of rubbish and waste materials on the project site is prohibited.
 - 2. Disposal of volatile fluid wastes (such as mineral spirits, oil, or paint thinner) in storm or sanitary sewer systems or into streams or waterways is prohibited.

PART TWO - PRODUCTS

2.01 CLEANING MATERIALS:

- A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
- B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART THREE - EXECUTION

3.01 DURING CONSTRUCTION:

- A. Keep work area and all occupied property in neat and orderly condition at all times. Oversee cleaning and ensure that building and grounds are maintained free from accumulations of waste materials and rubbish. Sprinkle dusty debris with very fine water mist to control accumulation of dust. Do not use water in quantity so as to puddle. Do not allow waste and other materials such as rubbish, debris, wrappers, etc., to accumulate and become unsightly or hazardous.

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- B. Promptly remove equipment and excess materials as they become no longer needed for the progress of the work. At not less than every day during progress of work, clean up work and access areas and dispose of waste materials, rubbish, and debris. Legally dispose of waste materials, rubbish, and debris at public or private dumping areas off Owner's property. At the completion of work, restore work area to its original condition. Lower waste materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights. Keep street and access to site free of rubbish and debris.
- C. Contractor shall be responsible for damage to or destruction of property of any sort resulting from the work or caused by defective work, or the use of unsatisfactory materials or workmanship.
- D. Contractor shall be responsible for the preservation of all private property, trees, fences, etc., along the adjacent street, right-of-way, etc., and shall use every precaution necessary to prevent damage or injury thereto. Use suitable precautions to prevent damage to pipes, conduits, and other structures.
- E. If damage to any structures, utilities, or other improvement occurs by reason of Contractor's operations even though special precautions have been employed, Contractor shall be entirely responsible for such damage and shall make all repairs as required to the satisfaction of Owner.
- F. Do not injure, destroy, or trim landscaping without authorization by Owner. Landscaping damage will be replaced by Contractor with new stock or with other stock satisfactory to Owner at the expense of Contractor.

3.02 FINAL CLEANING:

- A. Employ skilled workmen for final cleaning.
- B. Remove grease, mastics, adhesives, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior and exterior surfaces.
- C. Repair, patch, and touch-up marred surfaces to match adjacent finishes.
- D. Broom clean paved surfaces; rake clean other surfaces of grounds.
- E. Clean stairwell, freight elevator, and loading dock area.
- F. Prior to final completion or Owner occupancy, conduct an inspection of sight-exposed interior and exterior surfaces and all work areas to verify that entire Work area is clean.

END OF SECTION 01 74 00

SECTION 02 07 20

MINOR DEMOLITION AND RENOVATION WORK

PART ONE - GENERAL

1.01 SECTION INCLUDES:

- A. Miscellaneous and incidental demolition and renovation work performed in order to install complete weather-resistive systems and related to miscellaneous work as specified and to obtain specified manufacturer's warranty.

1.02 RELATED SECTIONS:

- A. 04 73 00 - Manufactured Stone Veneer.
- B. 06 10 00 - Rough Carpentry.
- C. 07 46 46 - Fiber Cement Siding.
- D. 07 62 00 - Sheet Metal Flashing and Trim.
- E. 07 92 00 - Joint Sealants.

1.03 REFERENCES:

- A. American Society for Testing and Materials (ASTM).
- B. Corps of Engineers (CRD).

1.04 PROJECT CONDITIONS:

- A. Environmental Requirements: Do not remove existing materials in inclement weather or when rain is predicted with 30 percent possibility.
- B. Emergency Equipment: Maintain on-site materials necessary to apply emergency temporary seal in event of sudden storms or inclement weather.
- C. Smoking is prohibited inside or outside of existing building, except at designated locations.

1.05 SEQUENCING AND SCHEDULING:

- A. Sequence minor demolition and renovation with sequence of new work to maintain facility in dry, watertight condition.
- B. Coordinate work so that not more existing items are removed in one day than can be replaced in same day.
- C. Coordinate work with Owner's operational requirements.
- D. Coordinate demolition work and removal work to maintain facility in dry, watertight condition.

1.06 WARRANTY:

- A. Provide Contractor's warranty covering defects in installed materials and workmanship for period of two years from date of final acceptance.

PART TWO - PRODUCTS

2.01 MATERIALS:

A. Fasteners:

1. Concrete Substrate: Fasteners for securing sheet metal items such as surface-mounted counterflashings, termination/compression bars, etc., to concrete substrate shall be a pre-assembled drive anchor with a coated steel or steel alloy drive screw, a lead/zinc alloy expansion anchor body (1/4-inch (6mm) diameter, 1-1/2-inch [38mm] length) and a stainless steel washer with integral rubber seal (1-1/8-inch diameter) such as "Zamac Hammer-Screw" as manufactured by Powers Fasteners, Inc., or "Coated Drive Pin Fastener" by Firestone Specialty Products.
 2. Steel Substrate: Fasteners for securing steel to steel substrate shall be self-tapping No. 14, 1-1/2-inch long stainless steel screw with stainless steel washer and bonded integral rubber seal.
- B. Rust Inhibitive Primer: 100 percent acrylic resin primer such as "Metalclad Interior-Exterior Acrylic Latex Flat Primer & Finish #41702", Devoe & Reynolds Co.

PART THREE - EXECUTION

3.01 EXAMINATION:

- A. Examine existing building to determine existing physical conditions that affect removal of existing materials and installation of new materials.
- B. Verify that required barricades and other protective measures are in place.

3.02 PREPARATION:

- A. Take measures to maintain watertight conditions during term of Contract.
- B. Protect adjacent surfaces.

3.03 MINOR DEMOLITION OPERATIONS:

- A. Execute demolition in careful and orderly manner with least possible disturbance or damage to adjoining surfaces and structure.
- B. Avoid excessive vibrations in demolition procedures that would be transmitted through existing structure and finish materials.
- C. Remove siding, trim, and related accessories of existing fiber cement siding. Remove damaged, deteriorated, and otherwise non-salvageable weather-resistive barrier and sheathing exposed after removal of siding.
- D. Remove trim, and related accessories of existing manufactured stone cladding. Remove damaged, deteriorated, and otherwise non-salvageable weather-resistive barrier and sheathing exposed after removal of siding.

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3.04 CLEANING:

- A. Materials, equipment, and debris resulting from demolition operations shall become property of Contractor. Remove and dispose of demolition debris in accordance with applicable city, state, and federal laws at authorized disposal site.
- B. Leave substrate clean and dry, ready to receive new materials.

END OF SECTION 02 07 20

SECTION 06 01 10

ROUGH CARPENTRY

PART ONE - GENERAL

1.01 SECTION INCLUDES:

- A. Installation of new roof deck and wall sheathing as required.
- B. Installation of new wood framing, trim, and other wood substrates.
- C. Repairing deteriorated/damaged wood rafter tails.

1.02 RELATED SECTIONS:

- A. 02 07 20 - Minor Demolition and Renovation Work
- B. 07 31 13 - Asphalt Shingles.
- C. 07 62 00 - Sheet Metal Flashing and Trim.

1.03 QUALITY ASSURANCE:

- A. Provide sufficient workmen and supervisors who shall be present at all times during execution of this portion of the work and who shall be thoroughly familiar with the type of construction involved and the materials and techniques specified.
- B. All work shall conform to pertinent standards.

1.04 DELIVERY, STORAGE, AND HANDLING:

- A. Store all materials up, off the ground and cover with a weatherproof covering anchored sufficiently so as to resist wind blow-off.
- B. Keep all materials clearly identified with all grade marks legible. Keep all damaged material clearly identified as damaged and store separately to prevent its inadvertent use.
- C. Do not allow installation of damaged or otherwise non-complying material.
- D. In the event of damage, immediately make all necessary repairs and replacements to the approval of Owner and at no additional cost to Owner.

PART TWO - PRODUCTS

2.01 MATERIALS:

- A. Wood Members, Nailers, and Blocking Lumber: Noncombustible Standard Grade Fir or No. 2 Southern Yellow Pine bearing UL label, Kiln-dried after treatment, complying with American Lumber Standards of manufacturer's association under whose rules lumber is produced, minimum size 2-inches (50mm) by 6-inches (150mm), nominal.
- B. Treatment for Wood Members: Pressure-preservative treated in accordance with AWPA C2, C9 standards, Above Ground Contact Alkaline Copper Quat Type C (ACQ-C) at 0.20 pcf.
- C. Plywood: Exterior Sheathing; Thickness: 3/4-inch, nominal or to match existing; Grade: CDX; Exterior grade

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D. Fasteners:

1. Wood Substrate:
 - a. Securement of metal flanged items such as flashing pans, metal edge/fascia, cleats, etc., shall be nails, No. 11 gauge, stainless steel wire with 3/8-inch (9mm) diameter head and ring shank fasteners for anchoring flanges of sheet metal fabrications shall be of sufficient length to achieve a minimum 1-inch embedment into solid wood substrate such as "R-103-A Stormguard Asphalt and Fiberglass Shingle Nail" by Maze Nails (800/435-5949).
 - b. Securement of wood to wood shall be nails, No. 11 gauge, stainless steel wire nail with ring shank and 9/32-inch (7mm) diameter head such as "Stormguard PTL Anchor-Down Nail" by Maze Nails (800/435-5949); 10d or length required to provide 1-inch (25mm) penetration minimum into substrate.
 - c. Securement of exposed items to wood substrate shall be No. 14 stainless steel screw with stainless steel washer and integral rubber seal; length required to provide 1-inch (25mm) penetration minimum into substrate.
 - d. Securement of roofing materials to wood substrate shall be a hardened stainless steel nail with a 1-inch (25mm) diameter round head and ring shank; length to provide 1-inch (25mm) penetration into substrate, as manufactured by Simplex Nail Co.
2. Plywood Clip: 20 gauge galvanized steel H-clip such as "PSCL Panel Sheathing Clip" by Simpson Strong-Tie Co., Inc. (800/999-5099).

PART THREE - EXECUTION

3.01 INSTALLATION:

A. Sheathing:

1. Replace damaged or deteriorated existing wood decking and/or wall sheathing as required.
2. Fasten sheathing to framing at 6-inches on center at sheathing edges and at sheathing field.

B. Nailers:

1. Replace damaged or deteriorated wood nailers as required.
2. Install additional fasteners to existing nailers as necessary.
3. Install nailers as required to install new roof system and achieve proper flashing heights.
4. Clean and prepare surfaces to receive wood nailers.
5. Install wood nailers continuously with 1/4-inch (6mm) gap between each section. Set level and true. Pre-drill nailers prior to attachment. Countersink fastener in base nailer so that washer and head of fastener or nut are recessed below top and flush with top of nailer.
6. Securely fasten to structure with appropriate fasteners to resist minimum 175 pounds per linear foot (780N per 300mm) force in any direction. Use of powder-actuated fasteners is prohibited. Place a fastener within 3-inches (75mm) of each end of each section of wood blocking.
7. Stagger joints in subsequent layers of nailers from joints in underlying layer of nailers a minimum of 12-inches (300mm).

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8. Install nailers so that ends and sides of adjoining nailers are aligned to form right angles (nominal) at corners.
9. Weave ends of subsequent layers of nailers at corners so that ends of layered nailers do not align.
10. Secure nailers to wood substrate using nails 24-inches (600mm) on-center, staggered. Install nails on an angle.
11. Secure nailers with self-tapping/self-drilling steel fastener or bolt to steel angle.
12. Reduce fastener spacing 50 percent at a distance of 10 feet (3m) from each corner.

3.02 CLEAN UP:

- A. Premises shall be kept in a neat and orderly condition.
- B. After installation of all rough carpentry, contractor shall remove all construction debris and equipment from job site.

END OF SECTION 06 01 10

SECTION 06 64 13

PLASTIC LATTICE PANELING

PART ONE - GENERAL

1.01 SECTION INCLUDES

- A. Installation of plastic lattice panels.

1.02 REFERENCES

- A. ASTM International (ASTM):
 1. ASTM D638 - Test Method for Tensile Properties of Plastics.
 2. ASTM D648 - Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.

1.03 SUBMITTALS

- A. Product Data: Manufacturer's technical literature for each product specified.
 1. Include substrate preparation instructions and recommendations.
 2. Include storage and handling requirements and recommendations.
 3. Include manufacturer's installation instructions.
- B. Samples for Initial Selection: For each product, sets of color chips representing manufacturer's full range of available colors.
- C. Samples for Verification: For each color, in manufacturer's standard size.

1.04 QUALITY ASSURANCE

- A. Qualification Data:
 1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this Section with minimum five years documented experience.
 2. Installer Qualifications: Manufacturer, or experienced Installer with a record of successful installations of similar type and size to that specified.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Transport, handle, store and protect panels so they are in undamaged condition when installed.
- B. Store in manufacturer's unopened packaging.
- C. Store off the ground in a dry, protected, covered and secure area.

1.06 WARRANTY

- A. Special Warranty: On manufacturer's standard form in which manufacturer agrees to replace components which fail in materials or workmanship within specified warranty period; Warranty Period: 20-years.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Basis of Design: Lattice by Barrette Outdoor Living; Middleburg Hts., Ohio 44130; (877) 265- 2220; www.barretteoutdoorliving.com.

2.02 PLASTIC LATTICE PANELS

- A. Use manufacturer's standard components.
- B. Panels: Barrette Outdoor Living: Lattice PLASTIC LATTICE PANELING
 - 1. Classic Diamond Lattice.
 - a. Nominal Size: 24-by-48-inch by 2-7/8-inch openings; Classic Diamond Lattice panels.
 - b. Color: White
- C. Moldings: Manufacturer's standard cap and divider molding in matching color and finish.

2.03 MATERIALS

- A. Polyvinyl Chloride Panels: Rigid PVC homopolymer compound modified for cold weather impact retention with high levels of Titanium Dioxide pigment for long-term ultraviolet light resistance.
 - 1. Tensile Modulus: ASTM D638, 425,000 psi.
 - 2. Heat Deflection Temperature: ASTM D648, 67° c.
 - 3. Tensile Strength: ASTM D638, 6,203 psi.
 - 4. Thermal Expansion: 3x10⁻⁵ in/in °F. B.
- B. Fasteners: Manufacturer's standard 1-1/2-inch stainless steel screws with color-matched heads.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Examine panel substrate with Installer present. Inspect for erection tolerances and other conditions that would adversely affect installation of panels.
- B. Proceed with panel installation once out-of-tolerance work and other deficient conditions are corrected.

3.2 PANEL INSTALLATION

- A. General: Install panels in accordance with manufacturer's written instructions.
- B. Panel Installation: Predrill oversize holes for fasteners. Hang panels with fasteners at least 24 inches on center along top. Do not overtighten fasteners. Leave at least 1/4-inch gap between panels to allow for expansion and contraction.
- C. Molding Installation: Fasten through both molding and panel along top. Fasten through molding only along sides and bottom.

3.3 CLEANING AND PROTECTION

- A. Clean finished surfaces according to manufacturer's written instructions and as required by product warranty.
- B. Replace damaged or discolored panels that cannot be restored by field repair.

END OF SECTION 06 64 13

SECTION 07 27 19

WEATHER RESISTIVE BARRIERS

PART ONE - GENERAL

1.01 SECTION INCLUDES:

- A. Furnishing and installing a complete weather resistive barrier including sheet air/water barrier and self-adhered flashings. To ensure total system compatibility, all products must be purchased from a single-source manufacturer.
- B. Related flashings and accessories

1.02 RELATED SECTIONS:

- A. 02 07 20 - Minor Demolition and Renovation Work
- B. 06 01 10 - Rough Carpentry
- C. 07 31 13 - Asphalt Shingles
- D. 07 46 46 - Fiber Cement Siding
- E. 07 62 00 - Sheet Metal Flashing and Trim
- F. 07 92 00 - Joint Sealants.

1.03 REFERENCES:

- A. American Society for Testing and Materials (ASTM).

1.04 SUBMITTALS:

- A. Provide submittals in accordance with Project requirements.
- B. Product Data:
 - 1. Manufacturer's literature including recommended instructions for installation and Material Safety Data Sheets (MSDS) for each material used in this Section.
 - 2. List of projects of similar nature by both manufacturer and applicator which have been installed during last five years.
 - 3. Submit sample warranty, clearly indicating compliance with warranty requirements for this Project.
- C. Shop Drawings:
 - 1. Clearly indicate details at penetrations, terminations, and connections to adjacent materials.
 - 2. Shop drawing shall be signed by authorized representative of waterproofing membrane manufacturer stating that submittal details meet manufacturer's warranty requirements for this specific Project.
- D. Samples:
 - 1. Submit film samples of cured membrane.
 - 2. Submit samples of drainage course material.

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E. Certificates:

1. Submit manufacturer's certification stating materials ordered and supplied are compatible with each other, suited for locale and purpose intended and shipped in sufficient quantity to ensure proper timely installation.
2. Submit manufacturer's project registration form indicating that manufacturer has reviewed project and will issue a warranty upon successful completion of the installation.
3. Submit manufacturer's approval of installer.
4. Submit installer's experience record.
5. Certify materials shipped to project site meet membrane manufacturer's published performance standards and requirements of this Specification.
6. Certification showing full time quality control of production facilities and that each batch of material is tested to ensure conformance with the manufacturer's published physical properties.

1.05 QUALITY ASSURANCE:

- A. If manufacturer's details vary from the details indicated on the Contract Documents, follow manufacturer's details where necessary to comply with warranty requirements. Provide changes in details at no additional cost to Owner.
- B. Manufacturer's Qualification:
1. Obtain primary weather resistive barrier materials from single manufacturer. Manufacturer's name shall appear on all containers.
 2. Membrane manufacturer shall have available, an in-house technical staff to assist Contractor, when necessary, in application of the products and final inspection of the assembly.
- C. Applicator Qualifications:
1. Foreman of field crew shall have minimum of five years' experience with specified system on equivalent type of projects.
 2. Foreman shall be required to be on-site during the entire time of weather resistive barrier installation.

1.06 DELIVERY, STORAGE, AND HANDLING:

- A. Deliver materials in original unopened containers of packaging clearly labeled with manufacturer's name, brand name, instruction for use, type of material, batch numbers, date of manufacture, shelf life, and all identifying numbers.
- B. Store materials in a neat, safe manner, not to exceed the allowable structural capacity of the storage area.
- C. Store materials in a clean, dry area protected from water and direct sunlight.
- D. Store materials at temperatures between 40 degrees and 110 degrees Fahrenheit.

1.07 PROJECT CONDITIONS:

- A. Install membrane materials under conditions where the following criteria can be met:
1. Do not commence or proceed with application of the membrane during inclement weather. Ensure surfaces to receive membrane are free of water, dew, frost, snow, and ice.

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2. Substrate surface and ambient temperatures range between 50 degrees Fahrenheit and 110 degrees Fahrenheit.
- B. Do not work or walk on exposed waterproofing membrane. Install temporary or permanent protection course as necessary to protect weather resistive barrier during subsequent work operations.
- C. Adhesives may contain petroleum distillates and are extremely flammable. Do not breathe vapors or use near an open fire. Do not use in confined areas without adequate ventilation. Consult container or packaging labels and Material Safety Data Sheets (MSDS) for specific safety information.
- D. Do not allow waste products (petroleum, grease, oil, solvents, vegetable or mineral oil, animal fat, etc.) to come in contact with the weather resistive barrier. Any exposure to foreign materials or chemical discharges must be removed and replaced.

1.08 WARRANTY:

- A. Upon completion of the work, supply Owner with a single-source warranty of U.S. origin direct from the Manufacturer.
- B. Warranties:
 1. Material Warranty: Ten years.
 2. Watertightness Warranty: Includes labor and material; five years.
- C. Commence repairs within fifteen days of notification.

PART TWO - PRODUCTS

2.01 MATERIALS:

- A. Weather Resistive Barrier:
 1. Basis of Design: spunbonded polyolefin, non-woven, non-perforated, weather resistive barrier is based upon DuPont "Tyvek CommercialWrap D" and related assembly component or approved alternate.
 - a. Accessories:
 - 1) Seam Tape: 3-inch DuPont "Tyvek Tape": For sealing laps of weather resistive barrier.
 - 2) Fasteners: DuPont "Tyvek Wrap Cap Screws": 1-5/8 inch rust resistant screw with 2-inch diameter plastic cap fasteners.
 - 3) Flexible Flashing: DuPont "FlexWrap": Flexible membrane flashing materials for penetrations; DuPont "StraightFlash": Flexible membrane flashing membrane materials for stripping in with sheet metal flashing and sealing penetrations.
 - 4) Sealant: DuPont "Commercial Sealant": Elastomeric sealant for sealing edges and penetrations of DuPont materials.
 - B. Sealant: See specification section 07 92 00.
 - C. Sheet Metal Flashing: See specification section 07 62 00.
 - D. Termination Bar: Stainless steel, Type 302/304, 11 gauge (1/8-inch [3mm]) minimum, 1-inch (25mm) wide with pre-drilled fastener holes at 6-inches (150mm) on-center.

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PART THREE - EXECUTION

3.01 EXAMINATION:

- A. Metal surfaces shall be dry, clean, free of grease, oil, dirt, rust, corrosion, other coatings, and contaminants which could affect bond of waterproofing membrane, and without sharp edges or offsets at joints.
- B. Wood surfaces shall be dry, clean, free of dirt or other contaminants and voids which could affect bond of waterproofing membrane.

3.02 PREPARATION:

- A. All surfaces must be clean, dry, sound, smooth, free of depressions, honeycombs, voids, protrusions, spalled, or delaminated areas, and laitance.
- B. Thoroughly clean surfaces to receive membrane in accordance with manufacturer's recommendations.
 - 1. Repair or clean substrate surfaces as necessary to remove laitance, dust, dirt, loose material on surface, old weather barrier materials, sealants, and other contaminants which will affect bond of weather resistive barrier.
- C. Apply primer as recommended by manufacturer for horizontal and vertical surfaces.
- D. Metal Surfaces: Remove contaminants which may adversely affect adhesion or performance of coating system and apply metal primer.
- E. Protect adjacent surfaces using drop cloths or masking as required.
- F. Provide protection as necessary to prevent water infiltration to building interior before and during weather resistive barrier operations.

3.03 APPLICATION:

- A. Weather Resistive Barrier:
 - 1. Install weather resistive barrier over exterior face of exterior wall substrate in accordance with manufacturer recommendations.
 - 2. Start weather resistive barrier installation at a building corner, leaving 12-inches of weather barrier extended beyond corner to overlap.
 - 3. Install weather resistive barrier in a horizontal manner starting at the lower portion of the wall surface with subsequent layers installed in a shingling manner to overlap lower layers. Maintain air barrier plumb and level
 - 4. Overlap weather resistive barrier: Exterior corners minimum 12 inches; Seams minimum 12-inches.
 - 5. Weather Resistive Barrier Attachment: Attach weather resistive barrier to studs through exterior sheathing. Secure using weather barrier manufacturer recommend fasteners, space 6 -18 inches vertically on center along stud line, minimum 24-inches on center.
- B. Self-adhered Membranes and Tape:
 - 1. Apply 4 inch by 7 inch piece of self-adhered membrane or weather resistive barrier manufacturer approved alternate to weather resistive barrier prior to the installation cladding anchors.
 - 2. Seaming: Seal seams of weather resistive barrier with seam tape at all vertical and horizontal overlapping seams. Seal any tears or cuts as recommended by weather resistive barrier manufacturer.

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3. Thru-wall Flashing: Apply primer per manufacturer's written instructions. Starting at a corner, remove release sheet and apply membrane to primed surfaces in lengths of 8 to 10 feet. Roll flashing into place. Ensure continuous and direct contact with substrate. Lap ends and overlap preformed corners 4 inches minimum. Seal all laps with sealant. Apply sealant bead at each termination. Overlap thru-wall flashing with weather resistive barrier by 6-inches.

3.04 FIELD QUALITY CONTROL:

- A. Visually inspect surfaces for voids or ruptures and make necessary repairs.
- B. Visually inspect for fastening pattern and self-adhered membrane adhesion.
- C. Notify manufacturer's designated representative to obtain periodic observations of weather resistive barrier assembly installation.

3.05 JOB COMPLETION:

- A. Contractor and a representative of the membrane manufacturer shall inspect the weather resistive barrier assembly and notify the Contractor and Consultant/Engineer of any defects. Correct all defects.
- B. Clean up all debris and equipment.

3.06 CLEANING:

- A. Clean stains from adjacent surfaces with toluene or other cleaning fluid recommended by weather resistive barrier manufacturer.

END OF SECTION 07 27 19

SECTION 07 31 13

ASPHALT SHINGLES

PART ONE - GENERAL

1.01 SECTION INCLUDES:

- A. Asphalt roofing shingles and underlayment.
- B. Roof ventilation.

1.02 RELATED SECTIONS:

- A. 02 07 20 - Minor Demolition and Renovation Work
- B. 06 01 10 - Rough Carpentry
- C. 07 62 00 - Sheet Metal Flashing and Trim
- D. 07 92 00 - Joint Sealants.

1.03 REFERENCES:

- A. ASTM D 3018 - Standard Specification for Class A Asphalt Shingles Surfaced with Mineral Granules.
- B. ASTM D 3161 - Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method).
- C. ASTM D 3462 - Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules.
- D. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- E. UL 790 - Tests for Fire Resistance of Roof Covering Materials.
- F. UL 997 - Wind Resistance of Prepared Roof Covering Materials.
- G. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.
- H. Asphalt Roofing Manufacturers Association (ARMA).
- I. National Roofing Contractors Association (NRCA).

1.04 DEFINITIONS:

- A. Roofing Terminology: Refer to ASTM D1079 and the glossary of the National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual for definitions of roofing terms related to this section.

1.05 SUBMITTALS:

- A. Submit under provisions of Section 01 33 00.
- B. Product Data: Manufacturer's data sheets on each product to be used, showing compliance with requirements.
- C. Selection Samples: Two complete sets of color cards representing manufacturer's full range of available colors and patterns.
- D. Manufacturer's installation instructions, showing required preparation and installation procedures.

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1.06 QUALITY ASSURANCE:

- A. Manufacturer Qualifications: Company specializing in manufacturing the roofing system products specified in this section, with minimum of 25 years experience.
- B. Installer Minimum Qualifications:
 - 1. Approved by manufacturer of accepted roofing system.
 - 2. Minimum of five years previous successful experience in installations of similar systems.
 - 3. Supervisor be present on job site at all times when work is being performed.

1.07 REGULATORY REQUIREMENTS:

- A. Provide a roofing system achieving an Underwriters Laboratories (UL) Class A fire classification.
- B. Install all roofing products in accordance with all federal, state and local building codes.
- C. All work shall be performed in a manner consistent with current OSHA guidelines.

1.08 DELIVERY, STORAGE, AND HANDLING:

- A. Store products in manufacturer's unopened labeled packaging until ready for installation.
- B. Store products in a covered, ventilated area, at temperature not more than 110 degrees F (43 degrees C); do not store near steam pipes, radiators, or in sunlight.
- C. Store bundles on flat surface to maximum height recommended by manufacturer; store rolls on end.
- D. Store and dispose of solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.09 WEATHER CONDITIONS:

- A. Proceed with work only when existing and forecasted weather conditions will permit work to be performed in accordance with manufacturer's recommendations.

1.10 WARRANTY:

- A. Contractor shall submit to Owner prior to final payment, two copies of the following warranties:
 - 1. Roofing Material Manufacturer's Warranty: Project shall be installed in such a manner that the roof system manufacturer will furnish a written full-system (including, but not limited to, underlayment, fasteners, adhesives, flashing sheets, etc.), non-prorated material warranty agreeing to replace/repair defective materials, including leakage of water, abnormal aging or deterioration of materials, and other failures of the materials to perform for a warranty period of thirty years after date of written final acceptance by Owner based on wind speeds of 130 mph.

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2. Contractor's Warranty: In addition, Contractor shall furnish a written warranty agreeing to repair/replace defective installation and workmanship causing leakage of water, deterioration of materials, and other failures of the installed system, sealants, painting coatings and related work on this project, to perform for a warranty period of two-years after date of written final acceptance by Owner.

PART 2 - PRODUCTS

2.01 MANUFACTURERS:

- A. Acceptable Manufacturer:
 1. GAF Roofing Products (basis of design).
 2. Tamko
 3. Certaineed
 4. Owens Corning

2.02 SHINGLES:

- A. Heavyweight impact resistant granule surfaced, self-sealing laminated asphalt shingle with a strong fiberglass reinforced Micro Weave core and StainGuard protection, which prevents pronounced discoloration from blue-green algae through formulation/unique blends of granules. UL 790 Class A rated with UL 997 Wind Resistance Label; ASTM D 7158, Class H; ASTM D 3161, Type 1; ASTM D 3018, Type 1; ASTM D 3462; Passes UL 2218, Class 4 Impact Test; Texas Dept of Insurance Approved; ICC Report Approval. "Timberline AS II" Shingles by GAF.

2.03 STARTER STRIP:

- A. Self-sealing starter shingle designed for all roof shingles. Each bundle covers approx. 120 lineal feet (36.58m). "ProStart Starter Strip" by GAF.

2.04 ACCESSORY PRODUCTS:

- A. Fasteners: Standard round wire shingle type, stainless steel; or hot-dipped galvanized 10 to 12 gauge (3.416 mm to 2.657 mm for steel), ring shank, with 3/8-inch (9.5 mm) to 7/16 inch (11 mm) in diameter; length sufficient to penetrate at least 3/4 inch (19 mm) into solid wood or just through plywood for securing shingles and metal flashings.
- B. Roofing Cement: General purpose asphalt roofing cement meeting the requirements of ASTM D 4586 Type I or II.

2.05 UNDERLAYMENT:

- A. Self-adhering underlayment with granule/sanded non-slip surfacing such as "WeatherWatch" by GAF; "WeatherLock G" by Owens Corning, or approved equal.

PART 3 - EXECUTION

3.01 EXAMINATION:

- A. Do not begin installation until roof deck has been properly prepared.
- B. Examine existing building and existing roofing to determine existing physical conditions that affect removal of existing materials and installation of new materials
- C. If roof deck preparation is the responsibility of another installer, notify Contractor and Consultant/Engineer of unsatisfactory preparation before proceeding.

3.02 MINOR DEMOLITION OPERATIONS:

- A. Execute demolition in careful and orderly manner with least possible disturbance or damage to adjoining surfaces and structure.
- B. Avoid excessive vibrations in demolition procedures that would be transmitted through existing structure and finish materials.
- C. Reference Section 02 07 20.

3.03 PREPARATION:

- A. Prepare substrates in accordance with roofing manufacturer's recommendations.
- B. Vents and Ducts: Secure and modify vents, ducts, and other work, which pass through roof as required to receive new roofing system.
- C. Plumbing Vents:
 - 1. Extend plumbing vents or modify as necessary to accommodate new roof installation.
 - 2. Provide pipe extensions and no-hub couplings where necessary to achieve minimum 8-inch (200mm) height above top of newly finished roof surface.
 - 3. Utilize same material type and size as existing for new extension.
- D. Ventilators: Raise ventilators as required for 8-inch (200mm) minimum flashing height.

3.04 INSTALLATION OF UNDERLAYMENT:

- A. Install drip edge over plywood deck; fasten flange to deck with appropriate fasteners spaced 8-inches (200mm) on-center, minimum.
- B. Begin installing underlayment along roof edge, parallel to eaves, lapping each course at least 2-inches (50mm) at edges and 4-inches (100mm) at ends. Install fasteners in side lap spaced 8-inches on-center.
- C. Lap underlayment 6-inches (150mm) over hips and ridges.
- D. Stagger end laps a minimum of 6-feet (2m).
- E. Continue underlayment up vertical surfaces a minimum of 4-inches (100mm).
- F. Secure field of the underlayment with sufficient nails to hold in place until shingle application.
- G. Position underlayment parallel and centered over valley. Lap adjacent sections a minimum of 6-inches. Extend field underlayment a minimum of 6-inches over valley underlayment.

3.05 INSTALLATION OF SHINGLES:

- A. Position starter strip with the factory-applied adhesive face up along the eaves. Overhang starter strip approximately 1/2-inch to 3/4-inch over eave.
- B. Fasten starter strips 1-1/2-inches to 3-inches above the butt edge of the shingle with fasteners spaced 6-inches on-center.
- C. Start the first course with a full shingle laid flush over the starter course and apply succeeding courses to achieve manufacturer's coverage and exposure. Offset succeeding courses of singles approximately 6-inches.
- D. On second course, trim 6-inches from rake edge of first shingle, then continue with whole shingles. On third course, trim 11-inches from rake edge of first shingle, then continue with whole shingles. On fourth course, trim 17-inches from rake edge of first shingle, then continue with whole shingles. Repeat the first through fourth course for remaining roof area.
- E. Place nails 6-inches above bottom of shingle. Do not nail into or above factory-applied adhesives. Place a minimum of six nails in each shingle. Position a nail approximately 1/2-inch from each side edge and position the remaining four nails equally spaced along the length of the double thickness (laminated) area. Install nails with hand-held tools; use of pneumatic guns/equipment is not allowed.
- F. Install ridge cap shingles over ridges and secure to substrate with appropriate nails spaced on each side of concealed end and install succeeding courses. Position laps away from prevailing wind direction.
- G. Construct closed-cut valleys at respective locations. Run starter strip across valley at least 12-inches and weave with opposite side starter strip and shingle. Extend end of shingle at least 12-inches beyond valley center line. Before nailing, firmly press shingles down at valley center to conform to valley shape. Nail, putting extra fastener in top corner of shingle. Cut overlying shingles so they are 2-inches away from valley center line. Clip shingle corners 45-inches to keep water flow in the valley center. Seal the valley shingles to each other using plastic roof cement.

3.06 PROTECTION:

- A. Stage work progress so that traffic is minimized over completed roofing.
- B. Protect installed products until completion of project.

END OF SECTION 07 31 13

SECTION 07 46 46

FIBER CEMENT SIDING

PART ONE - GENERAL

1.01 SECTION INCLUDES:

- A. Siding panels.
- B. Soffit panels.
- C. Fascia panels.
- D. Accessories and trim.

1.02 RELATED SECTIONS:

- A. 02 07 20 - Minor Demolition and Renovation Work
- B. 06 01 10 - Rough Carpentry.
- C. 07 27 19 - Weather Resistive Barriers.
- D. 07 92 00 - Joint Sealants.
- E. 09 91 00 - Painting.

1.03 REFERENCES:

- A. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants.
- B. ASTM C 1185 - Standard Test Methods for Sampling and Testing Non-Asbestos Fiber-Cement Flat Sheet, Roofing and Siding Shingles, and Clapboards.
- C. ASTM C 1186 - Standard Specification for Flat Non-Asbestos Fiber Cement Sheets.
- D. ASTM E 72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
- E. ASTM E 84 -- Standard Test Method for Surface Burning Characteristics of Building Materials.
- F. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.

1.04 SUBMITTALS:

- A. Make submittals under provisions of Section 01 33 00.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods, including nailing patterns.
 - 4. Applicable model code authority evaluation report.
- C. Maintenance and periodic inspection recommendations.
- D. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.05 QUALITY ASSURANCE:

- A. Installer Qualifications: Provide installer with not less than three years of experience with products similar to those specified.

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1.06 DELIVERY, STORAGE, AND HANDLING:

- A. Store products off the ground, on a flat surface, and under a roof or separate waterproof covering.

1.07 WARRANTY:

- A. Provide 30 year limited siding warranty.
- B. Finish – provide 15 year limited factory paint warranty.
- C. Register manufacturer's warranty, made out in Owner's name, with copy to Owner.

PART TWO - PRODUCTS

2.01 MANUFACTURER:

- A. CertainTeed Corporation, Siding Products Group (basis of design), Tel: (800) 233-8990; Web www.certainteed.com.
- B. James Hardie; Tel (888) 542-7343; Web www.JamesHardie.com.

2.02 PANELS:

- A. Fiber Cement Board Panels: Fiber Cement Board Panels consist of cement, recycled content and cellulose fiber formed under high pressure into boards with integral surface texture; complying with ASTM C 1186 Type A Grade II; machined edges; for nail attachment.
 - 1. Surface Burning Characteristics: Flame spread index of 0, smoke developed index of 5, maximum; when tested in accordance with ASTM E 84 (Class I/A).
 - 2. Flammability: Noncombustible, when tested in accordance with ASTM E 136.
 - 3. Flexural Strength: At least 1450 psi (10 MPa) when in equilibrium condition, and at least 1015 psi (7 MPa) when in wet condition, tested in accordance with ASTM C 1185.
 - 4. Coefficient of Thermal Expansion: Less than 1×10^{-5} /inch/inch/degree F (0.5×10^{-5} /degree C), when tested in accordance with ASTM E 228.
 - 5. Freeze Thaw Resistance: At least 80 percent flexural strength retained, when tested in accordance with ASTM C 1185.
 - 6. UV Resistance: No cracking, checking, or erosion, when tested for 2000 hours in accordance with ASTM G 26.
 - 7. Water Tightness: No water droplets on underside, when tested in accordance with ASTM C 1185.
- B. Horizontal Siding: CertainTeed WeatherBoards Lap Siding.
 - 1. Thickness: 5/16 inch (7.9 mm), plus or minus .04 inch (1 mm).
 - 2. Length: 12 feet (3657 mm), plus 0, minus 1/8 inch (3 mm).
 - 3. Width: 6-1/4 inches wide; 5-inch exposure, or to match existing..
 - 4. Style: Smooth lap siding.
 - 5. Sealant/Primer: "FiberTect" Sealant/Primer by CertainTeed.
 - 6. Factory Finish: Factory applied "ColorMax" Finishing System by CertainTeed with 100 percent acrylic solid color or Field Finish Paint: 100 percent acrylic latex as specified in Section 09 91 00 as follows:
 - a. Color to be determined.

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- C. Shingle: Hardie Shingle Half-Rounds.
 - 1. Thickness: 1/4 inch, plus or minus 1/32 inch.
 - 2. Style: Smooth texture, 48 inches wide x 15-1/4 inch height, or to match existing.
 - 3. Factory Finish: Factory applied ColorMax Finishing System by CertainTeed with 100 percent acrylic solid color or Field Finish Paint: 100 percent acrylic latex as specified in Section 09 91 00 as follows:
 - a. Color to be determined.
- D. Soffit: CertainTeed WeatherBoards Soffit.
 - 1. Thickness: 1/4 inch, plus or minus 1/32 inch.
 - 2. Style: Smooth texture, 12 inches wide x 12-ft length, or to match existing.
 - 3. Continuous ventilated smooth board with insect screen on interior.
 - 4. Sealant/Primer: FiberTect Sealant/Primer.
 - 5. Factory Finish: Factory applied ColorMax Finishing System by CertainTeed with 100 percent acrylic solid color or Field Finish Paint: 100 percent acrylic latex as specified in Section 09 91 00 as follows:
 - a. Color to be determined.

2.03 ACCESSORIES:

- A. Trim: CertainTeed WeatherBoards Trim
 - 1. Size: Thickness 7/16 inch; Width 3-1/2-inch to 7-1/4 inch or to match existing; Length: 12 feet plus or minus 1/8-inch.
 - 2. Sealant/Primer: FiberTect Sealant/Primer.
 - 3. Field Finish Paint: 100 percent acrylic latex as specified in Section 09 91 00 or Factory Finish: Factory applied ColorMax Finishing System by CertainTeed with 100 percent acrylic solid color as follows:
 - a. Color to be determined.
- B. Provide the following trim:
 - 1. Starter strip for lap siding.
 - 2. Outside/inside corners, butted to siding.
 - 3. Windows and doors.
 - 4. Fascia board.
- C. Sealant: Reference Section 07 92 00.
- D. Sheet Metal Flashing: Reference Section 07 62 00.
- E. Nails: Length as required to penetrate minimum 1-1/4 inch (32mm) into solid backing; stainless steel or hot-dipped galvanized
- F. Weather Resistive Barriers: Reference Section 07 27 19.
- G. Field Finish Paint: 100 percent acrylic latex as specified in Section 09 91 00.
- H. Touch-Up Kit: Provide CertainTeed Color Max touch-up kit for each color provided.

PART THREE - EXECUTION

3.01 EXAMINATION:

- A. Prior to commencing installation, verify governing dimensions of building and condition of substrate.
- B. If substrate preparation is the responsibility of another installer, notify Consultant/Engineer and Contractor of unsatisfactory preparation before proceeding.

3.02 PREPARATION:

- A. Examine, clean, and repair as necessary any substrate conditions that would be detrimental to proper installation.
- B. Do not begin installation until unacceptable conditions have been corrected.

3.03 INSTALLATION:

- A. Install in accordance with manufacturer's instructions and Drawing details.
 - 1. Read warranty and comply with all terms necessary to maintain warranty coverage.
 - 2. Install in accordance with conditions stated in model code evaluation report applicable to location of project.
 - 3. Install trim at locations to match existing and as indicated on drawings.
 - 4. Touch up all field cut edges before installing.
 - 5. Pre-drill nail holes if necessary to prevent breakage.
- B. Over Wood Studs with Plywood Sheathing: Fasten siding through sheathing into studs.
- C. Allow space between both ends of siding panels that butt against trim for thermal movement; seal joint between panel and trim with sealant, Type "B", color to match siding finish.
- D. Joints in Horizontal Siding: Avoid joints in lap siding except at corners; stagger joints between successive courses.
- E. Install sheet metal flashing above roof and horizontal trim in field of siding.
- F. Install siding 4-inches above surface of roofs and other surfaces where water may collect.
- G. After installation, apply sealant in joints except lap joints of lap siding and between trim and siding. Apply sealant around penetrations through siding. Paint all exposed cut edges.
- H. Finish Painting: Specified in Section 09 91 00.
- I. Apply sealant over exposed fastener heads and paint.
- J. Finish Painting: Within 4 weeks after installation, paint siding and trim with one coat primer and two coats finish paint.

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3.04 CLEANING:

- A. At completion of work, remove debris caused by siding installation from project site.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 07 46 46

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART ONE - GENERAL

1.01 SECTION INCLUDES:

- A. Shop or field-formed sheet metal work for new roofing systems, through-wall flashings, and other related renovations.
- B. Types of work specified in this Section include:
 - 1. Counter flashings.
 - 2. Sill flashings.
 - 3. Head flashings.
 - 4. Step flashings.
 - 5. Transition flashing.
 - 6. Gutters and downspouts.
 - 7. Through-wall flashings.
 - 8. Miscellaneous sheet metal accessories.

1.02 RELATED SECTIONS:

- A. 04 01 40 - Masonry Restoration and Cleaning.
- B. 07 31 13 - Asphalt Shingles.
- C. 07 46 46 - Fiber Cement Siding.
- D. 07 92 00 - Joint Sealants.

1.03 REFERENCES:

- A. American Society for Testing and Materials (ASTM).
- B. Federal Specifications (FS).
- C. Sheet Metal and Air Conditioning Contractor's National Association, Inc. (SMACNA): Architectural Sheet Metal Manual, latest edition.

1.04 WARRANTY:

- A. Contractor's Warranty: Provide Owner a written warranty which shall warrant sheet metal work to be free of leaks and defects in materials and workmanship for two years after date of final acceptance by Owner.
- B. For pre-finished metal, provide manufacturer's twenty-year guarantee covering deterioration or failure of the fluoropolymer finish.

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PART TWO - PRODUCTS

2.01 MANUFACTURERS:

- A. Acceptable Pre-finished Sheet Metal Manufacturers:
 - 1. Berridge Manufacturing Company.
 - 2. Peterson Aluminum Corporation (PAC CLAD).
 - 3. McElroy Metals, Inc.
 - 4. Metal Building Components, Inc. (MBCI).
 - 5. Firestone Metal Co (Una-Clad).
 - 6. Or approved equal.

2.02 SHEET METAL MATERIAL:

- A. Pre-finished Metal: "Kynar 500" or "Hylar 5000" fluoropolymer pre-finished G90 galvanized/galvalume sheet metal, minimum 24 gauge. "Kynar 500" or "Hylar 5000" finish shall consist of a two coat Polyvinyladine flouride, minimum 70 percent by weight in coatings, dry film thickness 1 mil, factory applied by metal manufacturer or supplier. Color selected by Owner from manufacturer's standard color chart.
- B. Stainless Steel Sheet Metal: ASTM A 240, Type 304, ASTM A480, No. 2B/2D Mill Finish, gauge as scheduled.

2.03 FASTENERS:

- A. Fasteners shall be same metal as flashing and sheet metal being joined.
- B. Exposed fasteners shall be self-sealing or gasketed for watertight installation.
- C. Heads of fasteners, including but not limited to, rivets, screws, and bolts, that are exposed or visible shall have same manufactured finishes as item being secured; color to match when applicable.
- D. Fasteners:
 - 1. Wood Substrate:
 - a. Fasteners for securing steel to wood substrate shall be No. 10 stainless steel wood screw with stainless steel washer and integral rubber seal, length to achieve 1-inch embedment into wood.
 - b. Rivets: Stainless steel material for the head and stem, closed end, color to match sheet metal items being adjoined

2.04 RELATED MATERIALS:

- A. Solder:
 - 1. ASTM B 32, alloy grade 58, 50 percent tin, 50 percent lead.
 - 2. For Use with Stainless Steel: 60-40 tin/lead solder, ASTM B 32.
- B. Flux:
 - 1. Phosphoric acid type, manufacturer's standard.
 - 2. For Use with Steel or Copper: Rosin flux.
 - 3. For Use with Stainless Steel: Acid-chloride type flux, except use rosin flux over tinned surfaces.
- C. Adhesives: Type recommended by flashing sheet manufacturer for waterproof and weather resistant seaming and adhesive application of flashing sheet.

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- D. Metal Accessories: Sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of work, matching or compatible with material being installed, noncorrosive, size and gauge required for performance.
- E. High-Temperature Underlayment: High-temperature self-adhering sheet membrane such as Henry Company "Blueskin SA HT".
- F. Self-adhering Foil-faced Membrane: Foil-faced self-adhering sheet membrane such as Henry Company's "HE200AM Metal Clad".
- G. Sealant:
 - 1. Type A: Medium modulus silicone sealant for sealing metal-to-metal surface (i.e. metal edge, cover plates) such as "Sikasil WS-295" by Sika Corp., "795 Silicone Building Sealant" by Dow Corning, or "GE Silpruf 2000" by Momentive; color to match finish of metal.
 - 2. Type D: One-part gun grade polyether sealant such as "925 BES Sealant" by Henry.

2.05 FABRICATION - GENERAL:

- A. Fabricate work in accordance with SMACNA Architectural Sheet Metal Manual and other recognized industry practices and reviewed shop drawings.
- B. Comply with material manufacturer's instructions and recommendations for forming material.
- C. Fabricate for waterproof and weather resistant performance with expansion provisions for running work sufficient to permanently prevent leakage, damage, or deterioration of work. Form work to fit substrates.
- D. Make angle bends and folds for interlocking metal with full regard for expansion and contraction to avoid buckling or fullness in metal after installation.
- E. Form materials with straight lines, sharp angles, smooth curves, and true levels. Avoid tool marks, buckling, and oil canning.
- F. Fold back edges on concealed side of exposed edge to form hem.
- G. Lap joints 1-inch (25mm) minimum. Rivet and solder joints on parts that are to be permanently and rigidly assembled for stainless steel sheet metal. Install rivets, spaced 1-inch (25mm) on-center and apply solder to secure and seal exposed edge of sheet metal in a uniform continuous bead with smooth top finish. Clean residue upon completion of soldering process. Fabricate sheet metal assemblies so that adjoining sections are nested to achieve continuous metal-to-metal contact.
- H. Seams:
 - 1. Fabricate non-moving seams in sheet metal with flat-lock seams.
 - 2. Pre-finished Galvanized Steel: Seal pre-finished metal seams with rivets, spaced 1-inch (25mm) on-center, and silicone sealant, color to match metal finish.
 - 3. Stainless Steel: Tin edges to be seamed, form seams, and solder.
- I. Sealant Joints: Where movable, non-expansion type joints are indicated or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant in compliance with SMACNA standards.

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2.06 FABRICATED ITEMS:

- A. Counter Flashings: Minimum 24-gauge stainless steel sheet metal 2-piece receiver and counterflashing formed in maximum 10 foot (3m) lengths; fabricate surface mounted receiver with 30-degree hem at top to receive sealant and ½-inch hemmed drip edge at 30-degrees.
- B. Through-Wall Flashing: 24-gauge stainless steel sheet metal with 4-inch vertical flange; form 2-inches high full depth end dams with fully soldered joints; form receiver along front edge of pan flashing where applicable.
- C. Receivers and Counter Flashings: Minimum 24-gauge prefinished sheet metal formed in maximum 10 foot lengths; fabricate “S”-shaped receiver to engage counter flashing a minimum of 1-inch; fabricate counter flashing with broken fascia of length to extend over top edge of base flashing a minimum of 4-inches with 1/2-inch hemmed drip edge.
- D. Wind Clips: Minimum 24-gauge pre-finished sheet metal, 1-inch (25mm) wide, length to engage counter flashing a minimum of 1/2-inch.
- E. Cleats/Clips:
 - 1. Concealed Cleats/Clips: Continuous strips, 22-gauge sheet metal, same metal type and fascia profile as adjacent metal item, with 3/4-inch drip edge formed at a 30 degree angle with vertical wall.
 - 2. Exposed Cleats/Clips: 24-gauge prefinished sheet metal.
- F. Step Flashing: Minimum 24-gauge prefinished sheet metal formed in 8-inch (200 mm) lengths; fabricate right-angle sections with minimum 8-inch (200 mm) horizontal and vertical flange; sections of flashing to be minimum 12-inches long.
- G. Head Wall Flashing: Minimum 24-gauge prefinished sheet metal formed in 8-inch lengths; fabricate right-angle sections with minimum 8-inch horizontal and vertical flange; sections of flashing to be minimum 12-inches long.
- H. Gutter, Brackets, Spacers, and Downspouts: 24-gauge pre-finished sheet metal. Gutter dimension shall be 5-inches wide by 5-inches deep; ogee or K-style profile. Downspout shall be 4-inches by 4-inches with seam located on back of downspout. Bracket shall be 1-inch wide and 1/8-inch thick galvanized steel wrapped with 24 gauge prefinished metal cover. Downspout straps and gutter spacers shall be 1-inch wide double-hemmed prefinished sheet metal.
- I. Metal Drip Edge: 24-gauge pre-finished sheet metal with 4-inch horizontal flange, 3-inch, minimum, fascia dimension and 5/8-inch hemmed drip edge.
- J. Heat Exhaust/Gravity Vent: 24-gauge galvanized sheet metal base, 12-inch (300mm) height with 4-inch (100mm) flanges with rounded corners; base diameter sized to provide minimum 2-inch (50mm) clearance between pipe and base; and 24 gauge prefinished galvanized sheet metal bonnet.
- K. Sanitary/Plumbing Vent Pipe: 2-1/2 pound lead with 4-inch (100mm) wide flanges. Provide proper size to fold down inside of pipe a minimum of 1-inch (25mm).

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PART THREE - EXECUTION

3.01 EXAMINATION:

- A. Verify that substrates are smooth and clean to extent needed for sheet metal work.
- B. Verify that substrates to receive sheet metal are installed and free of concrete and soil.
- C. Do not start sheet metal work until conditions are satisfactory.

3.02 INSTALLATION:

- A. Install sheet metal with lines, arises, and angles sharp and true, and plane surfaces free from objectionable wave, warp, or buckle. Exposed edges of sheet metal shall be folded back to form 1/4-inch hem on concealed side from view. Finished work shall be free from water retention and leakage under all weather conditions. Install prefabricated corners or transitions at changes in direction, elevation or plane, and at intersections. Locate field joints not less than 12-inches, nor more than 3 feet from actual corner. Laps for all metals, except for prefinished metal, shall be 1-inch wide, fastened with rivets spaced 1-inch on-center and soldered.
- B. Anchor units of work securely in place to prevent damage or distortion from wind or buckling, but not less than 6-inches on center. Provide for thermal expansion of metal units; conceal fasteners where possible; and set units true to line and level as indicated. Install work with laps, joints, and seams permanently watertight and weatherproof.
- C. Install fabricated sheet metal items in accordance with SMACNA Architectural Sheet Metal Manual recommendations.
- D. Clean and prime surfaces to receive self-adhering membrane; roll entire surface of membrane with hand-held roller at time of application.
- E. Separations: Provide for separation of metal from non-compatible metal or corrosive substrates by coating concealed surfaces with self-adhering sheet, or other permanent separation at locations of contact as recommended by manufacturer or fabricator. Do not use materials incompatible with adjacent materials.
- F. Counter Flashings:
 - 1. Install new counter flashings under equipment housing flanges and existing or new receivers along rise or parapet walls to extend a minimum of 4-inches below top edge of base flashing.
 - 2. Secure counter flashing at 6-inches on-center with self-tapping screws.
 - 3. Saw-cut Reglet Mounted Assemblies: Saw cut new joint, 1/2-inch by 1-inch deep, in existing masonry/concrete where required and to install new receiver. Clean and prepare joint surfaces to receive sealant and insert receiver into joint. Secure new receiver in place with lead wedges spaced 12-inches on-center wedged into joint. Install backer rod into saw-cut reglet and apply a continuous bead of sealant, Type B, along reglet and top edge of receiver and tool sealant to provide outward sloping finished surface. Secure counter flashing to receiver utilizing self-tapping grommetted screws spaced 6-inches on-center.

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4. Surface-mounted Assemblies: Secure two-piece surface-mounted receiver and counter flashing assemblies along concrete substrates. Install sealant tape, Type C, between receiver and substrate. Secure receiver to substrate with termination bar and appropriate fasteners spaced 12-inches on-center. Install a continuous bead of sealant, Type B, along caulk trough/top edge of receiver and tool sealant to provide outward sloping finished surface. Secure counter flashing to receiver utilizing grommetted self-tapping screws spaced 6-inches on-center.
 5. Install new receivers extending behind wall finish and secure vertical flange of receiver 6-inches on-center to back-up wall or metal wall panels. Extend underlayment and/or dampproofing material over vertical flange of receiver, where applicable.
 6. Lap adjacent sections of receivers and counter flashings a minimum of 4-inches (100mm). Apply a continuous bead of sealant, Type B in lap.
 7. Trim existing counter flashings at curbs and walls that are to remain to receive new flashings. Secure new counter flashing to trimmed existing flashing utilizing self-tapping screws spaced 6-inches on-center.
 8. Install wind clips to termination bar spaced 24-inches on-center and engage drip edge of counter flashing a minimum of 1/2-inch.
 9. Fabricate the counter flashing to form an integral closure at terminations.
- G. Gutter/Downspout:
1. Install gutter spacer spaced 24-inches on-center attached to front and back of gutter.
 2. Lap joints in gutters 2-inches. Apply a continuous bead of sealant, Type B, between lap and install two rows of rivets spaced on 1-inch (25mm) centers, staggered. Lap joints in direction of flow of water within gutter.
 3. Install downspouts at designated locations or locations matching existing. Install downspouts within 50 linear feet of gutter length, within expansion joints, or within section of gutter installed along each roof edge length of less than 50 feet.
 4. Install new downspouts plumb and level, attached to columns or wall with straps located at top and bottom of downspout and 10 feet on-center, located at joints in downspouts. Install downspouts to conform to wall or substrate configuration.
 5. Extend downspouts into inlet or pipe. Install splash block under downspouts that discharge onto the ground or roof surface. Install sheet metal splash pans on protection pads beneath downspouts that discharge onto lower level roof.
 6. Apply bead of sealant over top of lap joints and end joints in gutter and downspout outlet tubes.
- H. Step Flashings and Head Wall Flashings:
1. Install sheet metal step flashings along side walls and sheet metal flashings at head walls on sloped roofs.
 2. Extend step flashing 6-inches horizontally on top of underlying asphalt shingle and 8-inches vertically up rise wall.
 3. Install sheet metal step flashing between each course of asphalt shingles.
 4. Lap adjacent sections of step flashings and head wall flashings a minimum of 4-inches with sealant sandwiched in lap.

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5. Lap air/water barrier over vertical leg of step flashings and head wall flashings, terminating 2-inches above bottom edge of forthcoming siding, taping edge with flexible membrane flashing and apply sealant, Type C, along edges.
 6. Install sheet metal water diverter/kick-out flashing at end of step flashings at terminations of shingle roofs.
- I. Metal Drip Edge:
1. Install metal drip edge along eaves and rake edges of subject roofs.
 2. Along the eaves, install adjacent sections of metal drip edge lapped 4-inches.
 3. Along rake edges, lap adjacent sections of metal edge in direction of slope a minimum of 4-inches (100mm).
 4. Sandwich a continuous bead of sealant, Type B, in lap joints.
 5. Secure horizontal flange of metal edge to wood substrate with appropriate fasteners spaced 3-inches (75mm) on-center, staggered.
- J. Through-wall flashing:
1. Remove and retain brick, siding, stucco, or other exterior wall finish in accordance with Section 02 07 20 - Minor Demolition and Renovation Work.
 2. Install new through-wall flashing and fasten to back-up substrate.
 3. Strip-in top of through-wall counterflashing with self-adhering membrane.
 4. Overlap adjacent sections of through-wall flashing a minimum of 4-inches, sandwich sealant in lap, pop rivet, and solder.
 5. Provide continuous through-wall flashing in stair-step configuration when installed in sloping fashion parallel to face of brick.
 6. Adhere flexible through-wall flashing membrane to sheet metal through-wall flashing and seal top edge with sealant.
 7. Install end dams, extend vertically upward a minimum of 1-inch at terminations and penetrations in through-wall flashing.
 8. Reinstall exterior wall finish.
 9. Install new counter flashings into through-wall flashing receiver; overlap 4-inches on base flashing, lap ends at 3-inches and secure with stainless steel self-tapping grommetted screws spaced at 6-inches on-center.
 10. Miter cut counter flashing to form continuous lapped fabrication at inside and outside corners.
- K. Heat Exhaust/Gravity Vent:
1. Secure flanges with appropriate fasteners spaced 6-inches on-center, staggered, and strip-in.
 2. At heat exhaust vents, install sheet metal bonnet secured to vent pipe with stainless steel draw band and apply sealant, Type B, along top edge of bonnet and tool sealant to provide outward sloping finished surface.
- L. Plumbing Vent Pipes:
1. Install self-adhering underlayment sealed to pipe and lapped onto underlayment.
 2. Install lead flashing interlaced with shingle coursing.
 3. Fold top edge of lead flashing inside of pipe.

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3.03 CLEANING:

- A. Remove flux and residual acid immediately by neutralizing with baking soda and washing with clean water. Leave work clean and free of stains, scrap, and debris.
- B. Clean exposed metal surfaces, removing substances which might cause corrosion of metal or deterioration/damage of finishes. Paint (color to match) areas of prefinished metal where finish is damaged. Replace sheet metal items when damaged finish can not be repaired to an acceptable condition.
- C. Prime soldered area of phosphatized metal after cleaning to prevent rusting.

END OF SECTION 07 62 00

SECTION 07 92 00

JOINT SEALANTS

PART ONE - GENERAL

1.01 SECTION INCLUDES:

- A. Sealant at glass-to-frame joints.
- B. Sealant at perimeters of louvers, doors, and windows.
- C. Sealant application at counter flashings.
- D. Joints in masonry control joints.
- E. Around penetrations through exterior finishes.
- F. Joints in sheet metal fascia.
- G. Joints between dissimilar materials.

1.02 RELATED SECTIONS:

- A. 04 73 00 - Manufactured Stone Veneer.
- B. 07 46 46 - Fiber Cement Siding.
- C. 07 62 00 - Sheet Metal Flashing and Trim.

1.03 REFERENCES:

- A. American Society for Testing and Materials (ASTM).
- B. Federal Specifications (FS).

1.04 SUBMITTALS:

- A. Product Data: Submit manufacturer's product data, joint preparation and installation instructions, and color charts for each product required.
- B. Submit manufacturer's certification that products meet specified requirements and are appropriate for project applications.
- C. Samples for Initial Selection Purposes: Submit manufacturer's standard bead samples consisting of strips of actual products showing full range of colors available for each product exposed to view.

1.05 QUALITY ASSURANCE:

- A. Product Labels: Include manufacturer's name, type of sealant, and color on labels of containers.
- B. Single Source Responsibility for Joint Sealer Materials:
 - 1. Obtain joint sealer materials from single manufacturer for each different product required.
 - 2. Provide primers, joint sealers, joint fillers, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by testing and field experience as supplied and warranted by one manufacturer.
 - 3. Provide joint sealers that have been produced and installed to establish and maintain watertight and airtight continuous seals.

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- C. Installer Qualifications: Installer having not less than five years successful experience in comparable projects and employing personnel skilled in operations required for project.
- D. Field Sample: Upon directions of Owner, prepare 12-inch (300mm) samples in presence of Owner demonstrating removal and cleaning process and application of sealant.
- E. Use test methods standard with manufacturer to determine if priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealers to joint substrates under environmental conditions that will exist during actual installation.
- F. Installer to perform field adhesion testing using hand pull method. Perform a minimum of one test on every type of substrate and joint condition.
 - 1. Test Method: Test joint sealers by hand pull method described below:
 - a. Install joint sealants in 4 feet joint lengths using same materials and methods for joint preparation and joint sealant installation required for complete work. Allow sealants to cure fully before testing.
 - b. Make knife cuts as follows: A horizontal cut from one side of joint to the other followed by two vertical cuts approximately 2-inches (50mm) long at side of joint and meeting horizontal cut at top of 2-inch (50mm) cuts. Place a mark 1-inch (25mm) from top of 2-inch (50mm) piece.
 - c. Use fingers to grasp 2-inch (50mm) piece of sealant just above 1-inch (25mm) mark; pull firmly down at a 90 degree angle or more while holding a ruler along side of sealant. Pull sealant out of joint to the distance recommended by sealant manufacturer for testing adhesive capability, but not less than that equaling specified maximum movement capability in extension; hold this position for ten seconds.
 - 2. Report whether or not sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate.
 - 3. Evaluation of Field Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of non-compliance with requirements, will be considered satisfactory. Do not use sealants which fail to adhere to joint substrate during testing.
 - 4. Repair test cut areas immediately after completion of testing work.
 - 5. Notify in advance and conduct adhesion testing in presence of Consultant.

1.06 DELIVERY, STORAGE, AND HANDLING:

- A. Deliver materials in original containers with seals unbroken and labels intact.
- B. Store materials in a single lockable area of project site.
- C. Protect materials from extreme temperatures and exposure. Store in accordance with manufacturer's recommendations.

1.07 PROJECT CONDITIONS:

- A. Environment: Comply with sealant manufacturer's recommended minimum and maximum installation temperatures and other weather protection.

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1.08 SEQUENCING AND SCHEDULING:

- A. Do not remove more sealant than can be replaced in same day.

1.09 WARRANTY:

- A. Manufacturer's Warranty: Provide manufacturer's standard warranty for type of sealant specified.
- B. Contractor's Warranty: Provide written warranty against leakage and defects in workmanship for a period of two years from date of final acceptance by Owner.

PART TWO - PRODUCTS

2.01 SEALANT:

- A. Sealant:
 - 1. Type A: Medium modulus silicone sealant such as "Sikasil WS-295" by Sika Corp., "795 Silicone Building Sealant" by Dow Corning, or "GE Silpruf 2000" by Momentive; color to match finish as approved by owner.
 - 2. Type B: One component polyurethane sealant such as "Sikaflex 1a" by Sika Corp. or "Sonolastic NP1" by BASF, color to match adjacent finish.
 - 3. Type C: One component polyether sealant for exterior finishes for color matching finish such as "Tite Bond Weather Master Sealant" by Franklin International.
 - 4. Type D: One-part gun grade polyether sealant such as "925 BES Sealant" by Henry.

2.02 RELATED MATERIALS:

- A. Cleaner: Noncorrosive, nonstaining type, compatible with joint forming materials as recommended by sealant manufacturer.
- B. Backer Rod:
 - 1. Closed cell non-gassing polyethylene foam rod, over-sized 30 to 50 percent for joint size, compatible with sealant, sized and shaped to provide proper compression upon insertion in accordance with manufacturer's recommendations.
 - 2. Acceptable Products:
 - a. "Sonolastic Soft Backer-Rod" by BASF.
 - b. "SofRod" by Namaco.
 - c. Or approved equal products.
- C. Bond Preventive Materials: Pressure sensitive adhesive polyethylene strip recommended by sealant manufacturer to suit application.
- D. Primer: Nonstaining type as recommended by sealant manufacturer to suit application.
- E. Masking Tape: Nonstaining, nonabsorbent type compatible with sealant and surfaces adjacent to joints.

2.03 MIXING:

- A. Mix multi-component products as directed by manufacturer.

PART THREE - EXECUTION

3.01 PREPARATION:

- A. Removing Existing Materials:
 - 1. Remove foreign matter from substrates that could interfere with adhesion of joint sealant.
 - 2. Grind precast concrete and concrete slab joints to bare concrete.
 - 3. Remove existing dust, oil, grease, waterproofing, water repellent, surface dirt, and paints, except for permanent protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer.
 - 4. Remove debris from jobsite.
 - 5. Solvent wipe all existing substrates with the "Two-Cloth" Cleaning Method.
- B. Joint Width:
 - 1. Enlarge joint in precast concrete panels and/or concrete slab, as necessary, to minimum 1/2-inch wide by 1-inch deep.
 - 2. At joints wider than 1-inch, install sealant Type "B" (pre-compressed expansion joint).
- C. Cleaning:
 - 1. Clean joints receiving sealant and adjacent surfaces in manner not to damage existing materials. Perform cleaning of joints the same day sealant is to be installed in cleaned joint.
 - 2. Remove dust and debris by blowing clean with high-pressure air.
 - 3. Wipe nonporous surfaces clean with solvent such as MEK, toluene, xylene, or isopropyl alcohol (IPA) and clean, lint free, and 100 percent cotton cloths.
 - 4. Wipe non-porous surfaces with a second clean, lint free, 100 percent cotton cloth before solvent evaporates.
- D. Cleaning Metal Substrates:
 - 1. All corrosion, scale, old sealant, and existing paint coatings must be removed to clean, bright metal.
 - 2. Solvent clean contact surfaces with clean cloth and solvent such as MEK, or as required by sealant manufacturer.
 - 3. Wipe clean with a second clean, lint free cloth before solvent evaporates.
 - 4. Prime substrate if required by the sealant manufacturer.
- E. Priming:
 - 1. Prime masonry and metal substrates and other substrate materials where recommended by sealant manufacturer (do not prime glass) based upon preconstruction sealant substrate tests or prior experience.
 - 2. Apply primer to comply with joint sealer manufacturer's recommendations. Apply primer to surfaces the same day sealant is to be installed onto primed surfaces.
 - 3. Confine primers to area of joint sealer bond. Do not allow spillage or migration onto adjoining surfaces.
- F. Masking: Mask areas adjacent to joints to prevent sealant contact with surfaces that would be permanently stained or damaged by sealant or by cleaning methods required to remove excess sealant.

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- G. Equipment:
1. Air compressors and abrasive grinding tools may be used at this project, but strict attention must be given to the inhalation protection, muffler, noise baffles, placement of equipment, and operating hours.
 2. Air compressors shall not spew contaminants or any oil from the compressor, which are mixed with the expelled air. Control dust and air-quality from grinding procedures as required to prevent intrusion into the building or discomfort to building occupants.
- H. These conditions must be coordinated and approved by the Consultant prior to commencement of any work.

3.02 APPLICATION:

- A. Joint Backing:
1. To achieve required joint depths, restrict depth of joints by use of joint backer rod.
 2. Size backer rod to allow for 30 percent minimum compression of the backer rod when installed.
 3. Where joint backing material is not feasible due to insufficient clearance or depth, install bond preventive material in joint.
 4. Three-sided adhesion of sealant is not permitted.
- B. Sealant:
1. Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates.
 2. Apply sealant in uniform continuous bead without gaps or air pockets, following manufacturer's instructions for each specific type of sealant.
 3. Provide uniform cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.
 4. Provide 1/4-inch minimum adhesion on all sealant joint and wet seal joint substrates; provide 1/4-inch minimum joint thickness.
 5. Provide minimum width-to-thickness ratio of 2:1.
- C. Tooling:
1. Tool joints to required configuration in accordance with manufacturer's recommendations.
 2. Tooling Non-sag Sealants:
 - a. Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration required.
 - b. Eliminate air pockets and ensure contact and adhesion of sealant with sides of joint.
 - c. Remove excess sealant from surfaces adjacent to joint.
 - d. Do not use tooling agents which discolor sealants or adjacent surfaces or are not approved by manufacturer.
- D. Remove masking immediately after tooling without disturbing joint sealant.

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E. Wet Sealing:

1. Tool or strike fillet-shaped joints to a sharp chisel profile with a light pressure to spread the material against each shoulder. Finished appearance should be smooth, straight, and even. Rough, unevenly tooled sealant finishes with non-linear edges will not be acceptable.
2. Mask and tool as noted above.
3. Extend sealant onto each glass and metal surface not less than ¼-inch and not more than ½-inch.
4. Complete tooling in one (1) continuous stroke within ten (10) minutes of sealant application and before a surface-skin forms. Do not use soaps, oils and/or alcohol as tooling aids. Such materials should not be allowed on work site.
5. Remove masking immediately after tooling without disturbing joint sealant.

3.03 ADJUSTING:

- A. If damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and reseal joints with new materials to produce joint sealer installations with repaired areas indistinguishable from original work.

3.04 CLEANING:

- A. Remove excess sealant from adjacent surfaces immediately after contact with xylene or toluene.
- B. Remove debris and containers from jobsite.

3.05 PROTECTION:

- A. Protect joint sealants during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion.

3.06 SCHEDULE:

- A. Sealant "A":
1. Window and door perimeters.
 2. Joints between dissimilar materials.
 3. Wall penetrations.
 4. Sheet metal joints.
- B. Sealant "B":
1. Exterior joints to receive paint.
- C. Sealant "B":
1. Exterior joints to match finishes.
- D. Sealant "D":
1. Edges and terminations of self-adhering membrane.

END OF SECTION 07 92 00

SECTION 09 91 00

EXTERIOR PAINTING

PART ONE - GENERAL

1.01 SECTION INCLUDES:

- A. Preparing and painting fiber cement siding, trim, and related accessories.
- B. Preparing and painting existing and/or new items and elements on exterior walls.

1.02 RELATED SECTIONS:

- A. 07 46 46 - Fiber Cement Siding.
- B. 07 92 00 - Joint Sealants

1.03 DESCRIPTION OF WORK:

- A. Painting existing steel door and frame and roof penetrations.
- B. Touch-up painting miscellaneous sheet metal items.
- C. "Paint" as used herein means all coating systems materials, including primers, emulsions, enamels, stains, sealers, fillers, and other applied materials whether used as prime, intermediate, or finish coats.
- D. Unless otherwise indicated, metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze, and similar finished materials will not require finish painting.

1.04 SUBMITTALS:

- A. Color Samples: Prior to beginning work, submit samples for Owners Representative review of color and texture only. Provide a listing of material and application for each coat of each finish sample. Sample to match existing paint color and texture.
 - 1. On 12-inch (300mm) section of siding, provide two samples of each color and material with texture to simulate actual conditions. Resubmit samples as requested by Engineer/Consultant until acceptable sheen, color, and texture is achieved.
 - 2. Final acceptance of colors will be from samples applied on the job.

1.05 QUALITY ASSURANCE:

- A. Product Labels: Include manufacturer's name, type of paint, stock number, color, and label analysis on label of containers.
- B. Provide primers and other undercoat paint produced by same manufacturer as finish coats. Use only thinners approved by paint manufacturer, and use only within recommended limits.
- C. Match existing color or as approved by Owner.
- D. Review with Owner's Representative, items shop primed by others to determine compatibility of total coatings system for various substrates. Upon request from other trades, furnish information or characteristics of finish materials provided for use to ensure compatible prime coats are used.

**HOUSTON HOUSING AUTHORITY
HISTORIC RENTAL INITIATIVE RESIDENCES
HOUSTON, TEXAS**

1.06 DELIVERY, STORAGE, AND HANDLING:

- A. Deliver materials in original containers with seals unbroken and labels intact.
- B. Store rags, paint, and solvents in closed metal containers located in designated area.
- C. Comply with applicable health and fire regulations.

1.07 WARRANTY:

- A. Provide Owner a written warranty which shall warrant all paint work to be free of defects in materials and workmanship for two years after date of final acceptance.

PART TWO - PRODUCTS

2.01 MANUFACTURERS:

- A. Except as otherwise specified, materials shall be products of the following manufacturers:
 - 1. ICI Paints (Devoe).
 - 2. Sherwin-Williams Company (SW).
- B. Materials selected for coating systems for each type surface shall be product of a single manufacturer unless otherwise specified.

2.02 MATERIALS:

- A. Select products from Material List below. Select primary products of a single manufacturer for each coating or paint system, unless otherwise specified.
- B. Match existing color as approved by Owner's Representative.
- C. Omit primer coat for primed or previously painted surfaces.
- D. Paint Material List
 - 1. Acrylic Latex: Two finish coats self-priming.
 - a) Primer and Finish Coats:
 - 1) SW - "SuperPaint Acrylic Latex".
 - 2) SW - "Duration Acrylic Latex".
 - 3) Or approved equal.

PART THREE - EXECUTION

3.01 PREPARATION OF SURFACES:

- A. Do not apply finishing materials to surfaces that are not physically tight and in first class condition. Remove all foreign matter, corrosion, rough spots, prime coat paint runs, etc., and clean surfaces of dirt, rust, grease, etc. Wire brush miscellaneous steel and iron surfaces and, if necessary, sand smooth metal surfaces to have an enameled finish.

**HOUSTON HOUSING AUTHORITY
HISTORIC RENTAL INITIATIVE RESIDENCES
HOUSTON, TEXAS**

- B. If surfaces are not in suitable condition for painting and finishing and cannot be put in such condition by customary preparatory methods, promptly notify Owner's Representative or assume responsibility for and rectify any resulting unsatisfactory finish.
- C. The proper preparation of surfaces to be finished will be strictly enforced. Remove defects and refinish wherever finished surfaces show defects due to improper preparation, workmanship, etc.

3.02 WORKMANSHIP:

- A. Perform work with skilled mechanics. Spread materials evenly, flowing on without runs, lap marks, or other defects. Color undercoats of paint to match final coat closely. Allow each coat to dry thoroughly before applying succeeding coat. Match approved samples of colors and finishes. If specified number of coats do not result in proper hiding and build up, an additional coat or coats will be required at no additional cost to Owner. There shall be no spray painting in the building unless approved in writing by Owner's Representative.
- B. Provide adequate illumination for painting and finishing. Do not perform painting or finishing in dusty areas or in spaces not heated to 60 degrees Fahrenheit (15.6 degrees Celsius). Perform work only when inclement weather conditions are conducive to product application and cure.
- C. Sand enameled and varnished surfaces lightly between coats. Carefully wipe off sanding dust before recoating. Use sandpaper of such fineness as will not leave scratches that succeeding coat of finishing material will not obliterate.
- D. Reduce paint and finishing materials, if necessary, for proper application with thinner of type and in quantities not in excess of paint and finishing materials properly stirred during application. If specified number of coats of paint or varnish do not result in proper hiding or build up due to excess thinning or improper application, an additional coat or coats will be required at no cost to Owner.

3.03 PROTECTION AND CLEANING:

- A. Protect work of other trades against injury or damage during and because of painting and finishing operations. Replace any material or surfaces damaged, or restore, if such is possible, to original condition.
- B. Furnish and lay drop cloths in areas where painting and finishing is being done. Protect floors and other surfaces from dripping materials. Where it becomes necessary to remove temporary coverings protecting material in place in order to proceed with work, replace or provide other satisfactory means of protection.
- C. Promptly clean off spots of paint, oil, and stains from walls, bricks, hardware, and other surfaces. Do not allow them to accumulate, dry, or harden. Upon completion of the work, check finished surfaces, clean off previously undetected spots and stains used in painting and finishing from the building, and leave entire building in clean condition insofar as painting and finishing work is concerned.

**HOUSTON HOUSING AUTHORITY
HISTORIC RENTAL INITIATIVE RESIDENCES
HOUSTON, TEXAS**

- D. Store paints, varnishes, oils, thinners, and other flammable materials outside building, if possible. When necessary to store inside, only store in covered containers in area designated by owner. Remove oily rags and waste from building at end of each day's work. Keep fire hazard to minimum.

END OF SECTION 09 91 00

REPLACEMENT AND REPAIRS/RENOVATIONS OF EXTERIOR WALLS AND ROOFS

FOR

HISTORIC RENTAL INITIATIVE RESIDENCES

1500 ANDREWS	1602 ANDREWS	1309 GILLETTE	1506 RUTHVEN
1501 ANDREWS	1603 ANDREWS	1310 GILLETTE	1508 RUTHVEN
1502 ANDREWS	1604 ANDREWS	1313 GILLETTE	1510 RUTHVEN
1503 ANDREWS	1606 ANDREWS	1315 GILLETTE	1512 RUTHVEN
1504 ANDREWS	1607 ANDREWS		1514 RUTHVEN
1505A ANDREWS	1608 ANDREWS		1602 RUTHVEN
1506 ANDREWS	1609 ANDREWS		1608 RUTHVEN
1507 ANDREWS	1613 ANDREWS		
1509 ANDREWS			
1517 ANDREWS			
1518 ANDREWS			

INDEX OF DRAWINGS

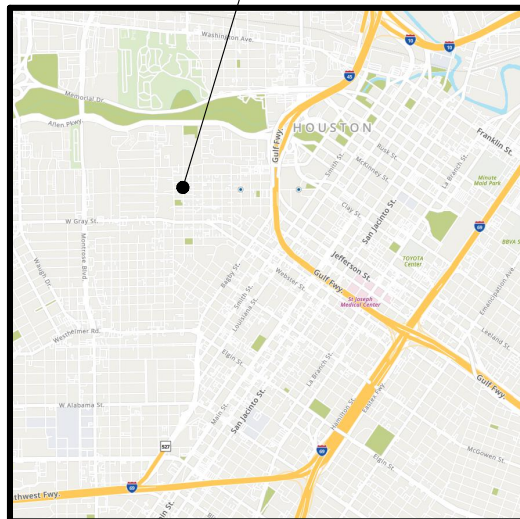
R1.00	COVER SHEET
R1.01	NOTES PAGE
R1.02	SITE LOCATIONS PLAN
R2.00	ROOF PLAN: 1500 ANDREWS
R2.01	ROOF PLAN: 1501 ANDREWS
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R5.00	DETAILS
R5.01	DETAILS
R5.02	DETAILS

PROJECT SITES



AERIAL SITE LOCATIONS PLAN

PROJECT LOCATION



PROJECT LOCATION MAP

PREPARED FOR



HOUSTON
HOUSING AUTHORITY

THE HOUSTON HOUSING AUTHORITY
2640 FOUNTAIN VIEW DR., #400
HOUSTON, TX 77057

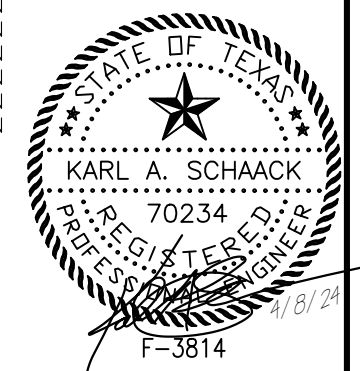
PREPARED BY




TX P.E. FIRM # F-3814
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7122 WORCESTER DR, SUITE A
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(281) 209-1724

Job Number	12141.23.01
Drawn by	ESG/RH
Checked by	KAS
Date	03/26/24
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Sheet Name	COVER SHEET
Sheet Number	R1.00



GENERAL NOTES:

- (A) THESE DRAWINGS AND DETAILS ACCOMPANY SPECIFICATIONS AND DOCUMENTS THAT COMPRISE A PROJECT MANUAL.
- (B) ALL DIMENSIONS, FENESTRATIONS AND PENETRATION SIZE, QUANTITY, & LOCATIONS PRESENTED IN THESE DRAWINGS SHALL BE FIELD VERIFIED.
- (C) DETAILS ARE DESIGNATED AT REPRESENTATIVE LOCATIONS, EACH LOCATION AND SIMILAR CONDITIONS ARE TO BE TREATED ACCORDINGLY.
- TYPICAL DETAIL DESIGNATION: 
- (D) UNLESS INDICATED BY THE TERM "EXISTING", ITEMS PRESENTED ON DRAWINGS ARE CONSIDERED TO BE NEW AND FURNISHED BY CONTRACTOR.
- (E) PRIOR TO PERFORMING WORK, CONTRACTOR SHALL INSPECT EXISTING CONDITIONS AND SUBSTRATE CONDITIONS. PROVIDE FOR THE SAFETY AND PROTECTION OF WORKERS AND OCCUPANTS THROUGHOUT THE COURSE OF WORK.
- (F) BUILDING ACCESS SHALL BE COORDINATED WITH THE OWNER AND SHALL BE ONLY AS REQUIRED TO ACCOMPLISH WORK.
- (G) FACILITIES MAY BE OCCUPIED DURING CONSTRUCTION. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE FACILITY, CONTENTS, OCCUPANTS AND GENERAL PUBLIC.
- (H) SCAFFOLDING, STAIR TOWERS, AND LADDERS SHALL ADHERE TO ALL SAFETY STANDARDS AND ANY MODIFICATIONS TO THE FACILITY FOR THOSE ITEMS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION.
- (I) SITE AND WORK AREAS SHALL BE CLEANED ON A DAILY BASIS AND MATERIALS/EQUIPMENT SECURED AT THE END OF EACH WORK DAY.
- (J) THE BUILDINGS SHALL REMAIN WATERTIGHT AT THE END OF EACH WORK DAY AND WHEN INCLEMENT WEATHER THREATENS.
- (K) PROTECT BUILDING EXTERIORS, WALKS/DRIVES, AND GROUNDS INCLUDING SURFACES, GRASS, PLANTS, TREES, SHRUBS AND OTHER LANDSCAPING, AND RETURN THE SITE AND ANY DAMAGED ITEMS TO ORIGINAL OR BETTER CONDITION. SURFACES STAINED, MARRED OR DAMAGED BY THE WORK SHALL BE RETURNED TO ORIGINAL OR BETTER CONDITION AND MATCH ADJACENT SURFACES.
- (L) APPLICATIONS/INSTALLATIONS WHICH MAY AFFECT ADJACENT FACILITIES, CARS, OR PEDESTRIANS MUST BE PLANNED AND COORDINATED TO ENSURE NO DAMAGE OCCURS.
- (M) DISCONNECT AND REMOVE MECHANICAL AND ELECTRICAL EQUIPMENT AS NECESSARY TO AFFECT WORK IN THE AREAS AND REINSTALL UPON COMPLETION OF WORK IN THE AREA TO MINIMIZE DOWN TIME. PROVIDE FOR EXTENSION AND MODIFICATION OF SERVICE UTILITIES, INTERIOR COMPONENTS, AND CONNECTIONS AS NECESSARY TO ACCOMMODATE NEW WORK.
- (N) ANY CABLES, WIRES, SATELLITES, ANTENNAS AND MECHANICAL, ELECTRICAL OR ELECTRONIC COMPONENTS SHALL BE TEMPORARILY DISCONNECTED AND RECONNECTED BY QUALIFIED CRAFTSMEN.
- (O) ANY LOCATIONS/CONDITIONS WHERE THE ABOVE REQUIREMENTS CANNOT BE MET SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OR OWNER.
- (P) UTILITY PIPING (I.E. CONDUITS, CONDENSATE, GAS, ETC.), BOXES AND PROTECTIVE STEEL CAGES/FRAMES ARE NOT DEPICTED FOR CLARITY PURPOSES.

SCOPE OF EXTERIOR WALL REPAIR:

- ① REMOVE AND REPLACE SIDING, WEATHER-RESISTIVE BARRIER, TRIM SHEET METAL FLASHINGS AND RELATED ACCESSORIES. TRIM SIDINGS TO MATCH SIZE, PROFILE AND FINISH AS EXISTING.
- ② REPLACE LOUVERS IN GABLES.
- ③ REPLACE TRIM AND SILLS AT WINDOW AND DOOR OPENINGS.
- ④ REPLACE DAMAGED, DETERIORATED, AND OR NON-SALVAGEABLE SHEATHING AND FRAMING.
- ⑤ REPLACE TRIM ON BALCONIES AND PORCHES.
- ⑥ PAINT SIDING, TRIM, FASCIA, SOFFIT, RAILINGS, COLUMNS, DOORS, EXPOSED RAFTERS, DECK AT EAVES, RELATED ACCESSORIES ON EXTERIOR SIDES OF RESIDENCES.
- ⑦ INSTALL SEALANT AROUND OPENINGS, PENETRATIONS, FRAMES AND AS REQUIRED BY SIDING MFG.
- ⑧ REPLACE DAMAGED SCREENS ON DOORS AND WINDOWS.
- ⑨ REPLACE DAMAGED/ DETERIORATED AND/OR MISSING SCREENS OF LATTICE AT FOUNDATION/CRAWL SPACES.

SCOPE OF ROOF REPLACEMENT:

- ⑩ REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- ⑪ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- ⑫ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- ⑬ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- ⑭ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.
- ⑮ INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
- ⑯ REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- ⑰ INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- ⑱ INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- ⑲ REMOVE ABANDONED SATELLITE DISH MOUNTS.





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 Checked by
 KAS
 Date
 03/26/24
 CD
 Revised

Sheet Name
SITE LOCATIONS PLAN
 Sheet Number

R1.02



1 SITE LOCATIONS PLAN
 SCALE: 1"=70'-0" (11"x17")

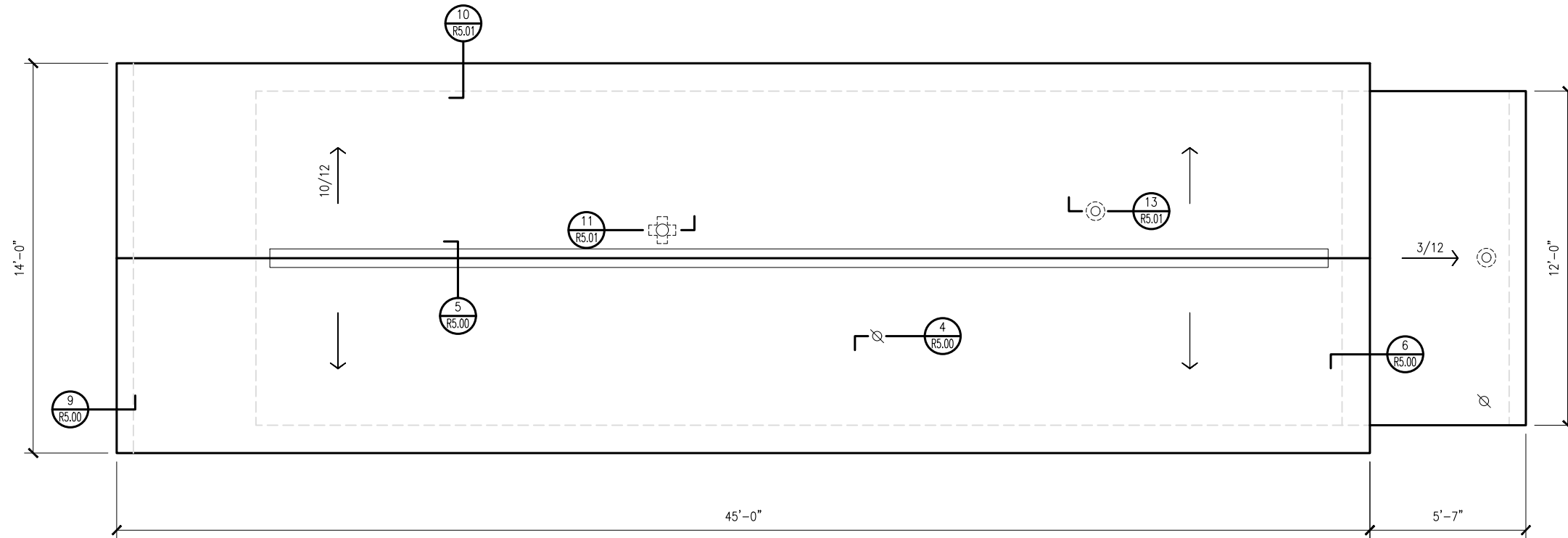


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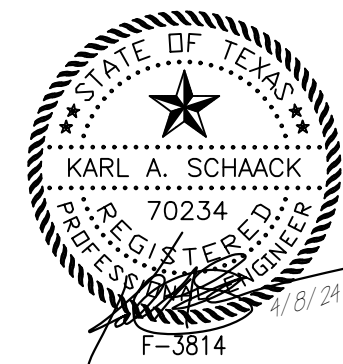
- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
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- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.

LEGEND			
	PLUMBING VENT		VALLEY
	HEAT EXHAUST		ROOF EDGE/ RIDGE/HIP
	GRAVITY VENT		DOWNSPOUT AND GUTTER
	GRAVITY VENT		PARAPET
	TURBINE VENT		THROUGH-WALL SCUPPER
	MOISTURE RELIEF VENT		12" WALL THICKNESS INDICATOR
	PITCH PAN		2'-6" WALL HEIGHT INDICATOR
	ROUND PENETRATION		SPLASHBLOCK
	GOOSENECK PENETRATION		ROOF HATCH
	SHINGLE ROOF		6/12 SLOPE DIRECTION/ PITCH
	ANTENNA AREA		
	A2 ROOF IDENTIFICATION		
	DETAIL		



1 ROOF PLAN: 1500 ANDREWS ST
R2.00 SCALE: 1"=60'-0"(11"x17")



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 PRICE CONSULTING, INC.
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Checked by
KAS

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03/26/24

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Revised

Sheet Name
ROOF PLAN

Sheet Number
R2.00

SHEET 4 OF 65

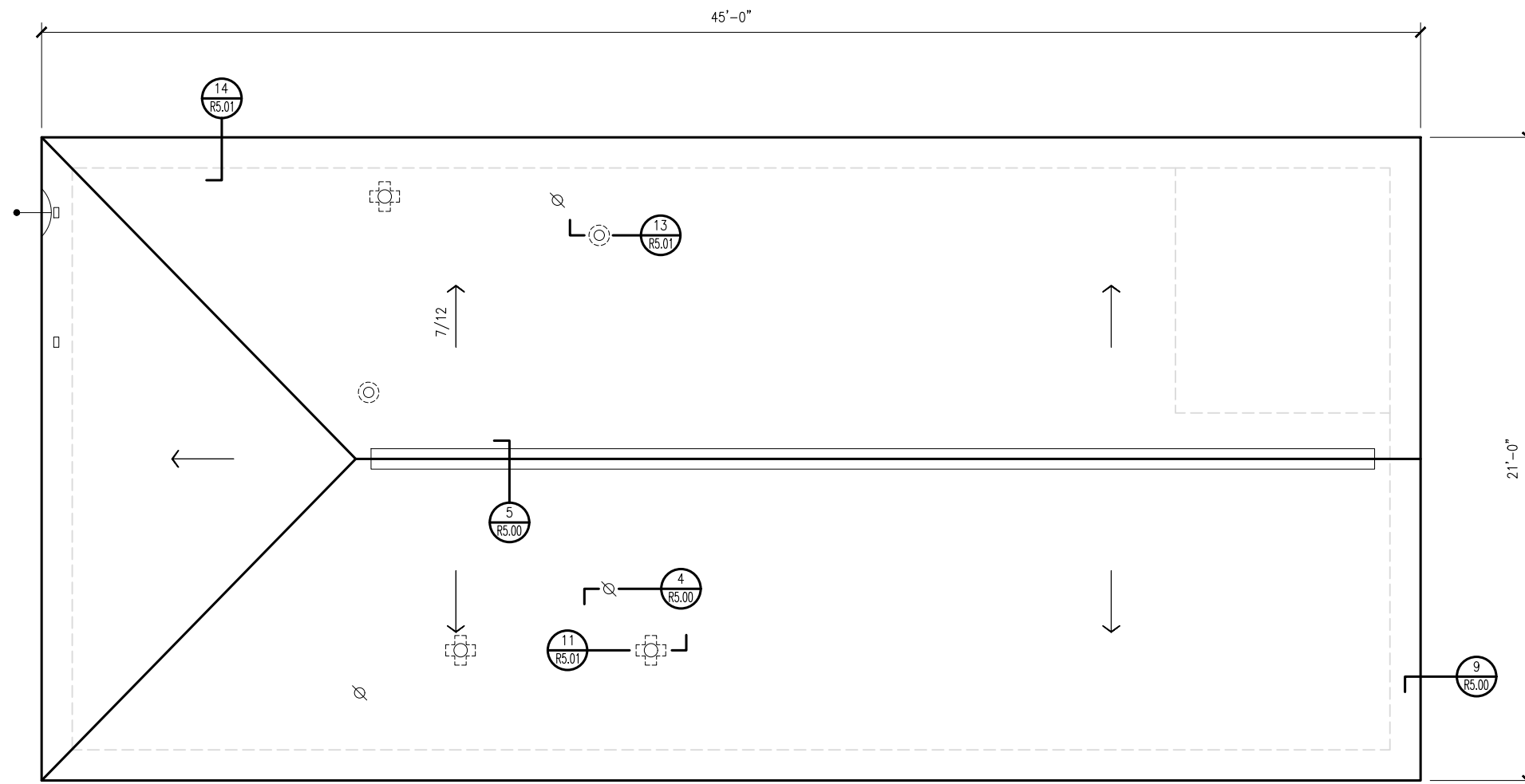
SCOPE OF ROOF REPLACEMENT:

- ⑩ REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- ⑪ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
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- ⑳ REMOVE ABANDONED SATELLITE DISH MOUNTS.

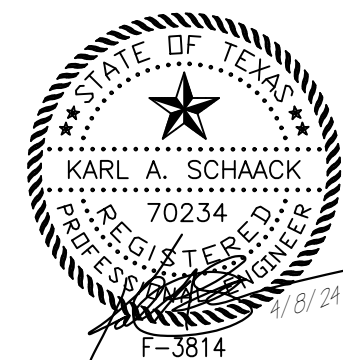
LEGEND			
	PLUMBING VENT		VALLEY
	HEAT EXHAUST		ROOF EDGE/ RIDGE/HIP
	GRAVITY VENT		DOWNSPOUT AND GUTTER
	GRAVITY VENT		PARAPET
	TURBINE VENT		THROUGH-WALL SCUPPER
	MOISTURE RELIEF VENT		12" WALL THICKNESS INDICATOR
	PITCH PAN		6" WALL HEIGHT INDICATOR
	ROUND PENETRATION		SPLASHBLOCK
	GOOSENECK PENETRATION		ROOF HATCH
	SHINGLE ROOF		6/12 SLOPE DIRECTION/ PITCH
	ANTENNA AREA		
	ROOF IDENTIFICATION		
	DETAIL		

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① ROOF PLAN: 1501 ANDREWS ST
 SCALE: 1"=60'-0"(11"x17")



Job Number
 12141.23.01

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 ESG/RH

Checked by
 KAS

Date
 03/26/24

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Sheet Name
ROOF PLAN

Sheet Number
R2.01

SHEET 5 OF 65

SCOPE OF ROOF REPLACEMENT:

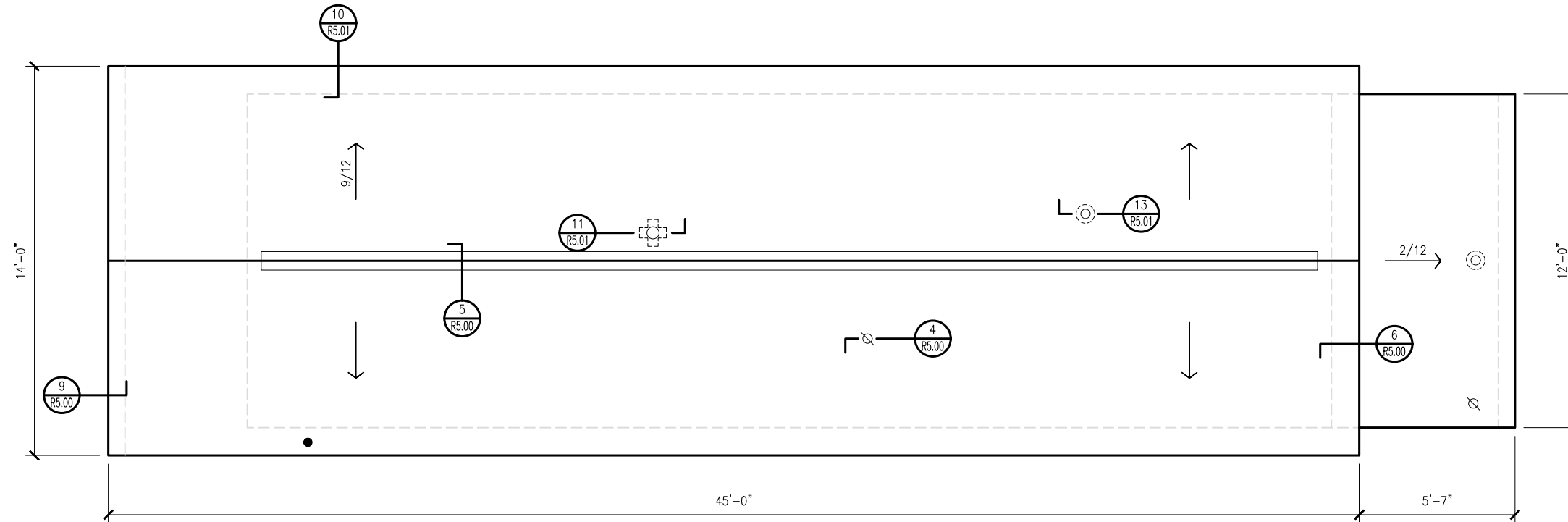
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- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.



LEGEND

⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	—	ROOF EDGE/ RIDGE/HIP
⊠	GRAVITY VENT	—	DOWNSPOUT AND GUTTER
⊠	GRAVITY VENT	—	PARAPET
⊠	GRAVITY VENT	—	THROUGH-WALL SCUPPER
⊠	TURBINE VENT	—	12" WALL THICKNESS INDICATOR
⊠	MOISTURE RELIEF VENT	—	2'-6" WALL HEIGHT INDICATOR
■	PITCH PAN	—	SPLASHBLOCK
●	ROUND PENETRATION	—	ROOF HATCH
○	GOOSENECK PENETRATION	→	6/12 SLOPE DIRECTION/ PITCH
⊠	SHINGLE ROOF		
⊠	ANTENNA AREA		
A2	ROOF IDENTIFICATION		
⊠	DETAIL		



1 ROOF PLAN: 1502 ANDREWS ST
R2.02 SCALE: 1"=60'-0"(11"x17")



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CD
Revised

Sheet Name
ROOF PLAN

Sheet Number
R2.02

SCOPE OF ROOF REPLACEMENT:

- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- 11 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- 12 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- 13 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- 14 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.

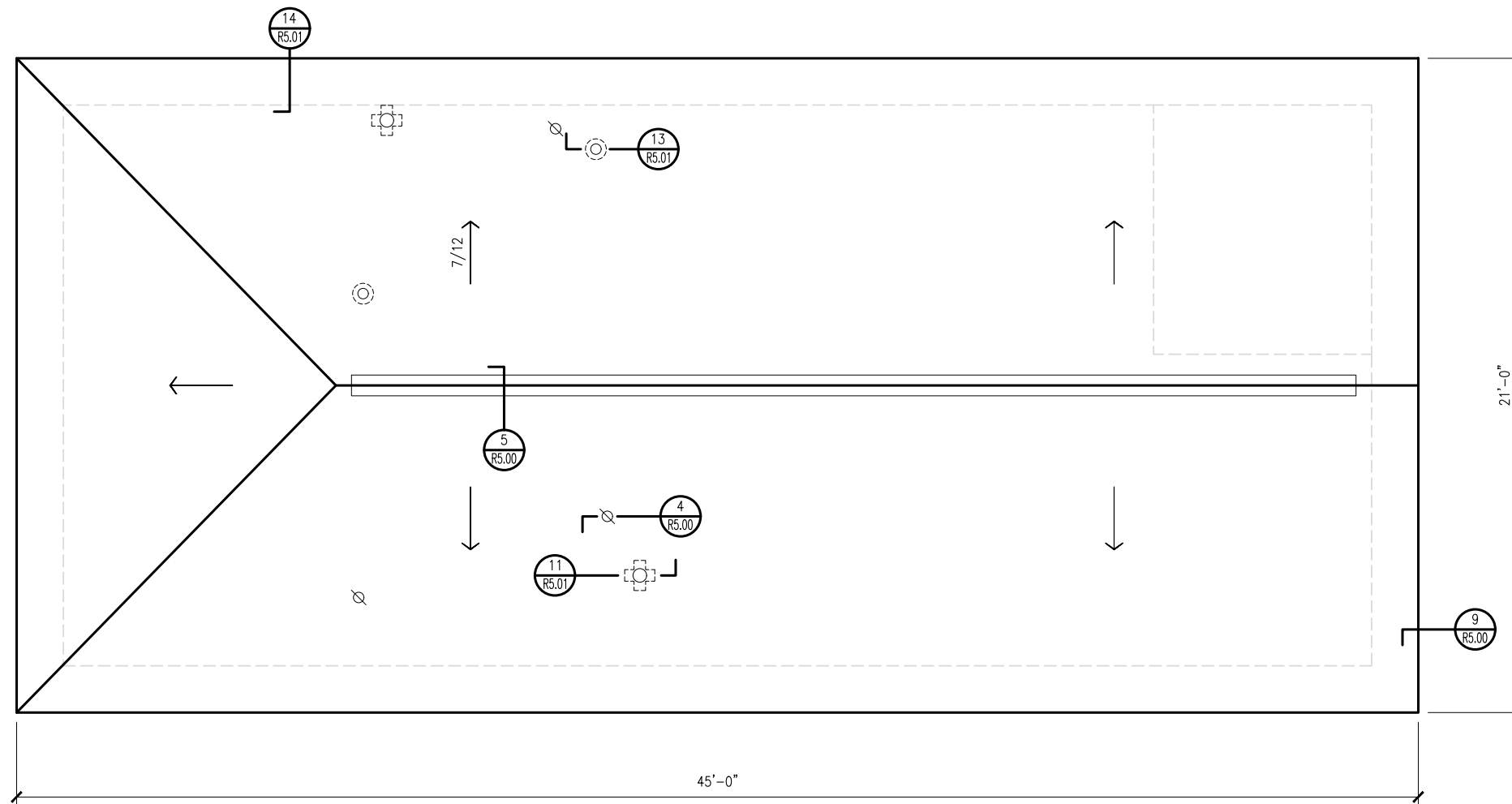
- 15 INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
- 16 REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- 17 INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.



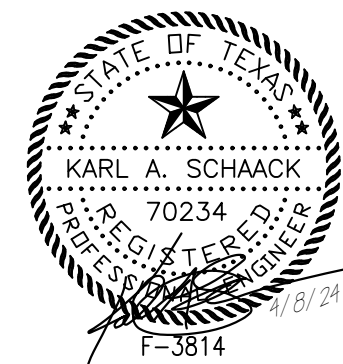
NORTH

LEGEND

⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	—	ROOF EDGE/ RIDGE/HIP
⊖	GRAVITY VENT	—	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	—	PARAPET
⊗	GRAVITY VENT	—	THROUGH-WALL SCUPPER
⊗	TURBINE VENT	—	MOISTURE RELIEF VENT
⊖	MOISTURE RELIEF VENT	—	12" WALL THICKNESS INDICATOR
■	PITCH PAN	—	WALL HEIGHT INDICATOR
●	ROUND PENETRATION	—	SPLASHBLOCK
⊖	GOOSENECK PENETRATION	—	ROOF HATCH
⊕	SHINGLE ROOF	—	6/12 SLOPE DIRECTION/ PITCH
⊕	ANTENNA AREA	—	
A2	ROOF IDENTIFICATION	—	
⊕	DETAIL	—	



1 ROOF PLAN: 1503 ANDREWS ST
R2.03 SCALE: 1"=60'-0"(11"X17")



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03/26/24
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Sheet Name
ROOF PLAN

Sheet Number
R2.03

SCOPE OF ROOF REPLACEMENT:

- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- 11 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- 12 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- 13 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- 14 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.

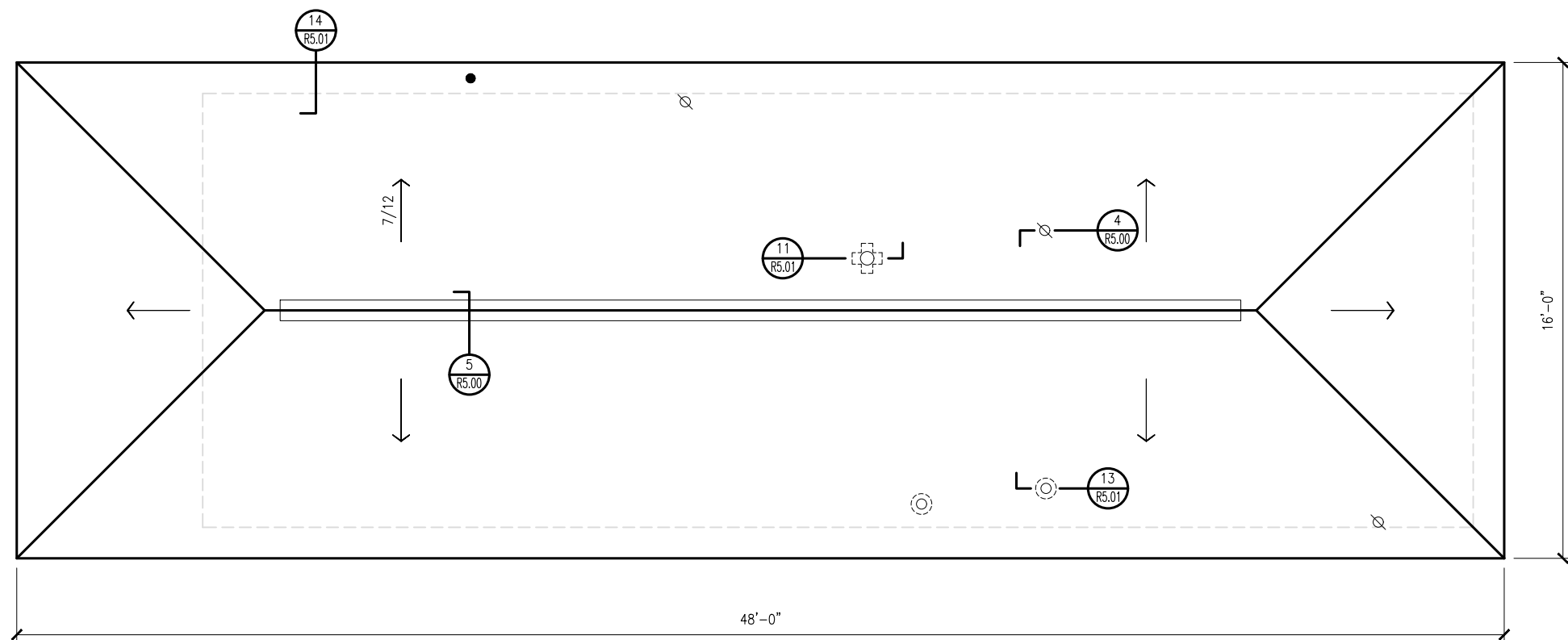
- 15 INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
- 16 REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- 17 INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.



LEGEND			
	PLUMBING VENT		VALLEY
	HEAT EXHAUST		ROOF EDGE/ RIDGE/HIP
	GRAVITY VENT		DOWNSPOUT AND GUTTER
	GRAVITY VENT		PARAPET
	TURBINE VENT		THROUGH-WALL SCUPPER
	MOISTURE RELIEF VENT		2" WALL THICKNESS INDICATOR
	PITCH PAN		WALL HEIGHT INDICATOR
	ROUND PENETRATION		SPLASHBLOCK
	GOOSENECK PENETRATION		ROOF HATCH
	SHINGLE ROOF		
	ANTENNA AREA		
	ROOF IDENTIFICATION		6/12 SLOPE DIRECTION/ PITCH
	DETAIL		

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1 ROOF PLAN: 1504 ANDREWS ST
 R2.04 SCALE: 1"=60'-0"(11"X17")



Job Number
 12141.23.01

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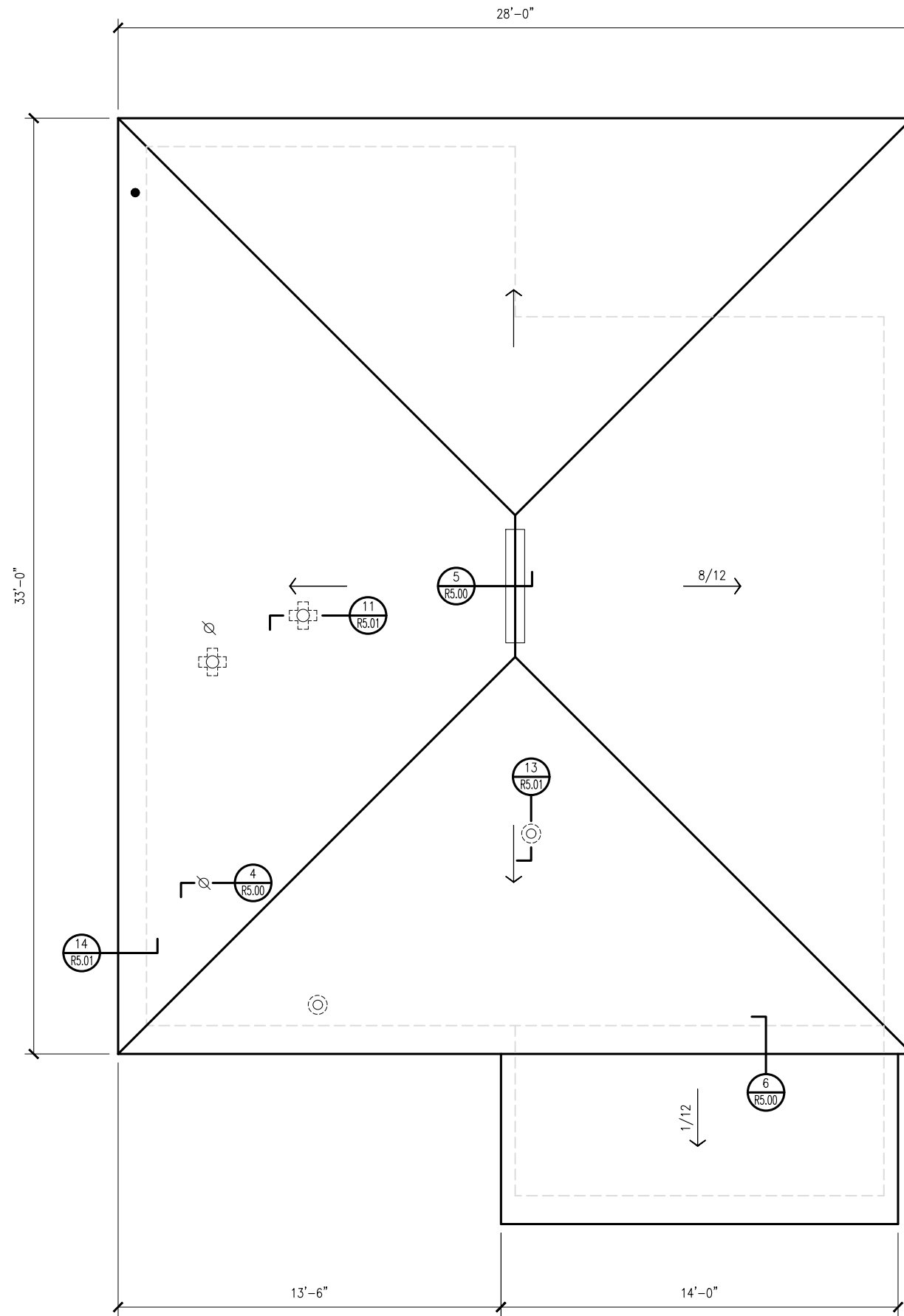
Sheet Name
ROOF PLAN

Sheet Number
R2.04

SHEET 8 OF 65

SCOPE OF ROOF REPLACEMENT:

- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- 11 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- 12 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- 13 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- 14 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.
- 15 INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
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- 17 INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.



LEGEND			
⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	---	ROOF EDGE/RIDGE/HIP
⊕	GRAVITY VENT	---	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	---	PARAPET
⊕	TURBINE VENT	---	THROUGH-WALL SCUPPER
⊕	MOISTURE RELIEF VENT	---	12" WALL THICKNESS INDICATOR
■	PITCH PAN	---	WALL HEIGHT INDICATOR
●	ROUND PENETRATION	---	SPLASHBLOCK
⊕	GOOSENECK PENETRATION	---	ROOF HATCH
⊕	SHINGLE ROOF	---	6/12 SLOPE DIRECTION/PITCH
⊕	ANTENNA AREA		
⊕	ROOF IDENTIFICATION		
⊕	DETAIL		

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Sheet Name
ROOF PLAN

Sheet Number
R2.05

1 ROOF PLAN: 1505A ANDREWS ST
 R2.05 SCALE: 1"=60'-0" (11"X17")



SCOPE OF ROOF REPLACEMENT:

- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- 11 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- 12 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- 13 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- 14 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.

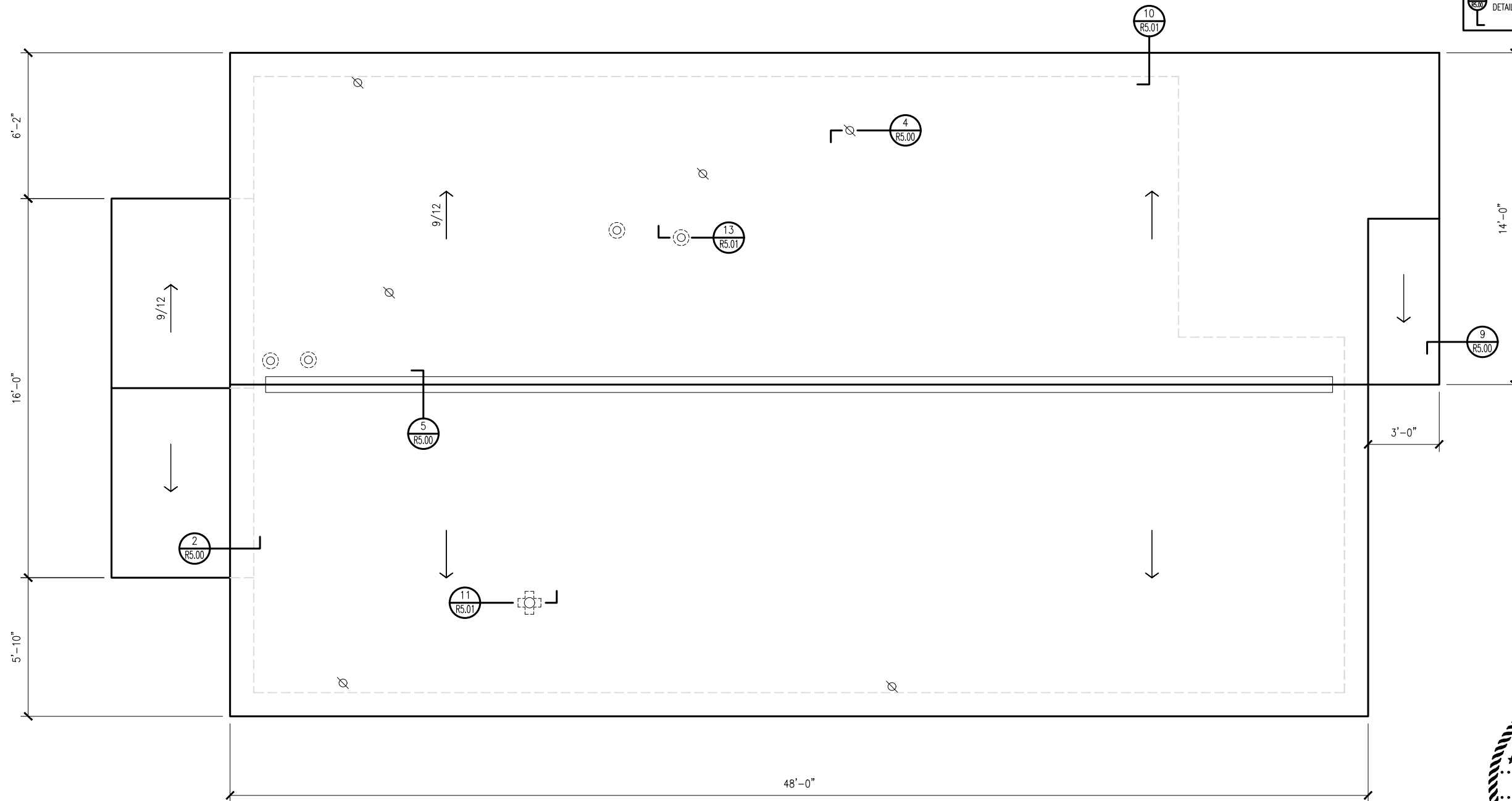
- 15 INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
- 16 REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- 17 INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.



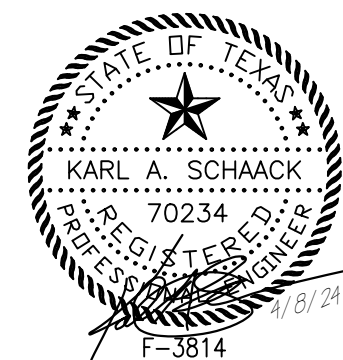
NORTH

LEGEND

⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	—	ROOF EDGE/ RIDGE/HIP
⊖	GRAVITY VENT	—	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	—	PARAPET
⊗	GRAVITY VENT	—	THROUGH-WALL SCUPPER
⊗	TURBINE VENT	—	MOISTURE RELIEF VENT
⊖	MOISTURE RELIEF VENT	—	12" WALL THICKNESS INDICATOR
■	PITCH PAN	—	2'-6" WALL HEIGHT INDICATOR
●	ROUND PENETRATION	—	SPLASHBLOCK
⊙	GOOSENECK PENETRATION	—	ROOF HATCH
⊕	SHINGLE ROOF	—	6/12 SLOPE DIRECTION/ PITCH
⊕	ANTENNA AREA	—	
A2	ROOF IDENTIFICATION	—	
1-500	DETAIL	—	



1 ROOF PLAN: 1506 ANDREWS ST
SCALE: 1"=60'-0"(11"x17")



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Job Number
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KAS

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03/26/24

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Sheet Name
ROOF PLAN

Sheet Number
R2.06

SCOPE OF ROOF REPLACEMENT:

- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- 11 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- 12 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- 13 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- 14 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.

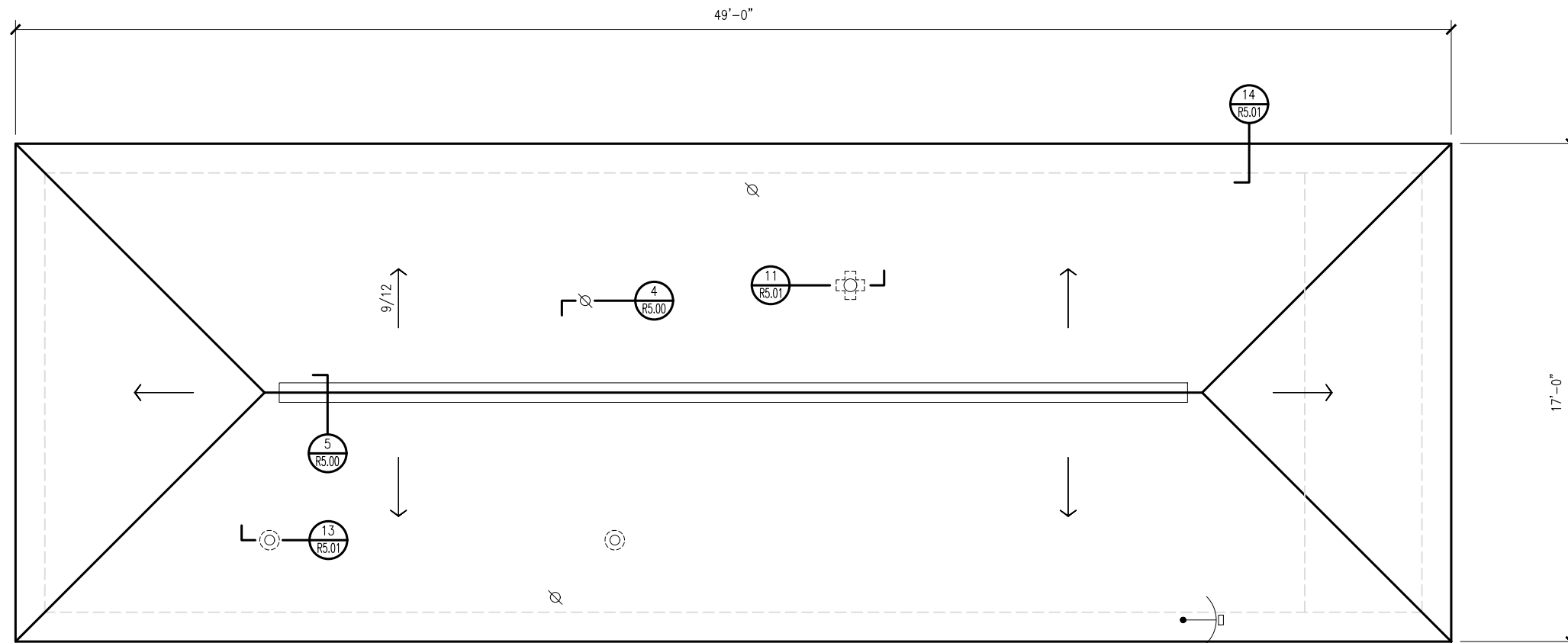
- 15 INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
- 16 REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- 17 INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.



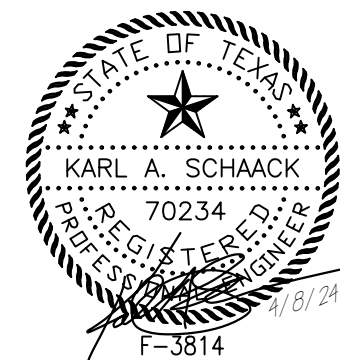
LEGEND			
	PLUMBING VENT		VALLEY
	HEAT EXHAUST		ROOF EDGE/ RIDGE/HIP
	GRAVITY VENT		DOWNSPOUT AND GUTTER
	GRAVITY VENT		PARAPET
	TURBINE VENT		THROUGH-WALL SCUPPER
	MOISTURE RELIEF VENT		12" WALL THICKNESS INDICATOR
	PITCH PAN		6" WALL HEIGHT INDICATOR
	ROUND PENETRATION		SPLASHBLOCK
	GOOSENECK PENETRATION		ROOF HATCH
	SHINGLE ROOF		6/12 SLOPE DIRECTION/ PITCH
	ANTENNA AREA		DETAIL

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1 ROOF PLAN: 1507 ANDREWS ST
 R2.07 SCALE: 1"=60'-0" (11"X17")



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 Checked by
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 Date
 03/26/24
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 Revised

Sheet Name
ROOF PLAN

Sheet Number
R2.07

SCOPE OF ROOF REPLACEMENT:

- ⑩ REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- ⑪ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- ⑫ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- ⑬ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- ⑭ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.
- ⑮ INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
- ⑯ REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- ⑰ INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- ⑱ INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- ⑲ REMOVE ABANDONED SATELLITE DISH MOUNTS.

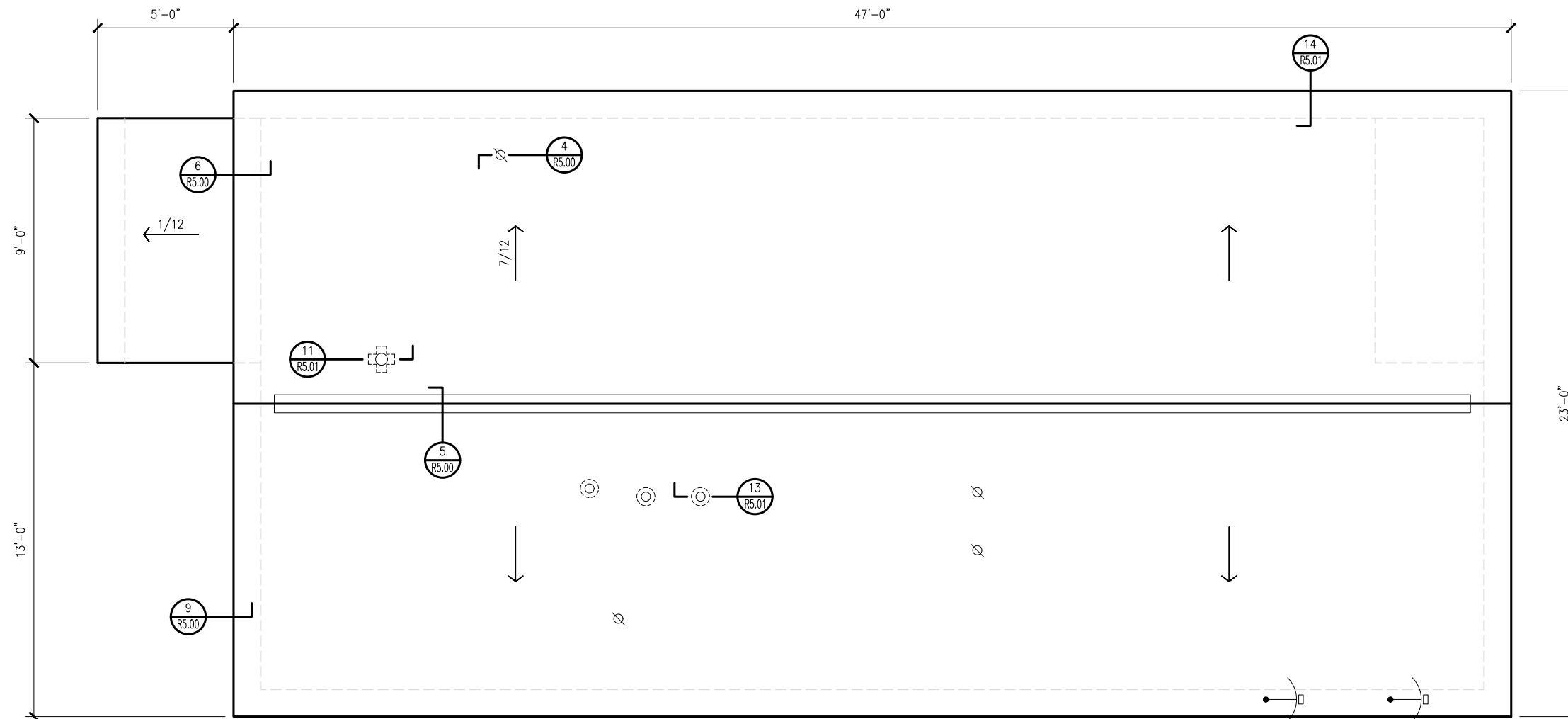


LEGEND

⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	—	ROOF EDGE/RIDGE/HIP
⊖	GRAVITY VENT	—	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	—	PARAPET
⊗	TURBINE VENT	—	THROUGH-WALL SCUPPER
⊖	MOISTURE RELIEF VENT	—	12" WALL THICKNESS INDICATOR
■	PITCH PAN	—	2'-6" WALL HEIGHT INDICATOR
●	ROUND PENETRATION	□	SPLASHBLOCK
○	GOOSENECK PENETRATION	▭	ROOF HATCH
⊞	SHINGLE ROOF	→	6/12 SLOPE DIRECTION/PITCH
⊞	ANTENNA AREA		
A2	ROOF IDENTIFICATION		
⊞	DETAIL		

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① **ROOF PLAN: 1509 ANDREWS ST**
 R2.08 SCALE: 1"=60'-0"(11"X17")



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 Checked by
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Sheet Name
ROOF PLAN

Sheet Number
R2.08

SCOPE OF ROOF REPLACEMENT:

- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- 11 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- 12 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- 13 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- 14 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.

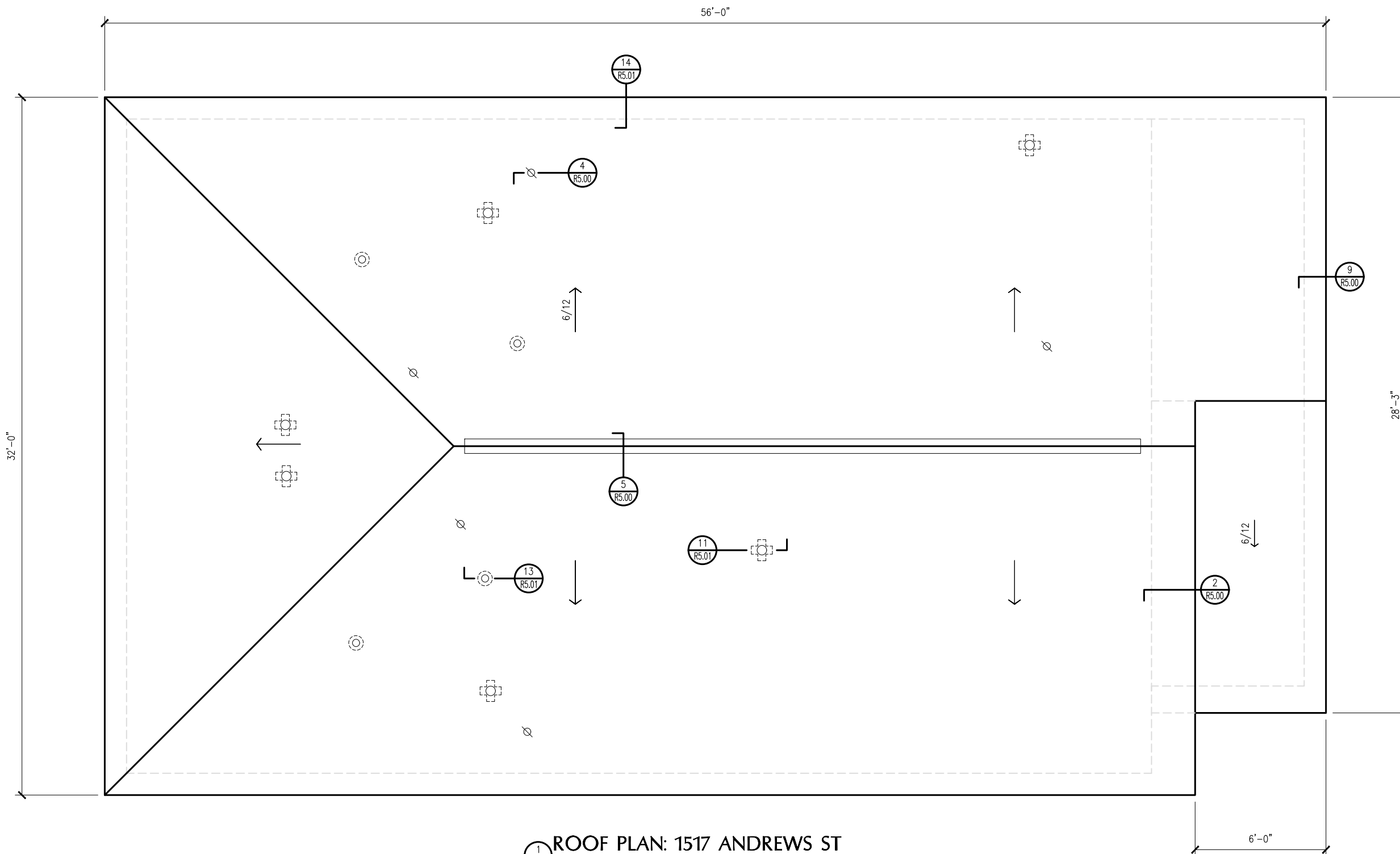
- 15 INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
- 16 REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
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- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.



NORTH

LEGEND

⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	—	ROOF EDGE/ RIDGE/HIP
⊖	GRAVITY VENT	—	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	—	PARAPET
⊗	GRAVITY VENT	—	THROUGH-WALL SCUPPER
⊗	TURBINE VENT	—	WALL THICKNESS INDICATOR
⊖	MOISTURE RELIEF VENT	—	WALL HEIGHT INDICATOR
■	PITCH PAN	—	SPLASHBLOCK
●	ROUND PENETRATION	—	ROOF HATCH
○	GOOSENECK PENETRATION	→	6/12 SLOPE DIRECTION/ PITCH
⊕	SHINGLE ROOF		
⊕	ANTENNA AREA		
A2	ROOF IDENTIFICATION		
1	DETAIL		



1 ROOF PLAN: 1517 ANDREWS ST
R2.09 SCALE: 1"=60'-0"(11"X17")



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Date
03/26/24

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Sheet Name
ROOF PLAN

Sheet Number
R2.09

SHEET 13 OF 65

SCOPE OF ROOF REPLACEMENT:

- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- 11 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- 12 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- 13 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- 14 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.

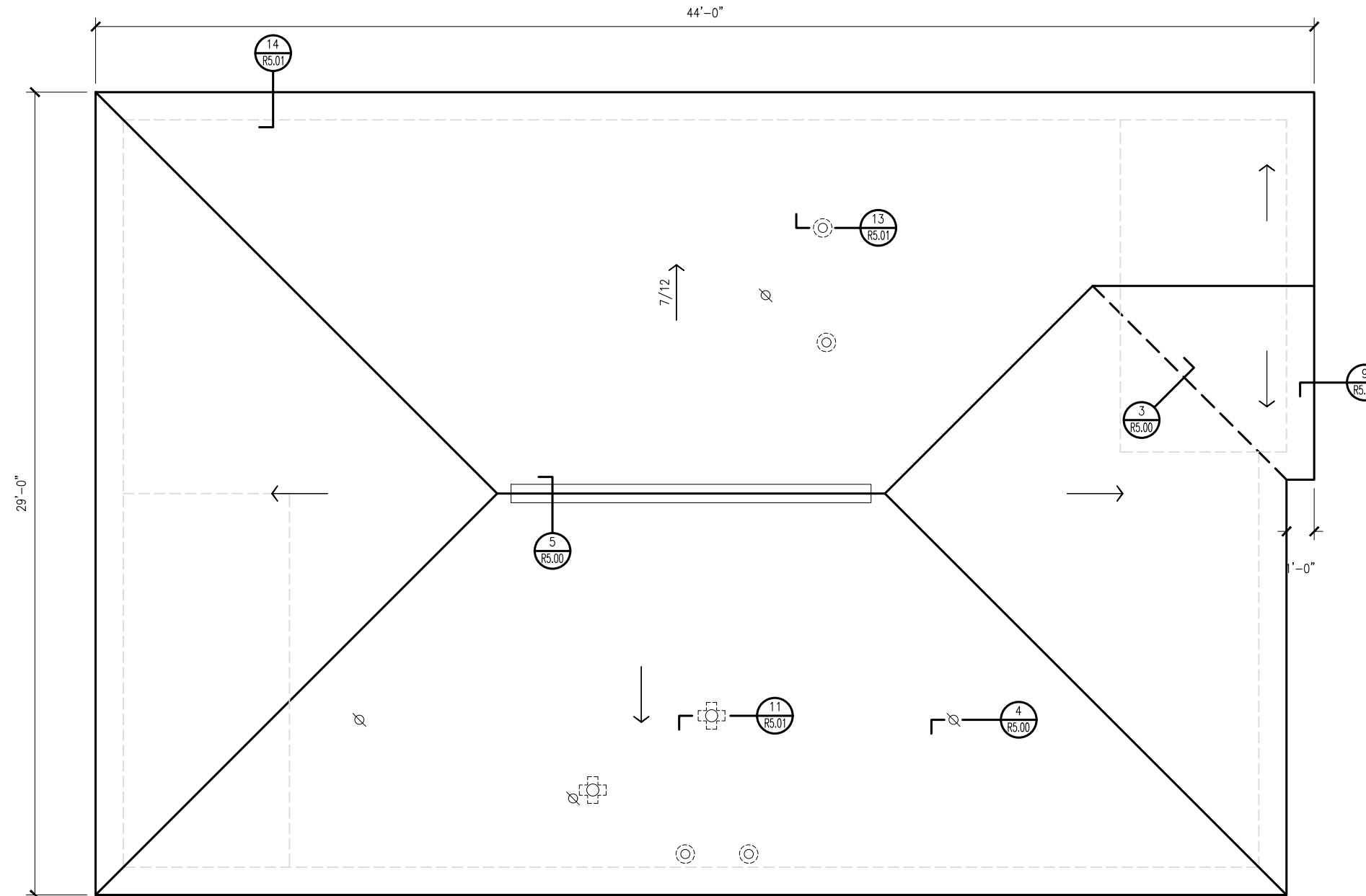
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- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.



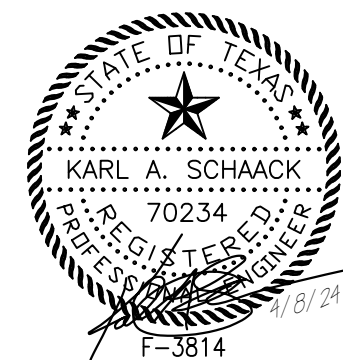
NORTH

LEGEND

⊗	PLUMBING VENT	- - -	VALLEY
⊙	HEAT EXHAUST	—	ROOF EDGE/ RIDGE/HIP
⊖	GRAVITY VENT	—	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	—	PARAPET
⊗	GRAVITY VENT	—	THROUGH-WALL SCUPPER
⊗	TURBINE VENT	—	MOISTURE RELIEF VENT
⊖	MOISTURE RELIEF VENT	—	12" WALL THICKNESS INDICATOR
■	PITCH PAN	—	WALL HEIGHT INDICATOR
●	ROUND PENETRATION	—	SPLASHBLOCK
⊖	GOOSENECK PENETRATION	—	ROOF HATCH
⊕	SHINGLE ROOF	—	6/12 SLOPE DIRECTION/ PITCH
⊕	ANTENNA AREA	—	
A2	ROOF IDENTIFICATION	—	
⊕	DETAIL	—	



1 ROOF PLAN: 1518 ANDREWS ST
SCALE: 1"=60'-0"(11"X17")



SCOPE OF ROOF REPLACEMENT:

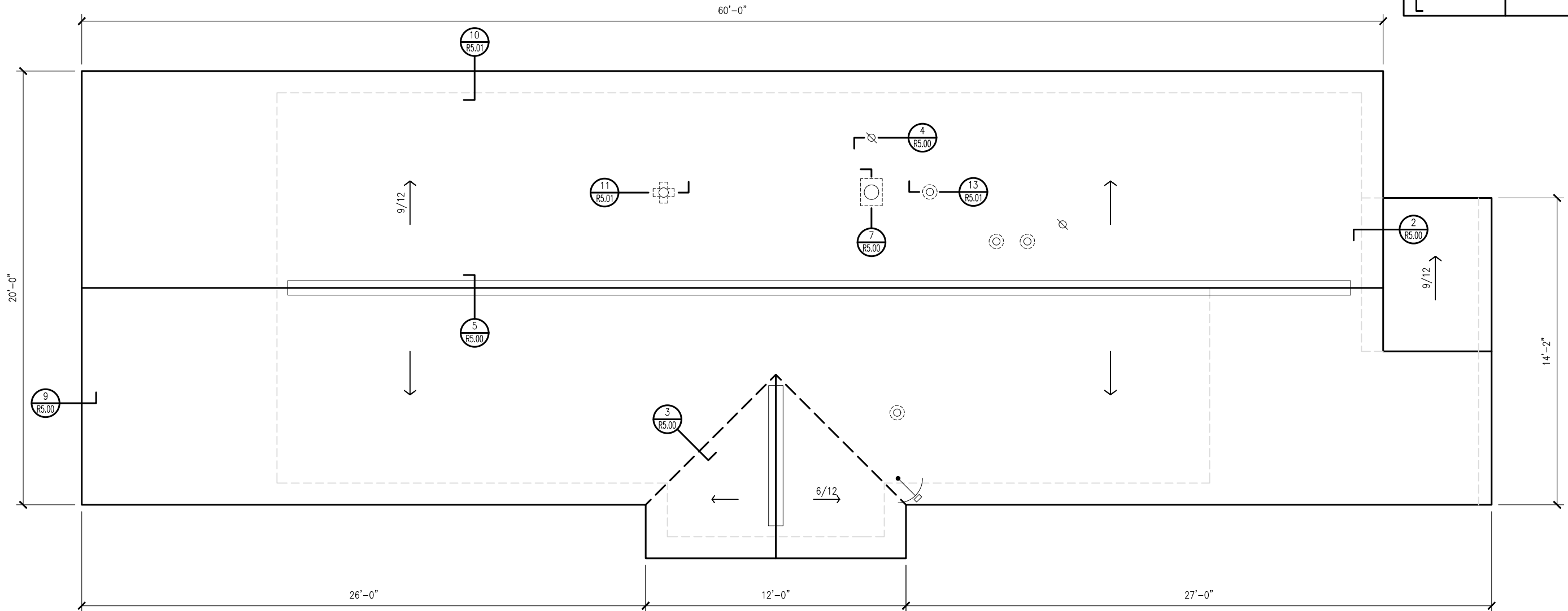
- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- 11 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- 12 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- 13 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- 14 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.

- 15 INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
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- 17 INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.

LEGEND	
	NORTH
	PLUMBING VENT
	HEAT EXHAUST
	GRAVITY VENT
	TURBINE VENT
	MOISTURE RELIEF VENT
	PITCH PAN
	ROUND PENETRATION
	GOOSENECK PENETRATION
	SHINGLE ROOF
	ANTENNA AREA
	A2 ROOF IDENTIFICATION
	DETAIL
	VALLEY
	ROOF EDGE/RIDGE/HIP
	DOWNSPOUT AND GUTTER
	PARAPET
	THROUGH-WALL SCUPPER
	12" WALL THICKNESS INDICATOR
	2'-6" WALL HEIGHT INDICATOR
	SPLASHBLOCK
	ROOF HATCH
	6/12 SLOPE DIRECTION/PITCH

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1 ROOF PLAN: 1602 ANDREWS ST
 R2.11 SCALE: 1"=60'-0" (11"X17")



Job Number
 12141.23.01

Drawn by
 ESG/RH

Checked by
 KAS

Date
 03/26/24

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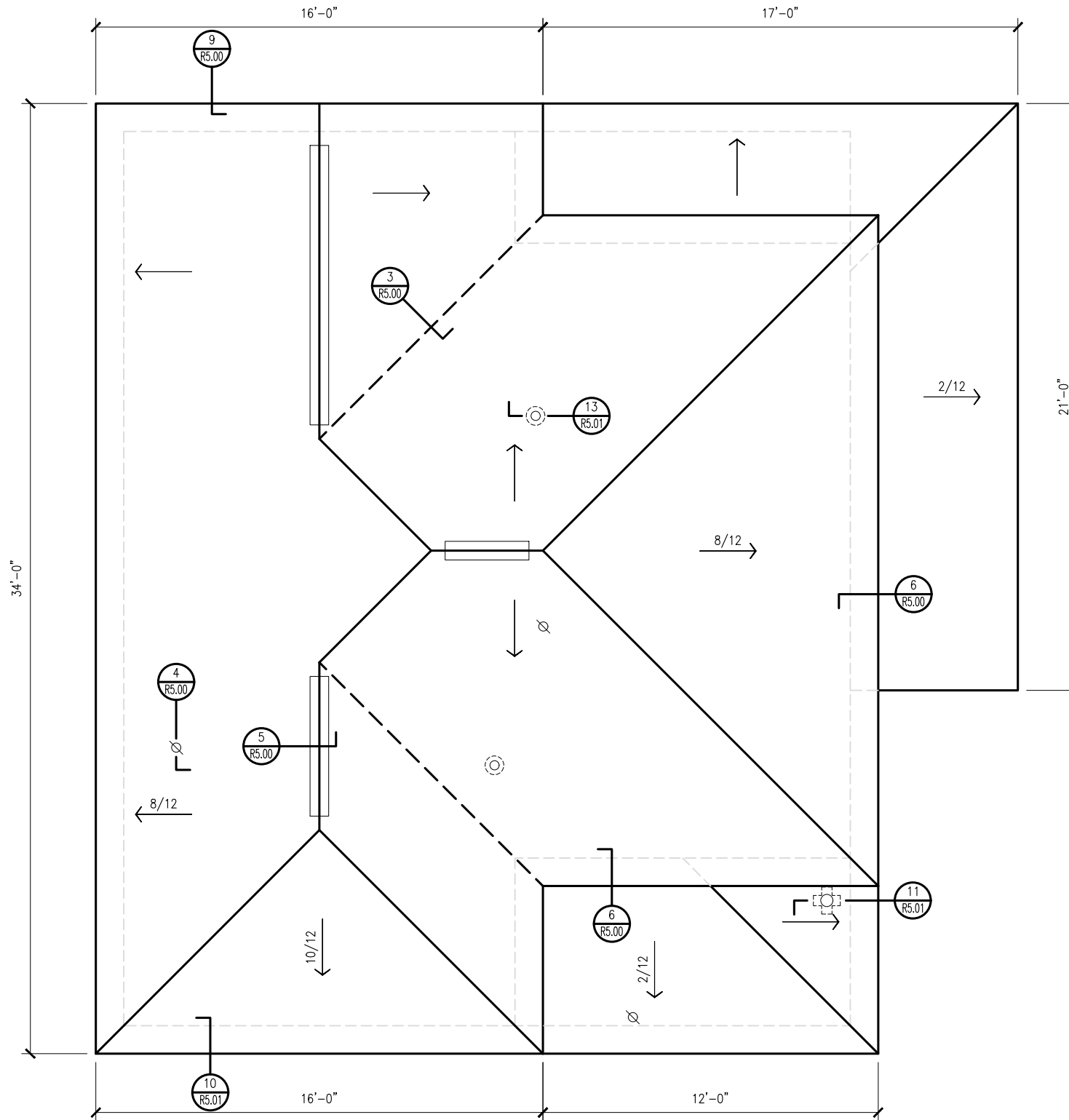
Sheet Name
ROOF PLAN

Sheet Number
R2.11

SHEET 18 OF 65

SCOPE OF ROOF REPLACEMENT:

- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- 11 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- 12 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- 13 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- 14 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.
- 15 INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
- 16 REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- 17 INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.



LEGEND			
	PLUMBING VENT		VALLEY
	HEAT EXHAUST		ROOF EDGE/RIDGE/HIP
	GRAVITY VENT		DOWNSPOUT AND GUTTER
	GRAVITY VENT		PARAPET
	TURBINE VENT		THROUGH-WALL SCUPPER
	MOISTURE RELIEF VENT		12" WALL THICKNESS INDICATOR
	PITCH PAN		2'-6" WALL HEIGHT INDICATOR
	ROUND PENETRATION		SPLASHBLOCK
	GOOSENECK PENETRATION		ROOF HATCH
	SHINGLE ROOF		6/12 SLOPE DIRECTION/PITCH
	ANTENNA AREA		
	A2 ROOF IDENTIFICATION		
	DETAIL		

PRICE CONSULTING, INC.
 PRICE CONSULTING, INC.
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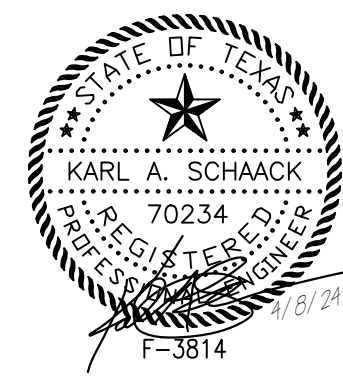
Job Number
12141.23.01
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KAS
 Date
03/26/24
 CD
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Sheet Name
ROOF PLAN

Sheet Number
R2.12

SHEET 16 OF 65

1 ROOF PLAN: 1603 ANDREWS ST
 R2.12 SCALE: 1"=60'-0" (11"X17")

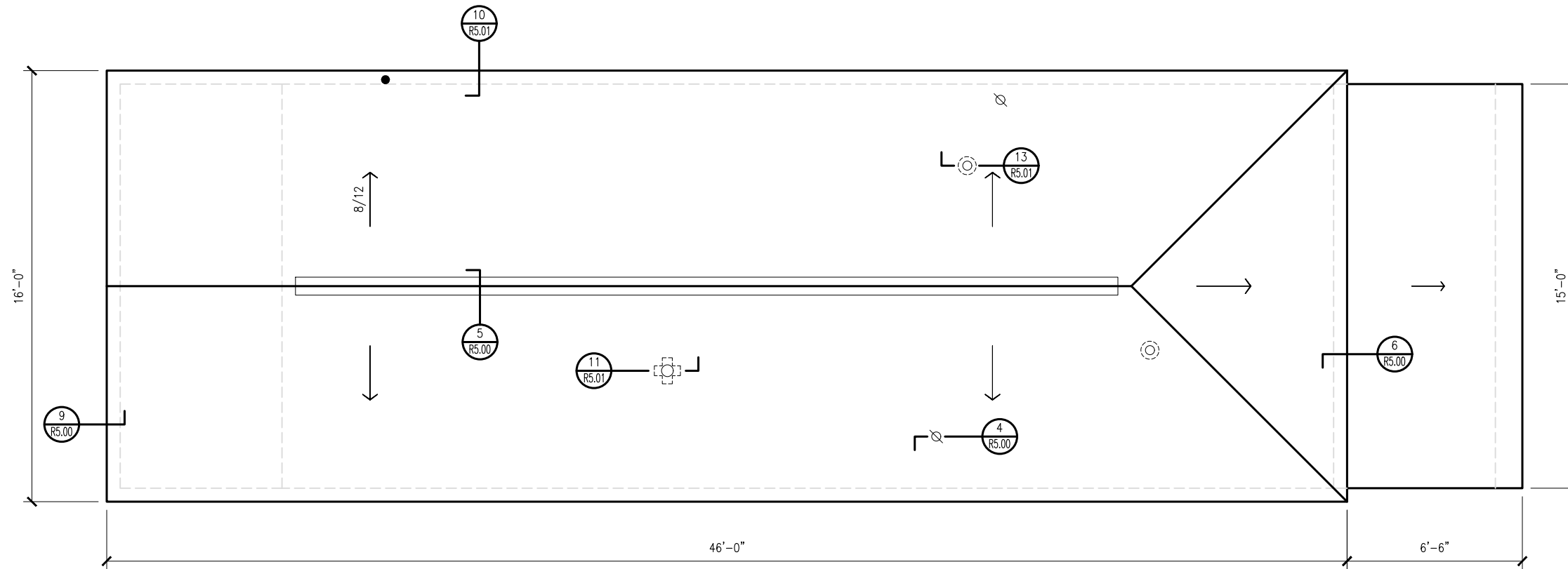


SCOPE OF ROOF REPLACEMENT:

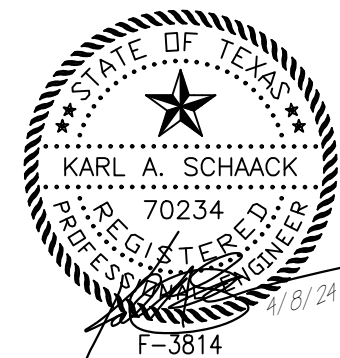
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- 16 REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- 17 INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.

LEGEND	
	PLUMBING VENT
	HEAT EXHAUST
	GRAVITY VENT
	TURBINE VENT
	MOISTURE RELIEF VENT
	PITCH PAN
	ROUND PENETRATION
	GOOSENECK PENETRATION
	SHINGLE ROOF
	ANTENNA AREA
	ROOF IDENTIFICATION
	DETAIL
	VALLEY
	ROOF EDGE/RIDGE/HIP
	DOWNSPOUT AND GUTTER
	PARAPET
	THROUGH-WALL SCUPPER
	12" WALL THICKNESS INDICATOR
	WALL HEIGHT INDICATOR
	SPLASHBLOCK
	ROOF HATCH
	6/12 SLOPE DIRECTION/PITCH



1 ROOF PLAN: 1604 ANDREWS ST
 R2.13 SCALE: 1"=60'-0"(11"X17")



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Sheet Name
ROOF PLAN

Sheet Number
R2.13

SHEET 17 OF 65

SCOPE OF ROOF REPLACEMENT:

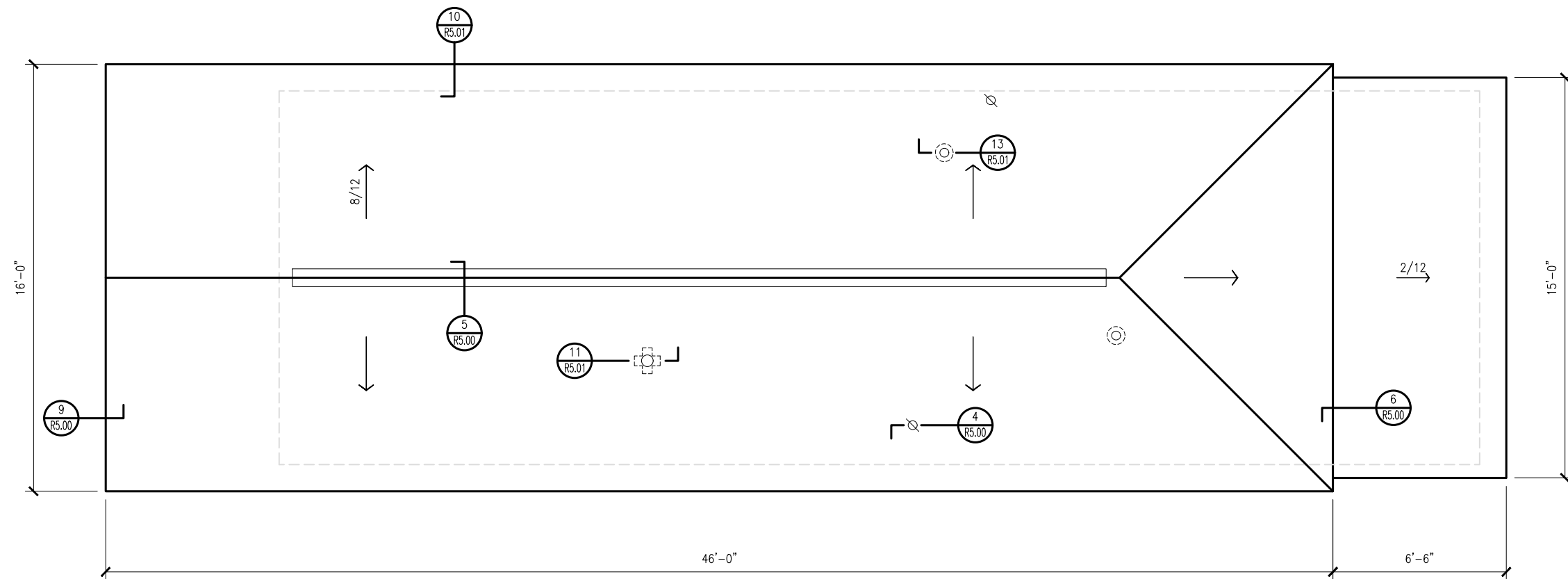
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- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.

LEGEND			
	PLUMBING VENT		VALLEY
	HEAT EXHAUST		ROOF EDGE/ RIDGE/HIP
	GRAVITY VENT		DOWNSPOUT AND GUTTER
	GRAVITY VENT		PARAPET
	TURBINE VENT		THROUGH-WALL SCUPPER
	MOISTURE RELIEF VENT		12" WALL THICKNESS INDICATOR
	PITCH PAN		2'-6" WALL HEIGHT INDICATOR
	ROUND PENETRATION		SPLASHBLOCK
	GOOSENECK PENETRATION		ROOF HATCH
	SHINGLE ROOF		6/12 SLOPE DIRECTION/ PITCH
	ANTENNA AREA		DETAIL
	A2 ROOF IDENTIFICATION		

PRICE CONSULTING, INC.
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 7122 WORCESTER BLVD, SUITE A
 SPRING, TEXAS 77379
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1 ROOF PLAN: 1606 ANDREWS ST
 R2.14 SCALE: 1"=60'-0" (11"X17")



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Sheet Name
ROOF PLAN

Sheet Number
R2.14

SHEET 18 OF 65

SCOPE OF ROOF REPLACEMENT:

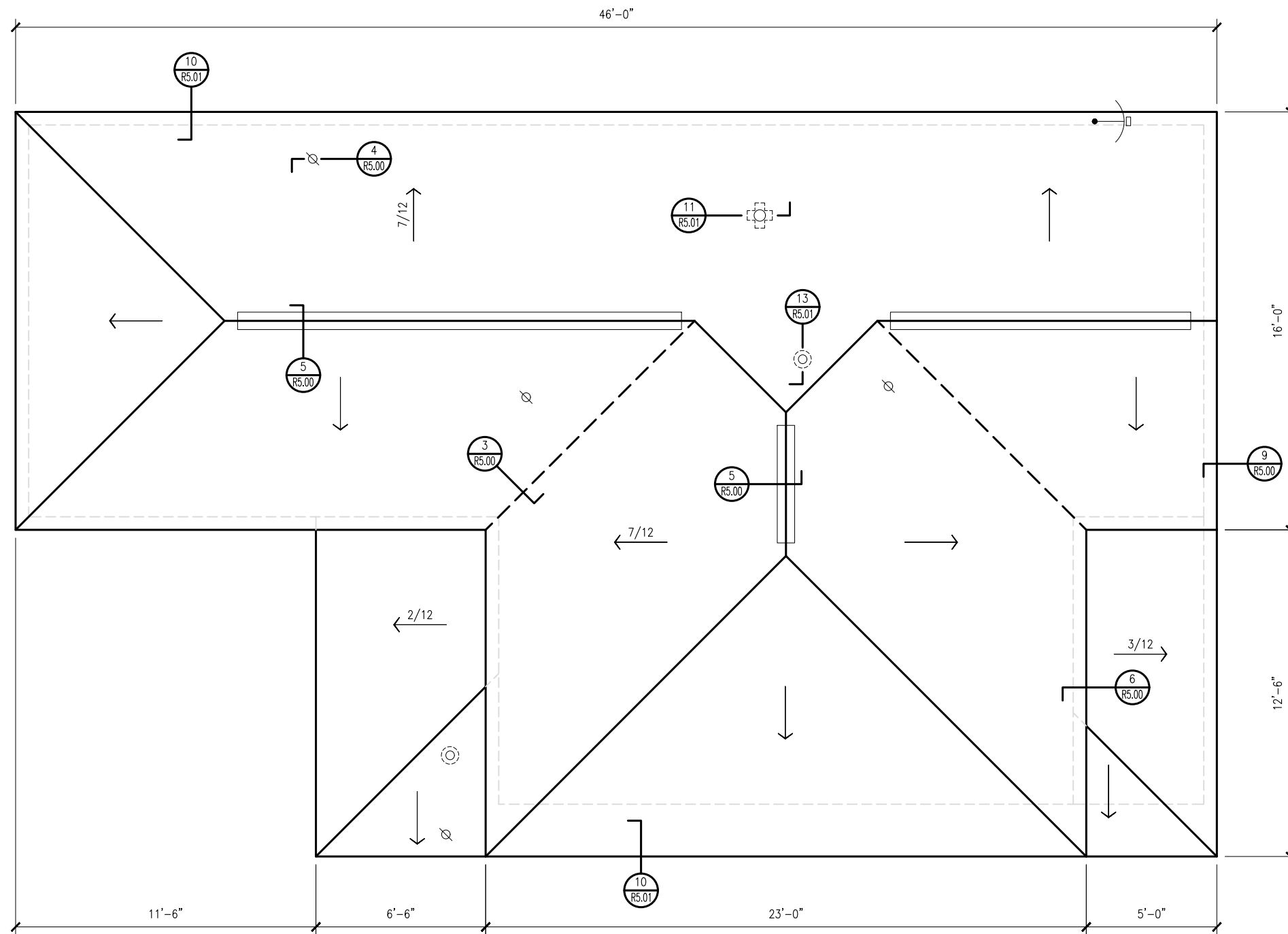
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- ⑱ INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- ⑲ REMOVE ABANDONED SATELLITE DISH MOUNTS.



LEGEND

⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	---	ROOF EDGE/ RIDGE/HIP
⊖	GRAVITY VENT	---	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	---	PARAPET
⊗	GRAVITY VENT	---	THROUGH-WALL SCUPPER
⊗	TURBINE VENT	---	MOISTURE RELIEF VENT
⊖	MOISTURE RELIEF VENT	---	12" WALL THICKNESS INDICATOR
■	PITCH PAN	---	WALL HEIGHT INDICATOR
●	ROUND PENETRATION	---	SPLASHBLOCK
○	GOOSENECK PENETRATION	---	ROOF HATCH
⊕	SHINGLE ROOF	---	6/12 SLOPE DIRECTION/ PITCH
⊕	ANTENNA AREA	---	
A2	ROOF IDENTIFICATION	---	
⊕	DETAIL	---	



1 ROOF PLAN: 1607 ANDREWS ST
 R2.15 SCALE: 1"=60'-0"(11"x17")



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Job Number
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KAS

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03/26/24

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Sheet Name
ROOF PLAN

Sheet Number
R2.15

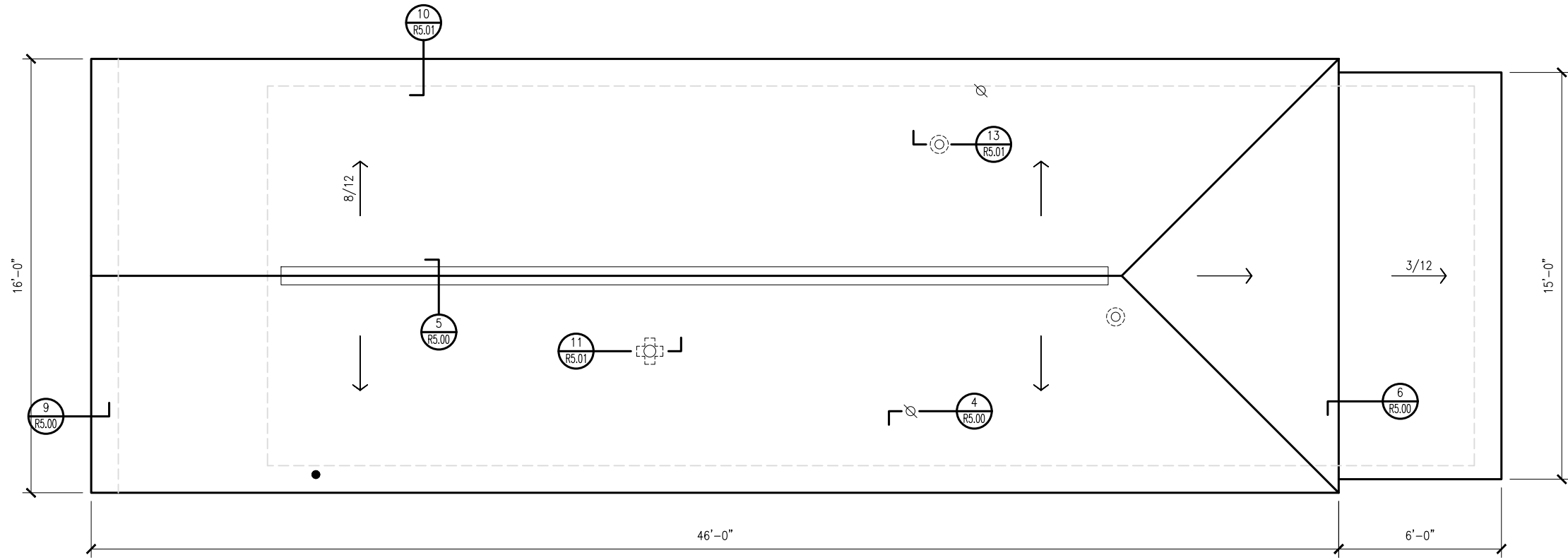
SHEET 19 OF 65

SCOPE OF ROOF REPLACEMENT:

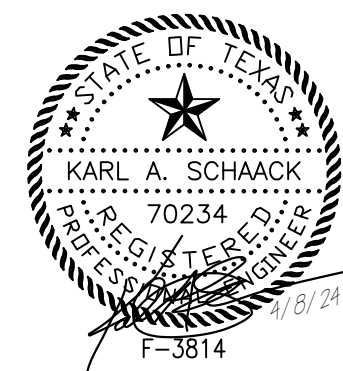
- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
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- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.

LEGEND			
⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	---	ROOF EDGE/ RIDGE/HIP
⊖	GRAVITY VENT	---	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	---	PARAPET
⊗	TURBINE VENT	---	THROUGH-WALL SCUPPER
⊖	MOISTURE RELIEF VENT	---	2" WALL THICKNESS INDICATOR
■	PITCH PAN	---	2" WALL HEIGHT INDICATOR
●	ROUND PENETRATION	---	SPLASHBLOCK
⊖	GOOSENECK PENETRATION	---	ROOF HATCH
⊕	SHINGLE ROOF	---	6/12 SLOPE DIRECTION/ PITCH
⊕	ANTENNA AREA	---	
A2	ROOF IDENTIFICATION	---	
ES07	DETAIL		

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1 ROOF PLAN: 1608 ANDREWS ST
 R2.16 SCALE: 1"=60'-0"(11"X17")



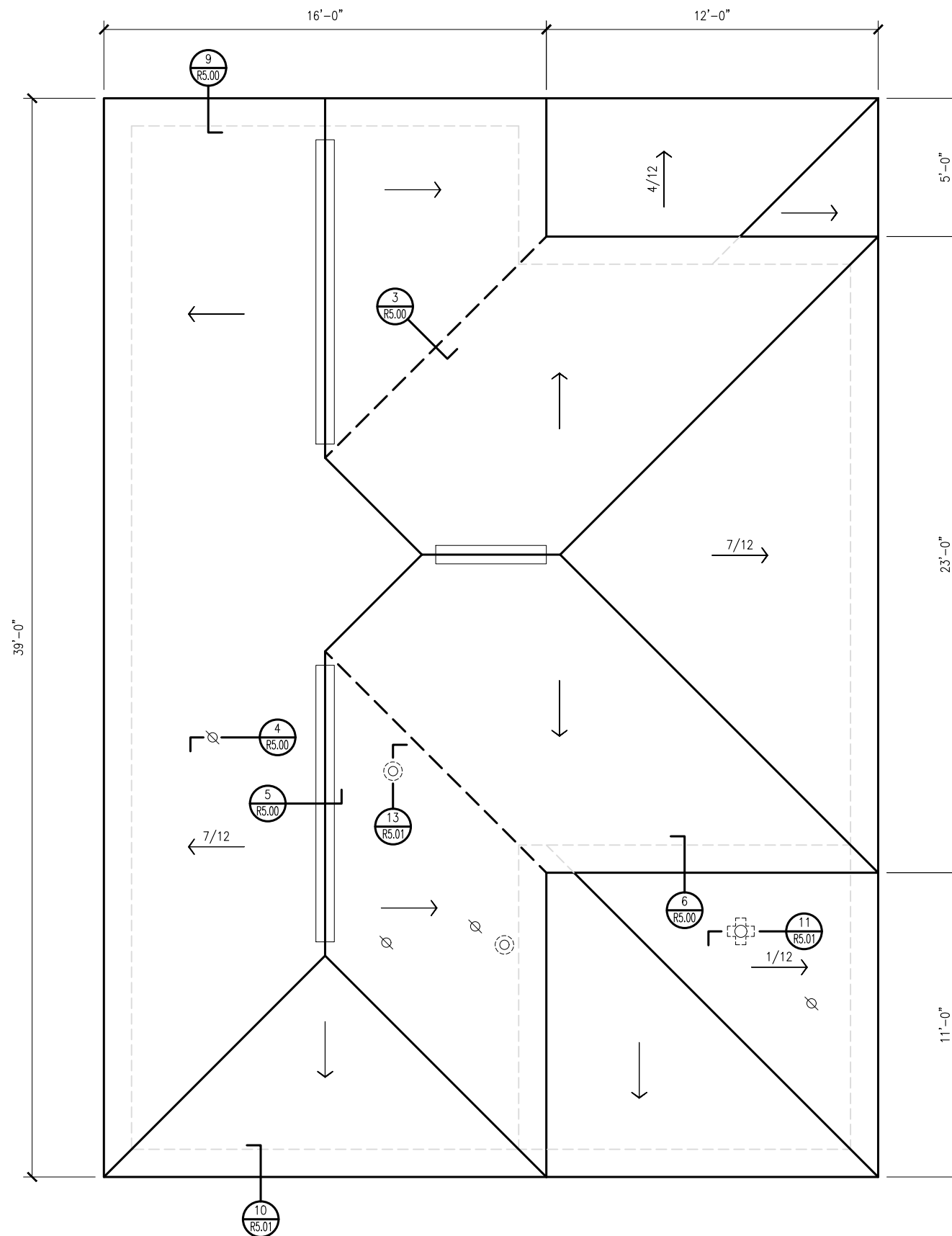
Job Number
 12141.23.01
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 Date
 03/26/24
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Sheet Name
ROOF PLAN

Sheet Number
R2.16

SCOPE OF ROOF REPLACEMENT:

- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- 11 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- 12 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
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- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.



1 ROOF PLAN: 1609 ANDREWS ST
 R2.17 SCALE: 1"=60'-0"(11"X17")



LEGEND			
⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	—	ROOF EDGE/ RIDGE/HIP
⊖	GRAVITY VENT	—	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	—	PARAPET
⊗	TURBINE VENT	—	THROUGH-WALL SCUPPER
⊖	MOISTURE RELIEF VENT	—	12" WALL THICKNESS INDICATOR
■	PITCH PAN	—	2" WALL HEIGHT INDICATOR
●	ROUND PENETRATION	—	SPLASHBLOCK
⊙	GOOSENECK PENETRATION	—	ROOF HATCH
⊕	SHINGLE ROOF	→	6/12 SLOPE DIRECTION/ PITCH
⊕	ANTENNA AREA		
A2	ROOF IDENTIFICATION		
1	DETAIL		

PRICE CONSULTING, INC.
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 TX P.E. FORM # F-3814

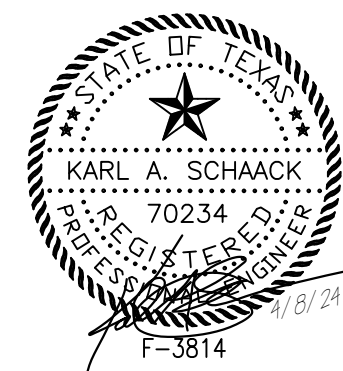
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Sheet Name
ROOF PLAN

Sheet Number
R2.17

SHEET 21 OF 65



SCOPE OF ROOF REPLACEMENT:

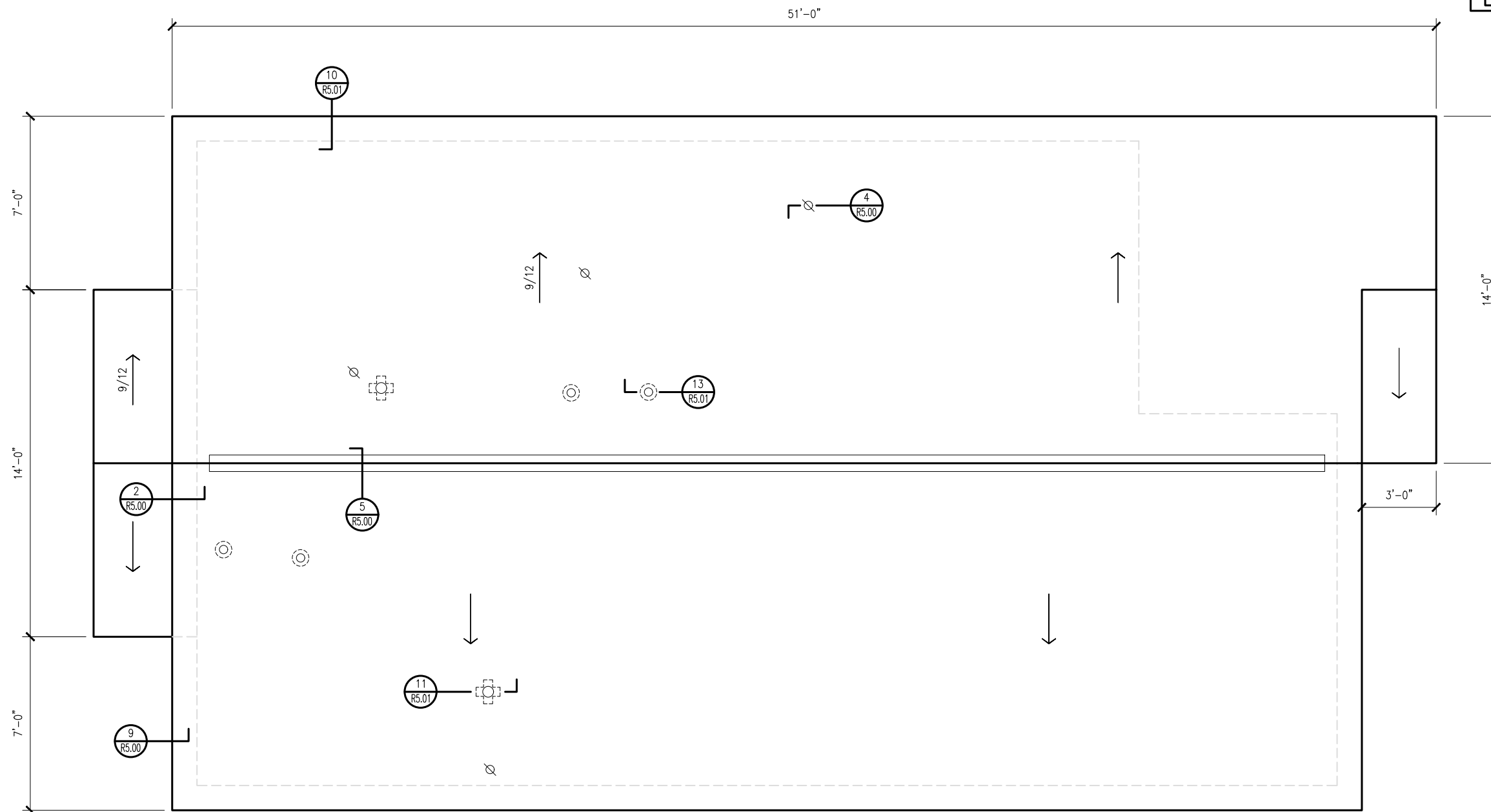
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- ⑲ REMOVE ABANDONED SATELLITE DISH MOUNTS.



LEGEND

⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	—	ROOF EDGE/ RIDGE/HIP
⊖	GRAVITY VENT	—	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	—	PARAPET
⊗	TURBINE VENT	—	THROUGH-WALL SCUPPER
⊖	MOISTURE RELIEF VENT	—	12" WALL THICKNESS INDICATOR
■	PITCH PAN	—	2'-6" WALL HEIGHT INDICATOR
●	ROUND PENETRATION	—	SPLASHBLOCK
○	GOOSENECK PENETRATION	—	ROOF HATCH
⊞	SHINGLE ROOF	→	6/12 SLOPE DIRECTION/ PITCH
⊞	ANTENNA AREA		
⊞	ROOF IDENTIFICATION		
⊞	DETAIL		



① **ROOF PLAN: 1613 ANDREWS ST**
SCALE: 1"=60'-0"(11"X17")



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Revised

Sheet Name
ROOF PLAN

Sheet Number
R2.18

SCOPE OF ROOF REPLACEMENT:

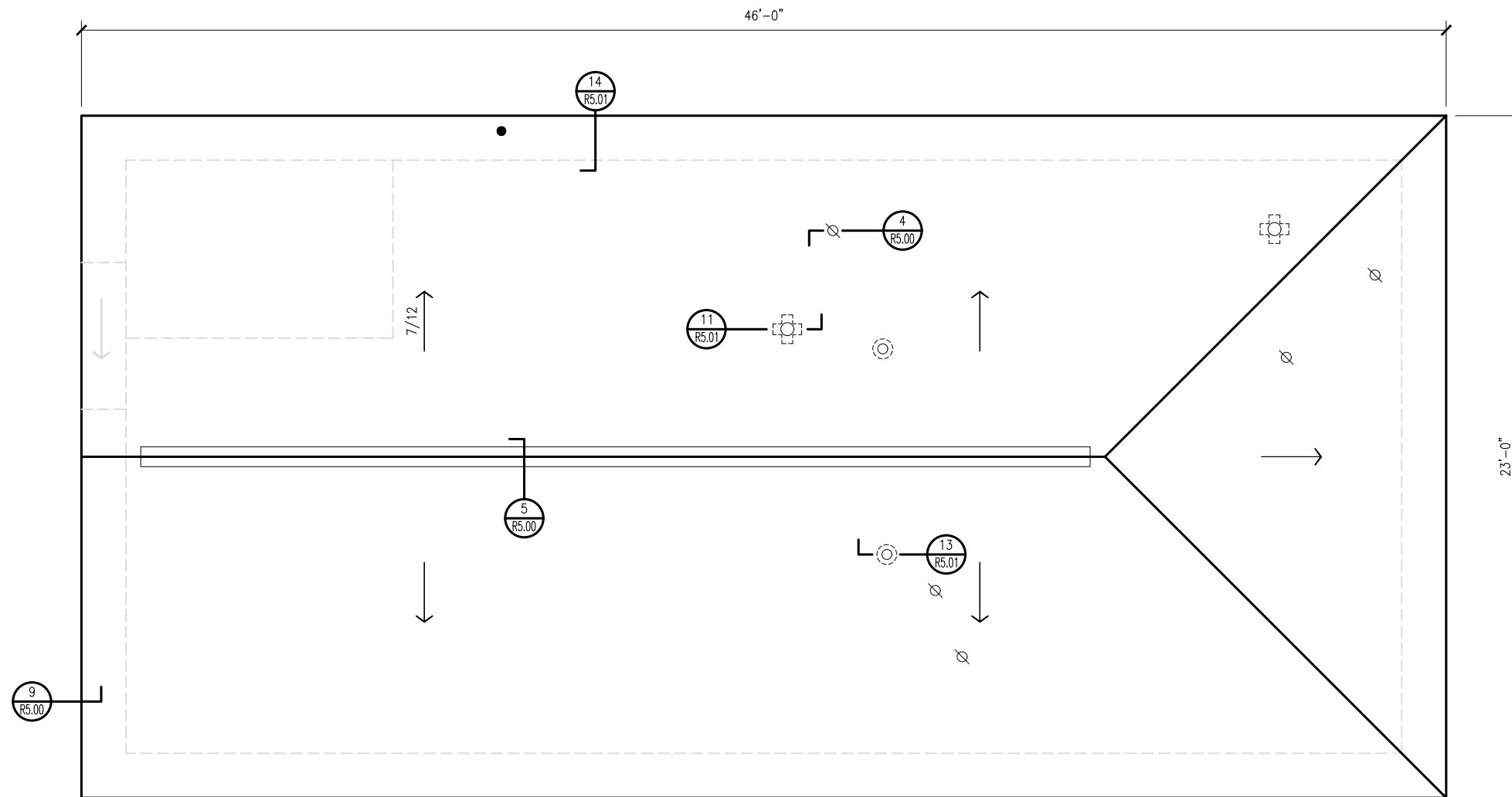
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LEGEND

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⊙	HEAT EXHAUST	—	ROOF EDGE/ RIDGE/HIP
⊖	GRAVITY VENT	—	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	—	PARAPET
⊗	GRAVITY VENT	—	THROUGH-WALL SCUPPER
⊗	TURBINE VENT	—	MOISTURE RELIEF VENT
⊖	MOISTURE RELIEF VENT	—	12" WALL THICKNESS INDICATOR
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●	ROUND PENETRATION	—	SPLASHBLOCK
○	GOOSENECK PENETRATION	—	ROOF HATCH
⊕	SHINGLE ROOF	—	6/12 SLOPE DIRECTION/ PITCH
⊕	ANTENNA AREA	—	
⊕	ROOF IDENTIFICATION	—	
⊕	DETAIL	—	



1 ROOF PLAN: 1309 GILLETTE ST
R2.19 SCALE: 1"=60'-0"(11"X17")



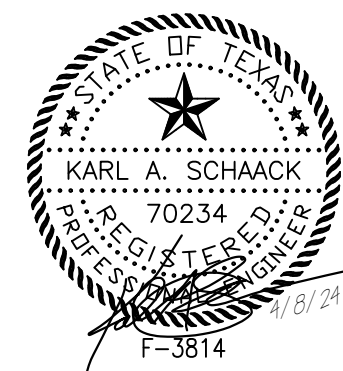
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Sheet Name
ROOF PLAN

Sheet Number
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SHEET 23 OF 65



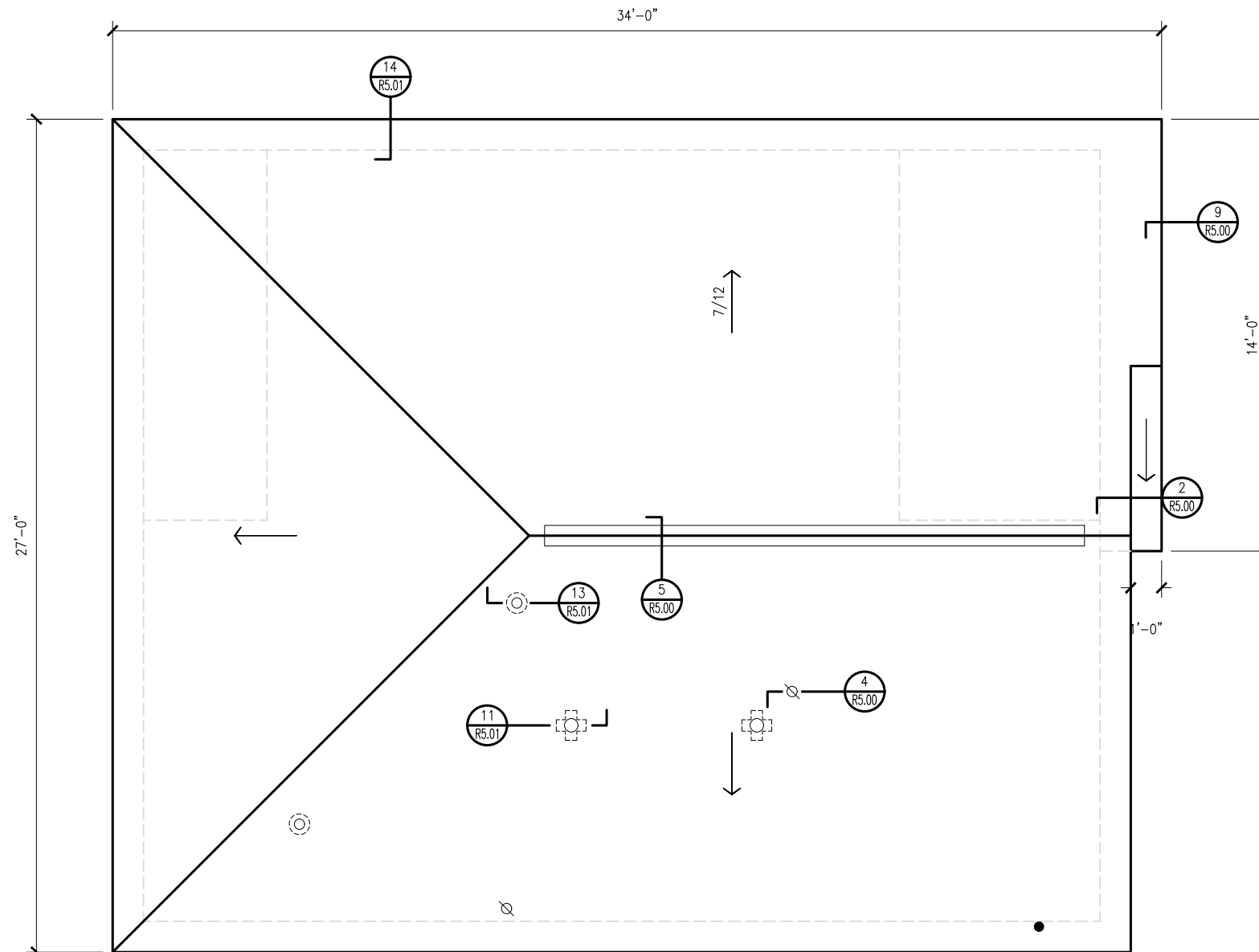
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- ⑬ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- ⑭ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.

- ⑮ INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
- ⑯ REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- ⑰ INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- ⑱ INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- ⑲ REMOVE ABANDONED SATELLITE DISH MOUNTS.



LEGEND			
	PLUMBING VENT		VALLEY
	HEAT EXHAUST		ROOF EDGE/RIDGE/HIP
	GRAVITY VENT		DOWNSPOUT AND GUTTER
	GRAVITY VENT		PARAPET
	GRAVITY VENT		THROUGH-WALL SCUPPER
	TURBINE VENT		MOISTURE RELIEF VENT
	MOISTURE RELIEF VENT		12" WALL THICKNESS INDICATOR
	PITCH PAN		2" WALL HEIGHT INDICATOR
	ROUND PENETRATION		SPLASHBLOCK
	COOSENECK PENETRATION		ROOF HATCH
	SHINGLE ROOF		6/12 SLOPE DIRECTION/PITCH
	ANTENNA AREA		
	ROOF IDENTIFICATION		
	DETAIL		



① ROOF PLAN: 1310 GILLETTE ST
 R2.20 SCALE: 1"=60'-0"(11"X17")



SCOPE OF ROOF REPLACEMENT:

- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- 11 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- 12 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- 13 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- 14 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.

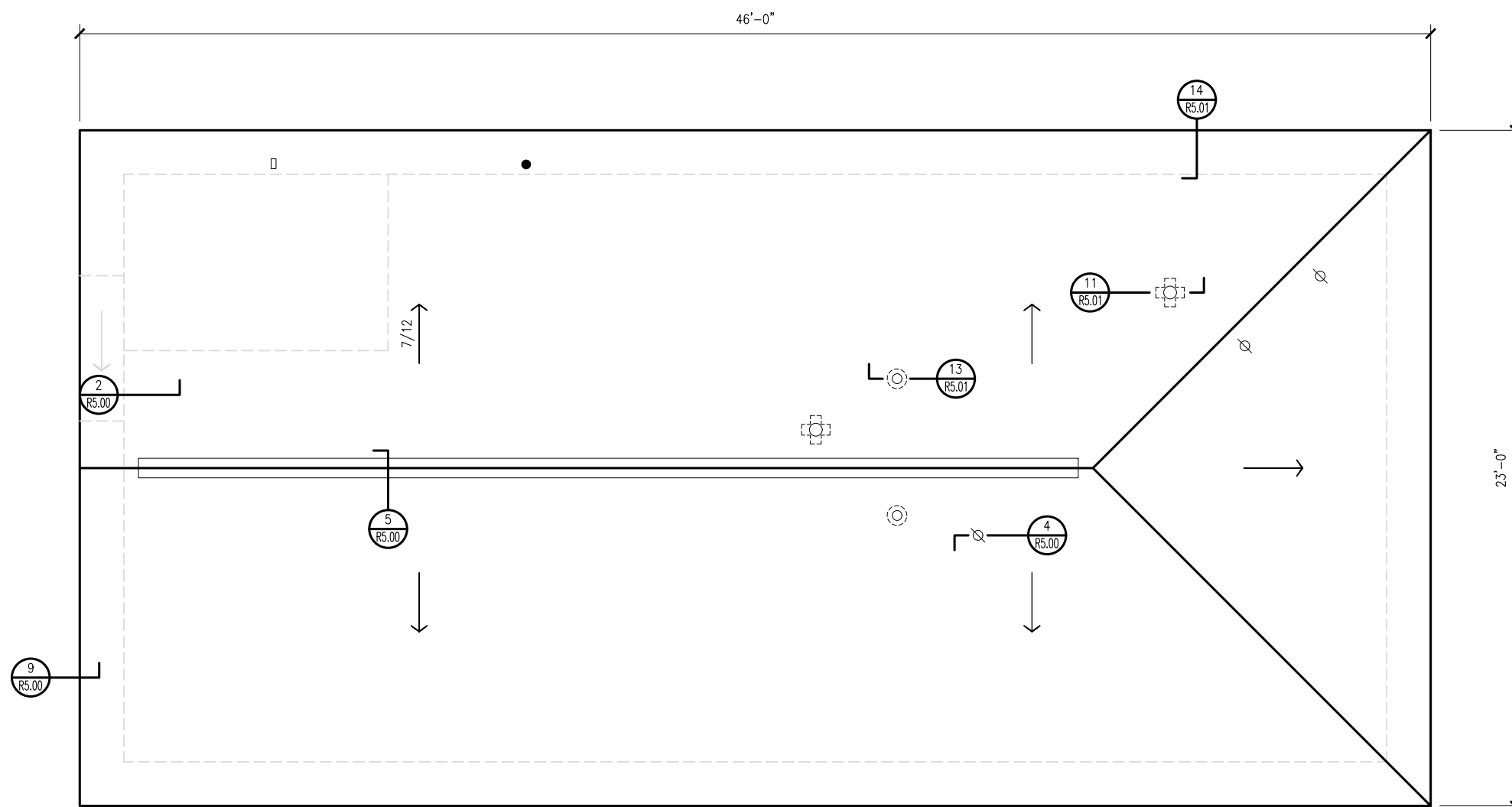
- 15 INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
- 16 REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- 17 INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.



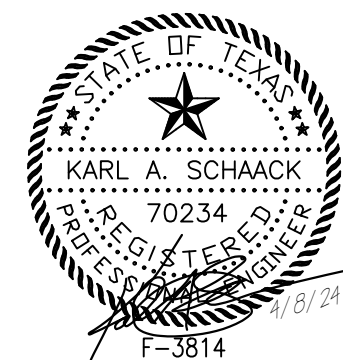
LEGEND			
	PLUMBING VENT		VALLEY
	HEAT EXHAUST		ROOF EDGE/RIDGE/HIP
	GRAVITY VENT		DOWNSPOUT AND GUTTER
	GRAVITY VENT		PARAPET
	TURBINE VENT		THROUGH-WALL SCUPPER
	MOISTURE RELIEF VENT		12" WALL THICKNESS INDICATOR
	PITCH PAN		WALL HEIGHT INDICATOR
	ROUND PENETRATION		SPLASHBLOCK
	GOOSENECK PENETRATION		ROOF HATCH
	SHINGLE ROOF		6/12 SLOPE DIRECTION/PITCH
	ANTENNA AREA		
	ROOF IDENTIFICATION		
	DETAIL		

PRICE CONSULTING, INC.
 PRICE CONSULTING, INC.
 7122 WORCESTER DR., SUITE A
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 TX P.E. # 12141.23
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1 ROOF PLAN: 1313 GILLETTE ST
 SCALE: 1"=60'-0" (11"X17")



Job Number
 12141.23.01

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 KAS

Date
 03/26/24

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Sheet Name
ROOF PLAN

Sheet Number
R2.21

SHEET 25 OF 65

SCOPE OF ROOF REPLACEMENT:

- ⑩ REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- ⑪ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- ⑫ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- ⑬ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- ⑭ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.

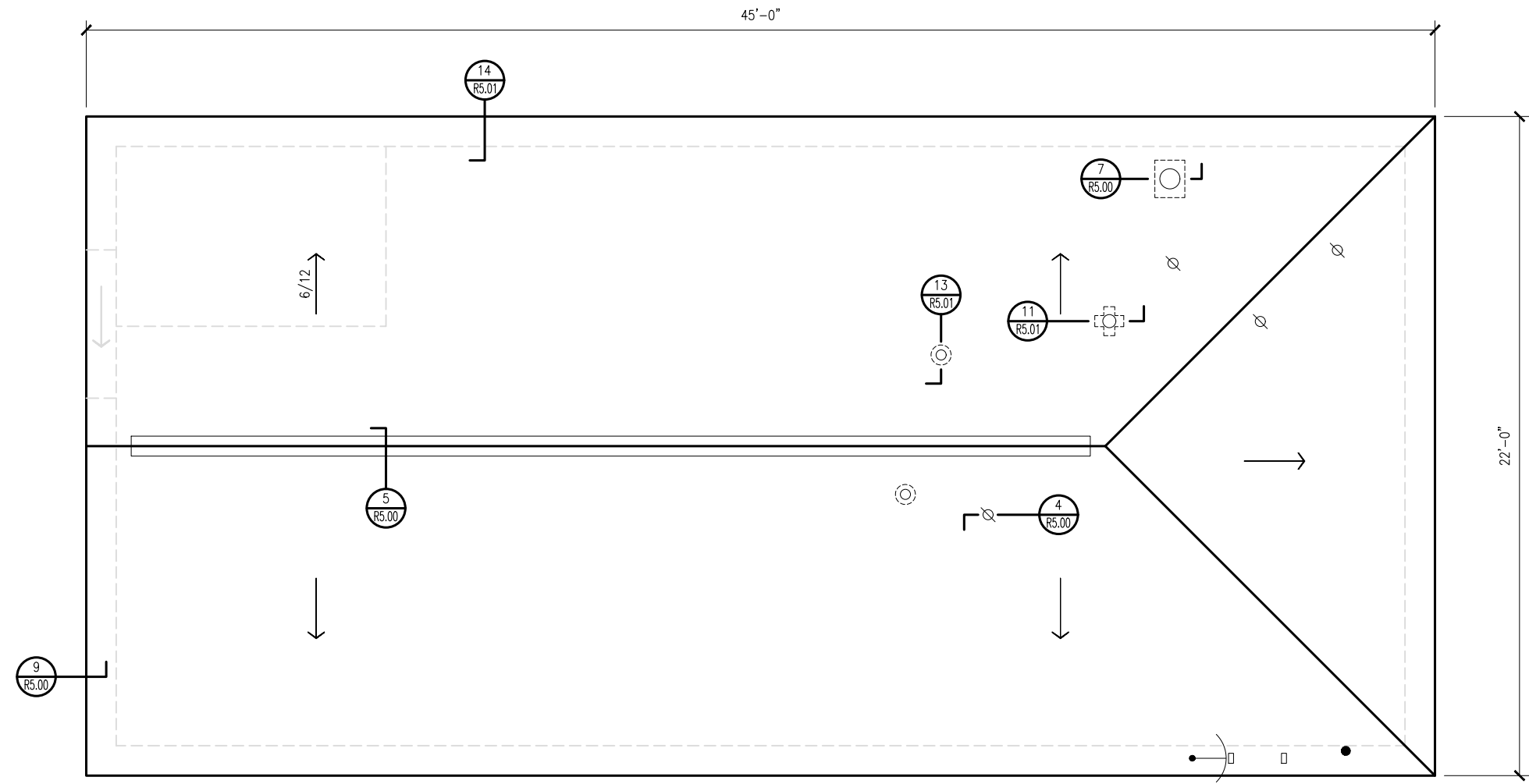
- ⑮ INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
- ⑯ REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- ⑰ INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- ⑱ INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- ⑲ REMOVE ABANDONED SATELLITE DISH MOUNTS.



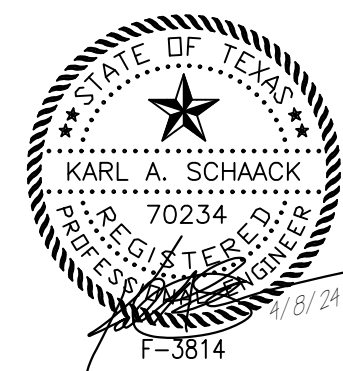
LEGEND			
⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	—	ROOF EDGE/ RIDGE/HIP
⊖	GRAVITY VENT	—	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	—	PARAPET
⊗	TURBINE VENT	—	THROUGH-WALL SCUPPER
⊖	MOISTURE RELIEF VENT	—	12" WALL THICKNESS INDICATOR
■	PITCH PAN	—	2'-4" WALL HEIGHT INDICATOR
●	ROUND PENETRATION	—	SPLASHBLOCK
⊖	GOOSENECK PENETRATION	—	ROOF HATCH
⊕	SHINGLE ROOF	→	6/12 SLOPE DIRECTION/ PITCH
⊕	ANTENNA AREA		
A2	ROOF IDENTIFICATION		
⊕	DETAIL		

PRICE CONSULTING, INC.
 PRICE CONSULTING, INC.
 7122 WOODSIDE DRIVE, SUITE A
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① ROOF PLAN: 1315 GILLETTE ST
 R2.22 SCALE: 1"=60'-0"(11"X17")



Job Number
 12141.23.01
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 Checked by
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Sheet Name
ROOF PLAN

Sheet Number
R2.22

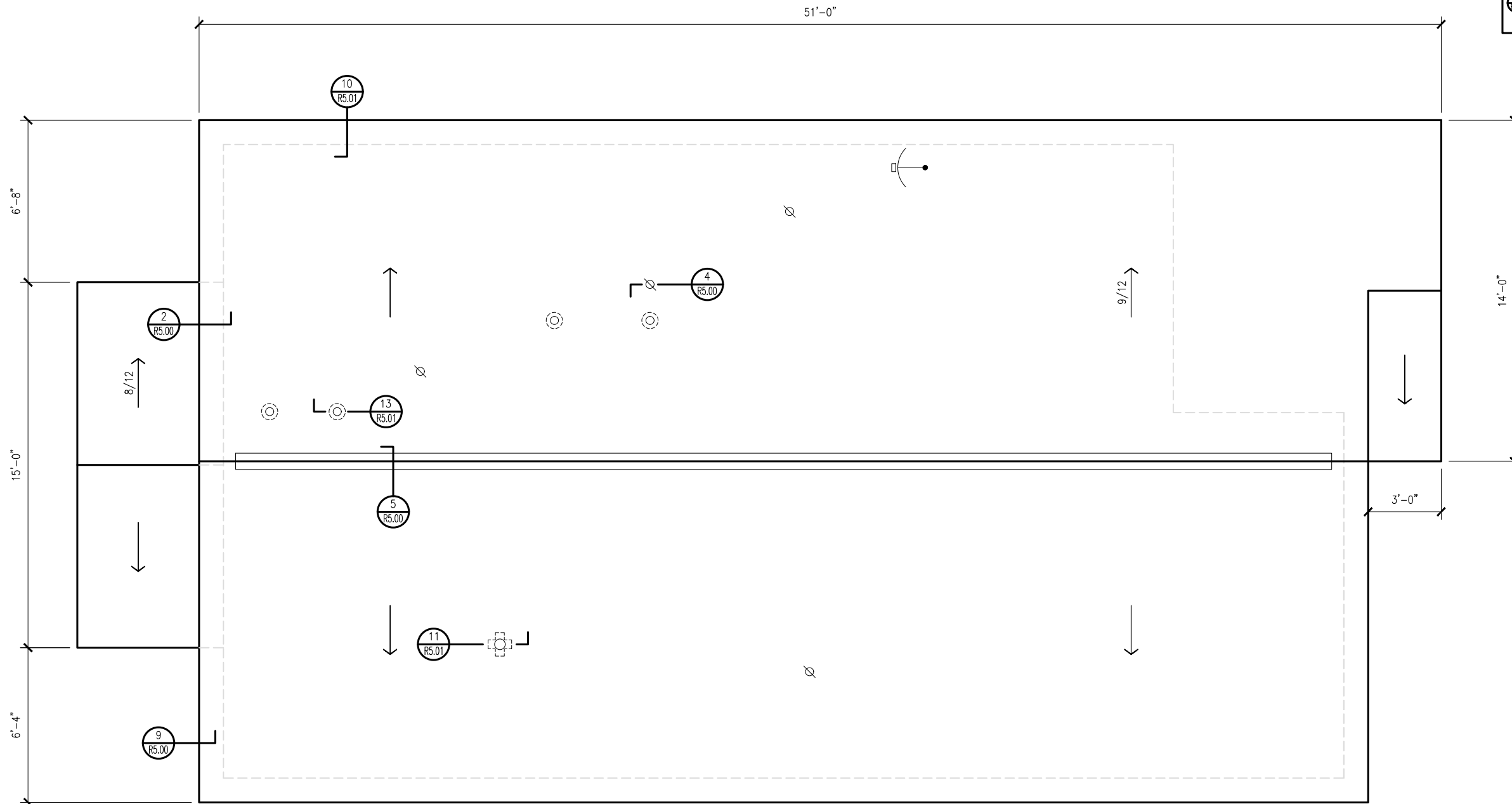
SHEET 26 OF 65

SCOPE OF ROOF REPLACEMENT:

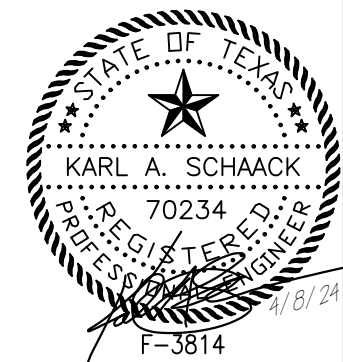
- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- 11 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- 12 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- 13 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- 14 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.

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- 16 REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- 17 INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.

LEGEND			
⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	—	ROOF EDGE/ RIDGE/HIP
⊖	GRAVITY VENT	—	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	—	PARAPET
⊗	GRAVITY VENT	—	THROUGH-WALL SCUPPER
⊗	TURBINE VENT	—	12" WALL THICKNESS INDICATOR
⊗	MOISTURE RELIEF VENT	—	2'-6" WALL HEIGHT INDICATOR
■	PITCH PAN	—	SPLASHBLOCK
●	ROUND PENETRATION	—	ROOF HATCH
⊖	GOOSENECK PENETRATION	→	6/12 SLOPE DIRECTION/ PITCH
⊕	SHINGLE ROOF		
⊕	ANTENNA AREA		
A2	ROOF IDENTIFICATION		
⊕	DETAIL		



1 ROOF PLAN: 1506 A & B RUTHVEN ST
 R2.23 SCALE: 1"=60'-0"(11"X17")



PRICE CONSULTING, INC.
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 SPRING, TEXAS 77379
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 PO PROJECT NO.: 12141.23
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 ESG/RH
 Checked by
 KAS
 Date
 03/26/24
 CD
 Revised

Sheet Name
ROOF PLAN

Sheet Number
R2.23

SHEET 27 OF 65

SCOPE OF ROOF REPLACEMENT:

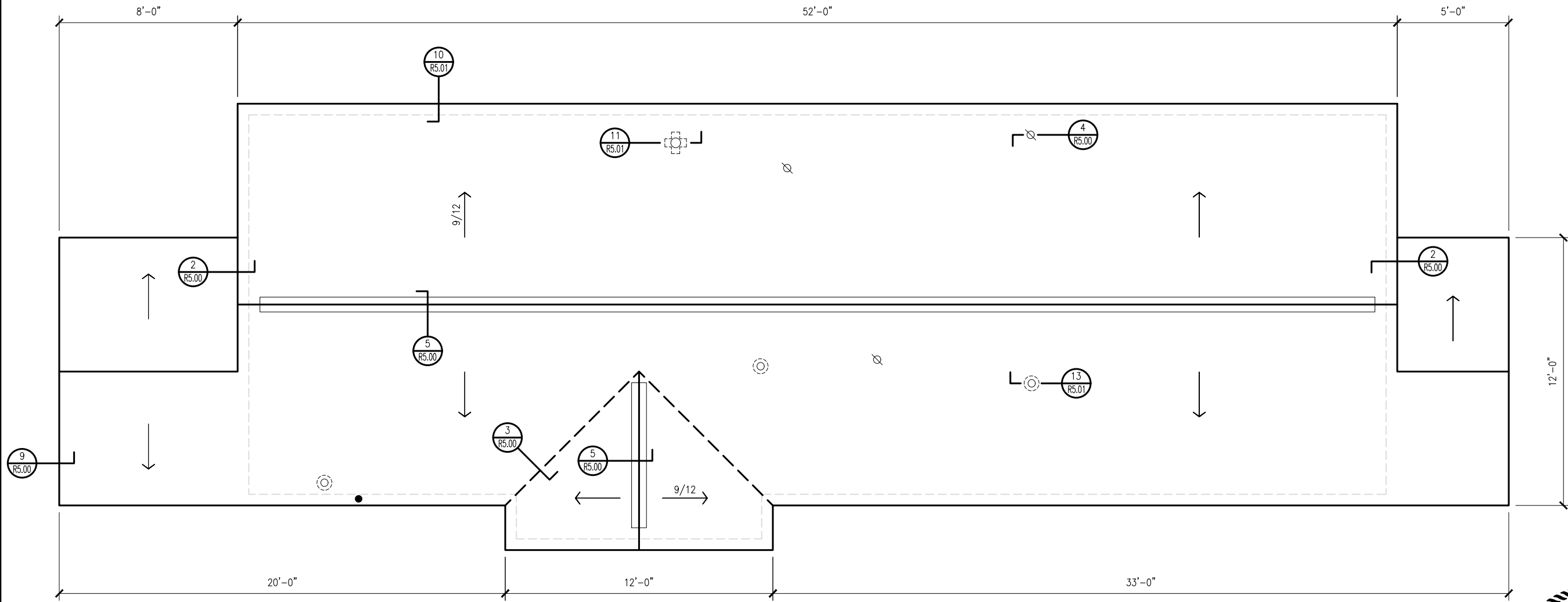
- ⑩ REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- ⑪ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- ⑫ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
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- ⑲ REMOVE ABANDONED SATELLITE DISH MOUNTS.

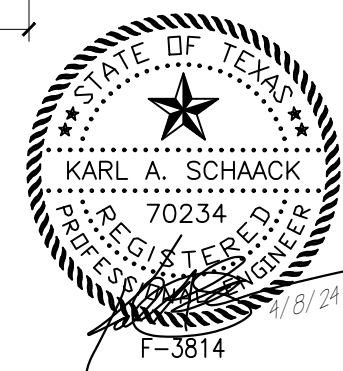
LEGEND			
	PLUMBING VENT		VALLEY
	HEAT EXHAUST		ROOF EDGE/ RIDGE/HIP
	GRAVITY VENT		DOWNSPOUT AND GUTTER
	GRAVITY VENT		PARAPET
	TURBINE VENT		THROUGH-WALL SCUPPER
	MOISTURE RELIEF VENT		12" WALL THICKNESS INDICATOR
	PITCH PAN		WALL HEIGHT INDICATOR
	ROUND PENETRATION		SPLASHBLOCK
	GOOSENECK PENETRATION		ROOF HATCH
	SHINGLE ROOF		
	ANTENNA AREA		
	ROOF IDENTIFICATION		6/12 SLOPE DIRECTION/ PITCH
	DETAIL		

PRICE CONSULTING, INC.
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1 ROOF PLAN: 1508 RUTHVEN ST
 R2.24 SCALE: 1"=60'-0"(11"x17")



Job Number
12141.23.01

Drawn by
ESG/RH

Checked by
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Date
03/26/24
CD

Revised

Sheet Name
ROOF PLAN

Sheet Number
R2.24

SHEET 28 OF 65

SCOPE OF ROOF REPLACEMENT:

- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- 11 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- 12 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
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- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.



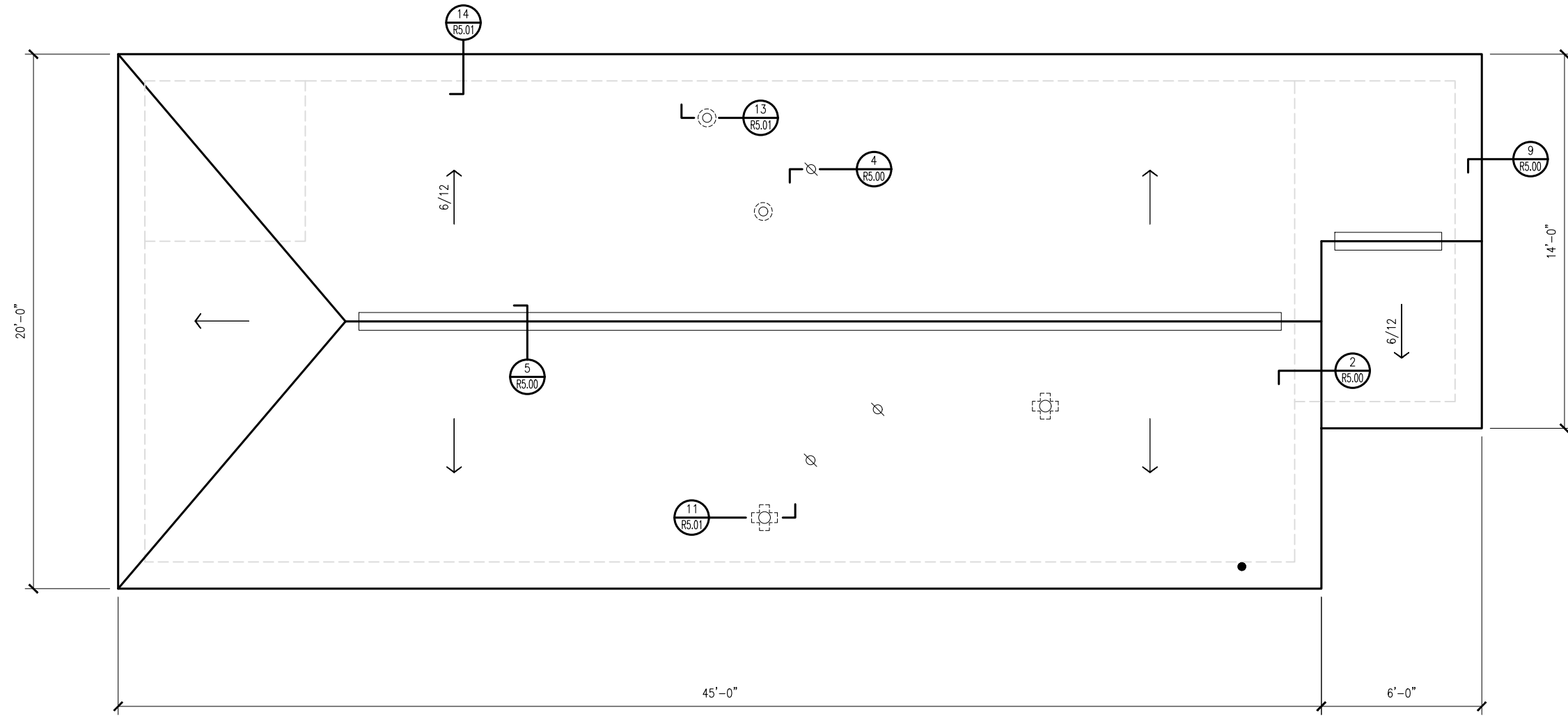
NORTH

LEGEND

⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	—	ROOF EDGE/ RIDGE/HIP
⊠	GRAVITY VENT	—	DOWNSPOUT AND GUTTER
⊠	GRAVITY VENT	—	PARAPET
⊠	GRAVITY VENT	—	THROUGH-WALL SCUPPER
⊠	TURBINE VENT	—	12" WALL THICKNESS INDICATOR
⊠	MOISTURE RELIEF VENT	—	6" WALL HEIGHT INDICATOR
■	PITCH PAN	⊠	SPLASHBLOCK
●	ROUND PENETRATION	⊠	ROOF HATCH
⊙	GOOSENECK PENETRATION	↗	6/12 SLOPE DIRECTION/ PITCH
⊠	SHINGLE ROOF		
⊠	ANTENNA AREA		
A2	ROOF IDENTIFICATION		
⊠	DETAIL		

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 7122 WOODSHEP BLVD, SUITE A
 SPRING, TEXAS 77379
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 PO PROJECT NO.: 12141.23
 TX P.E. FIRM # F-3814

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1 ROOF PLAN: 1510 RUTHVEN ST
 R2.25 SCALE: 1"=60'-0" (11"X17")



Job Number
12141.23.01
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ESG/RH
 Checked by
KAS
 Date
03/26/24
 CD
 Revised

Sheet Name
ROOF PLAN

Sheet Number
R2.25

SCOPE OF ROOF REPLACEMENT:

- 10 REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- 11 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- 12 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- 13 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- 14 REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.

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- 18 INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- 19 REMOVE ABANDONED SATELLITE DISH MOUNTS.



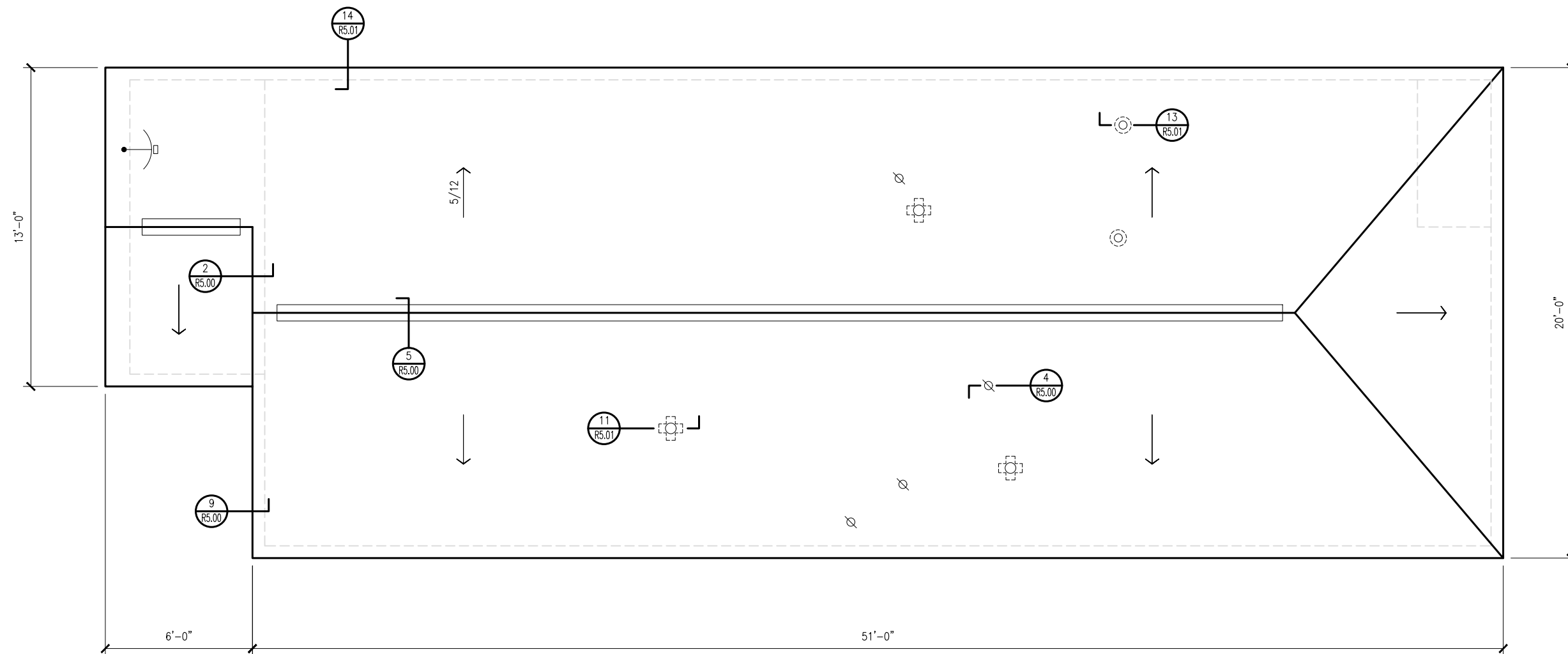
NORTH

LEGEND

PLUMBING VENT	VALLEY
HEAT EXHAUST	ROOF EDGE/RIDGE/HIP
GRAVITY VENT	DOWNSPOUT AND GUTTER
GRAVITY VENT	PARAPET
GRAVITY VENT	THROUGH-WALL SCUPPER
TURBINE VENT	12" WALL THICKNESS INDICATOR
MOISTURE RELIEF VENT	WALL HEIGHT INDICATOR
PITCH PAN	SPLASHBLOCK
ROUND PENETRATION	ROOF HATCH
GOOSENECK PENETRATION	6/12 SLOPE DIRECTION/PITCH
SHINGLE ROOF	
ANTENNA AREA	
A2 ROOF IDENTIFICATION	
DETAIL	

PRICE CONSULTING, INC.
 PRICE CONSULTING, INC.
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 SPRING, TEXAS 77379
 PHONE: (281)528-1724
 P.O. PROJECT NO.: 12141.23
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1 ROOF PLAN: 1512 RUTHVEN ST
 R2.26 SCALE: 1"=60'-0"(11"X17")



Job Number
12141.23.01

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KAS

Date
03/26/24

CD

Revised

Sheet Name
ROOF PLAN

Sheet Number
R2.26

SCOPE OF ROOF REPLACEMENT:

- ⑩ REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- ⑪ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- ⑫ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- ⑬ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- ⑭ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.
- ⑮ INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
- ⑯ REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- ⑰ INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- ⑱ INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- ⑲ REMOVE ABANDONED SATELLITE DISH MOUNTS.



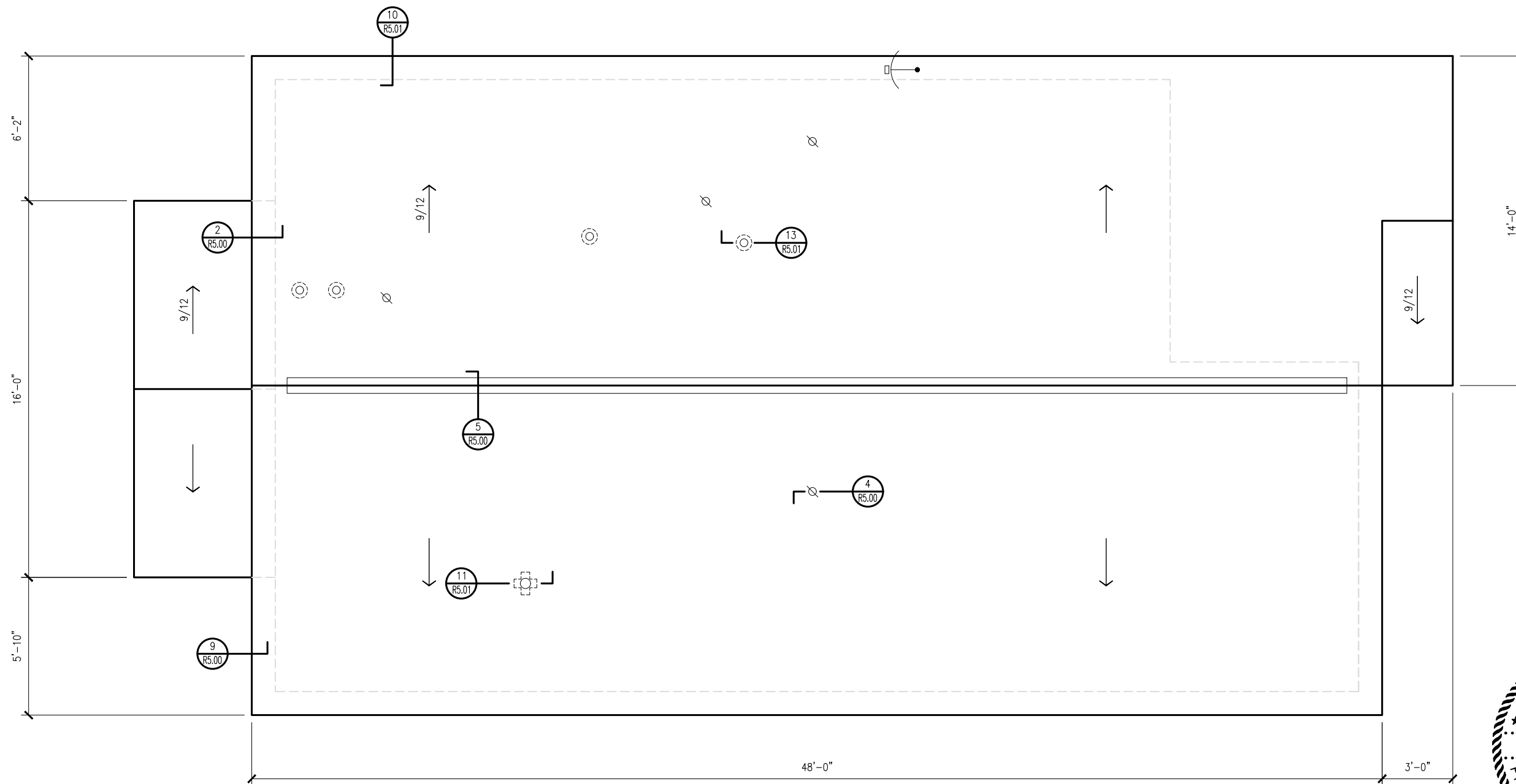
NORTH

LEGEND

⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	—	ROOF EDGE/ RIDGE/HIP
⊖	GRAVITY VENT	—	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	—	PARAPET
⊗	TURBINE VENT	—	THROUGH-WALL SCUPPER
⊖	MOISTURE RELIEF VENT	—	12" WALL THICKNESS INDICATOR
■	PITCH PAN	—	WALL HEIGHT INDICATOR
●	ROUND PENETRATION	—	SPLASHBLOCK
⊖	GOOSENECK PENETRATION	—	ROOF HATCH
⊕	SHINGLE ROOF	→	6/12 SLOPE DIRECTION/ PITCH
⊕	ANTENNA AREA		
A2	ROOF IDENTIFICATION		
1-300	DETAIL		

PRICE CONSULTING, INC.
 PRICE CONSULTING, INC.
 7122 WOODCREST DR., SUITE A
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① **ROOF PLAN: 1514 RUTHVEN ST**
 R2.27 SCALE: 1"=60'-0"(11"X17")



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12141.23.01
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ESG/RH
 Checked by
KAS
 Date
03/26/24
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Sheet Name
ROOF PLAN

Sheet Number
R2.27

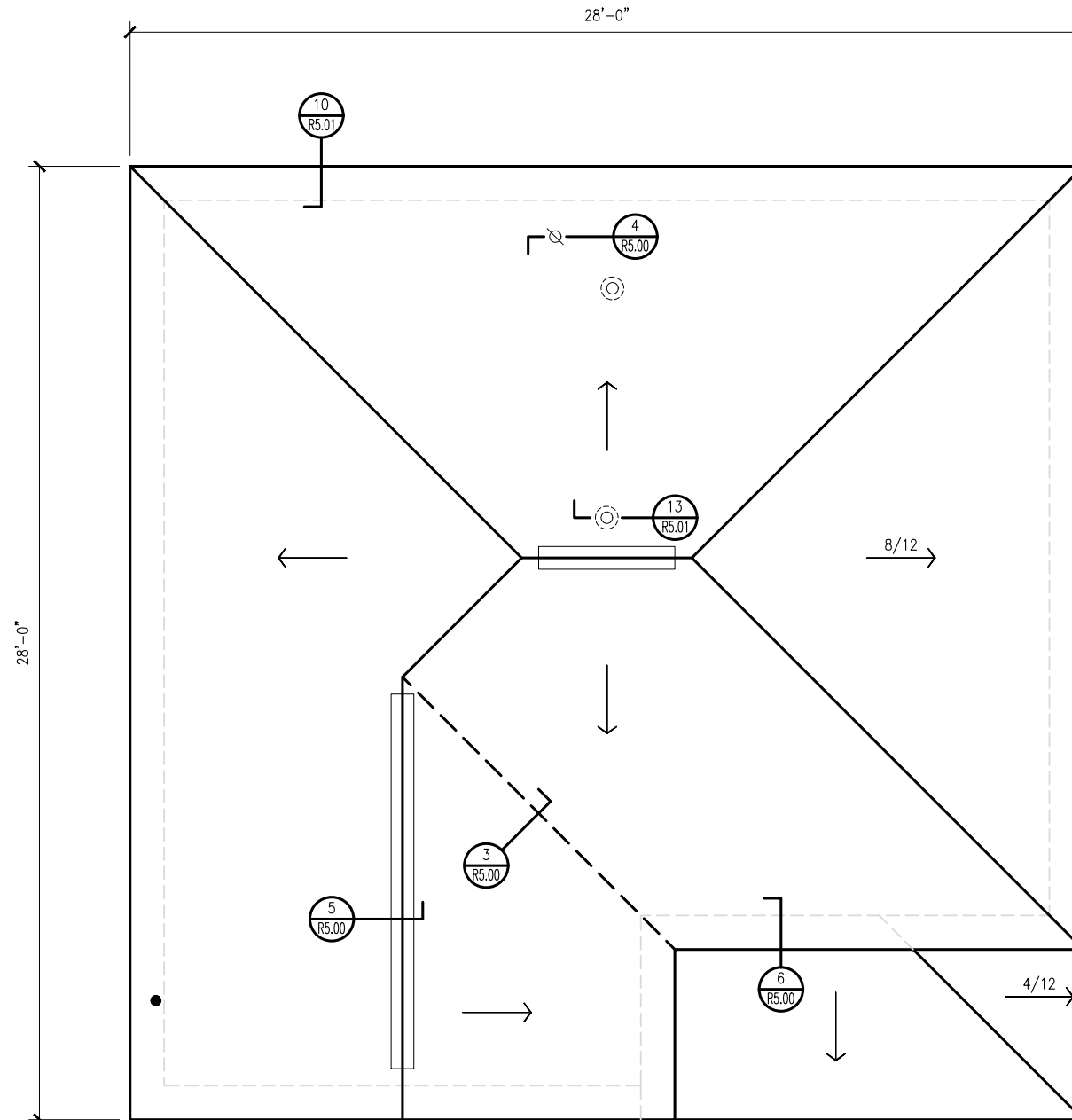
SCOPE OF ROOF REPLACEMENT:

- ⑩ REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- ⑪ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- ⑫ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- ⑬ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- ⑭ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.
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- ⑯ REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- ⑰ INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- ⑱ INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- ⑲ REMOVE ABANDONED SATELLITE DISH MOUNTS.



LEGEND

⊗	PLUMBING VENT	---	VALLEY
⊙	HEAT EXHAUST	—	ROOF EDGE/ RIDGE/HIP
⊖	GRAVITY VENT	—	DOWNSPOUT AND GUTTER
⊕	GRAVITY VENT	—	PARAPET
⊗	GRAVITY VENT	—	THROUGH-WALL SCUPPER
⊗	TURBINE VENT	—	12" WALL THICKNESS INDICATOR
⊖	MOISTURE RELIEF VENT	—	WALL HEIGHT INDICATOR
■	PITCH PAN	—	SPLASHBLOCK
●	ROUND PENETRATION	—	ROOF HATCH
○	GOOSENECK PENETRATION	—	6/12 SLOPE DIRECTION/ PITCH
⊕	SHINGLE ROOF		
⊕	ANTENNA AREA		
A2	ROOF IDENTIFICATION		
⊕	DETAIL		



1 ROOF PLAN: 1602 RUTHVEN ST
R2.28 SCALE: 1"=60'-0"(11"x17")

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Sheet Name
ROOF PLAN

Sheet Number
R2.28



SCOPE OF ROOF REPLACEMENT:

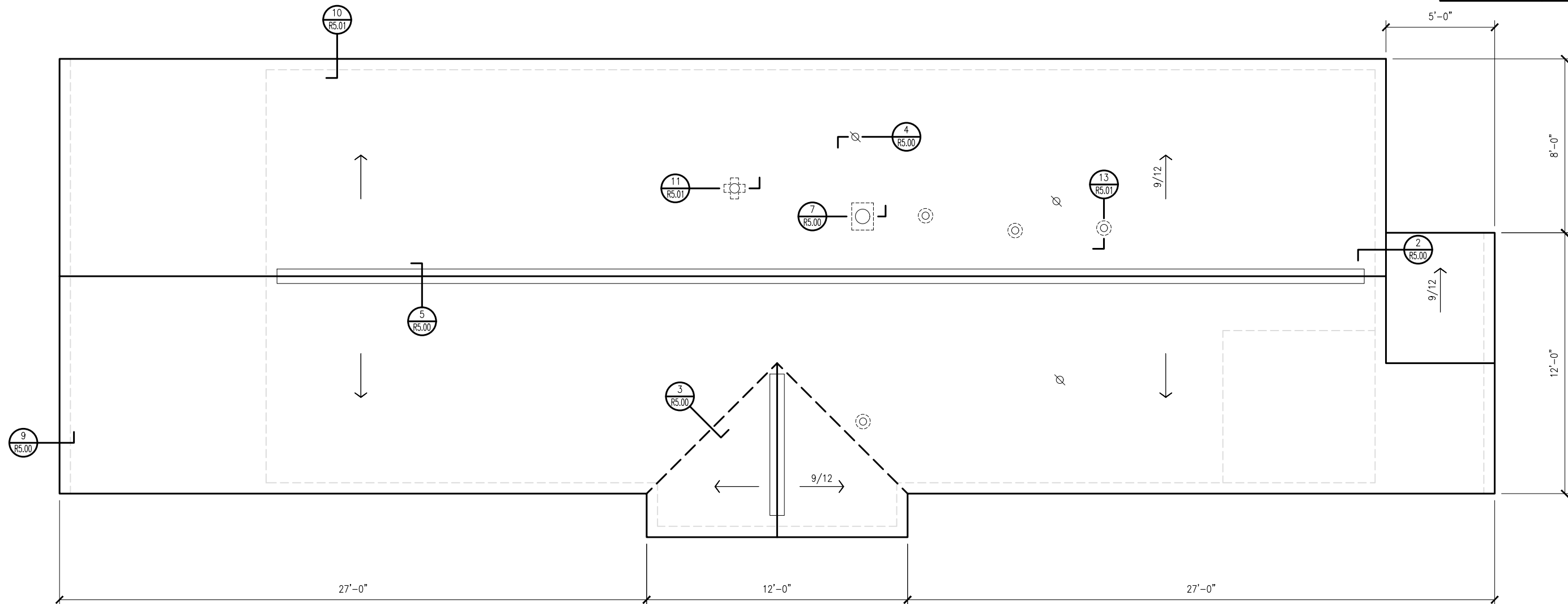
- ⑩ REMOVE EXISTING ASPHALT SHINGLES/UNDERLAYMENT DOWN TO ROOF DECK.
- ⑪ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE DECK.
- ⑫ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE FASCIA.
- ⑬ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE SOFFIT.
- ⑭ REPLACE DETERIORATED, DAMAGED OR NON SALVAGEABLE EXPOSED RAFTER TAILS.

- ⑮ INSTALL NEW UNDERLAYMENT, SHINGLES AND RELATED ACCESSORIES. SECURE SHINGLES WITH CORROSIVE-RESISTANT NAILS, 6 NAILS PER SHINGLE.
- ⑯ REPLACE SHEET METAL FLASHING AT HEAD WALLS, SIDE WALLS AND EAVES.
- ⑰ INSTALL NEW FLASHINGS AT PENETRATIONS AND VENTS.
- ⑱ INSTALL NEW RIDGE VENTS WITH RIDGE CAP SHINGLES, INCLUDING CUTTING NEW OPENING IN DECK WHERE APPLICABLE.
- ⑲ REMOVE ABANDONED SATELLITE DISH MOUNTS.

LEGEND			
	PLUMBING VENT		VALLEY
	HEAT EXHAUST		ROOF EDGE/RIDGE/HIP
	GRAVITY VENT		DOWNSPOUT AND GUTTER
	GRAVITY VENT		PARAPET
	TURBINE VENT		THROUGH-WALL SCUPPER
	MOISTURE RELIEF VENT		12" WALL THICKNESS INDICATOR
	PITCH PAN		2" WALL HEIGHT INDICATOR
	ROUND PENETRATION		SPLASHBLOCK
	GOOSENECK PENETRATION		ROOF HATCH
	SHINGLE ROOF		6/12 SLOPE DIRECTION/PITCH
	ANTENNA AREA		
	A2 ROOF IDENTIFICATION		
	DETAIL		

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 PRICE CONSULTING, INC.
 7122 WOODCREST DR., SUITE A
 SPRING, TEXAS 77379
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① ROOF PLAN: 1608 RUTHVEN ST
 SCALE: 1"=60'-0"(11"x17")



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12141.23.01

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KAS






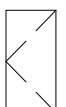
Date
03/26/24

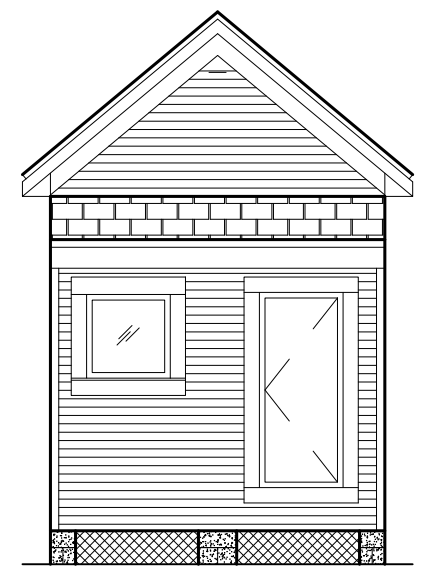
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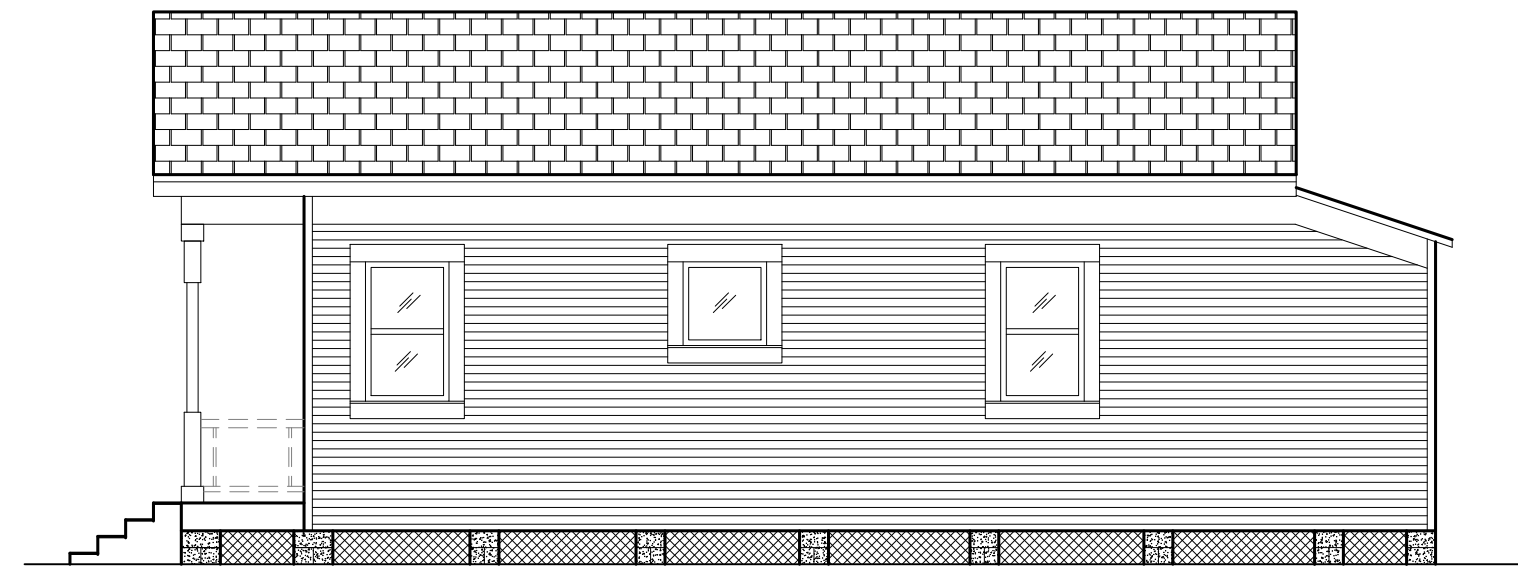
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ROOF PLAN

Sheet Number
R2.29

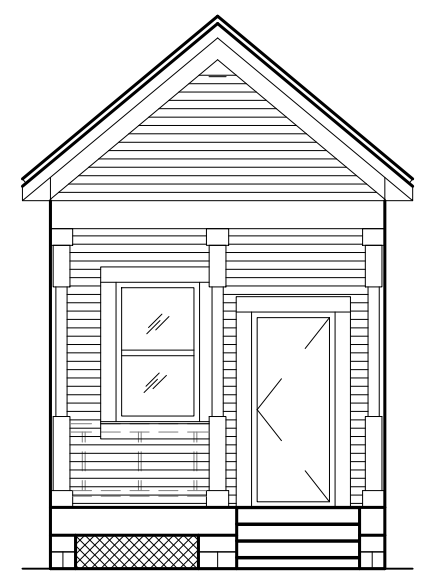
LEGEND	
	SHINGLE ROOF
	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR



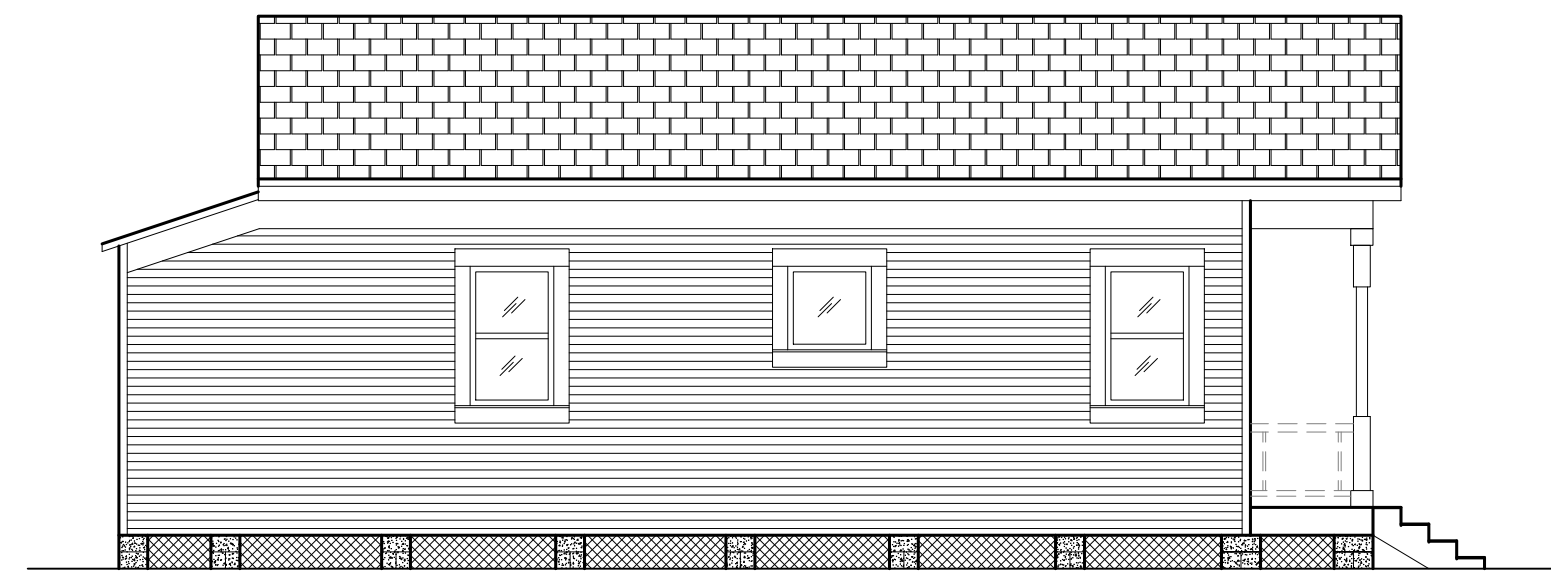
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 R3.00 SCALE: N.T.S



2 EAST ELEVATION
 R3.00 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.00 SCALE: N.T.S



4 WEST ELEVATION
 R3.00 SCALE: N.T.S

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 HOUSTON, TEXAS 77019

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 Date
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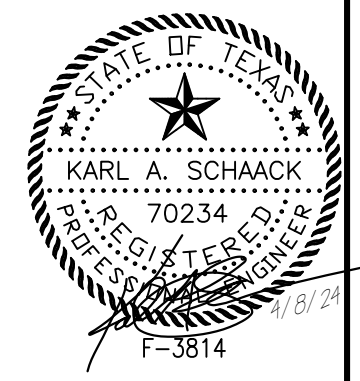
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
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Sheet Number

R3.00

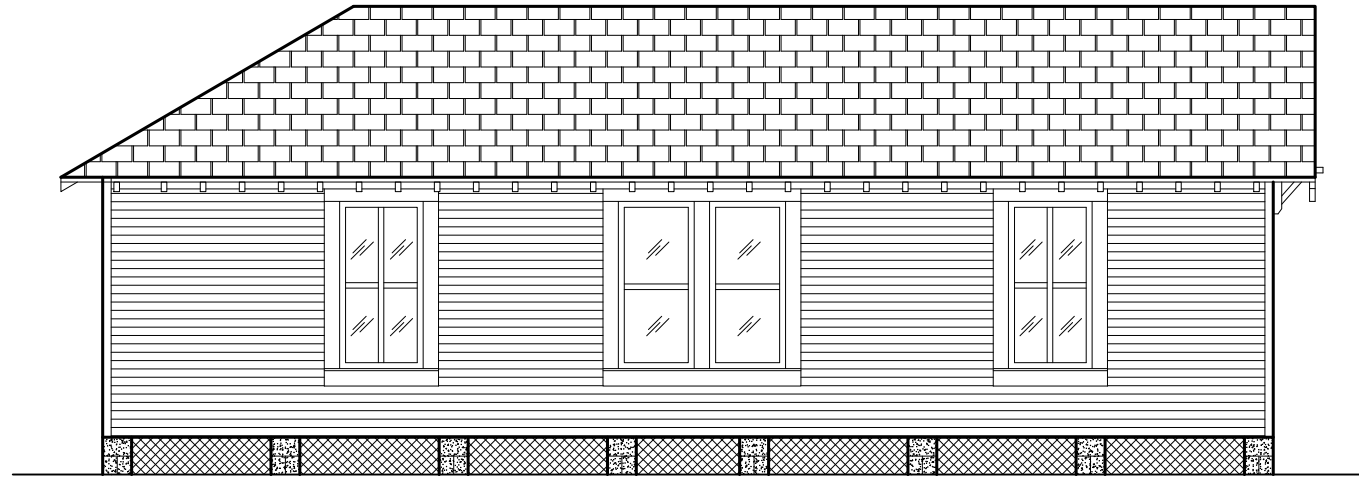
SHEET 34 OF 65



LEGEND	
	SHINGLE ROOF
	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR



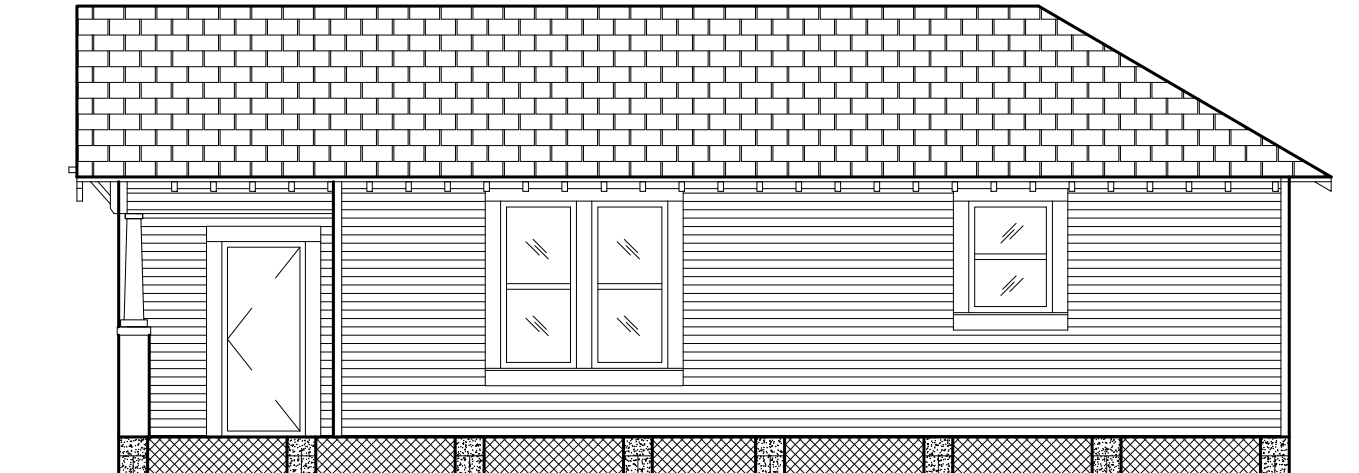
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2 EAST ELEVATION
 R3.01 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.01 SCALE: N.T.S



4 WEST ELEVATION
 R3.01 SCALE: N.T.S

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 1501 ANDREWS ST.
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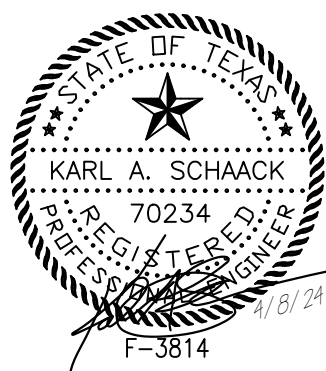
Job Number
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 ESG/RH
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 Date
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 CD
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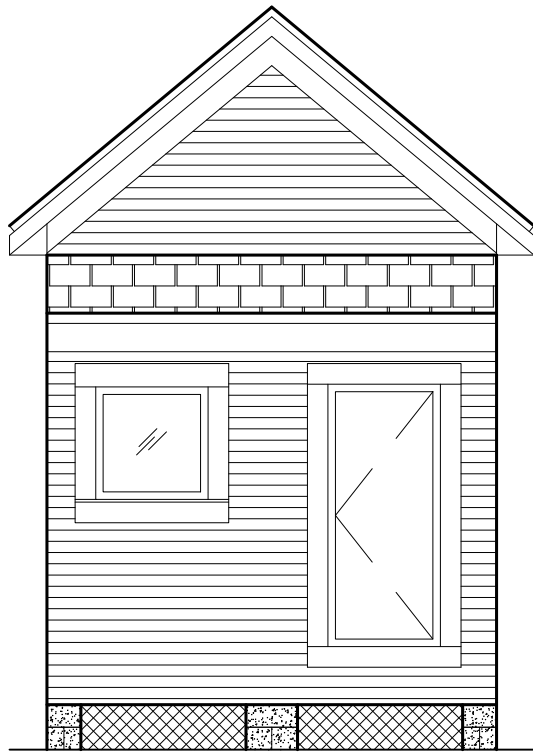
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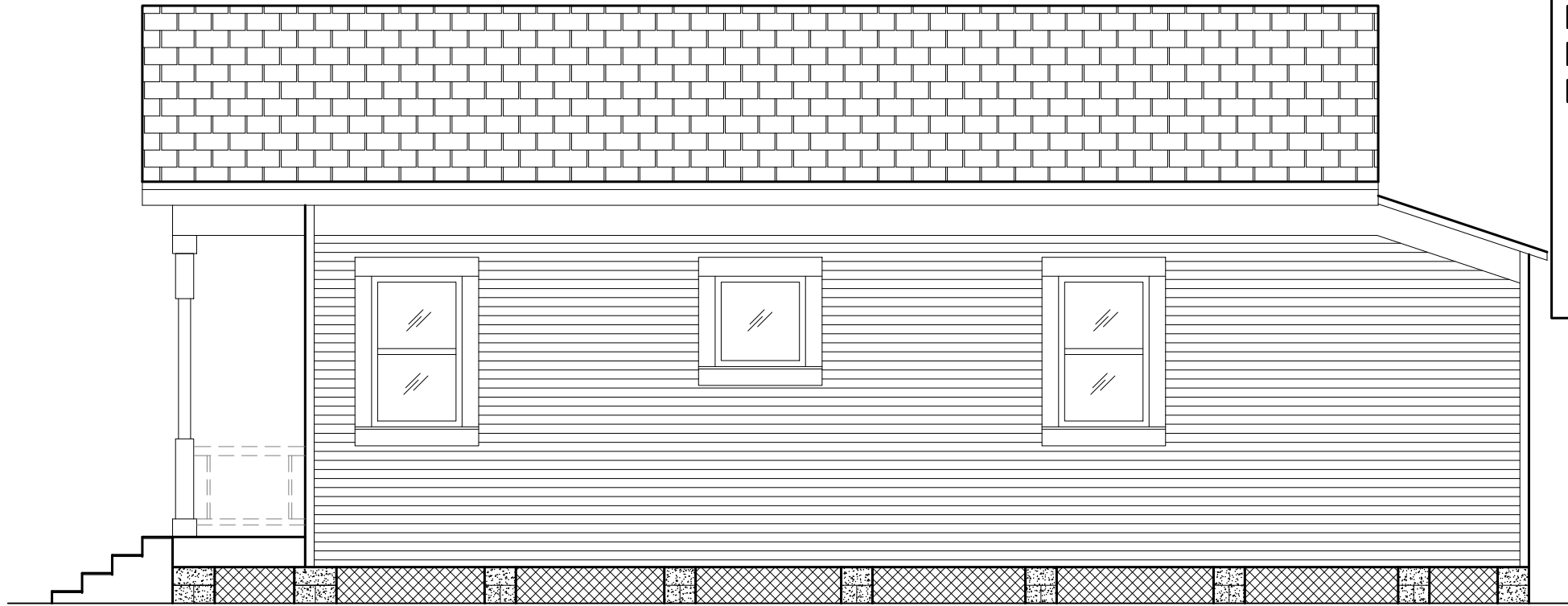
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SHEET 38 OF 65

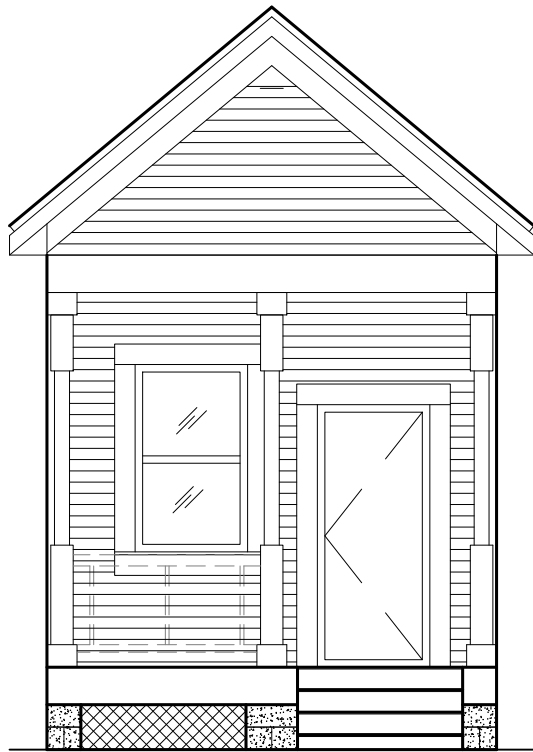




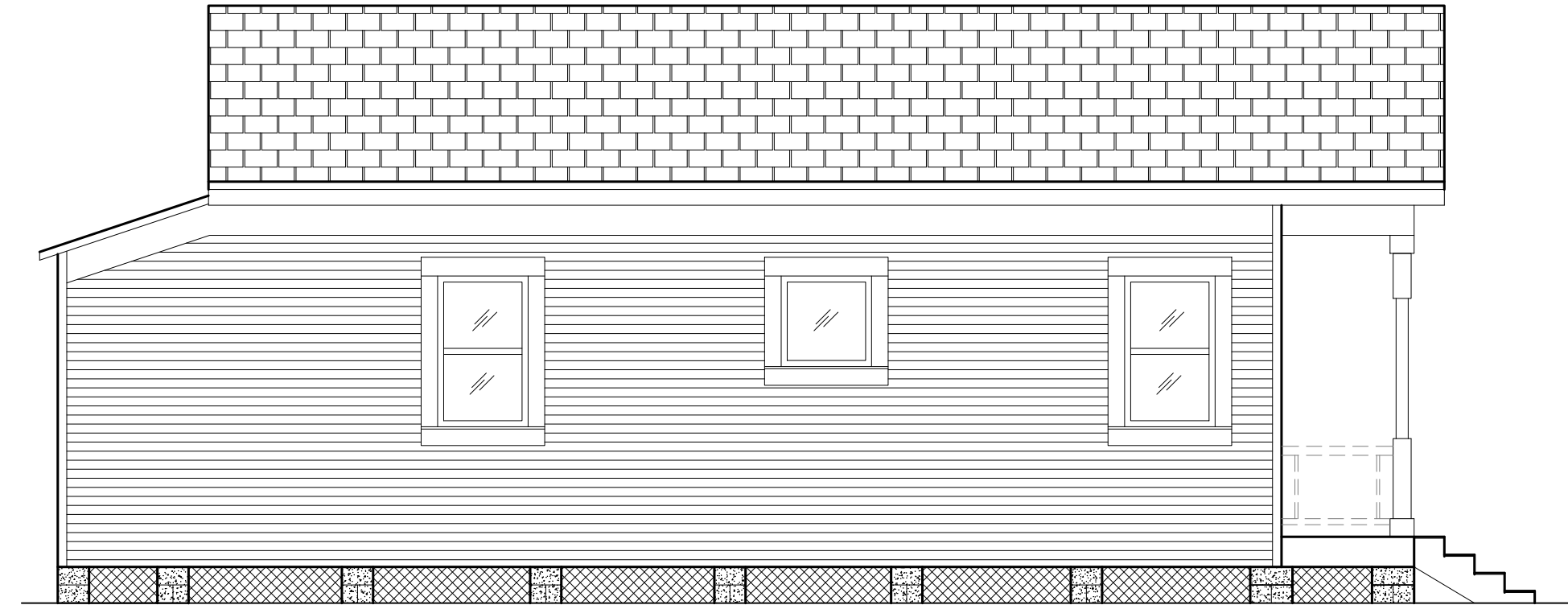
1 NORTH ELEVATION
SCALE: N.T.S.



2 EAST ELEVATION
SCALE: N.T.S.



3 SOUTH ELEVATION
SCALE: N.T.S.



4 WEST ELEVATION
SCALE: N.T.S.

LEGEND	
	SHINGLE ROOF
	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR

PRICE CONSULTING, INC.
 PRICE CONSULTING, INC.
 7122 WORCESTER DR., SUITE A
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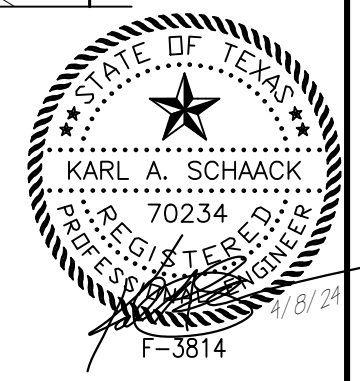
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 Date
 03/26/24
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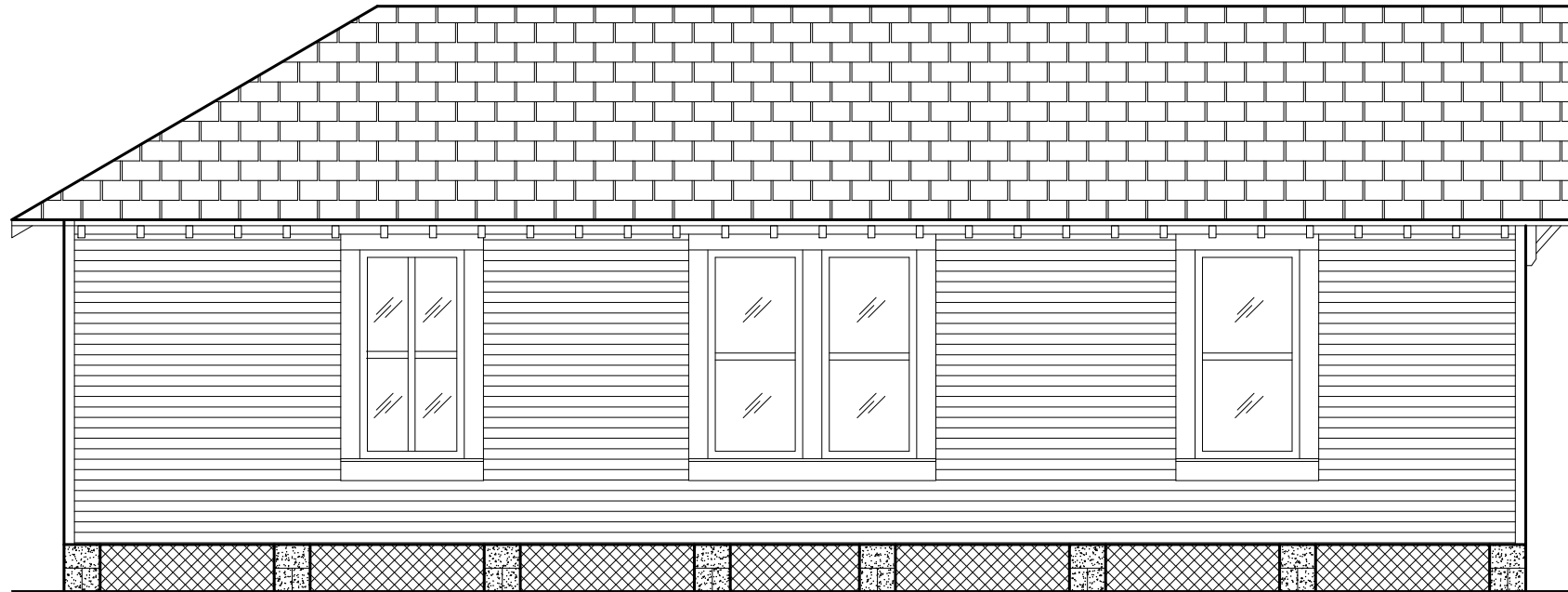
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 Sheet Number

R3.02
 SHEET 36 OF 65





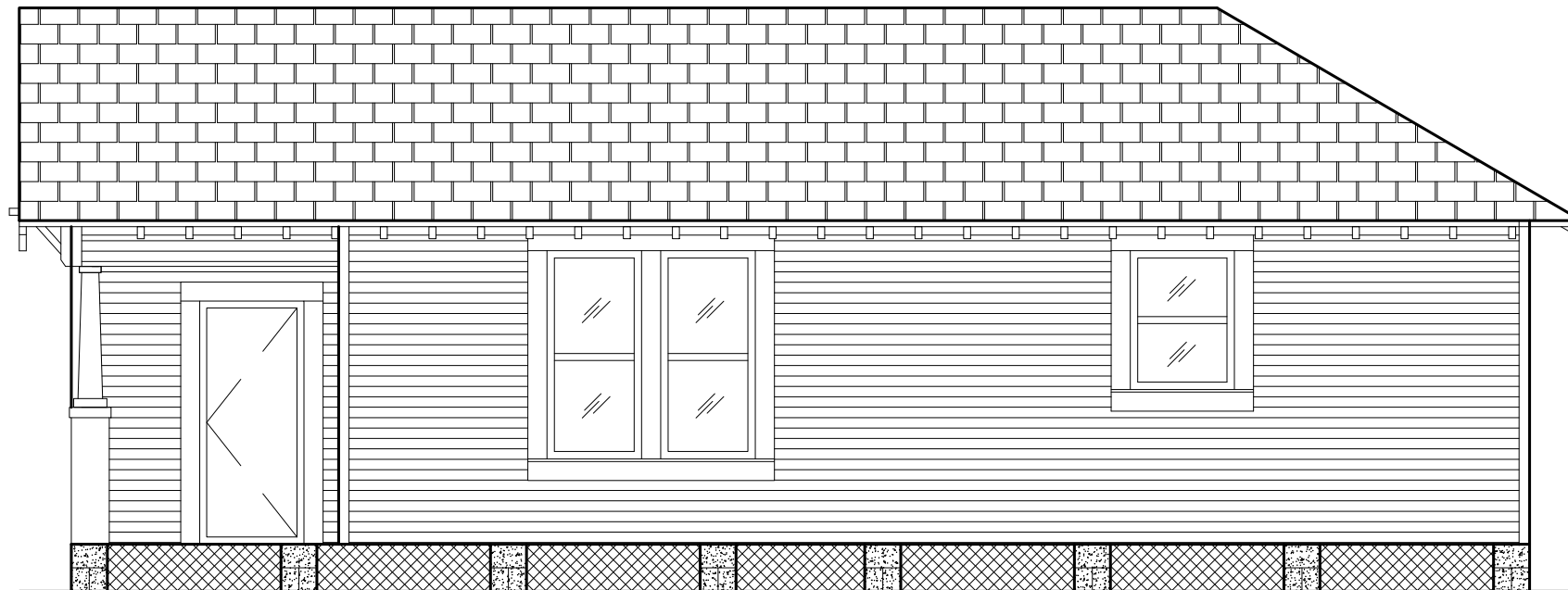
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2 EAST ELEVATION
R3.03 SCALE: N.T.S



3 SOUTH ELEVATION
R3.03 SCALE: N.T.S



4 WEST ELEVATION
R3.03 SCALE: N.T.S

LEGEND

	SHINGLE ROOF
	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR

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PRICE CONSULTING, INC.
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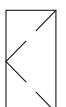
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1503 ANDREWS ST.
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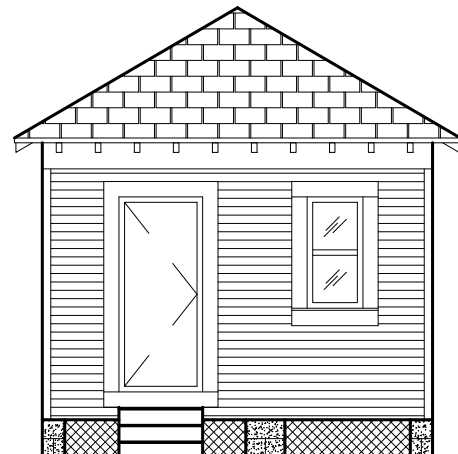
Job Number
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ELEVATIONS
Sheet Number

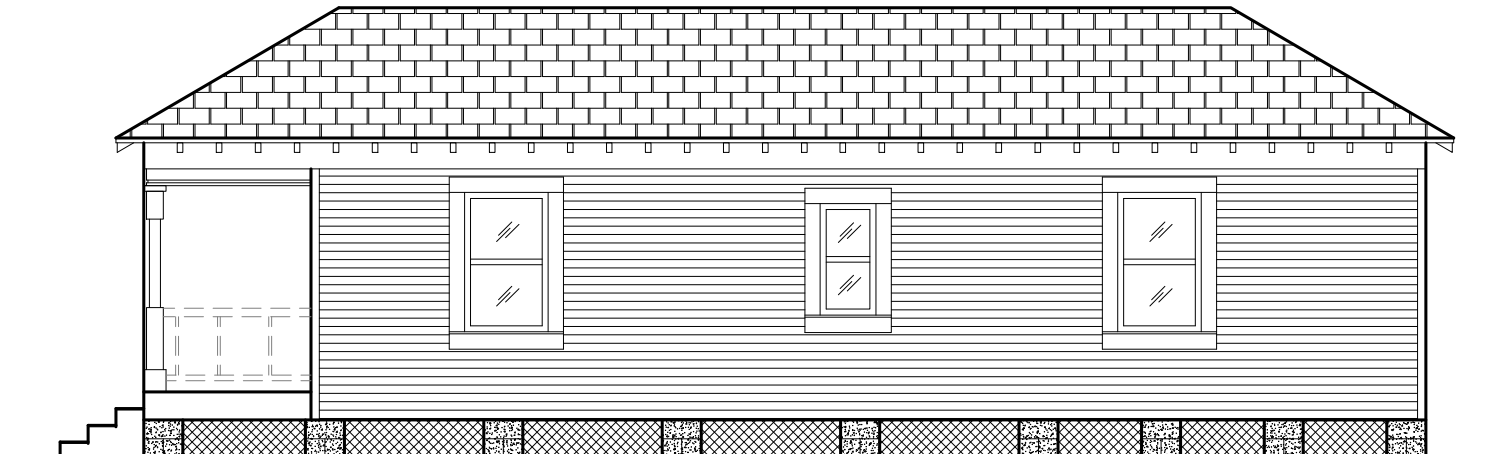
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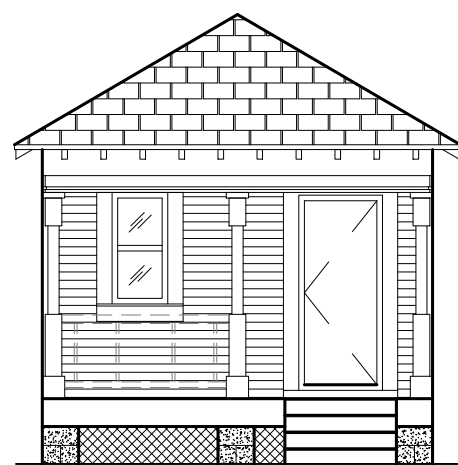
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	LATTICE
	MASONRY PIER
	GLASS
	DOOR



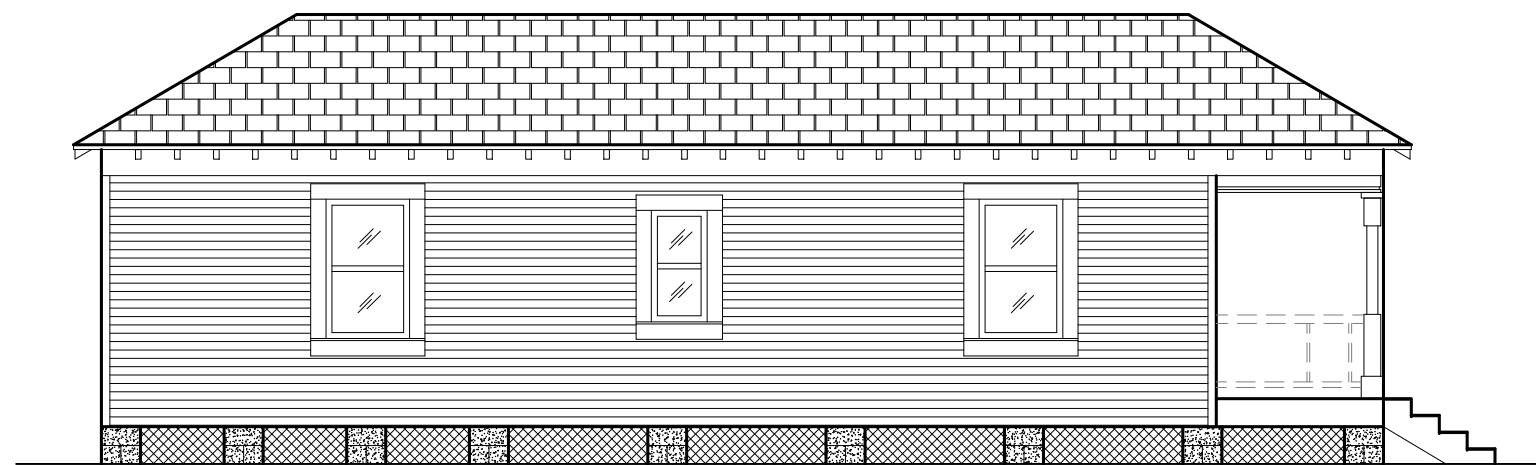
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 R3.04 SCALE: N.T.S



2 EAST ELEVATION
 R3.04 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.04 SCALE: N.T.S



4 WEST ELEVATION
 R3.04 SCALE: N.T.S

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 HOUSTON, TEXAS 77019

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
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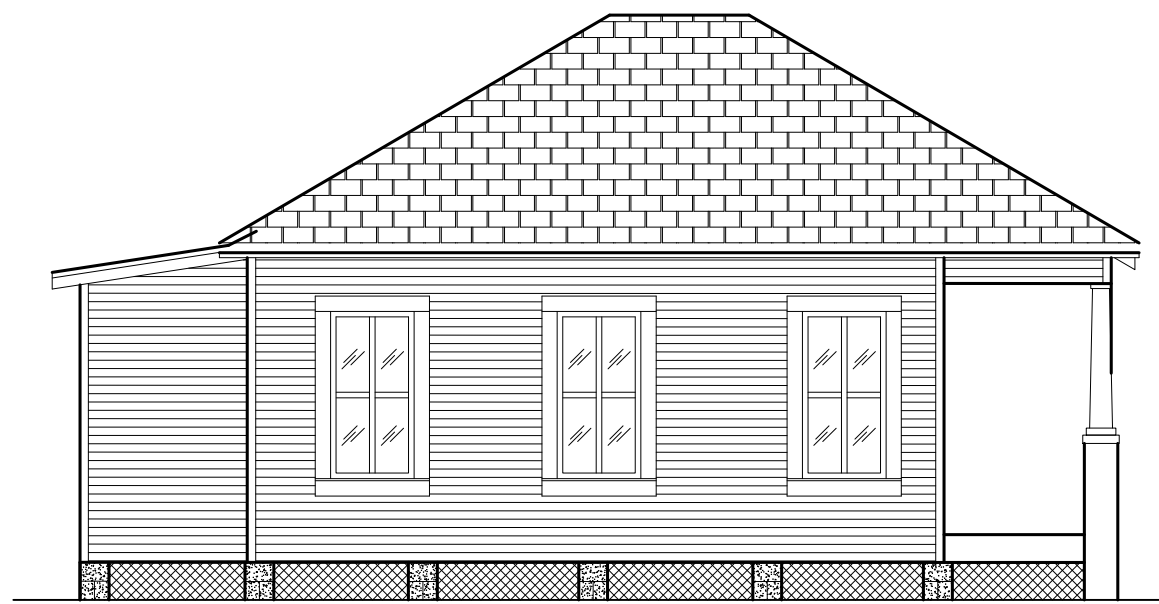
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LEGEND	
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	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR



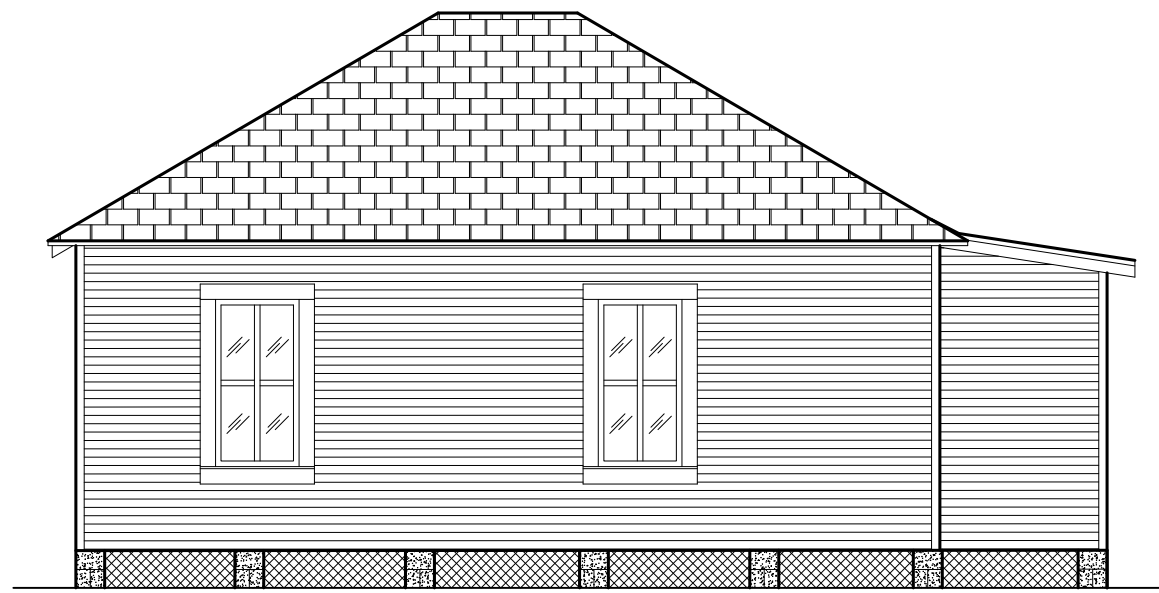
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2 EAST ELEVATION
 R3.05 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.05 SCALE: N.T.S



4 WEST ELEVATION
 R3.05 SCALE: N.T.S

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Sheet Name

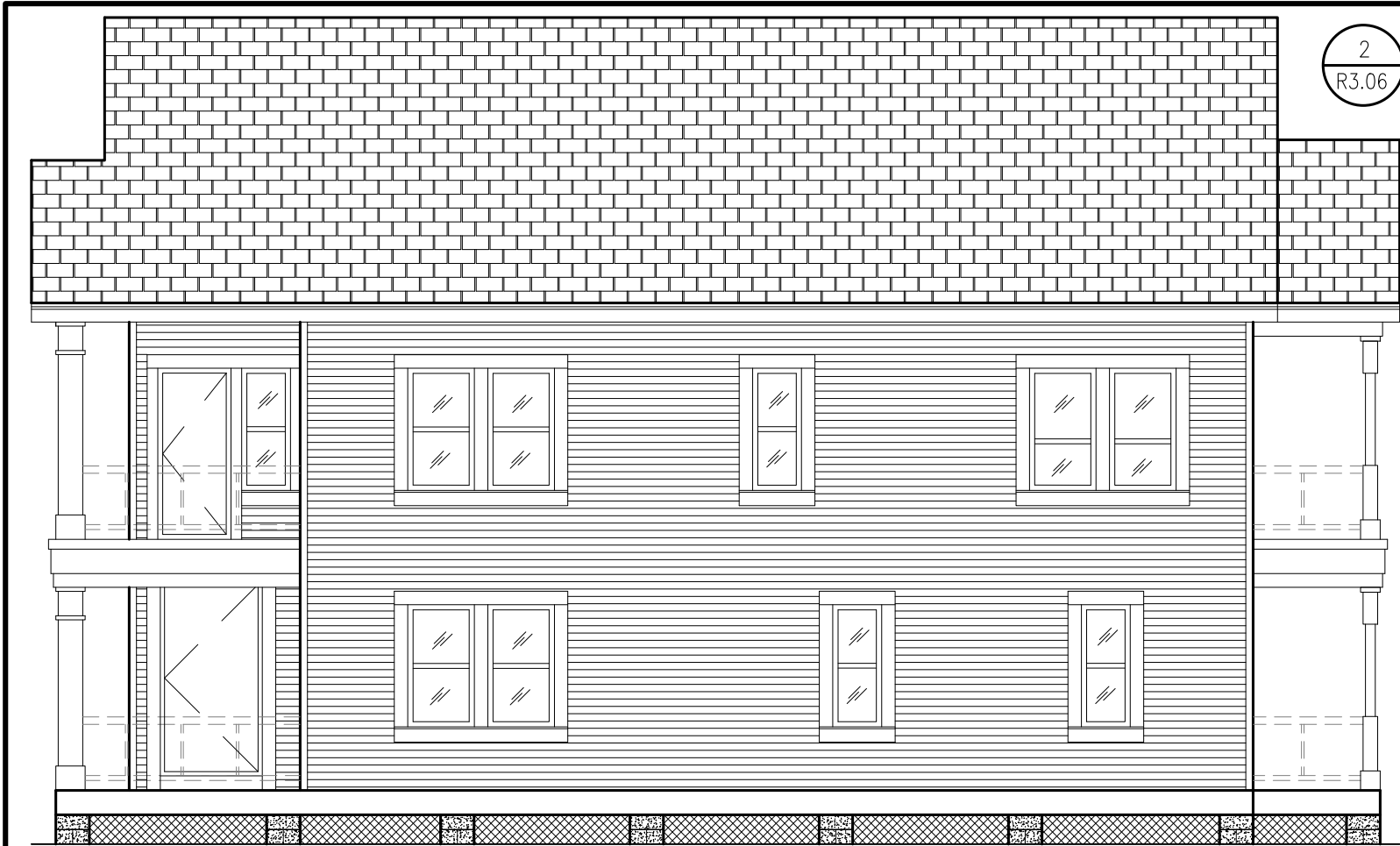
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Sheet Number

R3.05

SHEET 39 OF 65





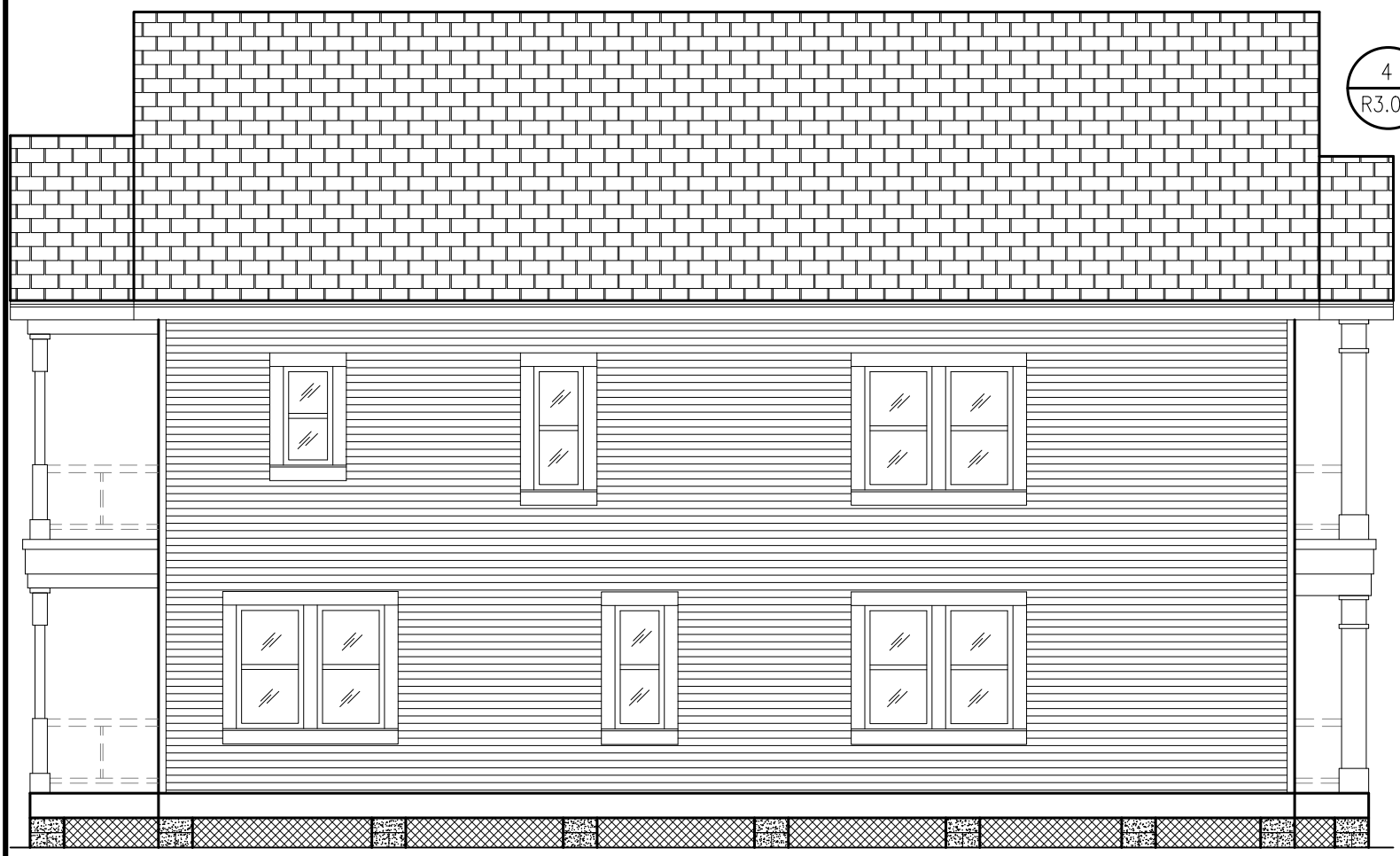
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1 NORTH ELEVATION
R3.06 SCALE: N.T.S

LEGEND

	SHINGLE ROOF
	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR



4 WEST ELEVATION
R3.06 SCALE: N.T.S



3 SOUTH ELEVATION
R3.06 SCALE: N.T.S



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
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1506 ANDREWS ST.
HOUSTON, TEXAS 77019

Job Number
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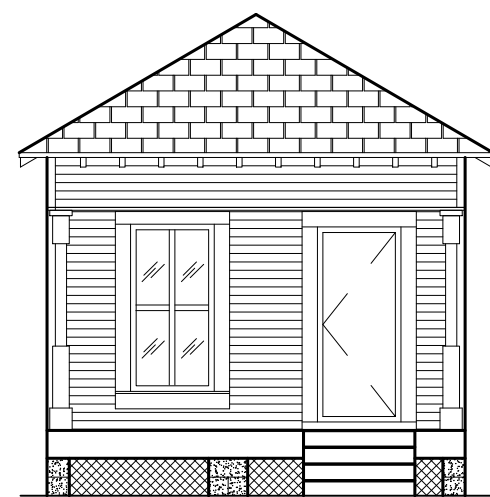
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ELEVATIONS

Sheet Number

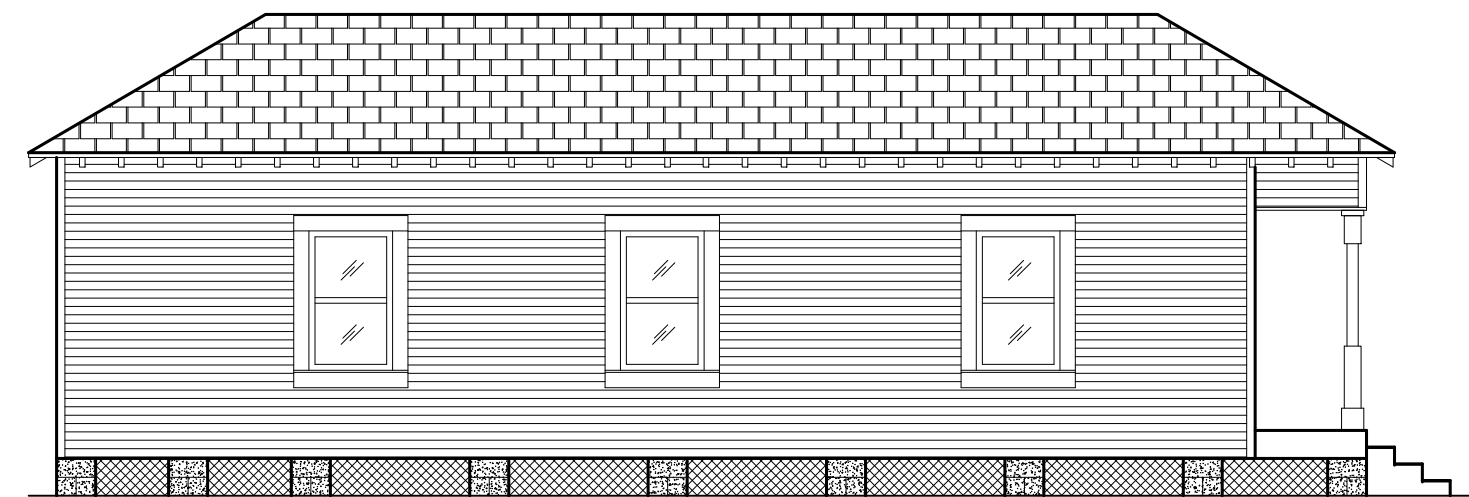
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LEGEND	
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	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR

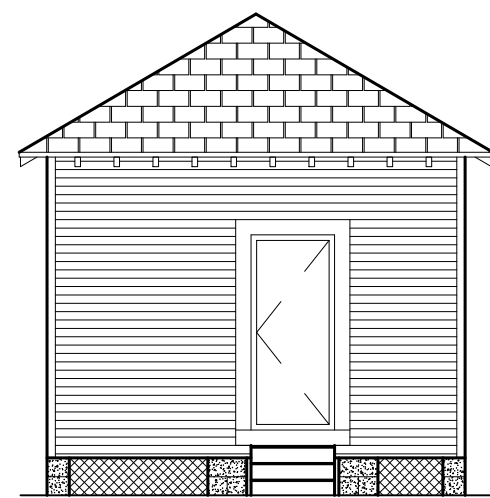
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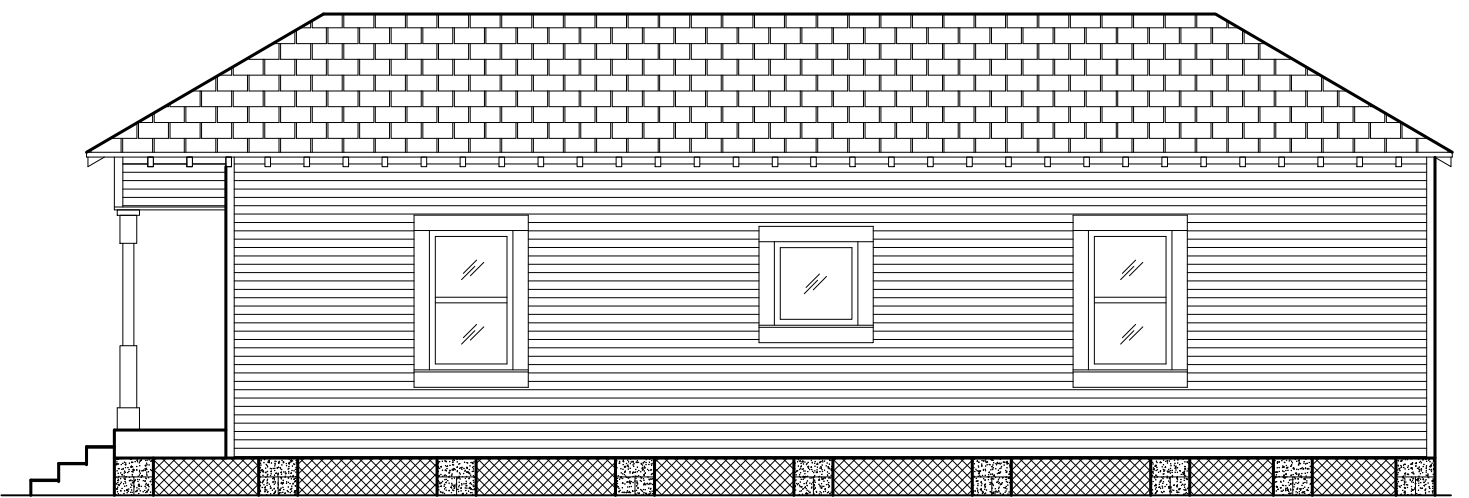
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2 EAST ELEVATION
 R3.07 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.07 SCALE: N.T.S



4 WEST ELEVATION
 R3.07 SCALE: N.T.S

HISTORIC RENTAL INITIATIVE RESIDENCES
 1507 ANDREWS ST.
 HOUSTON, TEXAS 77019

Job Number
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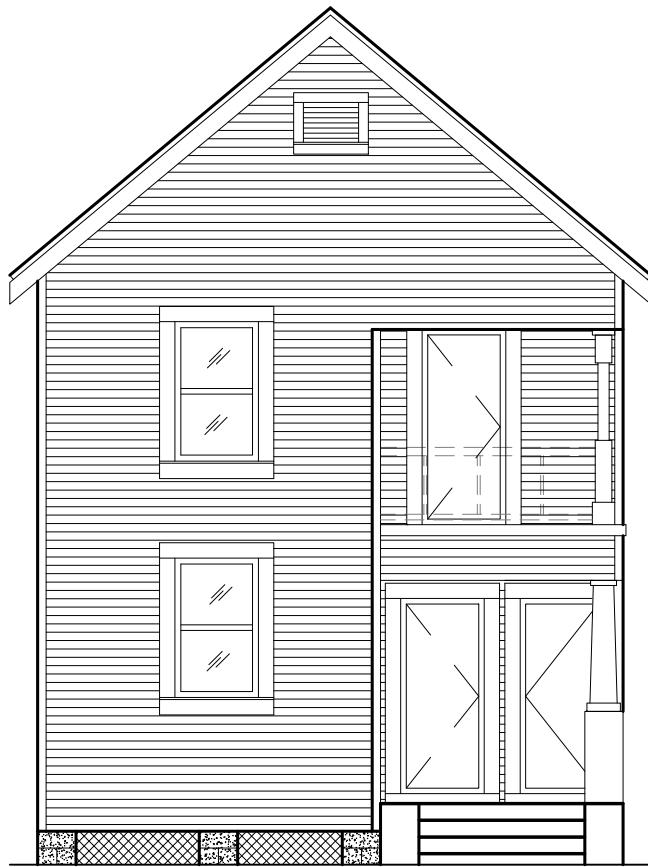
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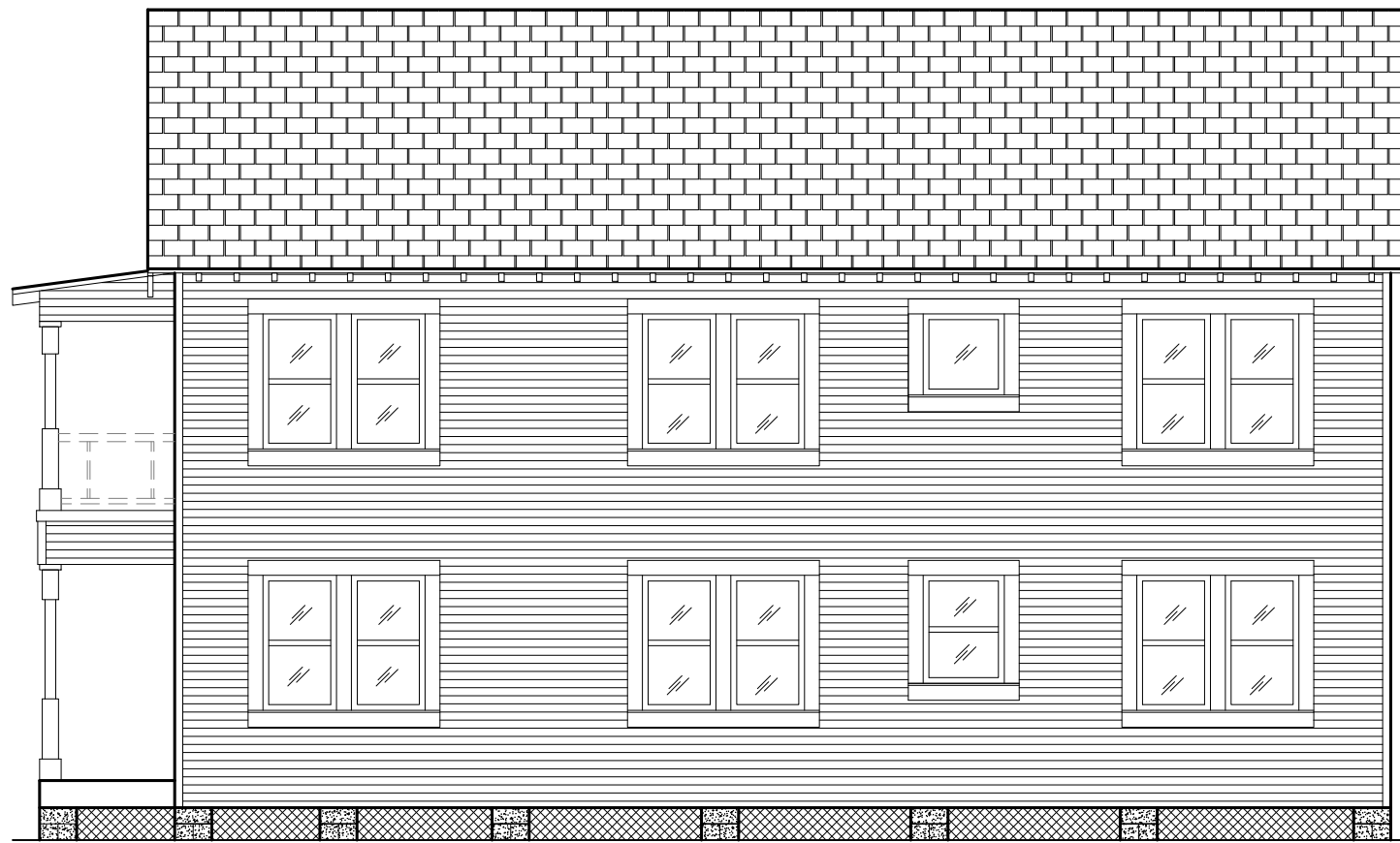
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SHEET 41 OF 65

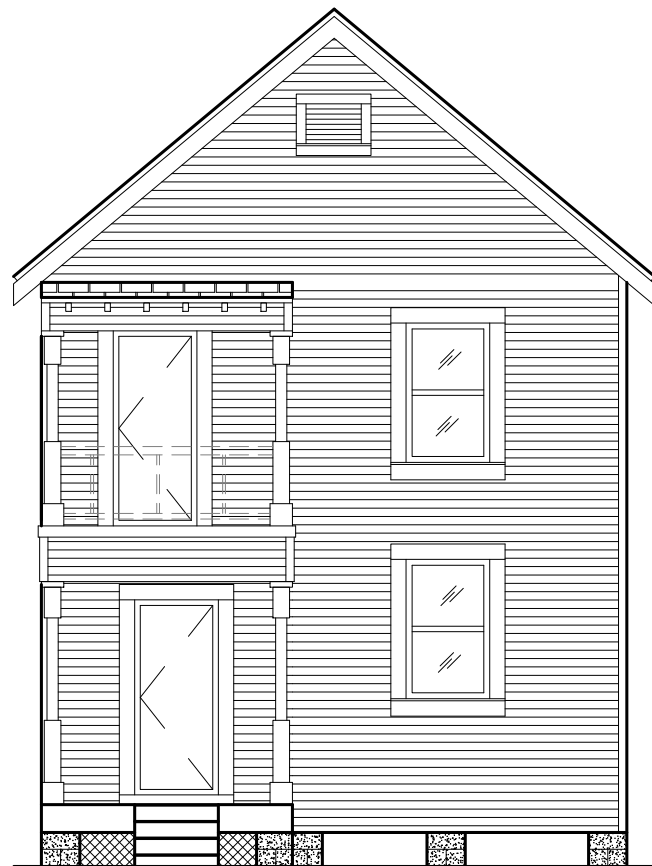




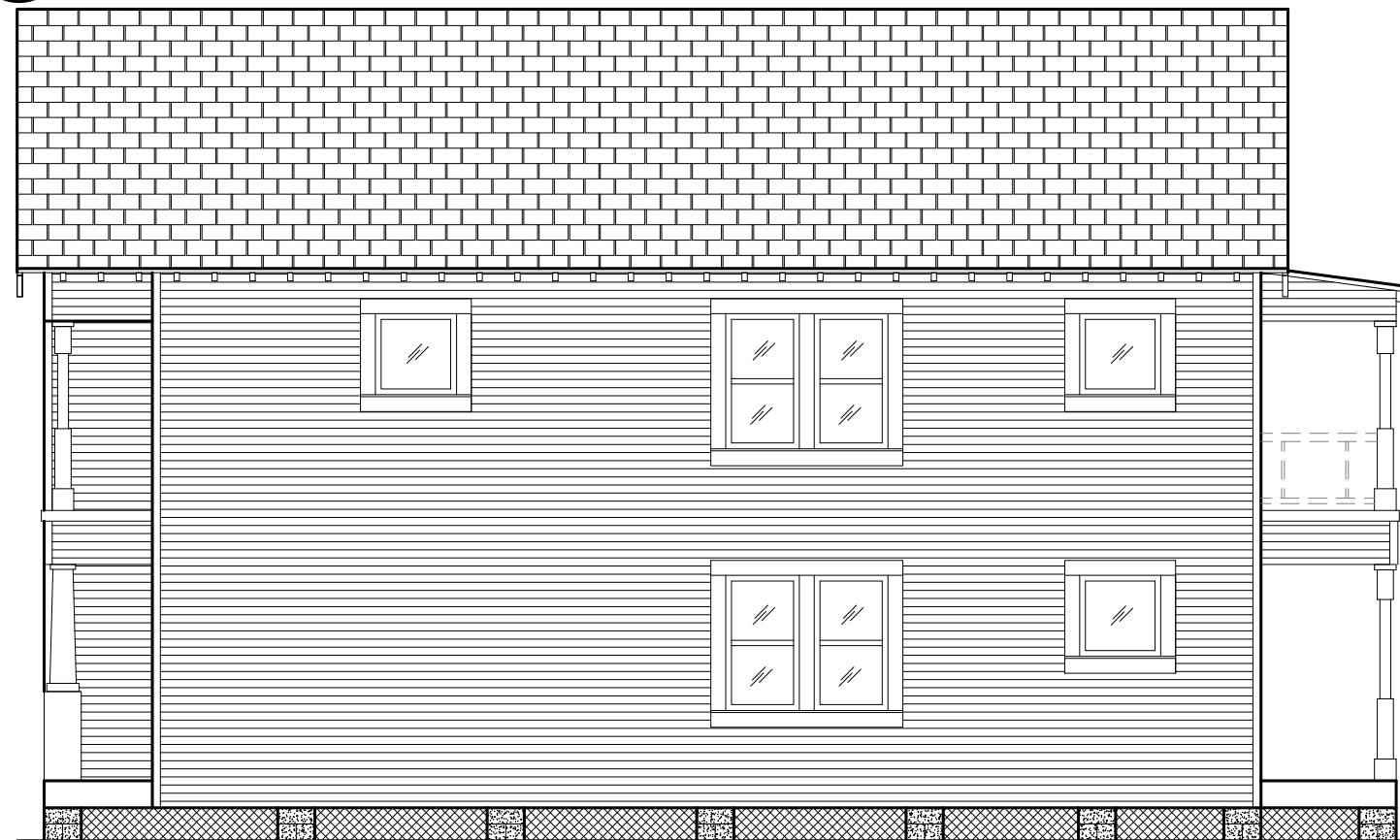
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2 EAST ELEVATION
R3.08 SCALE: N.T.S



3 SOUTH ELEVATION
R3.08 SCALE: N.T.S



4 WEST ELEVATION
R3.08 SCALE: N.T.S

LEGEND	
	SHINGLE ROOF
	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR

PRICE CONSULTING, INC.
PRICE CONSULTING, INC.
7122 WORCESTER BLVD, SUITE A
SPRING, TEXAS 77379
PHONE: (281) 208-1724
P.O. PROJECT NO.: 12141.23
TX P.E. FORM # F-3814

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HISTORIC RENTAL INITIATIVE RESIDENCES
1509 ANDREWS ST.
HOUSTON, TEXAS 77019

Job Number
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KAS
Date
03/26/24
CD
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Sheet Name

ELEVATIONS

Sheet Number

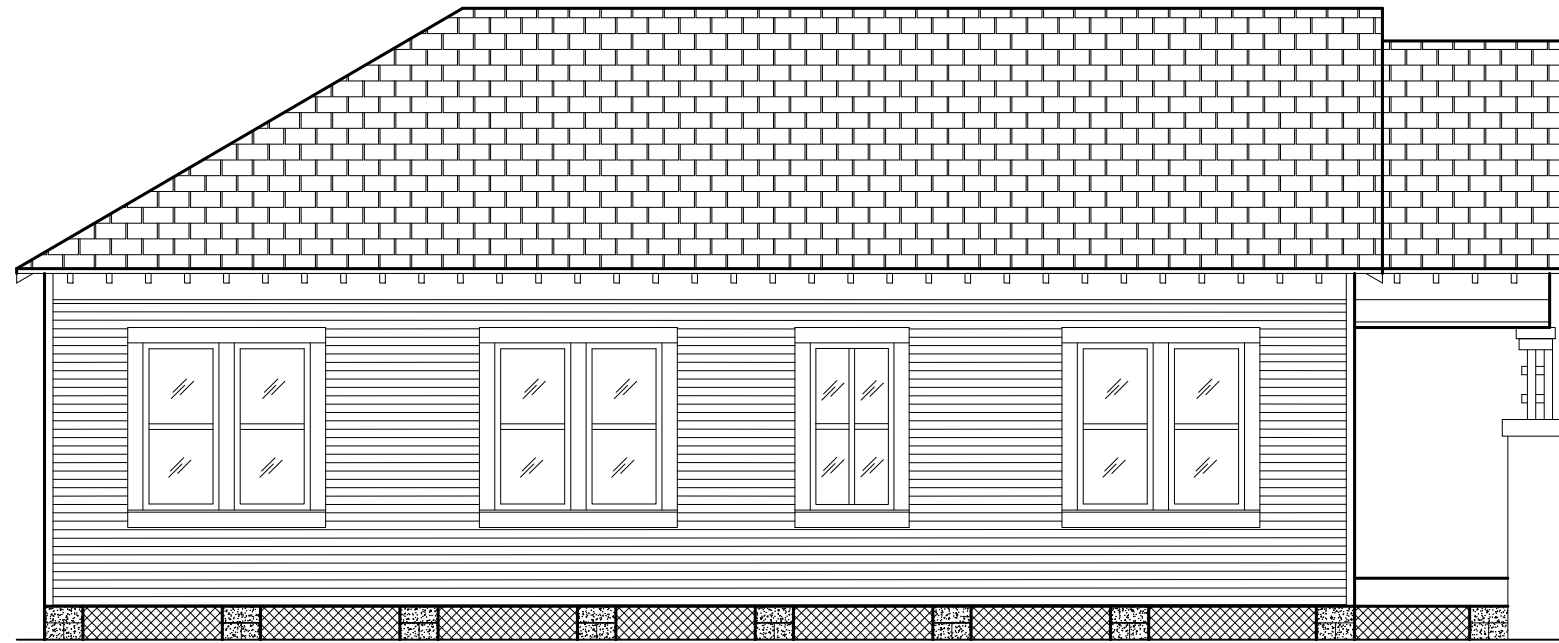
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SHEET 42 OF 65

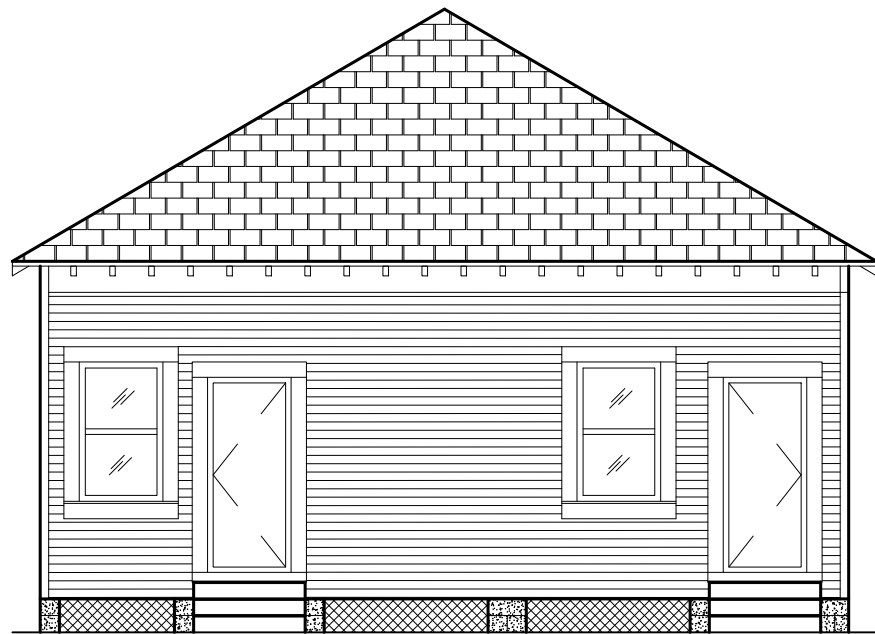




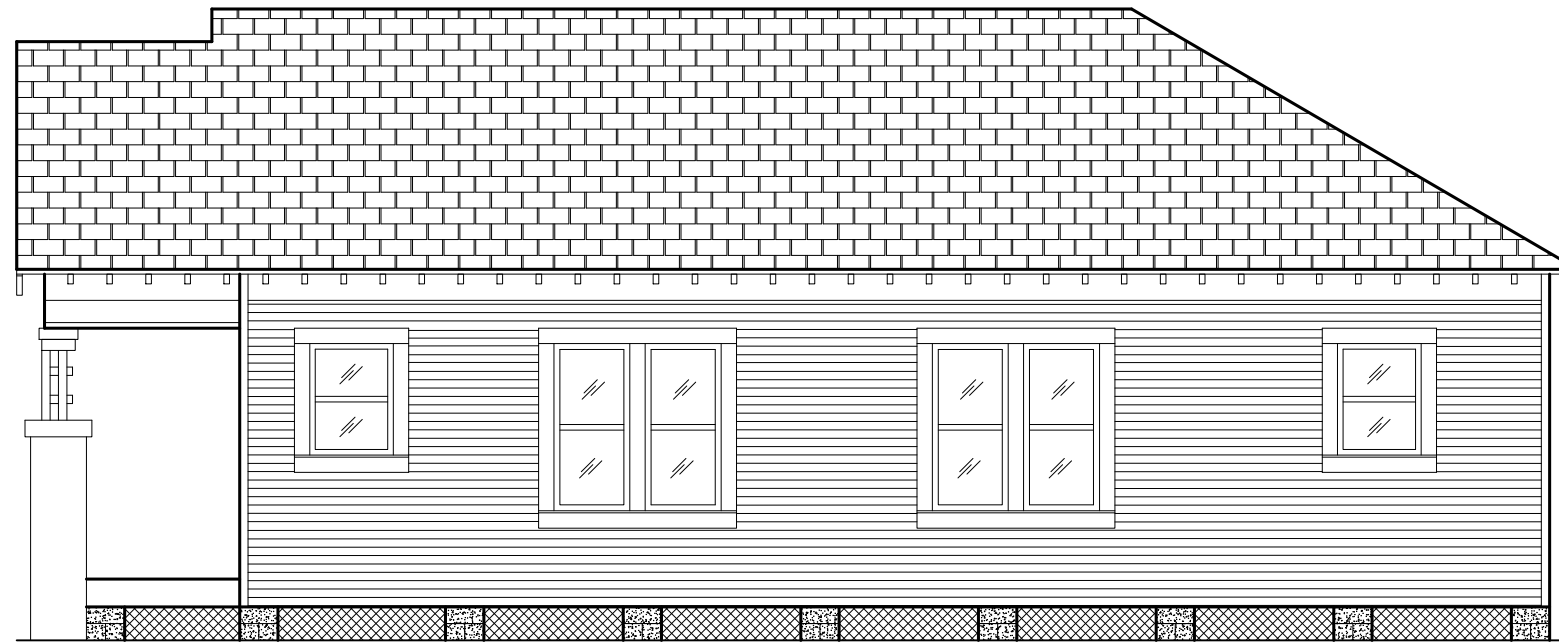
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2 EAST ELEVATION
R3.09 SCALE: N.T.S



3 SOUTH ELEVATION
R3.09 SCALE: N.T.S



4 WEST ELEVATION
R3.09 SCALE: N.T.S

LEGEND	
	SHINGLE ROOF
	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR

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HISTORIC RENTAL INITIATIVE RESIDENCES
1517 ANDREWS ST.
HOUSTON, TEXAS 77019

Job Number
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Date
03/26/24
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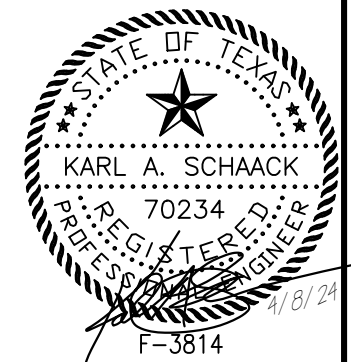
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ELEVATIONS

Sheet Number

R3.09

SHEET 43 OF 65

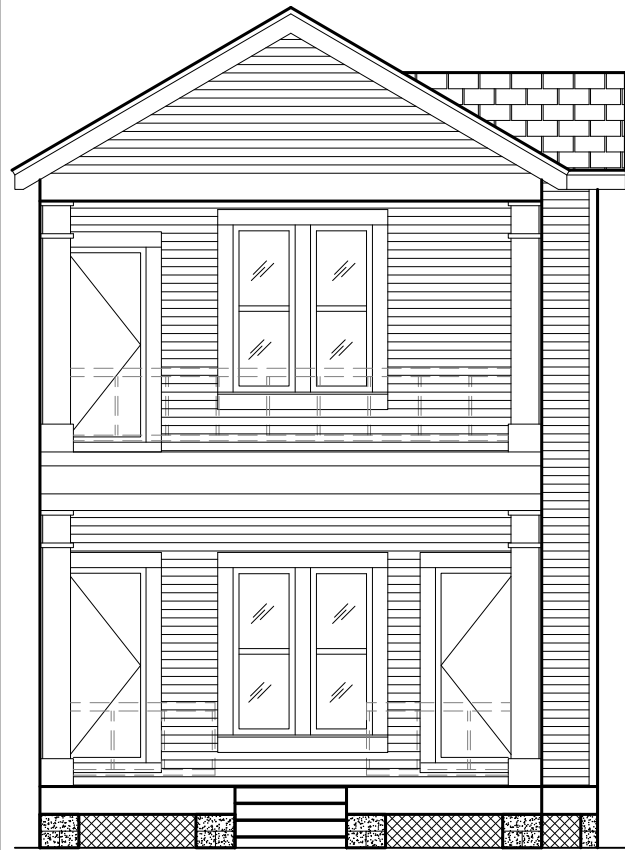




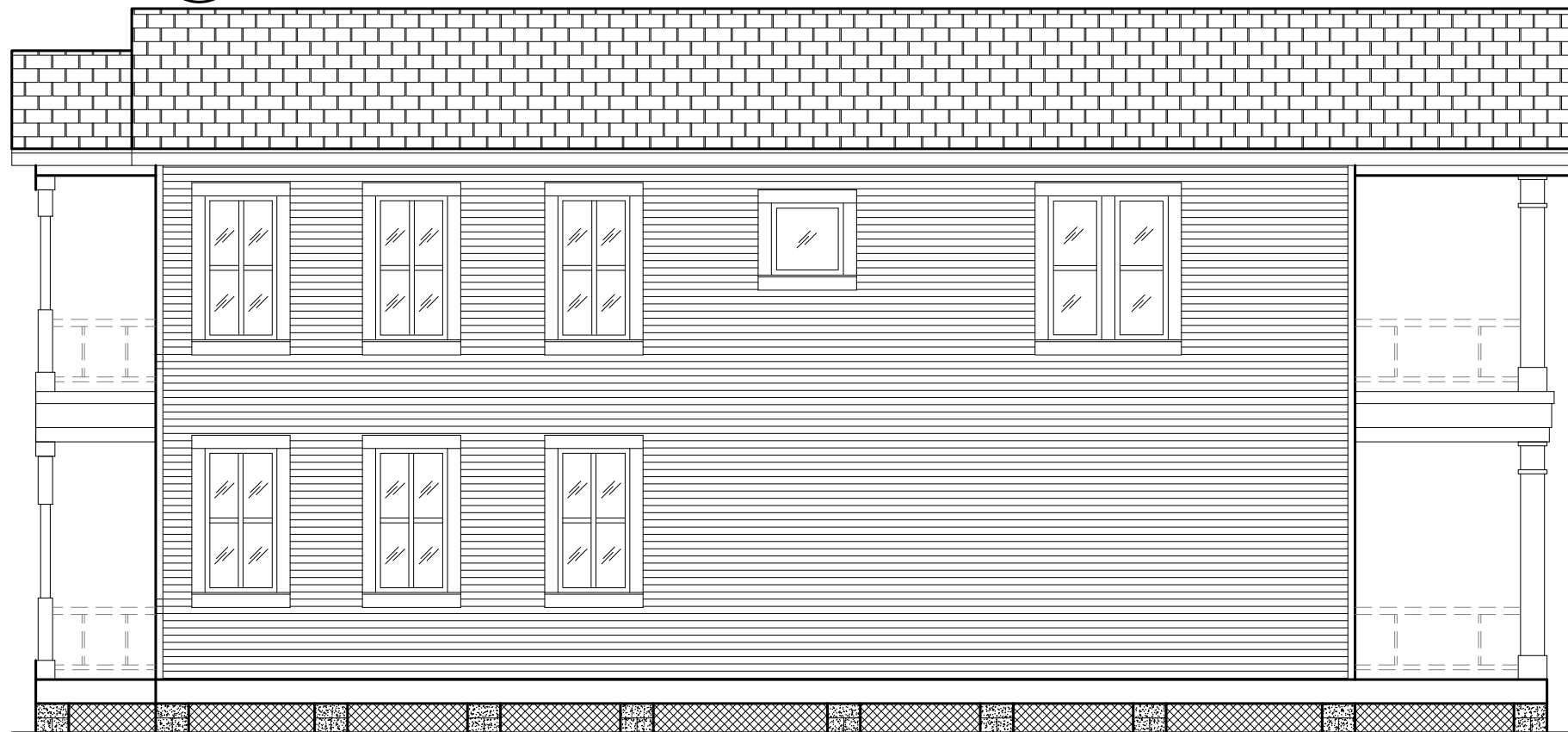
1 NORTH ELEVATION
R3.10 SCALE: N.T.S



2 EAST ELEVATION
R3.10 SCALE: N.T.S



3 SOUTH ELEVATION
R3.10 SCALE: N.T.S



4 WEST ELEVATION
R3.10 SCALE: N.T.S

LEGEND

	SHINGLE ROOF
	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR

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HISTORIC RENTAL INITIATIVE RESIDENCES
1602 ANDREWS ST.
HOUSTON, TEXAS 77019

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KAS
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03/26/24
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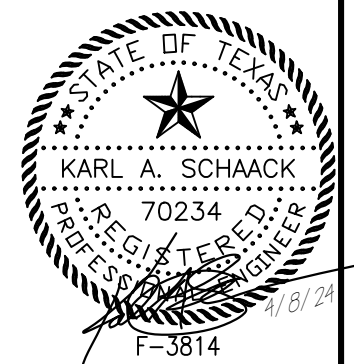
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ELEVATIONS

Sheet Number

R3.10

SHEET 44 OF 65



LEGEND	
	SHINGLE ROOF
	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR

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1 NORTH ELEVATION
 R3.11 SCALE: N.T.S



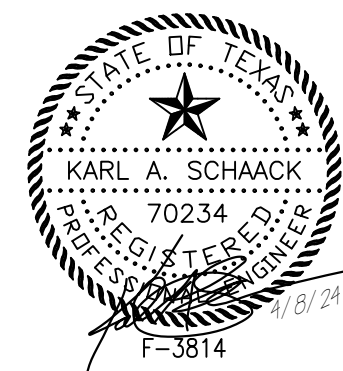
2 EAST ELEVATION
 R3.11 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.11 SCALE: N.T.S



4 WEST ELEVATION
 R3.11 SCALE: N.T.S



HISTORIC RENTAL INITIATIVE RESIDENCES
 1603 ANDREWS ST.
 HOUSTON, TEXAS 77019






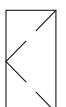
Job Number
 12141.23.01
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Sheet Name
ELEVATIONS

Sheet Number

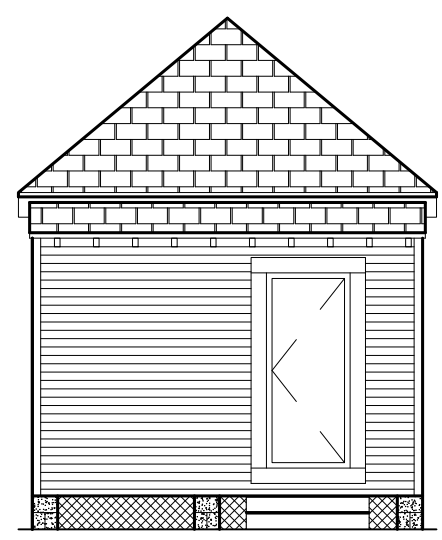
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SHEET 48 OF 65

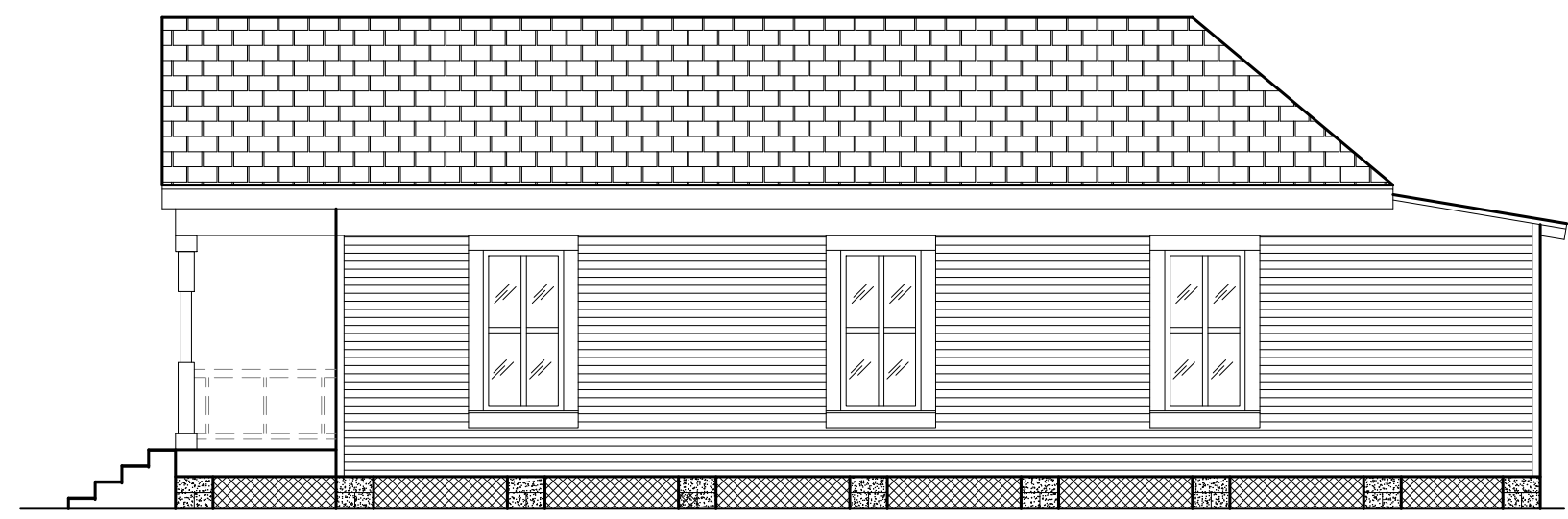
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	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR

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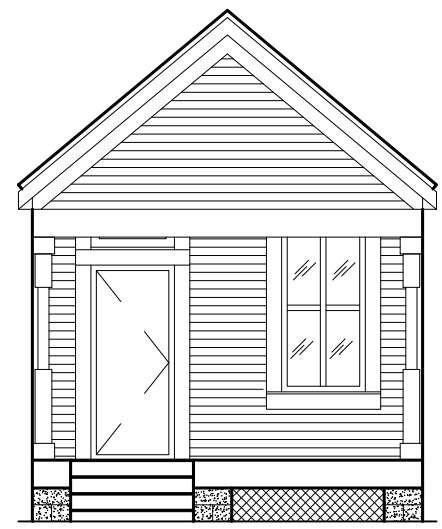
HISTORIC RENTAL INITIATIVE RESIDENCES
 1604 ANDREWS ST.
 HOUSTON, TEXAS 77019



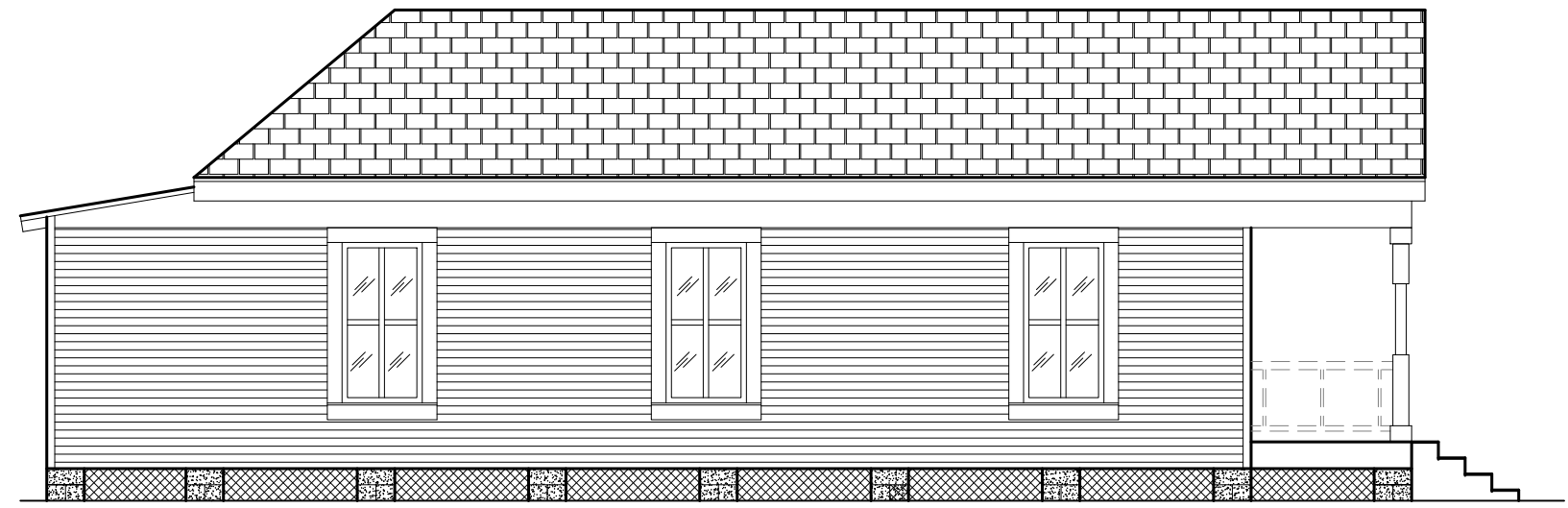
1 NORTH ELEVATION
 R3.12 SCALE: N.T.S



2 EAST ELEVATION
 R3.12 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.12 SCALE: N.T.S



4 WEST ELEVATION
 R3.12 SCALE: N.T.S



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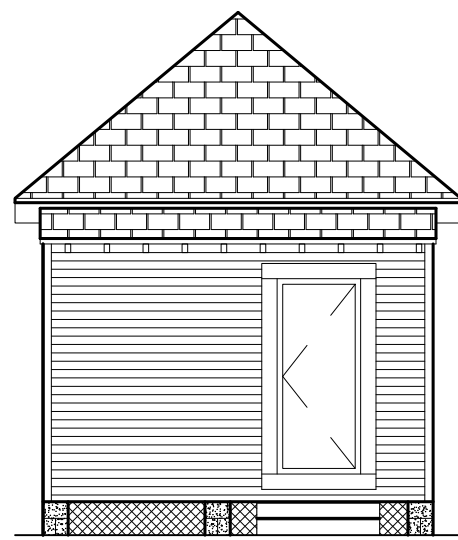
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SHEET 46 OF 65

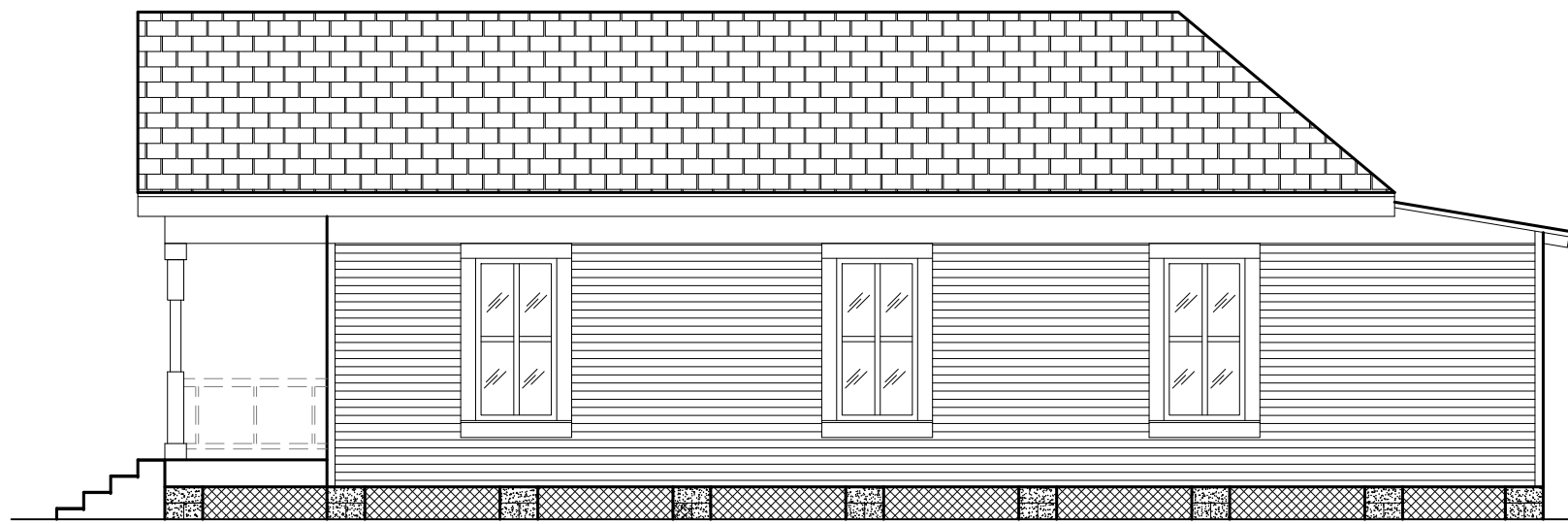
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	LATTICE
	MASONRY PIER
	GLASS
	DOOR

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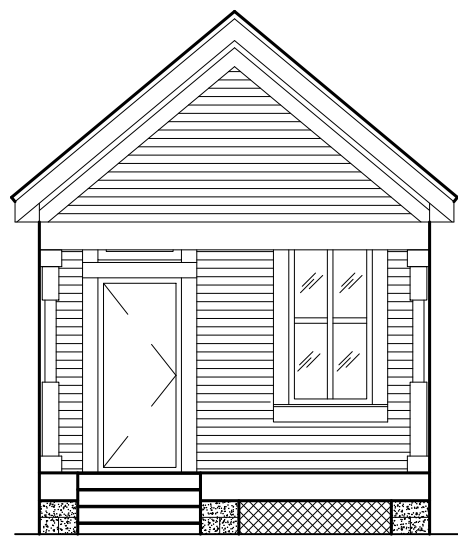
HISTORIC RENTAL INITIATIVE RESIDENCES
 1606 ANDREWS ST.
 HOUSTON, TEXAS 77019



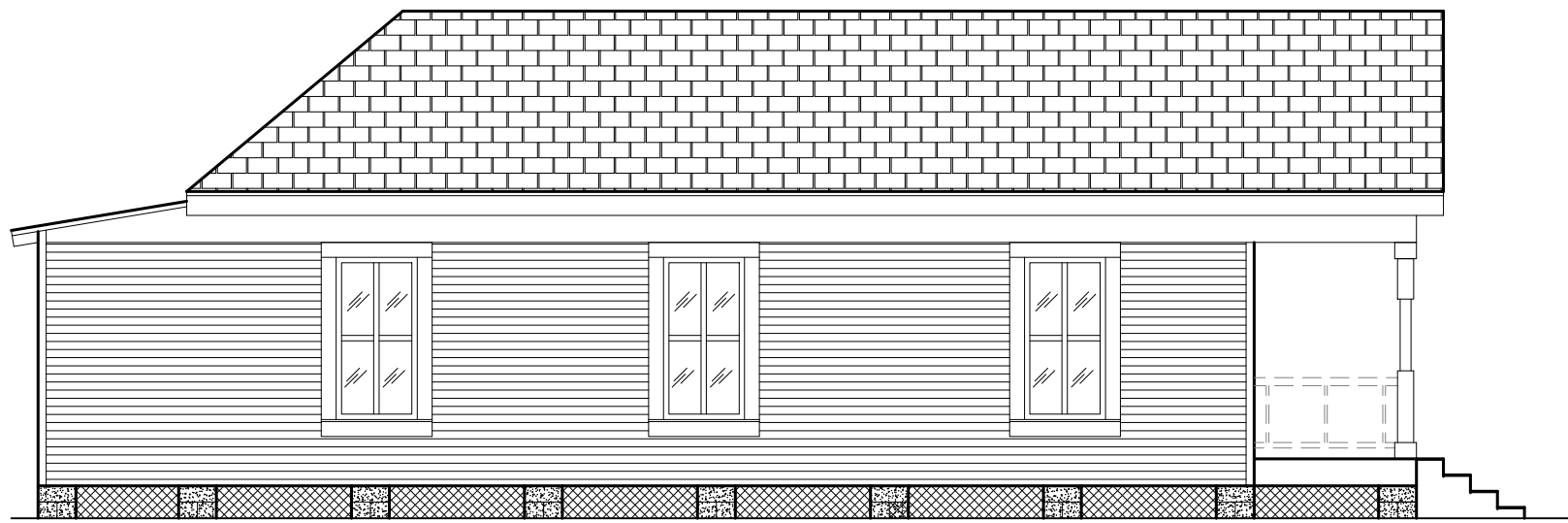
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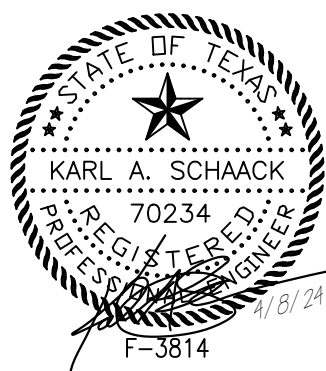
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 R3.13 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.13 SCALE: N.T.S



4 WEST ELEVATION
 R3.13 SCALE: N.T.S



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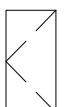
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Sheet Number

R3.13

SHEET 4 OF 65

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	MASONRY PIER
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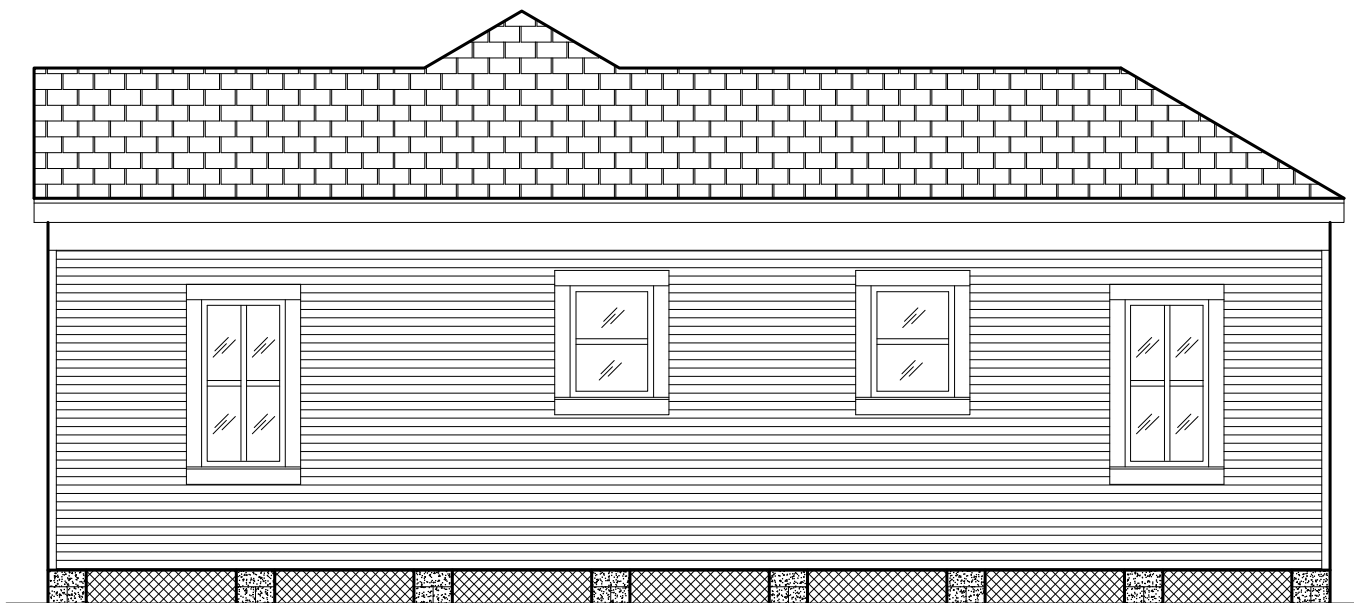
1 NORTH ELEVATION
 R3.14 SCALE: N.T.S



2 EAST ELEVATION
 R3.14 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.14 SCALE: N.T.S



4 WEST ELEVATION
 R3.14 SCALE: N.T.S



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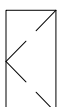
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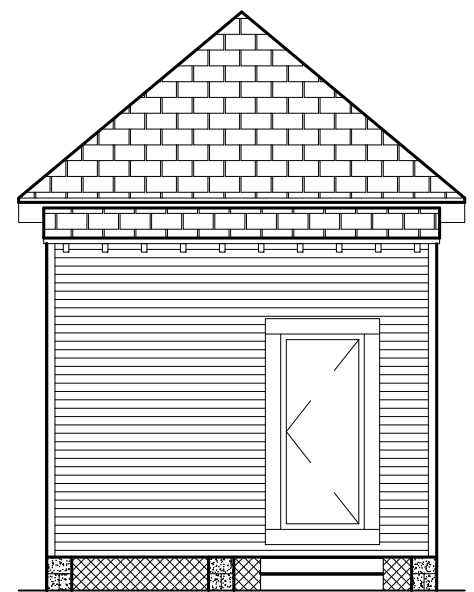
Sheet Number

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SHEET 48 OF 65

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	MASONRY PIER
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	DOOR

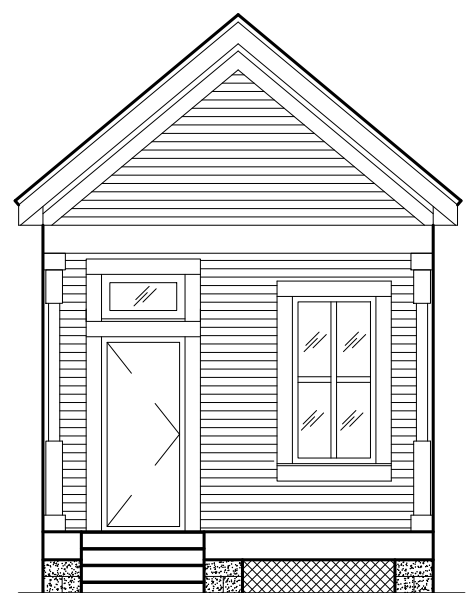
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1 NORTH ELEVATION
 R3.15 SCALE: N.T.S



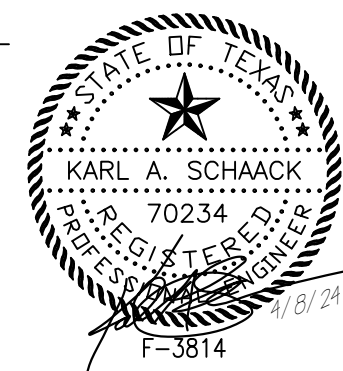
2 EAST ELEVATION
 R3.15 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.15 SCALE: N.T.S



4 WEST ELEVATION
 R3.15 SCALE: N.T.S






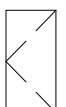


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 Sheet Number

R3.15
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LEGEND	
	SHINGLE ROOF
	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR

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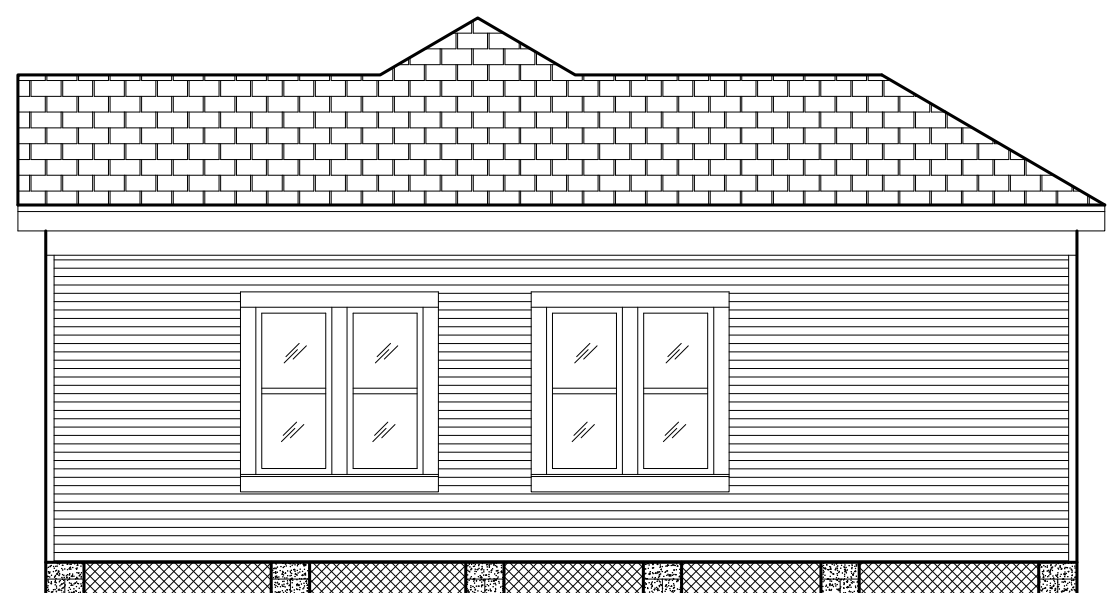
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 R3.16 SCALE: N.T.S



2 EAST ELEVATION
 R3.16 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.16 SCALE: N.T.S



4 WEST ELEVATION
 R3.16 SCALE: N.T.S

HISTORIC RENTAL INITIATIVE RESIDENCES
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ELEVATIONS

Sheet Number

R3.16

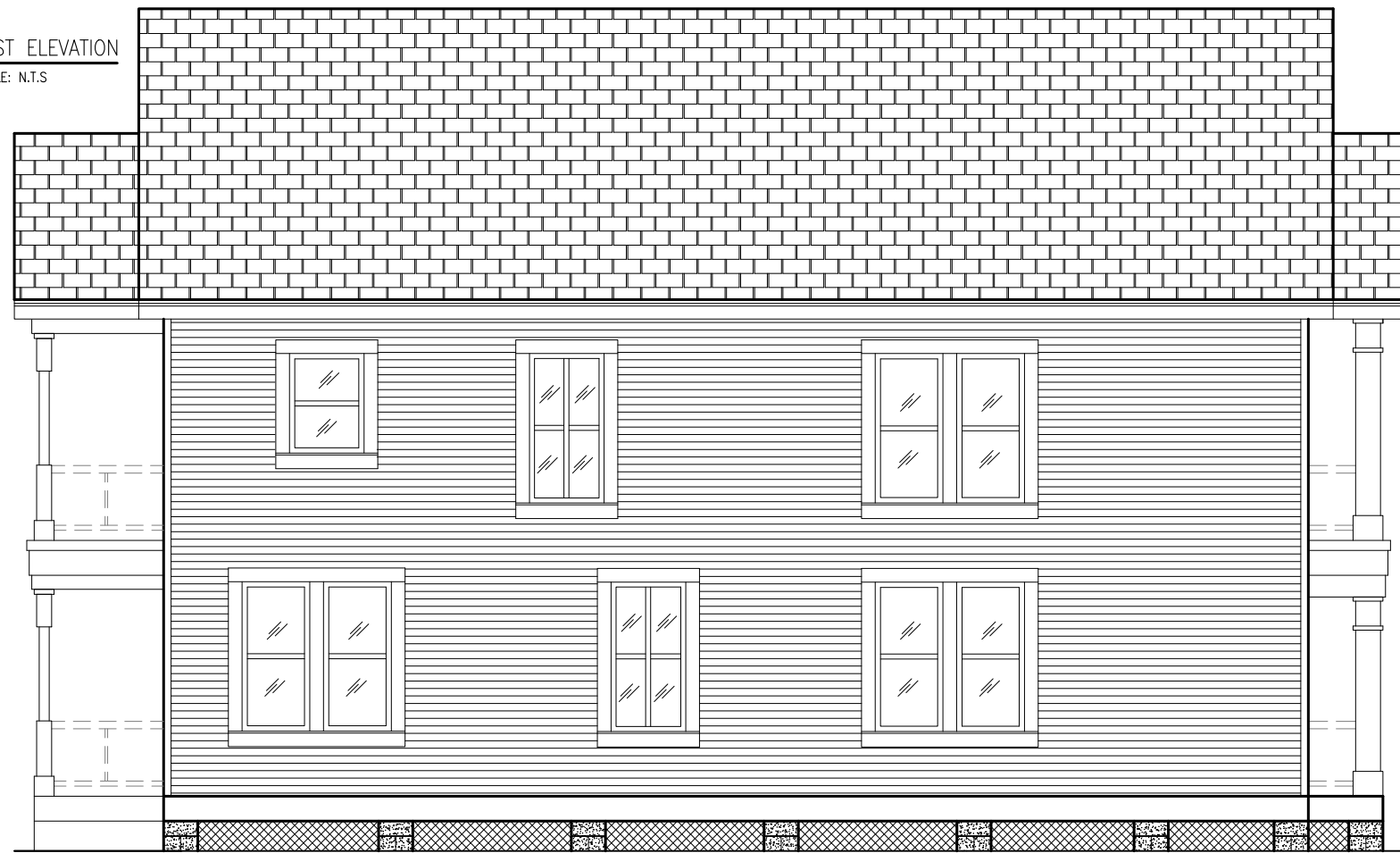
SHEET 30 OF 65



1 NORTH ELEVATION
R3.17 SCALE: N.T.S



2 EAST ELEVATION
R3.17 SCALE: N.T.S



LEGEND

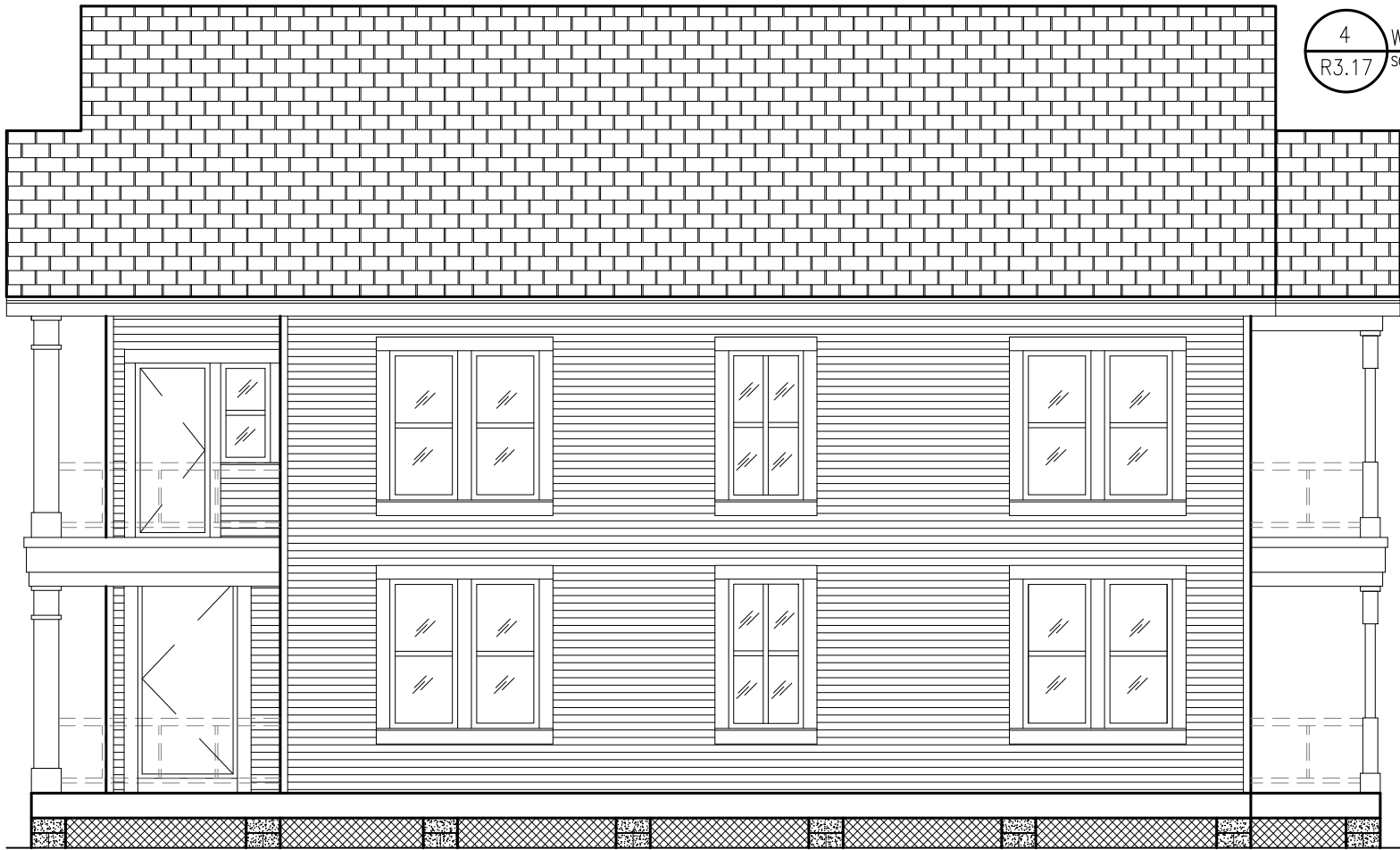
	SHINGLE ROOF
	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR

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PRICE CONSULTING, INC.
7122 WORCESTER BLVD, SUITE A
SPRING, TEXAS 77379
PHONE: (281) 208-1724
FAX: (281) 208-1724
TX P.E. FIRM # F-3814

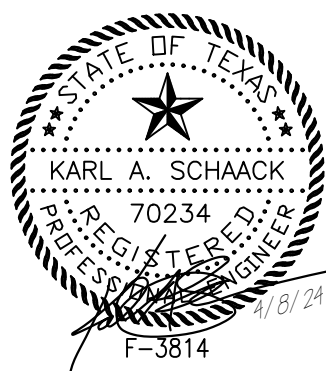
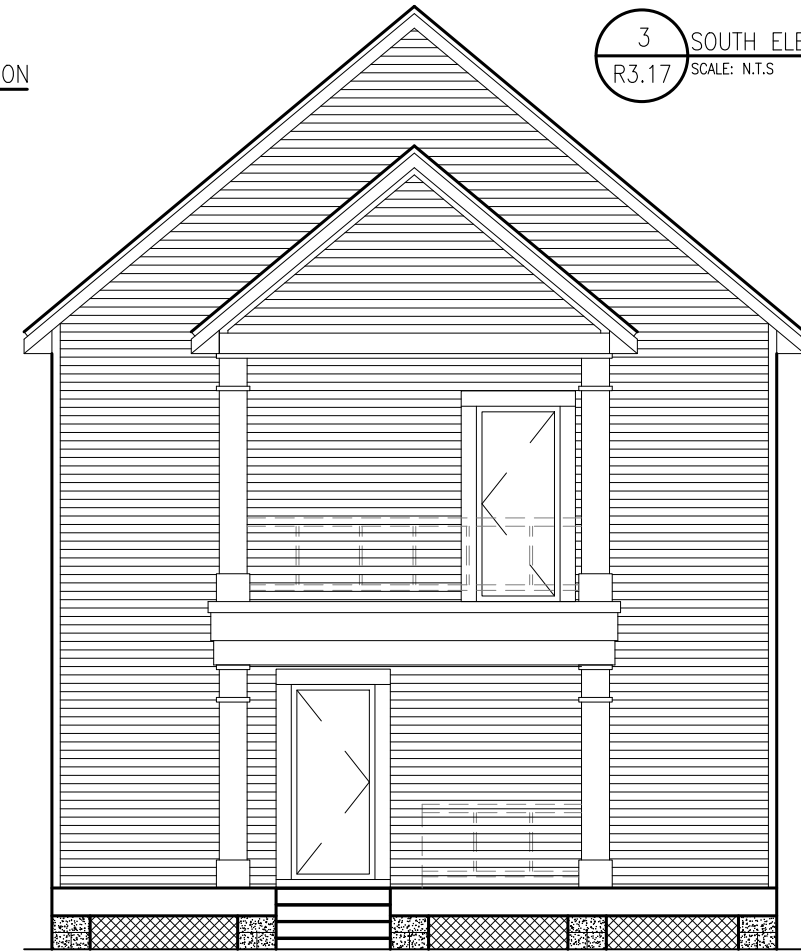
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HOUSTON, TEXAS 77019

4 WEST ELEVATION
R3.17 SCALE: N.T.S









3 SOUTH ELEVATION
R3.17 SCALE: N.T.S

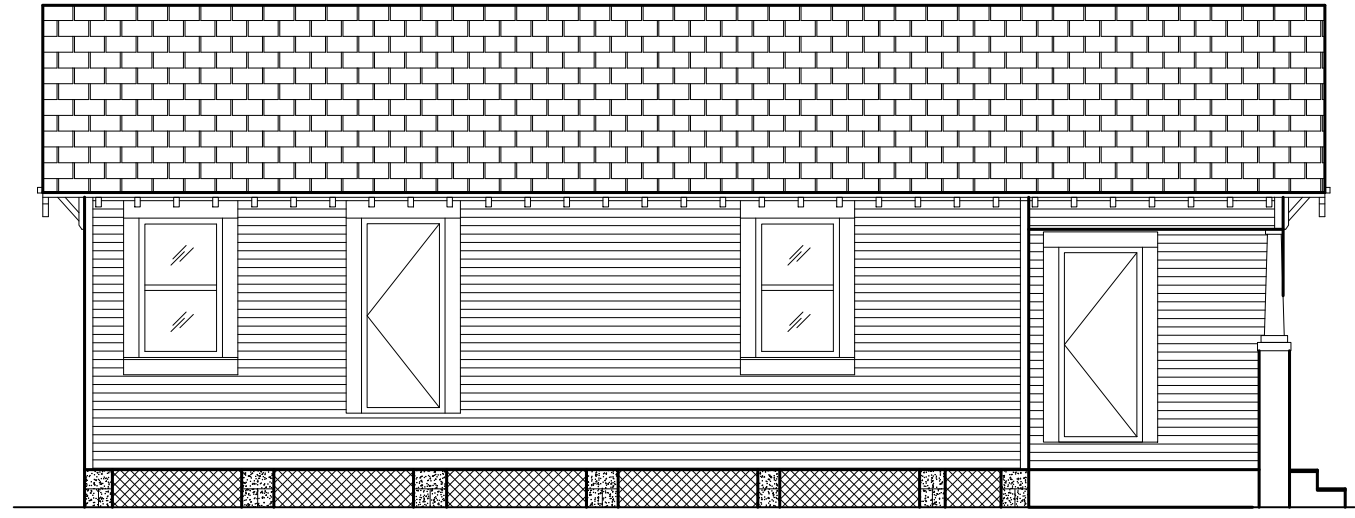


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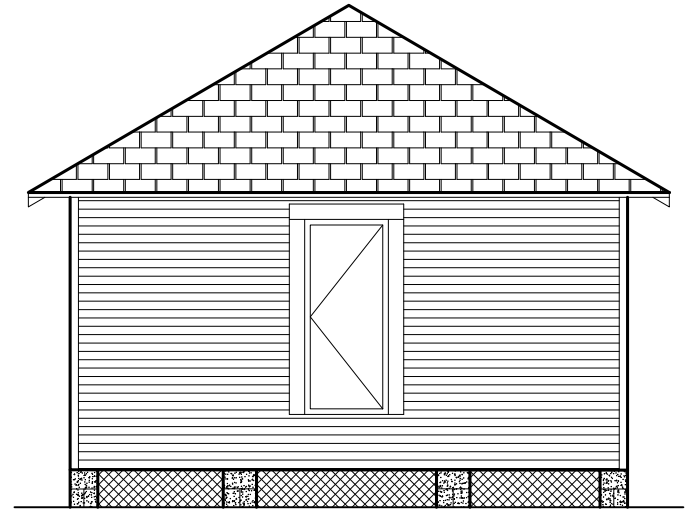
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Sheet Number

R3.17
SHEET 1 OF 65

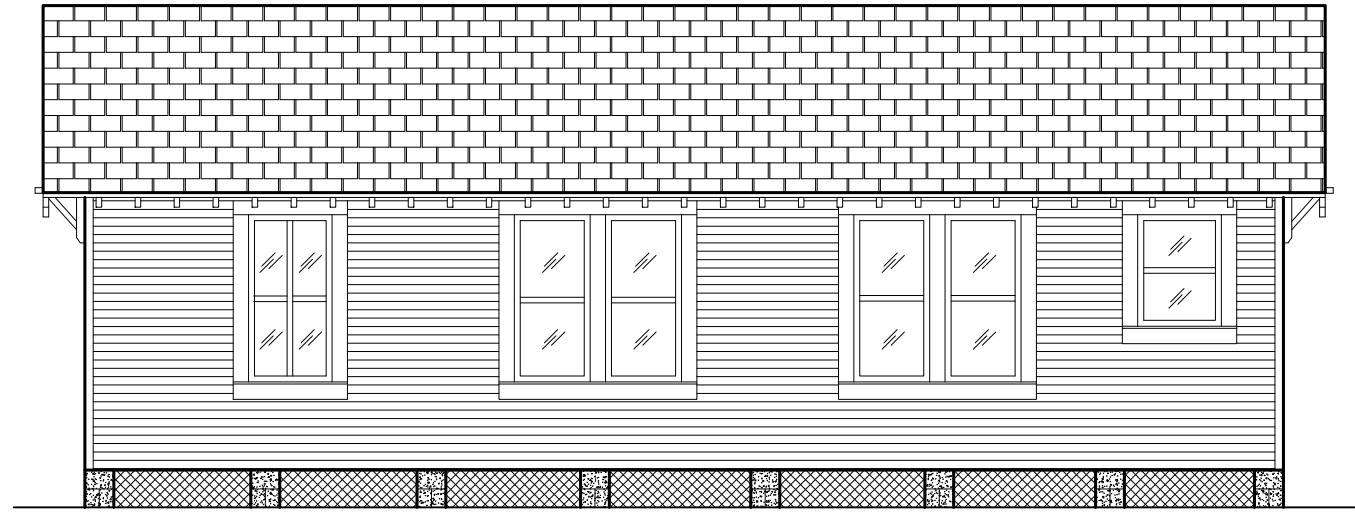
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	MASONRY PIER
	GLASS
	DOOR



1 NORTH ELEVATION
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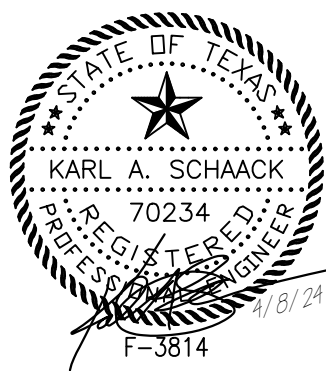
2 EAST ELEVATION
 R3.18 SCALE: N.T.S.



3 SOUTH ELEVATION
 R3.18 SCALE: N.T.S.



4 WEST ELEVATION
 R3.18 SCALE: N.T.S.



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Sheet Number

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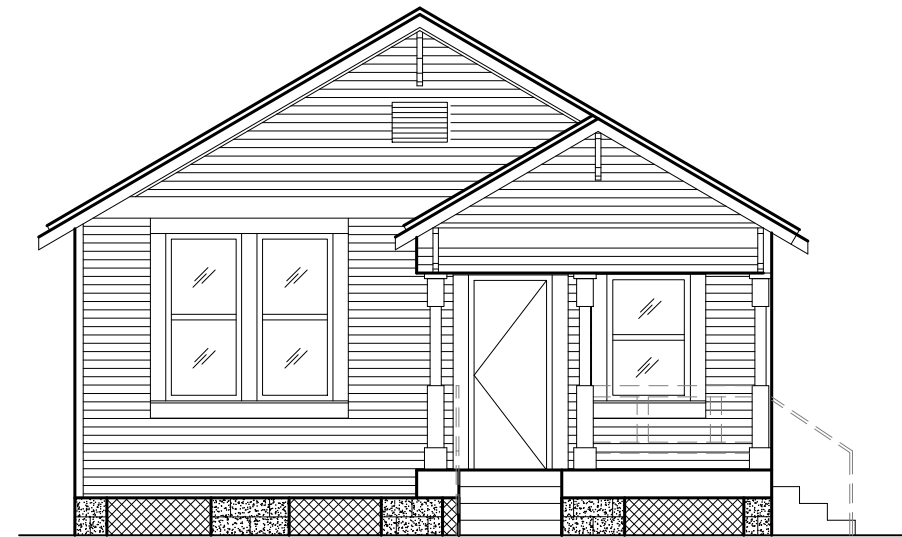
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1 NORTH ELEVATION
R3.19 SCALE: N.T.S



2 EAST ELEVATION
R3.19 SCALE: N.T.S



3 SOUTH ELEVATION
R3.19 SCALE: N.T.S



4 WEST ELEVATION
R3.19 SCALE: N.T.S

HISTORIC RENTAL INITIATIVE RESIDENCES
1310 GILLETTE ST.
HOUSTON, TEXAS 77019

Job Number
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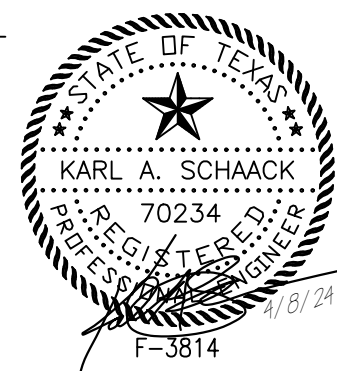
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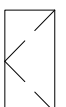
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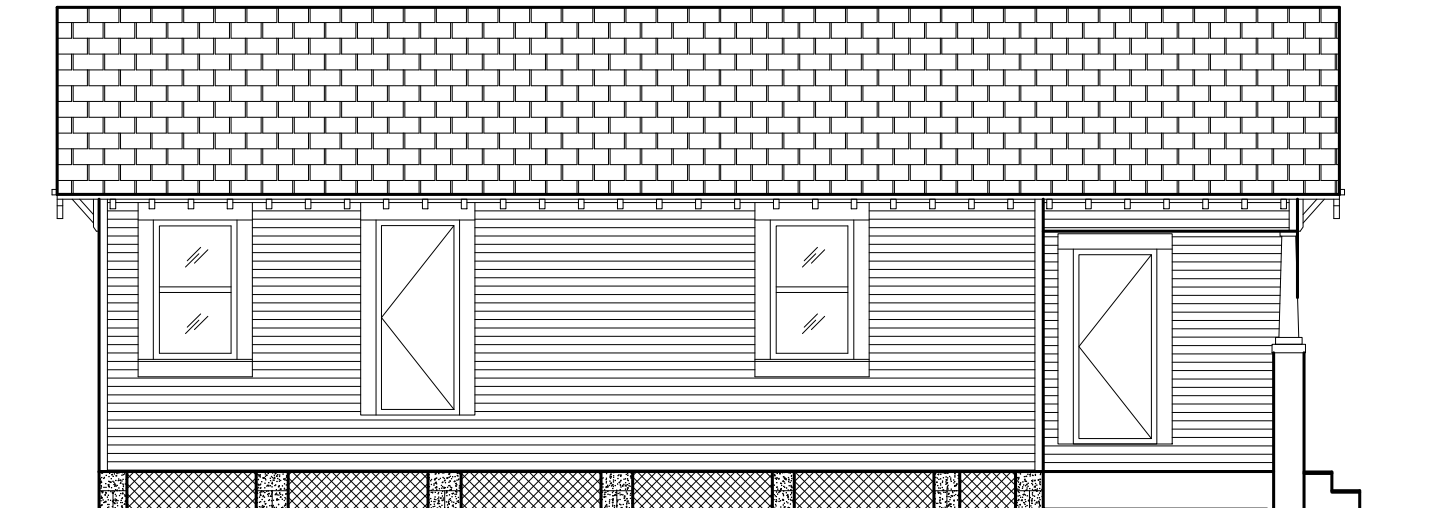
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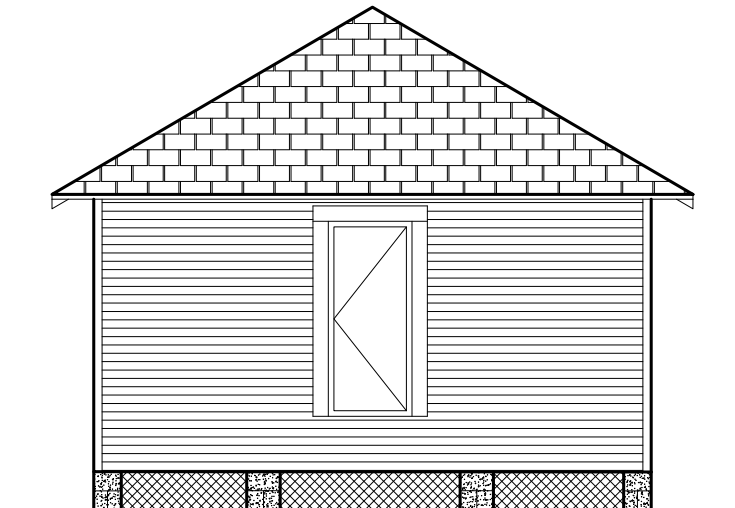


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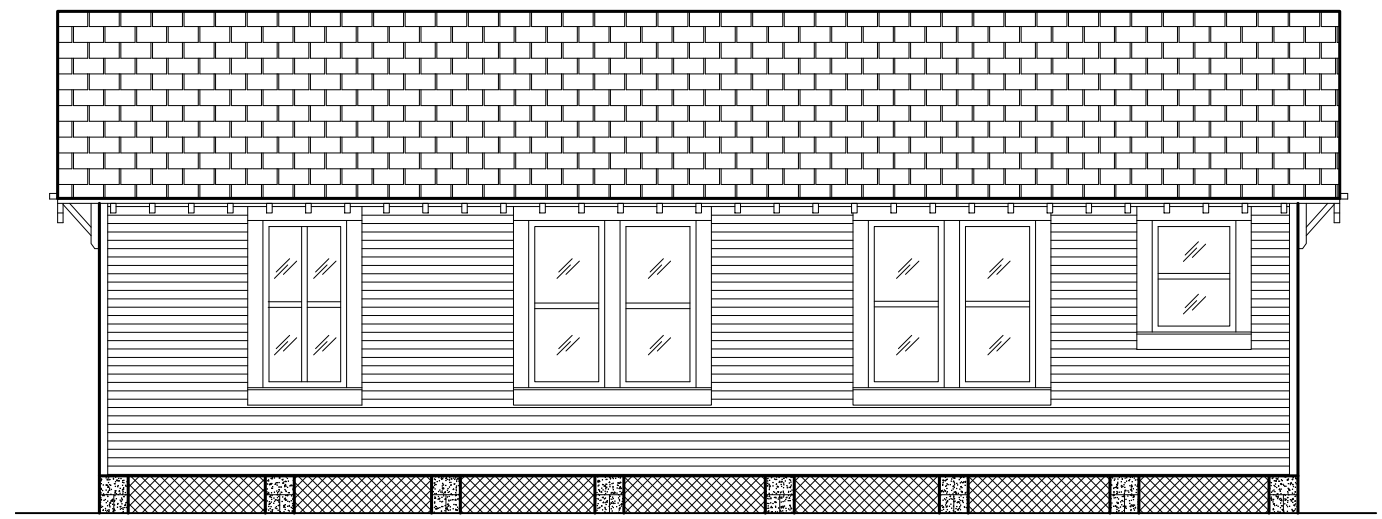
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1 NORTH ELEVATION
 R3.20 SCALE: N.T.S



2 EAST ELEVATION
 R3.20 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.20 SCALE: N.T.S



4 WEST ELEVATION
 R3.20 SCALE: N.T.S

HISTORIC RENTAL INITIATIVE RESIDENCES
 1313 GILLETTE ST.
 HOUSTON, TEXAS 77019

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
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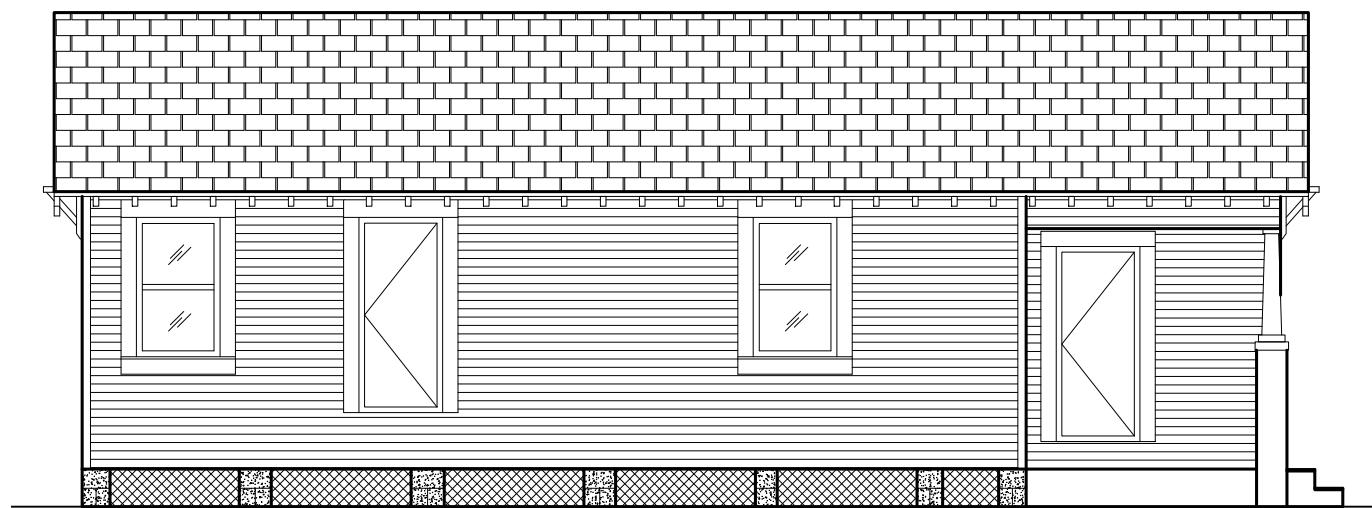
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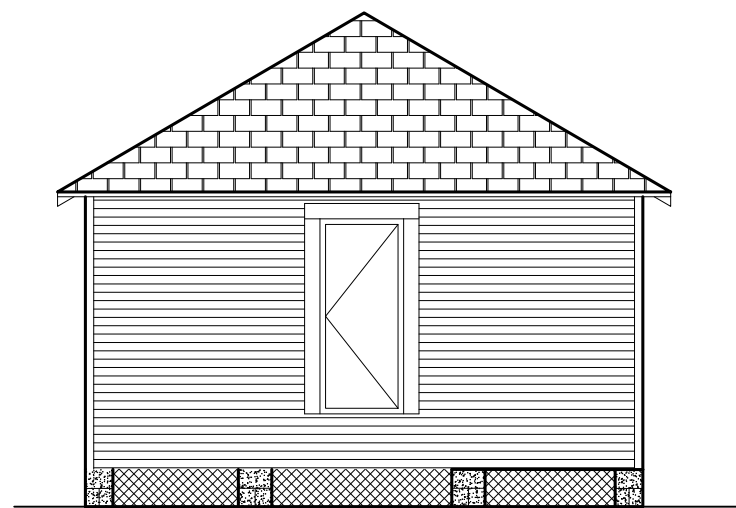
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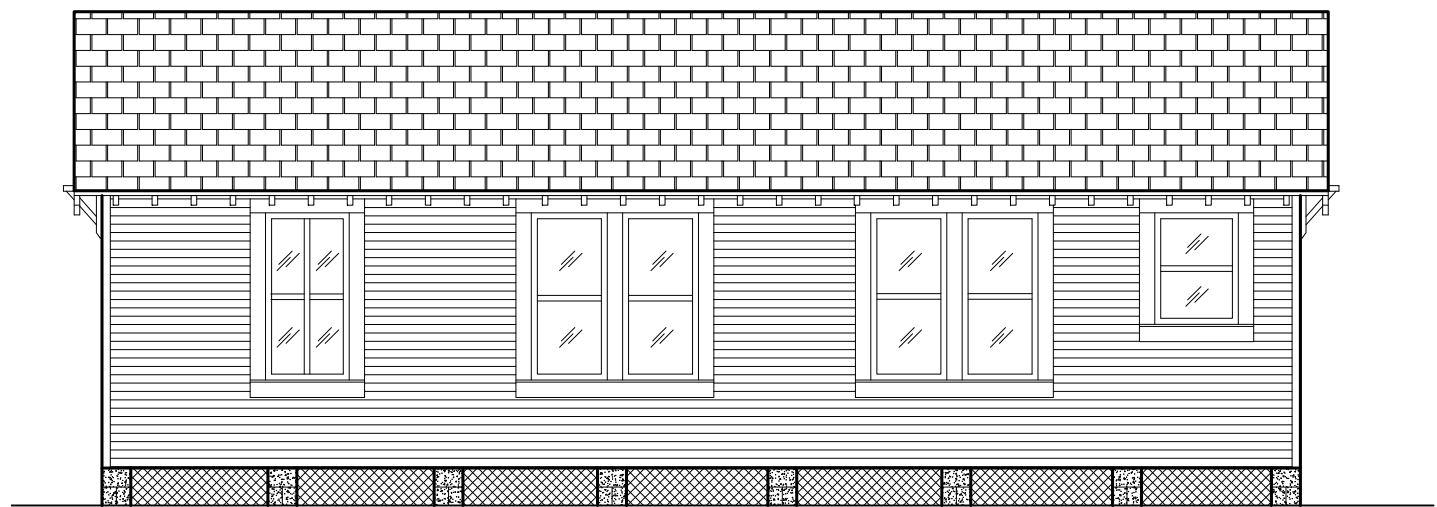
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1 NORTH ELEVATION
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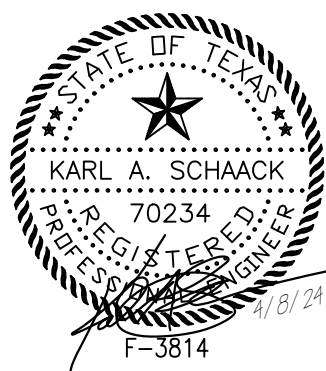
2 EAST ELEVATION
 R3.21 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.21 SCALE: N.T.S



4 WEST ELEVATION
 R3.21 SCALE: N.T.S



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 HOUSTON, TEXAS 77019

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
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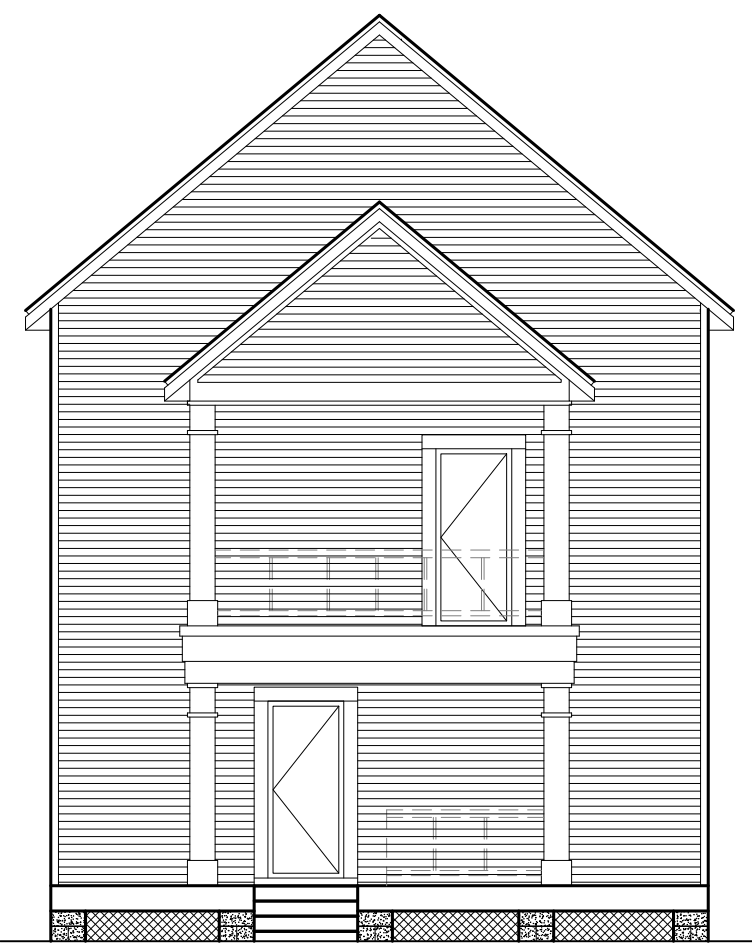
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SHEET 55 OF 65

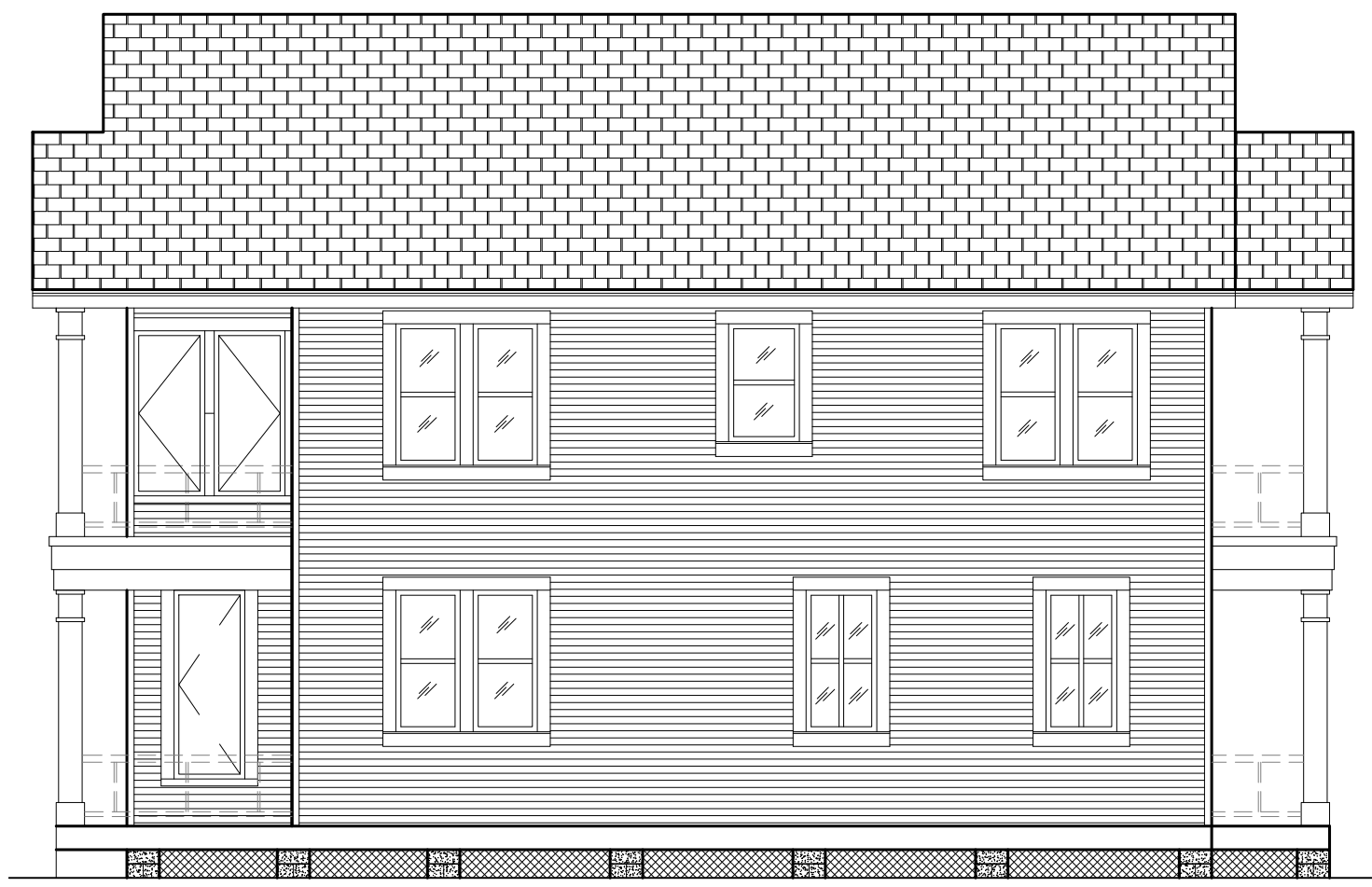
LEGEND	
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	SIDING
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	MASONRY PIER
	GLASS
	DOOR

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 1506 RUTHVEN ST.
 HOUSTON, TEXAS 77019



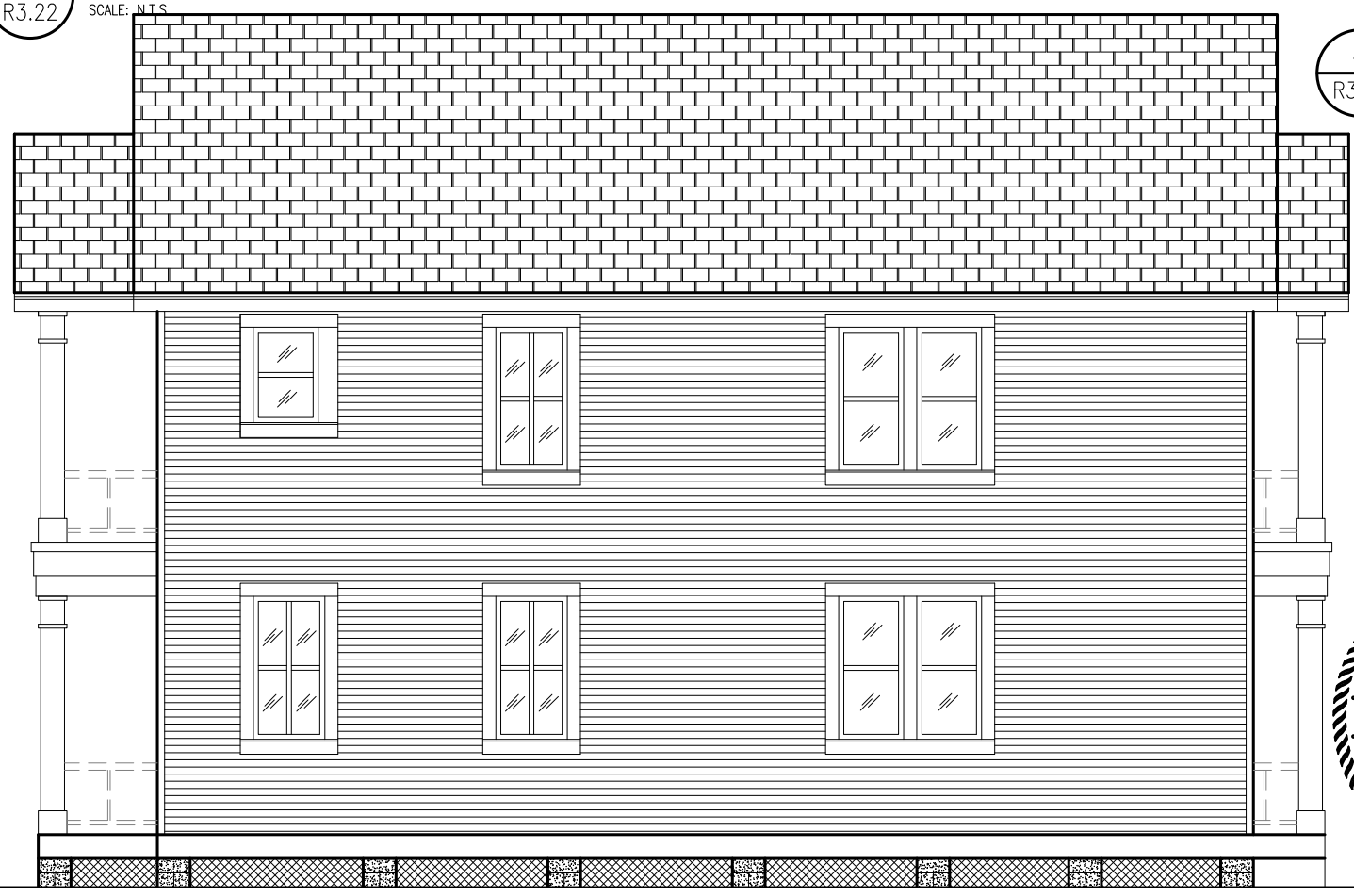
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 R3.22 SCALE: N.T.S.



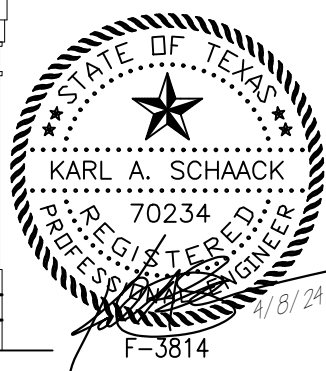
2 EAST ELEVATION
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3 SOUTH ELEVATION
 R3.22 SCALE: N.T.S.









4 WEST ELEVATION
 R3.22 SCALE: N.T.S.



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ELEVATIONS
 Sheet Number

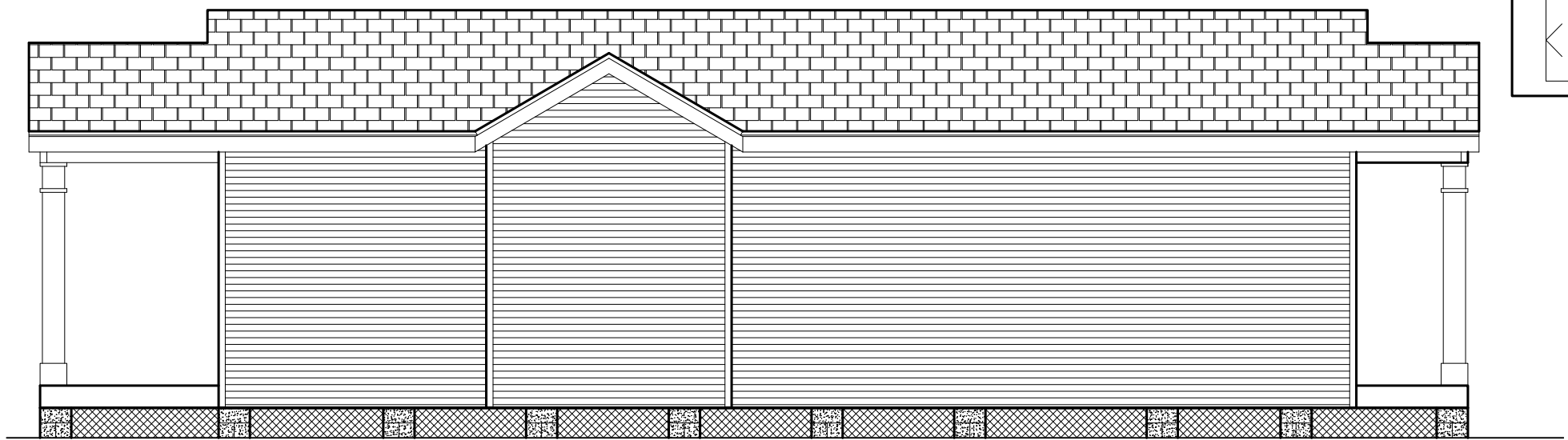
LEGEND	
	SHINGLE ROOF
	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR

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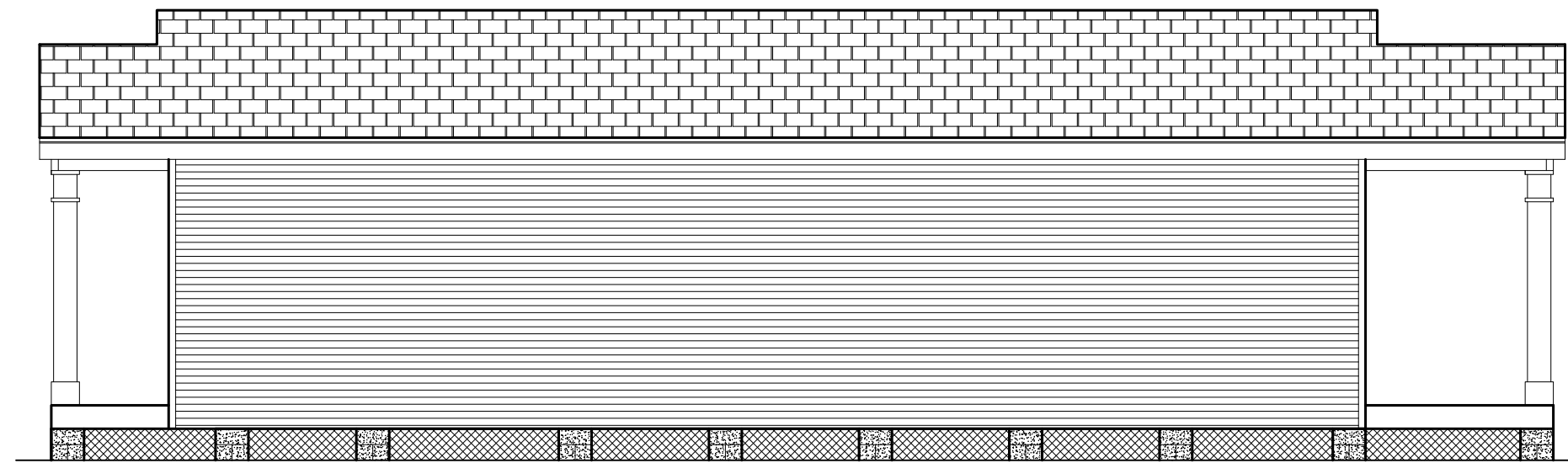
1 NORTH ELEVATION
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2 EAST ELEVATION
 R3.23 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.23 SCALE: N.T.S



4 WEST ELEVATION
 R3.23 SCALE: N.T.S



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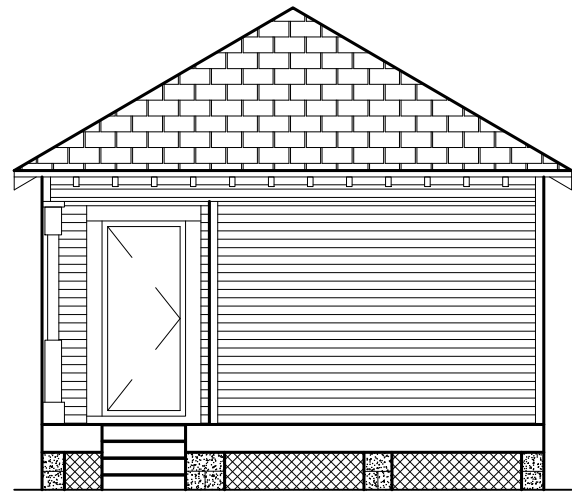
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SHEET 57 OF 65

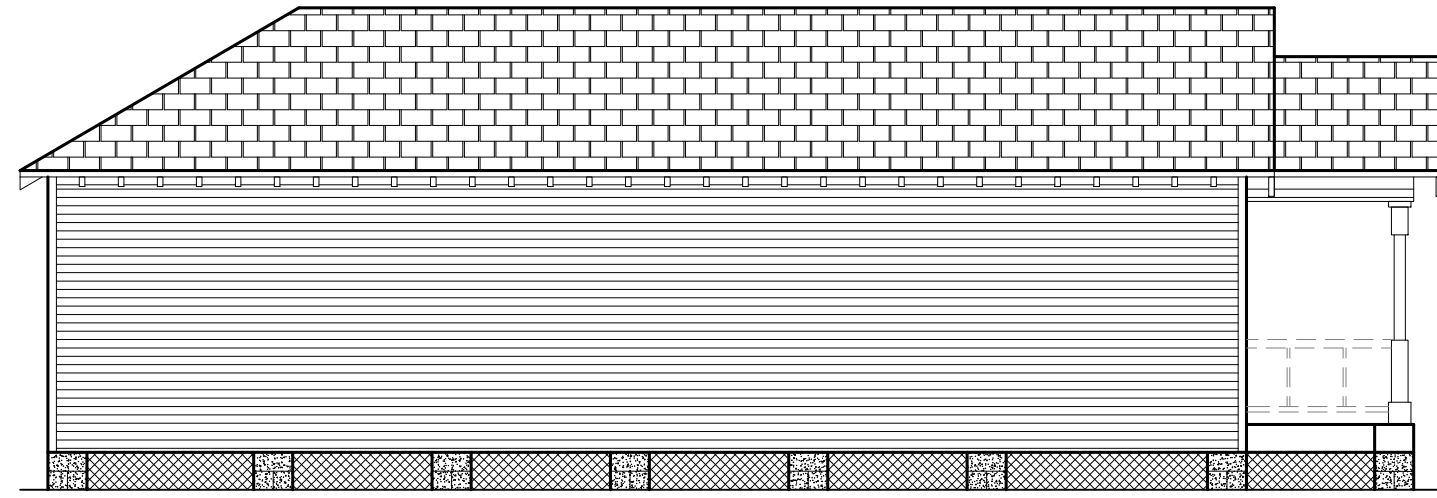
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	SHINGLE ROOF
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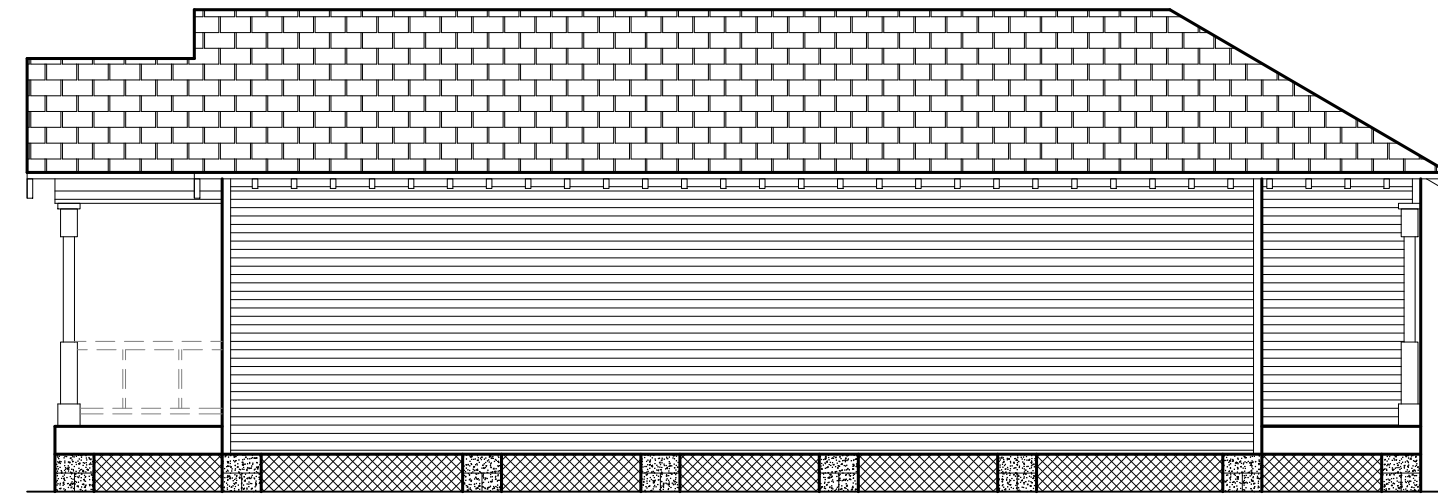
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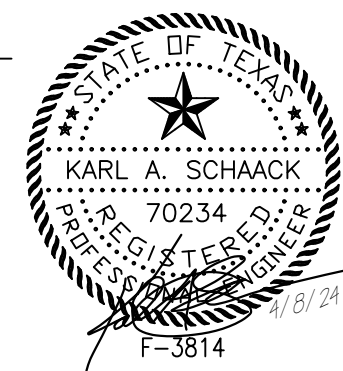
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 R3.24 SCALE: N.T.S



3 SOUTH ELEVATION
 R3.24 SCALE: N.T.S



4 WEST ELEVATION
 R3.24 SCALE: N.T.S



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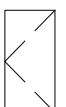
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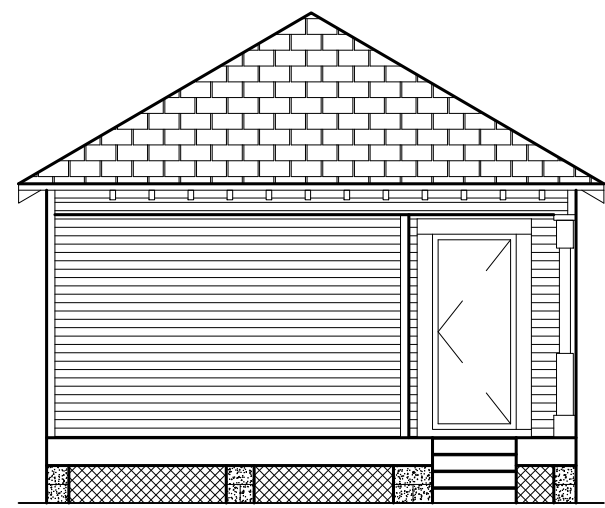
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SHEET 58 OF 65

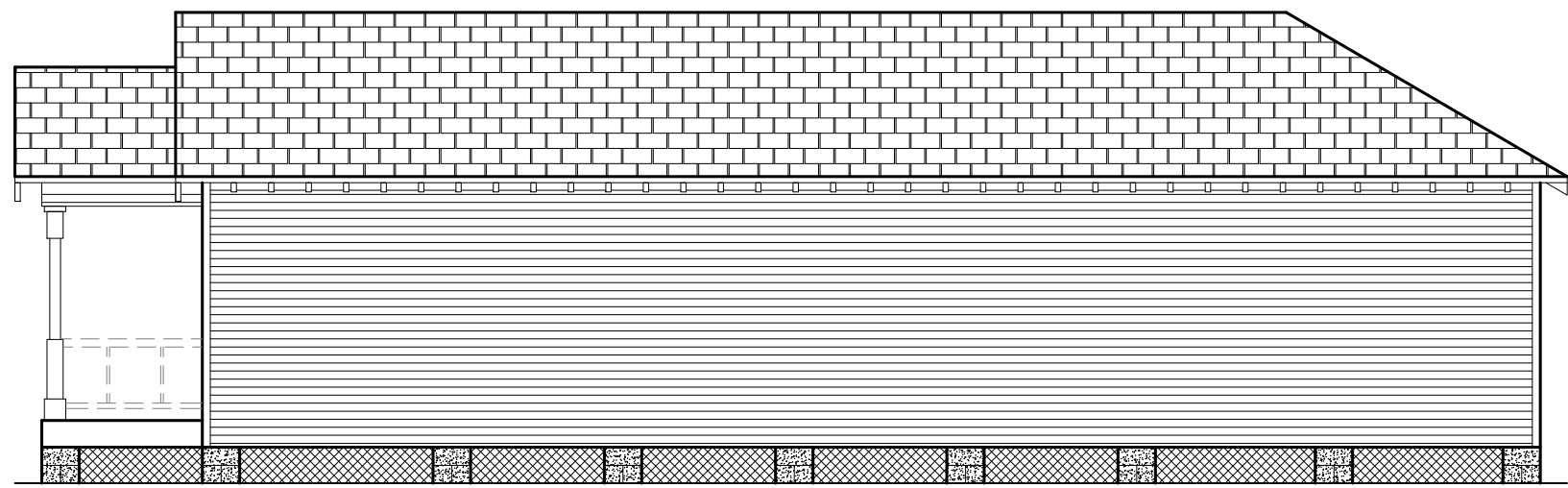
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	GLASS
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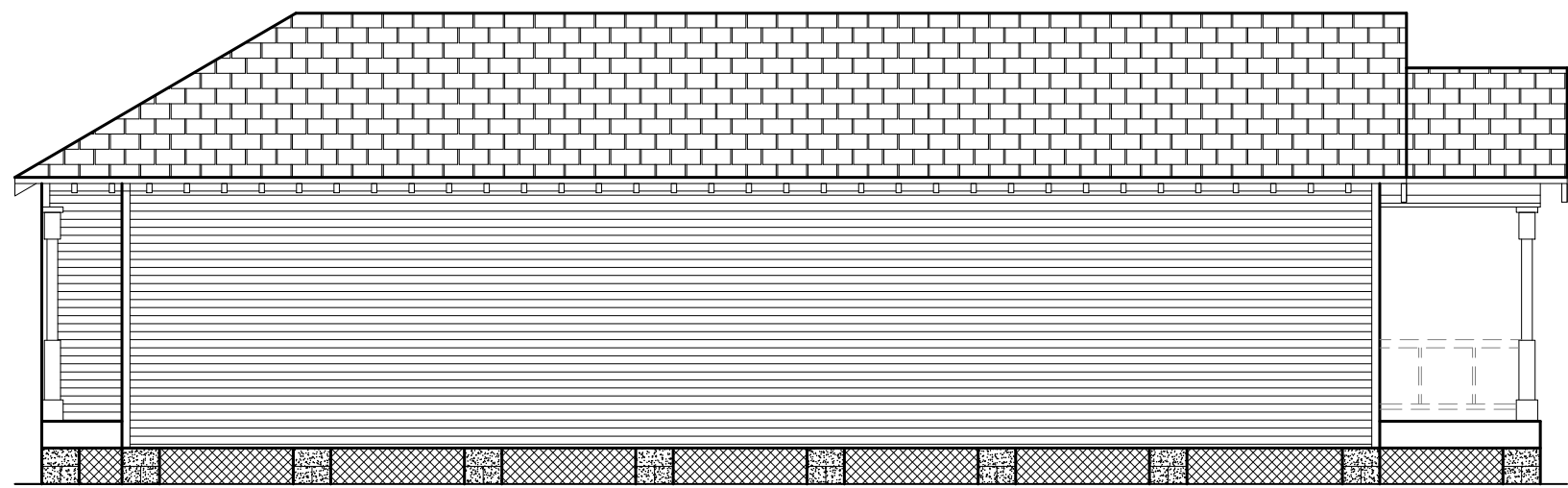
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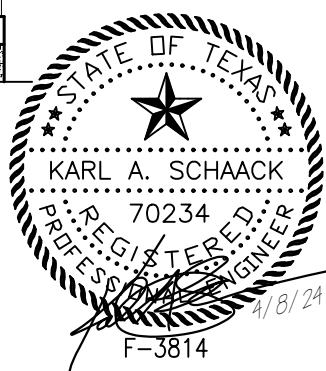
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4 WEST ELEVATION
 R3.25 SCALE: N.T.S



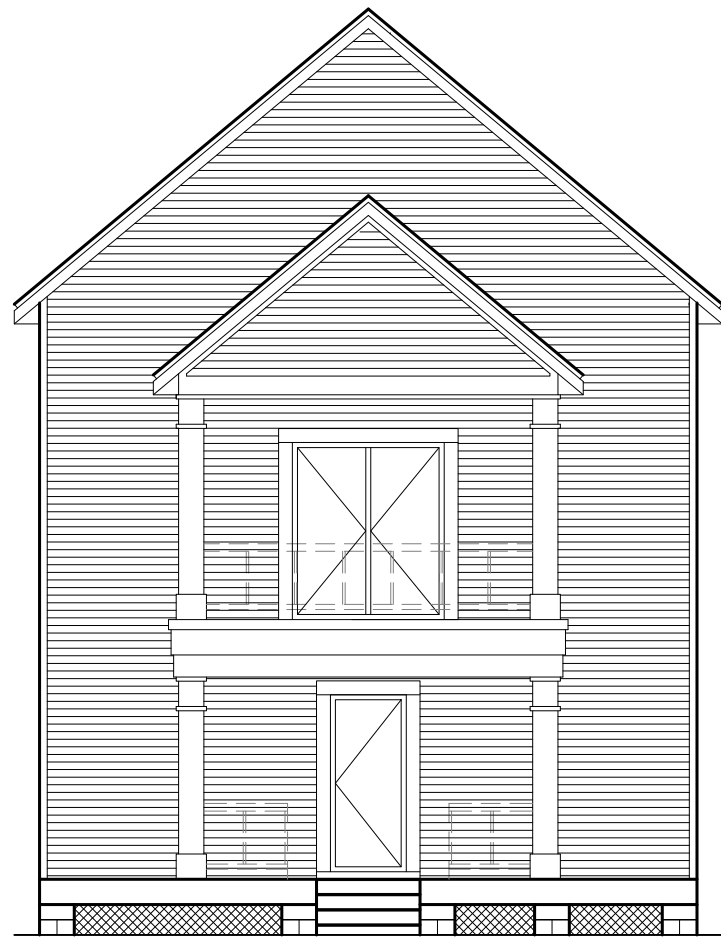
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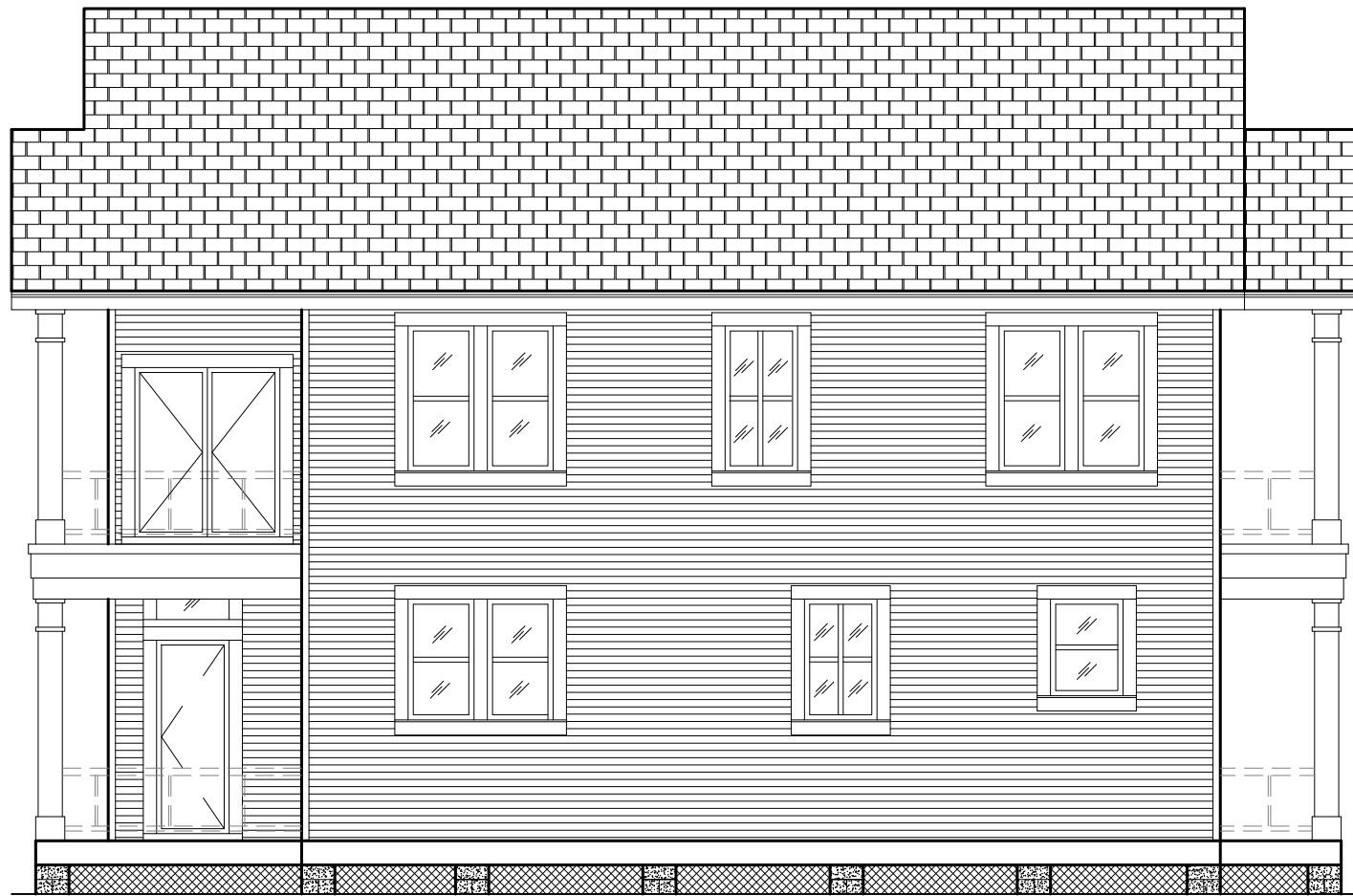
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SHEET 5 OF 65



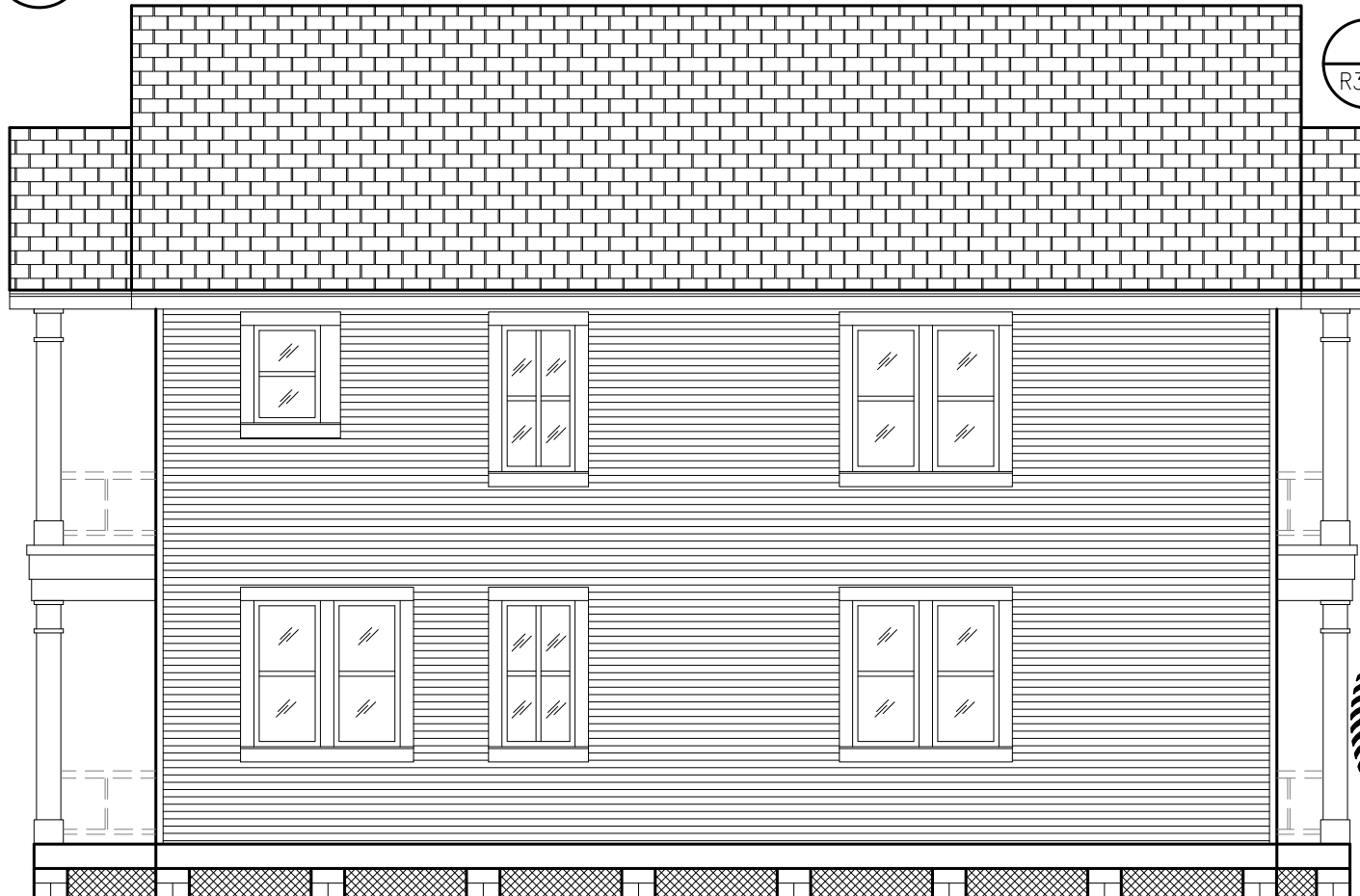
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2 EAST ELEVATION
R3.26 SCALE: N.T.S



3 SOUTH ELEVATION
R3.26 SCALE: N.T.S



4 WEST ELEVATION
R3.26 SCALE: N.T.S

LEGEND

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	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR

PRICE CONSULTING, INC.
 PRICE CONSULTING, INC.
 7122 WINDCRESS DR., SUITE A
 SPRING, TEXAS 77379
 PHONE: (281) 330-1724
 P.O. PROJECT NO.: 12141.23
 TX P.E. FIRM # F-3814







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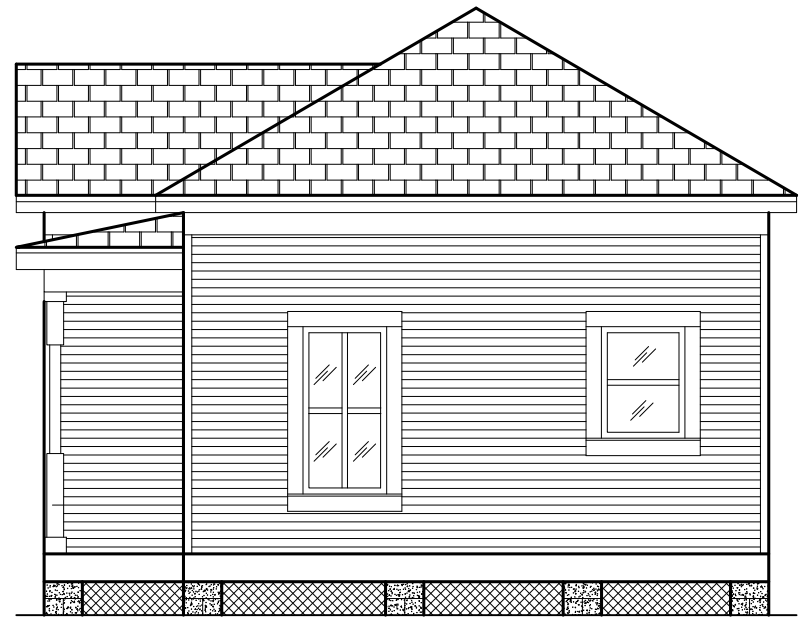
LEGEND	
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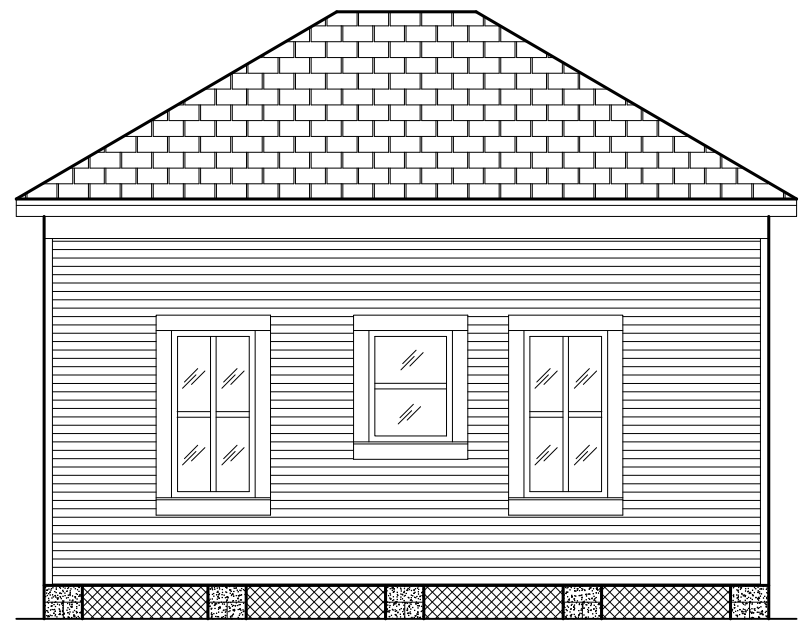
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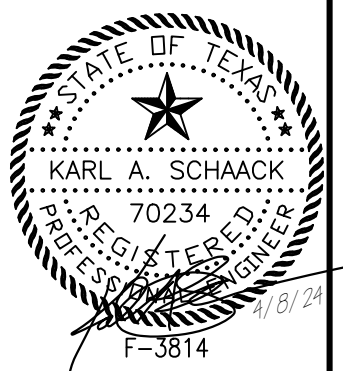
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3 SOUTH ELEVATION
 R3.27 SCALE: N.T.S.



4 WEST ELEVATION
 R3.27 SCALE: N.T.S.



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SHEET 01 OF 65



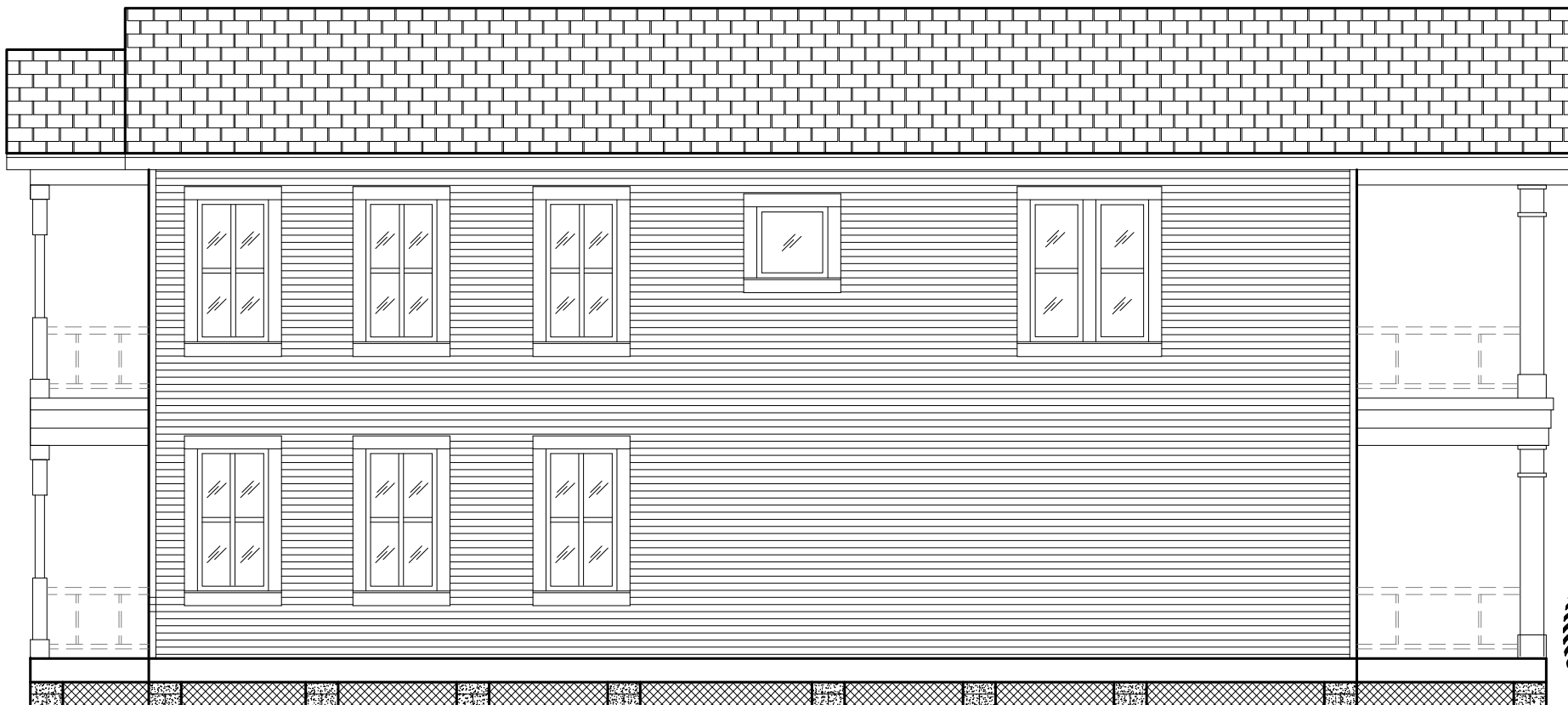
1 NORTH ELEVATION
R3.28 SCALE: N.T.S



2 EAST ELEVATION
R3.28 SCALE: N.T.S



3 SOUTH ELEVATION
R3.28 SCALE: N.T.S



4 WEST ELEVATION
R3.28 SCALE: N.T.S

LEGEND

	SHINGLE ROOF
	SIDING
	LATTICE
	MASONRY PIER
	GLASS
	DOOR

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 PRICE CONSULTING, INC.
 7122 WOODCREEK DR., SUITE A
 SPRING, TEXAS 77379
 PHONE: (281) 338-1724
 PO BOX 12141.23
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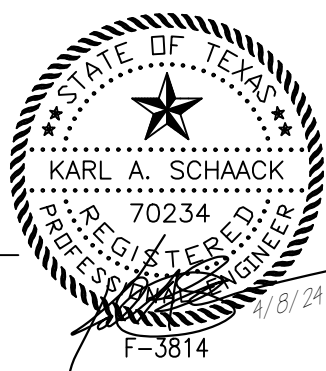
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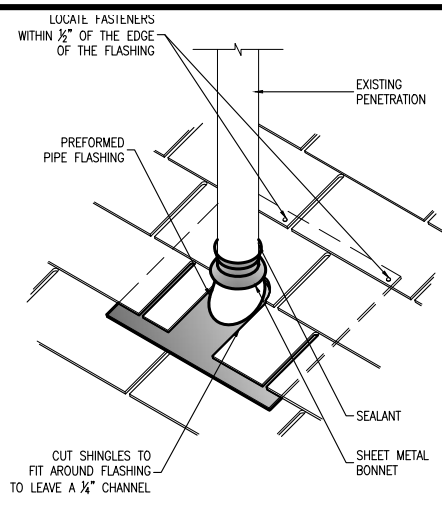
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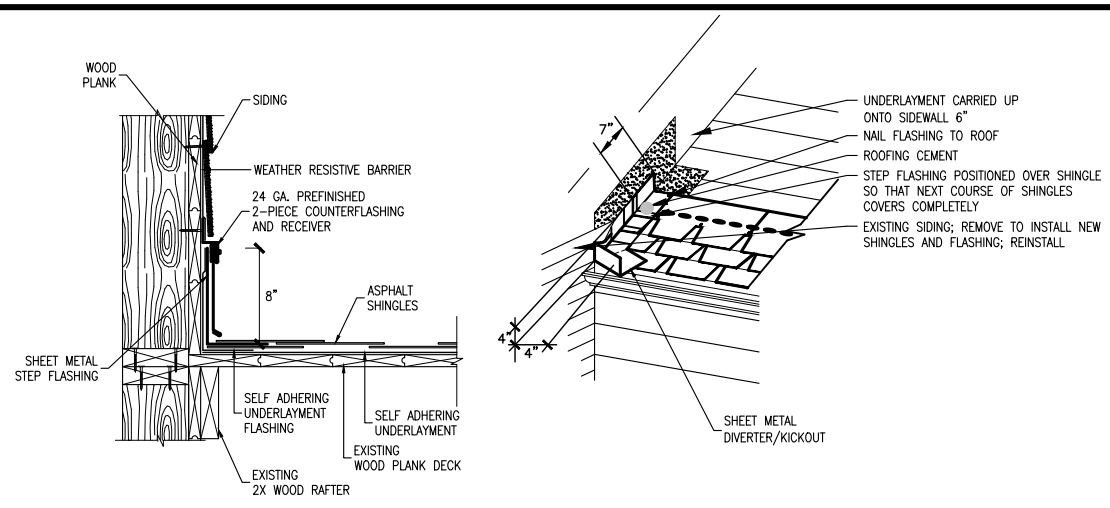
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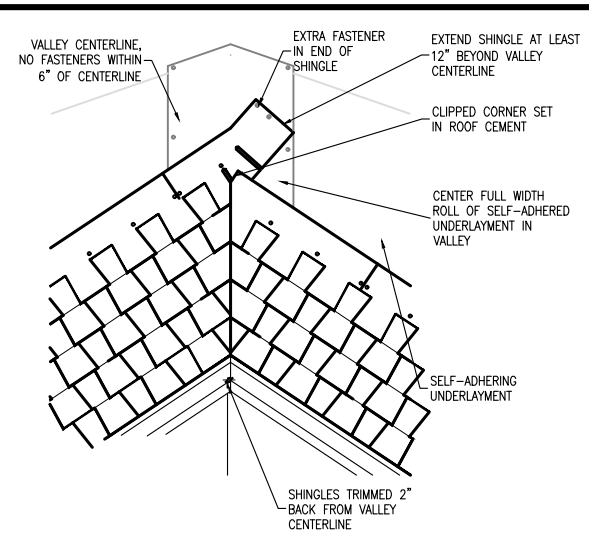




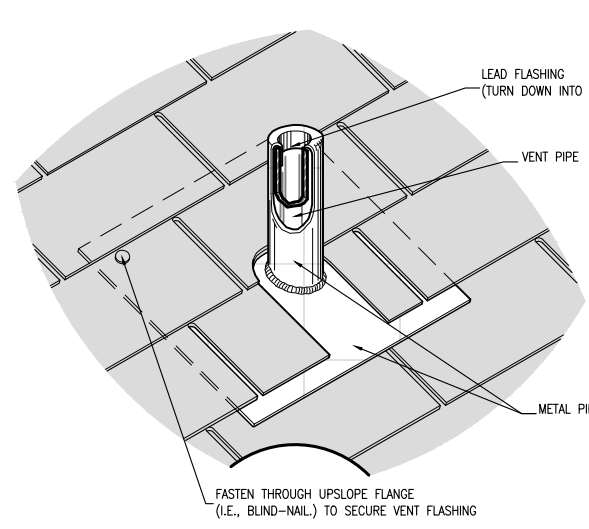
1 PENETRATION
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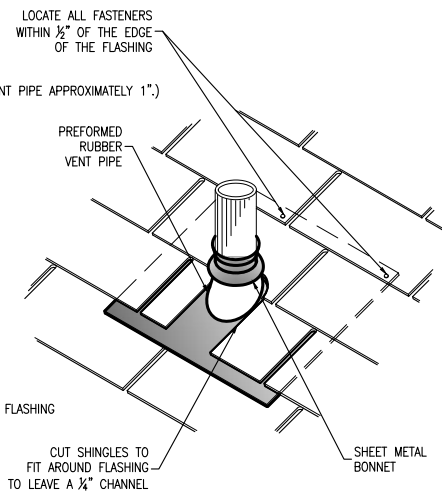
2 STEP FLASHING AT SIDEWALL
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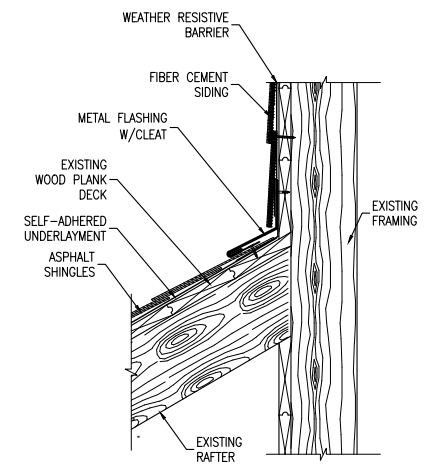
3 VALLEY
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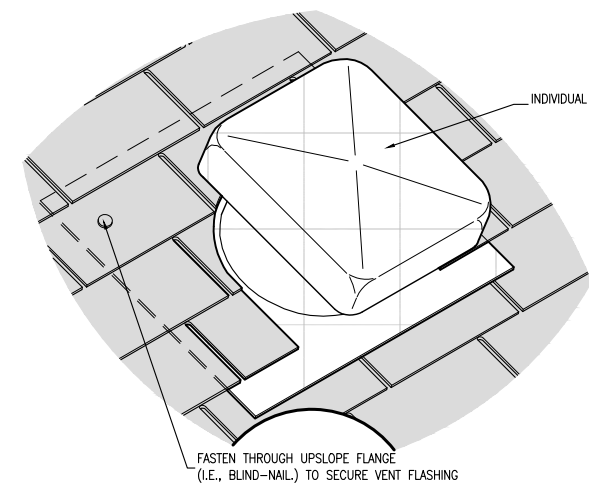
4 PLUMBING VENT
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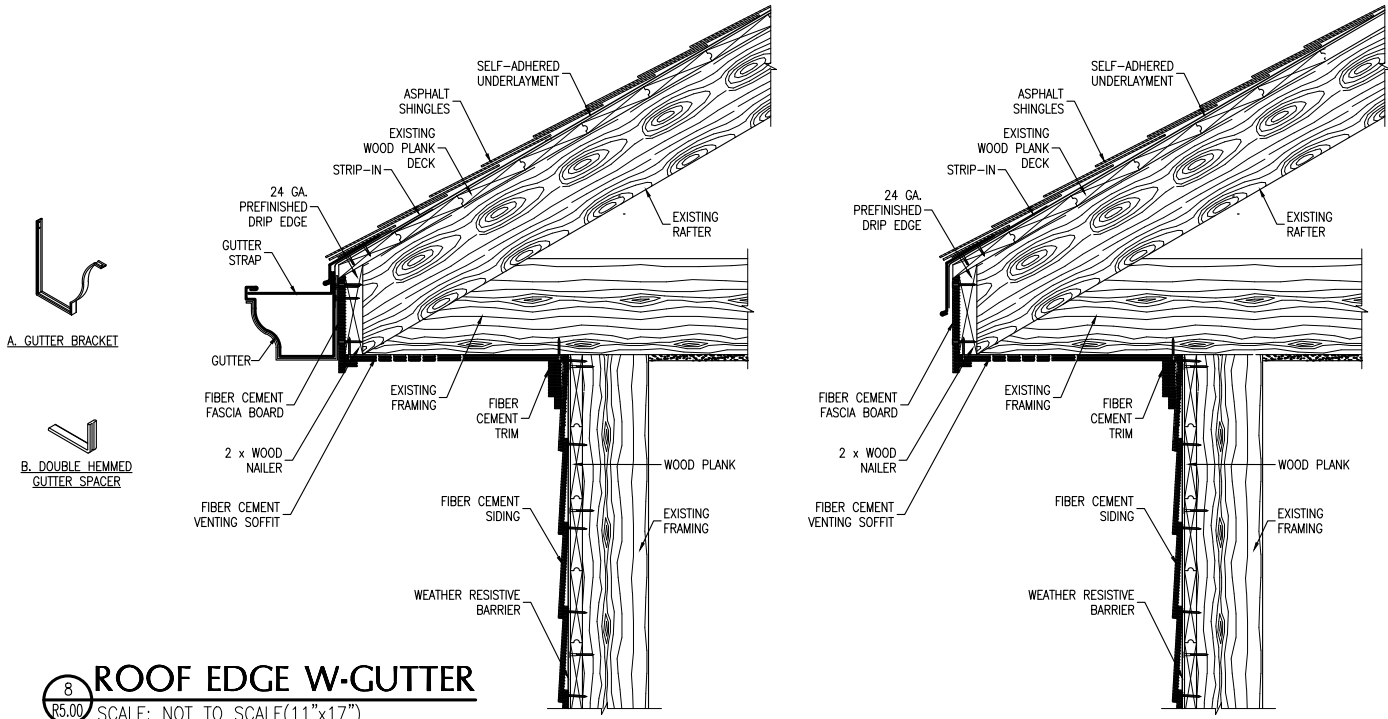
5 RIDGE VENT
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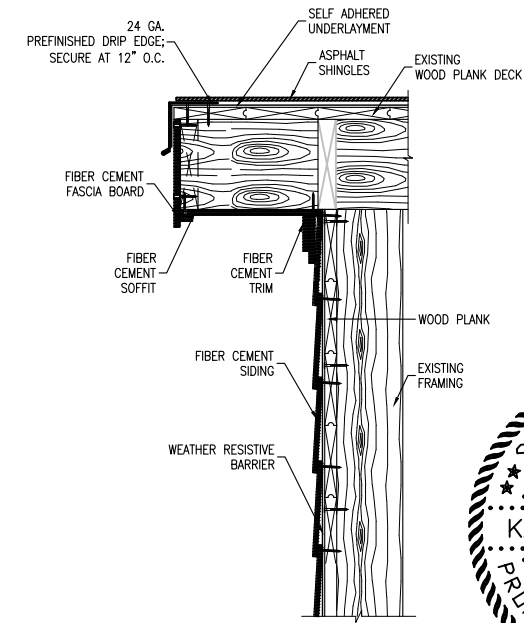
6 HEAD WALL
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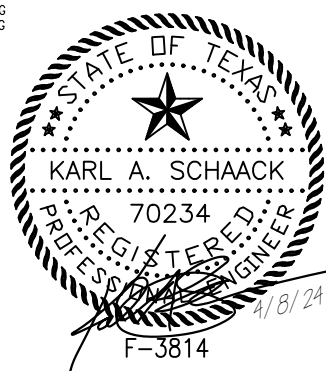
7 ROOF VENT
 R5.00 SCALE: NOT TO SCALE(11"x17")



8 ROOF EDGE W-GUTTER
 R5.00 SCALE: NOT TO SCALE(11"x17")



9 RAKE EDGE
 R5.00 SCALE: NOT TO SCALE(11"x17")

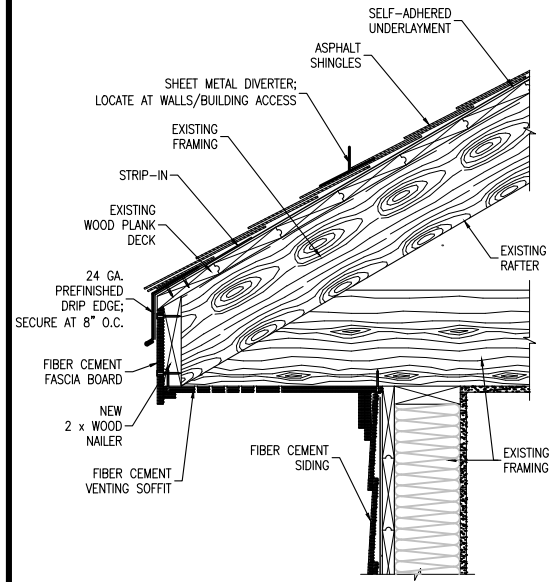


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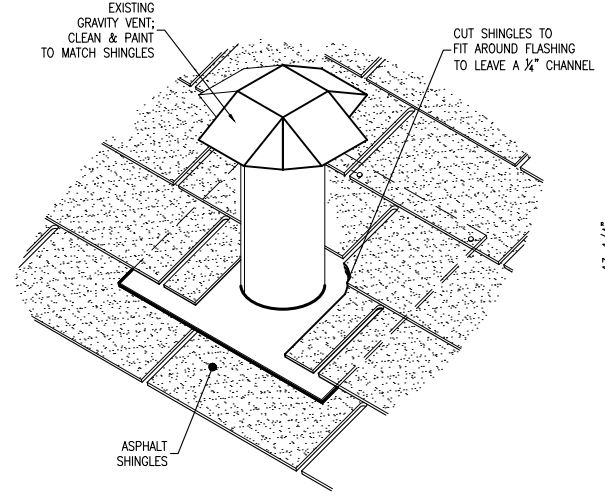
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ROOF DETAILS

Sheet Number

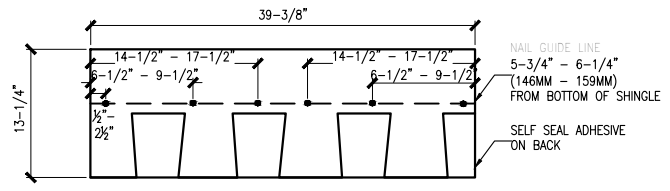
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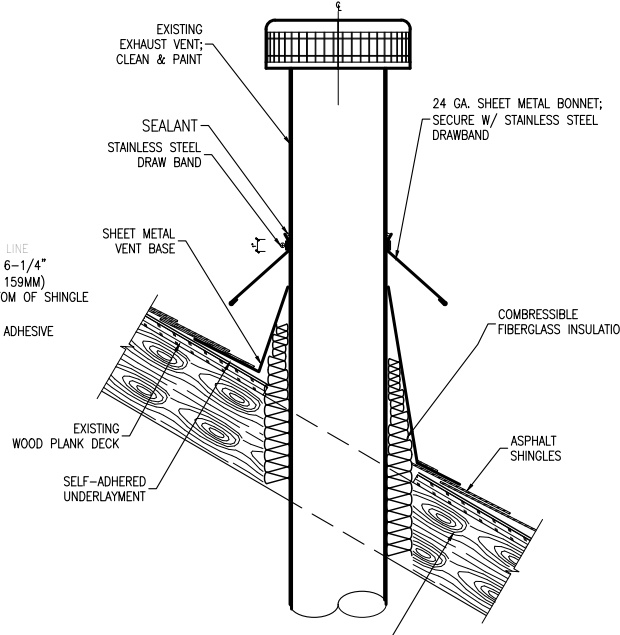
10 ROOF EDGE
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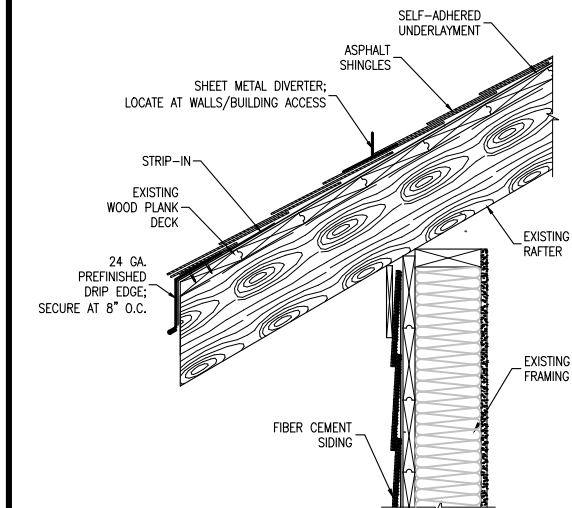
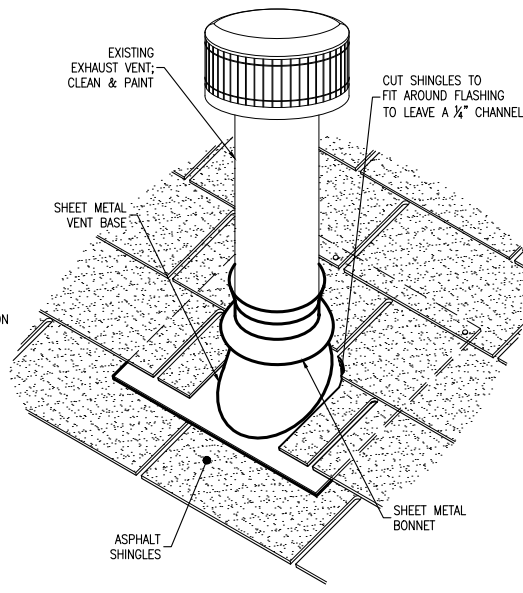
11 GRAVITY VENT
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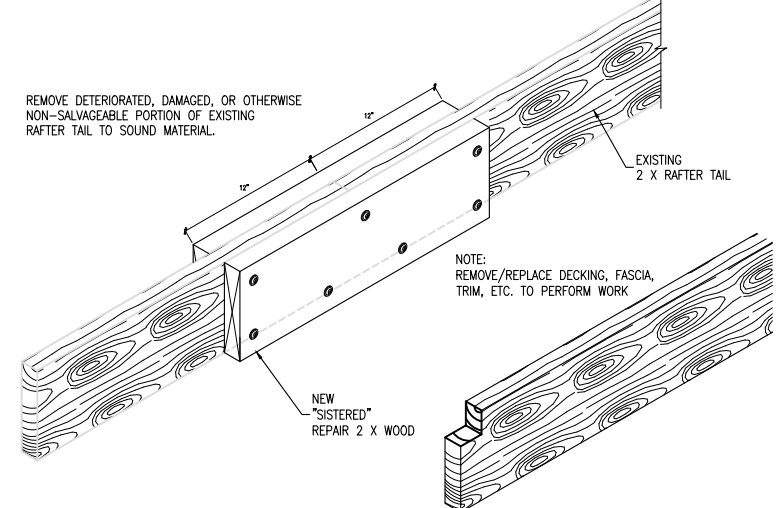
12 NAIL PLACEMENT DETAIL
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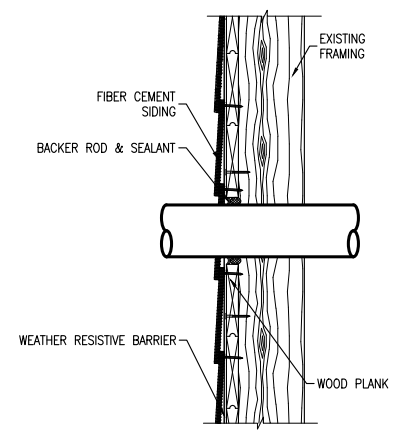
13 HEAT EXHAUST VENT
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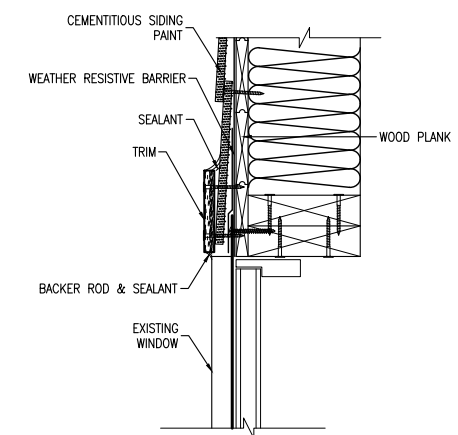
14 ROOF EDGE
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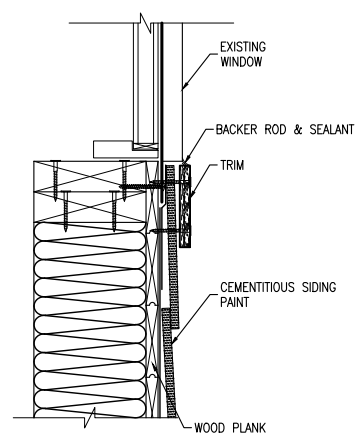
15 RAFTER TAIL REPAIR
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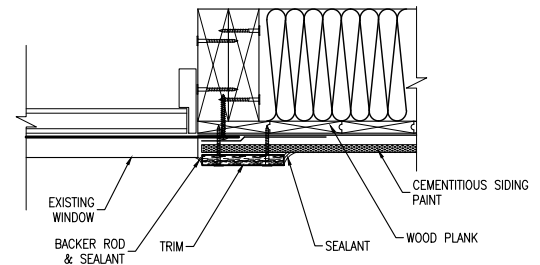
16 TYPICAL WALL PENETRATION
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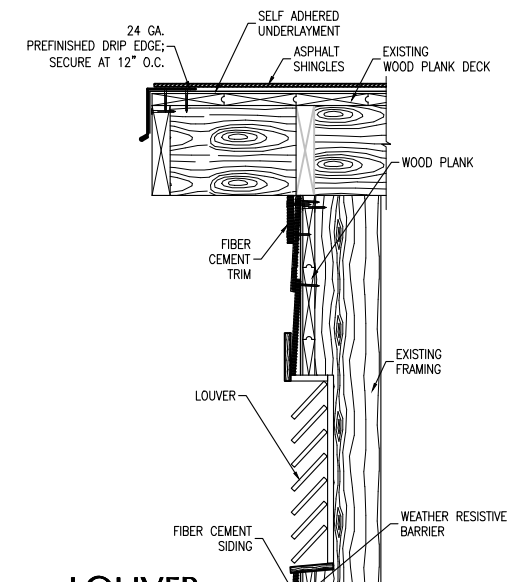
17 WINDOW HEAD
 R5.01 SCALE: NOT TO SCALE(11"x17")



18 WINDOW SILL
 R5.01 SCALE: NOT TO SCALE(11"x17")



19 WINDOW JAMB
 R5.01 SCALE: NOT TO SCALE(11"x17")



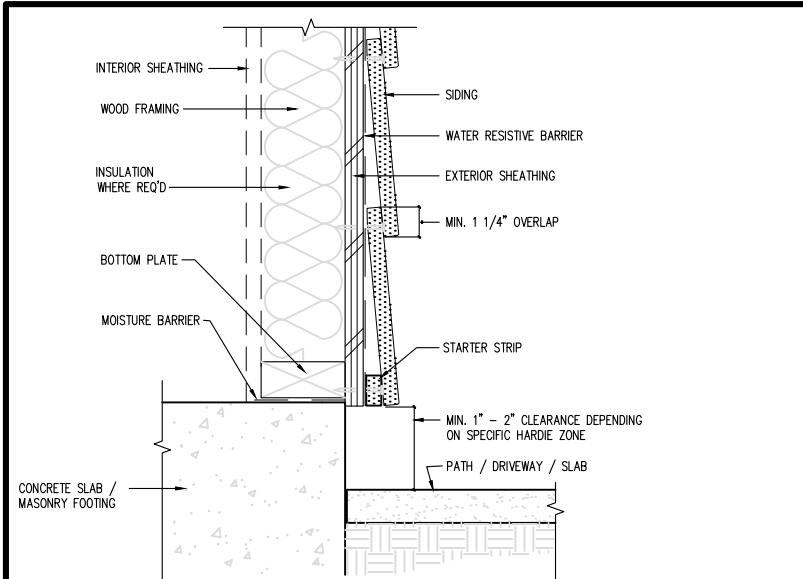
20 LOUVER
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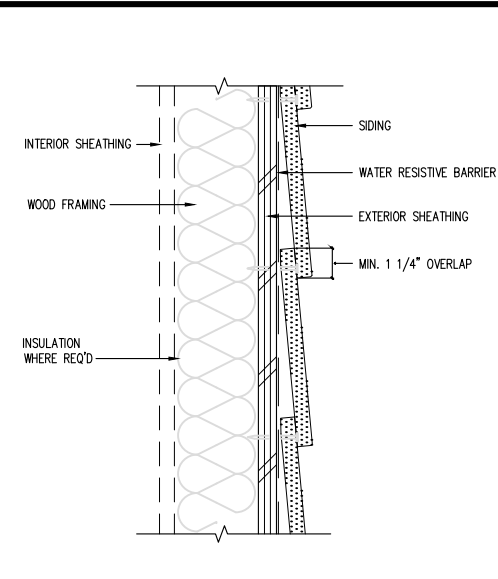
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Sheet Name
ROOF/WALL DETAILS

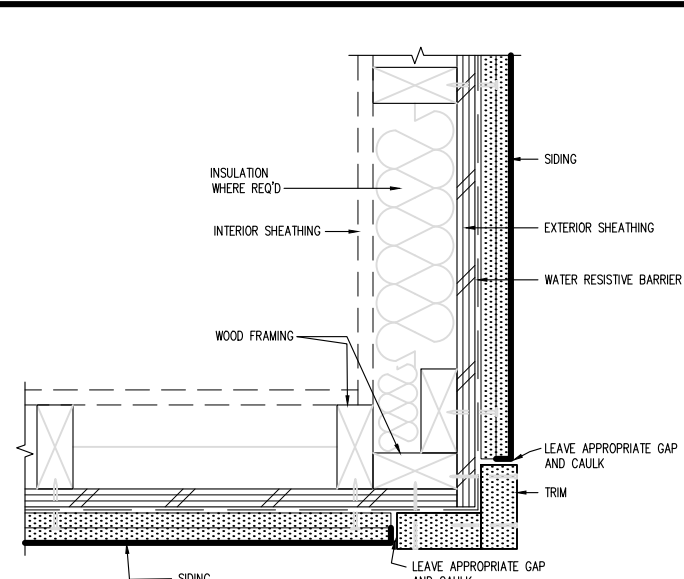
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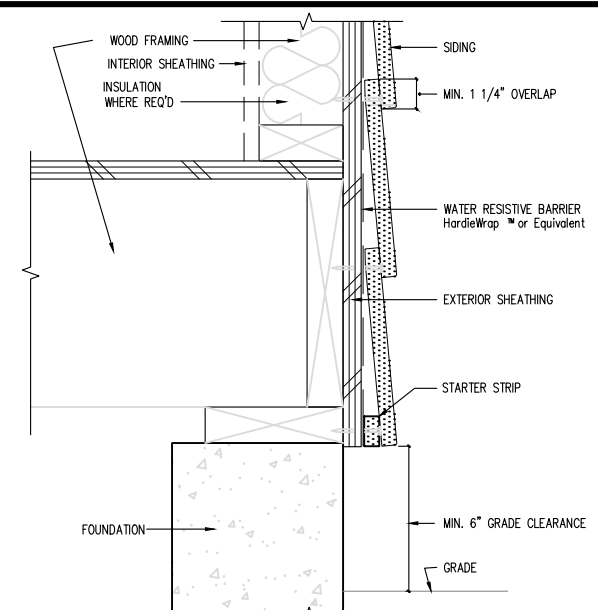
21 HARDSCAPE CLEARANCES, DECKS, PORCHES, PATIOS, WALKWAYS, ROOFS, ETC.
 SCALE: NOT TO SCALE(11"x17")



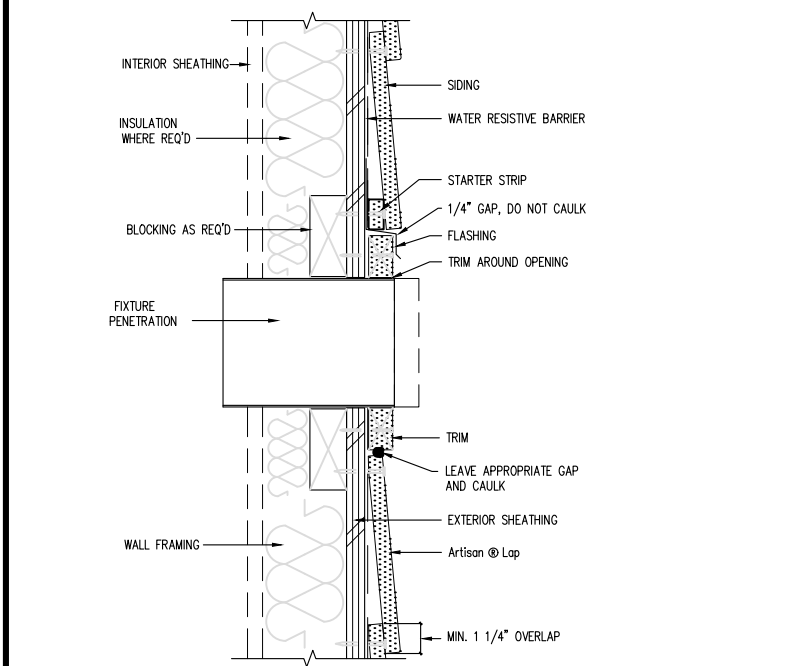
22 HORIZONTAL LAP VIEW
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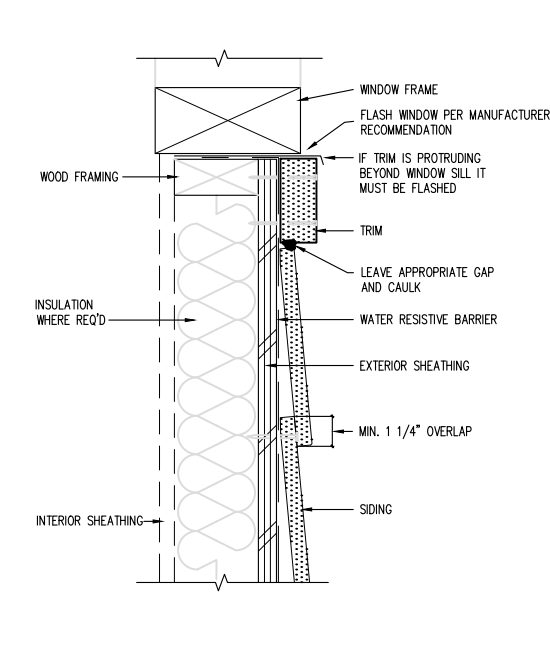
23 OUTSIDE CORNER
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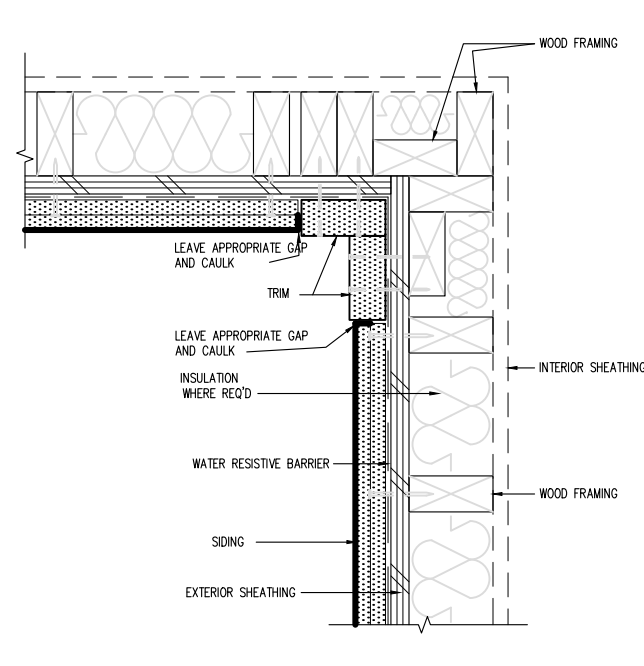
24 GRADE CLEARANCE
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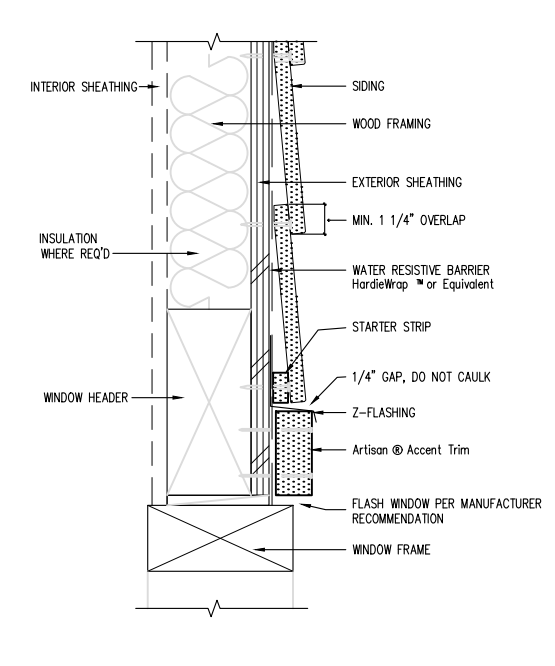
25 FIXTURE PENETRATION
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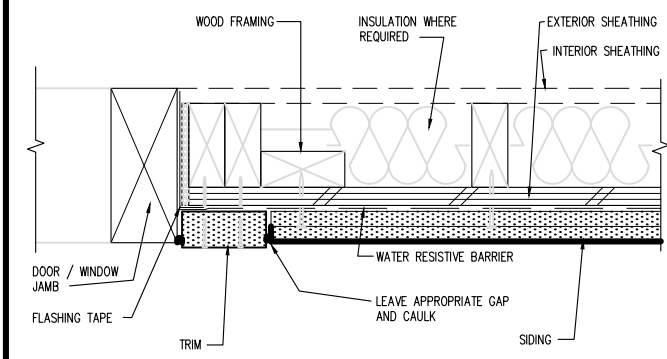
26 WINDOW SILL
 SCALE: NOT TO SCALE(11"x17")



27 INSIDE CORNER
 SCALE: NOT TO SCALE(11"x17")



28 WINDOW/DOOR HEAD
 SCALE: NOT TO SCALE(11"x17")



29 WINDOW JAMB
 SCALE: NOT TO SCALE(11"x17")



CONTRACT NO. 24-20 Exhibit E
IFB 24-29

FOR

REPLACEMENT OF TRASH CHUTE

BETWEEN

AND

THE HOUSTON HOUSING AUTHORITY

This contract (the "Contract"¹) is entered into by and between the HOUSTON HOUSING AUTHORITY (the "HHA"²),² having its principal place of business at 2640 Fountain View, Houston, Texas 77057, and _____ (the "Contractor"), having its principal place of business at _____. Hereinafter, all references to the "Parties" shall mean the HHA and the Contractor.

WITNESSETH:

WHEREAS, the HHA is a public body corporate, duly organized and validly existing and in good standing under the laws of the State of Texas and currently engaged in business defined in the Local Government Code of the State of Texas, including the provision of decent, safe, and sanitary housing to the residents of its facilities, low-income families, the elderly, and the disabled;

WHEREAS, the HHA, or its affiliates or subsidiaries, owns certain multifamily housing developments ("Properties") and has an administrative office;

WHEREAS the HHA requires a contract for Replacement of Trash Chutes at the Property.

WHEREAS the HHA, on or about April 30, 2024 issued Request for Proposal No. 24-20 ("IFB 24-20"), including any amendments or addenda thereto, soliciting responses from qualified agencies to contract for the replacement of trash chutes at the Property.

WHEREAS the HHA reviewed the responses it received to IFB 24-20, and determined that the response submitted by the Contractor was the most responsive and responsible bidder; and

¹ The Contract may also be referred to interchangeably as the "Agreement."

² In addition to being referred to as the "HHA," the Houston Housing Authority may alternatively be referred to as the "Authority," the "Agency," the "PHA," the "Housing Authority," the "Local Authority," the "LHA," or the "HA."

NOW THEREFORE, in consideration of the promises of the Parties herein, and pursuant to the mutual covenants and terms and conditions set forth in this Contract, the HHA and the Contractor agree to be legally bound as follows:

1. The Contract Documents.

- 1.1 In addition to the foregoing document, this Contract shall include: (a) § I of Form 5370-C, as promulgated by the Department of Housing and Urban Development (“HUD”), and commonly known as “General Conditions for Non-Construction Contracts” (“Form 5370-C”); (b) IFB 24-20, including all exhibits, addenda, or amendments thereto; (c) Contractor’s Response to IFB 24-20, including all exhibits, addenda, or amendments thereto. Form 5370-C is attached hereto and incorporated by reference as if set forth fully herein. The parties agree to be bound by the terms of Form 5370-C and the contract documents as outlined herein.
- 1.2 Form 5370-C, IFB 24-20, and Contractor’s Response to IFB 24-20 are attached hereto as, respectively, Exhibit 1, Exhibit 2 and Exhibit 3 and are incorporated by reference as if set forth fully herein.
- 1.3 In the event of a conflict between or among the contract documents, the following order of priority shall apply: (a) Form 5370-C; (b) the foregoing document; (c) IFB 24-20, and (d) Contractor’s Response to IFB 24-20. The Section 3 Form and the M/WBE Form shall receive the lowest priority in the event of a conflict between or among the contract documents.
- 1.4 A Contract document’s silence on a provision, issue, or term and condition found in another Contract document shall not be considered a conflict between or among the Contract documents.

2. Contractor’s Services.

- 2.1 The work/services³ to be performed by the Contractor pursuant to this Contract shall include _____
- 2.2 The contractor shall be required to provide all the necessary personnel, supervision, transportation, equipment, insurance, tools, supplies, materials, and any other item(s) or resource(s) needed to perform the services that are the subject of this agreement.
- 2.3 Absent the HHA’s written consent or written instruction, the Work under this Contract shall be performed by Contractor.
- 2.4 The HHA may designate a Project Manager during the period of performance.

³ Hereinafter referred to interchangeably as “Work” or “Services”.

2.5 Contractor agrees to conduct all activities and perform all Work under this Agreement in accordance with all applicable federal, state and local laws, rules, regulations, policies, procedures and issuances in effect or promulgated during the term of this Agreement.

3. Consideration and Payment.

3.1 In consideration of the work to be performed by the Contractor in accordance with the requirements and Scope of Work previously referenced herein, the HHA shall pay the Contractor an amount not to exceed _____ (\$ _____), during the Contract term.

3.2 Contractor shall receive payment after invoices have been submitted and work has been approved by HHA's Project Manager. Payment terms are net 30 days. Should Contractor receive payment by wire or electronic means, Contractor must provide HHA written confirmation and instructions signed by Contractor's duly authorized official before any type of electronic or wire payment will be made by HHA. Any changes to wire or electronic payment information must be submitted to HHA in writing and signed by Contractor's duly authorized official.

3.3 The Contractor will ensure that its work and services are provided in a cost-efficient manner.

3.4 By the twentieth day of a given month, the Contractor, with respect to the work and services provided under this Contract in the preceding month, shall provide the HHA with an invoice that includes: (a) an itemized list of the work and services performed, (b) who performed the work and services, (c) the Properties and amount at which the work and services was billed; (d) the amount of time spent on the work and services, measured in one-tenth of an hour increments, (3) costs incurred for reimbursable expenses, if any such expenses are reimbursable under this Contract. Invoices comporting with this section that are approved by the HHA shall be due and payable by the HHA no later than thirty days after receipt. Invoices may be sent by the Contractor to the HHA via the United States Postal Service or via email. If sent via email, an invoice shall be considered to be received by the HHA on the day the email was sent by the Contractor.

3.5 If the HHA does not approve of an invoice, or a part thereof, the HHA will, within seven business days after receipt of the invoice, provide the Contractor with written notice of adjustments that the HHA believes are warranted. If, within seven business days of receiving such notice from the HHA the Contractor does not present the HHA with additional detail or documentation to adequately support the disputed invoice (or portion thereof), then any adjustments made by the HHA to the invoice in question shall become binding upon the Contractor and the Contractor will waive any and all of its rights to dispute the adjusted invoice. If the Contractor responds timely within the seven business day timeframe allotted herein, and provides sufficient detail to

adequately support the disputed invoice, (or disputed portion thereof), then the HHA shall consider the Contractor's timely response and will not unreasonably withhold payment of the disputed amount, provided that the additional detail or documentation submitted by the Contractor sufficiently and adequately supports the disputed invoice (or disputed portion thereof).

3.6 The HHA shall pay only the Contractor under this Contract. The HHA shall have no liability, directly or indirectly, for payment to the Contractor's employees, workers, agents, contractors, or subcontractors, if any. The Contractor agrees to indemnify, hold harmless, and defend the HHA and its employees, agents, affiliates, subsidiaries, representatives, and board members from any and all such claims.

3.7 **The Contractor is solely responsible for the payment of wages and any applicable benefits to workers for work performed under this contract. The Contractor shall be responsible for withholding federal and state income taxes, paying Federal Social Security taxes, maintaining unemployment insurance and maintaining workers' compensation insurance, in an amount and under such terms as required by the applicable laws of the State of Texas. THE HHA'S PAYMENT IS TO THE CONTRACTOR. HHA SHALL HAVE NO LIABILITY, DIRECTLY OR INDIRECTLY, FOR PAYMENT TO THE CONTRACTOR'S WORKERS OR TO SUBCONTRACTORS. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE HHA, ITS EMPLOYEES, REPRESENTATIVES, AND AFFILIATES HARMLESS FROM ANY AND ALL SUCH CLAIMS.**

3.8 **The HHA is not responsible to the Contractor or the Contractor's workers for payment of any overtime compensation or any additional payments pursuant to the Fair Labor Standards Act; the Texas Pay Day Act; the Equal Pay Act; Title VII of the Civil Rights Act of 1964, 42 U.S.C 2000e, et al., as amended; or any provisions of the Texas Labor Code Ann., as amended. The HHA will not be responsible for overtime wages.**

4. Term/Period of Performance, Effective Date, and Termination.

4.1 This Contract shall have an initial term of _____ (____) _____ from the effective date. At its sole discretion, the HHA may elect to extend the period of performance for up to an additional _____ (____) _____, in _____ (____) year increments.

4.2 All work performed by the Contractor under the Contract shall be performed between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday. HHA reserves the right to change hours as necessary.

4.3 This Contract shall be signed by the HHA and the Contractor. The Contractor shall sign the Contract first, and after signing, shall deliver the original signed contract, along with any and all required payment bonds, performance bonds, and required proof of

insurance, to the HHA for signature by the HHA. This Contract shall not become effective until it is executed by the HHA. The Contract's effective date shall be the date of execution by the HHA.

- 4.4 Execution of the Contract by the Contractor is a representation that the Contractor has visited the work site, become generally familiar with local conditions under which the Contractor is to perform its work, and correlated personal observations with the requirements set forth in the Contract.
- 4.5 Passage of the Agreement expiration date shall not extinguish or prejudice HHA's right to enforce this Agreement with respect to default or defect in performance that has not been cured.
- 4.6 Irrespective of any default hereunder, HHA may at any time cancel the contract in whole or in part. Should this occur, the Contractor shall be entitled to equitable compensation for all work completed and accepted by HHA's Project Manager prior to such termination or cancellation.

5. Confidentiality.

- 5.1 The Contractor acknowledges and agrees that all information which the Contractor shall receive from the HHA or its agents or affiliates in connection with this Contract shall be confidential and the Contractor shall not disclose such information to any party without the HHA's prior written consent or unless required to do so by law.

6. Contractor's Representations and Warranties.

- 6.1 The Contractor represents and warrants that it has all applicable licenses and registrations to engage in and perform the services contemplated by this Contract. Unless otherwise stated herein, all local, State, or Federal permits or registrations which may be required to provide the services to be provided by the Contractor shall be the sole responsibility of the Contractor and any costs submitted by the Contractor in its Response shall reflect all costs required by the Contractor to procure and provide such necessary permits and registrations.
- 6.2 The Contractor represents and warrants that the Contractor presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree or have the potential of conflicting with the performance of its services under the Contract or the impartial rendering of assistance or advice to the HHA. The Contractor further represents, covenants, and warrants that in the performance of the Contract no person having any such interest shall be employed. In the event the Contractor becomes aware of such an interest after the execution of this Contract, the Contractor shall immediately disclose the interest to the HHA in writing. The Contractor agrees that in carrying out its duties and responsibilities under this Agreement, it will neither undertake, nor cause, nor permit to be undertaken, any

activity which either (i) is illegal under any laws, decrees, rules, or regulations in effect in Texas or the United States; or (ii) would have the effect of causing the HHA to be in violation of any laws, decrees, rules, or regulations in effect in Texas or the United States.

- 6.3 Contractor agrees that in connection with this Agreement or any extension thereof, it will update the Conflict of Interest Questionnaire and any other relevant forms required by law, HUD or HHA, as needed. Contractor further agrees to notify the HHA immediately of any conflict of interest relating to the subject matter of this Agreement.
- 6.4 The Contractor represents and warrants that in performing its services under this Contract, it will comply with all applicable State of Texas laws and regulations pertaining to the provision of its services under this Contract and that the Contractor will perform its services in a good and workmanlike manner, with the same degree of skill, diligence, competency and knowledge which is ordinarily exhibited, possessed by and consistent with the professional standards that apply to the provision of such services in metropolitan areas of similar size to Houston, Texas and other professionals in good standing in the same or similar field as Contractor.

7. Insurance.

- 7.1 The Contractor shall maintain the following insurance for the duration of this Contract, unless otherwise noted:
- a. Workers' compensation insurance in accordance with State of Texas rules and regulations for all employees providing work and services hereunder. The policy must be endorsed to contain a waiver of subrogation and a thirty (30) day notice of cancellation or non-renewal in favor of the HHA.
 - b. Commercial general liability insurance with a single limit for bodily injury of \$1,000,000.00 per occurrence and property damage limit of no less than \$1,000,000.00 per occurrence. The insurance may have a combined aggregate of coverage amounting to no less than \$2,000,000.00. Such insurance shall cover the operations of the Contractor under this Contract and shall protect the Contractor and its officers, agents, and employees against claims of bodily injury or death, including specifically such claims resulting from any form of sexual misconduct and for property damage to others. Such insurance shall also include coverage for completed operations and contractual liability. If the Contractor has a "claims made policy," then the following additional requirements apply: (i) the policy must provide a "retroactive date" which must be on or before the date the Contractor executes this Contract; and (ii) the extended reporting period may not be less than five years following the completion date of this Contract. Regardless of whether the Contractor's policy is claims made or per occurrence, the HHA must be named as an additional insured and the policy must be endorsed to be

primary/noncontributory and to contain a waiver of subrogation in favor the HHA. The policy must also be endorsed with a thirty (30) day notice of cancellation or non-renewal in favor of the HHA.

- c. Automobile liability insurance covering owned, non-owned, hired and all vehicles used by the Contractor or its officers, employees, or agents with a combined single limit of not less than \$1,000,000.00 applicable to bodily injury, sickness or death and loss of, or damage to, property in any one occurrence. The HHA must be named as an additional insured under this policy and this policy must be endorsed to be primary and to contain a waiver of subrogation in favor the HHA. The policy must also be endorsed with a thirty (30) day notice of cancellation or non-renewal in favor of the HHA.
- d. Umbrella/Excess Liability Insurance in the amount of \$ TBD providing excess limits over Workers' Compensation, Automobile Insurance, Professional Liability and General Liability Insurance. The HHA must be named as an additional insured and this policy must be endorsed to be primary/noncontributory and contain a waiver of subrogation endorsement in favor of the HHA. The policy must also be endorsed with a thirty (30) day notice of cancellation or non-renewal in favor of the HHA.
- e. Errors and omissions professional liability insurance in an amount no less than \$2,000,000 and for a continuous period of at least three years following the completion of the Contractor's services under this Agreement. The policy shall provide for coverage for all work performed by the Contractor. The Contractor shall ensure that any subcontractors hired by the Contractor that perform work on the Contractor's behalf will maintain their own Errors and Omissions Professional Liability Insurance coverage in the amount of no less than \$2,000,000 and the Contractor shall obtain evidence of such insurance in a manner satisfactory to the HHA and provide such evidence to the HHA upon the HHA's request. The policy must also be endorsed with a thirty (30) day notice of cancellation or non-renewal in favor of the HHA.

7.2 Before commencing its performance of any work or services under this Contract, the Contractor, at the request of the HHA, shall provide the HHA with copies of the applicable certificates of insurance, policies, declarations, and endorsements for the required coverages listed above so that the HHA may confirm: (a) that said coverages are valid and in effect; (b) that it is named as an additional insured under the Contractor's comprehensive general liability insurance policy ("CGL"), umbrella/excess liability insurance, errors and omissions/professional liability insurance and its automobile liability insurance policy; (c) that none of the required policies may be cancelled or non-renewed until at least thirty days prior written notice has been provided to the HHA; (d) that the Contractor's CGL policy, umbrella/excess liability and automobile policy are primary; and that (e) the Contractor's CGL policy, workers' compensation, umbrella/excess liability insurance and automobile policy contain waivers of subrogation

in favor of the HHA. All certificates of insurance must reference this job/project and contract number.

- 7.3 All insurance shall be carried with companies that are financially responsible and admitted to do business in the State of Texas. The Contractor shall not permit the insurance policies required for this Contract to lapse during any period for which this Agreement is in effect.
- 7.4 The insurance requirements in this section are not intended to and shall not in any manner limit or qualify the liabilities or obligations assumed by the Contractor under this Contract, including, but not limited to, liability assumed by the Contractor pursuant to section 8 of this Contract.
- 7.5 The Contractor shall be solely responsible for any premiums, deductibles, or self-insured retentions that may apply to the insurance coverages required in this Contract.
- 7.6 The Contractor shall require each of its subcontractors, if any, to provide the coverages noted in this section, unless such coverages are waived or reduced in writing by the HHA.

8. INDEMNITY AND HOLD HARMLESS.

- 8.1 THE CONTRACTOR SHALL INDEMNIFY, DEFEND, AND HOLD THE HHA AND ITS OFFICERS, AGENTS, SUBSIDIARIES, AFFILIATED ENTITIES, COMMISSIONERS AND EMPLOYEES (THE “INDEMNIFIED PERSONS”) HARMLESS FROM ALL LIABILITY, LOSS OR DAMAGE, INCLUDING REASONABLE ATTORNEY FEES AND EXPENSES, RESULTING FROM, BROUGHT FOR, OR ON ACCOUNT OF ALL CLAIMS, DEMANDS, AND CAUSES OF ACTION OF EVERY KIND AND CHARACTER ASSERTED BY ANY PERSON (INCLUDING, WITHOUT LIMITATION, THE INDEMNIFIED PERSONS’ OR CONTRACTOR’S EMPLOYEES), FOR PERSONAL INJURY, DEATH, OR FOR LOSS OF OR DAMAGE TO ANY AND ALL PROPERTY IN ANY WAY ARISING OUT OF, IN CONNECTION WITH, OR TO THE EXTENT CAUSED BY THE CONTRACTOR OR ANY SUBCONTRACTOR’S PERFORMANCE HEREUNDER. SUCH INDEMNITY SHALL BE WITHOUT REGARD TO THE NEGLIGENCE (WHETHER ACTIVE, PASSIVE, SOLE, CONCURRENT OR GROSS), STRICT LIABILITY OR OTHER FAULT OF ANY INDEMNIFIED PERSON. CONTRACTOR ACKNOWLEDGES AND AGREES THAT THIS INDEMNITY CONTROLS OVER ALL OTHER PROVISIONS IN THE AGREEMENT AND SURVIVES THE TERMINATION OF THIS AGREEMENT.**
- 8.2 THE CONTRACTOR SHALL BE RESPONSIBLE FOR, AND SHALL RELEASE AND HOLD HARMLESS THE HHA FROM ANY LIABILITY FOR, ALL DAMAGE AND LOSS SUSTAINED BY IT TO ITS TOOLS AND EQUIPMENT UTILIZED IN THE PERFORMANCE OF SERVICES, OR THE**

PERFORMANCE OF ANY SUBCONTRACTORS' SERVICES, HEREUNDER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SATISFYING ALL DEDUCTIBLES UNDER ITS POLICIES WITHOUT REIMBURSEMENT FROM THE HHA AND THE DEDUCTIBLE PORTION OF ANY LOSS SHALL NOT BE EXCLUDED FROM THE CONTRACTOR'S INDEMNITY OBLIGATION.

8.3 NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY, ANY LEGAL LIMITATIONS AFFECTING THE SCOPE OF PERMISSIBLE INDEMNITY SHALL BE READ INTO THESE CLAUSES SUCH THAT THE CLAUSE PROVIDES THE MAXIMUM INDEMNITY PURSUANT TO ITS TERMS WHILE STILL COMPLYING WITH THE LEGAL LIMITATIONS.

9. Notices.

9.1 All notices and communications regarding the Contract must be in writing and shall be directed to the following representatives:

HHA

CONTRACTOR

Tel: _____
Fax: _____

Tel: _____
Fax: _____

10. Compliance with Federal Laws and Regulations

10.1 To the extent applicable, the Contractor shall comply with any and all federal laws and regulations, including but not limited to, the following:

- The requirements of Title VII of the Civil Rights Act of 1968 and Title VI of the Civil Rights Act of 1964, relating to prohibitions against discrimination in housing and the benefits of federally funded programs because of race, color, religion, sex, or national origin;
- The prohibition against discrimination on the basis of age under the Age Discrimination Act of 1975, the prohibition against discrimination against handicapped individuals under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act;
- All federal and state laws, rules and regulations related to energy efficiency and resource conservation;

- The requirements of Executive Order 11246 relating to equal employment opportunity in connection with federally funded programs;
- The requirements of Section 3 of the Housing and Urban Development Act of 1968 relating to training and employment of individuals and contracting for business opportunities in metropolitan areas in which federally funded programs are being operated; and
- The requirements of Executive Orders 11625, 12432 and 12138 to implement Minority Business Enterprise (“MBE”) and Women’s Business Enterprise (“WBE”) participation goals in federal agencies’ programs.

11. Compliance with M/WBE and Section 3 Policy.

- 11.1 When subcontracting, the Contractor agrees to utilize its good faith and best efforts to subcontract a sufficient dollar amount with M/WBE’s certified as such or recognized by the HHA as certified M/WBE in an effort to meet the HHA’s goal of a minimum of 30% of the final contract dollars being expended on one or more M/WBEs. All adjustments that cause the contract price to increase will also increase the total amount that the Contractor must expend on M/WBEs.
- 11.2 The Contractor hereby specifically agrees to adhere to the M/WBE Participation Plan as submitted by the Contractor and attached hereto as Exhibit 3.
- 11.3 The Contractor further agrees to adhere to the Section 3 Business Certification as submitted by the Contractor within its Response, attached hereto as Exhibit 4.

12. Records.

- 12.1 Without limitation to any other provision of the Contract, the Contractor shall maintain all records pertaining to the Contract, which the HHA reasonably requires for three (3) years from the expiration date of the Contract unless a longer period is required under Title 24, CFR §85.42. The Contractor shall maintain records required by 24 CFR §135.120 for the period that HUD requires the records to be maintained. The Contractor will give the HHA, HUD, the Comptroller General of the United States, the General Accounting Office, and any of their authorized representative’s access to, and the right to examine, audit, copy, or reproduce all records pertaining to the project financed under the Contract and the operation of the program or project. The right to access shall continue as long as the records are required to be maintained.

13. Independent Contractor.

- 13.1 The Contractor is an independent contractor of the HHA and not an employee of the HHA. Nothing contained in the Contract will be deemed or construed to create a partnership between the Contractor and the HHA. The Contractor will have no authority to create any obligation or make representations or warranty binding on the

HHA. All personnel supplied or used by the Contractor in connection with this Contract will be deemed employees, agents, or subcontractors of the Contractor and will not be considered employees, agents, or subcontractors of the HHA for any purpose whatsoever. The Contractor is solely responsible for payment of wages and overtime to the Contractor's employees. By entering into this Contract the Contractor and the HHA are not entering into a joint employment relationship or an employment relationship of any kind.

- 13.2 The Contractor agrees to comply with all applicable federal and state laws pertaining to the proper classification of workers. Additionally, the Contractor is aware that in accordance with Section 214.008 of the Texas Labor Code, contractors and subcontractors who fail to properly classify individuals performing work under a governmental contract will be penalized \$200.00 for each individual that has been misclassified.

14. Subcontracts.

- 14.1 The Contractor shall not subcontract any portion of its services under this Contract without first obtaining the written consent of the HHA.

15. Non-Appropriation.

- 15.1 The Contractor understands that the HHA is a governmental entity and this Agreement is contingent upon the receipt, availability and allocation of funding allocated to the HHA for the payment of such services or obligations. Should it not be funded for any period during the term of the Agreement, any sums due for the remainder of the term shall be forgiven and the HHA shall not be liable for payment. HHA may terminate this Agreement in writing at any time, or suspend services, if sufficient funds are not available to continue operations under this Agreement. Upon such written notice from the HHA, the Contract will automatically terminate.

16. Proprietary Information.

- 16.1 The Contractor shall maintain the confidentiality of all proprietary information provided to it by the HHA. Information in the public domain, or otherwise obtained independently by the Contractor, is not considered confidential.
- 16.2 Any programs, data, or other materials furnished by the HHA for use by the Contractor concerning the services performed under the Contract shall remain the sole property of the HHA.

17. Ownership of Work Product.

- 17.1 All drawings, designs, specifications, manuals, reports, studies, surveys, models, software, source code and source code documentation, documentation or system architecture and any other documents, materials, data and products ("Work Product")

prepared or assembled by the Contractor or its subcontractors pursuant to this Contract shall be the exclusive property of the HHA and copies of all Work Products shall be delivered to the HHA upon the completion or termination of the Contract. The Contractor hereby assigns to the HHA ownership of all right, title and interest in and to such Work Products, including ownership of any copyright, patent, trademark, trade secret, or other intellectual property or proprietary rights in the Work Product. Further, Contractor hereby grants to the HHA a perpetual, royalty-free, paid-in-full, nonexclusive and irrevocable license to copy, reproduce, perform, dispose of, or use, in whole or in part, the Work Product and to authorize others to do so. The Contractor also agrees to execute all papers necessary for the HHA to perfect its ownership of the rights in the Work Product.

18 Criminal Background Checks Required.

- 18.1 After execution of this Agreement and as soon as reasonably possible, the Contractor shall conduct criminal background checks on all employees and subcontractors before such employees or subcontractors are assigned to perform any work under this Agreement. The Contractor agrees that no employee or subcontractor currently suspended or debarred under 2 CFR § 180, et seq., or who has been convicted of a felony, shall be authorized to perform any work under the terms of this Agreement, without prior written approval from the HHA.

19. Special Requirements.

- 19.1 The Contractor agrees that if the United States Department of Housing and Urban Development (“HUD”) requires a cost certification after substantial completion of the work performed under the Contract, then the Contractor will cooperate with the HHA and HUD and assist in providing such cost certification, provided that any payment to the Contractor hereunder shall not be conditioned upon any such cost certification, but shall be paid in accordance with the terms of the Contract.

20. Time.

- 20.1 Time is of the essence in the Contract and each and all of its provisions.

21. Tax Exempt Status.

- 21.1 The HHA is a unit of government and its functions are governmental functions. Its property is public property used for essential public and governmental purposes. By virtue of Section 392.005 of the Texas Local Government Code (the “Housing Authorities Law”), the HHA and its property are exempt from all taxes, including sales tax. A copy of the Tax Exemption Certificate will be provided to the Contractor, if required.

22. Cooperation with HHA.

22.1 In the performance of this Contract, the Contractor agrees to cooperate with the HHA and its staff, including the HHA's Section 3 Coordinator.

23. Miscellaneous.

23.1 *Legal Construction/Severability.* HHA and Contractor agree, that if any term or provision of this Agreement is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular term or provision held to be invalid. The failure of either party to enforce any provision of this Agreement shall not constitute a waiver by the party of that or any other provision of this Agreement. Whenever context requires, the singular will include the plural (and vice-versa) and references to gender shall include the masculine and feminine. Article and section headings in this Contract are for reference only and are not intended to restrict or define the text of any section or article herein. This Contract shall not be construed more or less favorably by reason of the authorship or origin of its language; this Contract shall not be construed against the drafter in the event of an ambiguity (or otherwise).

23.2 *Limitation of Liability.* In no event shall the HHA be liable to the Contractor for any indirect, incidental, or exemplary damages.

23.3 *Own Investigation.* The Contractor represents and warrants that it entered this Contract based solely on its own investigation and due diligence and not on reliance on any statements, representations, or omissions of the HHA unless otherwise noted in this Contract. The Contractor represents and warrants that it is fully satisfied that it has received any information it requested from the HHA in order to determine whether to enter this Contract. The Contractor expressly disclaims any reliance on any representation, statement, or omission by the HHA with respect to this Contract, including the Contractor's decision to enter this Contract, unless otherwise noted herein.

23.4 *Venue and Choice of Law.* Venue for any legal action arising from or relating to this Contract shall exclusively lie in Harris County, Texas. The laws of the State of Texas shall govern and control any dispute that arises from or relates to this Agreement. In the event of any litigation arising from or related to this Agreement, or the services provided under this Agreement, each party will be responsible for its own costs incurred including staff time, court costs, attorney fees, and all other related expenses incurred in such litigation.

23.5 *Notice of Court Actions.* The Contractor agrees to give the HHA immediate notice in writing of any actions or suits filed and prompt notice of any claims made against the HHA or any of the parties involved in the implementation and administration of the Contract.

- 23.6 *Integration.* This Contract, along with the attached Exhibits, contains the complete agreement of the Parties and cannot be varied except by the Parties' written agreement. The Parties agree that there are no oral agreements, representations, or warranties that are not expressly set forth in this Contract.
- 23.7 *Waiver of Default.* It is not a waiver of or consent to default if the non-defaulting party fails to declare immediately a default or delays in taking any action. Pursuit of any remedy set forth in this Contract does not preclude pursuit of other remedies in this Contract or that are provided by law.
- 23.8 *Non-Waiver.* No covenant or condition of the Contract may be waived except by written consent of the waiving party. Forbearance or indulgence by one party in any regard whatsoever shall not constitute a waiver of the covenant or condition to be performed by the other party to which the same may apply, and until complete performance of any covenant or condition, the aggrieved party shall be entitled to invoke any remedy available to it under the Contract or by law or in equity despite such forbearance or indulgence. Unless otherwise stated herein, this Contract cannot be modified or altered in any way without the express written consent of the parties hereto.
- 23.9 *Remedies Cumulative.* All rights and remedies of HHA and Contractor shall be cumulative and may be exercised successively or concurrently. The foregoing is without limitation to or waiver of any other rights or remedies of HHA according to law.
- 23.10 *Legal and Regulatory Compliance.* All activities under this Agreement shall comply with all applicable local, state and federal laws, ordinances and regulations. This Agreement shall automatically be amended as necessary to comply with all applicable local, state and federal laws, ordinances and regulations, including incorporation of any provisions now or hereafter applicable to the subject matter hereof and/or required to be included by any federal, state or local governmental authority with relevant jurisdiction over the subject matter hereof. Any such change or incorporation of legal and regulatory requirements shall be deemed incorporated herein, irrespective of whether or not such provisions are expressly set forth in this Agreement or any written amendment hereto.
- 23.11 *Assignment.* The Contractor shall not assign, subcontract, or transfer any services, obligations, or interest in this Contract without the prior written consent of the HHA. Such consent shall not unreasonably be withheld when such assignment is for financing the Contractor's performance.
- 23.12 *Successors and Assigns.* This Contract shall be binding on and inure to the benefit of the parties to this Contract and their respective heirs, executors, administrators, legal representatives, successors, and assigns, if any.

- 23.13 *No Third-Party Rights.* Nothing contained in this Contract shall create a contractual relationship with or a cause of action in favor of third party against either the HHA or the Contractor.
- 23.14 *Amendment.* This Agreement may only be amended by a written amendment signed by the authorized agents of both parties.
- 23.15 *Survival.* The terms, conditions, representations, and all warranties contained in this Agreement shall survive the termination or expiration of this Agreement.
- 23.16 *Publicity.* Contractor shall not use in its advertising, marketing or other promotion efforts; any data, pictures or other representation of HHA except on prior specific written authorization from the HHA President/CEO or designee.
- 23.17 *No Personal Inducements.* Contractor acknowledges and agrees that HHA requires all Contractors to adhere to basic principles in conducting business with HHA. These principles include no direct or indirect personal inducement of HHA employees or Commissioners, such as the giving of gifts, money, tickets, trips, loans, discounts or any other item or service in connection with this Agreement. Contractor further acknowledges and agrees that breach of these principles may be grounds for termination of this Agreement.
- 23.18 *Force Majeure.* Neither party hereto will be liable or responsible to the other for any loss or damage or for any delays or failure to perform due to causes beyond its reasonable control including, but not limited to acts of God, strikes, epidemics, pandemics, disease, war, acts of terrorism, riots, civil disorder or unrest, flood, fire, tsunami, volcano, sabotage, air space closure, ground stop(s), a U.S. Department of State Travel Warning or any other circumstances of like character (“force majeure occurrence”).
- 23.19 *Other:* Contractor shall adhere to all federal, state and local laws and ordinances, as well as standards and recommendations outlined by the World Health Organization (WHO); Centers for Disease Control (CDC) and Occupational Safety and Health Administration (OSHA), and any other standards or procedures applicable to Contractor as it relates to the health, safety and welfare of tenants, residents, guests, HHA employees and others who may be involved in the execution of this Agreement.
- 23.20 *Authority.* Contractor represents and warrants that Contractor has the power and authority to enter into and perform this Agreement and that this Agreement, when executed and delivered, shall be a valid and binding obligation of Contractor enforceable in accordance with its terms.

IN WITNESS THEREOF, this document may be executed in multiple counterparts. Each counterpart is deemed an original. All counterparts together constitute one and the same instrument. Each party warrants that the undersigned is a duly authorized representative with the power to execute this contract.

*****SIGNATURES FOLLOW*****

IN WITNESS THEREOF,

HOUSTON HOUSING AUTHORITY

SERVICE PROVIDER

By: _____
David A. Northern, Sr., President & CEO

By: _____

Date: _____

Date: _____

Contract No. 24-20

DRAFT