RENDERING OF SIMILAR DUPLEX

New Single Family Homes Located At:

John Knox Village

Duplex Unit

626-628 Willow
Lee's Summit, Missouri

Project No.:	20056
Date:	02.22.21
Issued For:	PERMIT

FINKLE + WILLIAMS
ARCHITECTURE

ARCHITECT

FINKLE + WILLIAMS ARCHITECTURE

8787 Renner Blvd., Suite 100
Lenexa, Kansas 66219
P. 913.498.1550

STRUCTURAL ENGINEER

BSE STRUCTURAL ENGINEERS

11320 West 79th Street
Lenexa, Kansas 66214
P. 913.492.7400

CIVIL ENGINEER

BHC RHODES

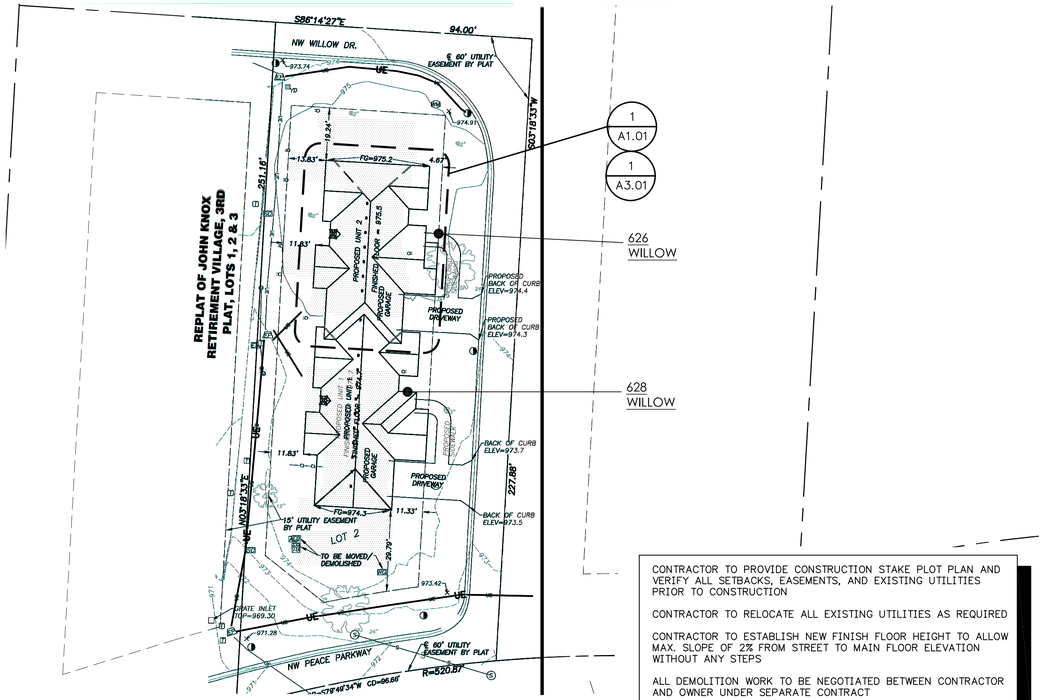
7101 College Blvd., Ste. 400
Overland Park, KS 66210
P. 913.663.1900

CONTRACTOR

HARKRADER CONSTRUCTION

1001 NW Chipman Rd Suite 113
Lee's Summit, MO 64081
P. 816.607.7191

Drawing Index



CONTRACTOR TO PROVIDE CONSTRUCTION STAKE PLOT PLAN AND VERIFY ALL SETBACKS, EASEMENTS, AND EXISTING UTILITIES PRIOR TO CONSTRUCTION

CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES AS REQUIRED

CONTRACTOR TO ESTABLISH NEW FINISH FLOOR HEIGHT TO ALLOW MAX. SLOPE OF 2% FROM STREET TO MAIN FLOOR ELEVATION WITHOUT ANY STEPS

ALL DEMOLITION WORK TO BE NEGOTIATED BETWEEN CONTRACTOR AND OWNER UNDER SEPARATE CONTRACT

General Building Information:

PROJECT NAME: JOHN KNOX VILLAGE – 2 PLEX UNIT
ADDRESS: 626 –628 WILLOW DR.
PROPOSED USE: RESIDENTIAL

APPLICABLE CODE

2018 INTERNATIONAL RESIDENTIAL CODE (IRC) WITH CITY AMENDMENTS)

BUILDING AREA SUMMARY

±Typical Unit

House:	1,200 s.f.
Screened Porch:	130 s.f.
Garage:	440 s.f.
Total:	1,770 s.f.

Note:
Area calculated to outside face of framing. Does not include overhangs or front porches.

Professional Services Disclaimer

THIS DISCLAIMER SERVES NOTICE OF ACCEPTANCE OF RESPONSIBILITY AND DISCLAIMER OF RESPONSIBILITY AS TO THE CONTRACT DOCUMENTS PREPARED FOR PROJECT NUMBER 20056, JOHN KNOX VILLAGE (626 - 628 WILLOW DRIVE)

THE UNDERSIGNED ARCHITECT, AND FINKLE|WILLIAMS, INC., ARE RESPONSIBLE FOR PREPARATION OF ONLY THE NOTED CONSTRUCTION DRAWINGS BELOW:

NO.	TITLE	DATE
	COVER	
A0.01	PROJECT INFORMATION	02.22.21
A1.00	CRAWL SPACE PLAN, TYPICAL	02.22.21
A1.01	FLOOR PLANS/SCHEDULES	02.22.21
A3.01	ROOF PLAN	02.22.21
A4.01	EXTERIOR ELEVATIONS	02.22.21
A4.02	ENLARGED EXTERIOR ELEVATIONS	02.22.21
A5.01	SECTIONS/DETAILS	02.22.21
A7.01	INTERIOR ELEVATIONS	02.22.21
A9.01	CEILING/POWER PLAN	02.22.21

THE UNDERSIGNED ARCHITECT AND FINKLE|WILLIAMS DISCLAIM RESPONSIBILITY FOR ALL OTHER CONSTRUCTION DOCUMENTS, SPECIFICATIONS, REPORTS, ESTIMATES, SHOP DRAWINGS, ETC. RELATING TO OR INTENDED TO BE USED FOR ANY PART OF THE ARCHITECTURAL OR ENGINEERING PROJECT, INCLUDING ANY GEOTECHNICAL ENGINEERING SERVICES, OR ENVIRONMENTAL REPORTS.

THIS NOTICE IS EXECUTED BY THE UNDERSIGNED AND AUTHENTICATED BY THE ARCHITECTURAL SEAL OF THE PERSON PREPARING THIS NOTICE.

FINKLE|WILLIAMS, INC.

(SEAL)

BY _____
ARCHITECT: DAVID ALAN WILLIAMS

STATE OF MISSOURI * REGISTERED ARCHITECT * DAVID ALAN WILLIAMS NUMBER A-5548

New Single Family Homes Located At

John Knox Village

DUPLEX UNIT
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STATE OF MISSOURI * REGISTERED ARCHITECT * DAVID ALAN WILLIAMS NUMBER A-5548

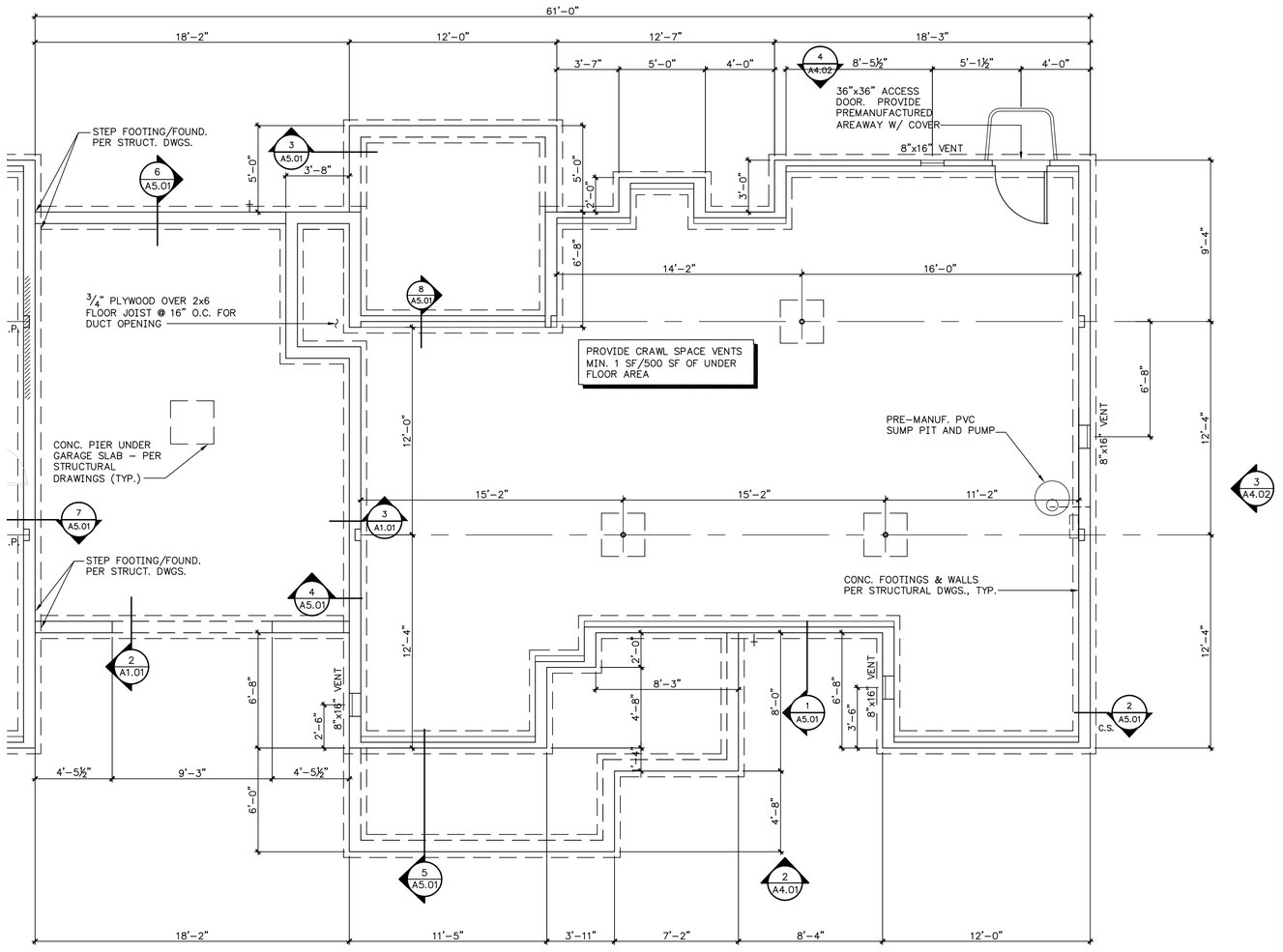
PROJECT TEAM

ARCHITECT	FINKLE+WILLIAMS ARCHITECTURE
CIVIL	BHC RHODES
STRUCTURAL	BSE STRUCTURAL ENGINEERS

FINKLE + WILLIAMS
ARCHITECTURE
8787 Renner Blvd, Suite 100
Lenexa, Kansas 66219
913 + 498 - 1550

SHEET NUMBER

A0.01



1	CRAWL SPACE PLAN (TYP.)
A1.00	SCALE : 1/4" = 1'–0"

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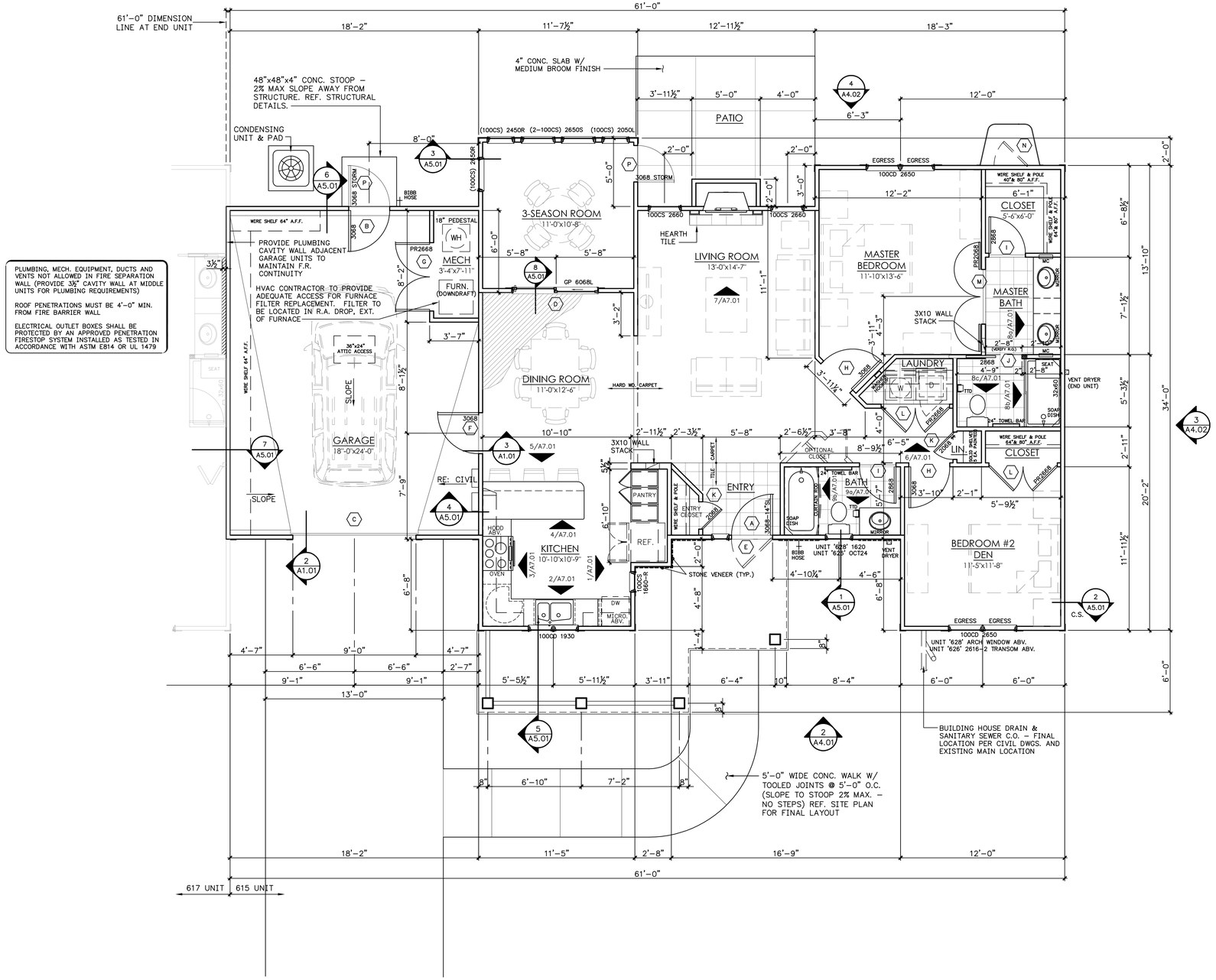


1 | FLOOR PLAN (TYP.)
A1.01 | SCALE : 1/4" = 1'-0"

ROOM FINISH SCHEDULE

ROOM	FLOOR (SEE NOTE A BELOW)	BASE	WALLS	CEILING MAT.	CEILING HT.	REMARKS
GARAGE		4" HIGH RUBBER	PAINT	PAINT	9'-0"	
STAIR		NONE	PAINT	PAINT	9'-0"	
UTILITY		NONE	PAINT	PAINT	9'-0"	
3-SEASON ROOM		EXTERIOR TRIM	PAINT	PAINT	9'-0"	
DINING ROOM		5½ COLONIAL – PAINT	PAINT	PAINT	9'-0"	
KITCHEN		5½ COLONIAL – PAINT	PAINT/TILE	PAINT	9'-0"	
LIVING ROOM		5½ COLONIAL – PAINT	PAINT	PAINT	VAULT	
ENTRY		5½ COLONIAL – PAINT	PAINT	PAINT	VAULT	
ENTRY CLOSET		5½ COLONIAL – PAINT	PAINT	PAINT	9'-0"	
HALLWAY		5½ COLONIAL – PAINT	PAINT	PAINT	9'-0"	
LAUNDRY		5½ COLONIAL – PAINT	PAINT	PAINT	9'-0"	+½" CONC. BD. UNDER TILE
HALL CLOSET/LIN.		5½ COLONIAL – PAINT	PAINT	PAINT	9'-0"	
HALL BATH		5½ COLONIAL – PAINT	PAINT/TILE	PAINT	9'-0"	+½" CONC. BD. UNDER TILE
BEDROOM		5½ COLONIAL – PAINT	PAINT	PAINT	VAULT	
BEDROOM CLOSET		5½ COLONIAL – PAINT	PAINT	PAINT	9'-0"	
MASTER BEDROOM		5½ COLONIAL – PAINT	PAINT	PAINT	VAULT	
MASTER CLOSET		5½ COLONIAL – PAINT	PAINT	PAINT	9'-0"	
MASTER BATH		5½ COLONIAL – PAINT	PAINT/TILE	PAINT	9'-0"	+½" CONC. BD. UNDER TILE

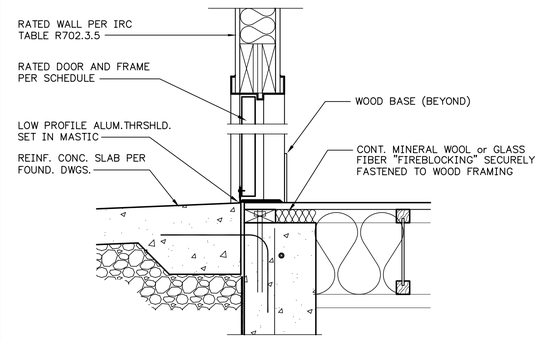
NOTE:
A. FUTURE FLOOR FINISH TO BE SELECTED BY OWNER

DOOR SCHEDULE

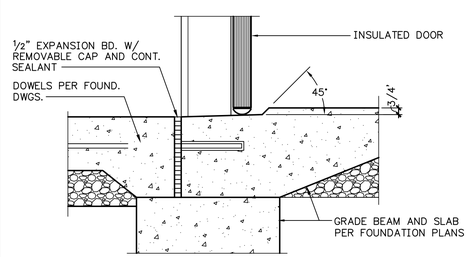
* REFERENCE DIVISION 8 FOR DOOR & WINDOW SPECS.

MARK	SIZE (WxH)	LOCATION	DESCRIPTION
A	3'-0"x6'-8" +SL	FRONT ENTRANCE	INSUL. EXT. FIBERGLASS W/ LOW PROFILE (LP) SILL & 14" SIDELITE
B	3'-0"x6'-8"	GARAGE TO EXTERIOR	INSUL. EXT. FIBERGLASS DOOR W/ LOW PROFILE (LP) SILL
C	9'-0"x7'-0"	GARAGE O.H. DOOR	INSUL. STEEL 2-SIDED O.H. DOOR W/ 1/2hp LIFT MASTER OPENER
D	6'-0"x6'-8"	HORIZ. SLIDER TO 3-SEASON	ANDERSON 100 SERIES INSUL. NARROW STYLE SLIDING DOOR
E	3'-0"x6'-8"	ENTRY STORM	ALUM. (COLUMBIA FULL VIEW–KING ONE LITE W/ SCREEN INSERT)
F	3'-0"x6'-8"x1 1/2"	HOUSE TO GARAGE	COLONIST COMMERCIAL SMOOTH, 20 MIN. FIRE RATED W/ LP SILL
G	PR. 2'-6"x6'-8"	MECHANICAL CLOSET	COLONIST COMMERCIAL SMOOTH, 20 MIN. FIRE RATED W/ LP SILL
H	3'-0"x6'-8"	BEDROOMS	COLONIST MASONITE, SMOOTH FINISH
I	2'-8"x6'-8"	BATHROOM, MBR CLOSET	COLONIST MASONITE, SMOOTH FINISH
J	2'-8"x6'-8"	MASTER BATH TOILET	COLONIST MASONITE, SMOOTH FINISH POCKET DOOR
K	2'-0"x6'-8"	ENTRY, LINEN CLOSETS	COLONIST MASONITE, SMOOTH FINISH
L	PR. 2'-6"x6'-8"	LAUNDRY, B.R. #2 CLOSET	COLONIST MASONITE, SMOOTH FINISH PAIR
M	PR. 2'-0"x6'-8"	MASTER BATH	COLONIST MASONITE, SMOOTH FINISH PAIR
N	2'-6"x2'-6"	CRAWL SPACE (ONLY)	BOMAN–KEMP 3030 "EASY–BUCK" SYSTEM OR EQ.
P	3'-0"x6'-8"	GARAGE/3-SEAS. TO PATIO	ALUM. (COLUMBIA TIARA SELF–STORING, WHITE)

NOTE:
DOOR F TO HAVE SELF–CLOSING DEVICE PER IRC R302.5.1



3 | DOOR DETAIL
A1.01 | SCALE : 3" = 1'-0"



2 | DOOR SILL DETAIL
A1.01 | SCALE : 3" = 1'-0"

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REGISTERED ARCHITECT

PROJECT TEAM

ARCHITECT	FINKLE+WILLIAMS ARCHITECTURE
CIVIL	BHC RHODES
STRUCTURAL	BSE STRUCTURAL ENGINEERS

FINKLE + WILLIAMS
ARCHITECTURE
8787 Renner Blvd, Suite 100
Lenexa, Kansas 66219
913 + 498 - 1550

SHEET NUMBER

A1.01

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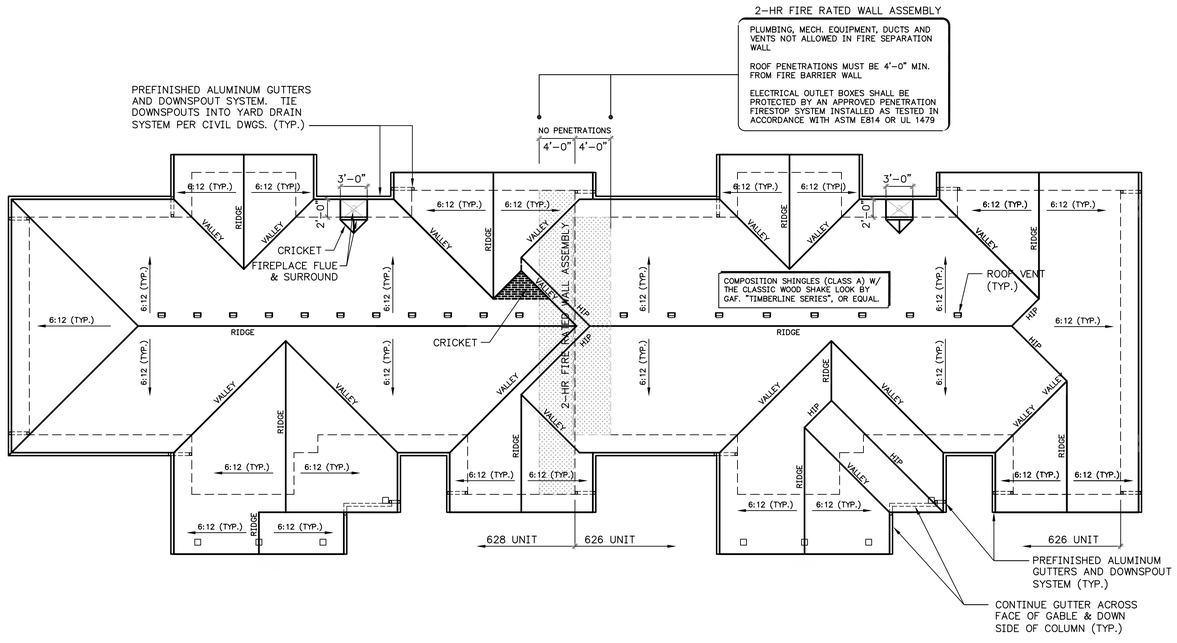

PLAN NORTH

1	ROOF PLAN
A3.01	SCALE : 1/8" = 1'-0"

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ARCHITECTURE
8787 Renner Blvd, Suite 100
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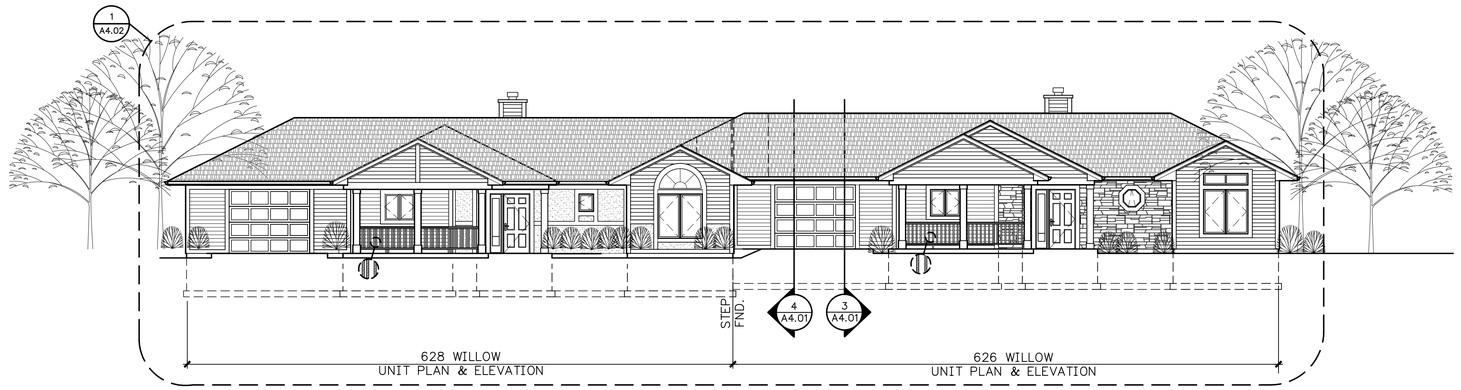
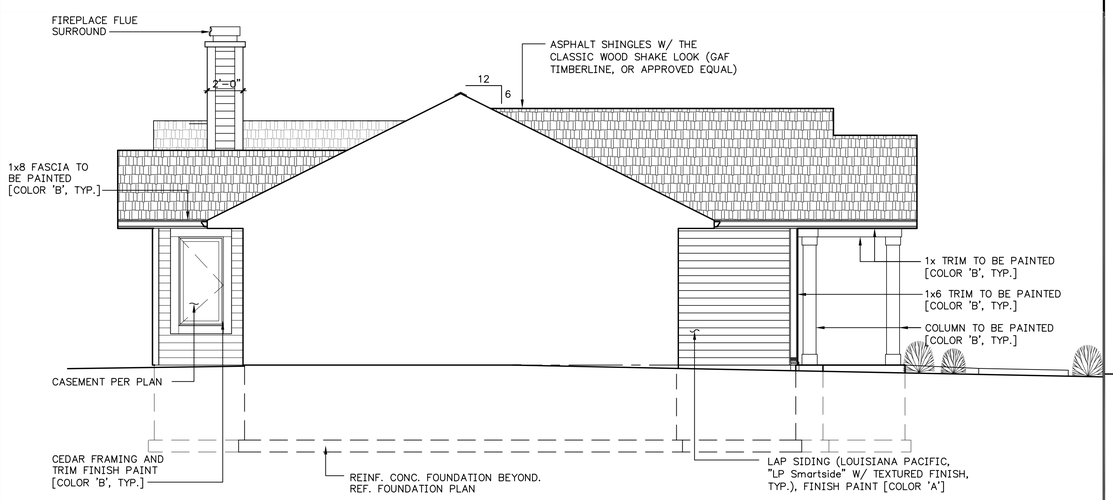
A3.01



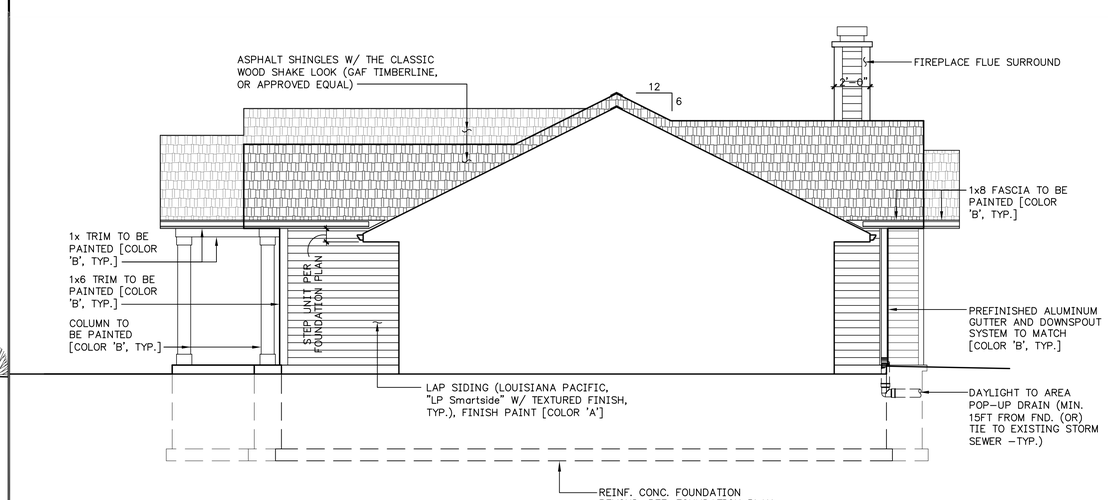
2 FRONT ELEVATION

A4.01 SCALE : 1/8" = 1'-0"



3 SIDE ELEVATION/SECTION (TYP.)

A4.01 SCALE : 1/4" = 1'-0"



4 SIDE ELEVATION/SECTION (TYP.)

A4.01 SCALE : 1/4" = 1'-0"

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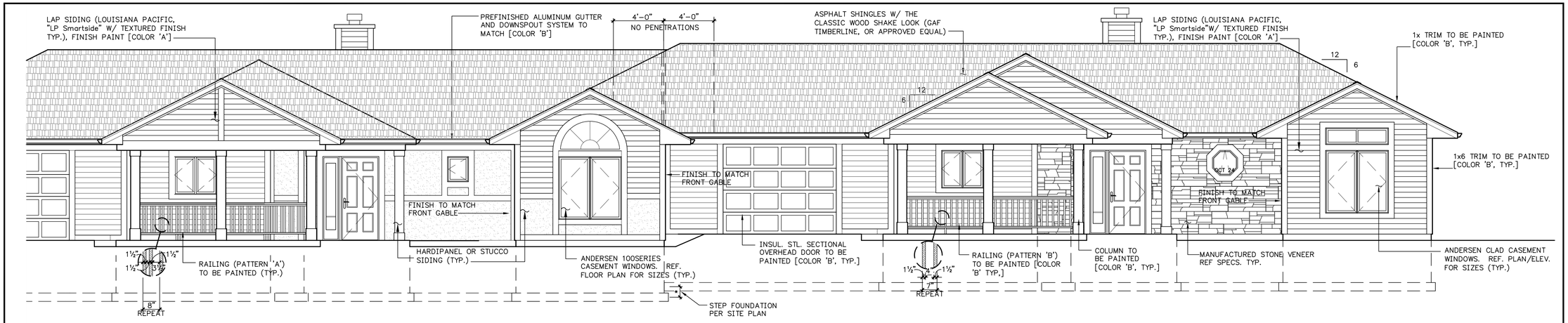
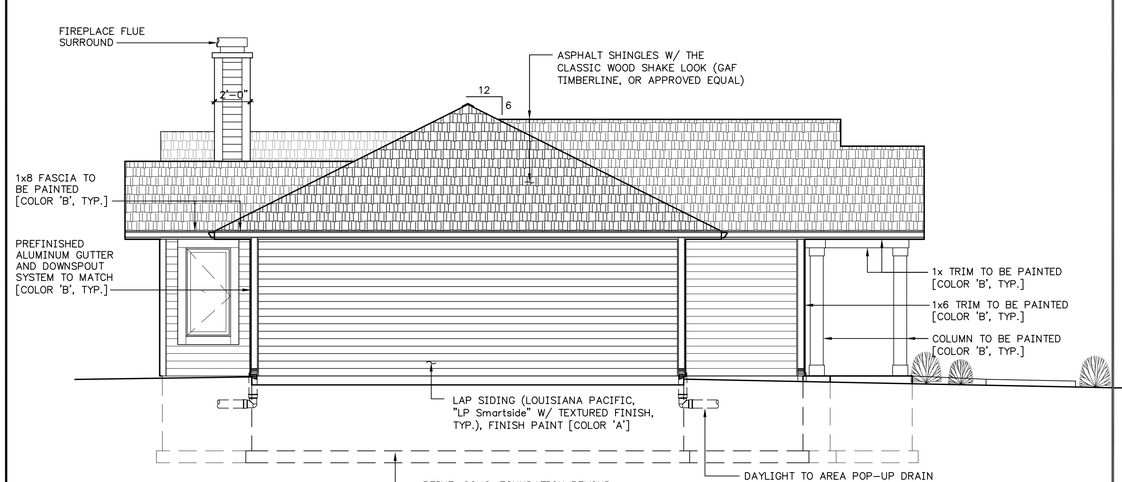
A4.01



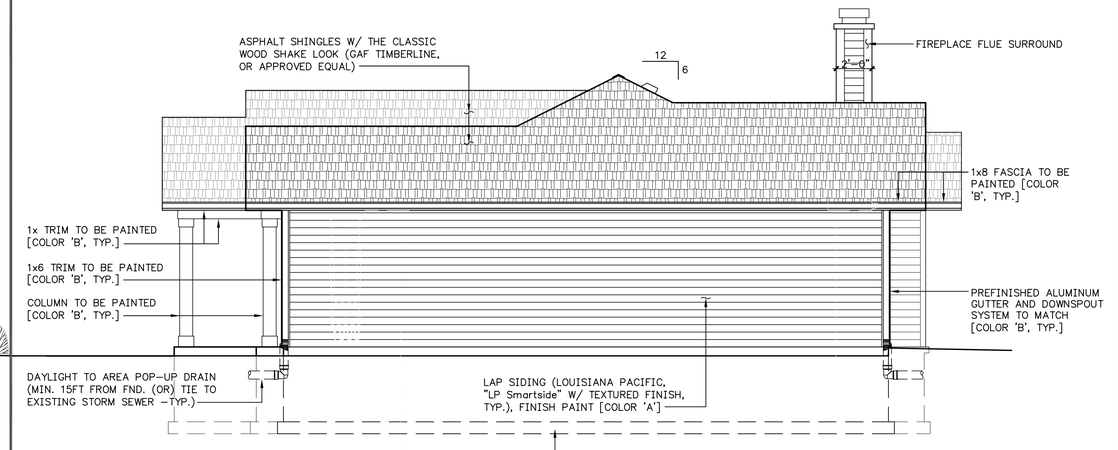
1 FRONT ELEVATION (TYP.)

A4.02 SCALE : 1/4" = 1'-0"



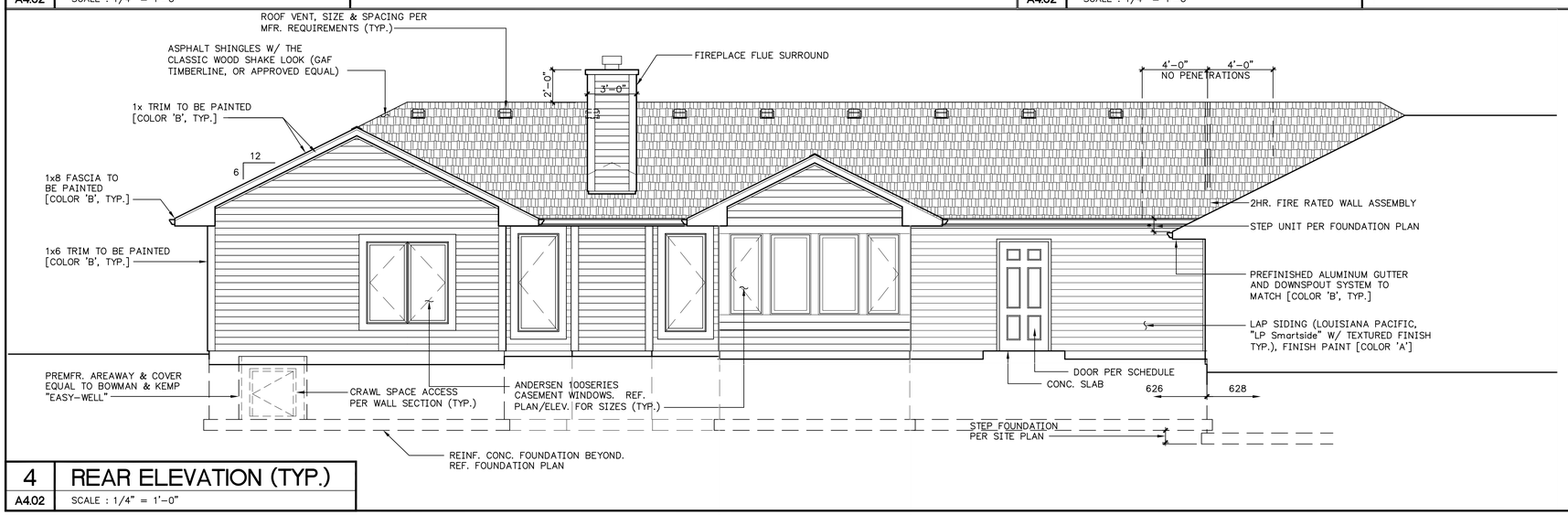
2 SIDE ELEVATION (TYP.)

A4.02 SCALE : 1/4" = 1'-0"



3 SIDE ELEVATION (TYP.)

A4.02 SCALE : 1/4" = 1'-0"



4 REAR ELEVATION (TYP.)

A4.02 SCALE : 1/4" = 1'-0"

EXTERIOR PAINT SCHEDULE

REFERENCE SHEET A0.01 FOR PAINT FINISH SPECIFICATIONS

LILAC:
(FIELD) COLOR 'A': TBD
(TRIM) COLOR 'B': TBD
(ENTRY DOOR)
615 – TBD
617 – TBD
619 – TBD

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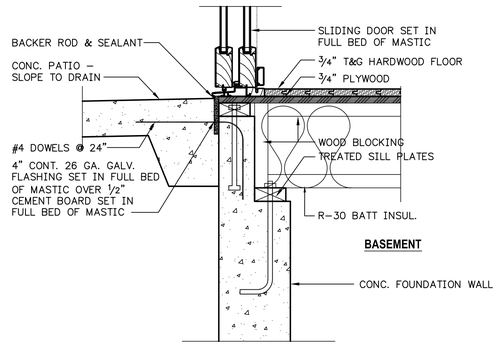
8787 Renner Blvd, Suite 100
Lenexa, Kansas 66219
913 + 498 - 1550

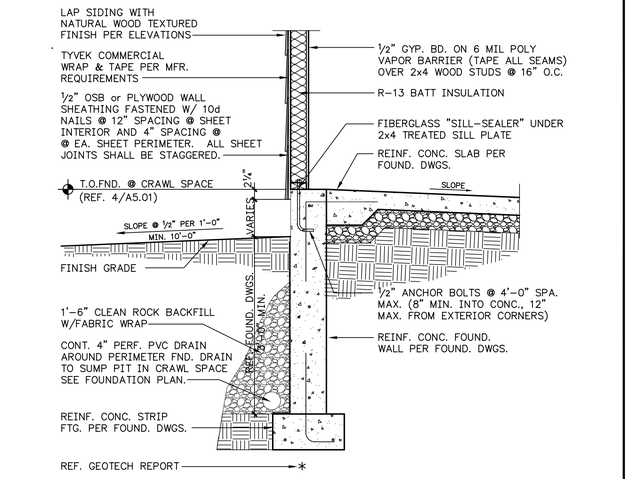
SHEET NUMBER

A4.02



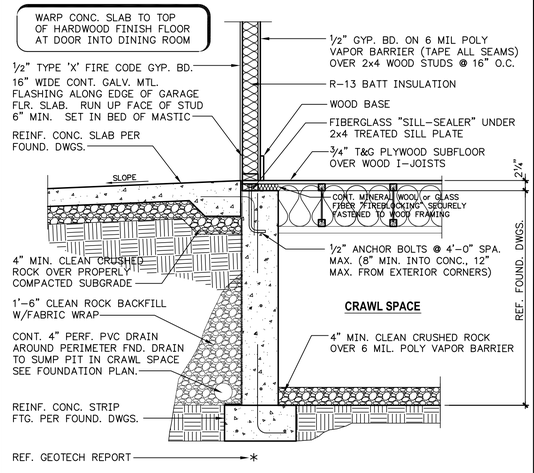
8 SLIDING DOOR THRESHOLD

A5.01 SCALE : 1½" = 1'–0"



6 WALL SECTION @ GARAGE

A5.01 SCALE : 3/4" = 1'–0"



4 WALL SECTION @ GARAGE

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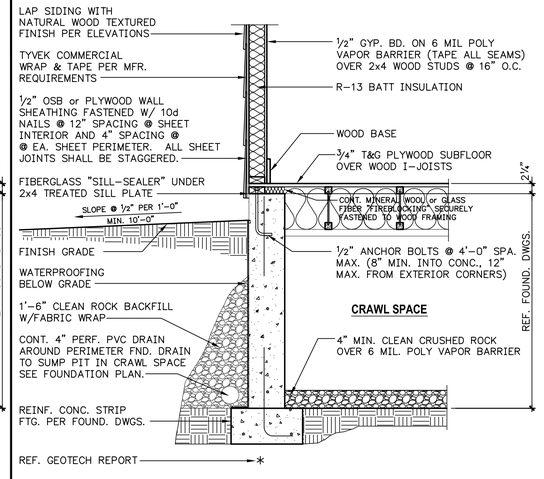
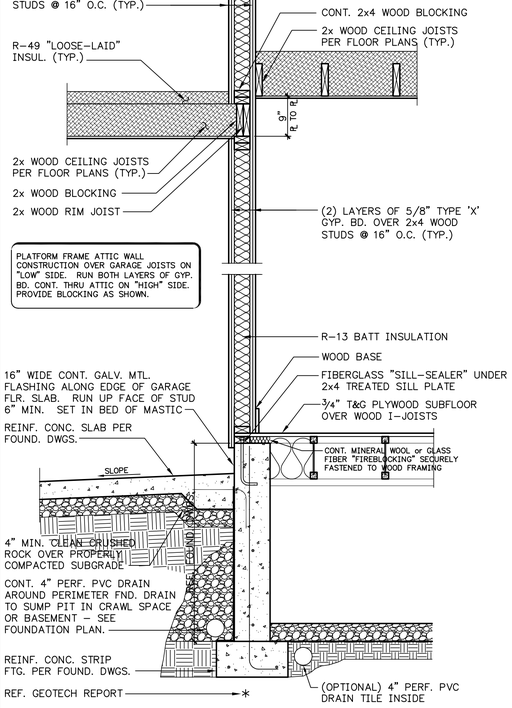


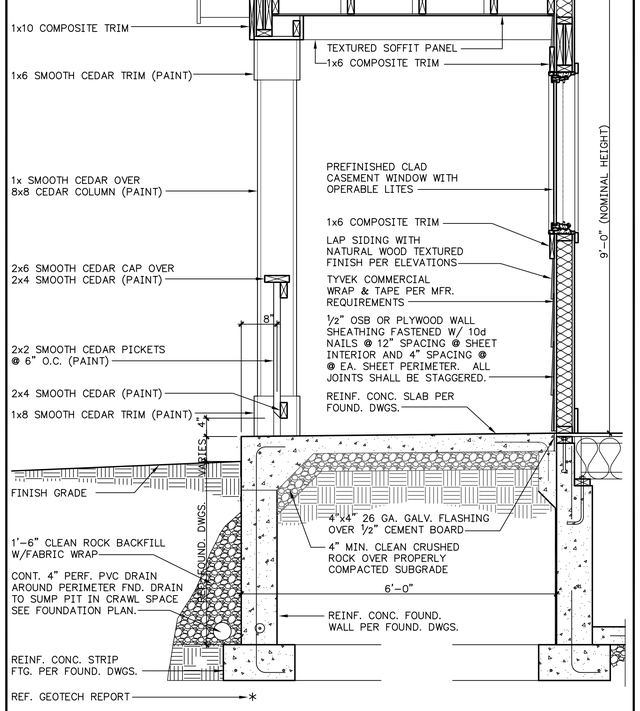
2 WALL SECTION @ CRAWL SPACE

A5.01 SCALE : 3/4" = 1'–0"



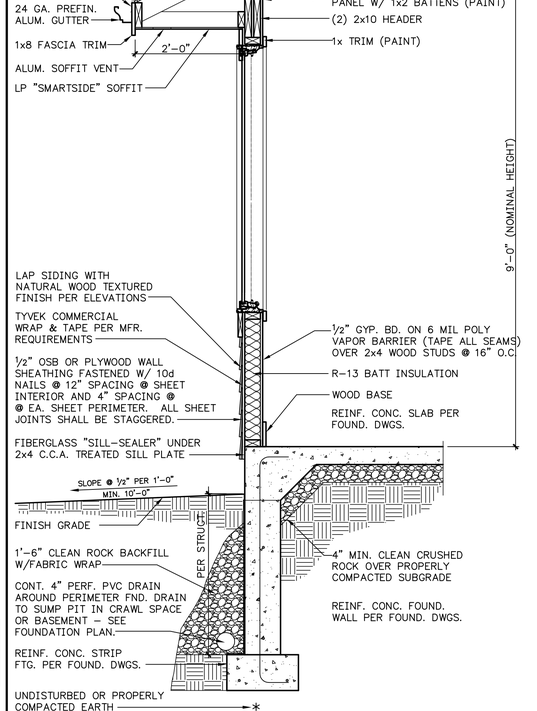
7 WALL SECTION @ GARAGE

A5.01 SCALE : 3/4" = 1'–0"



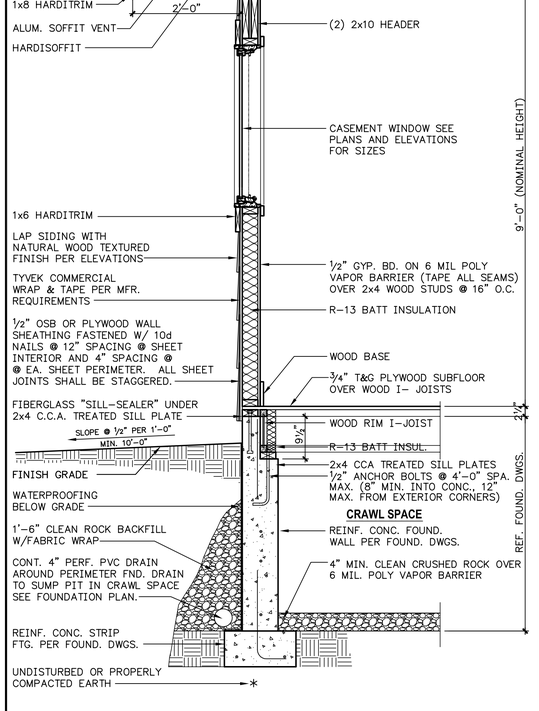
5 WALL SECTION @ FRONT PORCH

A5.01 SCALE : 3/4" = 1'–0"



3 WALL SECTION @ SCREENED PORCH

A5.01 SCALE : 3/4" = 1'–0"



1 WALL SECTION @ CRAWL SPACE

A5.01 SCALE : 3/4" = 1'–0"

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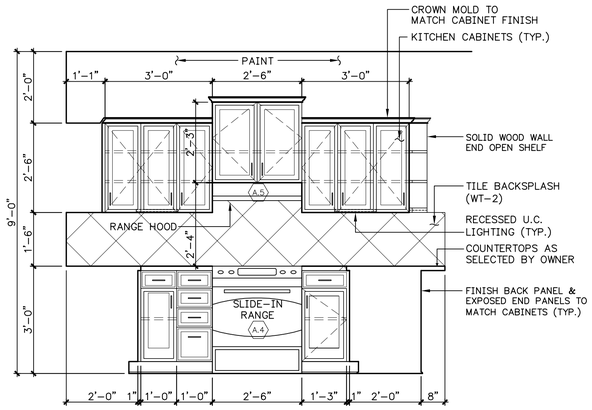


APPLIANCE SCHEDULE

ALL APPLIANCES TO BE PROVIDED AS DIRECTED BY OWNER IN FUTURE SCHEDULE.

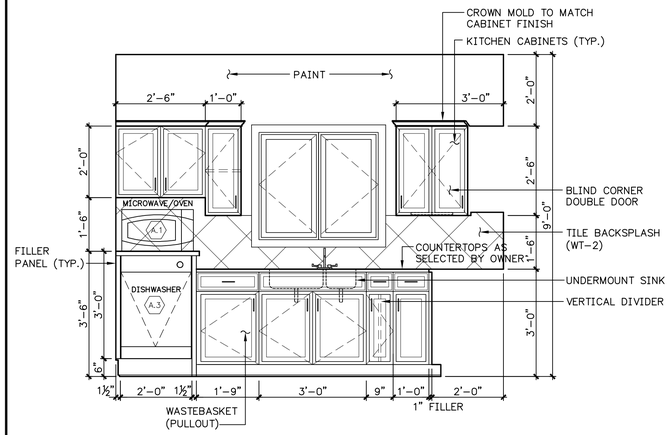
- A.1 MICROWAVE/COUNTERTOP OVEN
- A.2 REFRIGERATOR
- A.3 DISHWASHER: (HIDDEN CONTROLS)
- A.4 SLIDE-IN ELECTRIC RANGE:
- A.5 RANGE VENTILATION HOOD:
- A.6 WASHER: 3.6 CUFT TOP LOAD (WHITE FINISH)
- A.7 ELECTRIC DRYER: 7.0 CUFT (WHITE FINISH)

CONTRACTOR TO COORDINATE CLEAR OPENINGS FOR ALL CASEWORK AND APPLIANCES PRIOR TO START OF MILLWORK CONSTRUCTION

EXTEND VALANCE AT UPPER CABINETS TO CONCEAL UNDERCOUNTER LIGHTING (TYP.)

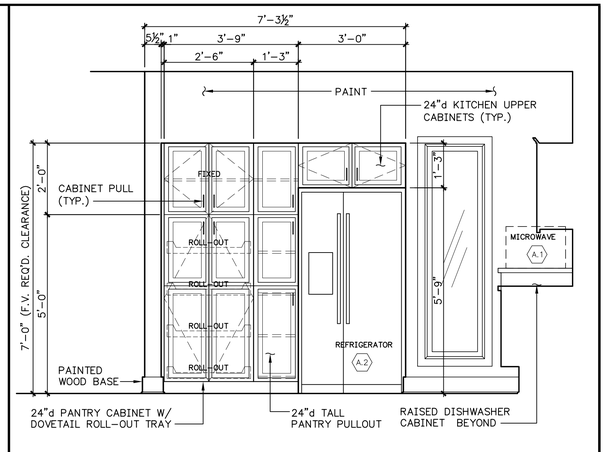
3 KITCHEN ELEVATION

A7.01 SCALE : 1/2" = 1'-0"



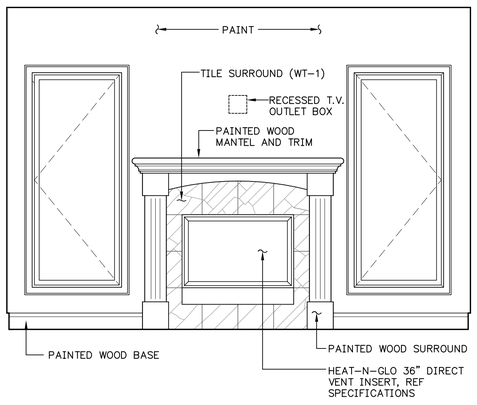
2 KITCHEN ELEVATION

A7.01 SCALE : 1/2" = 1'-0"



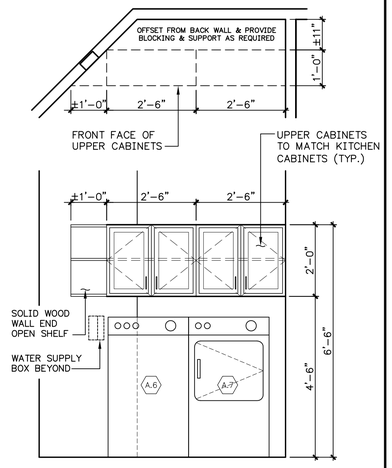
1 KITCHEN ELEVATION

A7.01 SCALE : 1/2" = 1'-0"



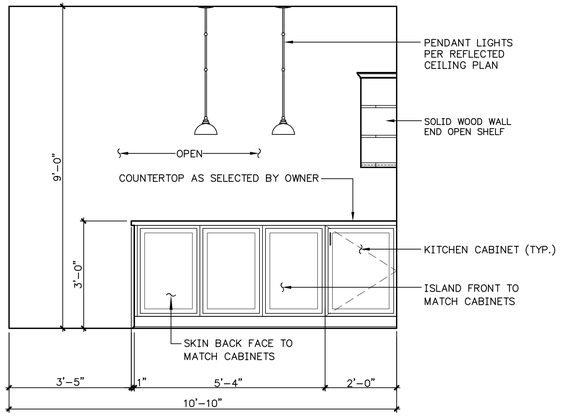
7 FIREPLACE ELEVATION

A7.01 SCALE : 1/2" = 1'-0"



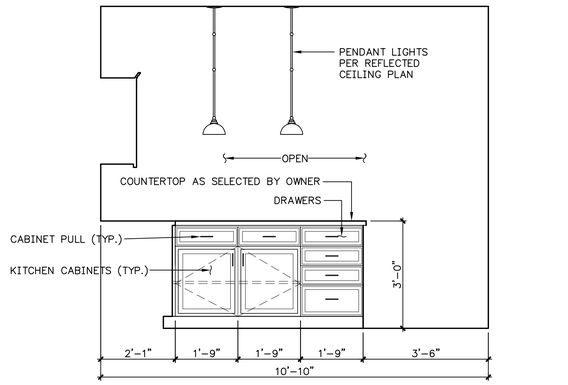
6 LAUNDRY CABINET ELEV.

A7.01 SCALE : 1/2" = 1'-0"



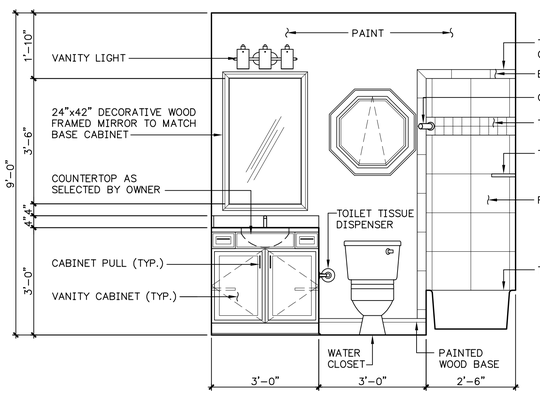
5 KITCHEN ELEVATION

A7.01 SCALE : 1/2" = 1'-0"

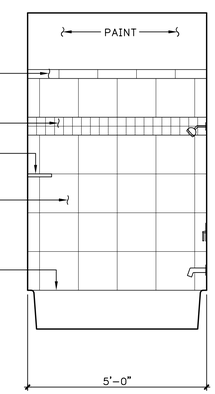


4 KITCHEN ELEVATION

A7.01 SCALE : 1/2" = 1'-0"



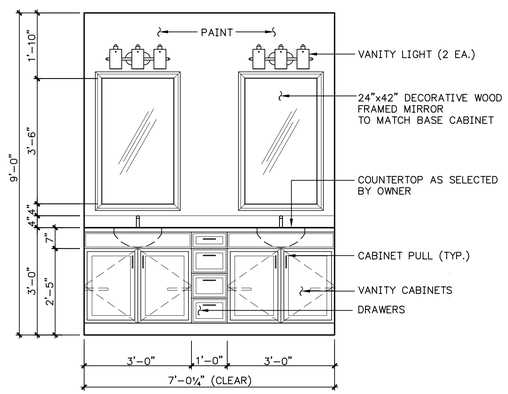
9a VANITY ELEVATION



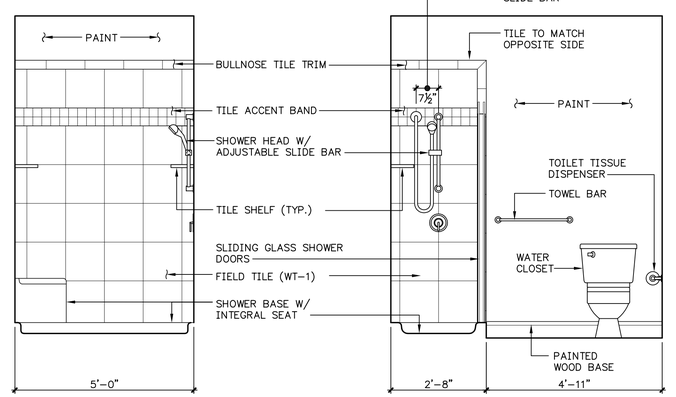
9b TUB SURROUND

9 HALL BATH ELEVATIONS

A7.01 SCALE : 1/2" = 1'-0"



8a VANITY ELEVATION



8b SHOWER ELEVATION

8c SHOWER ELEVATION

8 MASTER BATH ELEVATIONS

A7.01 SCALE : 1/2" = 1'-0"

New Single Family Homes Located At

John Knox Village

DUPLEX UNIT
626 - 628 WILLOW
LEE'S SUMMIT, MISSOURI 64081

Project No:	20056
Date:	02.22.21
Issued For:	PERMIT

REVISIONS

No.	Date	Description

REGISTRATION

STATE OF MISSOURI — DAVID ALAN WILLIAMS — NUMBER A-5540 — REGISTERED ARCHITECT

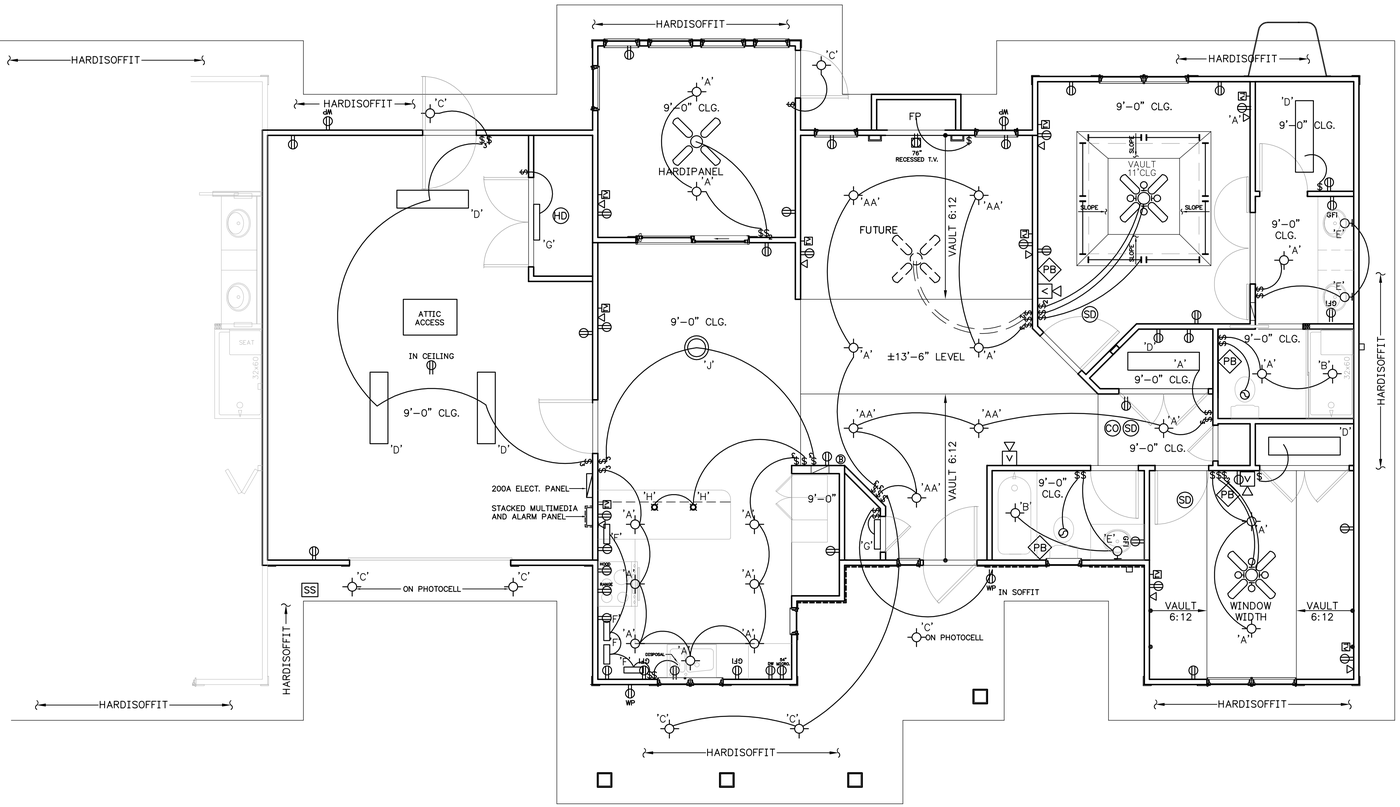
PROJECT TEAM

ARCHITECT	FINKLE+WILLIAMS ARCHITECTURE
CIVIL	BHC RHODES
STRUCTURAL	BSE STRUCTURAL ENGINEERS

FINKLE + WILLIAMS
ARCHITECTURE
8787 Renner Blvd, Suite 100
Lenexa, Kansas 66219
913 + 498 - 1550

SHEET NUMBER

A7.01



PLAN NORTH

1	CEILING PLAN - POWER
A9.01	SCALE : 1/4" = 1'-0"

CEILING/ELECTRICAL LEGEND

- DUPLEX RECEPTACLE
- GFI — GROUND-FAULT PROTECTED DUPLEX RECEPTACLE
- WP — WATERPROOF GROUND-FAULT PROTECTED DUPLEX RECEPTACLE
- CABLE TELEVISION OUTLET
- PHONE/DATA OUTLET
- $ — SINGLE POLE SWITCH: EQ. TO LEVITON WHITE DECORA ROCKER SWITCH (MODEL 5601-2W)
- $2 — SINGLE POLE FAN CONTROL SWITCH: EQ. TO LEVITON WHITE DECORA ROCKER SLIDE SWITCH (MODEL DSM-10 OR APPROVED EQ.)
- $3 — 3-WAY SWITCH: EQ. TO LEVITRON WHITE DECORA ROCKER SWITCH (MODEL 5601-2W)
- PB — EMERGENCY "PUSH BUTTON" CALL SWITCH: EQ. TO TEKTONE (MODEL SF154B)
- SD — SMOKE DETECTOR
- CO — CARBON MONOXIDE DETECTOR
- HD — HEAT DETECTOR
- B — DOOR BELL CHIME
- EXHAUST FAN
- 'A' — RECESSED CAN LIGHT: TO BE SELECTED BY OWNER
- 'AA' — RECESSED CAN LIGHT: TO BE SELECTED BY OWNER
- 'B' — RECESSED CAN LIGHT: TO BE SELECTED BY OWNER
- 'C' — RECESSED CAN LIGHT: TO BE SELECTED BY OWNER
- 'D' — SURFACE MOUNTED FLUORESCENT FIXTURE W/ WRAP-AROUND LENS: TO BE SELECTED BY OWNER
- 'E' — WALL MOUNTED SCONCE: TO BE SELECTED BY OWNER
- 'F' — UNDERCABINET LOW PROFILE FLUOURESCENT LIGHT FIXTURE: TO BE SELECTED BY OWNER
- 'G' — SURFACE MOUNTED FLUORESCENT FIXTURE: TO BE SELECTED BY OWNER
- 'H' — DECORATIVE PENDANT LIGHT FIXTURE: TO BE SELECTED BY OWNER
- 'J' — PENDANT LIGHT FIXTURE: TO BE SELECTED BY OWNER
- CEILING FAN TO BE SELECTED BY OWNER
  3' DOWN-ROD AT VAULTED CEILINGS
  1' DOWN-ROD AT 9'-0" CEILINGS
  "WET RATED" FAN & BLADES AT EXTERIOR PATIOS AND/OR PORCHES
- CEILING FAN TO BE SELECTED BY OWNER
  2' DOWN-ROD AT VAULTED BEDROOM CEILINGS
  1' DOWN-ROD AT 9'-0" CEILINGS
- SS — SIREN/STROBE (EXTERIOR)
- V — HORN/STROBE (INTERIOR)

NOTE:

1. NO SWITCHED OUTLETS UNLESS NOTIFIED BY JKV
2. MAINTAIN MINIMUM RECEPTACLE SPACING AS PER 2005 NEC.
3. ALL STANDARD OUTLETS TO BE LOCATED 18" A.F.F.
4. ALL FLUORESCENT FIXTURES SHALL BE SELECTED BY OWNER.
5. ALL LIGHT FIXTURE LOCATIONS ARE APPROXIMATE. COORDINATE WITH FIELD CONDITIONS TO PROVIDE A SYMMETRICAL LAYOUT.
6. ELECTRICAL CONTRACTOR TO PROVIDE (2) LIGHT FIXTURES IN THE CRAWL SPACE SWITCHED AT ENTRANCE.
7. ELECTRICAL CONTRACTOR TO PROVIDE (1) DUPLEX GFCI IN THE CRAWL SPACE (COORDINATE LOCATION W/ JKV)
8. ELECTRICAL CONTRACTOR TO PROVIDE (2) LIGHT FIXTURES IN THE ATTIC SPACE SWITCHED AT ENTRANCE.
9. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL (2) 1" CONDUIT (EMT OR PVC) FROM SERVICE PANEL IN GARAGE TO ATTIC FOR FUTURE USE.
10. CEILING FANS WITH LIGHT KITS SHALL HAVE SEPARATE SWITCHES FOR THE FAN AND THE LIGHT.
11. PROVIDE DEDICATED CIRCUIT AND SINGLE RECEPTACLE IN THE CRAWL SPACE FOR THE SUMP PUMP.

New Single Family Homes Located At

John Knox Village

DUPLEX UNIT
626 - 628 WILLOW
LEE'S SUMMIT, MISSOURI 64081

Project No:	20056
Date:	02.22.21
Issued For:	PERMIT

REVISIONS

No.	Date	Description

REGISTRATION

STATE OF MISSOURI REGISTERED ARCHITECT
DAVID ALAN WILLIAMS
NUMBER A-5548

PROJECT TEAM

ARCHITECT	FINKLE+WILLIAMS ARCHITECTURE
CIVIL	BHC RHODES
STRUCTURAL	BSE STRUCTURAL ENGINEERS

FINKLE + WILLIAMS
ARCHITECTURE
8787 Renner Blvd, Suite 100
Lenexa, Kansas 66219
913 + 498 - 1550

SHEET NUMBER

A9.01

General Notes:

DIVISION 1 – GENERAL REQUIREMENTS

A. Unless otherwise indicated in the construction documents, the contractor shall furnish all labor, materials, equipment, tools, utilities, etc. including delivery, storage and security as required to execute the complete project.
The general contractor shall be responsible for coordinating building & site utilities between civil & MEP drawings. The contractor shall also contact all applicable utility companies & provide conduit & other facilities as required.
B. All construction shall conform to the minimum standards of the applicable codes indicated in the building summary column and all local codes presently in effect unless more stringent requirements are indicated.
C. Contractor shall verify all setback requirements and easements as well as local zoning ordinances and/or covenants.
D. The general contractor and all subcontractors shall verify all dimensions & conditions on the job site prior to the bidding of the contract documents. The contractor shall notify the owner or owner's representative immediately of any discrepancies and receive written instructions before bidding and/or executing the work.

In cases of discrepancy concerning dimensions, quantities and location, the contractor shall, in writing, call to the attention of the Owner's Representative (JKV) any discrepancies between specifications, plans, details or schedules. The Owner's Representative (JKV) will then inform the contractor, in writing, which document takes precedence. There shall be no adjustment to the cost or time of the work resulting from clarification of such discrepancies.
E. Dimensions on drawings are shown to the "unfinished" wood framed face of walls and partitions unless otherwise noted. Ceiling height dimensions and all vertical dimensions are to the finished floor surface unless noted otherwise.
F. The general contractor shall obtain and pay for all required permits, licenses, and all utility charges, and arrange for all required inspections.
G. Subcontractor(s) shall guarantee all work against fault of any material or workmanship for a period of not less than one year after completion or acceptance. Faulty work shall be replaced or repaired as required at no cost to the owner.
H. All materials specified or noted shall be installed in accordance with the manufacturers recommendations.
I. DESIGN LOADS: (REFERENCE STRUCTURAL GENERAL NOTES FOR DESIGN LOADS)
J. All wiring, conduit, piping, cables, etc., shall be independently supported and run parallel or perpendicular to framing.
K. Prior to acceptance by the owner, the work must be cleaned, with walls wiped down, glass washed, fixtures cleaned, and floors mopped, vacuumed or swept as required.
L. John Knox Village will carry the testing and special inspection services.
M. John Knox Village will complete all landscape plantings and sod. Contractor is responsible to grade the units per the Civil drawings and provide 3" of pulverized dirt to accept sod.
N. ACTION SUBMITTALS – upon owner request
A. Product Data: Mark each copy to show applicable choices and options. Include the following:
1. Data indicating compliance with specified standards and requirements.
2. Notation of coordination requirements.
3. For equipment, include rated capacities, dimensions, weights, required clearances, and furnished specialties and accessories.
B. Shop Drawings: Submit Project–specific information drawn to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
Submit three (3) opaque copies on sheets at least 8–1/2 by 11 inches but no larger than 24 by 36 inches. Architect will return two (2) copies. Include the following:
1. Dimensions, fabrication and installation drawings, roughing–in and setting diagrams, and relationship to adjoining construction.
2. Identification of products and materials.
3. Wiring diagrams showing field–installed wiring.
4. Notation of coordination requirements.
5. Notation of dimensions established by field measurement.
C. Samples: Submit Samples finished as specified and physically identical with material or product proposed for use. Where variations are inherent in the material, submit three (3) sets of paired units to show full range of variations. Include name of manufacturer and product name on label.

DIVISION 2 – EXISTING CONDITIONS

DIVISION 3 – CONCRETE

A. FOUNDATIONS: REFERENCE STRUCTURAL GENERAL NOTES & SPECIFICATIONS.
1. Spread footings and grade beams are designed to bear on suitable soil capable of safely sustaining 2,000 psf. Refer to Geotechnical Engineering report for definition of suitable soil. Contractor is responsible for preparing site and subgrade per Geotechnical Engineering Report. Contractor responsible to assist in site sampling with excavation equipment.
2. Contractor shall provide dewatering at excavations from either surface water or seepage.
3. All foundation excavations shall be inspected by a qualified soil engineer and approved by owner prior to placement of steel or concrete.
4. All concrete in the structural portion retaining the backfill shall have attained its design strength prior to being backfilled.
5. Moisture content in soils beneath building locations should not be allowed to change after footing excavations and after grading for slabs on grade are completed. If subgrade materials become desiccated or softened by water or other conditions re–compact materials to the density and water content specified for engineered fill. Do not place concrete on frozen ground.

B. CONCRETE AND REINFORCING STEEL:
REFERENCE STRUCTURAL GENERAL NOTES & SPECIFICATIONS.
1. Concrete flatwork will be a minimum of 4K psi mix with no fly ash. All steel to be ½" (#4) bars 2' on Center tied. All concrete construction joints will be pinned minimum 4". Contractor to add (1) 4" PVC pipe under front sidewalk of each unit to connect to gutter drain and add (2) 4" PVC pipes under each unit driveway for future irrigation. (Owner to approve location)

DIVISION 4 – MASONRY

A. MANUFACTURED STONE VENEER
1. By Stone Mountain Manufacturing LLC, Style: Country Ledge; Color: "San Francisco" blend.

DIVISION 5 – STRUCTURAL STEEL:
REFERENCE STRUCTURAL GENERAL NOTES & SPECIFICATIONS.

DIVISION 6 – WOOD, PLASTICS, COMPOSITES:
REFERENCE STRUCTURAL GENERAL NOTES & SPECIFICATIONS.

A. FRAMING LUMBER: Unless otherwise noted, framing lumber shall be Douglas FIR #2 construction grade. Beams, headers and floor joists shall have an allowable bending stress of 1200 p.s.i..
1. Unless otherwise noted provide:
a. Double header joists and trimmers at all floor openings.
b. Double joists under all parallel partitions and all other openings.
c. Double 2x10 headers w/ 1/2" plywood between and 2x4 bottom plate at all door and window openings (U.N.O.).
d. Bridging as required by I–joist mfr. based on joist type & span.
2. Treated lumber shall be used in all locations where lumber is exposed to weather or moisture. Use stainless steel or hot dip galvanized fasteners in direct contact with all treated lumber.
3. Reference structural framing plan for long span joists and headers
B. FLOOR SHEATHING: ¾" tongue and groove OSB subfloor sheathing (Structure Wood Gold) nail and glue w/exterior construction grade glue on ea. joist. 1. Use plywood underlayment flooring w/ ext. glue in all areas to receive hardwood floor finishes.
C. ROOF SHEATHING: 7/16" OSB or plywood sheathing (APA rated with exterior glue) and shall have a panel identification index of 24/16. Fasten w/ 8d nails @ 6" spacing at each sheet perimeter and @ 12" spacing at each sheet interior. Panels shall have long dimension run perpendicular to main framing w/ joints staggered from row to row.
D. WALL SHEATHING: 1/2" OSB or plywood (APA rated w/ exterior glue) Fasten w/ 10d nails @ 4" spacing at each sheet perimeter and @ 12" spacing at each sheet interior. Panels shall have long dimension run perpendicular to main framing w/ joints staggered from row to row.
E. STUDS: Studs to be "stud–grade" spruce–pine fir or better.
F. INTERIOR SHEATHING: All interior walls and ceilings are to be covered w/ gyp. bd. w/ metal corner reinf., tape, float and sand (3 coats). Garage walls and ceilings to be covered w/ ½" type "X" firecode gyp. bd.
1. Use moisture resistant gypsum board for walls and ceilings in all bath and toilet areas.
2. Use cement backer board below all ceramic tile floor installations and behind all ceramic tile wall installations in bathrooms.
3. All soffits and dropped ceilings to be firestopped.
4. Dwelling Unit separation walls shall be 2–HR F.R. construction w/ (2) layers of 5/8" type 'x' firecode gyp. bd. on each side.
G. METAL FRAMING FASTENERS – equal to Simpson Strong–tie connectors in compliance with ICBO No. 1258
H. WOOD TRUSSES: Wood trusses if utilized shall be designed by a premanufactured wood truss supplier. Drawings and calculations shall be submitted signed and sealed by a professional engineer registered in the state of Missouri.
1. Hurricane tie down anchors shall be used at all roof truss bearing locations.
I. FLOOR JOISTS: Shall be 2"x10" Timberstrand Joists. Joist Mfr. shall provide design calculations, shop drawings and erection drawings prior to construction. Contractor shall install all blocking, load transfer assemblies, hangers, accessories etc. as recommended by joist manufacturer.
J. ROOF FRAMING:
1. 2x6 @ 16" o.c. – max. span 12' or provide 2x6 purlins w/ 2x4 post downs to interior walls (typ.)
2. 2x12's @ 16" o.c. – max. span 16' at all "cathedral" vaulted ceilings (or) 2x10's w/2x bottom furring strips to achieve min. 11¼" cavity depth at 10¼" insulation.
3. 2x10's @ all hip, valley & ridge lines (typ.)

DIVISION 7 – THERMAL & MOISTURE PROTECTION

A. INSULATION:
1. R–13 batt insulation in all exterior walls and perimeter floor rim joists.
2. R–30 batt insulation in crawl space floors (if applicable)
3. R–38 "high density"batt insulation in vaulted ceilings adjacent to the exterior or to unheated spaces.
4. R–49 blown insulation in attics (min. 18"depth)
B. ROOFING: Composition shingles w/ the classic wood shake look (GAF Timberline, "Natural Shadows", Color: Weathered Wood. Provide roof leak barrier equal to GAF "WeatherWatch" mineral surfaced leak barrier at all valleys and at eave and rake edges. Provide GAF roof deck underlayment and starter strip shingles. Provide lifetime warranty.
C. SIDING: lap siding (Louisiana Pacific "LP Smartside" 6"w x 7/16" Textured Lap Siding (Natural Grain Cedar) w/ 5" exposure and matching 5/4 trim (1x), 5/4 Fascia (1x), 24" "Smartside" textured soffit panel with integral ventilation.
D. VENTILATION: Provide attic ventilation per IRC 1202.2 and IBC 1202.2 w/ soffit vents & continuous ridge vents correctly hand nailed per mfr. instructions.
E. ROOF VENT: GAF "Masterflow" roof louvers, SSB (60A, color to match "Weathered Wood" shingles. Contractor to balance flow rate for roof and soffit vents.
F. SOFFIT VENT: Use LP "Smartside" soffit panel as noted above.
G. GUTTERS & DOWNSPOUTS: Prefinished aluminum to be selected from manufacturer's full range of standard colors – 5" guttering and 3"x4" downspouts U.N.O. EZ–Lock fine mesh gutter screen to be installed on all guttering. Downspout locations and underground discharge locations to be approved by owner. (Contractor to connect front gutter downspout drain to 4" PVC pipe under front walk.)
H. CAULKING: Caulking at all sash, sliding glass doors, entrance doors and bottom and top corner plates.
I. Seal all ductwork with mastic, tape and zip ties as required.
J. Seal all vents to the exterior.
K. WATERPROOFING: Provide Tremco Watchdog H# waterproofing on basement and/or crawl space walls at 60 mils application thickness (40 mils cured thickness).

DIVISION 8 – OPENINGS

A. EXTERIOR DOORS: (Reference Door Schedule)
1. ENTRY DOORS: Masonite Exterior Fiberglass Door or approved equivalent, (3'–0"x 6'–8") / Public Access ADA– Mill finish sill (continuous)
2. GARAGE (EXTERIOR DOOR): Masonite Exterior Fiberglass Door or approved equivalent, (3'–0"x 6'x8") / Public Access ADA– Mill finish sill (continuous)
3. GARAGE (INTERIOR DOOR) : Masonite 20 minute fire rated 6–Panel or approved equivalent, (3'–0"x 6'–8")/ Public Access ADA–Mill finish sill (continuous)
4. BASEMENT DOOR: Masonite 20 minute fire rated 6–Panel or approved equivalent, (3'–0"x 6'–8")/ Public Access ADA–Mill finish sill (continuous)
5. SLIDING GLASS DOOR: ANDERSON, 100 series clad white casement unit with Low – E4 insulated glass & 4–9/16 jamb ext (glass stop profile ogee) (standard) (pine) (white hardware) (no brickmold) (TruScene insect screen) performance data to meet U.S. ENERGY STAR requirements.
6. ENTRY STORM DOORS: Columbia (King) full view glass storm door with screen inserts (Hutton Glass 816–524–6350 is a JKV approved vendor)
7. GARAGE/REAR EXTERIOR STORM DOOR: Columbia (Tiara) self–storing glass/screen
8. OVERHEAD GARAGE DOOR: Clopay 4050 steel 2 sided insulated door w/ ½hp Lift Master opener to include 2 remotes and 1 keypad
B. INTERIOR DOORS:
1. INTERIOR PASSAGE DOORS: Craftmaster Colonist, 6 Panel, smooth finish masonite passage door to be primed and painted.
2. INTERIOR BIFOLD DOORS: Craftmaster Colonist, 6 Panel, smooth finish masonite bifold door to be primed and painted.
3. INTERIOR POCKET DOORS: Craftmaster Colonist, 6 Panel, smooth finish masonite pocket door to be primed and painted.
C. WINDOWS: Anderson, 100 Series Clad White Casement Unit with Low–E4 INSULATED Glass & 4⅜" Jamb Extension; Glass stop Profile Ogee (Standard, Pine, White Hardware). Performance data to meet US Energy Star requirements.
1. Brickmould: none
2. Window Grilles: none
3. TrueScene Insect Screens: to be Included
D. GLASS & GLAZING
1. Insulated double glazing at all exterior glass areas.
2. Glass shall be tempered in the following locations:
a. In all doors and within 24" of doors.
b. At tubs and showers.
c. In railings and guardrails.
d. In windows greater than 9 SF that have a sill that is less than 18" a.f.f.
E. DOOR HARDWARE: (Reference Hardware Schedule)
1. Hinges: Satin nickel finish.
2. Latchsets and Locksets: Entry Function, Satin nickel finish (626) w/ lever type operating trim. Keyed locksets on exterior doors – Schlage "AL53PD JUP" with restricted 14/68 keyway. Key to JKV master system on file at the Schlage factory. (JKV to furnish and install lockset and cylinders)
3. Dead–bolt: to be installed with standard passage lever handle on garage to house door.

DIVISION 9 – FINISHES

A. EXTERIOR SIDING: Reference DIVISION 7–C.
B. PAINTING: (REFERENCE FINISH SCHEDULE) Paint all exposed surfaces U.N.O. Do not paint prefinished items, finished metal surfaces, operating parts, labels and materials obviously intended to be left exposed U.N.O.
1. Exterior Siding: Flat 1 coat latex primer/2 coats exterior latex house paint; Sherwin Williams "Super Satin" (note: primer not required w/ pre–primed siding)
2. Exterior Wood: Flat 1 coat Alkyd primer/2 coats exterior latex house paint
3. Galvanized Metal: Satin 1 coat galvanized metal primer/2 coats latex house paint
4. Interior Walls "General": 1 coat latex primer/ 2 coats interior latex house paint equal to Sherwin Williams Builders Solutions w/ Flat Finish
5. Interior Walls "Bath & Kitchen Only": 1 coat latex primer/2 Coats interior latex house paint equal to Sherwin Williams Builders Solutions w/Semi–Gloss Finish
6. Interior Woodwork and Trim: 1 coat oil based primer/2 coats interior oil base house paint: Sherwin Williams ProMar 200 Alkyd Enamel w/Semi–Gloss Finish.
7. Interior Ceilings: 2 coats flat pure white paint
C. INTERIOR PAINT COLORS: (REFERENCE FINISH SCHEDULE)
D. EXTERIOR PAINT COLORS: (REFERENCE EXTERIOR ELEVATIONS & FINISH SCHEDULE) All exterior paint to be Sherwin Williams "Super Satin". Final Colors to be approved by JKV.
E. INTERIOR TRIM: Provide paint grade spruce / pine / fir for all interior door, window, base and misc. running trim boards U.N.O.
1. Base Trim: 5½" standard colonial trim (U.N.O. – Ref. Finish Schedule)
2. Running Trim: 2¼" standard colonial trim
3. Window Sills: Full wrap to match jambs and head.
F. TILE: (Reference Finish Schedule)
1. TILE TYPE #1: 12x24 "TBD Reference Finish Schedule"
2. Locations: Bathroom showers and floors, laundry floor, entry floor, fireplace surround and hearth
2.1. Bullnose trim: matching 3"x24" wide bullnose border at all sidewalls and showers
3. TILE TYPE #2: 3x6 Subway Style "TBD Reference Finish Schedule"
3.1. Locations: Kitchen backsplash (above counters/cabinets)
3.2. Bullnose trim: matching 3" wide bullnose border at all sidewalls and top of backsplash where upper cabinets are not present
G. HARDWOOD FLOORING: ¾" Pre–Finished Oak Style "Reference Finish Schedule"
H. CARPET: MOHAWK, Alladin, "Stylish Story I" (color TBD) provided and installed by contractor. Contractor shall provide and install 1/2" 6lb. rebond carpet pad.
I. CEILING: All gyp. bd. ceilings shall have a light "knock–down" textured surface with flat painted finish. Soffits and horizontal surfaces below 8' shall have a smooth, flat painted finished surface.
J. SPECIALTY: All visible construction behind grills shall be painted flat black.
K. SOLID SURFACE COUNTERTOPS: Surfaces w/bullnose edge profile. All outside corners to have 1" radius. (match corresponding color of backsplash tile per "UNIT" specified)
1. Option '1' Finish: TBD
2. Option '2' Finish: TBD
3. Locations: Kitchen, Master Bath and Hall Bath countertops, Laundry were applicable.

DIVISION 10 – SPECIALTIES

A. FIREPLACE: 36" vertical direct vent gas fireplace (HEAT–N–GLO DV–3732) with GRK 160B blower.
B. TOILET ACCESSORIES:
1. Medicine Cabinets: Furnish and install recessed cabinets to match adjacent vanity base cabinet per locations indicated on floor plan. (2) in master bath and (1) in hall bath.
2. Mirrors: Framed mirrors– Decorative wood framed mirror (24"x42"), painted to match trim color (Ref. elevations)
3. Toilet Tissue Dispensers: Furnished by contractor to "Moen–Danbury #CSI DN6708 BN". Located 20"A.F.F. – Contractor shall provide blocking as required. JKV to install per tenant direction.
4. Towel Bars: Furnished by contractor equal to "Moen–Danbury #DN6724 BN". Located 40" A.F.F. – Contractor shall provide blocking as required. JKV to install per tenant direction.
5. Grab Bars: Furnished and installed by contractor – 20"x40"x1½" Stainless Steel in Showers. Contractor shall provide blocking at all water closets, shower and bath tub(s) for any future installation. Locations to be approved by owner (JKV) prior to sheetrock installation.
C. SHOWER DOOR: Cardinal shower enclosure, LESE 60–70 brushed nickel, Light Euro Series with light euro header, 3/16" clear glass and clamp – on single towel bar.
D. SHOWER ROD: Moen #DN2145BN curved shower rod w/brushed nickel finish.
E. CLOSET SHELF & ROD: Coated wire shelving closet kits by Schulte. Reference owner provided locations and sizes. Provide blocking as required.
F. GARAGE SHELVING: Coated wire shelving by Schulte. Provide blocking as required. 24ft. of 20" material located by owner.

DIVISION 11 – EQUIPMENT

A. APPLIANCES (Ref. Plans, Elevations and Schedule Sheet U.N.O.)
1. Washer: Furnished and installed by contractor. Provide box and washer hookups.
2. Dryer: Furnished and installed by contractor. Provide dryer vent.
3. Refrigerator: Furnished and installed by contractor. Provide box and hookups for ice maker. (Ref. Appliance Schedule Sheet)
4. Range, Microwave/Oven, Dishwasher: Furnished and installed by contractor. (Ref. Appliance Schedule Sheet)
B. CABINETS
1. Submittals: Product Data and Shop Drawings.
2. All cabinetry will be custom built to include soft close hinges & soft close drawer guides.
2.1. Wood and finish type: TBD reference finish schedule.
2.2. Pulls: See owner provided selection.
3. Countertops: Solid Surface. (Reference DIVISION 9–K)
4. Contractor to coordinate clear openings for all casework and appliances prior to start of millwork construction

DIVISION 12 – FURNISHINGS

A. HORIZONTAL BLINDS: All windows – Furnish & install 2" composite horizontal blinds by Graber Style Traditions with Classic Valance (Color "TBD by owner")
B. VERTICAL BLINDS: All Sliding Doors – Furnish & install vertical blinds with standard valance and "One–Touch Control" by Graber with 5 ½" Regal Valance (Color TBD by owner")

DIVISION 22 – PLUMBING

A. PLUMBING FIXTURES

Part I – General

1.1 Submittals: Contractor must submit shop drawings, product data (with capacities), and installation drawings for (JKV) approval U.N.O.

1.2 Scope: The work included in this contract consists of the contractor providing all labor, materials, tools, transportation, services, etc. Necessary to complete the installation of the plumbing system(s), and other items herein listed, as described in these specifications, or as directed by the owner. Plumbing work is comprised of but not limited to the following principal items: cold water service and distribution system, domestic hot water service and distribution system, system(s) of drain, waste, and vent, natural gas piping service and distribution systems, and all components associated with the above systems(s).

1.3 Intent: Work indicated in this portion of the drawings is shown to document the intent of the architect and/or where minimum standards shall be exceeded. These systems shall be designed, documented and submitted for building permit and constructed by the general contractor or his agent. This work must meet or exceed the applicable codes, ordinances and regulations, the International Plumbing Code, and meet with approval of the authority having jurisdiction.

1.4 Warranties: Submit written warranties executed by the manufacturers of all plumbing products and devices installed agreeing to repair or replace the materials that fail in materials or workmanship within the period recognized by the manufacturer. The plumbing contractor shall guarantee his labor and workmanship for one (1) year after construction project is turned over to the owner for occupancy.

1.5 Conflicts: The contractor shall coordinate with other trades to avoid conflicts with piping, wiring, and ductwork etc. to minimize construction time.

Part II – Execution

2.1 General:

A. All design, construction, and workmanship, shall be in conformity with accepted engineering practices and shall be under the scrutiny of the authority having jurisdiction.
B. Plumbing equipment shall be installed according to all applicable codes and manufacturers' installation instructions.
C. All plumbing equipment shall be installed in such a manner to allow for the service, repair, and complete replacement of such equipment.
D. All piping and related equipment shall have sufficient supports.
E. All drain; waste, and vent systems shall have cleanouts.
F. All units shall have cleanouts exterior to the structure extended to grade to allow for servicing.
G. There shall be a valve and union between the water service and any equipment it serves to allow for the isolation and removal of such equipment.

2.2 Fixtures:

A. Review all fixture locations with JKV project coordinator prior to installation.
B. Comply with requirements of Public Law 102–486, "Energy Policy Act", regarding water flow rate and water consumption of plumbing fixtures.
C. Install fixtures with flanges and gasket seals
D. Secure piping supplies to structure within space behind fixture.
E. Furnish and install water supply stop valves for all fixtures/equipment in accessible locations.
F. Furnish and Install escutcheons at wall, floor, and ceiling penetrations in exposed finish locations and within cabinets.
G. Use deep pattern escutcheons where required to conceal protruding pipe fittings.
H. Seal joints between fixtures and walls, floors, and counters using sanitary type one–part mildew resistant silicone sealant.
I. Ground all equipment and tighten all electrical connectors and terminals according to UL 486A and UL 486B.
J. There shall be a minimum requirement of two (2) sill cocks per living unit. Prier Brass frost proof with vacuum breaker #C–144D08, #C144D10 or #C144D12
K. There shall be a minimum of one (1) sump pump installed in crawlspace or basement. Pump to be installed in a plastic pit. Pit location and discharge location to be approved by owner.

Part III – Equipment

3.1 Piping:

A. Water piping that is not PEX shall be type "M" hard copper, or equivalent, with exception of ice–maker supply.
B. All drains shall be schedule 40 PVC.
C. All natural gas piping shall be schedule 40 black iron pipe or Gastite flexible gas pipe.
D. Typical 5/8 inch x 3/8 inch stops to be of the ¼ turn type.
E. All fixture supply lines shall be flexible steel braided.
F. All piping in crawl spaces or basements shall be securely fastened to underside of floor construction.
G. Quarter turn stops on all fixtures or per manufacturer's recommendation.
H. Provide separate sewer house drain and cleanout on the exterior of each unit. (Establish cleanout below grade inside a sprinkler drain box)

3.2 Equipment:

A. Water closet shall be Gerber bowl and tank as shown on the drawing: 21–528 White Elongated – 17"Ergoheight bowl w/Church closed–end toilet seat and 28–590 tank with 12"rough–in (or) approved equal as manufactured by Crane, Kohler or American Standard.
B. Lavatory shall be by Stone, "SYRMA" undermount bathroom sink, white..
C. Lavatory faucet: Reference finish schedule.
D. Shower basin shall be Kohler Tresham 60"x32"single threshold shower base with integral seat.
E. Shower valve shall be Moen, scald guard, pressure balanced single lever, model 3189 with drain, overflow control and trap.
F. Bathtub shall be Americast with slip resistant bathing surface, or approved equal.
G. Tub faucet to be Moen, pressure balanced single lever 3189 with drain, overflow control and trap.
H. Provide handheld showerhead mounted on sliding chrome bar.
I. Kitchen sink: Blanco Diamond undermount granite composite double bowl sink. Color: "Reference Finish Schedule'
J. Kitchen faucet: Reference finish schedule.
K. Provide soap dispenser to match Kitchen faucet.
L. Disposal to be Evergrind Model E202, ½hp motor.
M. Water heater to be 40–gallon natural gas fired.
N. Laundry catch–a–drip to be OB–205–2 valve of the plastic fully recessed type with single handle lever for cold/hot water.
O. Sump pump shall be Zoeller #53D with check valve.
P. Floor Drains shall be KC Pattern 2"PVC 800–A
Q. Install ice maker wall box with valve assembly 78–WV–46.
R. Plumbing System Manifolds shall be "Manabloc PEX system" with remote manifolds system design, with all necessary mounting brackets, fittings, escutcheons, supply adapters and caps. Remote manifolds shall be located in the crawlspace and/or basement, and shall be placed as close as possible to each seat of fixtures served. The connection between each manifold and the recirculation loop shall not exceed 4'–0". Provide hot/cold labeling on the manifold for each fixture. Use red colored piping for hot water and blue colored piping for cold water. All piping that is part of a water distribution system must be able to withstand 180 degree water at 100 pounds of pressure.

Part IV – Commissioning

A. After installation, remove all aerators from faucets, flush cold and hot water piping systems to rid piping of debris.
B. After flushing system(s), check for debris, reinstall all aerators.
C. Check all water supply piping for leakage and repair if necessary.
D. Light and start water heater and allow water to come up to temperature. Check temperatures at all faucets.
E. Run water through all drain systems, check for any sign of leakage and repair if necessary.
F. Check operation of disposal, repair or replace if necessary.
G. Check operation of sump pump and repair or replace if necessary.
H. Check operation of ice maker.

New Single Family Homes Located At

John Knox Village

Phase 7
JKV SPECIFICATIONS

LEE'S SUMMIT, MISSOURI 64081

Project No:	20056
Date:	02.22.21
Issued For:	PERMIT

REVISIONS

No.	Date	Description

REGISTRATION

Architect of Record

Engineer of Record

John Knox Village

SHEET NUMBER

J11.00

DIVISION 23 – MECHANICAL

Part I – General

1.1 Submittals: Contractor must submit shop drawings, product data (with capacities), and installation drawings for owners approval U.N.O.

1.2 Scope: The work included in this contract consists of the contractor providing all labor, materials, tools, transportation, services, etc. necessary to complete the installation of the heating, ventilating, and air condition system(s) and other items herein listed, as described in these specifications, or as directed by the owner. HVAC work is comprised of but not limited to the following principal items: air conditioning equipment (including condensing unit, evaporator coil, line set, etc.), heating equipment (furnace), humidification device (humidifier), system of supply and return ductwork, grilles, registers, including all necessary insulation, temperature control, bathroom exhaust fans, and any miscellaneous equipment/material necessary for the complete working installation of a residential heating and air conditioning system.

1.3 Intent: Work indicated in this portion of the drawings is shown to document the intent of the architect and/or where minimum standards shall be exceeded. These systems shall be designed, documented and submitted for building permit and constructed by the general contractor or his agent. This work must meet or exceed the applicable codes, ordinances and regulations, the International Mechanical Code, and meet with approval of the authority having jurisdiction.

1.4 Warranties: Submit a written warranty executed by the manufacturer agreeing to repair or replace furnaces that fail in materials or workmanship within ten (10) years of substantial completion.

1.5 Conflicts: The contractor shall coordinate with other trades to avoid conflicts with duct, piping, wiring, etc. to minimize construction time.

1.6 Criteria: The HVAC system shall:

A. Be properly sized to provide correct airflow, and meet room–by–room calculated heating and cooling loads,

B. Be installed so that the static air pressure drop across the air handler (furnace) is within manufacturer and design specifications to have the capacity to meet calculated loads,

C. Have sealed supply ductwork that will provide proper airflow,

D. Be installed with a return system sized to provide proper correct return airflow,

E. Have sealed return ductwork that will provide proper airflow to the fan, and avoid air entering the HVAC system from polluted sources (e.g., fumes from autos and stored chemicals, attics, and crawlspaces),

F. Have balanced airflows between supply and return systems to maintain a neutral pressure in living areas,

G. Minimize duct air temperature gain/loss between the air handler (furnace) and room registers and between return grilles and the air handler (furnace) by insulation requirements listed in this specification,

H. Be properly charged with refrigerant,

I. Have proper burner operation and proper draft.

Part II – Execution

2.1 Loads and CFM Calculation:

A. ACCA Manual "J" or Manual "N" Load Calculation, or one of the procedures listed in the 2001 ASHRAE Handbook of Fundamentals to be used.

B. Outdoor design temperatures to be based from the 2001 ASHRAE Handbook of Fundaments (Chapter 27) with the .4% values used for cooling and the 99.6% values used for heating.

C. Indoor design temperatures based on a 75 degree dry bulb temperature with a relative humidity of 50% to 60% for summer, and a 70 degree dry bulb temperature with a relative humidity of 30% for winter.

D. Calculate heat loss/gain for each room.

E. Determine summation of room–by–room loads plus ventilation requirements to acquire total system capacities.

F. Size duct system according to ACCA Manual D calculation procedures (or substantially equivalent).

G. Calculate correct CFM for reach room and total for building for both supply and return air.

2.2 Air Distribution System:

A. Layout duct system on floor plan drawing accounting for the direction of joists, roof hips, firewalls, and other potential obstructions. Determine register and grille locations, duct lengths, and connections required to produce layout give construction constraints

B. Duct paths to provide minimal length and turns in direction to provide optimal airflow.

C. Flex duct paths must be planned to avoid sharp turns that may kink duct.

D. Provide a copy of the duct layout drawing to owner for approval prior to installation. Review proposed duct, register and grille locations with JKV project coordinator.

E. Registers and grilles to be sized and located to optimize air distribution and static pressure

F. Seal all metal duct joints and seams with mastic or pressure sensitive tape approved for use by the duct manufacturer and meeting UL 181 specifications ("approved tape"), this includes around junctions or collars to distribution boxes, boots and plenums.

G. All sealants to be used in strict accordance with manufacturer's installation instructions and within sealants moisture and temperature limitations.

H. All tapes or mastics used to seal ducts should be applied to clean dry surfaces.

I. Upon installation all floor registers shall be covered by contractor to protect from debris during construction.

J. Flexible ducts shall be joined by a metal sleeve, collar, coupling, or coupling system. At least two inches of the beaded sleeve, collar, or coupling must extend into the inner core while allowing a one inch attachment area on the sleeve, collar, or coupling for the application of a worm drive hose clamp or U.V.–resistant nylon duct tie. The inner core shall be fastened to all fitting by use of draw–bands or nylon ties.

K. Flexible duct suitable for attic installations only.

L. All metal round pipes up to 12" in diameter shall be secured using 3 equally spaced #8 screws. All metal pipes with a diameter of 12" and above should have five equally spaced screws.

M. All duct supports and hangers to meet requirements of the IMC.

N. All duct systems to meet installation requirements set forth by the IMC (International Mechanical Code), and SMACNA (Sheet Metal Air Conditioning Contractors Association).

O. Install all vents, and piping terminating outdoors to protect against birds and insects.

P. All ducts in attics, crawlspaces, and unconditioned areas, shall be externally wrapped with an insulation type mentioned in this specification.

2.3 Equipment Installation:

A. Install and connect gas–fired furnaces and associated fuel and vent features and systems according to the IMC, International Fuel Gas Code, all applicable codes and regulations, and manufacturers written installation instructions.

B. Install split system air conditioning systems according to the manufacturer's installation instructions and all applicable codes.

C. Evacuate refrigerant system to within 500 microns to ensure no non–condensable reside in the system.

D. Provide level base for condensing unit.

E. Secure all base mounted units to substrate.

F. Provide and connect PVC condensate piping for all condensate drainage. Extend to nearest equipment drain or floor drain.

G. Thermostats and humidistats to be mounted at a height of 48" AFF. Review location with JKV project coordinator.

H. Seal all penetrations to the exterior of the structure with mastic or caulking.

I. Provide for adequate access for the replacement of the furnace filter. Furnace filter to be located in return air drop – NOT in furnace.

J. Contractor required to replace dirty filters during construction as directed by JKV project coordinator. Contractor required to clean all ductwork at completion to include new pleated filter at time of turnover.

Part III – Equipment and Materials

3.1 Equipment:

A. The HVAC equipment shall consist of a natural gas fired furnace with electric split system condensing unit and evaporator coil.

B. Minimum efficiencies shall be 92% AFUE for the natural gas fire furnace, and 16 S.E.E.R. for the condensing unit/evaporator coil combination.

C. The condensing unit/evaporator coil system shall utilize R–410A (Puron) refrigerant.

D. HVAC equipment shall be RUUD and shall be furnished by the HVAC contractor.

E. From load calculations mentioned in this specification, and ACCA Manual "D" CFM, determine appropriate equipment sizes.

F. At bid, provide owner with submittal data including model numbers and BTUH capacities.

G. At completion of installation and after all system commissioning, provide owner with 1 set of operation and maintenance (O&M) manual per unit.

H. Furnish and install a bypass type humidifier by RUUD, April–Air, General, or approved equal.

I. Furnish and install in every bathroom an exhaust fan by Broan or approved equal.

3.2 Materials:

A. All materials shall have minimum performance temperature ratings per UL181 and have a flame spread rating of no more than 25 and a maximum smoke developed rating of 50 (ASTM E 84).

B. All pressure sensitive tapes and mastics used in the manufacture of flexible ducts shall be UL181B (tape) or UL181 BM (mastic) listed.

C. Sealants for exterior applications shall pass ASTM tests C731, C732 (artificial weathering test), and D2202.

D. Draw bands used to attach flexible ducts to collars and sleeves shall be either stainless–steel worm–drive hose clamps or UV–resistant nylon duct ties. E. Draw–bands to have a minimum performance temperature rating of 165 degrees F. (continuous, per UL181A–type test) and a minimum tensile strength rating of 50 pounds and shall be tightened with an adjustable tensioning tool.

E. Duct insulation shall be a minimum of 1" foil–backed flexible fiberglass blanket duct wrap meeting ASTM C 553 Types I, II, and III, and ASTM C 1290, and have a maximum service temperature of 250 degrees F.

F. Duct insulation shall have a minimum "K" value (based on ASTM C177) of .29 @ 75 degrees F. The vapor–retarding jacket shall conform to ASTM C 1136 Type II.

Part IV – System Commissioning

A. Ensure room–by–room airflows are correct and total supply.

B. Each register airflow should be within 10% of Manual "D" design airflow and the entire supply for the system should be within 5% of Manual "D" design airflow.

C. Total return air to equal total supply air.

D. Ensure tightness in ducts, plenum, and air–handling equipment.

E. Measure air–handler (furnace) airflow and static pressure across fan; ensure that total is within 5% of design and manufacturers specifications at a static pressure within 0.1".w.g. of design.

F. Test static pressure drop across blower to ensure that it is within 0.1" w.g. of design and manufacturers specifications.

G. After proper airflows are determined, check air conditioning charge and furnace operation.

H. Charge air conditioning systems with fixed metering devices, use evaporator superheat method, and for systems with a thermostatic expansion valve, use sub–cooling method of charging.

I. Set furnace manifold natural gas pressure to manufacturers specifications.

J. Check furnace for correct flame at each burner chamber and check vent for proper draft.

DIVISION 26 – ELECTRICAL

Part I – General

1.1 Submittals: Contractor to provide shop drawings upon request, product data (with capacities), and installation drawings for owner's approval.

1.2 Scope: The work included in this contract consists of the contractor providing all labor, materials, tools, transportation, services, etc. necessary to complete the installation of the electrical system(s), and other items herein listed, as shown on the drawings, described in these specifications, or as directed by the owner. Electrical work is comprised of but not limited to the following principal items: electrical system power for service to include 1 meter with 3 disconnects, load–centers, panel–boards, etc. System of conductors, boxes, receptacles, switches and light fixtures. Telephone, CATV, data outlets and wiring. Fire alarm system with related components and doorbell system with related components.

1.3 Intent: Work indicated in this portion of the drawings is shown to document the intent of the architect and/or where minimum standards shall be exceeded. These systems shall be designed, documented and submitted for building permit and constructed by the general contractor or his agent. This work must meet or exceed the applicable codes, ordinances and regulations, the National Electric Code, and meet with approval of the authority having jurisdiction.

1.4 Warranties: Submit written warranties executed by the manufacturers of all electrical products and devices installed agreeing to repair or replace the materials that fail in materials or workmanship within the period recognized by the manufacturer.

1.5 Conflicts: The contractor shall coordinate with other trades to avoid conflicts with wiring, box locations, piping, and ductwork etc. to minimize construction time.

Part II – Execution

2.1 General:

A. Review actual box and device locations with JKV project coordinator prior to installation.

B. Electrical panel will have (1) one and one half inch (1–1/2") conduit to the attic for future use.

C. Each attic space shall have two (2) one and one half inch (1–1/2") conduit from attic to basement for future use. Location to be approved by owner.

D. Use new materials only for construction.

E. Exposed wiring and conductors is unacceptable. Conceal and protect all wiring and conductors.

F. All 120–volt circuits to be a minimum of twenty (20)–amp circuits with exception of lighting, which may be fifteen (15)–amp.

G. Where wire is installed in bored holes, they should be placed at the approximate center of the wood member so that the edge of the hole is no closer than 1 ¼ inches from the edge. If the wire is required to be closer than 1 ¼inches to the edge, the cable must be protected by a steel plate. (Verify with Truss Joist Mfr. regarding allowable penetrations).

H. All circuit breakers to be clearly labeled to identify purpose.

2.2 Receptacles:

A. Receptacles must be no more than 12 feet apart and no more than 6 feet from a door or entry–way, plugs located behind a stationary appliance do not count when considering plug spacing.

B. Any wall space, which is 2 feet or more in width, must have a receptacle.

C. Every basement, crawlspace, attic, and garage must have one receptacle that is GFCI protected.

D. Every hallway ten (10) feet or more in length must have at least one receptacle

E. There shall be at least one GFCI receptacle located outdoors near every exterior door at a height of eighteen (18) inches AFF.

F. There shall be at least two (2) dedicated twenty (20)–amp circuits for kitchen counter top receptacles with not more than four openings per local ordinance.

G. All kitchen counter top receptacles to be GFCI protected.

H. All outlets must be pigtailed. No back "stabbed" wiring.

I. Provide a dedicated twenty (20)–amp circuit for the garage receptacles. Reference electrical drawing for locations.

J. Provide service outlet for the a/c condensing unit and furnace within 6 ft. of previous mentioned equipment.

2.3 Appliances:

A. There shall be a dedicated twenty (20)–amp circuit for each of the following appliances: refrigerator, microwave, and dishwasher/disposal.

B. All 240–volt appliances must be on their own dedicated circuit.

C. Cooktops and oven units shall be four (4)–wire with a four (4)–wire plug as per the NEC and AHJ, or as specified by manufacturer's recommendations.

D. There shall be a dedicated twenty (20)–amp circuit for a sump pump.

2.4 Lighting:

A. Review proposed ceiling fan, lighting, and switch locations with JKV project coordinator.

B. Center fixtures in middle of ceiling, soffit, or wall, as shown on the drawings or unless otherwise instructed by owner. Switches shall be "Decora" design and outlets shall be standard non–Decora design.

C. Gang mount multiple switches as much as possible. Align adjacent devices, outlets, etc. at same elevations. Switches, controls etc. typically at 40" AFF, unless located above countertops.

D. All switched ceiling boxes to be double switched.

E. Switches to be pigtailed. No back "stabbed" wiring.

F. There shall be a minimum of two (2) lights in attics and crawlspaces switched at the entrance and (6) lights in basements switched at the entrance.

G. Every room, hallway, stairway, attached garage and outdoor entrance shall have at least one light fixture controlled by a wall switch.

H. Hallways greater than four feet in length shall have three way switches at both points of entry controlling hall lighting.

I. Every closet shall have a light fixture (LED) controlled by a wall switch.

J. Exterior cans located by front entry and above overhead garage door shall be controlled by photo cell.

K. All ceiling fans shall have a wall mounted fan speed selector switch and a separate switch for lighting. (Cut off exposed fan chains except on 3–season room)

L. All bulbs to be LED (2700K) and manufacturers are restricted to GE, Phillips, Sylvania, and Cree U.N.O.

2.5 Telephone and Cable TV:

A. There shall be one connection point inside garage (adjacent to fire alarm control panel) with one cable TV feed and one telephone feed from cable and telephone company.

B. All internal telephone and cable TV "home runs" shall be brought to the central connection box.

C. There shall be one and one half inch (1–1/2") PVC conduit to be installed to attic from the connection box (multimedia panel) for future use.

D. Multimedia panel to be mounted at a height of forty–eight (48) inches to the bottom of panel from finish floor.

E. Ground "multimedia" panel to the electrical system ground

F. Provide one dedicated twenty (20)–amp, 120 volt circuit to a duplex receptacle for multimedia panel and fire alarm panel components power supply.

G. Receptacle shall be mounted within twelve (12) inches of panel.

H. Run single CAT–5 cable from telephone interface to multimedia panel. All interior telephone and cable home runs to terminate in multimedia panel with 30" of wire inside panel.

I. There shall be at least two (2) combination telephone/CATV jacks in each bedroom, living room, and within two (2) feet of an electrical outlet.

J. There shall be one (1) telephone/CATV jack in kitchen area.

K. There shall be one (1) CATV "home run" to each bedroom, living room, dining room, and kitchen area. Secondary CATV jacks in same room to be looped to jack containing "home run".

L. There shall be one (1) telephone "home run" to bedroom jacks and one to living room, dining room/kitchen jacks with the first two pairs linked to all jacks.

2.6 Fire Alarm/Security System:

A. Install owner furnished "dial up" fire alarm/security system/notification devices.

B. Contact JKV fire alarm service personnel for specific details pertaining to installation.

C. Alarm components from dial–up alarm system to be mounted in multimedia panel.

D. Smoke detectors shall be installed in every bedroom and in the hall outside of every bedroom.

E. Every basement shall have a smoke detector.

F. All sump pumps to be alarmed with water level sensor.

G. Audio/visual devices (horn/strobes) shall be installed in every bedroom, hall adjacent to living room, and basement.

H. Specify on product technical literature where the physical location of end–of–line resisters are located and address of panel and leave in multimedia panel with alarm system.

Part III – Equipment and Materials

3.1 Electrical Service:

A. One meter per structure with individual disconnects, load centers, etc. per unit.

B. Breaker panel shall be steel, enamel finish inside and out with continuous hinged cover as manufactured by General Electric, model #TM4020CCU with main breaker, 40 circuit spaces, and copper bus.

C. Circuit breakers shall be sized as required for circuit; breakers shall be manufactured by General Electric for panel listed above.

D. One meter with 3 disconnects load–centers, panel–boards, etc. per structure.

3.2 Wire, Boxes, and Devices:

A. Outlet boxes, junction boxes, and device boxes unless otherwise noted can be nonmetallic as permitted by the NEC and the AHJ.

B. For boxes mounted in exterior walls intended for outdoor use, and for boxes mounted in damp locations (basement) provide gasket covers.

C. All ceiling mounted boxes shall be fan rated.

D. Coordinate with JKV project coordinator on the color and type of cover plates. Wire shall have a minimum insulating rating of 600 volts, except wire used for 50 volts or less applications, which shall be 300 volt minimum insulation rating

E. All conductors to be electrical grade annealed copper and fabricated in accordance with ASTM standards. Minimum size–#12 for branch circuits ad #14 for lighting circuits.

F. All phone wiring to be CAT5 cable.

G. All receptacles to be Leviton or approved equal.

H. Multimedia panel to be Leviton, cat. no. 47605–28W, SAN 102 with a box dimension of 28"x 14 3/8"x 3 5/8".

I. Phone punch down block to be manufactured by Leviton, cat. no. 47689–B.

J. TV splitter(s) to be Leviton cat. No. 47690–8C.

3.3 Lighting:

A. Provide light fixtures per specifications.

B. All fixtures shall be LED (2700K).

Part IV – Commissioning

A. Ensure all circuits are clearly labeled at each end

B. Ensure all breakers are labeled

C. Test all receptacles for proper voltage and polarity.

D. Ensure all light fixtures work and are controlled properly via correct switching.

E. Ensure all ceiling fans work and multi–speed switching is correct for fan speeds

F. Test all Phone/TV jacks for continuity.

G. Perform a test of the fire alarm system by testing each device.

H. Ensure during fire alarm test that all audio–visual devices (horns/strobes) activate.

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Architect of Record

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SHEET NUMBER

J11.01