

August 4, 2023

Brett Roler, AICP Senior Vice President of Planning & Development **Downtown Memphis Commission** 114 N. Main St. Memphis, TN 38103 roler@downtownmemphis.com 901-575-0574

Subject: Interest in the Development Loan Program

Dear Mr. Roler,

I am writing to express my strong interest in participating in the Development Loan Program, a remarkable financial incentive aimed at fostering real estate development within the Central Business Improvement District (CBID) in Memphis. As an emerging developer and a proud resident of downtown Memphis, I am deeply committed to the revitalization and prosperity of our urban landscape. I am excited to present our project proposal, which aims to create a transformative residential cottage development that will contribute to addressing the affordable housing crisis while enhancing the character of our downtown community.

Our proposed project is a thoughtfully designed residential cottage development with four residential units. The site for this development is located on two vacant lots in the 'Uptown Redevelopment-11' subdivision, currently zoned Residential (MDR) District. These lots have received approval from the Board of Adjustments (BOA 21-73 and BOA 21-174), ensuring that our development aligns with the city's zoning regulations for responsible urban growth.

The parcels at 164 Keel Avenue and 701 Third Street offer a prime location close to downtown Memphis and serve as a transition from single-family homes to the Burkle and Main Apartments, a multifamily development to the north. By reimagining these currently vacant lots, we aim to bring a product type that has been successful in the neighborhood at Malone park commons and contribute to the ongoing revitalization efforts in the 'Uptown' area.

Each residential provides comfortable living spaces while preserving the characteristics of Uptown. The development will comprise two-story structures at the front, seamlessly integrating with the contextual infill of the surrounding buildings. To the rear of each lot, we plan to include one-story accessory dwelling unit designed to complement the main buildings while adding to the overall appeal of the development.



The focal point of our project is to address the pressing need for affordable housing in Memphis. By creating four residential units within a single development, we can offer diverse and affordable housing options catering to various income levels. We aim to strike a perfect balance between affordability, aesthetics, and functionality through strategic planning and design, ensuring that our development will be an attractive and welcoming space for future residents.

We firmly believe that our project aligns perfectly with the objectives of the Development Loan Program. The financial support and resources provided through this program will be instrumental in bringing our vision to life and fulfilling our mission of addressing the affordable housing crisis in downtown Memphis.

To ensure the successful execution of our development, we have selected Andre Jones with Jones Urban Development as the general contractor. Jones Urban Development brings a wealth of experience and expertise in urban projects, and we are confident in their ability to deliver a high-quality development that aligns with our vision.

Moreover, we are deeply committed to exceeding the 25% MWBE (Minority and Women Business Enterprises) participation goal set by the city. By fostering inclusivity and diversity in the development process, we aim to promote economic growth and empower local MWBE contractors and suppliers.

Attached to this letter is our comprehensive project proposal, which further outlines the design, budget estimates, and construction timeline for our cottage development.

We are grateful for your consideration of our application for the Development Loan Program. This opportunity allows us to fulfill our aspirations as developers and empowers us to actively contribute to the transformation and betterment of our beloved Memphis.

You can reach me at 901.602.2884 or via email at jt@malasriengineering.com for any further inquiries or to discuss the project in greater detail.

Sincerely,

Jittapong "JT" Malasri

901-602-2884

jt@malasriengineering.com

APPENDIX I: DEVELOPMENT LOAN APPLICATION

Date of Application:	
Building/Property Address:	
Applicant's Name:	
Ownership Status:	☐ I own the property ☐ I am purchasing the property
	□ Other
Primary Project Contact:	Name:
	Phone: Email:
	Mailing Address:
Describe the existing	
condition of the property.	
Describe the proposed future	
use of the property.	
What improvements do you	
plan to make to the	
property?	
property.	
Square Footage of Building /	
Land Area To Be Improved:	
Auchitect (if emplicable)	Name: Phone:
Architect (if applicable)	Company:
Total Project Budget:	
Total Project Buuget.	
Total Loan Requested:	
i otai Loan Nequesteu.	
Property Owner:	Name:
(If not the applicant)	Phone: Email:
	Mailing Address:

Legal Disclosure:	Disclose in writing whether any applicant, guarantor, or any other person involved with the project is currently engaged in any civil or criminal proceeding or ever filed for bankruptcy. Also, disclose whether any individual involved with the project has ever been charged or convicted of any felony or currently is under indictment:
Board Relationship Disclosure:	Disclose in writing whether the applicant or any guarantor has any previous or ongoing relationship with any Board member or legal counsel of the Board.
Applicant's Certification:	This application is made in order to induce the CCDC to grant financial incentives to the applicant. The applicant hereby represents that all statements contained herein are true and correct. All information materially significant to the CCDC in its consideration of the application is included. The applicant acknowledges that it has reviewed the descriptions of the CCDC financial program for which it is applying and agrees to comply with those policies. The applicant shall also be required to show best faith efforts with regard to the employment of minority and/or women contractors and subcontractors in the project development. The applicant specifically agrees to pay all reasonable costs, fees and expenses incurred by the CCDC whether or not the incentive is granted or project completed. Signature: Date:

Application Attachments

In addition to this completed and signed application, include the following attachments when you submit your grant request:

Applicant & Project Info

- o List all team members involved in the project at this point
- Description of applicant's development experience.
- o Explanation of corporate or partnership structure, if applicable
- Summary of marketing plans describing the market potential and targeted market.
- If the project is speculative, describe how long full occupancy is expected to take and who will manage the project.
- Describe any and all existing financing, options, taxes owed, and liens on the property.

O Required Drawings and Exhibits

- o Architectural plans and renderings if available
- Any available history on the property
- A letter from a certified engineer, licensed in the State of Tennessee, as to the structural integrity of the existing building for its intended usage, if applicable.
- Photos of current conditions
- Photos of all exterior building elevations
- Existing floor plan, if applicable.
- Plans and drawings as needed to understand the project scope.

Applicant Finances

(Please note that personal financial information will not be disclosed unless there is a specific request to review the information.)

- Current audited financial statements of the applicant and guarantors. If audited financial statements are unavailable, please submit non-audited statements.
- State the relationship any applicant or grantor has had with any accounting firm over the last five years and reason for change, if any.
- o Three years tax returns if applicant is an individual.
- o Financial history of the project and previous attempts to develop, if applicable.

Project Finances

- o If any portion of the project has been leased or is currently under lease, state lessee and the income from the lease.
- o If any additional loans are being sought for renovation of the project, give the name of the lender and the amount of the loan.
- Sources and uses statement including estimated project costs broken down by component (e.g. land, buildings, equipment, soft costs, etc.). Sample sources and uses statement attached (Attachment A).
- Five years cash flow pro forma showing the project's ability to service its debt (Attachment B).

Project Timeline

List estimated dates to begin and finish construction

References

List three credit references



Uptown Cottages

Updated 08/03/23

Development Team



JT Malasri is responsible for overseeing the daily operations of Malasri Engineering. With extensive experience in providing professional services and involvement in various land development projects, he has become a trusted figure in the local market. Before establishing Malasri Engineering, JT played a key role in designing utilities for new residential developments.

Notably, JT Malasri serves as the developer of the current project, bringing his expertise and disciplined approach to ensure the project's success.

In addition to his roles as Co-Owner at Jones Urban Development and owner of Populace Homes of Memphis, Inc., Andre Jones, brings a unique advantage to the project. He possesses an intimate understanding of the neighborhood, having a deep familiarity with its dynamics and characteristics. This firsthand knowledge allows him to tailor the development and construction style to perfectly align with the community's preferences and needs. As a result, Andre's expertise ensures a harmonious integration of the project within the existing neighborhood, enhancing its overall appeal and functionality.

Andre is the general contractor for the project.

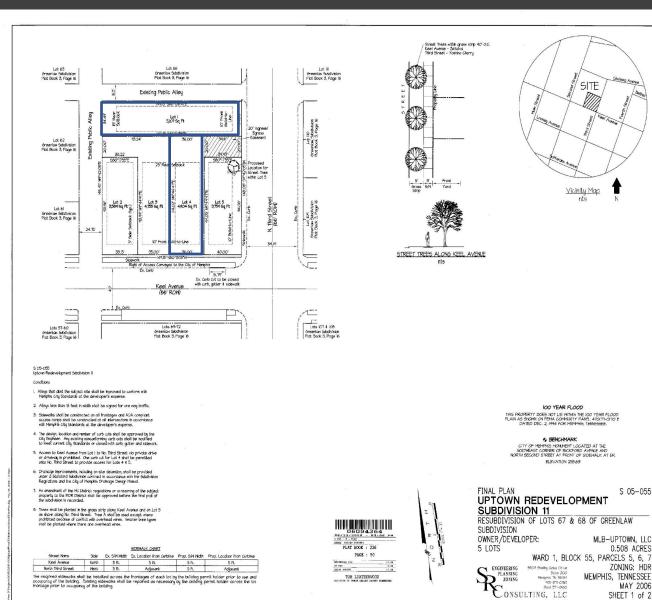


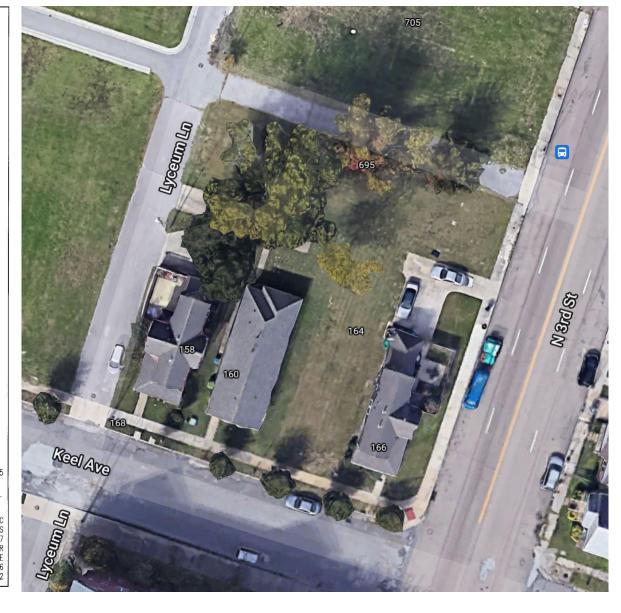
Corporate Structure: A new Limited Liability Company (LLC) will be created specifically for the purpose of overseeing the construction project. This new entity will be wholly owned by JT Malasri.

Market Potential: Uptown Cottage plans to leverage the expertise of the same management company currently responsible for overseeing Malone Park Commons. It's worth noting that Phase 1 of Malone Park Commons was until recently, experiencing full occupancy, with all units leased.

The parcels for the project are current on all property taxes and is fully owned by its owner and does not have any outstanding mortgages, loans, or liens against it.

EXISTING CONDITIONS: Lots 1 & 4





A walkable community near the restaurants and amenities of Downtown Memphis and the beauty and outdoor recreational opportunities along the Mississippi Riverfront.

Walk, bike or trolley to Medical District Institutions, Cecil C. Humphreys School of Law - The University of Memphis, and other major employers and educational institutions.

Easy access to alternative modes of transportation; trolleys, bike share, buses and scooters.

EXISTING CONDITIONS: Zoning and BOA Correspondence





City Hall - 125 N. Main Street, Suite 468 - Memphis, Tennessee 38103 - (901) 636-6619

BOARD OF ADJUSTMENT NOTICE OF DISPOSITION

Cindy Reaves, SR Consulting, LLC 5909 Shelby Oaks Drive-Suite 200 Memphis, TN 38134

DATE: DOCKET: ADDRESS: 164 Keel Avenue

Thursday, October 28th, 2021 B.O.A. 21-124 (City)

Sent via electronic mail to:

cindy@srce-memphis.com; jt@malasriengineerina.com; andre@jonesurban.com

On Wednesday, October 27th, 2021, the Memphis and Shelby County Board of Adjustment recommended 'Approval' of your Variance Application requesting 'modification to approved plan [B.O.A. 21-73 (City)] to remove a condition requiring wrap-a-round front porches in the side yard build-to-lines', subject to a revised site plan, building plans and the following site plan conditions:

- 1. Non-use variances allowing accessory dwelling units on Lots 1 and 4 of Uptown Redevelopment Subdivision 11 as illustrated on the site plan. The applicant shall either (i) submit a revised site plan reflecting principal structures with wrap-a-round front porches fourteen (14) feet in length and eight (8) feet in depth or (ii) submit a revised landscaping plan reflecting increased landscaping located in the side yards, both of which would be subject to review by staff. No parking shall be allowed within the increased side yard build-to-lines.
- 2. The final site plan shall be subject to review and approval by the staff and any change or deviation to the site plan upon the determination of the Zoning Administrator shall be submitted to the Board of Adjustment for review and approval or administrative review and approval by the Office of Planning and Development.

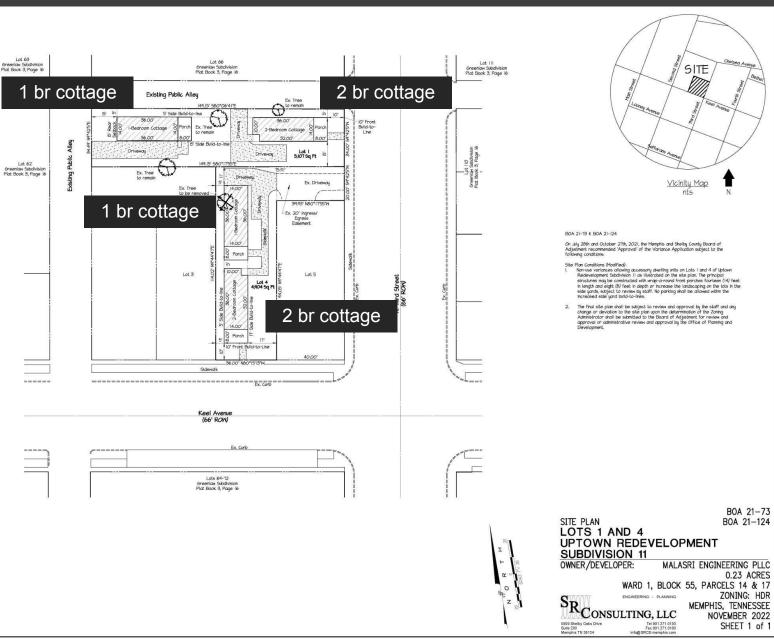
ALL APPEALS AND APPLICATIONS GRANTED ARE EXPRESSLY CONDITIONED UPON THE APPLICANT OBTAINING THE PERMIT REQUESTED OR OTHER ORDER WITHIN TWO (2) YEARS FROM THE DATE OF THE DECISION OF THE BOARD OF ADJUSTMENT, UNLESS THE BOARD EXPLICITLY PROVIDED A DIFFERENT TIME FRAME IN ITS DISPOSITION.

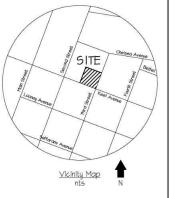
If you have questions concerning this approval, please email brian.bacchus@memphistn.gov or by direct phone at (901) 636-7120 for further instructions.

Brian S. Bacchus, Principal Josh Whitehead, Secretary **Board of Adjustment**

File: B.O.A. 21-124 (City) 164 Keel Avenue

PROPOSED DEVELOPMENT: Site Plan & Product



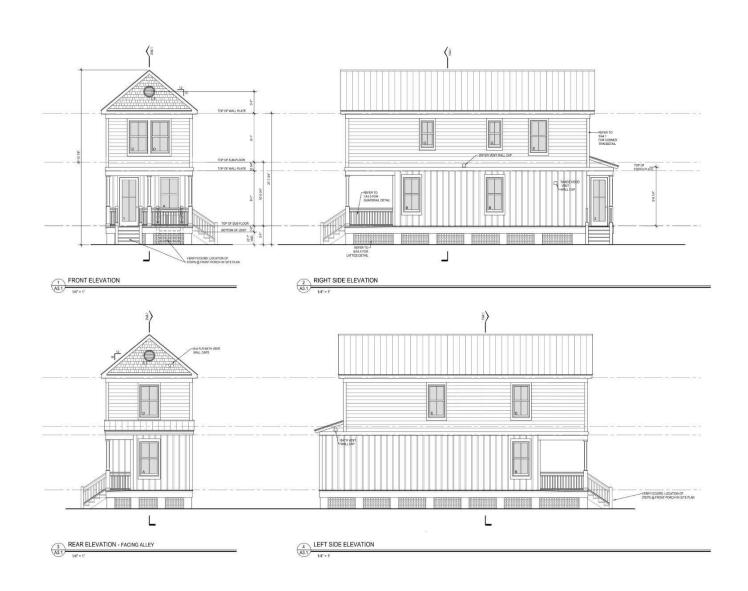






PROPOSED DEVELOPMENT: Floor Plans







The Artifex Collection

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Customer may provide copies of the plan to parties as necessary to construct the building

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Liberty House Plans LLC 195 Plymouth Street, RLP 5, Suite Brooklyn NY 19201

PLAN #AFX-003 Tupelo Cottage

LICENSEE

Malasri Engineering, PU
65 Union Ave Ste 900
Memphis, TN 38103

UIFREEDING # 01004

PROJECT LOCATION CITY, COUNTY, AND STATE

(Sileiby County) I

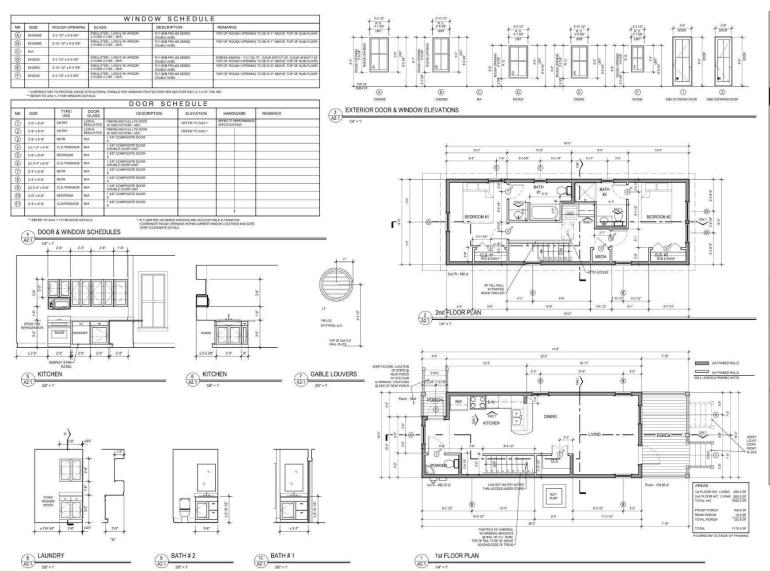
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> EXTERIOR ELEVATIONS



PROPOSED DEVELOPMENT: Floor Plans







The Artifex Collection

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Unauthorized use or capying of the plan, or the cooking the plan apparts, outside or the scope of the Streeched Non-Eacharter Canadres United Ucense Agreement in a visitation of the copyright art and supplied to reputitive.

CONTACT INFORMATION
Liberty House Plans LLC
195 Plymouth Street, FLR S, Suite 1
Broaklys NY 19201

PLAN #AFX-003 Tupelo Cottage

LICENSEE
Malassi Engineering, P
65 Union Ave Sce 800
Memoris, TN 3803

U4PREFERENCE # 0:1004

PROJECT LOCATION
CITY COUNTY AND STATE

Memphis (Shelby County) TN

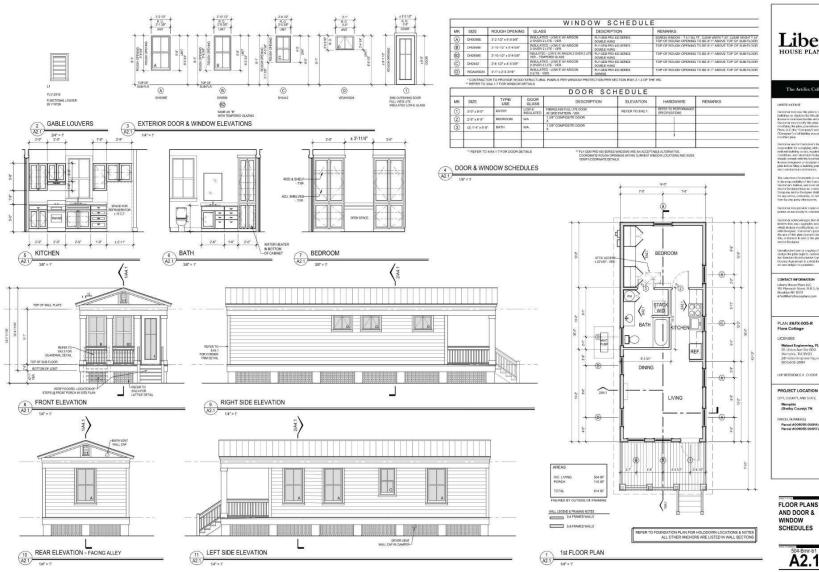
Parcel #001055 00014 (Third S Parcel #001055 00017 (164 Ke s

> FLOOR PLANS AND DOOR & WINDOW SCHEDULES



PROPOSED DEVELOPMENT: Floor Plans







The Artifex Collection

CONTACT INFORMATION

PLAN #AFX-005-R

LICENSEE

CITY, COUNTY, AND STATE.

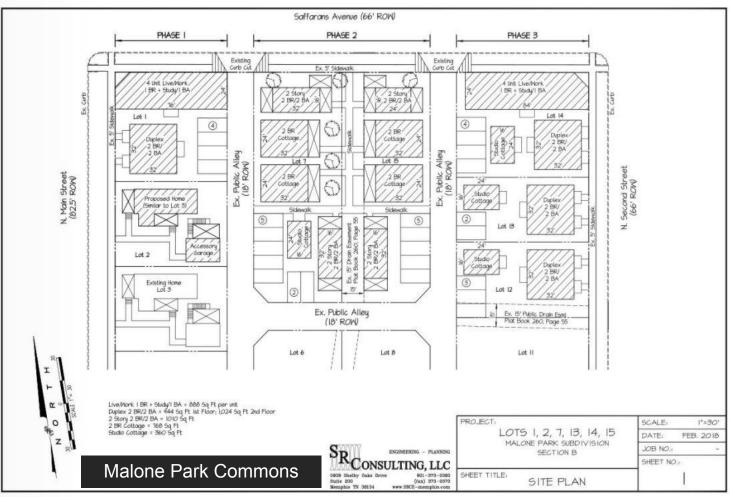
Parcel #001055 00014 (Third St) Parcel #001055 00017 (164 Keel Ave

FLOOR PLANS AND DOOR & WINDOW SCHEDULES



MARKET ANALYSIS: Comps | Malone Park Commons





MARKET ANALYSIS: Incentives

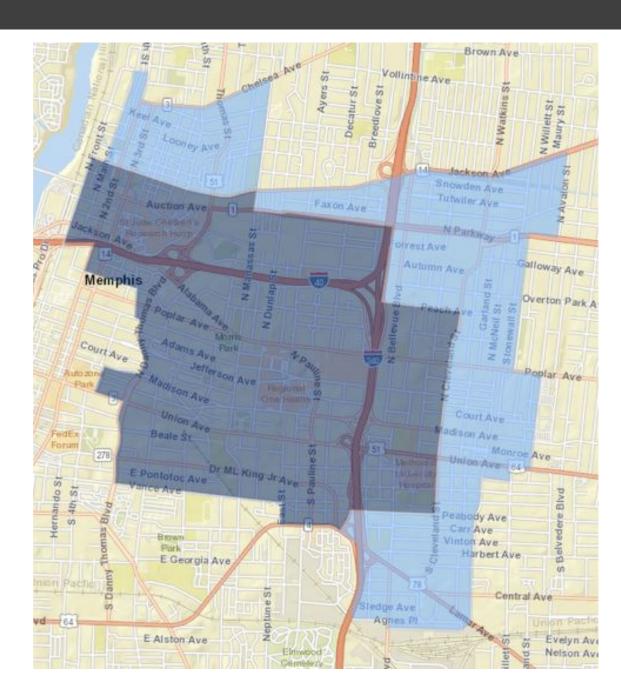
- The Live Local Medical District Program
 - Up to \$2,000 toward a new apartment lease
 - Employers with Live Local Guidelines





Employees of ALSAC the fundraising and awareness organization for St. Jude Children's Research Hospital





Relationship with Accounting Firms: Since 2018, the applicant had been consistently utilizing the services of a reputable accounting firm. However, when the accounting firm discontinued its small business group, the applicant promptly made the strategic decision to incorporate tax services into their existing bookkeeping arrangements. Since then, they have been relying on the same reliable bookkeeping services they initially acquired in 2018. This continuity reflects the applicant's commitment to maintaining a strong financial foundation throughout the years.

Tax Returns: Summary for 2020, 2021 and 2022 were submitted.

FINANCES: Project - Sources and Uses Statement

SOURCE	S OF FUNDS:		Amount (\$)	Percent (%)
	Project Debt (5 year fixed on 20 year amortization @ 8.75%)		\$120,000	17.53%
	Owner's equity in project		\$48,700	7.12%
	Owner's Contribution		\$215,750	31.52%
	Other Sources: DMC Development Loan		\$300,000	
	Total Sources of Funds		\$684,450	56.17%
USES OF	FUNDS:			
	Detail of Project Costs including:		Use of Funds	
	Land Building Purchase	\$18,700	\$0	
	Construction Costs	\$630,000	\$300,000	
	Soft Costs	\$19,500	\$0	
	Financing Fees	\$5,750	\$0	
	Professional Fees	\$10,500	\$0	
	Total Project Costs	\$684,450	\$0	
	Other Uses		\$0	
	Total Uses of Funds		\$300,000	

FINANCES: Project - Cash Flow Statement

REVENUE		<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>	<u>Yr 4</u>	<u>Yr 5</u>
Residential Space F	Revenue \$5,200 / mo	nth \$0	\$62,400	\$62,400	\$62,400	\$62,400
Total Number of Un	its	4				
Vacancy Assumptio	n 1	0%	-\$6,240	-\$6,240	-\$6,240	-\$6,240
Revenue per Squar	re Foot 3108	SF	\$20	\$20	\$20	\$20
Total Projected Rev	enue	\$0	\$56,160	\$56,160	\$56,160	\$56,160
EXPENSES:						
Operating Expense	s 1	0% \$0	\$5,616	\$5,616	\$5,616	\$5,616
Management / Leas	sing Fees 1	0% \$0	\$5,616	\$5,616	\$5,616	\$5,616
Insurance		6% \$0	\$3,370	\$3,370	\$3,370	\$3,370
Property Taxes	1	8% \$1,000	\$9,900	\$9,900	\$9,900	\$9,900
Legal / Accounting		1% \$0	\$562	\$562	\$562	\$562
Total Project Expen	ses 2	\$1,000	\$25,063	\$25,063	\$25,063	\$25,063
NET OPERATING INCOME:		-\$1,000	\$31,097	\$31,097	\$31,097	\$31,097
DEBT SERVICE:						
Construction Loan ((Interest Only)	\$10,500				
Commercial Loan	\$120,	000	\$12,720	\$12,720	\$12,720	\$12,720
Development Loan	\$300,	000	\$16,560	\$16,560	\$16,560	\$16,560
Total Debt Service	\$420,	000 \$10,500	\$29,280	\$29,280	\$29,280	\$29,280

FINANCES: Project - Cash Flow Statement (continued)

DEBT SERVICE RATIO:		0.94	0.94	0.94	0.94
NET CASH FLOW:	-\$11,500	\$1,817	\$1,817	\$1,817	\$1,817
RETURN ON OWNER'S EQUITY:	-4.35%	0.69%	0.69%	0.69%	0.69%

Financial History of the Project: The project has incurred various costs, including land acquisition expenses, lawn maintenance, and the removal of trees. Additionally, professional service costs were essential for generating a site plan, obtaining architectural plans, and securing representation for the case at the board of adjustments.

No portion of the project has been leased or is currently under lease.

Credit References:

Preston Albertine, Commercial Banker

Simmons Bank Memphis, TN

Mobile Phone: 901-833-6436

Preston.albertine@simmonsbank.com

Michelle Risher, EVP Property Mgmt

Henry Turley Company o: (901) 255-2151 65 Union Ave, Ste 1200 Memphis, TN 38103 mrisher@henryturley.com

Tatiana S. McCoy, Assistant Vice President

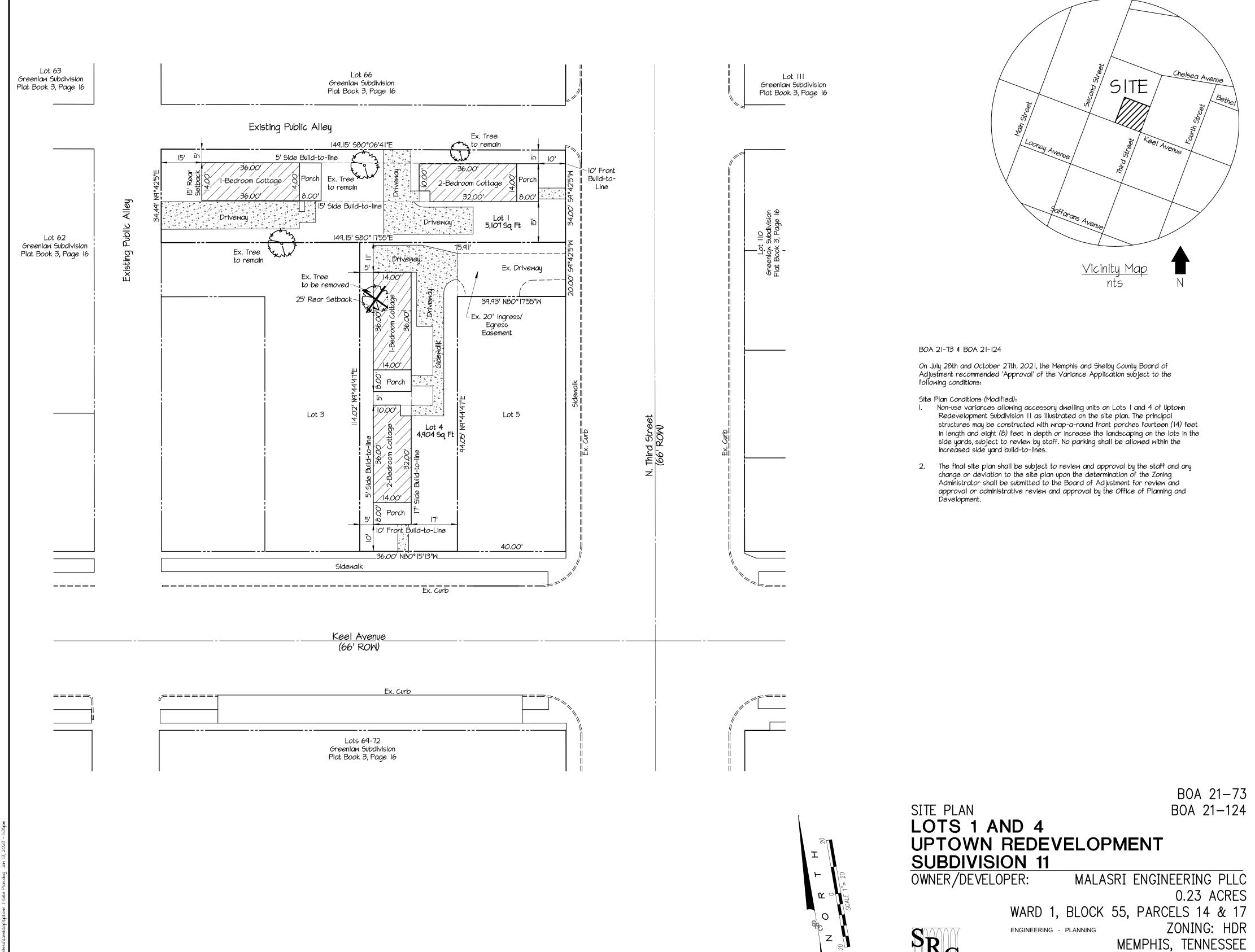
Branch Manager 88 Union Ave Suite 102 Memphis, TN 38103

Direct Phone: 901-896-3041 tatiana.mccoy@regions.com>

PROPOSED DEVELOPMENT: Timeline

Preconstruction: June - Aug. 2023

Construction: Sept. 2023 - Aug. 2024



ONSULTING, LLC

5909 Shelby Oaks Drive

Suite 200 Memphis TN 38134

Tel 901.371.0150 Fax 901.371.0160 info@SRCE-memphis.com

NOVEMBER 2022

SHEET 1 of 1

COTTAGE 504-Bmir-1b



ENGINEERING GENERAL NOTES:

- 1. ARCHITECTURAL FINISHES, APPLIANCES, DOORS, WINDOWS, ETC. PER OWNER / ARCHITECT
- 2. ELECTRICAL DESIGN & INSTALLATION TO BE BY LICENSED ELECTRICAL CONTRACTOR AND PER N.E.C. REQUIREMENTS/LOCAL CODES
- 3. HVAC DESIGN & INSTALLATION TO BE BY LICENSED MECHANICAL CONTRACTOR AND BE IN ACCORDIANCE WITH D.C.A. ENERGY CODE REQUIREMENTS 4. PLUMBING DESIGN & INSTALLATION TO BE BY LICENSED PLUMBING CONTRACTOR AND PER APPLICABLE CODE.
- 5. ALL DOORS & WINDOWS IN EXTERIOR WALLS ARE TO BE STORM RATED TO 130 M.P.H. - 3 SEC. GUST. OR PER CODE
- 6. SEE TRUSS MANUFACTURERS TRUSS DRAWINGS FOR LOAD BEARING WALLS
- INTERIOR GRADE BEAMS ARE LOCATED UNDER LOAD BEARING WALLS
- 7. CONTRACTOR TO VERIFY FLOOD ZONE AND WATER TABLE PRIOR TO START OF CONSTRUCTION AND ASSURE FINISH FLOOR ELEVATION IS AT REQUIRED ELEVATION
- 8. CONTRACTOR TO VERIFY THAT SOIL IS FREE OF MUCK, CLAY, SILT, ORGANIC DEBRIS AND OTHER DELETERIOUS MATERIALS. 9. THE CONTRACTOR (OWNER/BUILDER) SHALL VERIFY AND BE RESPONSIBLE FOR ALL
- DIMENSIONS ANS CONDITIONS FOR THE PROJECT. WHERE JOB CONDITIONS PREVENT OBTAINING DIMENSIONS OR RESULTS AS SHOWN OR SPECIFIED, THE CONTRACTOR (OWNER) 8" O.C. VERTICALLY FOR TYPICAL HORIZONTAL REINFORCEMENT IN CMU WALLS. /BUILDER) SHALL CONSULT THE ARCHITECT/ENGINEER FOR RESOLUTION 10. THE CONTRACTOR (OWNER/BUILDER) IS RESPONSIBLE THAT EASEMENTS AND SETBACKS M5. PROVIDE 8" LAP ON ALL HORIZONTAL JOINT REINFORCING. USE
- ARE NOT ENCROACHED. DESIGN BASIS:
- D1. DESIGN IS BASED ON A WIND SPEED TO __ MPH - 3 SEC. GUST IMPORTANCE FACTOR VERTICAL WIND LOAD PSE HORIZONTAL WIND LOAD, PSF ADJUSTED CLADDING: ROOF DESIGN PRESSURE, PSF _____
- FLOOR DEAD LOAD OF 20 PSF AND LIVE LOAD OF 40 PSF, ROOF LIVE LOAD OF 16 PSF, AND DECK LIVE LOAD OF 50 PSF. DESIGN SOIL BEARING CAPACITY

SIDING DESIGN PRESSURE, PSF ____

D2. METHODS, PROCEDURES, AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO INSURE THE INTEGRITY AND STABILITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.

GEOTECHNICAL NOTES:

- G1. CLEAR AND GRUB SURFACE SOILS WITHIN AND EXTENDING 5 FEET BEYOND BUILDING AREA. TEST FOR AND REMOVE ORGANIC AND ORGANIC LADEN SURFACE SOILS FROM UNDER BUILDING AREA UNTIL CLEAN SAND IS
- G2. COMPACT EXISTING SOILS UNTIL A DENSITY OF 98 % OF THE MODIFIED PROCTOR (ASTM D1557) MAXIMUM DRY DENSITY IS ACHIEVED TO A DEPTH OF TWO (2) FEET BELOW COMPACTED GRADE.
- G3. FILL SOILS USED TO RAISE THE BUILDING AREA TO FINISHED GRADE SHALL BE SANDS CONTAINING NO MORE THAN 15 %. BY DRY WEIGHT, FINER THAN THE U.S. No. 200 MESH SIEVE. FILL SHALL BE PLACED IN THIN LEVEL LIFTS NOT TO EXCEED TWELVE (12) INCHES, LOOSE, AND COMPACTED TO A DENSITY OF 95% OF THE MODIFIED PROCTOR (ASTM D1557) MAXIMUM DRY DENSITY THROUGHOUT ITS FULL DEPTH.
- G4. AREA UNDER SLABS TO BE TREATED FOR TERMITES.

CONCRETE NOTES:

SHALL BE PROVIDED:

- C1. CONCRETE SHALL BE NORMAL WEIGHT AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150, TYPE I OR II. AGGREGATE SHALL CONFORM TO ASTM
- C2. MIXING, TRANSPORTING, AND PLACING OF CONCRETE SHALL CONFORM TO ACI 301 (LATEST EDITION). CONCRETE SHALL BE POURED WITH 5" MAXIMUM
- C4. DETAILING OF REINFORCEMENT BARS AND ACCESSORIES SHALL CONFORM

C3. ALLOW CONCRETE TO CURE FOR A MINIMUM OF 7 DAYS BEFORE ANY LOADS

- TO THE CRSI "MANUAL OF STANDARD PRACTICE", LATEST EDITION. C5. UNLESS OTHERWISE NOTED, THE FOLLOWING COVER FOR REINFORCEMENT
- A. CONCRETE DEPOSITED DIRECTLY AGAINST GROUND, 3" CLEAR. B. FORMED CONCRETE EXPOSED TO WEATHER OR GROUND AFTER REMOVAL OF FORMS, 2" CLEAR.
- C. FORMED CONCRETE NOT EXPOSED TO WEATHER OR GROUND, 1 1/2" CLEAR FOR COLUMNS AND BEAMS, 3/4" CLEAR FOR SLABS AND WALLS. C6. CONCRETE REINFORCEMENT SHALL CONFORM TO ASTM A-615, GRADE 40.
- REINFORCEMENT BARS SHALL NOT BE WELDED OR HEATED UNLESS APPROVED BY THE STRUCTURAL ENGINEER. C7. REINFORCING BARS SHALL BE CONSIDERED CONTINUOUS AND SHALL HAVE
- A MINIMUM 40 BAR DIAMETER LAP UNLESS NOTED OTHERWISE.
- C8. WELDED WIRE FABRIC SHALL BE 6x6-10/10 CONFORMING TO ASTM A185. FABRIC SHALL BE LAPPED TWO MESH AT SPLICES.

MASONRY NOTES:

GENERAL NOTES.

- 1. MASONRY TO CONFORM TO NCMA STANDARDS 2. MASONRY STUCCO W/ CONROL JOINTS BOUNDING 400 PSF MAX. 3. CONTRACTOR CAUTIONED TO SUPPORT ALL LOADS (LINTELS/HEADERS)
- M1. HOLLOW CONCRETE BLOCK (MASONRY) UNITS SHALL CONFORM TO ASTM C-90, NORMAL WEIGHT, GRADE N, TYPE II WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI ON THE NET AREA AND 1,000 PSI ON THE GROSS AREA.
- M2. ALL MORTAR FOR USE IN MASONRY SHALL CONFORM TO ASTM C-270, TYPE
- M3. ALL GROUT FOR USE IN MASONRY SHALL CONFORM TO ASTM C-476, MIN 2,500 PSI AND NOT LESS THAN A 6 1/2 SACK MIX. MINIMUM COARSE AGGREGATE SIZE SHALL BE 3/8". SLUMP SHALL BE BETWEEN 8 AND 10 INCHES.
- M4. PROVIDE 9 GAGE LADDER TYPE JOINT REINFORCEMENT (OR DUR-O-WALL) AT
- PREFABRICATED "L" AND "T" UNITS AT CORNERS AND INTERSECTIONS. M6. METAL ACCESSORIES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM
- M7. EXTERIOR OF ALL C.M.U. WALLS TO BE WATERPROOFED W/ A HIGH QUALITY WARRANTABLE SYSTEM (MIN. 10 YEAR WARRANTY) INSTALL AS PER MANUF. INSTRUCTIONS
- M8. ALL MASONARY HEADERS TO BE PRE-CAST AS BY CAST-CRETE OR EQUAL. INSTALL AS PER MANUF. SPECIFICATIONS. REFER TO A3.2 NOTE: CONTRACTOR CAUTIONED TO SUPPORT ALL LOAD (LINTEL/HEADER) UNTIL THEY REACH FULL STRENGTH
- M9. VERTICAL REBAR TO BE MIN. #4. INSTALL @ MAX. 16" O.C., DOUBLE @ CORNERS, AND ADJACENT TO ALL OPENINGS. LAP/SPLICES TO BE MIN. 25" REFER TO A2.4 FOR LOCATIONS OF REBAR
- M10. CONTRACTOR SHALL PROVIDE A CRAWL SPACE ACCESS DOOR AND CRAWL SPACE VENTALATION AS PER CODE.
- M11. 2 COURSES GROUT FILLED CMU LINTEL BLOCK (TOP OF WALL) WITH 2-#5 (MIN.) REBAR CONTINUOUS EACH COURSE, TOTAL (4) #5
- M12. 2 COURSES GROUT FILLED CMU LINTEL BLOCK (WINDOW & DOOR HEADERS)) WITH 2- #5 (MIN.) REBAR CONTINUOUS EACH COURSE, TOTAL (4) #5

WOOD FRAME CONSTRUCTION:

- 1. ALL FRAMING PER LOCAL CODE 2. USE CODE TABLE FOR FASTENING SCHEDULE
- 3. ABIDE BY THE FRAMING REQUIREMENTS PER CODE, WITH PARTICULAR ATTENTION TO CORNER BRACING (3-STUD MIN.)/LATERIAL SUPPORT, LATERAL BRACING STAIR AND HANDRAIL FRAMING.
- 4. WINDOWS WITHIN 36" OF CORNERS AND AT BAY WINDOW: * USE ONLY STORM RATED WINDOWS RATED AT: 130 MPH - 3 SEC. GUST * USE DOUBLE STUD JAMBS
 * USE DOUBLE STUD 8" O.C. TO CORNER
- * USE (3) STUDS (MIN.) @ CORNER
- 5. GABLE EXPOSURES: * USE GABLE STUDS AT 16" C-C
- * USE LATERAL BRACING (SOLID BLOCKING) 48" C-C THRU THE FIRST (4) RAFTERS
- W1. ALL LOAD BEARING FRAMING SHALL BE GROUP II (SYP NO. 2 GRADE OR BETTER, M.M.C. 19%) UNLESS NOTED OTHERWISE. ALL FRAMING EXPOSED TO WEATHER OR IN CONTACT WITH SOIL OR CONCRETE SHALL BE PRESSURE TREATED * OPTIONAL LUMBER - LODGE POLE PINE NO. 1 (MMC 19%) OR STRONGER - SPF SELECT STRUCTURAL (MMC 19%) OR STRONGER - FRAMING LUMBER WITH SINGLE EXTREME FIBER BENDING, "F " OF 1200 PSI (MINIMUM) - FRAMING LUMBER WITH REPETITIVE EXTREME FIBER BENDING, "F " OF 1450 PSI (MINIMUM) GIRDER TO BE PRESSURE TREATED TO AWPA STANDARDS (AS REQ'D)
- W2. ALL FRAMING SHALL BE IN ACCORDANCE WITH SBCCI "STANDARD FOR HURRICANE RESISTANT RESIDENTIAL CONSTRUCTION" SSTD 10-99 UNLESS NOTED OTHERWISE. - USE SIMPSON FRAMING ANCHOR AT TOP AND BOTTOM OF ALL EXTERIOR - USE SIMPSON HURRICANE HARDWARE AT EACH RAFTER TO TOP PLATE CONNECTION AT INTERIOR AND EXTERIOR LOAD BEARING WALLS ------ LTS, SERIES - USE SIMPSON RIDGE TO RAFTER CONNECTORS AT RIDGE BEAM OR SIMPSON A35 CONNECTOR

W3. ALL ROOF TRUSSES (IF USED) SHALL BE PRE-ENGINEERED. DESIGN RESPONSIBILITY IS BY THE MANUFACTURER. SUBMIT LOAD CALCULATIONS. REACTIONS AND FABRICATION DRAWINGS TO THE CARR ENGINEERING & CONSTRUCTION, INC. FOR REVIEW PRIOR TO FABRICATION.

- W4. RAFTER TRUSSES SHALL BE FASTENED WITH HURRICANE CLIPS WHICH MEET THE UPLIFT LOAD REQUIREMENTS SHOWN ON THE TRUSS MANUFACTURERS DRAWINGS. FRAMED ROOF JOIST SHALL BE FASTENED AS SHOWN ON DRAWINGS USE SIMPSON'S MTS16 @ EACH END OF TRUSSES AND AT INTERIOR BEARING WALLS.
- W5. ALL FASTENERS USED IN EXPOSED CONDITIONS SHALL BE HEAVILY GALVANIZED (I.E. SIMPSON Z-MAX). WHERE A PARTICULAR FASTENER BRAND (IE: SIMPSON STRONG TIE) IS CALLED OUT. LIKE FASTENERS PRODUCED BY OTHER COMPANIES MAY BE SUBSTITUTED PROVIDED ALL LOAD CAPACITIES ARE EQUAL TO OR GREATER THAN SPECIFIED.
- W6. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH RATED 5/8" (19/32") CDX NAILED AS PER CODE. SHEATHING SHALL BE ATTACHED ALONG ALL FOUR EDGES WITH JOINTS OCCURRING OVER
- COMMON FRAMING MEMBERS OR BLOCKING. W7. ALL INTERIOR LOAD BEARING WALLS SHALL HAVE SIMPSON "SP1" STUD PLATE TIES AT BOTTOM AND "SP2" AT TOP OF EACH STUD UNLESS OSB OR CDX SHEATHING IS SPECIFIED FOR UPLIFT RESISTANCE. - IF NOTED ON PLANS
- W8. EXTERIOR AND INTERIOR LOAD BEARING COLUMNS SHALL BE PT6x6 POSTS (MAX HGT. 12 FEET) WITH SIMPSON "ABU66" BASE. BEAM TO COLUMN STRAPS SHALL BE AS PER HEADER NOTE. ALTERNATE COLUMNS CONSTRUCTED OF ALUMINUM, STEEL, OR RESIN MATERIALS MAY BE SUBSTITUTED PROVIDED THE COLUMNS ARE MANUFACTURER CERTIFIED AS LOAD BEARING (4,000# MIN FOR HEIGHT INSTALLED). UPLIFT ANCHORAGE FOR ALTERNATE COLUMNS SHALL BE PROVIDED BY INSTALLING A 5/8" ANCHOR BOLT IN THE FOUNDATION WITH A GALVANIZED COUPLING AND GALV 5/8" ALL-THREAD ROD UP THROUGH BEAM
- W9. ROOF SHEATHING SHALL BE RATED 1/2" (17/32") CDX NAILED AS PER CODE. THE SHEATHING SHALL BE APPLIED WITH LONG DIMENSION PERPENDICULAR TO THE FRAMING AND END JOINTS
- W10. ALL HEADERS IN 2x4 STUD WALLS SHALL BE CONSTRUCTED OF (2) 2x's WITH 1/2" SPACER UNLESS NOTED OTHERWISE. ALL HEADERS IN 2x6 STUD WALLS SHALL BE CONSTRUCTED OF (3) 2x's WITH 1/2" SPACERS UNLESS NOTED OTHERWISE. HEADERS WITH 4 FEET OR LESS SPAN SHALL BE STRAPPED TO HEADER STUDS WITH SIMPSON "LSTA21" STRAPS (OR EQUAL) ON EACH END. HEADERS WITH

ABOVE. USE 1/8x2x2 PLATE WASHER ON TOP OF BEAM WITH 5/8" NUT TO FASTEN.

- SPANS BETWEEN 4 AND 9 FEET SHALL HAVE TWO STRAPS EACH END. W11. TOP PLATE SPLICES SHALL BE MADE WITH A MINIMUM LAP OF 4 FEET AND CONNECTED WITH (18) 16d COMMON NAILS.
- W12. ALL EXTERIOR WINDOWS AND DOORS SHALL BE RATED FOR DESIGN WIND SPEED AND EXPOSURE NOTED IN DESIGN BASIS. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS FOR SPECIFIED WIND
- W13. FLOOR JOISTS SHALL BE OPEN WEB FLOOR TRUSSES (3 1/2" WIDE) OR "TJI" JOIST. CONN TRUSS MANUFACTURER TO PROVIDE ENGINEERED SHOP DRAWINGS OF TRUSSES, LAYOUT, AND BRACING. TRUSSES TO BE DESIGNED AS PER DRAWINGS SEE PLANS FOR ANY ADDITIONAL BLOCKING OR REINFORCEMENT WHICH MAY BE SPECIFIED C.T. SUBMIT LOAD CALCULATIONS, REACTIONS, AND FABRICATION DRAWINGS TO CARR ENGINEERING & CONSTRUCTION, INC. FOR APPROVAL PRIOR TO TRUSS MANUFACTURE. DEG. (MANDATORY) DET./DTI
- W14. GALVANIZED 1-1/2" WIDE, 20 GA MIN STRAPS BETWEEN FLOORS SHALL BE INSTALLED AT 32" O.C., AT EACH SIDE OF HEADER STUDS FOR DOOR AND WINDOW OPENINGS, AND AT MULTIPLE BEARING STUDS SUPPORTING ROOF GIRDER TRUSSES. STRAP LENGTH SHALL BE EQUAL TO THE SUM OF THE FLOOR TRUSS DEPTH + 20" MINIMUM. USE (10) 10d NAILS MIN IN EACH END LENGTH.
- W15. FLOOR SHEATHING SHALL BE 23/32" MIN C-D T&G SHEATHING GRADE PLYWOOD. THE SHEATHING SHALL BE APPLIED WITH LONG DIMENSION PERPENDICULAR TO THE FRAMING AND END JOINTS STAGGERED. FLOOR FRAMING SHALL HAVE CONSTRUCTION ADHESIVE APPLIED TO TOP SURFACE PRIOR TO SHEATHING. SHEATHING SHALL BE NAILED TO FRAMING AND BLOCKING WITH 10d COMMON NAILS 6" O.C. AT EDGES AND 12" O.C. IN FIELD.

- 1. CONTRACTOR SHALL VERFIY ALL DINENSIONS AND SITE CONDITIONS BEFORE ORDERING ANY MATERIALS OR BEGINNING ANY CONSTRUCTION AND SHALL REPORT HIS/HER FINDINGS TO
- THIS ARCHITECT 2. ALL ITEMS ARE NEW UNLESS OTHERWISE NOTED.
- 3. CONTRACTOR SHALL REPAIR ALL AREAS OUTSIDE CONTRACT LIMITS TO ORIGINAL CONDITION. 4. CONTRACTOR TO COORDINATE ALL ARCHITECTURAL WITH STRUCTURAL, MECHANICAL, AND
- ELECTRICAL WORK AND ADJUST SAME AS REQUIRED 5. CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES, ALSO
- CONFORMING TO NATIONAL A.D.A. REQUIREMENTS. 6. ALL UNNOTED OR NON VISIBLE EASEMENTS AND SUBSURFACE CONDITIONS ARE THE
- RESPONSIBLITY OF THE CONTRACTOR. 7. ALL HIDDEN STRUCTURAL DISCREPANCIES MUST BE REPORTED TO ARCHITECT SO THAT
- CORRECTIVE MEASURES CAN BE TAKEN PRIOR TO PROJECT COMPLETION.
- 8. ALL MECHANICAL, ELECTRICAL, AND PLUMBING SHALL BE PREFORMED BY LICENSED
- SUBCONTRACTORS AND SHALL CONFORM TO BUILING CODES. 9. ALL EQUIPMENT CONNECTIONS TO BE VERIFIED AND COORDINATED BY SUBCONTRACTORS WITH

CONTRACTOR AND ARCHITECT

ACT

A.F.F.

ALT.

APPROX.

ARCH.

BLDG.

BLK'G.

BTWN.

B.U.R.

B.W.

CLG.

CLR.

C.M.U.

CONC.

DIAG.

DS.

DWG.

E.I.F.S.

ELEC.

ELEV.

EMER

ENCL.

EQUIP.

E.W.C.

EXTERIOR

FLOOR DRAIN

FOUNDATION

FINISH FLOOR

FIRE EXTINGUISHER

FIRE EXTINGUISHER CAB

FIRE DEPARTMENT CONNECTION

MUL.

N.I.C.

NO.

MULLION

NUMBER

NOMINAL

N.T.S. NOT TO SCALE

NOT IN CONTRACT

EQ.

E.W.

EXP.

EXT.

F.D.C.

FDN.

F.E.C.

F.E.

F.F.

EL. ELEV

DIA. Ø

BLK

BOT.

RAC	TOR AND ARCHITECT					/
E۷	/IATIONS					
	ANCHOR BOLT ACOUSTICAL CEILING TILE	F.H.C. FIN.	FIRE HOSE CABINET FINISH	O.C. O.D.	ON CENTER OUTSIDE DIAMETER	
	ABOVE FINISHED FLOOR	F.L.	FLOW LINE	O.D. OH.	OVERHEAD	
	AGGREGATE	FLR.	FLOOR	OPG.	OPENING	
	ALUMINUM	FLUOR.	FLUORESCENT	OPP.	OPPOSITE	
	ALTERNATE	FND.	FOUNDATION	OFF.	OFFOSITE	
x	APPROXIMATE	F.O.B.	FACE OF BRICK	PCT.	PRE-CAST	
٠.	ARCHITECTURAL	F.O.C.	FACE OF CONCRETE	101.	TRE-OAGT	
	AROTHIEGIOTOLE	F.S.	FULL SIZE	P.L.	PROPERTY LINE	
	BOARD	FT.	FOOT OR FEET	P.LAM.	PLASTIC LAMINATE	
	BUILDING	FTG.	FOOTING	PLAS.	PLASTER	
	BLOCK	FURR.	FURRING	PLYWD.	PLYWOOD	
	BLOCKING			PR.	PAIR	
	BEAM	GA.	GAUGE			
	BOTTOM	GALV.	GALVANIZED	Q.T.	QUARRY TILE	-
	BETWEEN	G.C.	GENERAL CONTRACTOR	P <u>.</u>	PLATE	
	BUILT UP ROOFING	G.L.	GLASS	R.	RISER	
	BOTH WAYS	GR.	GRADE	R.D.	ROOF DRAIN	
		GYP.	GYPSUM	RE:	REFER TO	
	CONTROL JT.	GYP. BD.	GYPSUM BOARD	REFR.	REFRIGERATOR	
	CEILING			REINF.	REINFORCED	
	CENTERLINE	H.B.	HOSE BIBB	REQ'D.	REQUIRED	
	CAULKING	H.C.	HOLLOW CORE	RM	ROOM	
	CLEAR	H/C	HANDICAPPED	R.O.	ROUGH OPENING	
	CONCRETE MASONRY UNIT	HDWD. HDWE.	HARDWOOD	C	COLITU	
	COLUMN CONCRETE	H.M.	HARDWARE HOLLOW METAL	S S.C.	SOUTH SOLID CORE	
	CONNECTION	HR.	HOUR	SCHED.	SCHEDULE	
₹.	CONSTRUCTION	HT.	HEIGHT	SECT.	SECTION	
١.	CONTINUOUS	HVAC	HEATING, VENTILATION AND	S.F.	SQUARE FOOT	
	CERAMIC TILE	IIVAO	AIR CONDITIONING	SHT.	SHEET	
	OLI VIIII TILL	I.D.	INSIDE DIAMETER	SIM.	SIMILAR	
	DEGREE	INSUL.	INSULATION	SPEC.	SPECIFICATION	
L.	DETAIL	I.C.F.	INSULATED CONCRETE FORM	SQ. OR 中	SQUARE	
	DRINKING FOUNTAIN	INT.	INTERIOR	S.S.	STAINLESS STEEL	
	DIAGONAL	I.S.	INSIDE	STAGG.	STAGGERED	
í	DIAMETER	JAN.	JANITOR	STD.	STANDARD	
	DOWN	JNT.	JOINT	STIFF.	STIFFENER	
	DOWN SPOUT	JST.	JOIST	STL.	STEEL	
	DRAWING			STRUC.	STRUCTURAL	
		KIT.	KITCHEN	SUSP.	SUSPENDED	
	EAST		LABORATORY	TR	TREAD	
	EXISTING	LAB.	LABORATORY	TRD.	TREATED	
	EACH	LAM.	LAMINATE	T & B	TOP AND BOTTOM	
	EXPANSION JOINT	LAV.	LAVATORY	TER.	TERRAZZO	
	EXTERIOR INSULATION AND FINISH SYSTEM	LT.	LIGHT	T & G THK.	TONGUE & GROOVE THICK	
.,	ELEVATION	MAX.	MAXIMUM	T/	TOP OF	
٧.	ELECTRICAL	MECH.	MECHANICAL	TYP.	TYPICAL	
	ELEVATION	MEMB.	MEMBRANE		TITIOAL	
	EMERGENCY	MFR.	MANUFACTURER	U.O.N.	UNLESS OTHERWISE NOTED	
	ENCLOSURE	M.H.	MANHOLE	J.J.14.	STEEDS STILLWISE NOTED	
	EQUAL	M.HT.	MOUNTING HEIGHT	VCT	VERIFY	
	EQUIPMENT	MIN.	MINIMUM	VER	VINYL COMPOSITION TILE	
	EACH WAY	MISC.	MISCELLANEOUS	VERT.	VERTICAL	
	ELECTRIC WATER COOLER	M.O.	MASONRY OPENING	VIF	VERIFY IN FIELD	
	EXPANSION	MTL.	METAL	V.T.R.	VENT THRU ROOF	
	EVTEDIOD	MIII	MULLION			

WEST

WOOD

WITHOUT

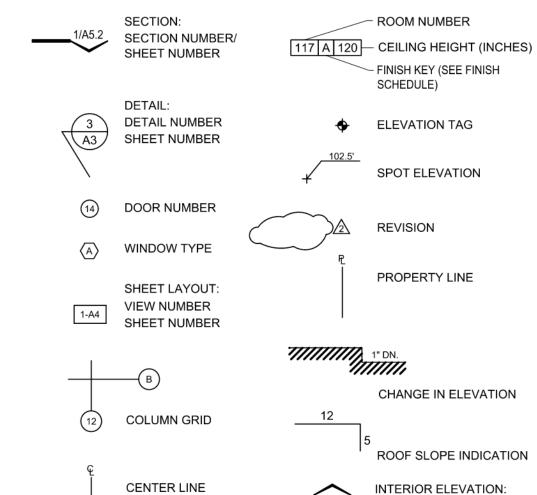
W.C.

WD.

WATER CLOSET

ALL WORK TO BE EXECUTED IN STRICT ACCORDANCE WITH THE APPLICABLE BUILDING CODE AND LOCAL INTERPRETATIONS.

SYMBOL LEGEND



INDEX OF SHEETS

- A1.1 COVER SHEET A2.1 FLOOR PLAN, EXTERIOR ELEVATION, MISC.
- A3.1 N/A
- A4.1 BUILDING SECTIONS & DETAILS A4.2 WALL SECTIONS
- A5.1 FOUNDATION / PORCH/ DECK JOIST PLAN AND DETAILS
- A5.2 JOIST PLAN, ROOF FRAMING PLAN & DETAILS MPE1 MECHANICAL, PLUMBING AND ELECTRICAL NOTES
- MPE2 MECHANICAL, PLUMBING AND ELECTRICAL PLANS

ELEVATION NUMBER/SHEET NUMBER



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PLAN **#AFX-005-R** Flora Cottage

LICENSEE

Malasri Engineering, PLLC 65 Union Ave Ste 800 Memphis, TN 38103

jt@malasriengineering.com

LHP REFERENCE # O-1004

PROJECT LOCATION

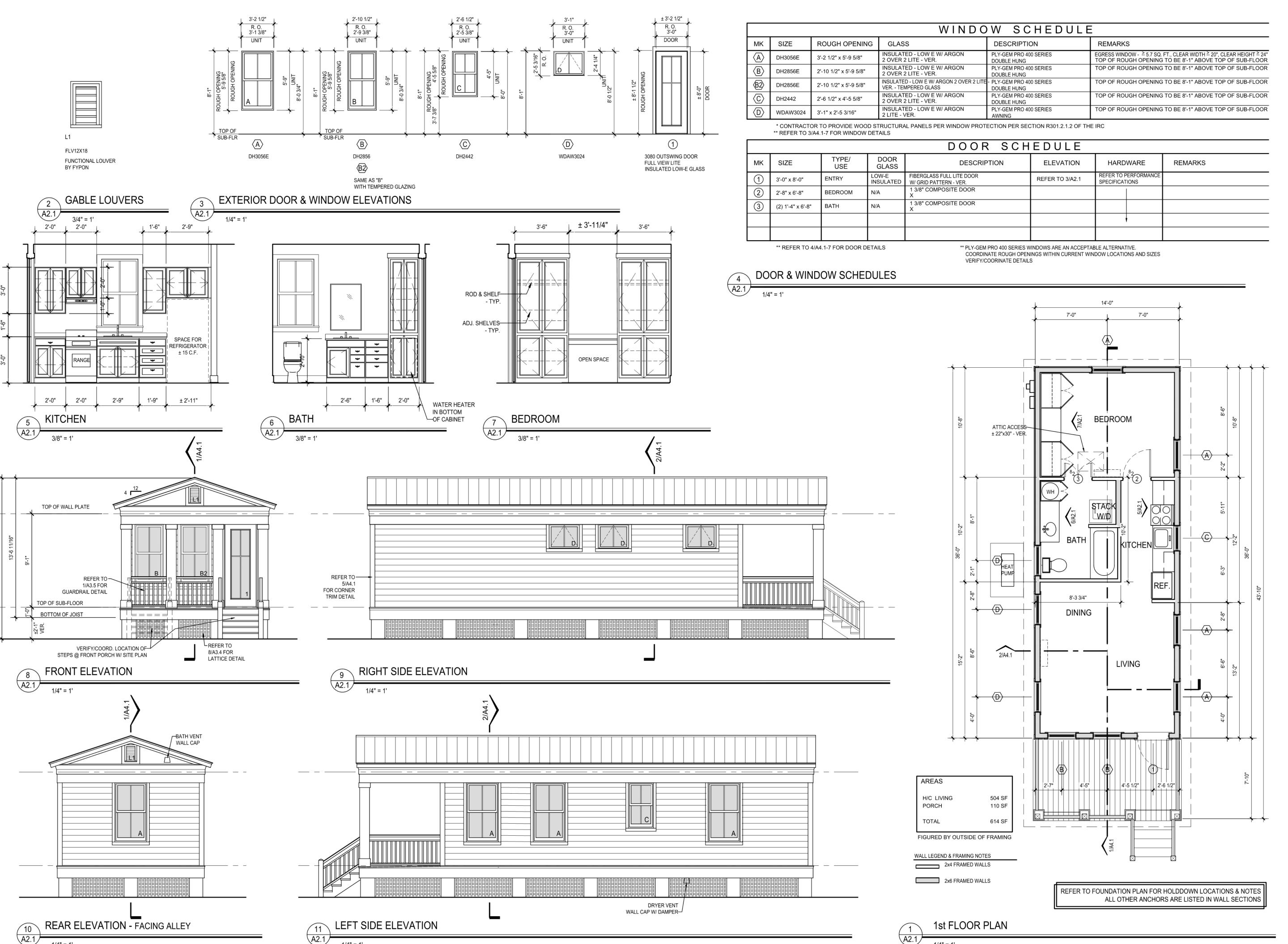
(901) 602-2884

CITY, COUNTY, AND STATE

PARCEL NUMBER(S)

(Shelby County) TN

Parcel #001055 00014 (Third St) Parcel #001055 00017 (164 Keel Ave)



Liberty

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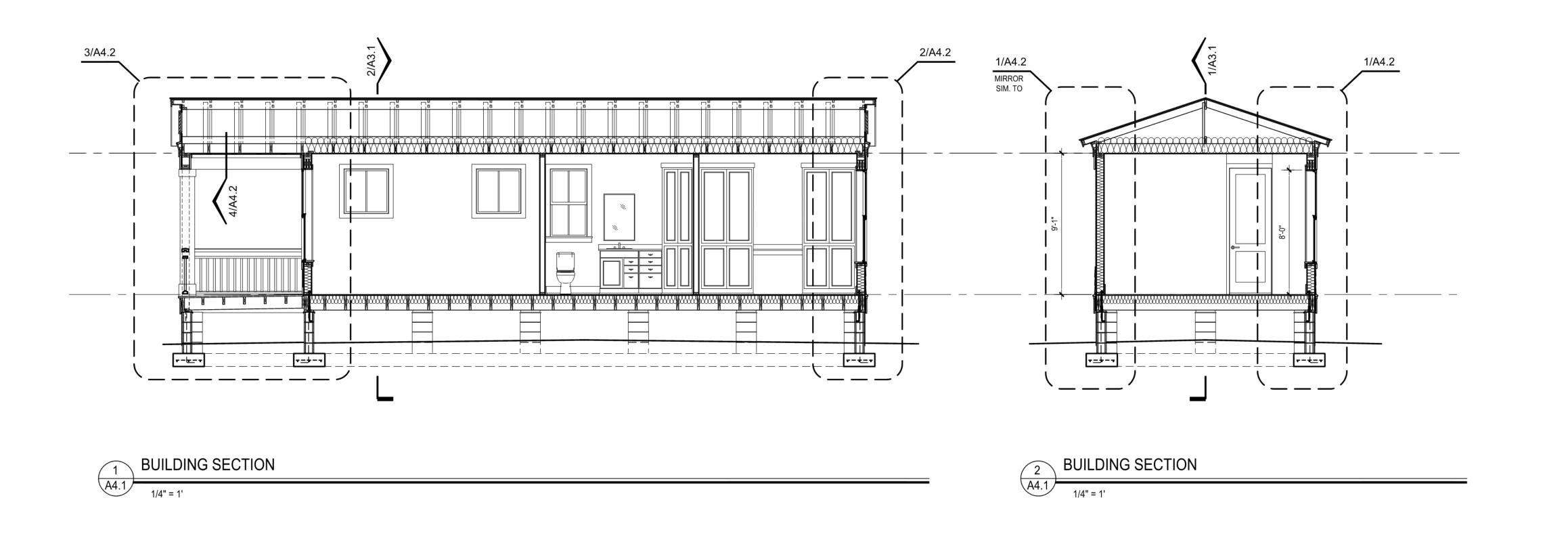
(Shelby County) TN

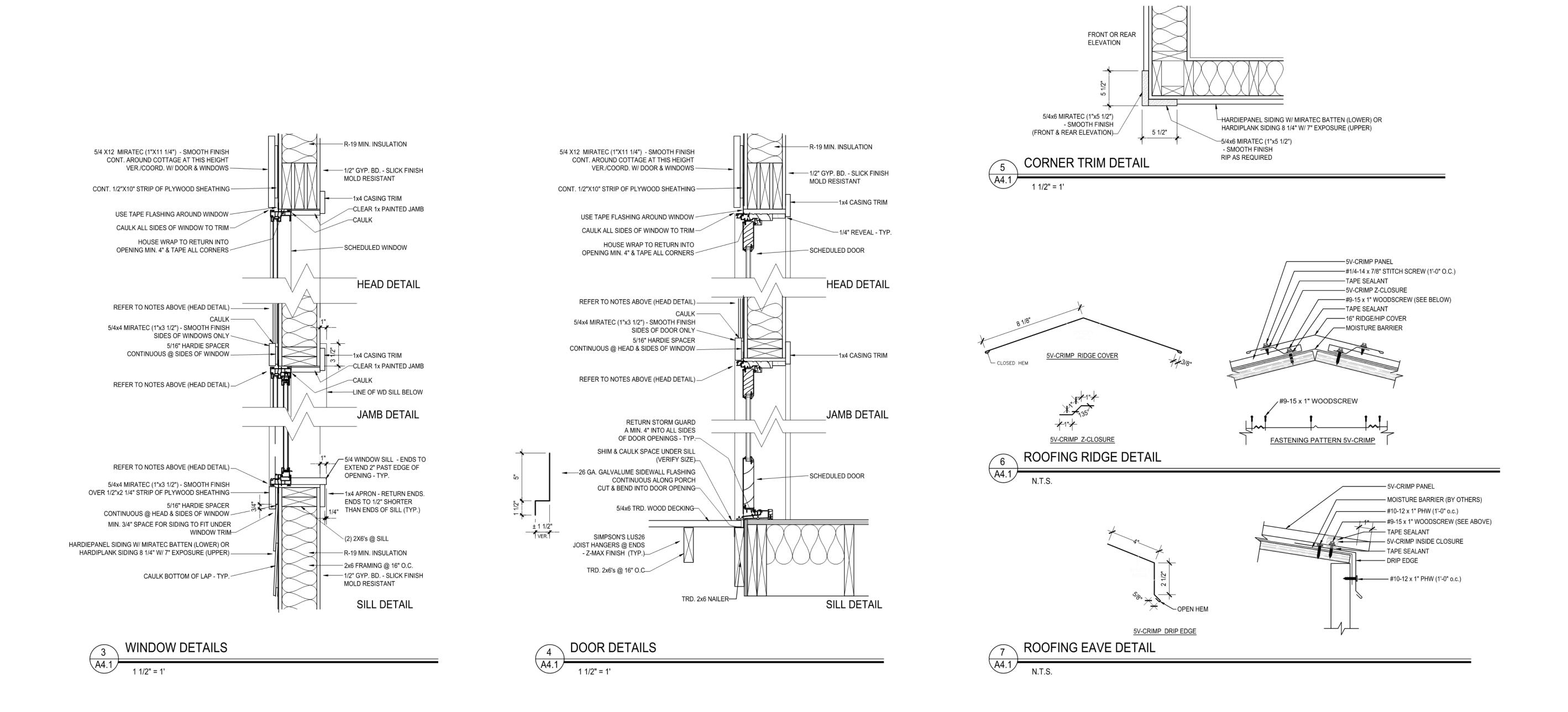
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FLOOR PLANS
AND DOOR &
WINDOW
SCHEDULES

504-Bmir-b1







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PLAN #AFX-005-R

Flora Cottage

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PROJECT LOCATION

(901) 602-2884

CITY, COUNTY, AND STATE

Memphis (Shelby County) TN

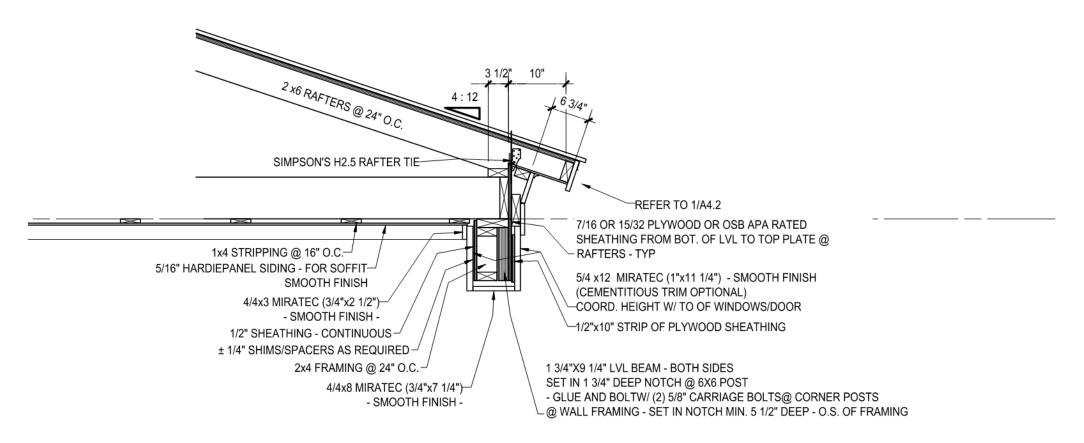
PARCEL NUMBER(S)

Parcel #001055 00014 (Third St)

Parcel #001055 00017 (164 Keel Ave)

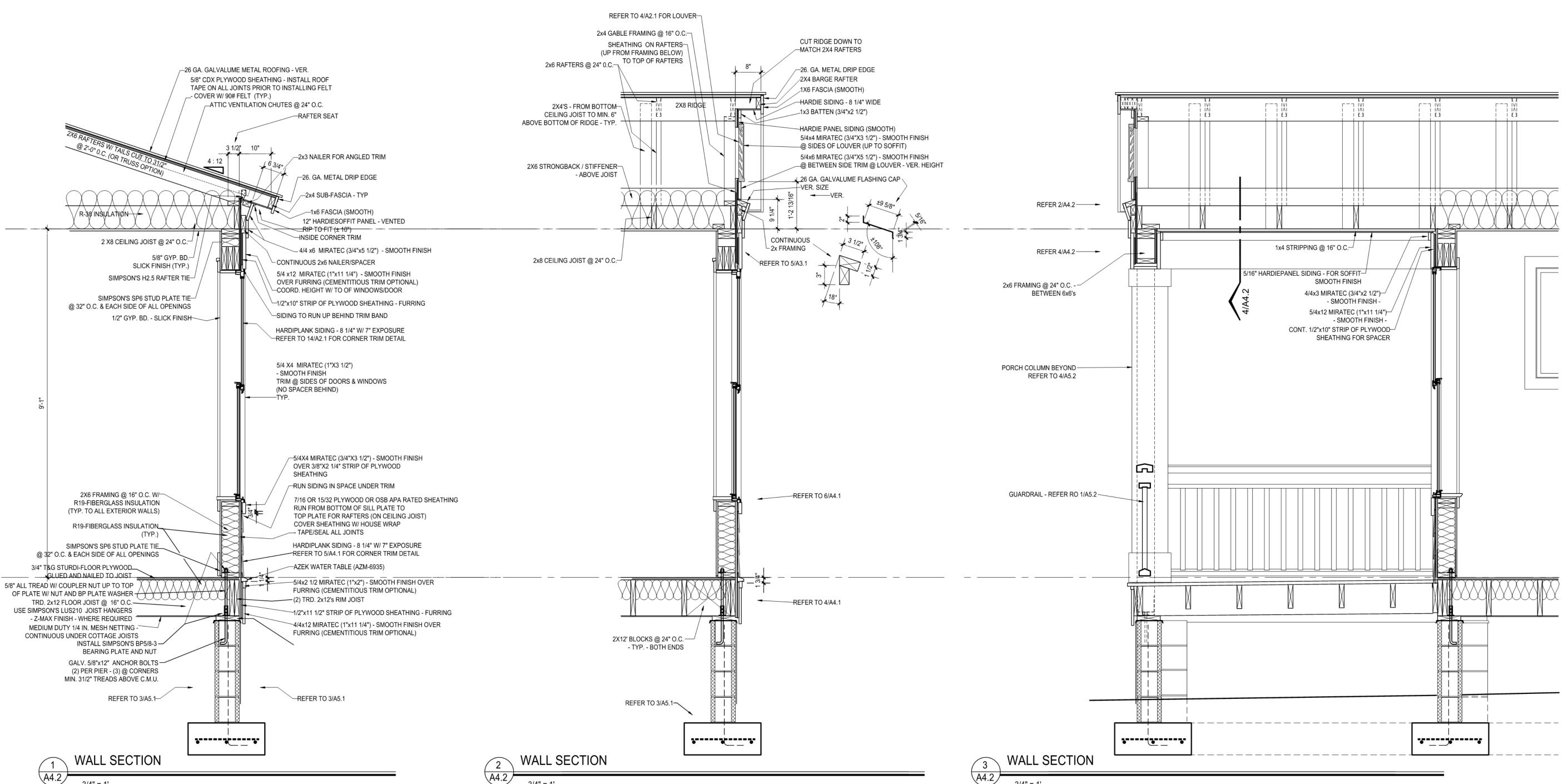
BUILDING SECTIONS AND DETAILS





PORCH EAVE SECTION

3/4" = 1





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LHP REFERENCE # O-1004

PROJECT LOCATION

CITY, COUNTY, AND STATE

(Shelby County) TN

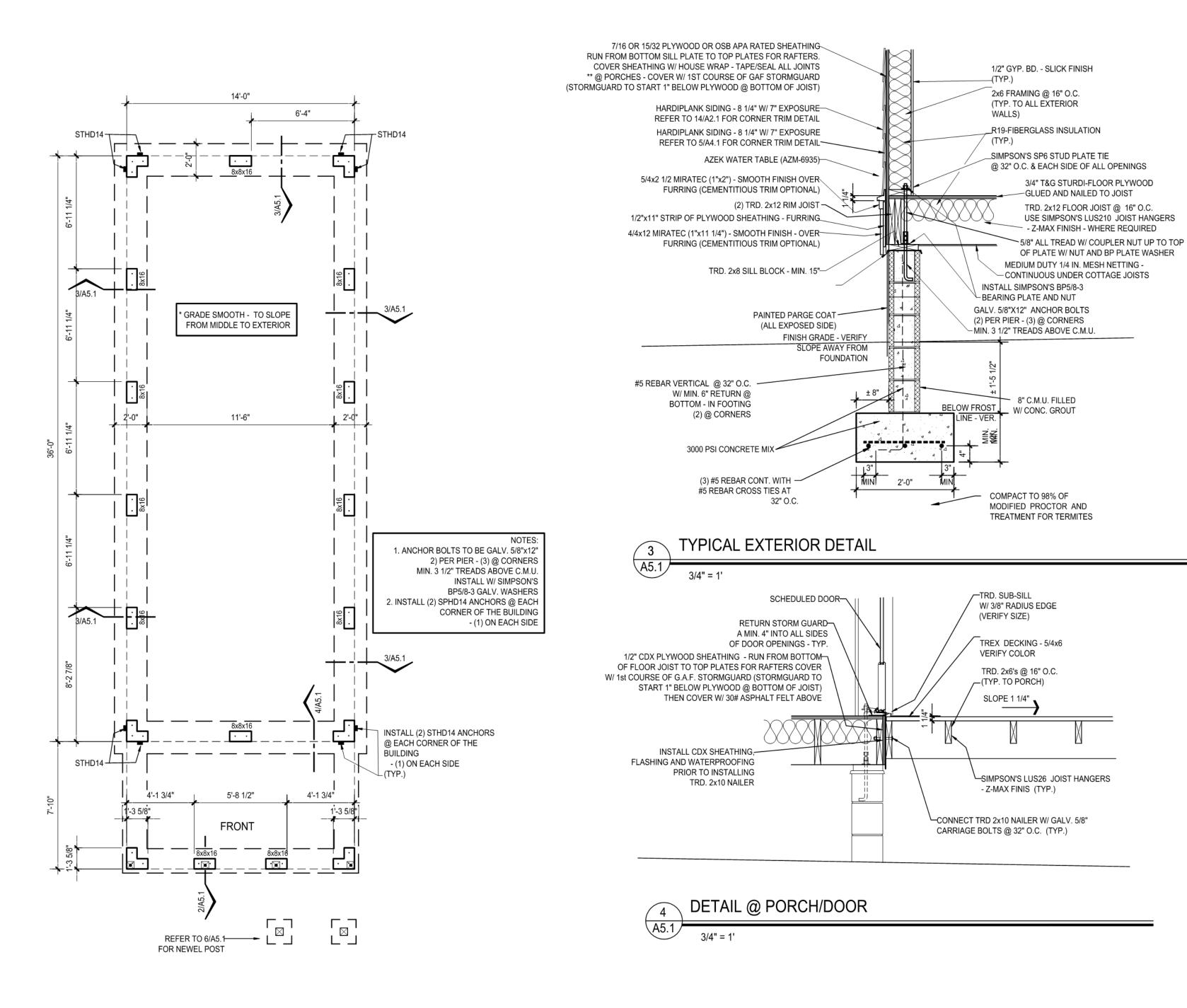
PARCEL NUMBER(S)

Parcel #001055 00014 (Third St)

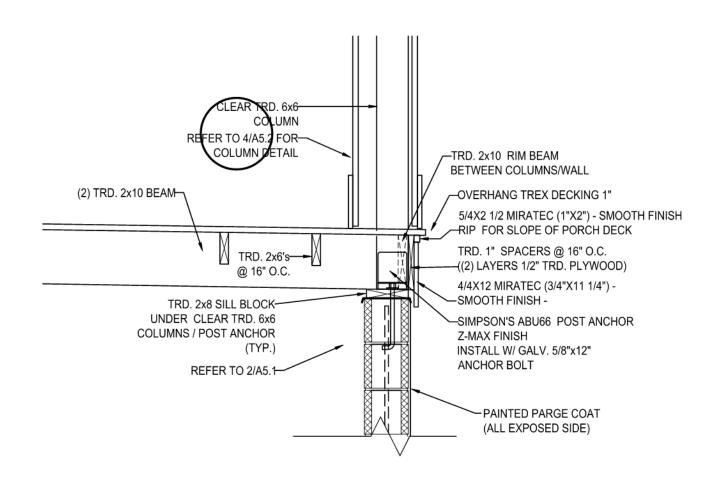
Parcel #001055 00017 (164 Keel Ave)

WALL SECTIONS

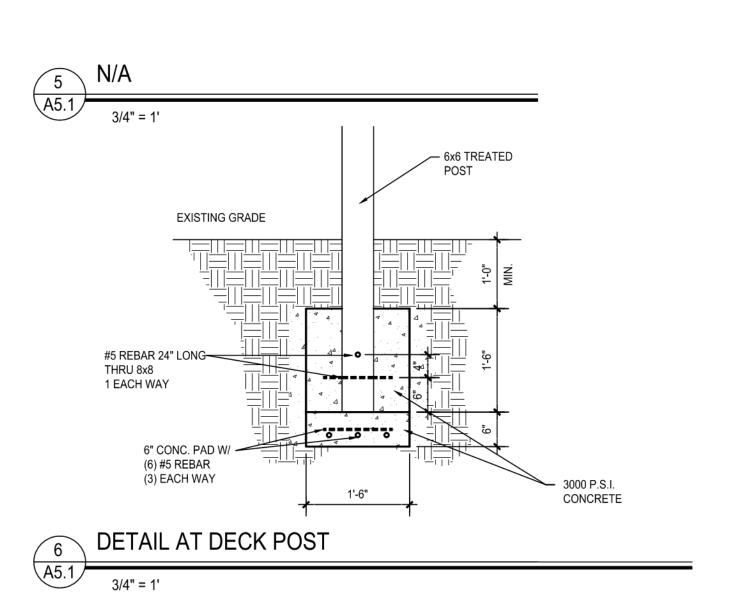
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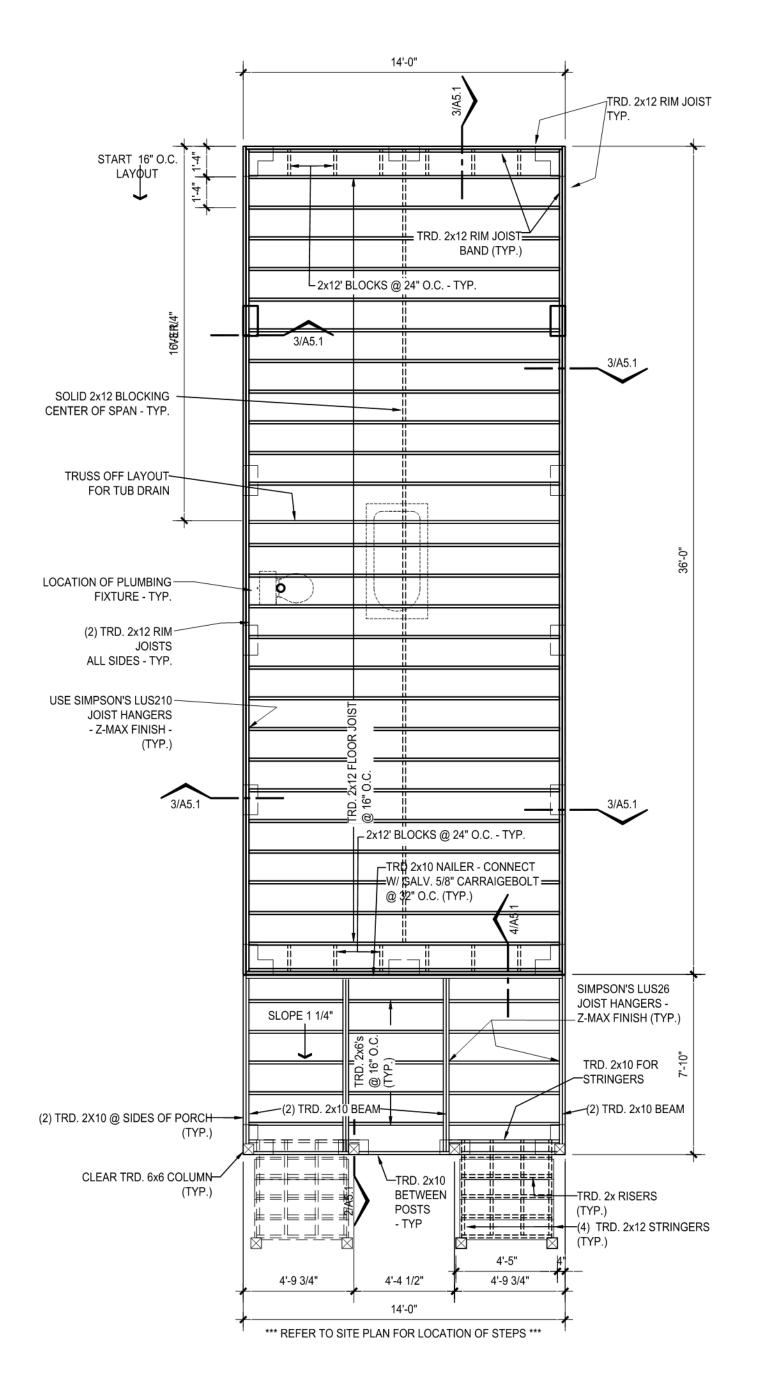




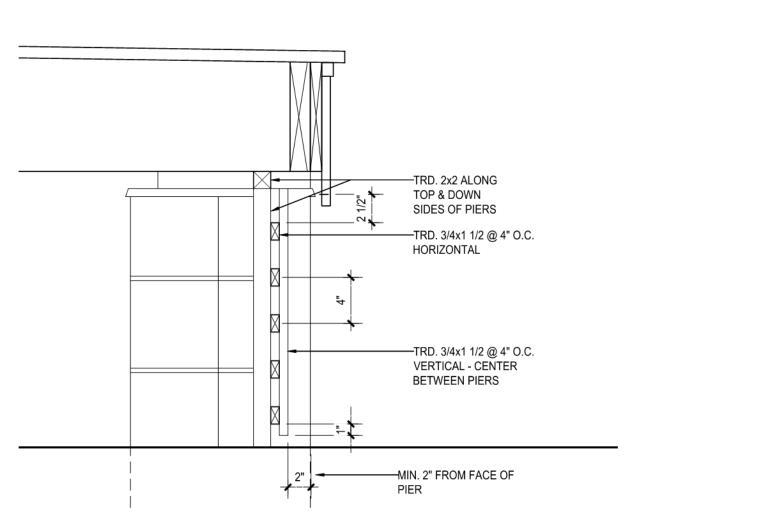
COLUMN/DECK TO PIER DETAIL



- Z-MAX FINISH - WHERE REQUIRED







LATTICE PANEL DETAIL

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PLAN #AFX-005-R

Flora Cottage

LICENSEE

Malasri Engineering, PLLC 65 Union Ave Ste 800 Memphis, TN 38103 jt@malasriengineering.com

LHP REFERENCE # O-1004

(901) 602-2884

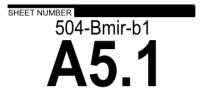
PROJECT LOCATION

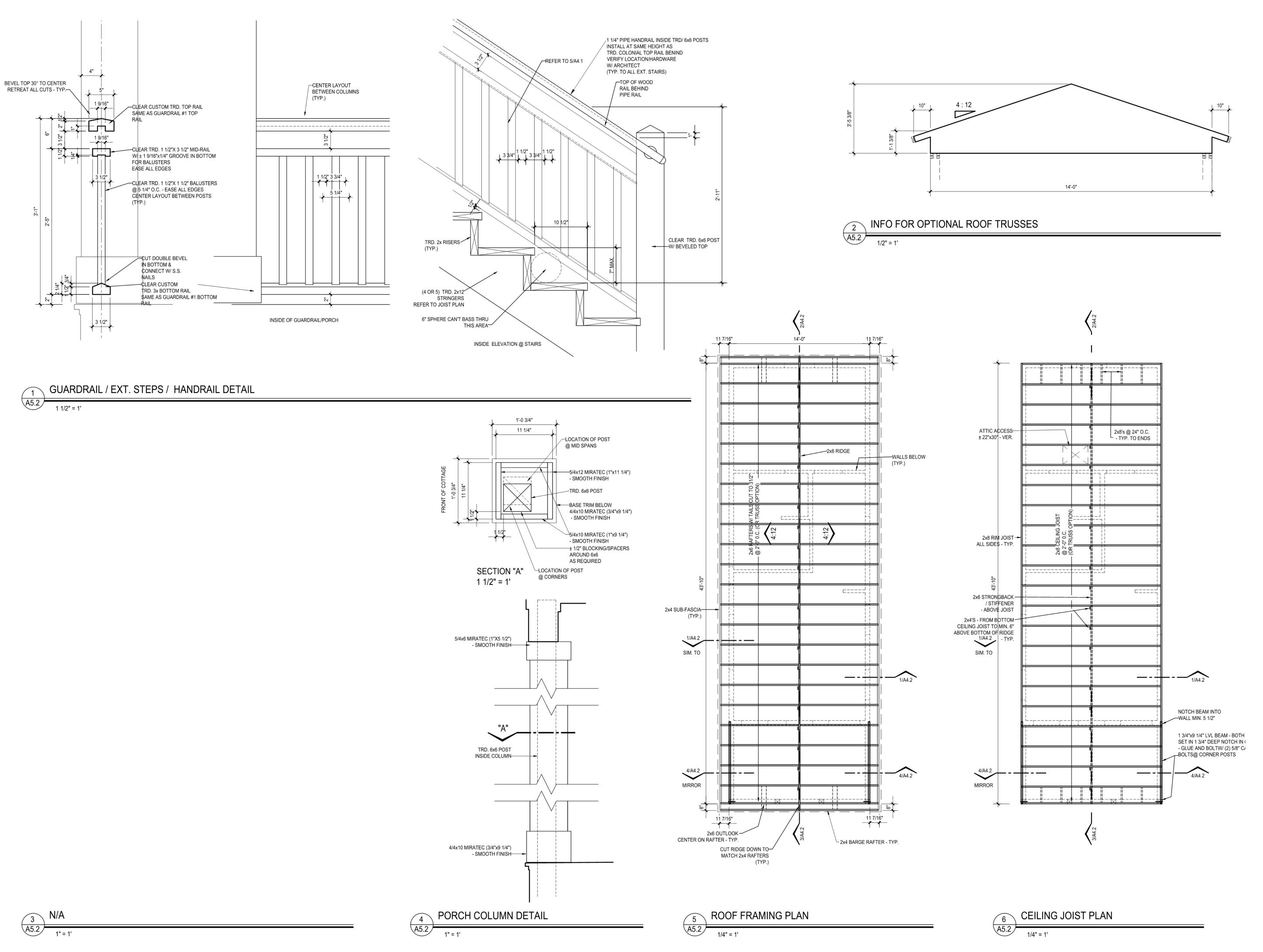
CITY, COUNTY, AND STATE

(Shelby County) TN

PARCEL NUMBER(S) Parcel #001055 00014 (Third St) Parcel #001055 00017 (164 Keel Ave)

FOUNDATION / PORCH/ DECK **JOIST PLAN AND DETAILS**





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LHP REFERENCE # O-1004

PROJECT LOCATION

CITY, COUNTY, AND STATE

Memphis

(Shelby County) TN

PARCEL NUMBER(S)

Parcel #001055 00014 (Third St)

Parcel #001055 00017 (164 Keel Ave)

CEILING JOIST,
ROOF FRAMING
PLAN & DETAILS

504-Bmir-b1 **A5.2**

A. EXTENT OF WORK:

PROVIDE AND INSTALL COMPLETE AIR CONDITIONING AND VENTILATION SYSTEM, AND COMPLETE PLUMBING SYSTEM, AS DRAWN ON THE ACCOMPANYING PLANS.

B. CODE REQUIREMENTS:

ALL WORK SHALL COMPLY WITH ALL APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES, STATUTES, CODES, AND AS SHOWN ON DRAWINGS AND SPECIFIED HEREIN.

C. FEE AND PERMITS:

PROVIDE, PROCURE AND PAY FOR ALL PERMITS, LICENSES, CERTIFICATE, INSPECTIONS, ETC., REQUIRED TO CARRY OUT AND COMPLETE THE WORK.

LETTERS OR CERTIFICATES OF APPROVAL SHALL BE FURNISHED TO THE ARCHITECT UPON COMPLETION OF THE JOB FROM INSPECTION DEPARTMENTS HAVING JURISDICTION BEFORE FINAL PAYMENT IS MADE TO THE CONTRACTOR. RECEIPTS FOR PAYMENT OF ALL PERMITS AND INSPECTION FEES SHALL ALSO BE PRODUCED AT THIS TIME, AND THOSE MADE IN THE NAME OF THE OWNER SHALL BE TURNED OVER TO THE ARCHITECT UPON FINAL ACCEPTANCE OF THE WORK COVERED HEREUNDER.

D. GUARANTEE:

CONTRACTORS SHALL GUARANTEE THAT ALL WORK WHICH HE IS RESPONSIBLE AND THE COMPLETE SYSTEM OPERATION WILL BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS. THE CONTRACTOR AGREES TO REPLACE. WITHOUT EXPENSE TO THE OWNER, ANY PART OF THE APPARATUS ON THE WORK WHICH PROVES DEFECTIVE WITHIN ONE (1) YEAR

MECHANICAL CONTRACTORS SHALL FURNISH TO THE GENERAL CONTRACTOR ALL CERTIFICATES OF FINAL INSPECTION AND APPROVAL FROM INSPECTION AUTHORITIES HAVING JURISDICTION.

INSTALL WORK AS INDICATED ON DRAWINGS; HOWEVER, CHANGES TO ACCOMMODATE INSTALLATION OF WORK WITH OTHER WORK OR TO MEET ARCHITECTURAL OR STRUCTURAL CONDITIONS SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.

FOR PURPOSE OF CLARITY AND LEGIBILITY, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC TO THE EXTENT THAT MANY OFFSETS, BONDS, UNIONS SPECIAL FITTINGS AND EXACT LOCATIONS ARE NOT INDICATED. MAKE USE OF ALL DATA IN ALL CONTRACT DOCUMENTS AND VERIFY INFORMATION AT SITE.

ALL DIMENSIONS AND LOCATIONS OF EQUIPMENT, DOORS, PARTITIONS, FIXTURES, GRILLES, ETC., ARE TO BE TAKEN FROM THE DRAWINGS BUT SHALL BE VERIFIED AT THE SITE.

F. INSPECTIONS:

DO NOT ALLOW ANY WORK TO BE COVERED UP OR ENCLOSED UNTIL TESTED BY THIS CONTRACTOR, INSPECTED AND APPROVED BY THE ARCHITECT AND OTHER AUTHORITIES HAVING JURISDICTION OVER THIS WORK.

SHOULD ANY WORK BE ENCLOSED OR COVERED UP BEFORE SUCH INSPECTIONS AND TESTS. THIS CONTRACTOR SHALL AT HIS WON EXPENSE UNCOVER WORK AND AFTER IT HAS BEEN TESTED, INSPECTED AND APPROVED, MAKE ALL REPAIRS AS NECESSARY TO RESTORE ALL WORK DISTURBED BY HIM TO ITS ORIGINAL AND PROPER CONDITIONS AND TO THE SATISFACTION OF THE ARCHITECT.

G. RECORD DRAWINGS:

AT THE COMPLETION OF THIS PHASE OF WORK, THIS CONTRACTOR SHALL FURNISH REPRODUCIBLE DRAWINGS SHOWING ALL VARIATIONS IN RUNNING OF PIPE, LOCATION OF DRAINS, CLEANOUTS, EQUIPMENT, ETC., FROM SHOWN ON THE ORIGINAL DRAWINGS. THESE DRAWINGS SHALL BE TURNED OVER TO THE ARCHITECT UPON COMPLETION OF THIS PHASE.

H. DEFINITION OF CONTRACTOR:

THE TERM "CONTRACTOR" AS USED IN THIS PHASE OF THE SPECIFICATIONS OR DRAWINGS MEANS THE PERSON OR PERSONS WHO UNDERTAKE THE RESPONSIBILITY TO PERFORM THAT PHASE OF CONSTRUCTION. EXAMPLE: THE PERSON PERFORMING ALL PLUMBING SHALL BE THE PLUMBING CONTRACTOR.

SECTION 15020 - AIR CONDITIONING AND HEATING

DUCT WORK THERMOSTATS

A. SCOPE OF WORK:

FURNISH ALL LABOR, MATERIALS, TOOLS EQUIPMENT, INCIDENTALS, AND SERVICES REQUIRED FOR THE COMPLETION OF ALL HEATING. AIR CONDITIONING, VENTILATING AND PIPING WORK INCLUDED AS FOLLOWS:

CONDENSING UNITS AIR HANDLING UNITS CEILING OUTLETS REGISTERS & GRILLES DUCT INSULATION HVAC

CONNECTIONS OF HVAC EQUIPMENT AND THERMOSTATS.

CONCRETE SLAB OR PADS FOR EQUIPMENT WILL BE FURNISHED BY GENERAL

ALL POWER WIRING, DISCONNECT SWITCHES AND FINAL CONNECTIONS OF SAME WILL BE MADE BY ELECTRICAL CONTRACTOR. THOUGH THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL POWER WIRING. THE HVAC CONTRACTOR IS RESPONSIBLE FOR ALL CONTROL WIRING AND FINAL

THE PLUMBING CONTRACTOR WILL FURNISH NECESSARY CONDENSATE DRAINS FOR THE HVAC CONTRACTOR TO CONNECT TO.

FURNISH, WITHOUT CHARGE, ANY ADDITIONAL MATERIAL AND LABOR WHEN AND WHERE REQUIRED TO COMPLY WITH CODES AND REGULATIONS, THOUGH THE WORK MAY NOT BE MENTIONED IN THE SPECIFICATIONS NOR SHOWN ON

A. MATERIALS:

THE DRAWINGS.

SHALL CONFORM WITH THE RESPECTED PUBLICATIONS AND REQUIREMENTS OF MANUFACTURERS AND ALL APPLICABLE CODES AND ORDINANCES. PROVIDE A COMPLETE INSTALLATION IN EVERY RESPECT.

B. WORKMANSHIP: MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED RECOMMENDATIONS OF THE MANUFACTURER TO CONFORM TO THE CONTRACT DOCUMENTS. THE INSTALLATIONS SHALL BE ACCOMPLISHED BY WORKMEN

SKILLED IN THIS TYPE WORK. C. JOB CONDITIONS:

BEFORE BEGINNING WORK OR ANY INSTALLATION OF WORK, CAREFULLY STUDY ALL CONTRACT DRAWINGS AND CHECK ANY PIPING, DUCTWORK AND EQUIPMENT LOCATIONS FOR INTERFERENCE WITH OTHER TRADES. IF CONFLICTS ARE DISCOVERED IN DRAWINGS OR AS WORK PROGRESSES, A SET OF PRINTS MARKED WITH RED PENCIL SHOWING RECOMMENDED INSTALLATION METHODS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION OF WORK IN QUESTION.

NO ADDITIONAL COSTS TO OWNER WILL BE CONSIDERED FOR WORK WHICH MUST BE RELOCATED DUE TO CONFLICTS BETWEEN WORK OF DIFFERENT

NO EXTRA COMPENSATION WILL BE ALLOWED ON ACCOUNT OF DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND THOSE INDICATED ON THE DRAWINGS.

D. SUBMITTALS:

PREPARE SHOP DRAWING SUBMITTALS FOR ALL ITEMS OF EQUIPMENT AND MATERIAL SPECIFIED IN OTHER SECTIONS OF THIS DIVISION.

IDENTIFY EACH ITEM BY MANUFACTURER, BRAND AND TRADE NAME. NUMBER, SIZE, RATING AND WHATEVER OTHER DATA ARE NECESSARY TO PROPERLY IDENTIFY AND CHECK MATERIALS AND EQUIPMENT. SUBMITTAL SHALL BE ALL-INCLUSIVE, WITH ALL ITEMS BEING SUBMITTED AT SAME TIME; INDIVIDUAL SUBMITTALS WILL NOT BE ACCEPTED.

E. INSTALLATION:

PLACE ANY SLEEVES, CHASES, CONCRETE INSERTS, ANCHOR BOLTS, ETC., BEFORE CONCRETE IS POURED AND BE RESPONSIBLE FOR CORRECT LOCATION AND INSTALLATION OF THESE ITEMS.

DO ALL SLEEVING, CUTTING AND PATCHING OF ROUGH CONSTRUCTION FOR

LOCATION OF EQUIPMENT, PIPING AND DUCTWORK INDICATED ON DRAWINGS IS APPROXIMATE AND SHALL BE CHANGED TO MEET ARCHITECTURAL AND STRUCTURAL CONDITIONS AS REQUIRED. ALL EQUIPMENT SHALL BE ACCURATELY SET AND LEVELED. SUPPORTS

SHALL BE NEATLY PLACED AND PROPERLY FASTENED. ALL EQUIPMENT SHALL BE SET SO AS NOT TO CAUSE NOTICEABLE VIBRATION TO STRUCTURE.

BEFORE ACCEPTANCE OF BUILDING, MAKE ARRANGEMENTS WITH GENERAL CONTRACTOR FOR TEMPORARY USE OF HEATING OR COOLING EQUIPMENT TO MAINTAIN TEMPERATURE AND HUMIDITY IN BUILDING.

AT THE TIME OF SUBSTANTIAL COMPLETION, CLEAN OR REPLACE ALL FILTERS, REGISTERS, DIFFUSERS TO PUT EQUIPMENT INTO PROPER WORKING ORDER

THOROUGHLY CLEAN ALL FOUIPMENT, PIPING AND DUCTS, FREE FROM RUST, DUST FILINGS, PLASTER, ETC., BEFORE SYSTEMS ARE PUT IN

THE SYSTEM SHALL BE TESTED AS WORK PROGRESSES AND BE COMPLETELY CHECKED AND TESTED BEFORE FINAL ACCEPTANCE.

SHOULD ANY PIECE OF EQUIPMENT OR MATERIAL FAIL ANY OF THE TESTS, IMMEDIATELY REMOVE AND REPLACE WITH NEW EQUIPMENT OR MATERIAL AND RETEST THE SYSTEM.

INSULATE CONDENSATE DRAIN, CHILLED WATER, AND REFRIGERANT SUCTION LINES WITH 1/2" THICK ARMAFLEX WITH ALL JOINTS COMPLETELY SEALED. DO NOT USE DUCT TAPE TO SEAL JOINTS.

ALL DUCT WORK SHALL BE METAL AND SHALL BE INSULATED.

ADJUSTING, BALANCING, AND TESTING: CONTRACTOR SHALL BALANCE AND ADJUST THE MECHANICAL SYSTEMS PERFORMANCE IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS. ALL INSTRUMENTS USED BY THIS FIRM SHALL BE ACCURATELY CALIBRATED AND MAINTAINED IN GOOD WORKING ORDER. AFTER COMPLETION OF BALANCING AND ADJUSTING CONTRACTOR SHALL MAKE PERFORMANCE TEST OF ALL MECHANICAL SYSTEM TO DETERMINE COMPLIANCE WITH THE SPECIFICATION REQUIREMENTS. ANY EQUIPMENT THAT FAILS TO EQUAL OR EXCEED THE SPECIFIED PERFORMANCE SHALL BE MODIFIED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL FURNISH TO THE ARCHITECT FOUR (4) COPIES OF THE SCHEDULES OF READINGS TAKEN DURING THE BALANCE AND TESTING OPERATION INDICATING THE REQUIRED OR SPECIFIED READING AND THE FINAL BALANCED READING OF ALL ITEMS.

OVERFLOW PAN: SHALL BE LOCATED AS SHOWN ON DRAWING AND SHALL HAVE A 1" PIPE OVERFLOW LINE WITH SCREEN TRASH GUARD AT OPENING OF PIPE. MOUNT OVERFLOW WARNING SWITCH (FLOAT SWITCH) IN PAN AND WIRE TO AUDIBLE ALARM LOCATED IN DUCT SYSTEM.

GRILLES AND REGISTERS: SHALL BE WHITE WITH THE OPTION OF WALL GRILLS TO BE PAINTED SAME COLOR AS WALLS.

EQUIPMENT: SEE EQUIPMENT SCHEDULE ON DRAWINGS.

- END

DIVISION 15 - MECHANICAL

SECTION 15030 - PLUMBING

A. SCOPE OF WORK:

FURNISH ALL LABOR, MATERIALS, TOOLS EQUIPMENT, INCIDENTALS, AND SERVICES NECESSARY FOR THE INSTALLATION OF THE PLUMBING AND DRAINAGE SYSTEM AS FOLLOWS AND AS SHOWN ON DRAWINGS:

PLUMBING SERVICE SOIL, DRAIN, AND WASTE LINES CLEANOUTS HOT & COLD WATER SYSTEM FLOOR DRAINS HOSE BIBS PLUMBING FIXTURES INSULATION FLASHING, ETC.

ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH FEDERAL. STATE AND LOCAL CODES AND REGULATIONS. STATE FIRE MARSHALL REGULATIONS, THE NATIONAL PLUMBING CODE, STANDARDS OF THE NATIONAL PROTECTION ASSOCIATION, STATE DEPARTMENT OF INSURANCE. AND ALL OTHER APPLICABLE LOWS, CODES AND REGULATIONS. NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

FURNISH, WITHOUT CHARGE, ANY ADDITIONAL MATERIAL AND LABOR WHEN AND WHERE REQUIRED TO COMPLY WITH CODES AND REGULATIONS, THOUGH THE WORK MAY NOT BE MENTIONED IN THE SPECIFICATIONS NOR SHOWN ON THE DRAWINGS.

B. MATERIALS:

SHALL CONFORM WITH THE RESPECTED PUBLICATIONS AND REQUIREMENTS OF MANUFACTURERS AND ALL APPLICABLE CODES AND ORDINANCES. PROVIDE A COMPLETE INSTALLATION IN EVERY RESPECT.

C. JOB CONDITIONS:

BEFORE BEGINNING WORK OR ANY INSTALLATION OF WORK, CAREFULLY STUDY ALL CONTRACT DRAWINGS AND CHECK ANY PIPING, DUCTWORK AND EQUIPMENT LOCATIONS FOR INTERFERENCE WITH OTHER TRADES. IF CONFLICTS ARE DISCOVERED IN DRAWINGS OR AS WORK PROGRESSES, A SET OF PRINTS MARKED WITH RED PENCIL SHOWING RECOMMENDED INSTALLATION METHODS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION OF WORK IN QUESTION.

NO ADDITIONAL COSTS TO OWNER WILL BE CONSIDERED FOR WORK WHICH MUST BE RELOCATED DUE TO CONFLICTS BETWEEN WORK OF DIFFERENT SECTIONS.

NO EXTRA COMPENSATION WILL BE ALLOWED ON ACCOUNT OF DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND THOSE INDICATED ON THE DRAWINGS.

D. SUBMITTALS:

PREPARE SHOP DRAWING SUBMITTALS FOR ALL ITEMS OF EQUIPMENT AND MATERIAL SPECIFIED IN OTHER SECTIONS OF THIS DIVISION, AND DRAWINGS IN RED PENCIL SHOWING PROPOSED ROUTING OF PIPING AND VENTS TO INCLUDE SIZES FOR THE ARCHITECT'S APPROVAL

IDENTIFY EACH ITEM BY MANUFACTURER, BRAND AND TRADE NAME, NUMBER, SIZE, RATING AND WHATEVER OTHER DATA ARE NECESSARY TO PROPERLY IDENTIFY AND CHECK MATERIALS AND EQUIPMENT. SUBMITTAL SHALL BE ALL-INCLUSIVE, WITH ALL ITEMS BEING SUBMITTED AT THE SAME TIME; INDIVIDUAL SUBMITTALS WILL NOT BE ACCEPTED.

E. INSTALLATION:

PLACE ANY SLEEVES, CHASES, CONCRETE INSERTS, ANCHOR BOLTS, ETC., BEFORE CONCRETE IS POURED AND BE RESPONSIBLE FOR CORRECT LOCATION AND INSTALLATION OF THESE ITEMS.

DO ALL SLEEVING, CUTTING AND PATCHING OF ROUGH CONSTRUCTION FOR LOCATION OF EQUIPMENT, PIPING AND DUCTWORK INDICATED ON DRAWINGS

IS APPROXIMATE AND SHALL BE CHANGED TO MEET ARCHITECTURAL AND STRUCTURAL CONDITIONS AS REQUIRED. ALL EQUIPMENT SHALL BE ACCURATELY SET AND LEVELED. SUPPORTS

SHALL BE SET SO AS NOT TO CAUSE NOTICEABLE VIBRATION TO STRUCTURE. THOROUGHLY CLEAN ALL EQUIPMENT, PIPING AND DUCTS, FREE FROM

SHALL BE NEATLY PLACED AND PROPERLY FASTENED. ALL EQUIPMENT

RUST, DUST FILINGS, PLASTER, ETC., BEFORE SYSTEMS ARE PUT IN THE SYSTEM SHALL BE TESTED AS WORK PROGRESSES AND BE COMPLETELY

CHECKED AND TESTED BEFORE FINAL ACCEPTANCE. SHOULD ANY PIECE OF FOUIPMENT OR MATERIAL FAIL ANY OF THE TESTS. IMMEDIATELY REMOVE AND REPLACE WITH NEW EQUIPMENT OR MATERIAL AND RETEST THE SYSTEM.

F. EXCAVATION:

TRENCHES: DIG STRAIGHT AND TRUE TO LINE AND GRADE WITH BOTTOMS SMOOTH. PIPE SHALL BE SUPPORTED FOR THE ENTIRE LENGTH ON UNDISTURBED ORIGINAL FARTH OR COMPACTED SAND

SHORING: ALL NECESSARY SHORING, SHEETING AND PLUMBING SHALL BE PART OF WORK OF THIS SECTION

TREES: WHEN IT IS NECESSARY TO EXCAVATE ADJACENT TO EXISTING TREES, PLUMBING CONTRACTOR SHALL USE ALL POSSIBLE CARE TO AVOID INJURY TO TREES AND ROOTS. CUT ROOTS CLEAN WITH SAW THEN PAINT AREA. WHERE A DITCHING MACHINE IS RUN CLOSE TO TREES HAVING ROOTS SMALLER THAN 2 INCHES IN DIAMETER, WALL OF TRENCH ADJACENT TO TREE SHALL BE FILLED WITHIN 24 HOURS AFTER EXCAVATION BUT. WHERE THIS IS NOT POSSIBLE. THE SIDE OF TRENCH ADJACENT TO TREE SHALL BE KEPT MOIST. STOCKPILING OF EARTH OR BUILDING MATERIALS WITHIN THE DRIP LINE OF TREES IS PROHIBITED. NO TRENCHING BENEATH DRIP LINE OF OAK TREES SHALL BE DONE UNLESS WRITTEN APPROVAL OF ARCHITECT IS RECEIVED, OR IN THE CASE OF CITY PROPERTY, APPROVAL IS GRANTED BY THE AUTHORITIES HAVING JURISDICTION.

G. BACKFILL:

AFTER PIPING HAS BEEN INSTALLED, TESTED AND APPROVED, ALL EXCAVATIONS SHALL BE BACKFILLED, TAMPED AND COMPACTED.

H. WATER SUPPLY PIPES:

UNDER BUILDING SLAB USE SOFT COPPER. AT ALL OTHER LOCATIONS, USE HARD COPPER.

I. WATER SUPPLY PIPE FITTINGS:

WROUGHT COPPER AND CAST FITTINGS WITH SOLDER JOINTS. J. SOIL AND VENT PIPES:

SHALL BE ABS, SCHEDULE 40 PLASTIC WITH FITTINGS OF THE SAME MATERIAL. THROUGH ROOF VENT PIPES SHALL BE PAINTED TO MATCH COLOR OF ROOFING AND PLACED TO THE REAR SIDE OF RIDGE OF ROOF SO AS NOT TO BE SEEN FROM THE FRONT OF THE STRUCTURE. THROUGH ROOF VENTS SHALL BE AS FEW AS POSSIBLE BY MEANS OF AS MANY COMMON VENTS AS POSSIBLE.

K. CLEANOUTS:

IN HORIZONTAL SEWER AND STORM WATER DRAINS, CLEANOUTS SHALL BE LOCATED AT LEAST EVERY 50 FEET AND WHERE SHOWN ON DRAWINGS. CLEANOUTS SHALL ALSO BE LOCATED AT THE FOOT OF EACH RISER AND EVERY CHANGE OF DIRECTION GREATER THAN 90 DEGREES.

L. ROOF FLASHING:

SPECIFICATIONS. M. INSULATION:

ALL HOT AND COLD WATER LINES ABOVE GROUND SHALL BE INSULATED

WITH 1/2" FIBERGLASS MOLDED PIPE COVERING. ALL HOT WATER LINES

IN ACCORDANCE WITH ROOFING MANUFACTURER'S DETAILS AND

BELOW GROUND SHALL BE INSULATED WITH 1/2" ARMAFLEX.

N AIR CHAMBER: FURNISH AND INSTALL 18 INCH HIGH FULL BRANCH SIZE AIR CHAMBER ON ALL COLD WATER AND HOT WATER PIPING IN CONNECTION WITH ALL

O. WATER HEATER:

(VERIFY) AS SPECIFIED ON THE ACCOMPANYING DRAWINGS. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL AN EMERGENCY PAN WITH A DRAIN TO OUTSIDE OF BUILDING. PRESSURE RELIEF VALVE SHALL BE PIPED TO OUTSIDE OF BUILDING. A DRAIN PIPE FROM HOT WATER HEATERS SHALL BE INSTALLED TO A FREEZE-PROOF HOSE BIBB LOCATED ON THE EXTERIOR OF THE BUILDING AT THE SAME HEIGHT OF OTHER HOSE BIBBS FOR DRAINING OF HOT WATER HEATERS.

P. HOSE BIBBS:

FURNISH AND INSTALL WHERE SHOWN ON DRAWINGS 1/2" SOLID BRASS HOSE BIBBS, FREEZE-PROOF TYPE.

Q. WASHER AND DRYER CONNECTIONS:

FIXTURE GROUPS THROUGHOUT BUILDING.

FURNISH AND INSTALL, RECESSED IN WALL BEHIND WASHER SUPPLY AND DRAIN UNIT, COMPLETE WITH 1/2 INCH HOT AND COLD WATER VALVES, 2 INCH DRAIN PIPE.

R. SHOWER PANS:

WHERE SHOWERS ARE INDICATED ON DRAWINGS, FURNISH AND INSTALL AS PER MANUFACTURER'S INSTRUCTIONS A SHOWER PAN FABRICATED OF CHLORALOY MEMBRANE, AS MANUFACTURED BY THE NOBLE COMPANY, GRAND HEAVEN, MI. TURN PAN UP WALLS A MINIMUM OF 6 INCHES AND OVER 6 INCH HIGH CURB AT ENTRANCE. TEST PAN FOR LEAKS BEFORE INSTALLING TILE WORK OR SIMULATED MARBLE FINISH.

PLUMBING CONTRACTOR SHALL PROVIDE A ONE (1) YEAR GUARANTEE ON THE SHOWER PAN AND INSTALLATION AND SHALL PAY FOR REPAIR OF ALL DAMAGE CAUSED BY DEFECTIVE PAN.

S. PLUMBING FIXTURES:

PLUMBING FIXTURES AND TRIM SHALL BE AS SPECIFIED HEREIN AND INSTALLED BY THE PLUMBING CONTRACTOR.

INSTALL AND CONNECT ALL PLUMBING FIXTURES INDICATED ON DRAWINGS OR HEREIN SPECIFIED. REFER TO DRAWINGS FOR LOCATION AND NUMBER OF FIXTURES REQUIRED AND IF ANY FIXTURES NOT SHOWN ON ARCHITECTURAL PLANS BUT SPECIFIED, THESE FIXTURES SHALL BE SUPPLIED BY CONTRACTOR AND INSTALLED AND CONNECTED BY THE PLUMBING CONTRACTOR. CONTRACTOR SHALL CALL THIS TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION.

EACH PLUMBING FIXTURE SHALL BE FITTED WITH ALL NECESSARY AND PROPER FITTINGS, TRIMMINGS AND OPERATING DEVICES AND SHALL BE LEFT IN PERFECT OPERATING CONDITION. FINISH OF ALL EXPOSED METAL WORK IN CONNECTION WITH FIXTURES. TRIMMING AND OPERATING DEVICES, WHERE NOT SPECIFICALLY MENTIONED, SHALL BE POLISHED

ALL TRAPS AND WALL ESCUTCHEONS SHALL BE METAL (VERIFY FINISH).

FURNISH 1/4 INCH COPPER WATER LINE TO ICE MAKER. FURNISH AND

- END -DIVISION 15 - MECHANICAL

INSTALL ICE MAKER SUPPLY AND DRAINS.

DIVISION 16 - ELECTRICAL WORK

SECTION 16010 - GENERAL

A. EXTENT OF WORK: WHETHER SHOWN OR NOT ALL MATERIALS, LABOR AND INCIDENTALS, NECESSARY TO PROVIDE A COMPLETE ELECTRICAL SYSTEM, IN PROPER

WORKING ORDER, AS SHOWN ON DRAWINGS OR SPECIFIED HEREIN. B. QUALITY ASSURANCE:

THE ELECTRICAL CONTRACTOR SHALL PERFORM ALL WORK TO MEET REQUIREMENTS AND RECOMMENDATIONS OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL APPLICABLE STATE AND LOCAL CODES. ARRANGE WITH POWER COMPANY FOR SERVICE AND METERING. ELECTRICAL CONTRACTOR SHALL ARRANGE WITH TELEPHONE COMPANY AND CABLE TELEVISION COMPANY FOR SERVICE AND WIRING. PAY ALL FEES AND ASSESSMENTS.

SHOULD ANY PART OF THE DESIGN FAIL TO COMPLY WITH SUCH REQUIREMENTS, DISCREPANCY SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT PRIOR TO SUBMISSION OF BID.

OBTAIN ALL REQUIRED PERMITS AND CERTIFICATES OF INSPECTION.

C. WARRANTY PERIOD:

THE ELECTRICAL CONTRACTOR SHALL GIVE A GUARANTEE OF ONE YEAR FROM THE DATE OF THE OWNER'S ACCEPTANCE OF THE COMPLETED WORK SHALL BE REQUIRED ON ALL WORKMANSHIP, MATERIALS AND EQUIPMENT RELATED TO THIS PHASE OF CONSTRUCTION UNLESS A LONGER PERIOD IS STATED IN THE SPECIFICATIONS OR IN THE MANUFACTURER'S

D. TEST:

CONNECTED FOR PROPER OPERATIONS.

OBTAIN AND PAY FOR AS REQUIRED.

TEST PANELS AND CIRCUITS FOR GROUNDS AND SHORTS. TEST EACH INDIVIDUAL CIRCUIT AT THE PANEL, WITH EQUIPMENT

GROUND TESTS SHALL MEET REQUIREMENTS OF NATIONAL ELECTRICAL

ON COMPLETION OF WORK, A FINAL INSPECTION WILL BE MADE AND EQUIPMENT SHALL BE OPERATED UNDER NORMAL CONDITIONS.

E. LOCATIONS: ALL LOCATIONS SHOWN ARE APPROXIMATE.

SHALL BE NEW AND BEAR THE LABEL OF THE UNDERWRITER'S

LABORATORIES, INC.

G. GROUND:

AS REQUIRED BY N.E.C., ARTICLE 250, GROUND ALL MAIN SERVICE EQUIPMENT, CONDUIT SYSTEMS, MOTORS, PANEL BOARDS, AND OTHER EQUIPMENT, ALSO COMPLY WITH LOCAL INSPECTION AUTHORITIES.

H. RECORD DRAWINGS:

AT THE COMPLETION OF THE JOB, THE ELECTRICAL CONTRACTOR SHALL FURNISH TO THE ARCHITECT REPRODUCIBLE DRAWINGS SHOWING THE CIRCUIT NUMBER OF EACH ELECTRICAL OUTLET, SWITCH, FIXTURE, APPLIANCE, AND SYSTEM. EACH CIRCUIT SHALL BE NUMBERED.

FURNISH TO THE ARCHITECT A NEAT, TYPED SCHEDULE OF THE CIRCUITS CONTAINED IN EACH PANEL AND SUBPANEL. CIRCUIT NUMBERS SHALL BE NEATLY LETTERED ON DISCONNECTS.

SEE ALLOWANCE SECTION OF SPECIFICATION FOR ITEMS RELATED TO WORK OF THIS SECTION.

J. SUBSTITUTIONS:

I. ALLOWANCES:

REFERENCE IN THESE SPECIFICATIONS TO ANY ARTICLE, DEVICE. PRODUCT MATERIAL, FIXTURE, FORM OR TYPE OF CONSTRUCTION BY NAME, MAKE OR CATALOG NUMBER, SHALL BE INTERPRETED AS ESTABLISHING A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPLETION. THE CONTRACTOR, IN SUCH CASES, MAY, AT HIS OPTION, USE ANY ARTICLE, DEVICE, PRODUCT, MATERIAL, FIXTURE, FORM OR TYPE OF CONSTRUCTION WHICH IN THE JUDGEMENT OF THE ARCHITECT, EXPRESSED IN WRITING, IS EQUAL TO THAT SPECIFIED.

SECTION 16020 - WIRE

A. ALL WIRE:

FURNISH ALL LABOR, MATERIALS, TOOLS EQUIPMENT, INCIDENTALS, AND SERVICES REQUIRED FOR THE COMPLETION OF ALL HEATING, AIR CONDITIONING, VENTILATING AND PIPING WORK INCLUDED AS FOLLOWS:

CONDENSING UNITS AIR HANDLING UNITS FLOOR OUTLETS HVAC FANS WALL RECEPTACLES

ALL POWER WIRING, DISCONNECT SWITCHES AND FINAL CONNECTIONS OF SAME WILL BE MADE BY ELECTRICAL CONTRACTOR. THOUGH THE

ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL POWER WIRING, THE HVAC CONTRACTOR IS RESPONSIBLE FOR ALL CONTROL WIRING AND FINAL CONNECTIONS OF HVAC EQUIPMENT AND THERMOSTATS.

FURNISH, WITHOUT CHARGE, ANY ADDITIONAL MATERIAL AND LABOR WHEN AND WHERE REQUIRED TO COMPLY WITH CODES AND REGULATIONS. THOUGH THE WORK MAY NOT BE MENTIONED IN THE SPECIFICATIONS NOR SHOWN ON

THE DRAWINGS. B. FIXTURE WIRE:

SHALL CONFORM WITH THE RESPECTED PUBLICATIONS AND REQUIREMENTS OF MANUFACTURERS AND ALL APPLICABLE CODES AND ORDINANCES. PROVIDE A COMPLETE INSTALLATION IN EVERY RESPECT.

C. SIZES:

BEFORE BEGINNING WORK OR ANY INSTALLATION OF WORK, CAREFULLY STUDY ALL CONTRACT DRAWINGS AND CHECK ANY PIPING DUCTWORK AND EQUIPMENT LOCATIONS FOR INTERFERENCE WITH OTHER TRADES. IF CONFLICTS ARE DISCOVERED IN DRAWINGS OR AS WORK PROGRESSES. A SET OF PRINTS MARKED WITH RED PENCIL SHOWING RECOMMENDED INSTALLATION METHODS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION OF WORK IN QUESTION.

NO ADDITIONAL COSTS TO OWNER WILL BE CONSIDERED FOR WORK WHICH MUST BE RELOCATED DUE TO CONFLICTS BETWEEN WORK OF DIFFERENT SECTIONS

NO EXTRA COMPENSATION WILL BE ALLOWED ON ACCOUNT OF DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND THOSE INDICATED ON THE DRAWINGS.

D. SPLICES: PREPARE SHOP DRAWING SUBMITTALS FOR ALL ITEMS OF EQUIPMENT AND

MATERIAL SPECIFIED IN OTHER SECTIONS OF THIS DIVISION. IDENTIFY EACH ITEM BY MANUFACTURER, BRAND AND TRADE NAME. NUMBER, SIZE, RATING AND WHATEVER OTHER DATA ARE NECESSARY TO PROPERLY IDENTIFY AND CHECK MATERIALS AND EQUIPMENT. SUBMITTAL SHALL BE ALL-INCLUSIVE, WITH ALL ITEMS BEING SUBMITTED AT SAME TIME; INDIVIDUAL SUBMITTALS WILL NOT BE ACCEPTED.

E. COLOR CODE:

LOCATION AND INSTALLATION OF THESE ITEMS. DO ALL SLEEVING, CUTTING AND PATCHING OF ROUGH CONSTRUCTION FOR

PLACE ANY SLEEVES, CHASES, CONCRETE INSERTS, ANCHOR BOLTS, ETC.,

BEFORE CONCRETE IS POURED AND BE RESPONSIBLE FOR CORRECT

STRUCTURAL CONDITIONS AS REQUIRED. ALL EQUIPMENT SHALL BE ACCURATELY SET AND LEVELED. SUPPORTS SHALL BE NEATLY PLACED AND PROPERLY FASTENED. ALL EQUIPMENT SHALL BE SET SO AS NOT TO CAUSE NOTICEABLE VIBRATION TO

LOCATION OF EQUIPMENT, PIPING AND DUCTWORK INDICATED ON DRAWINGS

IS APPROXIMATE AND SHALL BE CHANGED TO MEET ARCHITECTURAL AND

BEFORE ACCEPTANCE OF BUILDING, MAKE ARRANGEMENTS WITH GENERAL CONTRACTOR FOR TEMPORARY USE OF HEATING OR COOLING EQUIPMENT TO MAINTAIN TEMPERATURE AND HUMIDITY IN BUILDING

THE SYSTEM SHALL BE TESTED AS WORK PROGRESSES AND BE COMPLETELY CHECKED AND TESTED BEFORE FINAL ACCEPTANCE. SHOULD ANY PIECE OF EQUIPMENT OR MATERIAL FAIL ANY OF THE TESTS. IMMEDIATELY REMOVE AND REPLACE WITH NEW EQUIPMENT OR MATERIAL

AND RETEST THE SYSTEM.

SECTION 16030 - CONDUIT

A. IN CONCRETE: DO NOT RUN CONDUIT LARGER THAN 1" IN FLOOR SLABS EXCEPT AS SHOWN. RUN LARGER THAN 1" CONDUIT 12" BELOW GRADE, UNDER THE SLAB, ENCASED IN RED CONCRETE. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL 3/4" CONDUIT UNDER SLAB FOR T.V., TELEPHONE

AUDIO SPEAKERS AND POWER AS DEPICTED ON DRAWINGS OR AS REQUIRED

BY EACH SYSTEM FOR A COMPLETE AND WORKING COMPONENT. B. UNDERGROUND SERVICE:

CONDUIT TO BE RUN 24" BELOW GRADE, ENCASED IN RED CONCRETE.

SECTION 16070 - MOUNTING HEIGHTS

UNLESS OTHERWISE NOTED SWITCHES RECEPTACLES 1' - 0"

RECEPTACLES ABOVE COUNTER 8" ABOVE COUNTERTOP

6' - 6" TO TOP

PANELBOARD

DIVISION 16 - ELECTRICAL WORK SECTION 16080 - SAFETY SWITCHES

A. PROVIDE AND INSTALL:

NOT FUSIBLE (FOR MOTOR DISCONNECTS ONLY) - NEMA TYPE LD. ALL OTHERS NEMA TYPE ND. EXTERIOR SWITCHES SHALL BE RAIN TIGHT.

B. TYPES:

C. MOUNTING: DO NOT SUPPORT SWITCHES WITH CONDUIT. PROVIDE GALVANIZED ANGLE

WHERE SHOWN ON PLANS AND/OR AS REQUIRED BY THE NATIONAL ELECTRIC

- END -

GENERAL ELECTRIC OR EQUAL.

SUPPORTS, IF REQUIRED.

SECTION 16090 - LIGHTING FIXTURES

A. FURNISH AND INSTALL LIGHTING FIXTURES AS SHOWN ON THE DRAWINGS OR AS SHOWN IN FIXTURE SCHEDULE.

RAPID START, SERIES SEQUENCE, ETL CERTIFIED CBM, HIGH POWER

SOUND RATING, A OR B. PROVIDE WITH AUTOMATIC THERMAL CUT OUT OR

EXTERNAL FUSE. EQUAL TO ADVANCE.

ALL FIXTURES TO BE LAMPED ON COMPLETION OF JOB. INCANDESCENT BUILDS WITH INSIDE FROST. LAMP ALL FLUORESCENT FIXTURES WITH RAPID START TUBES WITH COLOR TO BE "DAYLIGHT

DIVISION 16 - ELECTRICAL WORK

SECTION 16100 - FUSES

FURNISH AND INSTALL IN ALL HOLDERS, DUAL-ELEMENT, TIME LAG FUSES, BUSS FUSETRON OR EQUAL.

- END -

SECTION 16110 - PANELBOARDS

A. PANELBOARDS: PANELS, DEAD FRONT SAFETY TYPE, WITH MAIN BREAKING OR MAIN LUGS. QUICK MADE, QUICK BREAK, TRIP - FREE CIRCUIT BREAKERS, 100 AMPERES AND LESS - SQUARE D TYPE QOB OR EQUAL, LARGER THAN 100

AMPERES - MOLDED CASE TYPE, SUITABLE FRAME SIZE. BRANCHES AND MAINS, TWO AND THREE POLE, SHALL BE COMMON TRIP. PANELS SHALL HAVE SINGLE, FEED THROUGH, OR DOUBLE LUGS TO ACCOMMODATE FEEDERS AS SHOWN.

SQUARE "D" OR EQUAL.

B. CABINETS: GALVANIZED STEEL, RECESSED, MIN. 20" WIDE. PROVIDE GUTTERS AS REQUIRED BY NEC. KEYED LOCKS ON DOOR AND PROVIDE 2 KEYS. DIRECTORY TO BE PROVIDED ON INSIDE OF DOOR AND TYPE IDENTIFICATION OF ALL CIRCUITS. LEGEND FOR DIRECTORY SHALL BE YPED OR PRINTED ON ADHESIVE EMBOSSING TAPE. HANDWRITTEN

C. PHASE CONNECTIONS:

LEGENDS WILL NOT BE ACCEPTED.

DOWN LEFT SIDE, ODD NUMBERS SHALL BE USED IN SEQUENCE AND DOWN RIGHT SIDE, EVEN NUMBERS SHALL BE USED IN SEQUENCE. PANEL BOARDS SHALL BE CONSTRUCTED IN A MANNER SUCH THAT ANY TWO ADJACENT SINGLE POLE DEVICES ARE CONNECTED TO OPPOSITE POLARITIES AND SO THAT 2 OR 3 POLE DEVICES WHEN AVAILABLE CAN BE INSTALLED AT ANY LOCATION.

SECTION 16120 - TELEPHONE SYSTEM

A. PROVIDE AND INSTALL: COMPLETE SYSTEM OF JUNCTION BOXES AND OUTLET BOXES AND JACKS AS REQUIRED TO COMPLETE THE SYSTEM.

B. BOXES: 2 X 4 RECTANGLE. PROVIDE TELEPHONE OUTLET COVER PLATES ON OUTLET BOXES.

SECTION 16130 - TELEVISION CABLE

A. PROVIDE AND INSTALL:

RECEPTACLE COVER PLATES.

B. BOXES:

2 X 4 RECTANGLE. PROVIDE TELEVISION OUTLET COVER PLATES ON

OUTLET BOXES. COVER PLATES TO MATCH RECEPTACLE COVER PLATES.

COMPLETE SYSTEM OF JUNCTION BOXES AND OUTLET BOXES AND JACKS AS

SECTION 16140 - EXHAUST FANS A. WHERE SHOWN: 120 V., THROUGH ROOF/WALL, OUTLET BLOWER, WITH ANTI-BACKDRAFT FEATURE

AND DUCT TO EXTERIOR WITH WEATHERPROOF CAP, MINIMUM 50 CFM.

THROUGH ROOF VENTS SHALL BE LOCATED TO REAR OF ROOF RIDGE SO AS NOT TO BE SEEN FROM FRONT OF STRUCTURE.

SECTION 16150 - ELECTRICAL SERVICE

TO BE CONNECTED TO ROOM LIGHT SWITCH.

A. SERVICE: THE ELECTRICAL SERVICE WILL BE SINGLE-PHASE, 200 AMP. MINIMUM

POWER COMPANY SHALL BRING UNDERGROUND SERVICE TO THE THE CONTRACTOR SHALL COORDINATE WITH THE POWER

COMPANY FOR THE PROVISION AND METERING OF SERVICE, AND SHALL PAY

ALL INCIDENTAL FEES ASSESSED BY THE POWER COMPANY. - END -DIVISION 16 ELECTRICAL WORK

120/240 VOLTS. LOCATION AS SHOWN ON DRAWINGS.

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Flora Cottage

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(901) 602-2884

LHP REFERENCE # O-1004

PROJECT LOCATION

CITY, COUNTY, AND STATE

PARCEL NUMBER(S)

jt@malasriengineering.com

PLAN **#AFX-005-R**

(Shelby County) TN

Parcel #001055 00014 (Third St)

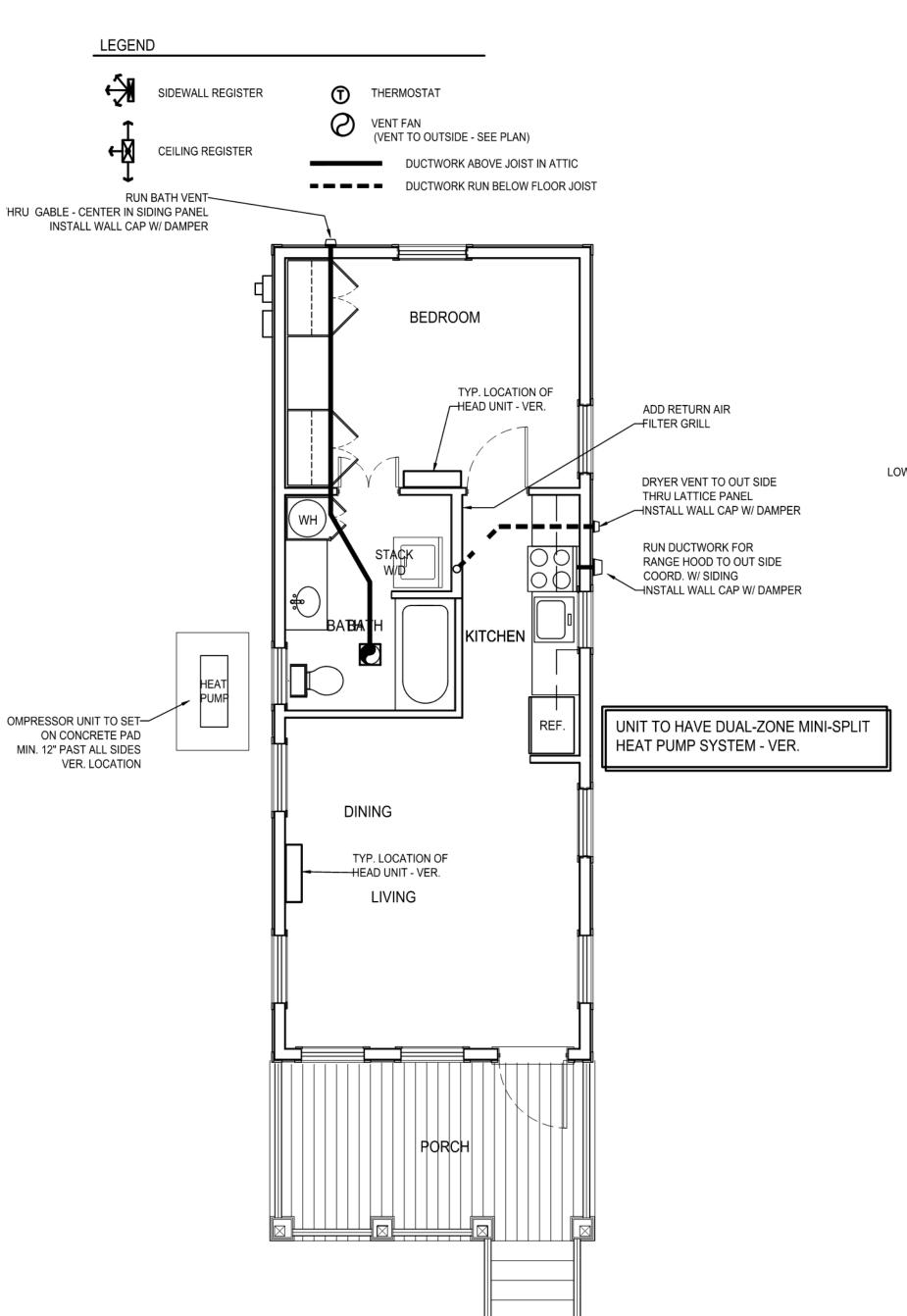
Parcel #001055 00017 (164 Keel Ave)

MECHANICAL, PLUMBING, **ELECTRICAL**

GENERAL MECHANICAL NOTES:

- 1. ALL MECHANICAL WORK TO BE EXECUTED IN STRICT ACCORDANCE WITH THE APPLICABLE MECHANICAL CODE AND LOCAL INTERPRETATIONS. ALL WORK SHALL BE GUARANTEED FOR MINIMUM OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER/ARCHITECT.
- 2. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SIZING OF ALL DUCTWORK TO ALLOW FOR PROPER DESIGN LOADS. PROVIDE
- CALCULATIONS SIZING SYSTEMS 3. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND MAY NOT SHOW EVERY CONDITION, OFFSET, BEND, ELBOW, OR FITTING WHICH MAY BE REQUIRED
- FOR THE SUCCESSFUL INSTALLATION OF THIS WORK.
- 4. ALL DUCTWORK (EXCEPT PLENUM) SHALL BE INSULATED METAL DUCTWORK.
- 5. NO RUNS OF FLEX-DUCT OVER 8' WILL BE ALLOWED 6. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RUNNING ALL OUTSIDE AIR DUCTS AS REQUIRED BY INTERNATIONAL MECHANICAL CODE AND
- LOCAL CODES. 7. PROVIDE VOLUME DAMPERS AT EACH OUTLET.
- 8. ALL DIFFUSERS AND REGISTERS SHALL BE MANUFACTURED FROM ALUMINUM (WHITE FINISH) (COORD. THROW W/ LOCATION)
- 9. CONTRACTOR SHALL SIZE ALL REFRIGERANT PIPING BASED ON FIELD CONDITIONS.
- 10. MECHANICAL CONTRACTOR TO PROVIDE & INSTALL SMOKE DETECTION DEVICES NEEDED TO SHUT DOWN MECHANICAL SYSTEM IN CASE FIRE AS PER
- NATIONAL AND LOCAL CODES AND ORDINANCES, IF REQUIRED.
- 10. MECHANICAL CONTRACTOR TO RUN ALL VENTS (TOILET ROOM, ETC.) TO OUTSIDE OF BUILDING PER PLANS 11. MECH. CONTRACTOR TO INSTALL COMBUSTION AIR DUCTS FOR MECH. UNITS AND WATER HEATERS IF GAS EQUIPMENT IS TO BE USED. INSTALL AS PER
- LOCAL CODE (VERIFY SIZE OF DUCT BASED ON BTU RATINGS OF MECH. UNIT AND WATER HEATER), IF REQUIRED.
- 12. COMPRESSOR UNIT TO BE SET ON NEW CONCRETE SLAB/PAD. (IF SET ON GROUND LEVEL REFER TO PLANS)
- 13. HVAC EQUIPMENT SHALL BE MIN. 16 SEER. HEAT PUMPS VER.
- 14. UNIT TO HAVE METAL (INSULATED) RETURN AIR PLENUMS. SET ON ISOLATION PADS ON GALV. METAL PAN W/ OVERFLOW DRAIN. IF UNIT IS SET ON
- PLATFORM, INSTALL FULL SIZE METAL PAN (FROM WALL TO WALL) IN SPACE BELOW PLATFORM AND INSTALL MOISTURE SWITCH IN PAN
- 15. REFER TO ADDITIONAL NOTES ON SHEET MPE

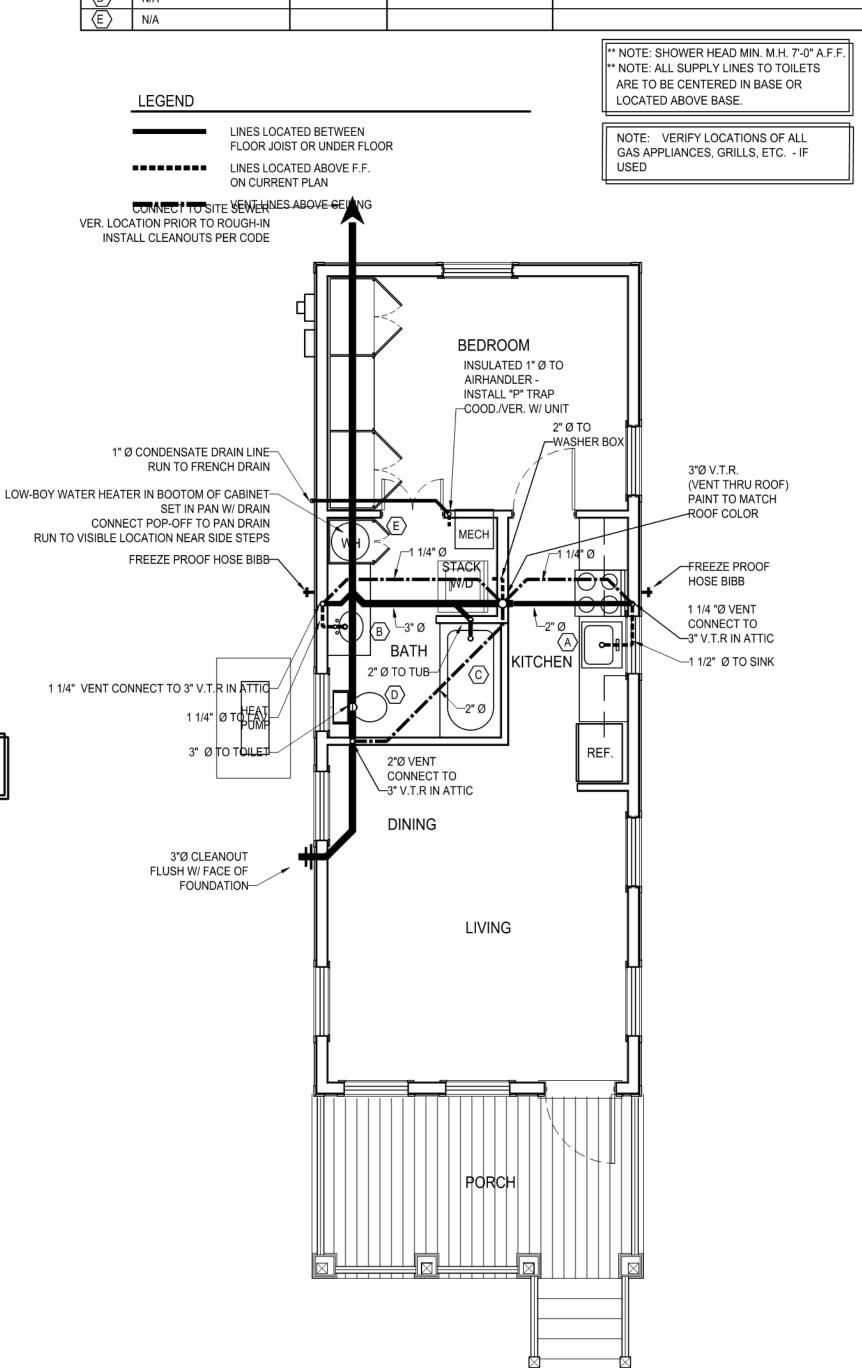
MECHANICAL PLAN



GENERAL PLUMBING NOTES:

- 1. ALL PLUMBING WORK TO BE EXECUTED IN STRICT ACCORDANCE WITH THE APPLICABLE PLUMBING CODE AND LOCAL INTERPRETATIONS. THE SYSTEM SHALL BE GUARANTEED FOR MINIMUM OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY TH OWNER/ARCHITECT.
- 2. ALL UNDERGROUND PIPE INVERTS ARE BASED ON A FINISHED FIRST FLOOR ELEVATION 3. ALL FLOOR DRAINS, VENTS AND FLOOR CLEANOUTS SHOWN NEAR WALLS OR COLUMNS SHALL BE KEPT AS CLOSE AS POSSIBLE. ALL FLOOR
- CLEANOUTS SHALL BE INSTALLED TO KEEP CLEAR OF ALL TRAFFIC AISLES. PROVIDE OFFSETS IN PIPING AS REQUIRED. 4. ALL FLOOR DRAINS, TRENCH DRAINS AND CATCH BASINS SHALL BE INSTALLED AT LOW POINTS IN FLOOR. SEE ARCHITECTURAL DRAWINGS
- FOR EXACT LOCATIONS AND FLOOR PITCHES. ALL UNDERGROUND SEWERS SHALL BE MINIMUM 2" IN SIZE AND PITCHED AT 1/8" PER FOOT SLOPE MINIMUM, UNLESS OTHERWISE NOTED.
- WALL HYDRANTS (WH) & HOSE BIBBS (HB) SHALL BE INSTALLED IN FOUNDATION WALLS (BELOW BEVEL DETAIL) HOSE BIBBS TO BE INSTALLED W/ BACKFLOW PREVENTERS
- 7. ALL SUSPENDED PLUMBING PIPING AND ACCESSORIES SHALL BE KEPT AS TIGHT TO THE BUILDING STRUCTURE AS POSSIBLE TO PROVIDE MAXIMUM CLEARANCE BELOW IT AND TO MINIMIZE ANY PIPE SWINGS AND INSTABILITY. PIPING SHALL BE SUPPORTED FROM OR ANCHORED
- 8. COORDINATION WITH ALL OTHER TRADES IS A MUST PRIOR TO ANY INSTALLATION. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT CEILING SPACE AVAILABLE.
- 9. PLUMBING CONTRACTOR TO COORDINATE AND PROVIDE ALL SLEEVES REQUIRED FOR BEAM, WALL, AND SLAB PENETRATIONS. 10. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING CLEANOUT LOCATIONS 11. WATER METER AND REDUCED PRESSURE BACKFLOW PREVENTER IN OUTSIDE METER VAULT SHALL BE FURNISHED AND INSTALLED BY
- PLUMBING CONTRACTOR. 12. WHERE PIPES OF DISSIMILAR METALS ARE CONNECTED, PROVIDE DIELECTRIC UNION AND FITTINGS AS MANUFACTURED BY EPCO,
- STOCKHAM, OR CACIPO. 13. ALL ROOF PENETRATIONS TO BE @ REAR OF BUILDING (OUT OF SITE FROM STREET)
- 14. PLUMBER TO VERIFY GAS REQUIREMENTS OF ALL APPLIANCES/ETC. AND SIZE PIPING ACCORDINGLY. 15. ALL DRAIN LINES RUN FROM WATER HEATER PANS TO BE RATED FOR USE DOMESTIC HOT WATER.

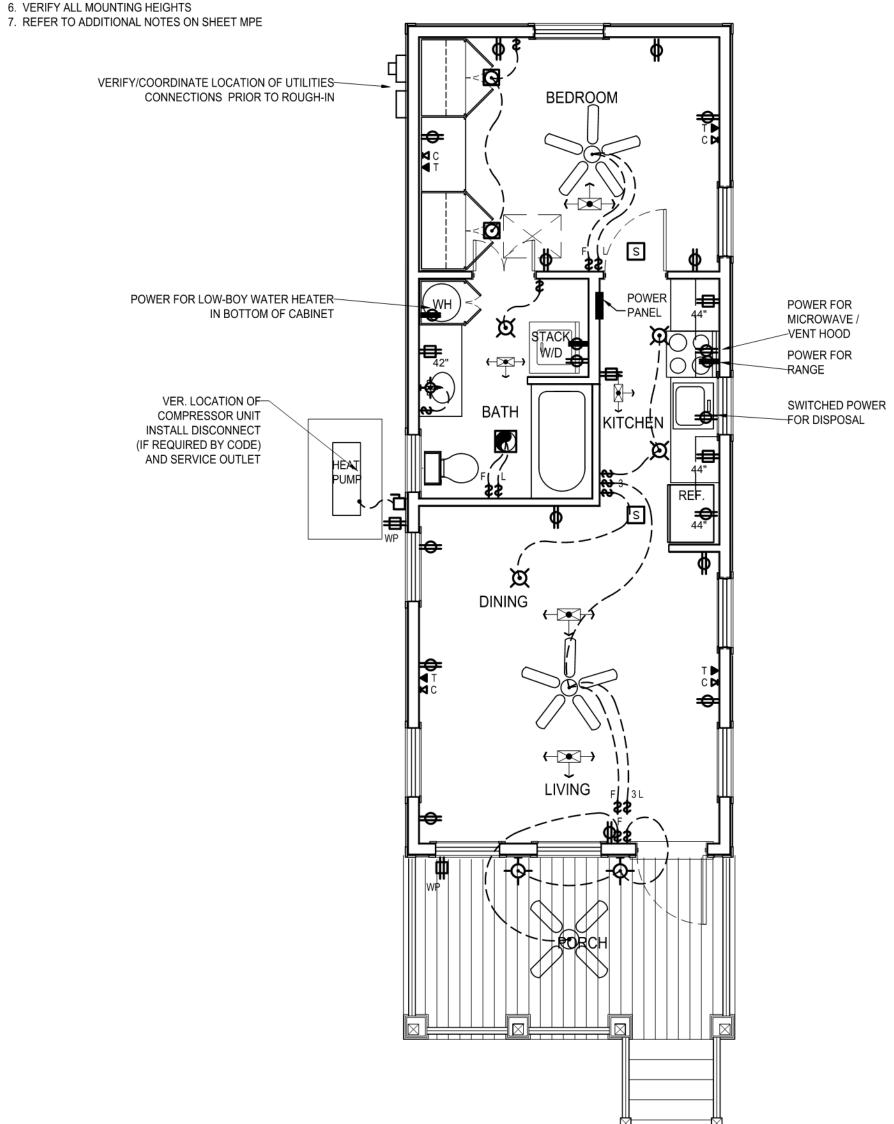
				FIXT	JRE SCHEDUL	E.	
MARK	ROOM	FIXT.	MANUFACTU	JRER	CATALOG #		REMARKS
$\langle A \rangle$	KITCHEN	SINK					
$\langle B \rangle$	BATH	LAV.					
\odot	BATH	TUB					
D	BATH	TOILET					
E	MECH.	W. HEATE	ĒR				LOWBOY LOCATED UNDER AIRHANDLER PLATFORM
MARK	FAUCET MANUFA	CTURER	STYLE	CATALOG	F # REMARKS		ARKS
$\langle A \rangle$							
B							
(C)							
(D)	N/A						
(E)	N/A					1	



	FIXTURE SCHEDULE									
MARK	MANUFACTURER	CATALOG #	LAMPS	REMARKS						
L1										
L2										
L3										
L4										
L5										
L6										
L7										
L8										
L9										
FI										
F2										
F3										
V1										
V2										

SYMBOL SCHEDULE								
ſ	\$	SINGLE SWITCH	ğ	SURFACE MOUNTED LIGHT FIXTURE	ф	DUPLEX OUTLET (ARC FAULT AS REQ. BY CODE)	V	COMPUTER(VERIFY WIRE TYPE)
	\$ ₃	3-WAY SWITCH	Ю-	WALL MOUNTED FIXTURE	φ ^{SW}	SPLIT OUTLET - SWITCHED (ARC FAULT AS REQ. BY CODE)	T C	
	\$ ₄	4-WAY SWITCH	Ö	RECESSED FIXTURE	#	QUAD OUTLET (ARC FAULT AS REQ. BY CODE)	▼ *	TELEPHONE (VERIFY WIRE TYPE)
	\$ 3D	3-WAY DIMMER SWITCH		RECESSED SMALL APERTURE FIXTURE	ф	GROUND FAULT INTERRUPT OUTLET (ARC FAULT AS REQ. BY CODE)	Б	DISCONNECT (VERIFY REQUIREMENTS)
	\$ F	FAN SWITCH	∇ ∇ ∇	TRACK LIGHT FIXTURE	W P	WATERPROOF G.F.I.	s	SMOKE DETECTOR
	8	FLOOD LIGHT		FLUORESENT LIGHT FIXTURE	•	220 V. OUTLET OR DISCONNECT	(SP)	RECESSED SPEAKER
	Д	SURFACE MOUNTED STAIR LIGHT		UNDER CABINET LIGHT	—	FLOOR DUPLEX OUTLET (ARC FAULT AS REQ. BY CODE)	© .S	W.P. SPEAKER CONNECTION
		HEATER/VENT/LIGHT		EVERTION OF UNIO FAM	1	A/C REGISTER (SIDEWALL)	T	HVAC THERMOSTAT
		VENT FAN		EXTERIOR CEILING FAN	←\$	A/C REGISTER (CEILING)		
				OFILING FAN				
				CEILING FAN				
-		DAL NOTES:						

- 1. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SIZING OF ALL MATERIALS, CIRCUITS, PANELS, ETC. TO ALLOW FOR PROPER DISTRIBUTION OF ELECTRICAL SERVICE.
- 2. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND MAY NOT SHOW EVERY CONDITION, OFFSET, BEND, ELBOW, OR FITTING WHICH MAY BE REQUIRED FOR THE SUCCESSFUL INSTALLATIO
- 3. ALL ELECTRICAL WORK TO BE EXECUTED IN STRICT ACCORDANCE WITH THE APPLICABLE ELECTRICAL CODE AND LOCAL INTERPRETATIONS. THE SYSTEM SHALL BE GUARANTEED FOR A MINIMUM OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER/ARCHITECT.
- 4. ELECTRICAL CONTRACTOR TO VERIFY REQUIREMENTS FOR ALL MECHANICAL EQUIPMENT, APPLIANCES, ETC. PRIOR TO ROUGH-IN OF ELECTRICAL SYSTEM. 5. VERIFY ALL TELEPHONE, COMPUTER AND CABLE OUTLET LOCATIONS W/ OWNER/ARCHITECT PRIOR TO ROUGH-IN
- VERIFY ALL MOUNTING HEIGHTS





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PLAN #AFX-005-R Flora Cottage

LICENSEE

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LHP REFERENCE # O-1004

PROJECT LOCATION CITY, COUNTY, AND STATE

(Shelby County) TN

PARCEL NUMBER(S) Parcel #001055 00014 (Third St) Parcel #001055 00017 (164 Keel Ave)

MECHANICAL PLUMBING, AND **ELECTRICAL PLANS**



1050-A-6



ENGINEERING GENERAL NOTES:

- 1. ARCHITECTURAL FINISHES, APPLIANCES, DOORS, WINDOWS, ETC. PER OWNER / ARCHITECT
- 2. ELECTRICAL DESIGN & INSTALLATION TO BE BY LICENSED ELECTRICAL CONTRACTOR AND PER N.E.C. REQUIREMENTS/LOCAL CODES 3. HVAC DESIGN & INSTALLATION TO BE BY LICENSED MECHANICAL
- CONTRACTOR AND BE IN ACCORDIANCE WITH D.C.A. ENERGY CODE REQUIREMENTS 4. PLUMBING DESIGN & INSTALLATION TO BE BY LICENSED PLUMBING
- CONTRACTOR AND PER APPLICABLE CODE. 5. ALL DOORS & WINDOWS IN EXTERIOR WALLS ARE TO BE STORM RATED TO
- 130 M.P.H. 3 SEC. GUST. OR PER CODE 6. SEE TRUSS MANUFACTURERS TRUSS DRAWINGS FOR LOAD BEARING WALLS
- INTERIOR GRADE BEAMS ARE LOCATED UNDER LOAD BEARING WALLS 7. CONTRACTOR TO VERIFY FLOOD ZONE AND WATER TABLE PRIOR TO START OF
- CONSTRUCTION AND ASSURE FINISH FLOOR ELEVATION IS AT REQUIRED ELEVATION 8. CONTRACTOR TO VERIFY THAT SOIL IS FREE OF
- MUCK, CLAY, SILT, ORGANIC DEBRIS AND OTHER DELETERIOUS MATERIALS. 9. THE CONTRACTOR (OWNER/BUILDER) SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS ANS CONDITIONS FOR THE PROJECT. WHERE JOB CONDITIONS PREVENT BTAINING DIMENSIONS OR RESULTS AS SHOWN OR SPECIFIED, THE CONTRACTOR (OWNE
- /BUILDER) SHALL CONSULT THE ARCHITECT/ENGINEER FOR RESOLUTION. 10. THE CONTRACTOR (OWNER/BUILDER) IS RESPONSIBLE THAT EASEMENTS AND SETBACKS M5. PROVIDE 8" LAP ON ALL HORIZONTAL JOINT REINFORCING. USE ARE NOT ENCROACHED.
- DESIGN BASIS:
- D1. DESIGN IS BASED ON A WIND SPEED TO ___ MPH 3 SEC. GUST **EXPOSURE CATEGORY** IMPORTANCE FACTOR VERTICAL WIND LOAD, PSF ADJUSTED HORIZONTAL WIND LOAD, PSF ADJUSTED
- CLADDING: ROOF DESIGN PRESSURE, PSF _____ SIDING DESIGN PRESSURE, PSF ____ FLOOR DEAD LOAD OF 20 PSF AND LIVE LOAD OF 40 PSF, ROOF LIVE LOAD
- OF 16 PSF, AND DECK LIVE LOAD OF 50 PSF. DESIGN SOIL BEARING CAPACITY D2. METHODS, PROCEDURES, AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL

NECESSARY PRECAUTIONS TO INSURE THE INTEGRITY AND STABILITY OF THE

- STRUCTURE AT ALL STAGES OF CONSTRUCTION. GEOTECHNICAL NOTES:
- G1. CLEAR AND GRUB SURFACE SOILS WITHIN AND EXTENDING 5 FEET BEYOND BUILDING AREA. TEST FOR AND REMOVE ORGANIC AND ORGANIC LADEN SURFACE SOILS FROM UNDER BUILDING AREA UNTIL CLEAN SAND IS ENCOUNTERED.
- G2. COMPACT EXISTING SOILS UNTIL A DENSITY OF 98 % OF THE MODIFIED PROCTOR (ASTM D1557) MAXIMUM DRY DENSITY IS ACHIEVED TO A DEPTH OF TWO (2) FEET BELOW COMPACTED GRADE.
- G3. FILL SOILS USED TO RAISE THE BUILDING AREA TO FINISHED GRADE SHALL BE SANDS CONTAINING NO MORE THAN 15 %, BY DRY WEIGHT, FINER THAN THE U.S. No. 200 MESH SIEVE. FILL SHALL BE PLACED IN THIN LEVEL LIFTS NOT TO EXCEED TWELVE (12) INCHES, LOOSE, AND COMPACTED TO A DENSITY OF 95% OF THE MODIFIED PROCTOR (ASTM D1557) MAXIMUM DRY DENSITY
- THROUGHOUT ITS FULL DEPTH. G4. AREA UNDER SLABS TO BE TREATED FOR TERMITES.

CONCRETE NOTES:

- C1. CONCRETE SHALL BE NORMAL WEIGHT AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150, TYPE I OR II. AGGREGATE SHALL CONFORM TO ASTM
- C2. MIXING, TRANSPORTING, AND PLACING OF CONCRETE SHALL CONFORM TO ACI 301 (LATEST EDITION). CONCRETE SHALL BE POURED WITH 5" MAXIMUM
- C3. ALLOW CONCRETE TO CURE FOR A MINIMUM OF 7 DAYS BEFORE ANY LOADS ARE APPLIED.
- C4. DETAILING OF REINFORCEMENT BARS AND ACCESSORIES SHALL CONFORM TO THE CRSI "MANUAL OF STANDARD PRACTICE", LATEST EDITION.
- C5. UNLESS OTHERWISE NOTED, THE FOLLOWING COVER FOR REINFORCEMENT SHALL BE PROVIDED:
- A. CONCRETE DEPOSITED DIRECTLY AGAINST GROUND, 3" CLEAR. B. FORMED CONCRETE EXPOSED TO WEATHER OR GROUND AFTER
- REMOVAL OF FORMS, 2" CLEAR. C. FORMED CONCRETE NOT EXPOSED TO WEATHER OR GROUND, 1 1/2"
- CLEAR FOR COLUMNS AND BEAMS, 3/4" CLEAR FOR SLABS AND WALLS. C6. CONCRETE REINFORCEMENT SHALL CONFORM TO ASTM A-615, GRADE 40. REINFORCEMENT BARS SHALL NOT BE WELDED OR HEATED UNLESS APPROVED
- C7. REINFORCING BARS SHALL BE CONSIDERED CONTINUOUS AND SHALL HAVE A MINIMUM 40 BAR DIAMETER LAP UNLESS NOTED OTHERWISE.
- C8. WELDED WIRE FABRIC SHALL BE 6x6-10/10 CONFORMING TO ASTM A185. FABRIC SHALL BE LAPPED TWO MESH AT SPLICES.

BY THE STRUCTURAL ENGINEER.

MASONRY NOTES:

- GENERAL NOTES.
- 1. MASONRY TO CONFORM TO NCMA STANDARDS 2. MASONRY STUCCO W/ CONROL JOINTS BOUNDING 400 PSF MAX. 3. <u>CONTRACTOR CAUTIONED TO SUPP</u>ORT ALL LOADS (LINTELS/HEADERS)
- M1. HOLLOW CONCRETE BLOCK (MASONRY) UNITS SHALL CONFORM TO ASTM C-90, NORMAL WEIGHT, GRADE N, TYPE II WITH A MINIMUM COMPRESSIVE STRENGTH OF 2.000 PSI ON THE NET AREA AND 1.000 PSI ON THE GROSS AREA. (fm = 1,500 PSI)
- M2. ALL MORTAR FOR USE IN MASONRY SHALL CONFORM TO ASTM C-270, TYPE

M3. ALL GROUT FOR USE IN MASONRY SHALL CONFORM TO ASTM C-476, MIN

- 2,500 PSI AND NOT LESS THAN A 6 1/2 SACK MIX. MINIMUM COARSE AGGREGATE SIZE SHALL BE 3/8". SLUMP SHALL BE BETWEEN 8 AND 10 INCHES. M4. PROVIDE 9 GAGE LADDER TYPE JOINT REINFORCEMENT (OR DUR-O-WALL) AT
- 8" O.C. VERTICALLY FOR TYPICAL HORIZONTAL REINFORCEMENT IN CMU WALLS. PREFABRICATED "L" AND "T" UNITS AT CORNERS AND INTERSECTIONS.
- M6. METAL ACCESSORIES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 AND/OR ASTM A641.
- M7. EXTERIOR OF ALL C.M.U. WALLS TO BE WATERPROOFED W/ A HIGH QUALITY WARRANTABLE SYSTEM (MIN. 10 YEAR WARRANTY) INSTALL AS PER MANUF. INSTRUCTIONS M8. ALL MASONARY HEADERS TO BE PRE-CAST AS BY CAST-CRETE OR EQUAL.

INSTALL AS PER MANUF. SPECIFICATIONS. REFER TO A3.2

- NOTE: CONTRACTOR CAUTIONED TO SUPPORT ALL LOAD (LINTEL/HEADER) UNTIL THEY REACH FULL STRENGTH M9. VERTICAL REBAR TO BE MIN. #4. INSTALL @ MAX. 16" O.C., DOUBLE @ CORNERS,
- AND ADJACENT TO ALL OPENINGS. LAP/SPLICES TO BE MIN. 25" REFER TO A2.4 FOR LOCATIONS OF REBAR
- M10. CONTRACTOR SHALL PROVIDE A CRAWL SPACE ACCESS DOOR AND CRAWL SPACE VENTALATION AS PER CODE.
- M11. 2 COURSES GROUT FILLED CMU LINTEL BLOCK (TOP OF WALL) WITH 2- #5 (MIN.) REBAR CONTINUOUS EACH COURSE, TOTAL (4) #5 M12. 2 COURSES GROUT FILLED CMU LINTEL BLOCK (WINDOW & DOOR HEADERS))
- WITH 2- #5 (MIN.) REBAR CONTINUOUS EACH COURSE, TOTAL (4) #5

WOOD FRAME CONSTRUCTION:

ALL FRAMING PER LOCAL CODE 2. USE CODE TABLE FOR FASTENING SCHEDULE

- 3. ABIDE BY THE FRAMING REQUIREMENTS PER CODE, WITH PARTICULAR ATTENTION TO CORNER BRACING (3-STUD MIN.)/LATERIAL SUPPORT, LATERAL BRACING,
- STAIR AND HANDRAIL FRAMING. 4. WINDOWS WITHIN 36" OF CORNERS AND AT BAY WINDOW: * USE ONLY STORM RATED WINDOWS RATED AT: 130 MPH - 3 SEC. GUST * USE DOUBLE CRIPPLES
- USE DOUBLE STUD JAMBS USE DOUBLE STUD 8" O.C. TO CORNER * USE (3) STUDS (MIN.) @ CORNER
- GABLE EXPOSURES: * USE GABLE STUDS AT 16" C-C
- * USE LATERAL BRACING (SOLID BLOCKING) 48" C-C THRU THE FIRST (4) RAFTERS
- W1. ALL LOAD BEARING FRAMING SHALL BE GROUP II (SYP NO. 2 GRADE OR BETTER, M.M.C. 19%) UNLESS NOTED OTHERWISE. ALL FRAMING EXPOSED TO WEATHER OR IN CONTACT WITH SOIL OR CONCRETE SHALL BE PRESSURE TREATED * OPTIONAL LUMBER - LODGE POLE PINE NO. 1 (MMC 19%) OR STRONGER - SPF SELECT STRUCTURAL (MMC 19%) OR STRONGER FRAMING LUMBER WITH SINGLE EXTREME FIBER BENDING, "F " OF 1200 PŞI (MINIMUM) FRAMING LUMBER WITH REPETITIVE EXTREME FIBER BENDING, "F " OF 1450 PSI (MINIMUM)
- W2. ALL FRAMING SHALL BE IN ACCORDANCE WITH SBCCI "STANDARD FOR HURRICANE RESISTANT RESIDENTIAL CONSTRUCTION" SSTD 10-99 UNLESS

GIRDER TO BE PRESSURE TREATED TO AWPA STANDARDS (AS REQ'D)

NOTED OTHERWISE. - USE SIMPSON FRAMING ANCHOR AT TOP AND BOTTOM OF ALL EXTERIOR LOAD BEARING WALLS ----- SP6 - USE SIMPSON HURRICANE HARDWARE AT EACH RAFTER TO TOP PLATE CONNECTION AT INTERIOR AND EXTERIOR LOAD BEARING WALLS ------ LTS, SERIES - USE SIMPSON RIDGE TO RAFTER CONNECTORS AT RIDGE BEAM OR SIMPSON A35 CONNECTOR

- W3. ALL ROOF TRUSSES (IF USED) SHALL BE PRE-ENGINEERED. DESIGN RESPONSIBILITY IS BY THE MANUFACTURER. SUBMIT LOAD CALCULATIONS. REACTIONS AND FABRICATION DRAWINGS TO THE CARR ENGINEERING
- & CONSTRUCTION, INC. FOR REVIEW PRIOR TO FABRICATION. (MANDATORY) W4. RAFTER TRUSSES SHALL BE FASTENED WITH HURRICANE CLIPS WHICH MEET THE UPLIFT LOAD REQUIREMENTS SHOWN ON THE TRUSS MANUFACTURERS DRAWINGS, FRAMED ROOF JOIST SHALL BE FASTENED AS SHOWN ON DRAWINGS.
- USE SIMPSON'S MTS16 @ EACH END OF TRUSSES AND AT INTERIOR BEARING WALLS. W5. ALL FASTENERS USED IN EXPOSED CONDITIONS SHALL BE HEAVILY GALVANIZED (I.E. SIMPSON Z-MAX). WHERE A PARTICULAR FASTENER BRAND (IE: SIMPSON STRONG TIE) IS CALLED OUT, LIKE FASTENERS PRODUCED BY
- OTHER COMPANIES MAY BE SUBSTITUTED PROVIDED ALL LOAD CAPACITIES ARE EQUAL TO OR GREATER THAN SPECIFIED. W6. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH RATED 5/8" (19/32") CDX
- NAILED AS PER CODE. SHEATHING SHALL BE ATTACHED ALONG ALL FOUR EDGES WITH JOINTS OCCURRING OVER COMMON FRAMING MEMBERS OR BLOCKING.
- W7. ALL INTERIOR LOAD BEARING WALLS SHALL HAVE SIMPSON "SP1" STUD PLATE TIES AT BOTTOM AND "SP2" AT TOP OF EACH STUD UNLESS OSB OR CDX SHEATHING IS SPECIFIED FOR UPLIFT RESISTANCE. - IF NOTED ON PLANS
- W8. EXTERIOR AND INTERIOR LOAD BEARING COLUMNS SHALL BE PT6x6 POSTS (MAX HGT. 12 FEET) WITH SIMPSON "ABU66" BASE. BEAM TO COLUMN STRAPS SHALL BE AS PER HEADER NOTE. ALTERNATE COLUMNS CONSTRUCTED OF ALUMINUM, STEEL, OR RESIN MATERIALS MAY BE SUBSTITUTED PROVIDED THE COLUMNS ARE MANUFACTURER CERTIFIED AS LOAD BEARING (4,000# MIN FOR HEIGHT INSTALLED). UPLIFT ANCHORAGE FOR ALTERNATE COLUMNS SHALL BE PROVIDED BY INSTALLING A 5/8" ANCHOR BOLT IN THE FOUNDATION WITH A GALVANIZED COUPLING AND GALV 5/8" ALL-THREAD ROD UP THROUGH BEAM ABOVE. USE 1/8x2x2 PLATE WASHER ON TOP OF BEAM WITH 5/8" NUT TO FASTEN.
- W9. ROOF SHEATHING SHALL BE RATED 1/2" (17/32") CDX NAILED AS PER CODE. THE SHEATHING SHALL BE APPLIED WITH LONG DIMENSION PERPENDICULAR TO THE FRAMING AND END JOINTS
- W10. ALL HEADERS IN 2x4 STUD WALLS SHALL BE CONSTRUCTED OF (2) 2x's WITH 1/2" SPACER UNLESS NOTED OTHERWISE. ALL HEADERS IN 2x6 STUD WALLS SHALL BE CONSTRUCTED OF (3) 2x's WITH 1/2" SPACERS UNLESS NOTED OTHERWISE. HEADERS WITH 4 FEET OR LESS SPAN SHALL BE STRAPPED TO HEADER STUDS WITH SIMPSON "LSTA21" STRAPS (OR EQUAL) ON EACH END. HEADERS WITH
- SPANS BETWEEN 4 AND 9 FEET SHALL HAVE TWO STRAPS EACH END. W11. TOP PLATE SPLICES SHALL BE MADE WITH A MINIMUM LAP OF 4 FEET AND CONNECTED WITH (18) 16d COMMON NAILS.
- W12. ALL EXTERIOR WINDOWS AND DOORS SHALL BE RATED FOR DESIGN WIND SPEED AND EXPOSURE NOTED IN DESIGN BASIS. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS FOR SPECIFIED WIND
- W13. FLOOR JOISTS SHALL BE OPEN WEB FLOOR TRUSSES (3 1/2" WIDE) OR "TJI" JOIST. CONSTR. TRUSS MANUFACTURER TO PROVIDE ENGINEERED SHOP DRAWINGS OF TRUSSES, LAYOUT, AND BRACING. TRUSSES TO BE DESIGNED AS PER DRAWINGS SEE PLANS FOR ANY ADDITIONAL BLOCKING OR REINFORCEMENT WHICH MAY BE SPECIFIED C.T. SUBMIT LOAD CALCULATIONS, REACTIONS, AND FABRICATION DRAWINGS TO CARR ENGINEERING & CONSTRUCTION, INC. FOR APPROVAL PRIOR TO TRUSS MANUFACTURE. DEG.
- W14. GALVANIZED 1-1/2" WIDE, 20 GA MIN STRAPS BETWEEN FLOORS SHALL BE INSTALLED AT 32" O.C., AT EACH SIDE OF HEADER STUDS FOR DOOR AND WINDOW OPENINGS, AND AT MULTIPLE BEARING STUDS SUPPORTING ROOF GIRDER TRUSSES. STRAP LENGTH SHALL BE EQUAL TO THE SUM OF THE FLOOR TRUSS DEPTH + 20" MINIMUM. USE (10) 10d NAILS MIN IN EACH END LENGTH.
- W15. FLOOR SHEATHING SHALL BE 23/32" MIN C-D T&G SHEATHING GRADE PLYWOOD. THE SHEATHING SHALL BE APPLIED WITH LONG DIMENSION PERPENDICULAR TO THE FRAMING AND END JOINTS STAGGERED. FLOOR FRAMING SHALL HAVE CONSTRUCTION ADHESIVE APPLIED TO TOP SURFACE PRIOR TO SHEATHING. SHEATHING SHALL BE NAILED TO FRAMING AND BLOCKING WITH 10d COMMON NAILS 6" O.C. AT EDGES AND 12" O.C. IN FIELD.

GENERAL NOTES

- 1. CONTRACTOR SHALL VERFIY ALL DINENSIONS AND SITE CONDITIONS BEFORE ORDERING ANY MATERIALS OR BEGINNING ANY CONSTRUCTION AND SHALL REPORT HIS/HER FINDINGS TO
- THIS ARCHITECT 2. ALL ITEMS ARE NEW UNLESS OTHERWISE NOTED.
- 3. CONTRACTOR SHALL REPAIR ALL AREAS OUTSIDE CONTRACT LIMITS TO ORIGINAL CONDITION.
- 4. CONTRACTOR TO COORDINATE ALL ARCHITECTURAL WITH STRUCTURAL, MECHANICAL, AND ELECTRICAL WORK AND ADJUST SAME AS REQUIRED
- 5. CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES, ALSO CONFORMING TO NATIONAL A.D.A. REQUIREMENTS.
- 6. ALL UNNOTED OR NON VISIBLE EASEMENTS AND SUBSURFACE CONDITIONS ARE THE
- RESPONSIBLITY OF THE CONTRACTOR. 7. ALL HIDDEN STRUCTURAL DISCREPANCIES MUST BE REPORTED TO ARCHITECT SO THAT
- CORRECTIVE MEASURES CAN BE TAKEN PRIOR TO PROJECT COMPLETION.
- 8. ALL MECHANICAL, ELECTRICAL, AND PLUMBING SHALL BE PREFORMED BY LICENSED SUBCONTRACTORS AND SHALL CONFORM TO BUILING CODES.
- 9. ALL EQUIPMENT CONNECTIONS TO BE VERIFIED AND COORDINATED BY SUBCONTRACTORS WITH CONTRACTOR AND ARCHITECT

ACT

AGGR.

APPROX.

ARCH.

BLDG.

BLK

BM.

BLK'G.

BOT.

BTWN.

B.U.R.

B.W.

CLG.

CLR.

C.M.U.

COL.

CONC

DIA. Ø

DN.

DS.

(E) EA.

E.I.F.S.

ELEC.

ELEV. **EMER**

ENCL.

EQUIP.

E.W.C.

EXP.

EXT.

FIRE DEPARTMENT CONNECTION

FOUNDATION

FINISH FLOOR

FIRE EXTINGUISHER

FIRE EXTINGUISHER CAB

E.W.

EL. ELEV.

DWG.

ČLKG.

E۷	<u>/IATIONS</u>				
	ANCHOR BOLT	F.H.C.	FIRE HOSE CABINET	O.C.	ON CENTER
	ACOUSTICAL CEILING TILE	FIN.	FINISH	O.D.	OUTSIDE DIAMETER
	ABOVE FINISHED FLOOR	F.L.	FLOW LINE	OH.	OVERHEAD
	AGGREGATE	FLR.	FLOOR	OPG.	OPENING
	ALUMINUM	FLUOR.	FLUORESCENT	OPP.	OPPOSITE
	ALTERNATE	FND.	FOUNDATION		
	APPROXIMATE	F.O.B.	FACE OF BRICK	PCT.	PRE-CAST
	ARCHITECTURAL	F.O.C.	FACE OF CONCRETE		556555777
	DOADD	F.S.	FULL SIZE	P.L.	PROPERTY LINE
	BOARD BUILDING	FT. FTG.	FOOT OR FEET FOOTING	P.LAM. PLAS.	PLASTIC LAMINATE PLASTER
	BLOCK	FURR.	FURRING	PLAS. PLYWD.	PLYWOOD
	BLOCKING	i ordia.	TORRING	PR.	PAIR
	BEAM	GA.	GAUGE	110	7,110
	ВОТТОМ	GALV.	GALVANIZED	Q.T.	QUARRY TILE
	BETWEEN	G.C.	GENERAL CONTRACTOR	PL	PLATE
	BUILT UP ROOFING	G.L.	GLASS	R.	RISER
	BOTH WAYS	GR.	GRADE	R.D.	ROOF DRAIN
		GYP.	GYPSUM	RE:	REFER TO
	CONTROL JT.	GYP. BD.	GYPSUM BOARD	REFR.	REFRIGERATOR
	CEILING		LIGOE DIDD	REINF.	REINFORCED
	CENTERLINE	H.B.	HOSE BIBB	REQ'D.	REQUIRED
	CAULKING CLEAR	H.C. H/C	HOLLOW CORE HANDICAPPED	RM R.O.	ROOM ROUGH OPENING
	CONCRETE MASONRY UNIT	HDWD.	HARDWOOD	K.O.	ROUGH OPENING
	COLUMN	HDWE.	HARDWARE	S	SOUTH
	CONCRETE	H.M.	HOLLOW METAL	S.C.	SOLID CORE
	CONNECTION	HR.	HOUR	SCHED.	SCHEDULE
١.	CONSTRUCTION	HT.	HEIGHT	SECT.	SECTION
	CONTINUOUS	HVAC	HEATING, VENTILATION AND	S.F.	SQUARE FOOT
	CERAMIC TILE		AIR CONDITIONING	SHT.	SHEET
		I.D.	INSIDE DIAMETER	SIM.	SIMILAR
	DEGREE	INSUL.	INSULATION	SPEC.	SPECIFICATION
	DETAIL	I.C.F.	INSULATED CONCRETE FORM	SQ. OR 中	
	DRINKING FOUNTAIN DIAGONAL	INT. I.S.	INTERIOR INSIDE	S.S. STAGG.	STAINLESS STEEL STAGGERED
	DIAMETER	JAN.	JANITOR	STAGG. STD.	STANDARD
	DOWN	JNT.	JOINT	STIFF.	STIFFENER
	DOWN SPOUT	JST.	JOIST	STL.	STEEL
	DRAWING			STRUC.	STRUCTURAL
		KIT.	KITCHEN	SUSP.	SUSPENDED
	EAST			TR	TREAD
	EXISTING	LAB.	LABORATORY	TRD.	TREATED
	EACH	LAM.	LAMINATE	T & B	TOP AND BOTTOM
	EXPANSION JOINT	LAV.	LAVATORY	TER.	TERRAZZO
	EXTERIOR INSULATION AND	LT.	LIGHT	T & G	TONGUE & GROOVE
<i>/</i> .	FINISH SYSTEM ELEVATION	MAX.	MAXIMUM	THK. T/	THICK TOP OF
•	ELECTRICAL	MECH.	MECHANICAL	TYP.	TYPICAL
	ELEVATION	MEMB.	MEMBRANE	111.	TIFICAL
	EMERGENCY	MFR.	MANUFACTURER	U.O.N.	UNLESS OTHERWISE NOTED
	ENCLOSURE	M.H.	MANHOLE	0.0	
	EQUAL	M.HT.	MOUNTING HEIGHT	VCT	VERIFY
	EQUIPMENT	MIN.	MINIMUM	VER	VINYL COMPOSITION TILE
	EACH WAY	MISC.	MISCELLANEOUS	VERT.	VERTICAL
	ELECTRIC WATER COOLER	M.O.	MASONRY OPENING	VIF _	VERIFY IN FIELD
	EXPANSION	MTL.	METAL	V.T.R.	VENT THRU ROOF
	EXTERIOR	MUL.	MULLION	14/	MEST
	EIDE ALADM	N	NORTH	W	WEST
	FIRE ALARM FLOOR DRAIN	N N.I.C.	NORTH NOT IN CONTRACT	W/ W.C.	WITH WATER CLOSET
	FIRE DEPARTMENT CONNECTION		NUMBER	WD.	WOOD

NUMBER

NOMINAL

N.T.S. NOT TO SCALE

WOOD

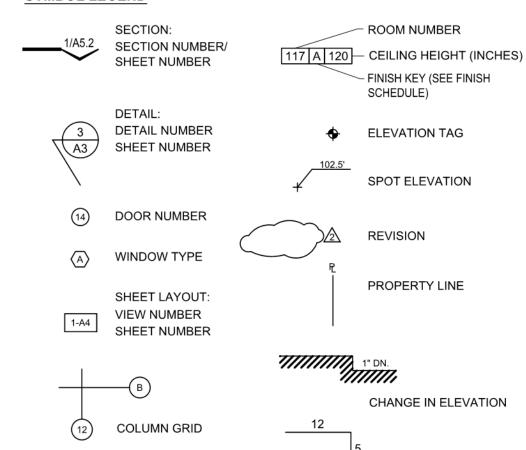
WITHOUT

W/O

ALL WORK TO BE EXECUTED IN STRICT ACCORDANCE WITH THE APPLICABLE BUILDING CODE AND LOCAL INTERPRETATIONS.

SYMBOL LEGEND

CENTER LINE



65 Union Ave Ste 800 Memphis, TN 38103 jt@malasriengineering.com (901) 602-2884

Malasri Engineering, PLLC

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Customer and/or Customer's builder is

and construction commences.

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Liberty House Plans LLC

Brooklyn NY 11201

PLAN **#AFX-003**

Tupelo Cottage

LICENSEE

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modified plan.

LHP REFERENCE # O-1004

PROJECT LOCATION CITY, COUNTY, AND STATE

Memphis (Shelby County) TN

PARCEL NUMBER(S) Parcel #001055 00014 (Third St) Parcel #001055 00017 (164 Keel Ave)

INDEX OF SHEETS

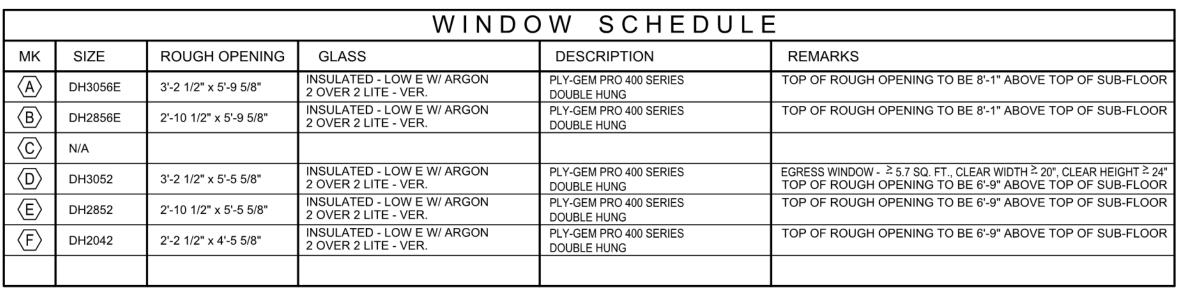
- A1.1 COVER SHEET A2.1 FLOOR PLANS AND DOOR & WINDOW SCHEDULES
- A3.1 EXTERIOR ELEVATIONS
- A4.1 BUILDING SECTIONS & DETAILS
- A4.2 WALL SECTIONS

ROOF SLOPE INDICATION

ELEVATION NUMBER/SHEET NUMBER

INTERIOR ELEVATION:

- A5.1 FOUNDATION PLAN, 1st FLOOR / PORCH JOIST PLAN AND DETAILS
- A5.2 2nd FLOOR JOIST PLAN, ROOF FRAMING PLAN & DETAILS MPE MECHANICAL, PLUMBING AND ELECTRICAL NOTES
- MP1.1 MECHANICAL & PLUMBING PLANS E1.1 POWER & LIGHTING PLANS



* CONTRACTOR TO PROVIDE WOOD STRUCTURAL PANELS PER WINDOW PROTECTION PER SECTION R301.2.1.2 OF THE IRC

CONTRACTOR TO FROM BE WOOD CIRCOT	٠.
** REFER TO 3/A4.1-7 FOR WINDOW DETAILS	

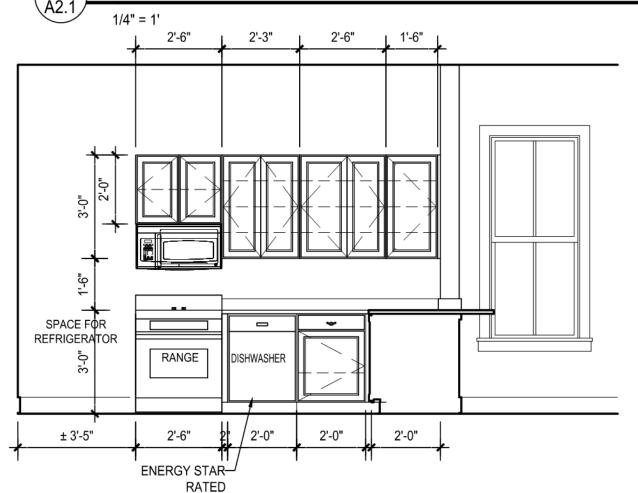
	DOOR SCHEDULE								
MK	SIZE	TYPE/ USE	DOOR GLASS	DESCRIPTION	ELEVATION	HARDWARE	REMARKS		
1	3'-0" x 8'-0"	ENTRY	LOW-E INSULATED	FIBERGLASS FULL LITE DOOR W/ GRID PATTERN - VER.	REFER TO 3/A2.1	REFER TO PERFORMANCE SPECIFICATIONS			
2	2'-8" x 8'-0"	ENTRY	LOW-E INSULATED	FIBERGLASS FULL LITE DOOR W/ GRID PATTERN - VER.	REFER TO 3/A2.1				
3	2'-8" x 6'-8"	BATH	N/A	1 3/8" COMPOSITE DOOR X					
4	(2) 1'-4" x 6'-8"	CLS./PASSAGE	N/A	1 3/8" COMPOSITE DOOR DOUBLE DOOR UNIT					
5	2'-6" x 6'-8"	BEDROOM	N/A	1 3/8" COMPOSITE DOOR X					
6	(2) 2'-4" x 6'-8"	CLS./PASSAGE	N/A	1 3/8" COMPOSITE DOOR DOUBLE DOOR UNIT					
7	2'-4" x 6'-8"	ватн	N/A	1 3/8" COMPOSITE DOOR X					
8	2'-4" x 6'-8"	BATH	N/A	1 3/8" COMPOSITE DOOR X					
9	(2) 2'-4" x 6'-8"	CLS./PASSAGE	N/A	1 3/8" COMPOSITE DOOR DOUBLE DOOR UNIT					
10	2'-6" x 6'-8"	BEDROOM	N/A	1 3/8" COMPOSITE DOOR X					
11)	2'-4" x 6'-8"	CLS/PASSAGE	N/A	1 3/8" COMPOSITE DOOR X					

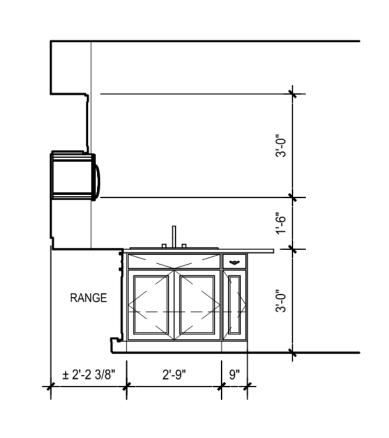
VERIFY/COORINATE DETAILS

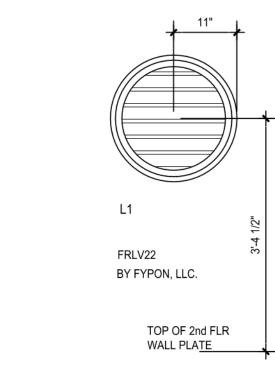
** REFER TO 4/A4.1-7 FOR DOOR DETAILS

** PLY-GEM PRO 400 SERIES WINDOWS ARE AN ACCEPTABLE ALTERNATIVE.
COORDINATE ROUGH OPENINGS WITHIN CURRENT WINDOW LOCATIONS AND SIZES

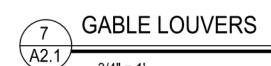
DOOR & WINDOW SCHEDULES

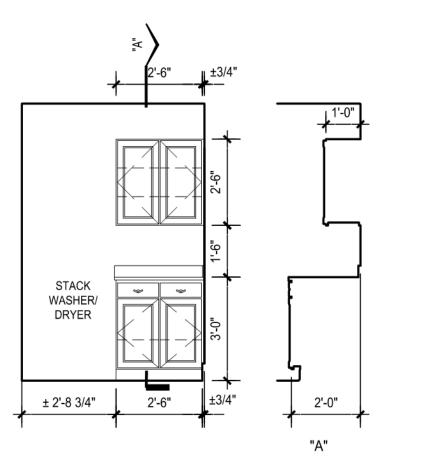


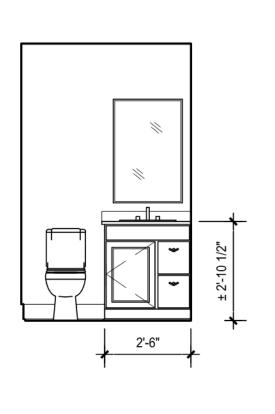


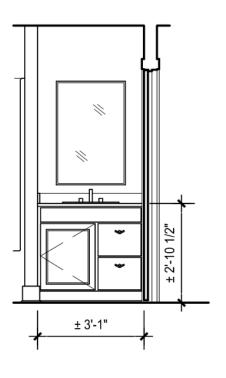


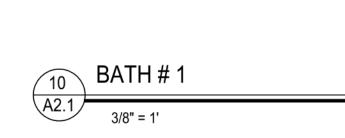


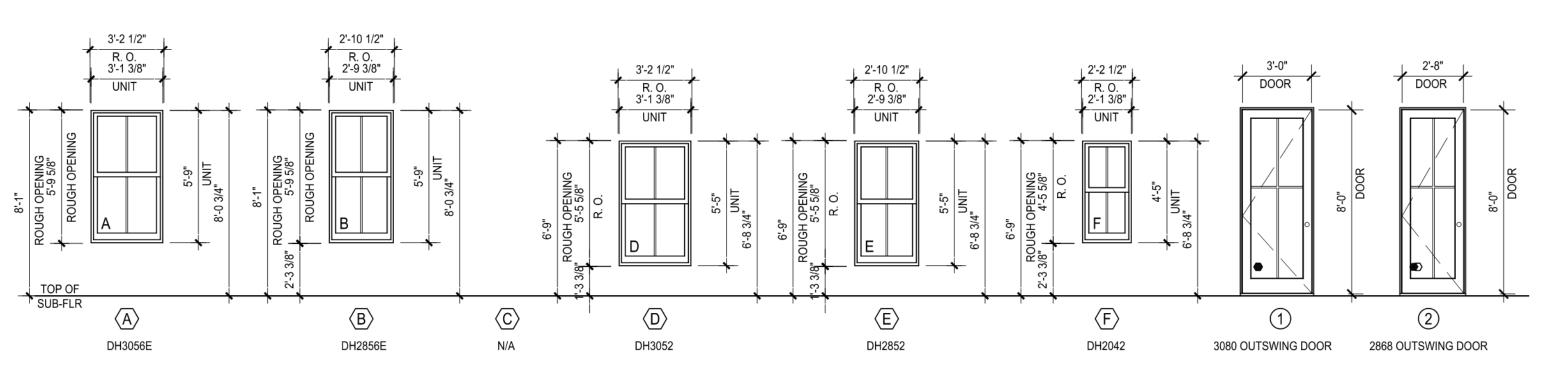






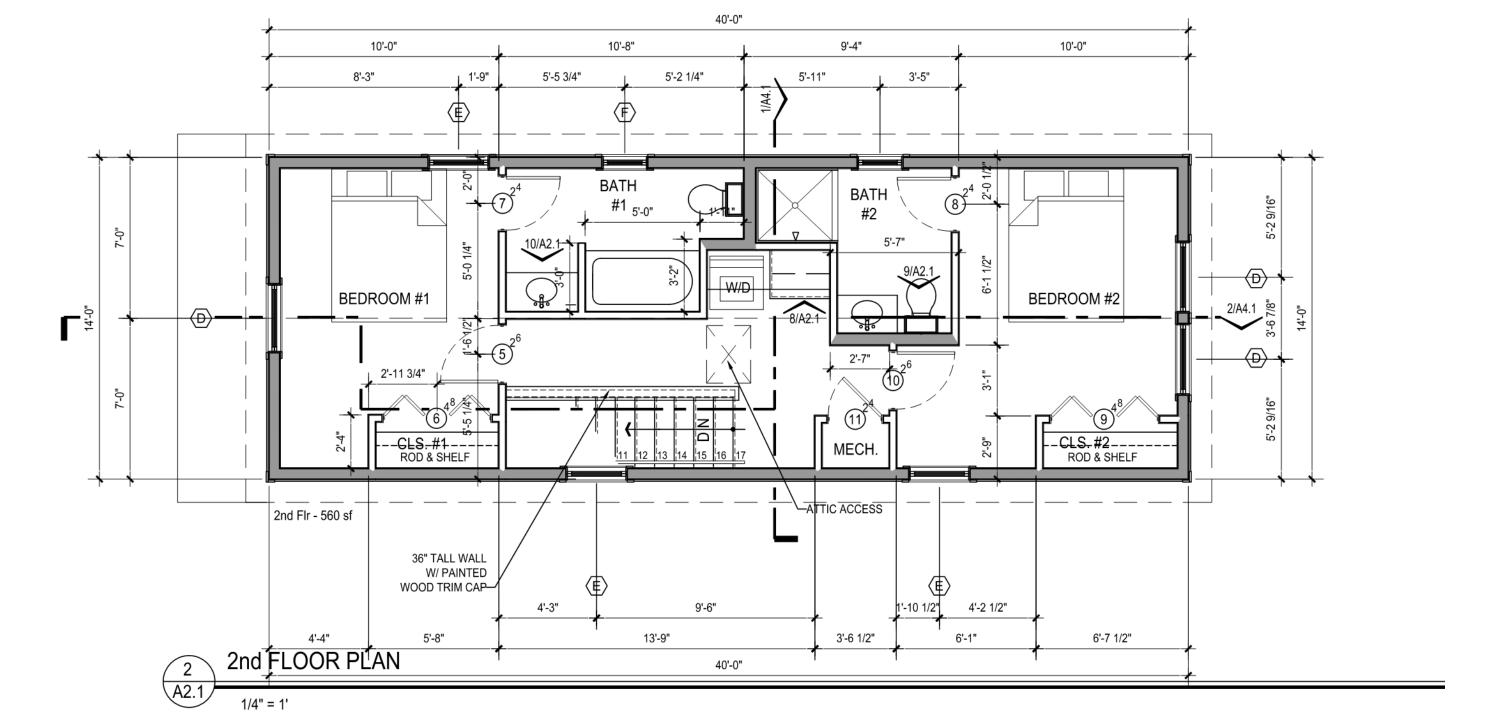


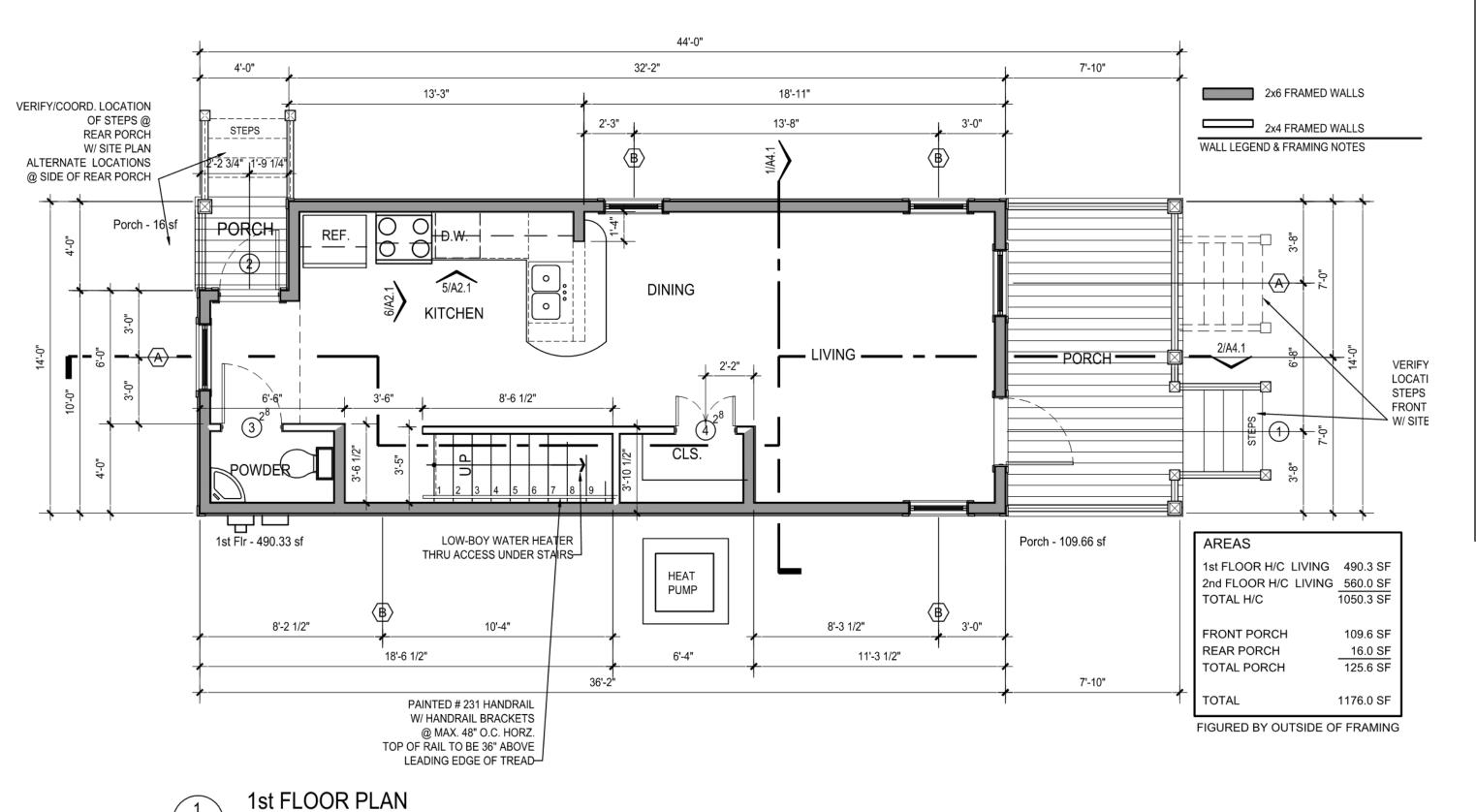




─ EXTERIOR DOOR & WINDOW ELEVATIONS

A2.1 1/4" = 1'





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PLAN **#AFX-003 Tupelo Cottage**

LICENSEE

Malasri Engineering, PLLC 65 Union Ave Ste 800 Memphis, TN 38103 jt@malasriengineering.com (901) 602-2884

LHP REFERENCE # O-1004

PROJECT LOCATION CITY. COUNTY, AND STATE

CITY, COUNTY, AND STATE

Memphis
(Shelby County) TN

PARCEL NUMBER(S)

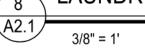
Parcel #001055 00014 (Third St)

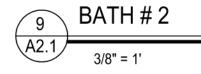
Parcel #001055 00017 (164 Keel Ave)

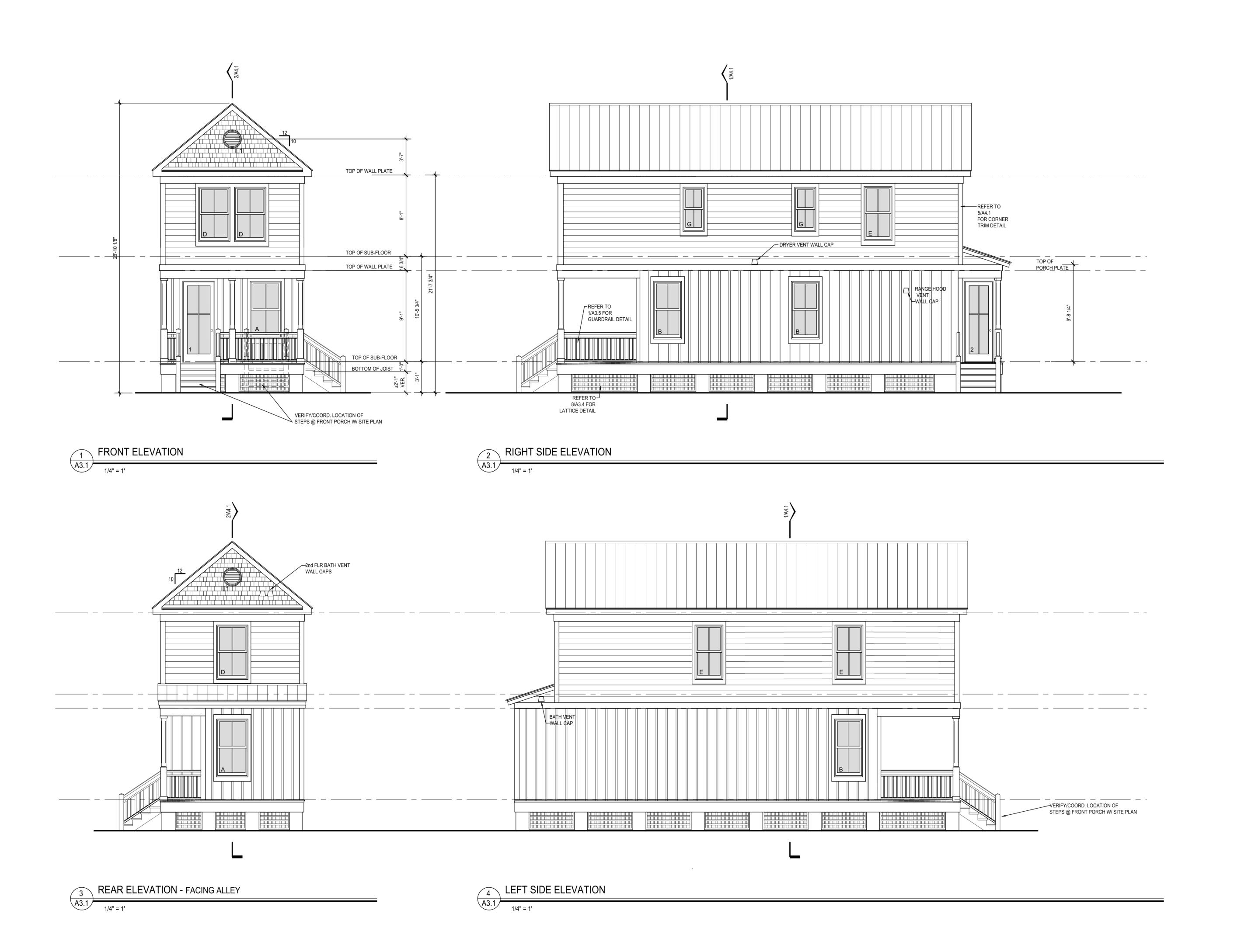
FLOOR PLANS AND DOOR & WINDOW SCHEDULES

1050-A-6 **A2**











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CONTACT INFORMATION

Liberty House Plans LLC 195 Plymouth Street, FLR 5, Suite 17 Brooklyn NY 11201 info@libertyhouseplans.com

PLAN #AFX-003 Tupelo Cottage

LICENSEE

Malasri Engineering, PLLC 65 Union Ave Ste 800 Memphis, TN 38103 jt@malasriengineering.com (901) 602-2884

LHP REFERENCE # O-1004

PROJECT LOCATION

CITY, COUNTY, AND STATE

Memphis
(Shelby County) TN

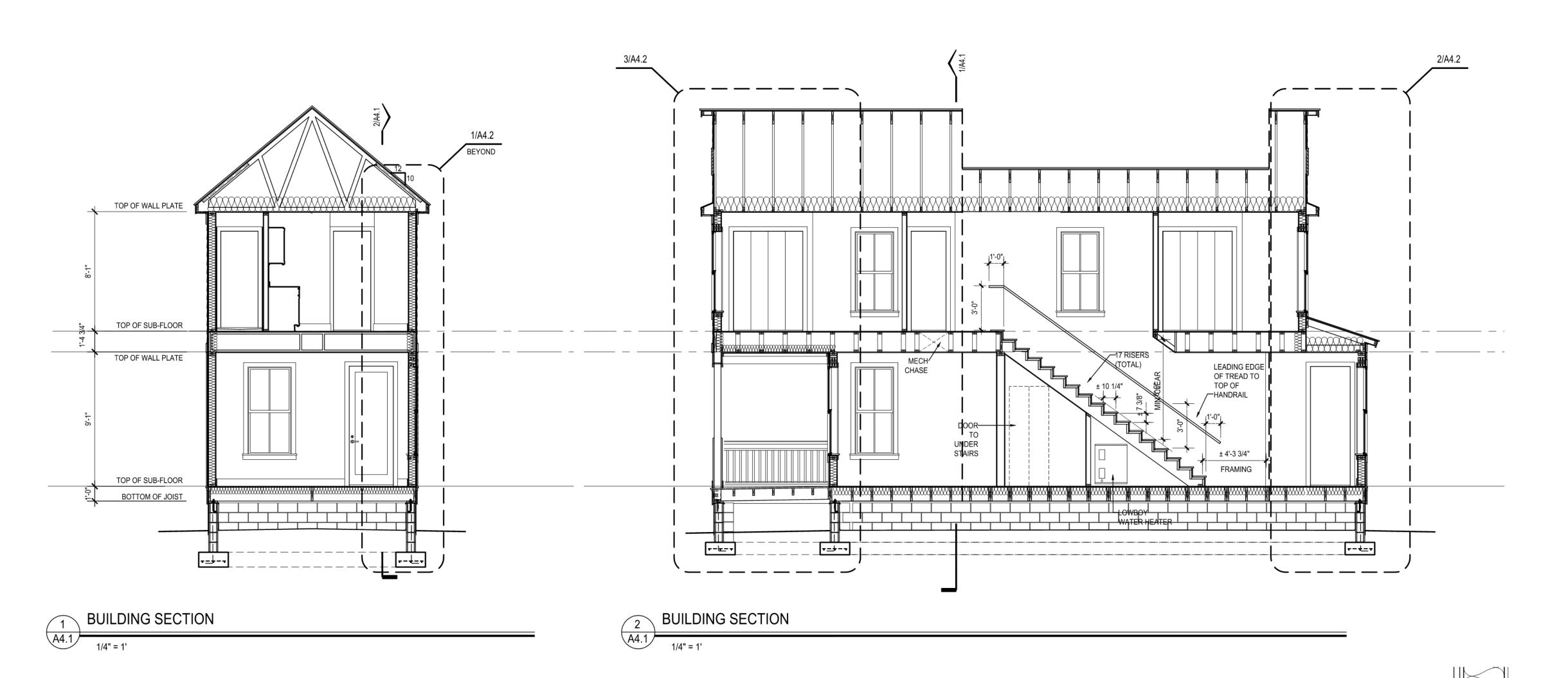
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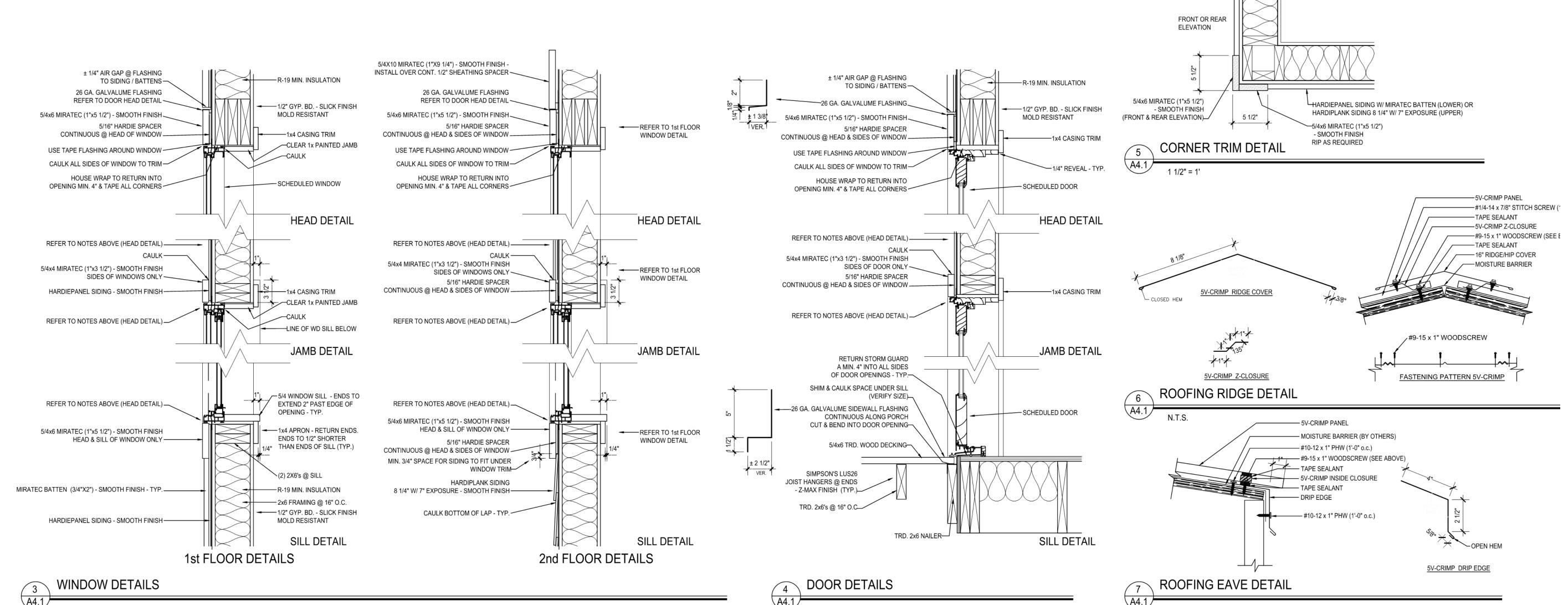
Parcel #001055 00014 (Third St)

Parcel #001055 00017 (164 Keel Ave)

EXTERIOR ELEVATIONS







Liberty HOUSE PLANS

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PROJECT LOCATION

CITY, COUNTY, AND STATE

(Shelby County) TN

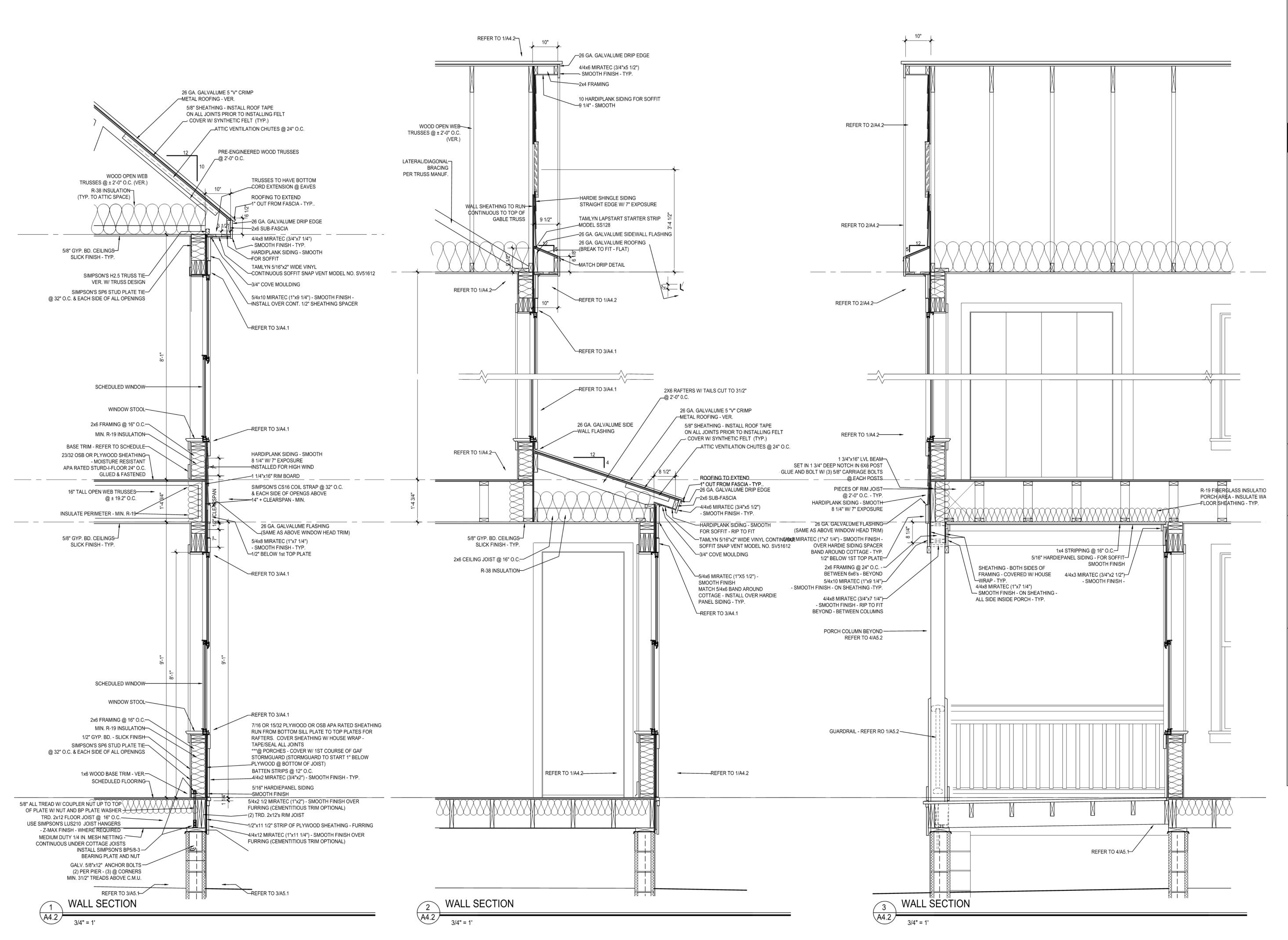
Memphis

PARCEL NUMBER(S)

Parcel #001055 00014 (Third St)
Parcel #001055 00017 (164 Keel Ave)

BUILDING SECTIONS AND DETAILS

1050-A-6 **A4.** 1





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PROJECT LOCATION

CITY, COUNTY, AND STATE

Memphis

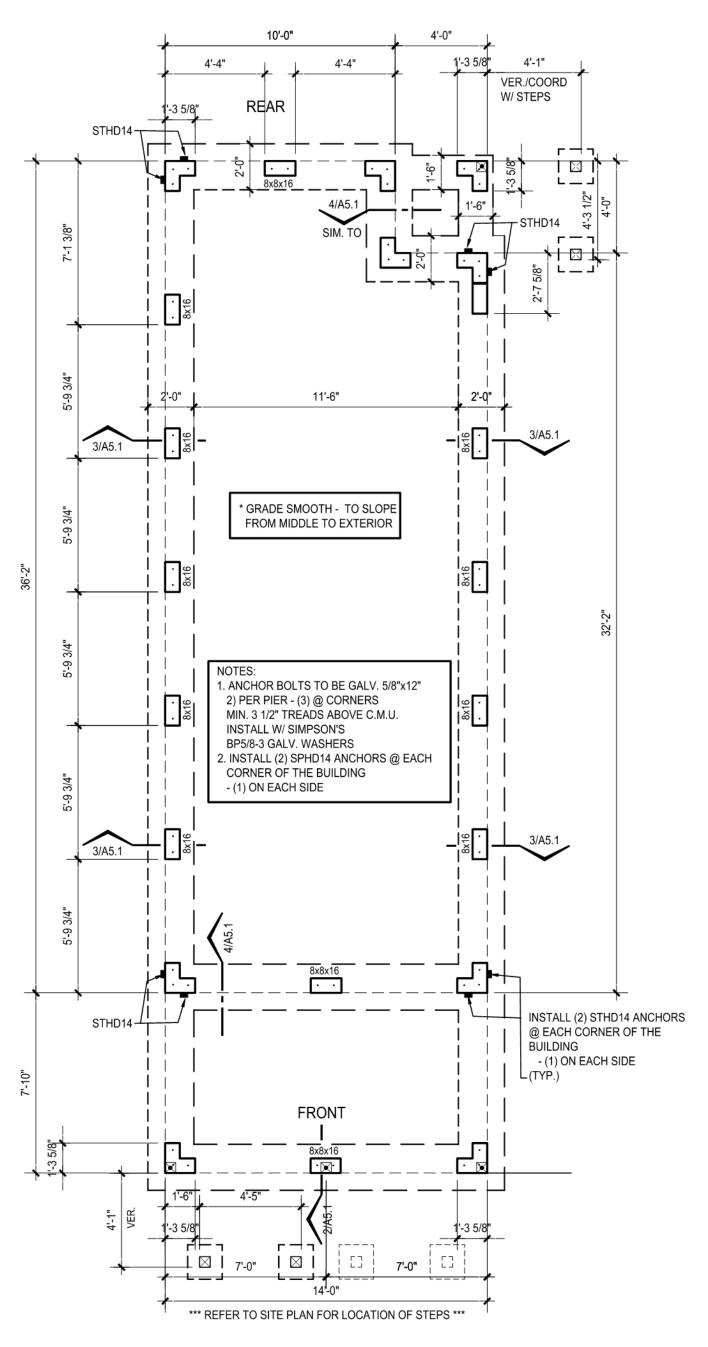
(Shelby County) TN

PARCEL NUMBER(S)
Parcel #001055 00014 (Third St)

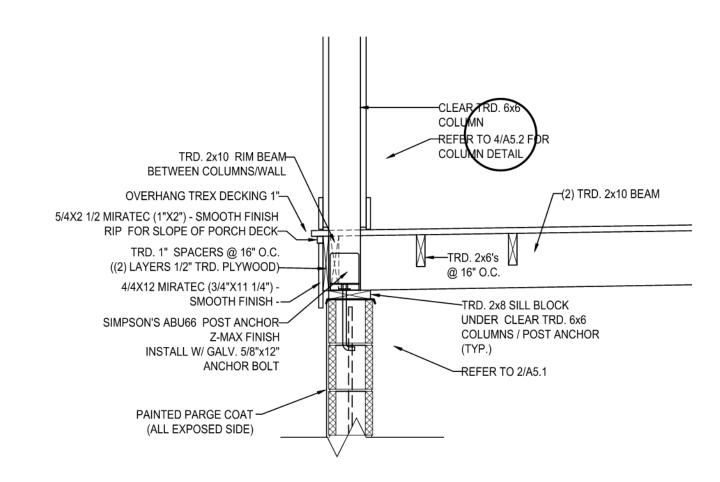
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WALL SECTIONS

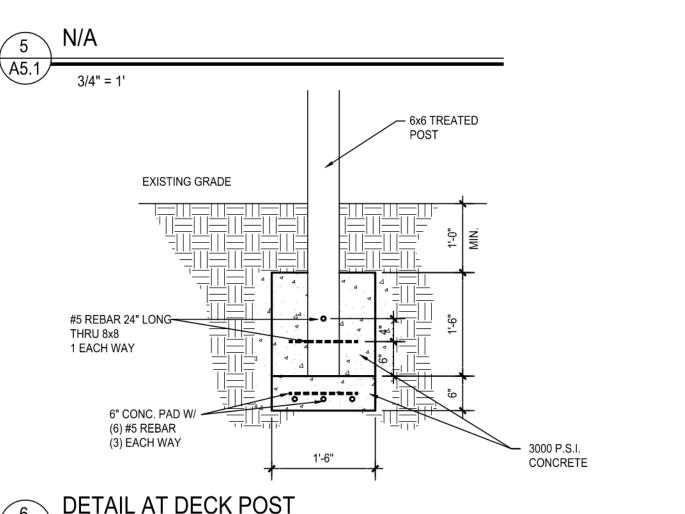
1050-A-6 **A4.2**

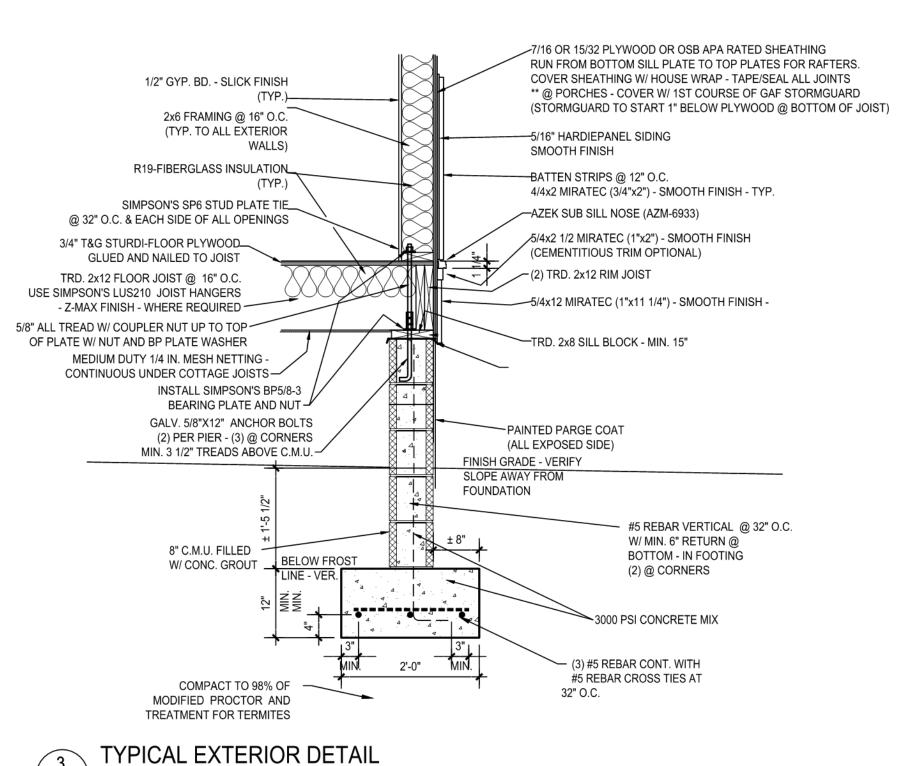


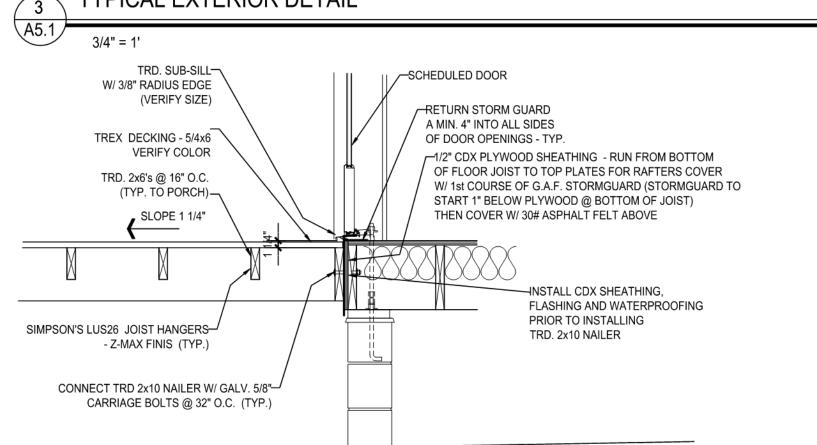




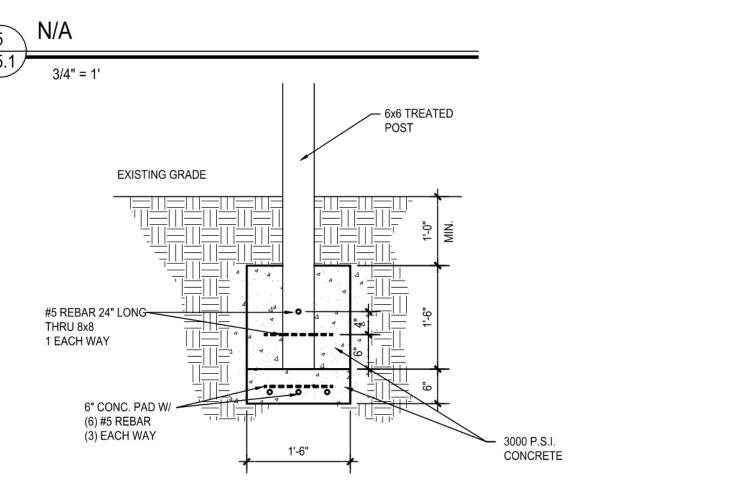




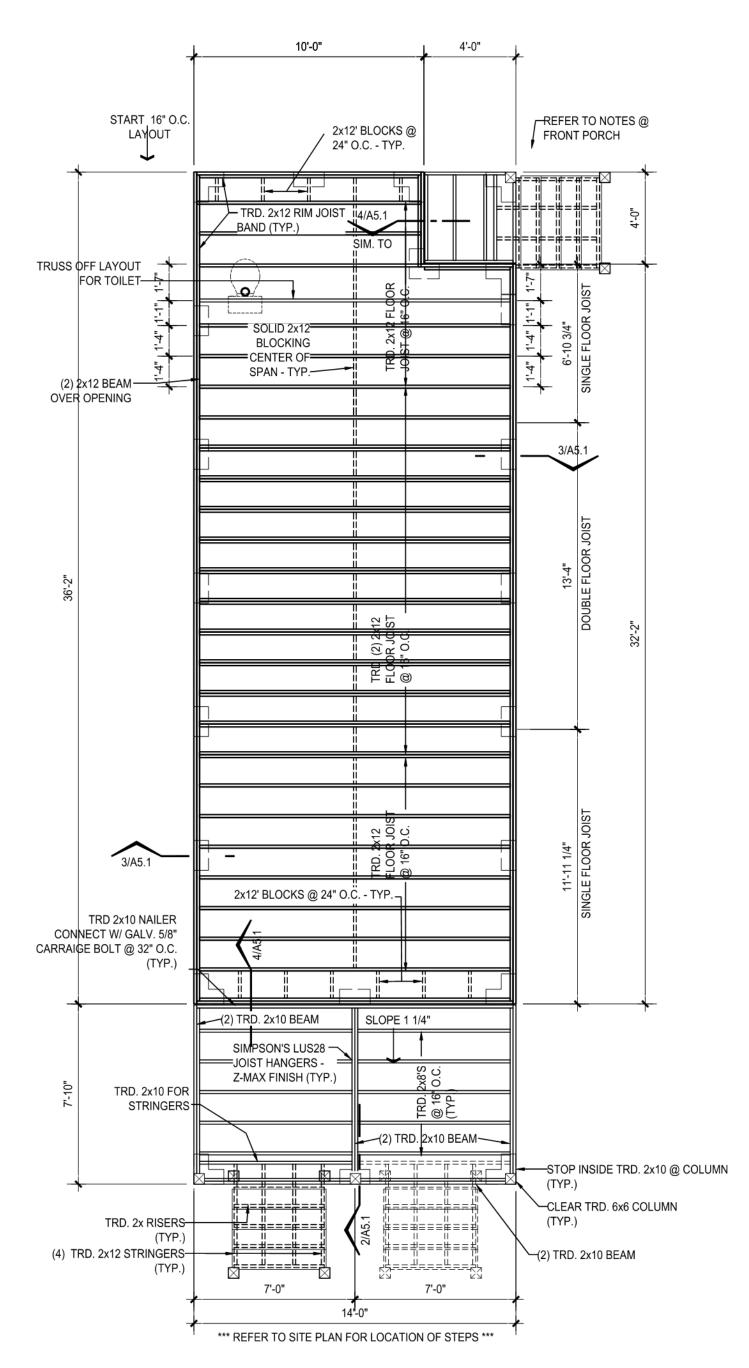




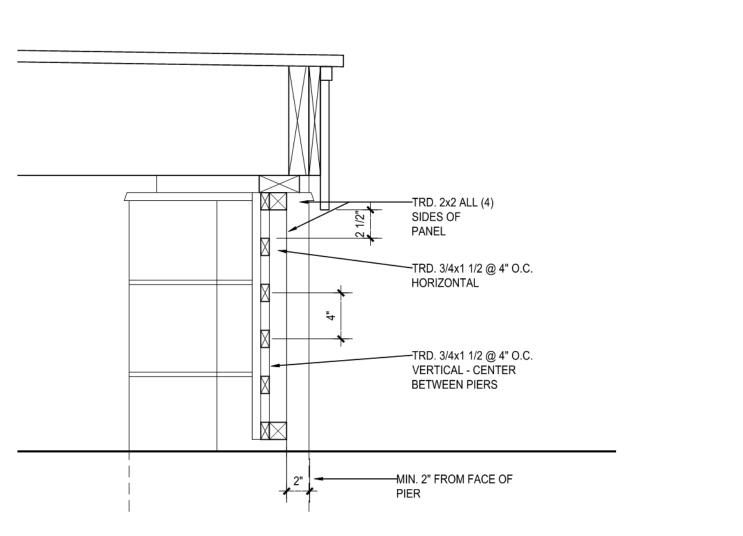
DETAIL @ PORCH/DOOR



DETAIL AT DECK POST



PORCH/ DECK JOIST PLAN



LATTICE PANEL DETAIL

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PROJECT LOCATION CITY, COUNTY, AND STATE

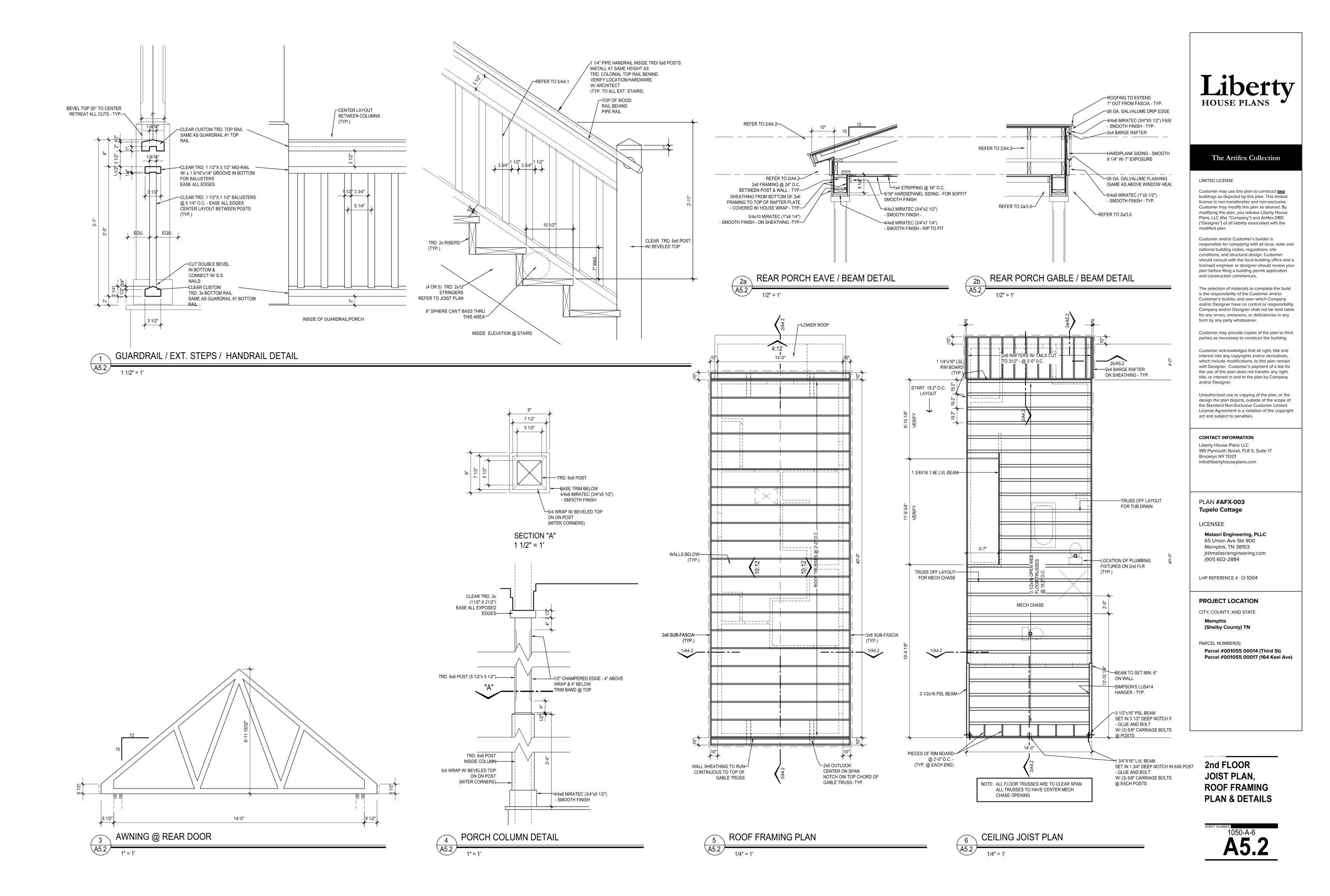
Memphis (Shelby County) TN

PARCEL NUMBER(S) Parcel #001055 00014 (Third St)

Parcel #001055 00017 (164 Keel Ave)

FOUNDATION PLAN, 1st FLOOR / PORCH JOIST PLAN AND

DETAILS



SECTION 15010 - GENERAL

A. EXTENT OF WORK:

PROVIDE AND INSTALL COMPLETE AIR CONDITIONING AND VENTILATION SYSTEM, AND COMPLETE PLUMBING SYSTEM, AS DRAWN ON THE ACCOMPANYING PLANS.

B. CODE REQUIREMENTS:

ALL WORK SHALL COMPLY WITH ALL APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES, STATUTES, CODES, AND AS SHOWN ON DRAWINGS AND SPECIFIED HEREIN.

C. FEE AND PERMITS:

PROVIDE, PROCURE AND PAY FOR ALL PERMITS, LICENSES, CERTIFICATE, INSPECTIONS, ETC., REQUIRED TO CARRY OUT AND COMPLETE THE WORK.

LETTERS OR CERTIFICATES OF APPROVAL SHALL BE FURNISHED TO THE ARCHITECT UPON COMPLETION OF THE JOB FROM INSPECTION DEPARTMENTS HAVING JURISDICTION BEFORE FINAL PAYMENT IS MADE TO THE CONTRACTOR. RECEIPTS FOR PAYMENT OF ALL PERMITS AND INSPECTION FEES SHALL ALSO BE PRODUCED AT THIS TIME, AND THOSE MADE IN THE NAME OF THE OWNER SHALL BE TURNED OVER TO THE ARCHITECT UPON FINAL ACCEPTANCE OF THE WORK COVERED HEREUNDER.

D. GUARANTEE:

CONTRACTORS SHALL GUARANTEE THAT ALL WORK WHICH HE IS RESPONSIBLE AND THE COMPLETE SYSTEM OPERATION WILL BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS. THE CONTRACTOR AGREES TO REPLACE. WITHOUT EXPENSE TO THE OWNER, ANY PART OF THE APPARATUS ON THE WORK WHICH PROVES DEFECTIVE WITHIN ONE (1) YEAR

MECHANICAL CONTRACTORS SHALL FURNISH TO THE GENERAL CONTRACTOR ALL CERTIFICATES OF FINAL INSPECTION AND APPROVAL FROM INSPECTION AUTHORITIES HAVING JURISDICTION.

INSTALL WORK AS INDICATED ON DRAWINGS; HOWEVER, CHANGES TO ACCOMMODATE INSTALLATION OF WORK WITH OTHER WORK OR TO MEET ARCHITECTURAL OR STRUCTURAL CONDITIONS SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.

FOR PURPOSE OF CLARITY AND LEGIBILITY, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC TO THE EXTENT THAT MANY OFFSETS, BONDS, UNIONS SPECIAL FITTINGS AND EXACT LOCATIONS ARE NOT INDICATED. MAKE USE OF ALL DATA IN ALL CONTRACT DOCUMENTS AND VERIFY INFORMATION AT SITE.

ALL DIMENSIONS AND LOCATIONS OF EQUIPMENT, DOORS, PARTITIONS, FIXTURES, GRILLES, ETC., ARE TO BE TAKEN FROM THE DRAWINGS BUT SHALL BE VERIFIED AT THE SITE.

F. INSPECTIONS:

DO NOT ALLOW ANY WORK TO BE COVERED UP OR ENCLOSED UNTIL TESTED BY THIS CONTRACTOR, INSPECTED AND APPROVED BY THE ARCHITECT AND OTHER AUTHORITIES HAVING JURISDICTION OVER THIS WORK.

SHOULD ANY WORK BE ENCLOSED OR COVERED UP BEFORE SUCH INSPECTIONS AND TESTS. THIS CONTRACTOR SHALL AT HIS WON EXPENSE UNCOVER WORK AND AFTER IT HAS BEEN TESTED, INSPECTED AND APPROVED, MAKE ALL REPAIRS AS NECESSARY TO RESTORE ALL WORK DISTURBED BY HIM TO ITS ORIGINAL AND PROPER CONDITIONS AND TO THE SATISFACTION OF THE ARCHITECT.

G. RECORD DRAWINGS:

AT THE COMPLETION OF THIS PHASE OF WORK, THIS CONTRACTOR SHALL FURNISH REPRODUCIBLE DRAWINGS SHOWING ALL VARIATIONS IN RUNNING OF PIPE, LOCATION OF DRAINS, CLEANOUTS, EQUIPMENT, ETC., FROM SHOWN ON THE ORIGINAL DRAWINGS. THESE DRAWINGS SHALL BE TURNED OVER TO THE ARCHITECT UPON COMPLETION OF THIS PHASE.

H. DEFINITION OF CONTRACTOR:

THE TERM "CONTRACTOR" AS USED IN THIS PHASE OF THE SPECIFICATIONS OR DRAWINGS MEANS THE PERSON OR PERSONS WHO UNDERTAKE THE RESPONSIBILITY TO PERFORM THAT PHASE OF CONSTRUCTION. EXAMPLE: THE PERSON PERFORMING ALL PLUMBING SHALL BE THE PLUMBING CONTRACTOR.

SECTION 15020 - AIR CONDITIONING AND HEATING

DUCT WORK THERMOSTATS

A. SCOPE OF WORK:

FURNISH ALL LABOR, MATERIALS, TOOLS EQUIPMENT, INCIDENTALS, AND SERVICES REQUIRED FOR THE COMPLETION OF ALL HEATING. AIR CONDITIONING, VENTILATING AND PIPING WORK INCLUDED AS FOLLOWS:

CONDENSING UNITS AIR HANDLING UNITS CEILING OUTLETS REGISTERS & GRILLES DUCT INSULATION HVAC

CONCRETE SLAB OR PADS FOR EQUIPMENT WILL BE FURNISHED BY GENERAL

ALL POWER WIRING, DISCONNECT SWITCHES AND FINAL CONNECTIONS OF SAME WILL BE MADE BY ELECTRICAL CONTRACTOR. THOUGH THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL POWER WIRING. THE HVAC CONTRACTOR IS RESPONSIBLE FOR ALL CONTROL WIRING AND FINAL CONNECTIONS OF HVAC EQUIPMENT AND THERMOSTATS.

THE PLUMBING CONTRACTOR WILL FURNISH NECESSARY CONDENSATE DRAINS FOR THE HVAC CONTRACTOR TO CONNECT TO.

FURNISH, WITHOUT CHARGE, ANY ADDITIONAL MATERIAL AND LABOR WHEN AND WHERE REQUIRED TO COMPLY WITH CODES AND REGULATIONS, THOUGH THE WORK MAY NOT BE MENTIONED IN THE SPECIFICATIONS NOR SHOWN ON THE DRAWINGS.

A. MATERIALS:

SHALL CONFORM WITH THE RESPECTED PUBLICATIONS AND REQUIREMENTS OF MANUFACTURERS AND ALL APPLICABLE CODES AND ORDINANCES. PROVIDE A COMPLETE INSTALLATION IN EVERY RESPECT

B. WORKMANSHIP:

MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED RECOMMENDATIONS OF THE MANUFACTURER TO CONFORM TO THE CONTRACT DOCUMENTS. THE INSTALLATIONS SHALL BE ACCOMPLISHED BY WORKMEN SKILLED IN THIS TYPE WORK.

C. JOB CONDITIONS:

BEFORE BEGINNING WORK OR ANY INSTALLATION OF WORK, CAREFULLY STUDY ALL CONTRACT DRAWINGS AND CHECK ANY PIPING, DUCTWORK AND EQUIPMENT LOCATIONS FOR INTERFERENCE WITH OTHER TRADES. IF CONFLICTS ARE DISCOVERED IN DRAWINGS OR AS WORK PROGRESSES, A SET OF PRINTS MARKED WITH RED PENCIL SHOWING RECOMMENDED INSTALLATION METHODS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION OF WORK IN QUESTION.

NO ADDITIONAL COSTS TO OWNER WILL BE CONSIDERED FOR WORK WHICH MUST BE RELOCATED DUE TO CONFLICTS BETWEEN WORK OF DIFFERENT

NO EXTRA COMPENSATION WILL BE ALLOWED ON ACCOUNT OF DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND THOSE INDICATED ON THE DRAWINGS.

D. SUBMITTALS:

PREPARE SHOP DRAWING SUBMITTALS FOR ALL ITEMS OF EQUIPMENT AND MATERIAL SPECIFIED IN OTHER SECTIONS OF THIS DIVISION.

IDENTIFY EACH ITEM BY MANUFACTURER, BRAND AND TRADE NAME NUMBER, SIZE, RATING AND WHATEVER OTHER DATA ARE NECESSARY TO PROPERLY IDENTIFY AND CHECK MATERIALS AND EQUIPMENT. SUBMITTAL SHALL BE ALL-INCLUSIVE. WITH ALL ITEMS BEING SUBMITTED AT SAME TIME; INDIVIDUAL SUBMITTALS WILL NOT BE ACCEPTED.

E. INSTALLATION:

PLACE ANY SLEEVES, CHASES, CONCRETE INSERTS, ANCHOR BOLTS, ETC., BEFORE CONCRETE IS POURED AND BE RESPONSIBLE FOR CORRECT LOCATION AND INSTALLATION OF THESE ITEMS.

DO ALL SLEEVING, CUTTING AND PATCHING OF ROUGH CONSTRUCTION FOR

LOCATION OF EQUIPMENT, PIPING AND DUCTWORK INDICATED ON DRAWINGS IS APPROXIMATE AND SHALL BE CHANGED TO MEET ARCHITECTURAL AND STRUCTURAL CONDITIONS AS REQUIRED.

ALL EQUIPMENT SHALL BE ACCURATELY SET AND LEVELED. SUPPORTS SHALL BE NEATLY PLACED AND PROPERLY FASTENED. ALL EQUIPMENT SHALL BE SET SO AS NOT TO CAUSE NOTICEABLE VIBRATION TO STRUCTURE.

BEFORE ACCEPTANCE OF BUILDING, MAKE ARRANGEMENTS WITH GENERAL CONTRACTOR FOR TEMPORARY USE OF HEATING OR COOLING EQUIPMENT TO MAINTAIN TEMPERATURE AND HUMIDITY IN BUILDING.

AT THE TIME OF SUBSTANTIAL COMPLETION, CLEAN OR REPLACE ALL FILTERS, REGISTERS, DIFFUSERS TO PUT EQUIPMENT INTO PROPER WORKING ORDER

THOROUGHLY CLEAN ALL FOUIPMENT, PIPING AND DUCTS, FREE FROM RUST, DUST FILINGS, PLASTER, ETC., BEFORE SYSTEMS ARE PUT IN

THE SYSTEM SHALL BE TESTED AS WORK PROGRESSES AND BE COMPLETELY CHECKED AND TESTED BEFORE FINAL ACCEPTANCE

SHOULD ANY PIECE OF EQUIPMENT OR MATERIAL FAIL ANY OF THE TESTS, IMMEDIATELY REMOVE AND REPLACE WITH NEW EQUIPMENT OR MATERIAL AND RETEST THE SYSTEM.

INSULATE CONDENSATE DRAIN, CHILLED WATER, AND REFRIGERANT SUCTION LINES WITH 1/2" THICK ARMAFLEX WITH ALL JOINTS COMPLETELY SEALED. DO NOT USE DUCT TAPE TO SEAL JOINTS.

ALL DUCT WORK SHALL BE METAL AND SHALL BE INSULATED.

ADJUSTING, BALANCING, AND TESTING: CONTRACTOR SHALL BALANCE AND ADJUST THE MECHANICAL SYSTEMS PERFORMANCE IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS. ALL INSTRUMENTS USED BY THIS FIRM SHALL BE ACCURATELY CALIBRATED AND MAINTAINED IN GOOD WORKING ORDER. AFTER COMPLETION OF BALANCING AND ADJUSTING CONTRACTOR SHALL MAKE PERFORMANCE TEST OF ALL MECHANICAL SYSTEM TO DETERMINE COMPLIANCE WITH THE SPECIFICATION REQUIREMENTS. ANY EQUIPMENT THAT FAILS TO EQUAL OR EXCEED THE SPECIFIED PERFORMANCE SHALL BE MODIFIED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL FURNISH TO THE ARCHITECT FOUR (4) COPIES OF THE SCHEDULES OF READINGS TAKEN DURING THE BALANCE AND TESTING OPERATION INDICATING THE REQUIRED OR SPECIFIED READING AND THE FINAL BALANCED READING OF ALL ITEMS.

OVERFLOW PAN: SHALL BE LOCATED AS SHOWN ON DRAWING AND SHALL HAVE A 1" PIPE OVERFLOW LINE WITH SCREEN TRASH GUARD AT OPENING OF PIPE. MOUNT OVERFLOW WARNING SWITCH (FLOAT SWITCH) IN PAN AND WIRE TO AUDIBLE ALARM LOCATED IN DUCT SYSTEM.

GRILLES AND REGISTERS: SHALL BE WHITE WITH THE OPTION OF WALL GRILLS TO BE PAINTED SAME COLOR AS WALLS.

EQUIPMENT: SEE EQUIPMENT SCHEDULE ON DRAWINGS.

- END

DIVISION 15 - MECHANICAL

SECTION 15030 - PLUMBING

A. SCOPE OF WORK:

FURNISH ALL LABOR, MATERIALS, TOOLS EQUIPMENT, INCIDENTALS, AND SERVICES NECESSARY FOR THE INSTALLATION OF THE PLUMBING AND DRAINAGE SYSTEM AS FOLLOWS AND AS SHOWN ON DRAWINGS:

PLUMBING SERVICE SOIL, DRAIN, AND WASTE LINES CLEANOUTS HOT & COLD WATER SYSTEM FLOOR DRAINS HOSE BIBS PLUMBING FIXTURES INSULATION FLASHING, ETC.

ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH FEDERAL, STATE AND LOCAL CODES AND REGULATIONS STATE FIRE MARSHALL REGULATIONS THE NATIONAL PLUMBING CODE STANDARDS OF THE NATIONAL PROTECTION ASSOCIATION, STATE DEPARTMENT OF INSURANCE. AND ALL OTHER APPLICABLE LOWS, CODES AND REGULATIONS. NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

FURNISH, WITHOUT CHARGE, ANY ADDITIONAL MATERIAL AND LABOR WHEN AND WHERE REQUIRED TO COMPLY WITH CODES AND REGULATIONS, THOUGH THE WORK MAY NOT BE MENTIONED IN THE SPECIFICATIONS NOR SHOWN ON THE DRAWINGS.

B. MATERIALS:

SHALL CONFORM WITH THE RESPECTED PUBLICATIONS AND REQUIREMENTS OF MANUFACTURERS AND ALL APPLICABLE CODES AND ORDINANCES. PROVIDE A COMPLETE INSTALLATION IN EVERY RESPECT.

C. JOB CONDITIONS:

BEFORE BEGINNING WORK OR ANY INSTALLATION OF WORK, CAREFULLY STUDY ALL CONTRACT DRAWINGS AND CHECK ANY PIPING, DUCTWORK AND EQUIPMENT LOCATIONS FOR INTERFERENCE WITH OTHER TRADES. IF CONFLICTS ARE DISCOVERED IN DRAWINGS OR AS WORK PROGRESSES, A SET OF PRINTS MARKED WITH RED PENCIL SHOWING RECOMMENDED INSTALLATION METHODS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION OF WORK IN QUESTION.

NO ADDITIONAL COSTS TO OWNER WILL BE CONSIDERED FOR WORK WHICH MUST BE RELOCATED DUE TO CONFLICTS BETWEEN WORK OF DIFFERENT SECTIONS.

NO EXTRA COMPENSATION WILL BE ALLOWED ON ACCOUNT OF DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND THOSE INDICATED ON THE DRAWINGS.

D. SUBMITTALS:

PREPARE SHOP DRAWING SUBMITTALS FOR ALL ITEMS OF EQUIPMENT AND MATERIAL SPECIFIED IN OTHER SECTIONS OF THIS DIVISION, AND DRAWINGS IN RED PENCIL SHOWING PROPOSED ROUTING OF PIPING AND VENTS TO INCLUDE SIZES FOR THE ARCHITECT'S APPROVAL

IDENTIFY EACH ITEM BY MANUFACTURER, BRAND AND TRADE NAME, NUMBER, SIZE, RATING AND WHATEVER OTHER DATA ARE NECESSARY TO PROPERLY IDENTIFY AND CHECK MATERIALS AND EQUIPMENT. SUBMITTAL SHALL BE ALL-INCLUSIVE, WITH ALL ITEMS BEING SUBMITTED AT THE SAME TIME; INDIVIDUAL SUBMITTALS WILL NOT BE ACCEPTED.

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THOROUGHLY CLEAN ALL EQUIPMENT, PIPING AND DUCTS, FREE FROM RUST, DUST FILINGS, PLASTER, ETC., BEFORE SYSTEMS ARE PUT IN

THE SYSTEM SHALL BE TESTED AS WORK PROGRESSES AND BE COMPLETELY CHECKED AND TESTED BEFORE FINAL ACCEPTANCE. SHOULD ANY PIECE OF FOUIPMENT OR MATERIAL FAIL ANY OF THE TESTS.

IMMEDIATELY REMOVE AND REPLACE WITH NEW EQUIPMENT OR MATERIAL

AND RETEST THE SYSTEM. F. EXCAVATION:

TRENCHES: DIG STRAIGHT AND TRUE TO LINE AND GRADE WITH BOTTOMS SMOOTH. PIPE SHALL BE SUPPORTED FOR THE ENTIRE LENGTH ON UNDISTURBED ORIGINAL FARTH OR COMPACTED SAND

SHORING: ALL NECESSARY SHORING, SHEETING AND PLUMBING SHALL BE PART OF WORK OF THIS SECTION

TREES: WHEN IT IS NECESSARY TO EXCAVATE ADJACENT TO EXISTING TREES, PLUMBING CONTRACTOR SHALL USE ALL POSSIBLE CARE TO AVOID INJURY TO TREES AND ROOTS. CUT ROOTS CLEAN WITH SAW THEN PAINT AREA. WHERE A DITCHING MACHINE IS RUN CLOSE TO TREES HAVING ROOTS SMALLER THAN 2 INCHES IN DIAMETER, WALL OF TRENCH ADJACENT TO TREE SHALL BE FILLED WITHIN 24 HOURS AFTER EXCAVATION BUT. WHERE THIS IS NOT POSSIBLE. THE SIDE OF TRENCH ADJACENT TO TREE SHALL BE KEPT MOIST. STOCKPILING OF EARTH OR BUILDING MATERIALS WITHIN THE DRIP LINE OF TREES IS PROHIBITED. NO TRENCHING BENEATH DRIP LINE OF OAK TREES SHALL BE DONE UNLESS WRITTEN APPROVAL OF ARCHITECT IS RECEIVED, OR IN THE CASE OF CITY PROPERTY, APPROVAL IS GRANTED BY THE AUTHORITIES HAVING JURISDICTION.

G. BACKFILL:

AFTER PIPING HAS BEEN INSTALLED, TESTED AND APPROVED, ALL EXCAVATIONS SHALL BE BACKFILLED, TAMPED AND COMPACTED.

H. WATER SUPPLY PIPES:

UNDER BUILDING SLAB USE SOFT COPPER. AT ALL OTHER LOCATIONS, USE HARD COPPER.

I. WATER SUPPLY PIPE FITTINGS:

J. SOIL AND VENT PIPES:

WROUGHT COPPER AND CAST FITTINGS WITH SOLDER JOINTS.

SHALL BE ABS, SCHEDULE 40 PLASTIC WITH FITTINGS OF THE SAME MATERIAL. THROUGH ROOF VENT PIPES SHALL BE PAINTED TO MATCH COLOR OF ROOFING AND PLACED TO THE REAR SIDE OF RIDGE OF ROOF SO AS NOT TO BE SEEN FROM THE FRONT OF THE STRUCTURE. THROUGH ROOF VENTS SHALL BE AS FEW AS POSSIBLE BY MEANS OF AS MANY COMMON VENTS AS POSSIBLE.

K. CLEANOUTS:

IN HORIZONTAL SEWER AND STORM WATER DRAINS, CLEANOUTS SHALL BE LOCATED AT LEAST EVERY 50 FEET AND WHERE SHOWN ON DRAWINGS. CLEANOUTS SHALL ALSO BE LOCATED AT THE FOOT OF EACH RISER AND EVERY CHANGE OF DIRECTION GREATER THAN 90 DEGREES.

L. ROOF FLASHING:

IN ACCORDANCE WITH ROOFING MANUFACTURER'S DETAILS AND SPECIFICATIONS. M. INSULATION:

ALL HOT AND COLD WATER LINES ABOVE GROUND SHALL BE INSULATED WITH 1/2" FIBERGLASS MOLDED PIPE COVERING. ALL HOT WATER LINES

BELOW GROUND SHALL BE INSULATED WITH 1/2" ARMAFLEX. N AIR CHAMBER: FURNISH AND INSTALL 18 INCH HIGH FULL BRANCH SIZE AIR CHAMBER ON

ALL COLD WATER AND HOT WATER PIPING IN CONNECTION WITH ALL FIXTURE GROUPS THROUGHOUT BUILDING.

O. WATER HEATER:

(VERIFY) AS SPECIFIED ON THE ACCOMPANYING DRAWINGS. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL AN EMERGENCY PAN WITH A DRAIN TO OUTSIDE OF BUILDING. PRESSURE RELIEF VALVE SHALL BE PIPED TO OUTSIDE OF BUILDING. A DRAIN PIPE FROM HOT WATER HEATERS SHALL BE INSTALLED TO A FREEZE-PROOF HOSE BIBB LOCATED ON THE EXTERIOR OF THE BUILDING AT THE SAME HEIGHT OF OTHER HOSE BIBBS FOR DRAINING OF HOT WATER HEATERS.

P. HOSE BIBBS:

FURNISH AND INSTALL WHERE SHOWN ON DRAWINGS 1/2" SOLID BRASS

HOSE BIBBS, FREEZE-PROOF TYPE Q. WASHER AND DRYER CONNECTIONS:

FURNISH AND INSTALL, RECESSED IN WALL BEHIND WASHER SUPPLY AND DRAIN UNIT, COMPLETE WITH 1/2 INCH HOT AND COLD WATER VALVES, 2 INCH DRAIN PIPE.

R. SHOWER PANS:

WHERE SHOWERS ARE INDICATED ON DRAWINGS. FURNISH AND INSTALL AS PER MANUFACTURER'S INSTRUCTIONS A SHOWER PAN FABRICATED OF CHLORALOY MEMBRANE, AS MANUFACTURED BY THE NOBLE COMPANY, GRAND HEAVEN, MI. TURN PAN UP WALLS A MINIMUM OF 6 INCHES AND OVER 6 INCH HIGH CURB AT ENTRANCE. TEST PAN FOR LEAKS BEFORE INSTALLING TILE WORK OR SIMULATED MARBLE FINISH.

PLUMBING CONTRACTOR SHALL PROVIDE A ONE (1) YEAR GUARANTEE ON THE SHOWER PAN AND INSTALLATION AND SHALL PAY FOR REPAIR OF ALL DAMAGE CAUSED BY DEFECTIVE PAN.

S. PLUMBING FIXTURES:

PLUMBING FIXTURES AND TRIM SHALL BE AS SPECIFIED HEREIN AND INSTALLED BY THE PLUMBING CONTRACTOR.

INSTALL AND CONNECT ALL PLUMBING FIXTURES INDICATED ON DRAWINGS OR HEREIN SPECIFIED. REFER TO DRAWINGS FOR LOCATION AND NUMBER OF FIXTURES REQUIRED AND IF ANY FIXTURES NOT SHOWN ON ARCHITECTURAL PLANS BUT SPECIFIED, THESE FIXTURES SHALL BE SUPPLIED BY CONTRACTOR AND INSTALLED AND CONNECTED BY THE PLUMBING CONTRACTOR. CONTRACTOR SHALL CALL THIS TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION.

EACH PLUMBING FIXTURE SHALL BE FITTED WITH ALL NECESSARY AND PROPER FITTINGS, TRIMMINGS AND OPERATING DEVICES AND SHALL BE LEFT IN PERFECT OPERATING CONDITION. FINISH OF ALL EXPOSED METAL WORK IN CONNECTION WITH FIXTURES. TRIMMING AND OPERATING DEVICES, WHERE NOT SPECIFICALLY MENTIONED, SHALL BE POLISHED

ALL TRAPS AND WALL ESCUTCHEONS SHALL BE METAL (VERIFY FINISH).

FURNISH 1/4 INCH COPPER WATER LINE TO ICE MAKER. FURNISH AND

- END -DIVISION 15 - MECHANICAL

INSTALL ICE MAKER SUPPLY AND DRAINS.

DIVISION 16 - ELECTRICAL WORK

SECTION 16010 - GENERAL

A. EXTENT OF WORK: WHETHER SHOWN OR NOT ALL MATERIALS, LABOR AND INCIDENTALS, NECESSARY TO PROVIDE A COMPLETE ELECTRICAL SYSTEM, IN PROPER WORKING ORDER, AS SHOWN ON DRAWINGS OR SPECIFIED HEREIN.

B. QUALITY ASSURANCE:

THE ELECTRICAL CONTRACTOR SHALL PERFORM ALL WORK TO MEET REQUIREMENTS AND RECOMMENDATIONS OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL APPLICABLE STATE AND LOCAL CODES. ARRANGE WITH POWER COMPANY FOR SERVICE AND METERING. ELECTRICAL CONTRACTOR SHALL ARRANGE WITH TELEPHONE COMPANY AND CABLE TELEVISION COMPANY FOR SERVICE AND WIRING. PAY ALL FEES AND ASSESSMENTS.

SHOULD ANY PART OF THE DESIGN FAIL TO COMPLY WITH SUCH REQUIREMENTS, DISCREPANCY SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT PRIOR TO SUBMISSION OF BID.

OBTAIN ALL REQUIRED PERMITS AND CERTIFICATES OF INSPECTION.

C. WARRANTY PERIOD:

THE ELECTRICAL CONTRACTOR SHALL GIVE A GUARANTEE OF ONE YEAR FROM THE DATE OF THE OWNER'S ACCEPTANCE OF THE COMPLETED WORK SHALL BE REQUIRED ON ALL WORKMANSHIP, MATERIALS AND EQUIPMENT RELATED TO THIS PHASE OF CONSTRUCTION UNLESS A LONGER PERIOD IS STATED IN THE SPECIFICATIONS OR IN THE MANUFACTURER'S

D. TEST: TEST PANELS AND CIRCUITS FOR GROUNDS AND SHORTS.

TEST EACH INDIVIDUAL CIRCUIT AT THE PANEL, WITH EQUIPMENT

CONNECTED FOR PROPER OPERATIONS. GROUND TESTS SHALL MEET REQUIREMENTS OF NATIONAL ELECTRICAL

ON COMPLETION OF WORK, A FINAL INSPECTION WILL BE MADE AND **FOUIPMENT SHALL BE OPERATED UNDER NORMAL CONDITIONS.**

ALL LOCATIONS SHOWN ARE APPROXIMATE.

E. LOCATIONS:

OBTAIN AND PAY FOR AS REQUIRED.

SHALL BE NEW AND BEAR THE LABEL OF THE UNDERWRITER'S

LABORATORIES, INC.

G. GROUND:

AS REQUIRED BY N.E.C., ARTICLE 250, GROUND ALL MAIN SERVICE EQUIPMENT, CONDUIT SYSTEMS, MOTORS, PANEL BOARDS, AND OTHER EQUIPMENT, ALSO COMPLY WITH LOCAL INSPECTION AUTHORITIES.

H. RECORD DRAWINGS:

I. ALLOWANCES:

J. SUBSTITUTIONS:

AT THE COMPLETION OF THE JOB, THE ELECTRICAL CONTRACTOR SHALL FURNISH TO THE ARCHITECT REPRODUCIBLE DRAWINGS SHOWING THE CIRCUIT NUMBER OF EACH ELECTRICAL OUTLET, SWITCH, FIXTURE, APPLIANCE, AND SYSTEM. EACH CIRCUIT SHALL BE NUMBERED.

FURNISH TO THE ARCHITECT A NEAT, TYPED SCHEDULE OF THE CIRCUITS CONTAINED IN EACH PANEL AND SUBPANEL. CIRCUIT NUMBERS SHALL BE NEATLY LETTERED ON DISCONNECTS.

SEE ALLOWANCE SECTION OF SPECIFICATION FOR ITEMS RELATED TO WORK OF THIS SECTION.

REFERENCE IN THESE SPECIFICATIONS TO ANY ARTICLE, DEVICE, PRODUCT MATERIAL, FIXTURE, FORM OR TYPE OF CONSTRUCTION BY NAME, MAKE OR CATALOG NUMBER, SHALL BE INTERPRETED AS ESTABLISHING A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPLETION. THE CONTRACTOR, IN SUCH CASES, MAY, AT HIS OPTION, USE ANY ARTICLE, DEVICE, PRODUCT, MATERIAL, FIXTURE, FORM OR TYPE OF CONSTRUCTION WHICH IN THE JUDGEMENT OF THE ARCHITECT, EXPRESSED IN WRITING, IS EQUAL TO THAT SPECIFIED.

SECTION 16020 - WIRE

A. ALL WIRE:

FURNISH ALL LABOR, MATERIALS, TOOLS EQUIPMENT, INCIDENTALS, AND SERVICES REQUIRED FOR THE COMPLETION OF ALL HEATING, AIR CONDITIONING, VENTILATING AND PIPING WORK INCLUDED AS FOLLOWS:

CONDENSING UNITS AIR HANDLING UNITS FLOOR OUTLETS HVAC FANS WALL RECEPTACLES

ALL POWER WIRING, DISCONNECT SWITCHES AND FINAL CONNECTIONS OF SAME WILL BE MADE BY ELECTRICAL CONTRACTOR. THOUGH THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL POWER WIRING, THE HVAC CONTRACTOR IS RESPONSIBLE FOR ALL CONTROL WIRING AND FINAL

CONNECTIONS OF HVAC EQUIPMENT AND THERMOSTATS. FURNISH, WITHOUT CHARGE, ANY ADDITIONAL MATERIAL AND LABOR WHEN AND WHERE REQUIRED TO COMPLY WITH CODES AND REGULATIONS. THOUGH

THE DRAWINGS.

B. FIXTURE WIRE: SHALL CONFORM WITH THE RESPECTED PUBLICATIONS AND REQUIREMENTS OF MANUFACTURERS AND ALL APPLICABLE CODES AND ORDINANCES. PROVIDE A COMPLETE INSTALLATION IN EVERY RESPECT.

THE WORK MAY NOT BE MENTIONED IN THE SPECIFICATIONS NOR SHOWN ON

C. SIZES:

D. SPLICES:

E. COLOR CODE:

BEFORE BEGINNING WORK OR ANY INSTALLATION OF WORK, CAREFULLY STUDY ALL CONTRACT DRAWINGS AND CHECK ANY PIPING DUCTWORK AND EQUIPMENT LOCATIONS FOR INTERFERENCE WITH OTHER TRADES. IF CONFLICTS ARE DISCOVERED IN DRAWINGS OR AS WORK PROGRESSES. A SET OF PRINTS MARKED WITH RED PENCIL SHOWING RECOMMENDED INSTALLATION METHODS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION OF WORK IN QUESTION.

NO ADDITIONAL COSTS TO OWNER WILL BE CONSIDERED FOR WORK WHICH MUST BE RELOCATED DUE TO CONFLICTS BETWEEN WORK OF DIFFERENT SECTIONS

NO EXTRA COMPENSATION WILL BE ALLOWED ON ACCOUNT OF DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND THOSE INDICATED ON THE DRAWINGS.

PREPARE SHOP DRAWING SUBMITTALS FOR ALL ITEMS OF EQUIPMENT AND MATERIAL SPECIFIED IN OTHER SECTIONS OF THIS DIVISION.

IDENTIFY EACH ITEM BY MANUFACTURER, BRAND AND TRADE NAME. NUMBER, SIZE, RATING AND WHATEVER OTHER DATA ARE NECESSARY TO PROPERLY IDENTIFY AND CHECK MATERIALS AND EQUIPMENT. SUBMITTAL SHALL BE ALL-INCLUSIVE, WITH ALL ITEMS BEING SUBMITTED AT SAME TIME; INDIVIDUAL SUBMITTALS WILL NOT BE ACCEPTED.

PLACE ANY SLEEVES, CHASES, CONCRETE INSERTS, ANCHOR BOLTS, ETC., BEFORE CONCRETE IS POURED AND BE RESPONSIBLE FOR CORRECT

LOCATION AND INSTALLATION OF THESE ITEMS.

STRUCTURAL CONDITIONS AS REQUIRED.

MAINTAIN TEMPERATURE AND HUMIDITY IN BUILDING

DO ALL SLEEVING, CUTTING AND PATCHING OF ROUGH CONSTRUCTION FOR LOCATION OF EQUIPMENT, PIPING AND DUCTWORK INDICATED ON DRAWINGS IS APPROXIMATE AND SHALL BE CHANGED TO MEET ARCHITECTURAL AND

ALL EQUIPMENT SHALL BE ACCURATELY SET AND LEVELED. SUPPORTS SHALL BE NEATLY PLACED AND PROPERLY FASTENED. ALL EQUIPMENT SHALL BE SET SO AS NOT TO CAUSE NOTICEABLE VIBRATION TO

BEFORE ACCEPTANCE OF BUILDING, MAKE ARRANGEMENTS WITH GENERAL

CONTRACTOR FOR TEMPORARY USE OF HEATING OR COOLING EQUIPMENT TO

THE SYSTEM SHALL BE TESTED AS WORK PROGRESSES AND BE COMPLETELY CHECKED AND TESTED BEFORE FINAL ACCEPTANCE.

SHOULD ANY PIECE OF EQUIPMENT OR MATERIAL FAIL ANY OF THE TESTS, IMMEDIATELY REMOVE AND REPLACE WITH NEW EQUIPMENT OR MATERIAL AND RETEST THE SYSTEM.

SECTION 16030 - CONDUIT

A. IN CONCRETE: DO NOT RUN CONDUIT LARGER THAN 1" IN FLOOR SLABS EXCEPT AS SHOWN. RUN LARGER THAN 1" CONDUIT 12" BELOW GRADE, UNDER THE SLAB, ENCASED IN RED CONCRETE. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL 3/4" CONDUIT UNDER SLAB FOR T.V., TELEPHONE, AUDIO SPEAKERS AND POWER AS DEPICTED ON DRAWINGS OR AS REQUIRED

BY EACH SYSTEM FOR A COMPLETE AND WORKING COMPONENT. B. UNDERGROUND SERVICE:

CONDUIT TO BE RUN 24" BELOW GRADE, ENCASED IN RED CONCRETE.

- END -SECTION 16070 - MOUNTING HEIGHTS

UNLESS OTHERWISE NOTED SWITCHES RECEPTACLES

RECEPTACLES ABOVE COUNTER 8" ABOVE COUNTERTOP

6' - 6" TO TOP

PANELBOARD

DIVISION 16 - ELECTRICAL WORK SECTION 16080 - SAFETY SWITCHES

A. PROVIDE AND INSTALL:

B. TYPES:

C. MOUNTING:

NOT FUSIBLE (FOR MOTOR DISCONNECTS ONLY) - NEMA TYPE LD. ALL OTHERS NEMA TYPE ND. EXTERIOR SWITCHES SHALL BE RAIN TIGHT. GENERAL ELECTRIC OR EQUAL.

WHERE SHOWN ON PLANS AND/OR AS REQUIRED BY THE NATIONAL ELECTRIC

DO NOT SUPPORT SWITCHES WITH CONDUIT. PROVIDE GALVANIZED ANGLE SUPPORTS, IF REQUIRED.

- END -

SECTION 16090 - LIGHTING FIXTURES

A. FURNISH AND INSTALL LIGHTING FIXTURES AS SHOWN ON THE DRAWINGS OR AS SHOWN IN FIXTURE SCHEDULE

B. BALLASTS: RAPID START, SERIES SEQUENCE, ETL CERTIFIED CBM, HIGH POWER

SOUND RATING, A OR B. PROVIDE WITH AUTOMATIC THERMAL CUT OUT OR

EXTERNAL FUSE. EQUAL TO ADVANCE. C. LAMPS:

ALL FIXTURES TO BE LAMPED ON COMPLETION OF JOB. INCANDESCENT

BULBS WITH INSIDE FROST. LAMP ALL FLUORESCENT FIXTURES WITH

DIVISION 16 - ELECTRICAL WORK

SECTION 16100 - FUSES FURNISH AND INSTALL IN ALL HOLDERS, DUAL-ELEMENT, TIME LAG FUSES, BUSS FUSETRON OR EQUAL.

RAPID START TUBES WITH COLOR TO BE "DAYLIGHT

- END -

SECTION 16110 - PANELBOARDS

A. PANELBOARDS:

PANELS, DEAD FRONT SAFETY TYPE, WITH MAIN BREAKING OR MAIN LUGS. QUICK MADE, QUICK BREAK, TRIP - FREE CIRCUIT BREAKERS, 100 AMPERES AND LESS - SQUARE D TYPE QOB OR EQUAL, LARGER THAN 100 AMPERES - MOLDED CASE TYPE, SUITABLE FRAME SIZE.

BRANCHES AND MAINS, TWO AND THREE POLE, SHALL BE COMMON TRIP.

PANELS SHALL HAVE SINGLE, FEED THROUGH, OR DOUBLE LUGS TO

ACCOMMODATE FEEDERS AS SHOWN. SQUARE "D" OR EQUAL.

B. CABINETS: GALVANIZED STEEL, RECESSED, MIN. 20" WIDE. PROVIDE GUTTERS AS REQUIRED BY NEC. KEYED LOCKS ON DOOR AND PROVIDE 2 KEYS.

DIRECTORY TO BE PROVIDED ON INSIDE OF DOOR AND TYPE

IDENTIFICATION OF ALL CIRCUITS. LEGEND FOR DIRECTORY SHALL BE

YPED OR PRINTED ON ADHESIVE EMBOSSING TAPE. HANDWRITTEN

LEGENDS WILL NOT BE ACCEPTED.

C. PHASE CONNECTIONS: DOWN LEFT SIDE. ODD NUMBERS SHALL BE USED IN SEQUENCE AND DOWN RIGHT SIDE, EVEN NUMBERS SHALL BE USED IN SEQUENCE. PANEL BOARDS SHALL BE CONSTRUCTED IN A MANNER SUCH THAT ANY TWO ADJACENT SINGLE POLE DEVICES ARE CONNECTED TO OPPOSITE POLARITIES AND SO THAT 2 OR 3 POLE DEVICES WHEN AVAILABLE CAN BE

SECTION 16120 - TELEPHONE SYSTEM

INSTALLED AT ANY LOCATION.

A. PROVIDE AND INSTALL: COMPLETE SYSTEM OF JUNCTION BOXES AND OUTLET BOXES AND JACKS AS REQUIRED TO COMPLETE THE SYSTEM.

B. BOXES: 2 X 4 RECTANGLE. PROVIDE TELEPHONE OUTLET COVER PLATES ON OUTLET BOXES.

SECTION 16130 - TELEVISION CABLE

A. PROVIDE AND INSTALL:

RECEPTACLE COVER PLATES. B. BOXES:

120 V., THROUGH ROOF/WALL, OUTLET BLOWER, WITH ANTI-BACKDRAFT FEATURE

COMPLETE SYSTEM OF JUNCTION BOXES AND OUTLET BOXES AND JACKS AS

SECTION 16140 - EXHAUST FANS A. WHERE SHOWN:

2 X 4 RECTANGLE. PROVIDE TELEVISION OUTLET COVER PLATES ON

OUTLET BOXES. COVER PLATES TO MATCH RECEPTACLE COVER PLATES.

AND DUCT TO EXTERIOR WITH WEATHERPROOF CAP, MINIMUM 50 CEM THROUGH ROOF VENTS SHALL BE LOCATED TO REAR OF ROOF RIDGE SO AS NOT TO BE SEEN FROM FRONT OF STRUCTURE

TO BE CONNECTED TO ROOM LIGHT SWITCH.

SECTION 16150 - ELECTRICAL SERVICE

A. SERVICE: THE ELECTRICAL SERVICE WILL BE SINGLE-PHASE, 200 AMP. MINIMUM

POWER COMPANY SHALL BRING UNDERGROUND SERVICE TO THE

ALL INCIDENTAL FEES ASSESSED BY THE POWER COMPANY.

THE CONTRACTOR SHALL COORDINATE WITH THE POWER COMPANY FOR THE PROVISION AND METERING OF SERVICE, AND SHALL PAY

- END -DIVISION 16 ELECTRICAL WORK

120/240 VOLTS. LOCATION AS SHOWN ON DRAWINGS.

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is the responsibility of the Customer and/or

The selection of materials to complete the build

Customer's builder, and over which Company

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and/or Designer.

Tupelo Cottage LICENSEE

Malasri Engineering, PLLC

65 Union Ave Ste 800

PLAN **#AFX-003**

jt@malasriengineering.com (901) 602-2884

Memphis, TN 38103

LHP REFERENCE # O-1004

PROJECT LOCATION

CITY, COUNTY, AND STATE

(Shelby County) TN

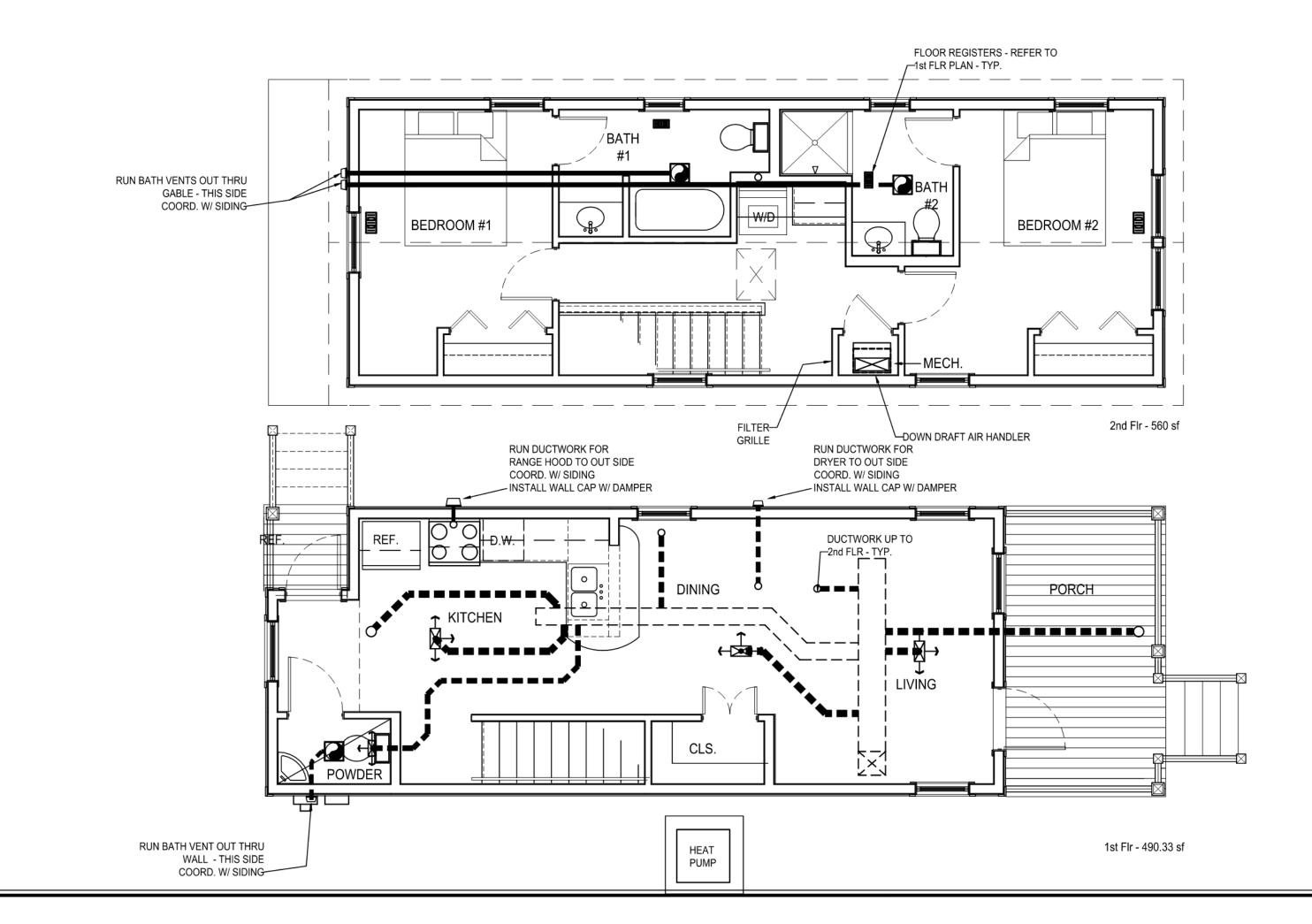
Memphis

PARCEL NUMBER(S) Parcel #001055 00014 (Third St)

Parcel #001055 00017 (164 Keel Ave)

MECHANICAL PLUMBING, **ELECTRICAL**





3" Ø−

BEDROOM #2

GENERAL PLUMBING NOTES:

1/4" = 1'

GENERAL MECHANICAL NOTES:

FOR THE SUCCESSFUL INSTALLATION OF THIS WORK.

5. NO RUNS OF FLEX-DUCT OVER 8' WILL BE ALLOWED

7. PROVIDE VOLUME DAMPERS AT EACH OUTLET.

15. REFER TO ADDITIONAL NOTES ON SHEET MPE

LEGEND

4. ALL DUCTWORK (EXCEPT PLENUM) SHALL BE INSULATED METAL DUCTWORK.

9. CONTRACTOR SHALL SIZE ALL REFRIGERANT PIPING BASED ON FIELD CONDITIONS.

NATIONAL AND LOCAL CODES AND ORDINANCES, IF REQUIRED.

13. HVAC EQUIPMENT SHALL BE MIN. 16 SEER. HEAT PUMPS - VER.

SIDEWALL REGISTER

CEILING REGISTER

FLOOR REGISTER

1st & 2nd FLOOR MECHANICAL PLANS

CALCULATIONS SIZING SYSTEMS

LOCAL CODES.

1. ALL PLUMBING WORK TO BE EXECUTED IN STRICT ACCORDANCE WITH THE APPLICABLE PLUMBING CODE AND LOCAL INTERPRETATIONS. THE SYSTEM SHALL BE

1. ALL MECHANICAL WORK TO BE EXECUTED IN STRICT ACCORDANCE WITH THE APPLICABLE MECHANICAL CODE AND LOCAL INTERPRETATIONS. ALL WORK

3. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND MAY NOT SHOW EVERY CONDITION, OFFSET, BEND, ELBOW, OR FITTING WHICH MAY BE REQUIRED

6. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RUNNING ALL OUTSIDE AIR DUCTS AS REQUIRED BY INTERNATIONAL MECHANICAL CODE AND

10. MECHANICAL CONTRACTOR TO PROVIDE & INSTALL SMOKE DETECTION DEVICES NEEDED TO SHUT DOWN MECHANICAL SYSTEM IN CASE FIRE AS PER

11. MECH. CONTRACTOR TO INSTALL COMBUSTION AIR DUCTS FOR MECH. UNITS AND WATER HEATERS IF GAS EQUIPMENT IS TO BE USED. INSTALL AS PER

14. UNIT TO HAVE METAL (INSULATED) RETURN AIR PLENUMS. SET ON ISOLATION PADS ON GALV. METAL PAN W/ OVERFLOW DRAIN. IF UNIT IS SET ON

PLATFORM, INSTALL FULL SIZE METAL PAN (FROM WALL TO WALL) IN SPACE BELOW PLATFORM AND INSTALL MOISTURE SWITCH IN PAN

THERMOSTAT

(VENT TO OUTSIDE - SEE PLAN)

■ ■ ■ ■ DUCTWORK RUN BETWEEN FLOOR JOIST

DUCTWORK RUN BELOW FLOOR JOIST

DUCTWORK ABOVE JOIST IN ATTIC

2. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SIZING OF ALL DUCTWORK TO ALLOW FOR PROPER DESIGN LOADS. PROVIDE

SHALL BE GUARANTEED FOR MINIMUM OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER/ARCHITECT.

8. ALL DIFFUSERS AND REGISTERS SHALL BE MANUFACTURED FROM ALUMINUM (WHITE FINISH) (COORD. THROW W/ LOCATION)

10. MECHANICAL CONTRACTOR TO RUN ALL VENTS (TOILET ROOM, ETC.) TO OUTSIDE OF BUILDING PER PLANS

12. COMPRESSOR UNIT TO BE SET ON NEW CONCRETE SLAB/PAD. (IF SET ON GROUND LEVEL - REFER TO PLANS)

LOCAL CODE (VERIFY SIZE OF DUCT BASED ON BTU RATINGS OF MECH. UNIT AND WATER HEATER), IF REQUIRED.

GUARANTEED FOR MINIMUM OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER/ARCHITECT.

2. ALL UNDERGROUND PIPE INVERTS ARE BASED ON A FINISHED FIRST FLOOR ELEVATION
3. ALL FLOOR DRAINS, VENTS AND FLOOR CLEANOUTS SHOWN NEAR WALLS OR COLUMNS SHALL BE KEPT AS CLOSE AS POSSIBLE. ALL FLOOR CLEANOUTS SHALL

BE INSTALLED TO KEEP CLEAR OF ALL TRAFFIC AISLES. PROVIDE OFFSETS IN PIPING AS REQUIRED.

4. ALL FLOOR DRAINS, TRENCH DRAINS AND CATCH BASINS SHALL BE INSTALLED AT LOW POINTS. IN FLOOR, SEE ARCHITECTURAL DRAWINGS.

4. ALL FLOOR DRAINS, TRENCH DRAINS AND CATCH BASINS SHALL BE INSTALLED AT LOW POINTS IN FLOOR. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND FLOOR PITCHES.
5. ALL UNDERGROUND SEWERS SHALL BE MINIMUM 2" IN SIZE AND PITCHED AT 1/4" PER FOOT SLOPE MINIMUM, UNLESS OTHERWISE NOTED. 6. WALL HYDRANTS (WH)

& HOSE BIBBS (HB) SHALL BE INSTALLED IN FOUNDATION WALLS (BELOW BEVEL DETAIL) HOSE BIBBS TO BE INSTALLED W/ BACKLOG REENTERS

7. ALL SUSPENDED PLUMBING PIPING AND ACCESSORIES SHALL BE KEPT AS TIGHT TO THE BUILDING STRUCTURE AS POSSIBLE TO PROVIDE MAXIMUM CLEARANCE

BELOW IT AND TO MINIMIZE ANY PIPE SWINGS AND INSTABILITY. PIPING SHALL BE SUPPORTED FROM OR ANCHORED TO BUILDING STRUCTURE.

8. COORDINATION WITH ALL OTHER TRADES IS A MUST PRIOR TO ANY INSTALLATION. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT CEILING SPACE AVAILABLE.
9. PLUMBING CONTRACTOR TO COORDINATE AND PROVIDE ALL SLEEVES REQUIRED FOR BEAM, WALL, AND SLAB PENETRATIONS.

10. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING CLEANOUTS LOCATIONS

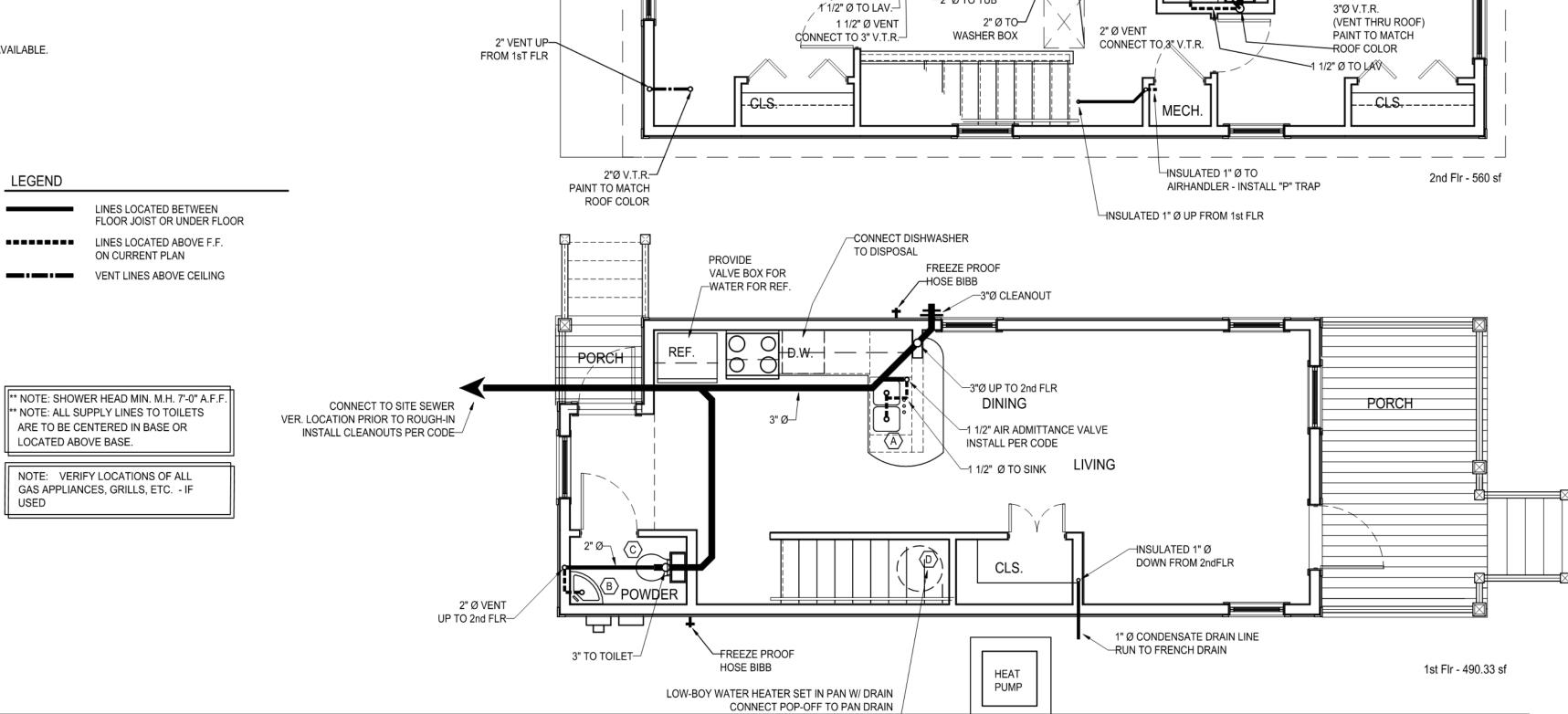
11. WATER METER AND REDUCED PRESSURE BACKLOG PREVENT IN OUTSIDE METER VAULT SHALL BE FURNISHED AND INSTALLED BY SITE PLUMBING CONTRACTOR.

12. WHERE PIPES OF DISSIMILAR METALS ARE CONNECTED, PROVIDE DIELECTRIC UNION AND FITTINGS AS MANUFACTURED BY ECO, STOCKHOLM, OR CACAO.

13. ALL ROOF PENETRATIONS TO BE @ REAR OF BUILDING (OUT OF SITE FROM STREET) AND PAINTED TO MATCH COLOR OF ROOF.

14. PLUMBER TO VERIFY GAS REQUIREMENTS OF ALL APPLIANCES/ETC. AND SIZE PIPING ACCORDINGLY.
15. ALL DRAIN LINES RUN FROM WATER HEATER PANS TO BE RATED FOR USE DOMESTIC HOT WATER.

			FIXT	URE SCHEDULE	
MARK	ROOM	FIXT.	MANUFACTURER	CATALOG #	REMARKS
A	KITCHEN	SINK			
B	1/2 BATH	LAV.			
(C)	1/2 BATH	TOILET			
	UNDER STAIRS	W. HEATER			LOWBOY LOCATED UNDER STAIRS W/ ACCESS
E	BATH #1	LAV.			
F	BATH #1	TOILET			
G	BATH #1	TUB			
H	BATH #2	LAV.			
	BATH #2	TOILET			
J	BATH #2	SHOWER			
MARK	FAUCET MANUFAC	TURER	STYLE	CATALOG #	REMARKS
A					
B					
(C)	N/A				
	N/A				
E					
F	N/A				
G					
H					
	N/A				
J					



BEDROOM #1

3" UP FROM 1st FLR-



1/4" = 1'

Liberty

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PLAN **#AFX-003 Tupelo Cottage**

LICENSEE

Malasri Engineering, PLLC 65 Union Ave Ste 800 Memphis, TN 38103 jt@malasriengineering.com (901) 602-2884

LHP REFERENCE # O-1004

PROJECT LOCATION

CITY, COUNTY, AND STATE

Memphis

(Shelby County) TN

PARCEL NUMBER(S)

Parcel #001055 00014 (Third St)

Parcel #001055 00017 (164 Keel Ave)

MECHANICAL & PLUMBING PLANS

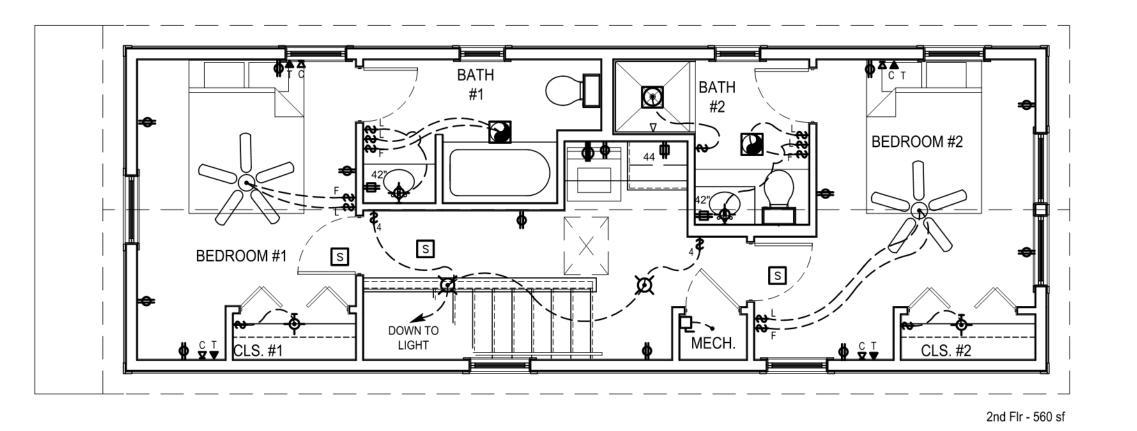


	FIXTURE SCHEDULE			
MARK	MANUFACTURER	CATALOG #	LAMPS	REMARKS
L1				
L2				
L3				
L4				
L5				
L6				
L7				
L8				
L9				
FI				
F2				
F3				
V1				
V2				

SYM	BOL SCHEDULE						
\$	SINGLE SWITCH	¤	SURFACE MOUNTED LIGHT FIXTURE	ф	DUPLEX OUTLET (ARC FAULT AS REQ. BY CODE)	V	COMPUTER(VERIFY WIRE TYPE)
\$ ₃	3-WAY SWITCH	ф	WALL MOUNTED FIXTURE	♦ SW	SPLIT OUTLET - SWITCHED (ARC FAULT AS REQ. BY CODE)	Z c	
\$ ₄	4-WAY SWITCH		RECESSED FIXTURE	#	QUAD OUTLET (ARC FAULT AS REQ. BY CODE)	▼ 1	TELEPHONE (VERIFY WIRE TYPE)
\$ 3D	3-WAY DIMMER SWITCH		RECESSED SMALL APERTURE FIXTURE	ф	GROUND FAULT INTERRUPT OUTLET (ARC FAULT AS REQ. BY CODE)	Б	DISCONNECT (VERIFY REQUIREMENTS
\$ F	FAN SWITCH	∇ ∇ ∇	TRACK LIGHT FIXTURE	₩ WP	WATERPROOF G.F.I.	s	SMOKE DETECTOR
8	FLOOD LIGHT		FLUORESENT LIGHT FIXTURE	Φ	220 V. OUTLET OR DISCONNECT	(SP)	RECESSED SPEAKER
Д	SURFACE MOUNTED STAIR LIGHT		UNDER CABINET LIGHT	E	FLOOR DUPLEX OUTLET (ARC FAULT AS REQ. BY CODE)	63	W.P. SPEAKER CONNECTION
	HEATER/VENT/LIGHT		EXTERIOR CEILING FAN	1	A/C REGISTER (SIDEWALL)	T	HVAC THERMOSTAT
	VENT FAN			←\$	A/C REGISTER (CEILING)		
			CEILING FAN				

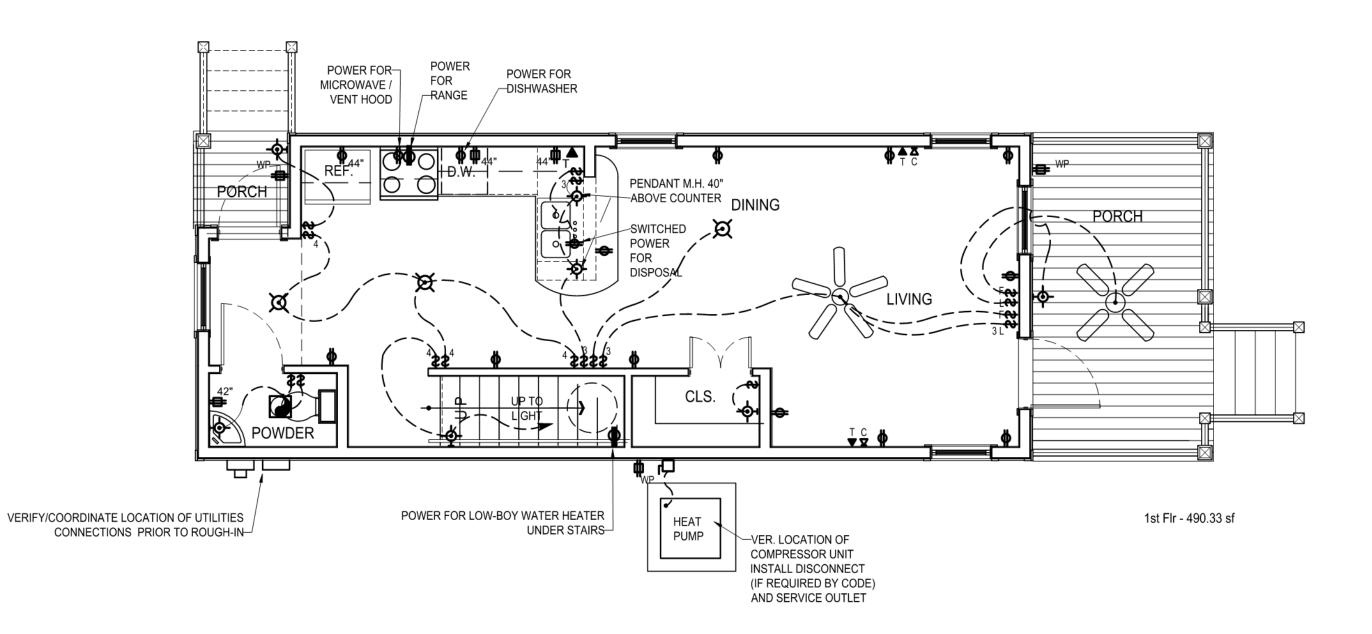
GENERAL NOTES:

- 1. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SIZING OF ALL MATERIALS, CIRCUITS, PANELS, ETC. TO
- ALLOW FOR PROPER DISTRIBUTION OF ELECTRICAL SERVICE.
- 2. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND MAY NOT SHOW EVERY CONDITION, OFFSET, BEND, ELBOW, OR FITTING WHICH MAY BE REQUIRED FOR THE SUCCESSFUL INSTALLATION OF THIS WORK.
- 3. ALL ELECTRICAL WORK TO BE EXECUTED IN STRICT ACCORDANCE WITH THE APPLICABLE ELECTRICAL CODE AND LOCAL INTERPRETATIONS. THE SYSTEM SHALL BE GUARANTEED FOR A MINIMUM OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER/ARCHITECT.
- 4. ELECTRICAL CONTRACTOR TO VERIFY REQUIREMENTS FOR ALL MECHANICAL EQUIPMENT, APPLIANCES, ETC. PRIOR TO ROUGH-IN OF ELECTRICAL SYSTEM.
- 5. VERIFY ALL TELEPHONE, COMPUTER AND CABLE OUTLET LOCATIONS W/ OWNER/ARCHITECT PRIOR TO ROUGH-IN
- 6. VERIFY ALL MOUNTING HEIGHTS 7. REFER TO ADDITIONAL NOTES ON SHEET MPE



2nd FLOOR POWER & LIGHTING PLANS

1/4" = 1'



1st & 2nd FLOOR POWER & LIGHTING PLANS



The Artifex Collection

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PLAN **#AFX-003 Tupelo Cottage**

LICENSEE

Malasri Engineering, PLLC 65 Union Ave Ste 800 Memphis, TN 38103 jt@malasriengineering.com (901) 602-2884

LHP REFERENCE # O-1004

PROJECT LOCATION

CITY, COUNTY, AND STATE

Memphis (Shelby County) TN

PARCEL NUMBER(S) Parcel #001055 00014 (Third St) Parcel #001055 00017 (164 Keel Ave)

POWER & LIGHTING **PLANS**