GENERAL NOTES

1. REFER TO FOUNDATION PLAN FOR STRUCTURAL NOTES RELATED TO BUILDING PAD PREPARATION AND CONSTRUCTION.

AREA TO REMAIN UNCOMPACTED FOR BIOSWALE, SEE LANDSCAPE PLAN 1/L1. CONCRETE DRIVEWAY IN THIS AREA, SEE SITE PLAN.

CONNECTION TO MUNICIPAL SEWER IN THIS AREA, SEE PLUMBING PLAN.

1/4”/FT.

ASSUMED SURVEY BENCHMARK. SQUARE CUT IN TIP OF CONCRETE CURB. REFER TO SURVEY.

T.O. PIER FOOTING = 102.87' (TYP)

4" PERF. CORRUGATED FOUNDATION DRAINAGE PIPE IN MIN. 6" GRAVEL TRENCH; SLOPED TO DAYLIGHT

GRADE @ FOUNDATION = 102.23'

T.O. SLAB = 103.00'

PROJECT BENCHMARK = 0’ - 0"
GENERAL NOTES
1. P.V. ARRAY SHALL ALLOW 3' MIN. ACCESS WAY ALONG GABLE TO RIDGE FOR FIRE DEPARTMENT ACCESS.
2. ARCHITECTURAL TEAM SHALL REVIEW AND APPROVE LOCATION OF PV ARRAY SUPPORT POINTS TO CONFIRM ADEQUATE TRANSFER OF STRUCTURAL LOADS.
3. SUPPORTS SHALL BEAR DIRECTLY ON RAFTERS.
4. ARCHITECTURAL TEAM SHALL REVIEW PROPOSED PV ARRAY CONNECTION METHODS. PV ARRAY CONNECTORS SHALL COMPLY WITH ROOF MANUFACTURER RECOMMENDATIONS ON PV INTEGRATION AND SHALL NOT VOID ROOF WARRANTY.
Reflected Ceiling Plan

A1.3

SCALE 3/8" = 1'-0"
1/2" XPS OR EPS BOARD ALONG NAILBASE OF WALL ABOVE @ 24" O.C. MIN.

6" COMPACTED GRAVEL BASE -0' - 0 1/4"

1/2" XPS INSULATION MIN., HORIZ.

RAFTERS; PAINTED 2x12 RAFTER LSL

MUDSILL ANCHOR; SEE T.O. SLAB

EXPANDING FOAM INSUL. @ PANEL INTERSECTION

INSTALL PER MFR RECOMMENDATIONS

PREFAB.

OUTSIDE CORNER FLASHING 4"

WATERPROOF CORNER FLASHING 1/2 PLY.; PAINTED

RIDGE CAP; 4" END LAPS WITH PARTITION FRAMING

STANDING SEAM METAL

RECLAIMED BARN WOOD OVER BASE PLATE PER PLAN

GRADE

INTERSECTIONS W/ STANDING SEAM METAL ROOF

BARN DOOR METAL TRACK

PREFAB

EAVE DRIP FLASHING

3/2/2021 3:13:57 PM
2X4 TOP PLATE ADDED IN FIELD

1 7/8" ZIP OVERHANG

2X4 TOP PLATE

CUSTOM BASE PLATE

CUTXN BEAM CONNECTOR

2" O.D. STL.
COLUMN

CUSTOM BEAM CONNECTOR

REMOVABLE PANEL
HATCH ACCESS

3/4" JOINT FILLER ALONG BASS
OF TOP PLATE/INTERIOR PANELS

APPLIED AS SIMILAR JOINT FILLER ALONG BASS
OF TOP PLATE/INTERIOR PANELS

FOAM SILL SEALER AND
MOISTURE BARRIER

8" YORK 106- TS COPPER
LAMINATED TERMITE SHIELD AT
FOUNDATION AND PANEL JOINTS

INSTALL TERMITE SHIELD TO PROVIDE
MIN. 1/2" OVERHANGING EDGE BEYOND
EXT. FACE OF CEMENT BOARD

PANEL SEALANT NOTES:
1. JOINT FILLER/SEALANT NOTED ON
DETAILS AND ALL SEALANT USED
BETWEEN PREFAB PANELS SHALL BE
PROSOCO R- GUARD JOINT AND SEAM
FILLER. JOINT FILLE/SEALANT SHALL
BE APPLIED IN ACCORDANCE WITH
MFR’S INSTALLATION INSTRUCTIONS.
2. WHERE PANEL JOINTS EXCEED 3/8",
INSTALL BACKER ROD AND CONTINUE
TO FILL JOINT W/ JOINT FILLER
3. PANEL JOINTS THAT EXCEED 1"
MUST BE STRUCTURALLY IMPROVED BY
FIELD MODIFICATION.
4. PANEL SECTIONS MAY BE
TRIMMED/PLANED IF NECESSARY TO
INSURE FITMENT. GC SHALL ENSURE
LOAD-BEARING STUDS ARE NOT
REDUCED IN DEPTH BY MORE THAT
25%, AS PERMITTED BY IRC 2012 CH.
6 NOTCHING ALLOWANCES.

APPLY ADDITIONAL JOINT FILLER ALONG BASE
OF TOP PLATE AFTER PANELS ARE PLACED
PRIOR TO TAPING ZIP SHEATHING, INSPECT
WALL PANEL JOINTS AND FILL REMAINING
OUTER JOINT WITH JOINT FILLER; FILL LARGE
GAPS WITH BACKER ROD AS DIRECTED IN
NOTES

PANEL SEALANT NOTES:
1. CLAMP PANELS @ TOP AND BOTTOM PRIOR TO INSTALLING LAG SCREWS OR SECURING
TO FOUNDATION STUDS.
2. WHERE PANEL JOINTS EXCEED 1/4", INSTALL BACK ROD AND CONTINUE TO FILL JOINT
3. PANEL JOINTS THAT EXCEED 1/4" MUST BE STRUCTURALLY IMPROVED PRIOR TO INSTALLATION
OF FRAMING. SEE TYP. ROOF DETAIL
4. PANEL JOINTS THAT EXCEED 1" MUST BE STRUCTURALLY IMPROVED BY FIELD
MODIFICATION.
5. PANEL SECTIONS MAY BE TRIMMED/PLANED IF NECESSARY TO INSURE FITMENT. GC
SHALL ENSURE LOAD-BEARING STUDS ARE NOT REDUCED IN DEPTH BY MORE THAN 25%, AS
PERMITTED BY IRC 2012 CH. 6 NOTCHING ALLOWANCES.

PANEL SEALANT NOTES:
1. JOINT FILLER/SEALANT NOTED ON
DETAILS AND ALL SEALANT USED
BETWEEN PREFAB PANELS SHALL BE
PROSOCO R- GUARD JOINT AND SEAM
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TRIMMED/PLANED IF NECESSARY TO
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REDUCED IN DEPTH BY MORE THAN
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6 NOTCHING ALLOWANCES.

APPLY ADDITIONAL JOINT FILLER ALONG BASE
OF TOP PLATE AFTER PANELS ARE PLACED
PRIOR TO TAPING ZIP SHEATHING, INSPECT
WALL PANEL JOINTS AND FILL REMAINING
OUTER JOINT WITH JOINT FILLER; FILL LARGE
GAPS WITH BACKER ROD AS DIRECTED IN
NOTES

PANEL SEALANT NOTES:
1. JOINT FILLER/SEALANT NOTED ON
DETAILS AND ALL SEALANT USED
BETWEEN PREFAB PANELS SHALL BE
PROSOCO R- GUARD JOINT AND SEAM
FILLER. JOINT FILLE/SEALANT SHALL
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MFR’S INSTALLATION INSTRUCTIONS.
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TO FILL JOINT W/ JOINT FILLER
3. PANEL JOINTS THAT EXCEED 1"
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FIELD MODIFICATION.
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INSURE FITMENT. GC SHALL ENSURE
LOAD-BEARING STUDS ARE NOT
REDUCED IN DEPTH BY MORE THAN
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6 NOTCHING ALLOWANCES.

APPLY ADDITIONAL JOINT FILLER ALONG BASE
OF TOP PLATE AFTER PANELS ARE PLACED
PRIOR TO TAPING ZIP SHEATHING, INSPECT
WALL PANEL JOINTS AND FILL REMAINING
OUTER JOINT WITH JOINT FILLER; FILL LARGE
GAPS WITH BACKER ROD AS DIRECTED IN
NOTES
**Window Schedule**

<table>
<thead>
<tr>
<th>Window ID</th>
<th>Type</th>
<th>Frame Dimension</th>
<th>Sill Height</th>
<th>Head Height</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1</td>
<td>Casement</td>
<td>2'-6&quot; 5'-0&quot;</td>
<td>7'-0&quot;</td>
<td>2'-0&quot;</td>
<td>RIGHT-HAND CASEMENT WINDOW INSTALL EGRESS HARDWARE</td>
</tr>
<tr>
<td>W2</td>
<td>Casement</td>
<td>2'-6&quot; 5'-0&quot;</td>
<td>7'-0&quot;</td>
<td>2'-0&quot;</td>
<td>LEFT-HAND CASEMENT WINDOW INSTALL EGRESS HARDWARE</td>
</tr>
<tr>
<td>W3</td>
<td>Casement</td>
<td>2'-6&quot; 5'-0&quot;</td>
<td>7'-0&quot;</td>
<td>2'-0&quot;</td>
<td>LEFT-HAND CASEMENT WINDOW INSTALL EGRESS HARDWARE</td>
</tr>
<tr>
<td>W4</td>
<td>Casement</td>
<td>2'-0&quot; 5'-0&quot;</td>
<td>7'-0&quot;</td>
<td>2'-0&quot;</td>
<td>LEFT-HAND CASEMENT WINDOW INSTALL EGRESS HARDWARE</td>
</tr>
<tr>
<td>W5</td>
<td>Fixed</td>
<td>5'-0&quot; 5'-0&quot;</td>
<td>7'-0&quot;</td>
<td>2'-0&quot;</td>
<td>FIXED WINDOW W4, W5, W6 TO BE MULLED; MANUFACTURER SHALL MULL IN FACTORY OR PROVIDE FIELD MULL HARDWARE</td>
</tr>
<tr>
<td>W6</td>
<td>Casement</td>
<td>2'-0&quot; 5'-0&quot;</td>
<td>7'-0&quot;</td>
<td>2'-0&quot;</td>
<td>RIGHT-HAND CASEMENT WINDOW W4, W5, W6 TO BE MULLED; MANUFACTURER SHALL MULL IN FACTORY OR PROVIDE FIELD MULL HARDWARE</td>
</tr>
<tr>
<td>W7</td>
<td>Casement</td>
<td>2'-6&quot; 5'-0&quot;</td>
<td>7'-0&quot;</td>
<td>2'-0&quot;</td>
<td>RIGHT-HAND CASEMENT WINDOW W4, W5, W6 TO BE MULLED; MANUFACTURER SHALL MULL IN FACTORY OR PROVIDE FIELD MULL HARDWARE</td>
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<tr>
<td>W8</td>
<td>Awning</td>
<td>2'-0&quot; 3'-6&quot;</td>
<td>7'-0&quot;</td>
<td>3'-6&quot;</td>
<td>AWNING WINDOW</td>
</tr>
</tbody>
</table>

**Door Schedule**

<table>
<thead>
<tr>
<th>Door ID</th>
<th>Quantity</th>
<th>Door ID</th>
<th>Function</th>
<th>Description</th>
<th>Hardware</th>
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<tbody>
<tr>
<td>D1</td>
<td>1</td>
<td>D2</td>
<td>Exterior</td>
<td>FULL-LITE WHITE LEFT HAND PRIMED STEEL PREHUNG FRONT DOOR (BY KSU)</td>
<td>BLACK HINGED LEVER ENTRY DOOR HARDWARE (BLACK CYLINDER DEADBOLT)</td>
</tr>
<tr>
<td>D2</td>
<td>1</td>
<td>D2</td>
<td>Interior</td>
<td>FULL-LITE WHITE LEFT HAND PRIMED STEEL PREHUNG FRONT DOOR (BY KSU)</td>
<td>BLACK HINGED LEVER PRIVACY INTERIOR HARDWARE (BLACK PRIVACY HARDWARE)</td>
</tr>
<tr>
<td>D3</td>
<td>1</td>
<td>D2</td>
<td>Interior</td>
<td>FULL-LITE WHITE LEFT HAND PRIMED STEEL PREHUNG FRONT DOOR (BY KSU)</td>
<td>BLACK HINGED LEVER PRIVACY INTERIOR HARDWARE (BLACK PRIVACY HARDWARE)</td>
</tr>
<tr>
<td>D4</td>
<td>1</td>
<td>D2</td>
<td>Interior</td>
<td>FULL-LITE WHITE LEFT HAND PRIMED STEEL PREHUNG FRONT DOOR (BY KSU)</td>
<td>BLACK HINGED LEVER PRIVACY INTERIOR HARDWARE (BLACK PRIVACY HARDWARE)</td>
</tr>
<tr>
<td>D5</td>
<td>1</td>
<td>D2</td>
<td>Interior</td>
<td>FULL-LITE WHITE LEFT HAND PRIMED STEEL PREHUNG FRONT DOOR (BY KSU)</td>
<td>BLACK HINGED LEVER PRIVACY INTERIOR HARDWARE (BLACK PRIVACY HARDWARE)</td>
</tr>
<tr>
<td>D6</td>
<td>1</td>
<td>D2</td>
<td>Interior</td>
<td>FULL-LITE WHITE LEFT HAND PRIMED STEEL PREHUNG FRONT DOOR (BY KSU)</td>
<td>BLACK HINGED LEVER PRIVACY INTERIOR HARDWARE (BLACK PRIVACY HARDWARE)</td>
</tr>
<tr>
<td>D7</td>
<td>1</td>
<td>D2</td>
<td>Interior</td>
<td>FULL-LITE WHITE LEFT HAND PRIMED STEEL PREHUNG FRONT DOOR (BY KSU)</td>
<td>BLACK HINGED LEVER PRIVACY INTERIOR HARDWARE (BLACK PRIVACY HARDWARE)</td>
</tr>
<tr>
<td>D8</td>
<td>1</td>
<td>D2</td>
<td>Interior</td>
<td>FULL-LITE WHITE LEFT HAND PRIMED STEEL PREHUNG FRONT DOOR (BY KSU)</td>
<td>BLACK HINGED LEVER PRIVACY INTERIOR HARDWARE (BLACK PRIVACY HARDWARE)</td>
</tr>
</tbody>
</table>

**Mark Material Finish Specifications**

- **Finish Schedule**
  - TL1: WALL TILE GLAZED PORCELAIN 3" X 12" SUBWAY TILE
  - MT1: CONCEALED SEAM METAL SIDING PREFINISHED - BRISTOL BLUE VERTICAL CORRIGATED BY BERRIDGE
  - CB: CEMENT BOARD
  - TL2: WALL TILE GLAZED PORCELAIN
  - MT2: METAL SIDING TRIM PREFINISHED - SHASTA WHITE BY BERRIDGE
  - WD1: WOOD BASEBOARD PREFINISHED
  - MT3: STANDING SEAM METAL ROOFING PREFINISHED - SHASTA WHITE STANDING SEAM BY BERRIDGE
  - WD2: INTERIOR PLYWOOD SATIN POLYURETHANE SANDED BIRCH PLYWOOD
  - SO: SOLID SURFACE RECYCLED PORCELAIN AND RESIN RECYCLED SURFACES OF KC
  - GWB: GYPSUM WALL BOARD PRIMED, PAINTED ARCH TO PROVIDE COLOR SELECTIONS

**Notes:**

1. **DOOR (D2) SHALL BE MANUFACTURED AND PROVIDED BY INTERSTATE GLASS CO.**
2. **OPERABLE WINDOWS SHALL INCLUDE SCREENS.**
3. **ALL WINDOWS SHALL INCLUDE INTEGRAL NAILING FLANGES.**
4. **ALL WINDOWS SHALL BE WHITE VINYL W/ DBL PANE, LOW E ARGON IGUS.**

**AS-BUILT CONSTRUCTION DOCUMENTS**

Client: **Stafford County Economic Development**

Project: **Affordable Net+ Prototype Home**

Issue States: **A6.1 SCALE: 1/2" = 1'-0"**

Date: **March 2, 2021**

**Schedule:**

- **Window W1, W7:**
  - SCALE: 1/2" = 1'
- **Window W2, W3:**
  - SCALE: 1/2" = 1'
- **Window W4, W5, W6:**
  - SCALE: 1/2" = 1'
- **Window W8:**
  - SCALE: 1/2" = 1'
- **Door D1:**
  - SCALE: 1/2" = 1'
- **Door D2:**
  - SCALE: 1/2" = 1'
- **Door D3:**
  - SCALE: 1/2" = 1'
GENERAL NOTES:
1. ANCHORS SHALL BE SIMPSON MASA MUDSILL ANCHORS INSTALLED PER MANUFACTURER’S INSTRUCTIONS FOR “ALTERNATE INSTALLATION FOR INSIDE OF WALL CONTINUITY”.
2. ANCHOR LOCATIONS AS SHOWN ARE NO CLOSER THAN 3 1/2” FROM END OF PLATES OF WALL PANELS.
3. ANCHOR LOCATIONS AS SHOWN CONFORM TO THE FOLLOWING:
   A. MIN. OF 6’ O.C. AND WITHIN MIN. OF 12” OF ALL PANEL SPLICES AND WITHIN 12” OF CORNERS.
4. "PJ" NOTATION ON THIS DWG INDICATES PANEL JOINTS, WHERE WALL PANELS INTERSECT.

S1.1 SCALE: 3/8" = 1'-0"
1. WALL STUDS ARE CONTINUOUS FROM THE FLOOR TO THE ROOF DIAPHRAGM PER R602.3.
2. WALL PANELS ARE CONTINUOUS FROM FOUNDATION TO CONNECTION WITH ROOF.
3. WALL PANELS WILL BE JOINED AT TOPS BY 2X4 TOP PLATES, NAILED IN FIELD TO IRC CH.6 REQS.
4. "PJ" DENOTES PANEL JOINT
5. SEE S1.1 FOR MUDSILL ANCHOR LOCATIONS.
6. ALL FRAMING LUMBER IS #2 S.P.F., UNLESS NOTED OTHERWISE.
7. CLG. FRAMING (NOT SHOWN) SHALL BE 2x4 JOIST @ MIN. 24" O.C.
GENERAL NOTES
1. ROOF TO BE FRAMED FROM PANELS. PANELS WILL BE 4’ - 0” TYP AND WILL SPAN FROM EXTERIOR WALLS TO CENTER RIDGE BEAM OR ADD BEARING WALL AS NOTED.
2. STRUCTURAL DIAPHRAGM OF ROOF WILL BE STAGGERED OSB INSTALLED ON TOP OF PANELS AND ANCHORED TO RAFTERS W/ 8D COMM ON NAILS PER IRC CH.8. SEE DETAILS ON A5.0 AND A5.1.
3. CALCULATIONS FOR CENTER RIDGE BEAM AND DBL 2x12 BEAMS AT PORCHES ARE SHOWN ON S3.3.
4. ROOF DESIGNED FOR 20 P.S.F. ROOF SNOW LOAD
5. UNLESS NOTED OTHERWISE, RAFTERS AND HEADERS SHALL USE #2 N. HEM/FIR LUMBER
6. RIDGE BEAM WITH ALIGNED RAFTERS IS PROVIDED IN LIEU OF CEILING JOISTS PER AWC WFCM 2015 PRESCRIPTIVE DESIGN CRITERIA
7. ROOF PITCH IS 4 7/8:12
8. RAFTER END UPLIFT FORCES ARE 155 LBS PER IRC TABLE 802.11
9. RIDGE BEAM WORST CASE UPLIFT 1240 LBS FOR 8 RAFTER CONNECTIONS, OR 620 LBS EA. END
10. MSR RAFTERS SHALL HAVE Fb OF 2400 PSI AND E OF 2.0 MIN.

.client:
Stafford County Economic Development
210 E 3RD
COURTHOUSE ANNEX
P.O. BOX 233
ST. JOHN, KS 67576
PH: (620) 549-3527

Project:
St. John, KS Affordable Net+
Prototype Home

ADesign | Kansas State University
AY 2019-2020

Issue States:
AS-BUILT CONSTRUCTION DOCUMENTS

Date: March 2, 2021

Roof Framing Plan

S2.1
## Brace Wall Framing Plan

<table>
<thead>
<tr>
<th>NAME</th>
<th>WALL HEIGHT</th>
<th>BRACED WALL SPACING</th>
<th>REQUIRED LENGTH</th>
<th>ADJUSTED REQUIRED LENGTH</th>
<th>ADJUSTMENT FACTOR (SEE NOTE #2)</th>
<th>ADJUSTED LENGTH</th>
<th>PROVIDED LENGTH</th>
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</thead>
<tbody>
<tr>
<td>BW-A</td>
<td>12</td>
<td>25</td>
<td>4.75</td>
<td>14 [A] * 1.1 [B]</td>
<td>6.0'</td>
<td>8.0'</td>
<td></td>
</tr>
</tbody>
</table>

### NOTES

1. Brace Method is intermittent Bracing Method WSP.
2. Adjustment Factors applied are as follows:
   - A. Adjustment factor of 1.4 for omission of Int. GWB (Table R602.10.3 (2))
   - B. Adjustment factor for wind speed of 90 MPH (Table R602.10.3 (2))
3. BWPS shall be continuous to roof framing. Ref. Req. 10.8.6. When final sheathing is installed.
4. BWPS shall be continuous to sub. Ref. Req. 1.2.
5. BWPS shall connect to adjacent walls panels w/ cont. top plate.
6. See S2 2 for typ. braced wall elevations.
7. Brace wall panels as shown will not overlap joints in prefabricated wall panels.
8. BWPS will be fastened according to schedule on S3.0.
9. BWPS over 8' in height will have solid blocking installed at sheathing joints.

### Brace Wall Panel Schedule

<table>
<thead>
<tr>
<th>NAME WALL</th>
<th>HEIGHT</th>
<th>SPACING</th>
<th>ADJUSTED LENGTH</th>
<th>PROVIDED LENGTH</th>
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</thead>
<tbody>
<tr>
<td>BW-1</td>
<td>12</td>
<td>25</td>
<td>12.0</td>
<td>14.2</td>
</tr>
<tr>
<td>BW-B</td>
<td>12</td>
<td>44</td>
<td>12.0</td>
<td>14.2</td>
</tr>
<tr>
<td>BW-2</td>
<td>8</td>
<td>25</td>
<td>10.2</td>
<td>10.2</td>
</tr>
<tr>
<td>BW-1</td>
<td>8</td>
<td>25</td>
<td>10.2</td>
<td>10.2</td>
</tr>
</tbody>
</table>

### Brace Wall Elevation

- **04 Brace Wall W - Elevation**

- **05 Brace Wall E - Elevation**

### Brace Wall N - Elevation

- **02 Brace Wall N - Elevation**

### Brace Wall S - Elevation

- **03 Brace Wall S - Elevation**
GENERAL FRAMING NOTES

1. WALL PANELS WILL BE ANCHORED TO THE FOUNDATION PER R403.1.6 — SEE S1.1 AND S1.2 FOR ANCHOR LOCATION AND SIZE.
2. STRUCTURAL CONTINUITY AT THE BASE OF PANELS WILL BE ESTABLISHED BY THE FOUNDATION.
3. STRUCTURAL CONTINUITY AT THE TOP OF PANELS WILL BE ESTABLISHED BY CONTINUOUS TOP PLATE INSTALLED AFTER PANELS ARE PLACED.
4. PANELS WILL BE BOLTED TOGETHER IN THE FIELD DURING ASSEMBLY AT TOP AND BOTTOM OF WALLS, USING 1/4" LAG SCREWS. THESE BOLTED CONNECTIONS ARE TO ASSIST IN ERECTION ONLY AND ARE NOT INTENDED FOR STRUCTURAL COMPLIANCE.
5. BRACED WALL PANELS CONSTRUCTED WITHIN PANELS WILL NOT CROSS OVER PANEL JOINTS.
6. WALL PANELS ARE CONTINUOUS FROM THE SLAB TO THE BOTTOM OF ROOF FRAMING.
7. ADDITIONAL HORIZONTAL BLOCKING WILL BE ADDED WHERE REQUIRED BY WALL HEIGHT.
8. SEE FRAMING PLANS AND ELEVATIONS FOR PANEL SIZE AND CONFIGURATION.

4 3/8" SHEATHING
2x12 RIM BOARD & END RAFTERS 16d 12" O.C. TOE NAIL
ALL OTHER SHEATHING 8d 12" O.C.
BRACED WALL PANELS 8d 6" O.C. EDGES
RAFTER BLOCKING TO TOP PLATES (3) 8d TOENAIL @ EA. END
BLOCKING BTW RAFTERS (3) 16d END NAIL
ABUTTING STUDS @ INTERSECTING WALL CORNERS #10 x 4" SCREWS 12" O.C. FACE OF STUDS
SECONDARY ROOF FRAMING MEMBERS (3) 16d END NAIL
STUD TO STUD WITHIN BRACED WALL PANELS 16d 12" O.C. FACE NAIL
DBL TOP PLATES 1/6" OSB SHEATHING
DON'T CONNECT WALL PANELS TO THE FOUNDATION.
BLOCK WALL PANELS INSTALLED ON SITE.

ADDITIONAL FASTENING NOTES:
- ALL NAILS NOTED ABOVE SHALL BE GALVANIZED WHEN USED IN TREATED LUMBER OR ON STRUCTURAL SHEATHING.
- FASTENING WILL MEET OR EXCEED TABLE R602.3(1)
- # 10 x 2 1/2 SD SCREWS SHALL BE STRONG-DRIVE STRUCTURAL CONNECTOR SCREWS BY SIMPSON W/ GALVANIZED COATING. SINGLE FASTENER LOAD VALUES Exceed 16d Nails.

Client:
Stafford County Economic Development
St. John, KS
Affordable Net+
Prototype Home

Faculty Lead:
Prof. Michael Gibson, AIA, NCARB, LEED A.P.
ph: (785) 532-5953
mdgibson@ksu.edu

3/2/2021 3:26:20 PM
1 North Sheathing Elevation

2 South Sheathing Elevation

3 East Sheathing Elevation

4 West Sheathing Elevation
1. ROOF DESIGNED FOR 20 P.S.F. ROOF SNOW LOAD
2. RAFTER END UPLIFT FORCES ARE 155 LBS PER IRC TABLE 802.11
3. RIDGE BEAM WORST CASE UPLIFT 2480 LBS TOTAL FOR 16 Rafter CONNECTIONS, OR 1240 LBS EA. END
ELECTRICAL REQUIREMENTS

1. The Electrical Contractor shall provide all conduit and wiring and shall connect complete and ready for operation all electrical equipment provided by other trades as shown on the drawings and as required for complete and operating systems.

2. Provide smoke detectors per plans, 120 volt, with battery backup and interconnection capability. All detectors in building are to alarm together.

3. The contractor shall pay all and any required utility service fees associated with this project direct to the local utility company.

4. Underground Service: Service work shall include secondary, conduits and feeders, primary conduits, meter center, and support pad for transformer and sectionalizing switch or aerial weatherhead as required by the utility. Electrical Contractor shall leave adequate conductor length at the transformer to allow connections by the Electric Utility. Contractor shall provide all trenching, backfilling, and pavement removal and replacement as necessary for the primary and secondary raceway systems. Local utility company will provide all primary cable from the new sectionalizing switch to the primary compartment of transformer including sectionalizing equipment. Local utility company will provide all connections to primary equipment and shall make all transformer connections. Local utility company will provide the meter. Local utility company will provide all metering equipment, wiring, and meter installation.

5. Telephone Service: Arrange for Telephone company to provide underground service to complex. All wiring for installation of phones provided by electrical contractor including pre-wiring, outlets and covers. Service shall be 2-pair wiring.

6. Cable TV / Internet Wiring: coax cable compatible with service provided by local cablevision company. Electrical Contractor shall be responsible for all cable installation. All Cable TV / Internet outlets shall have a dedicated home run to the source. Electrical Contractor is to coordinate with local cablevision company.

7. Provide the wire as specified and the wiring as shown on the drawings. All power wires and cables #10 ang and smaller shall be annealed soft copper, solid construction, code type THWN or THHN. All power wires and cables #8 awg and larger shall be annealed soft copper, compressed strand construction, code type THWN-2 or THHN.

8. Color coding for 120/240 volt systems shall be Black/Red for phase conductors, White for neutral and green for grounding conductors.

9. Underground service shall be UL Listed Copper Service Entrance (SE) cable by Southwire or equivalent.

10. All interior circuits shall be UL Listed Nonmetallic-Sheathed (NM-B) cable by Southwire or equivalent. All circuits shall be run parallel or perpendicular to the building surfaces. All conduit shall be concealed in walls and fully supported. Overhead conduit shall be concealed except in rooms without ceilings.

II. Power, lighting and switching wire: Size #12 minimum for power and lighting. Use larger as required by load or as shown on drawings. Run cable through or along studs and joists, with no wire exposed below joists. No drilling of holes without Architect's specific permission.

12. Each 120 volt outlet circuit shall be provided with dedicated neutral conductors.

13. Provide conduits and raceways; electrical pull, junction and device boxes as specified and shown on the drawings, as well as those required for a complete and code acceptable installation. Use electrical metallic tubing (EMT) and metal boxes in exposed locations. Use metal boxes for supporting pendant light fixtures or ceiling fans.

14. 120/240 Volt Panelboards: Provide Square D, type HOMELINE load center, 1 phase, 3-wire panelboards with circuit breakers as scheduled. Circuit breakers shall be plug-on thermal-magnetic molded case type. Arc Fault breakers shall be provided for all circuits as required in section 210.12 of the NEC.

15. Inside each panel door, provide an approved typewritten schedule card showing what each circuit feeds.

16. Provide residential grade decora-style tamper-resistant wiring devices as shown on the drawings. Devices and coverplate colors shall be as directed by the architect.

17. Typical mounting heights above finished floor (to center of box unless noted otherwise)

   A. Wall outlets : 12" afl inoders or 18" afl outdoors.
   B. Wall outlets : 42" afl at counters (or 4" above backsplash).
   C. Switches : -40" afl
   D. Thermostats : -40" afl
   E. Consult Engineer for others

18. Install light fixtures as specified. Material, equipment or services necessary to complete the installation of these fixtures, but not specifically mentioned shall be furnished as though specified.

19. All wall mounted fixtures shall be coordinated with the architectural features of the building. Where specific elevations or dimensions are not indicated, verify the correct location with the Architect prior to beginning any work.

20. Fixtures located on ceilings shall have cable routed to top of exterior walls and transitioned to galvanized EMT conduit. Conduit shall run parallel to roof rafters directly to galvanized EMT junction boxes at fixtures. Fixtures and junction boxes shall be attached to roof/ceiling structure.

21. Electrical contractor shall install an eGauge device and (4) current transformers at the electrical panel. KSU will provide the eGauge device with programming and will confirm the circuits to be monitored prior to installation. The eGauge device shall be given a dedicated breaker in the electrical panel.

22. Electrical contractor shall provide junction boxes in walls where circuits shall be routed through casework as shown in drawings. Contractor shall coordinate with KSU to complete installation of receptacles in casework once casework has been installed.

23. Ceiling fans shall use EMT junction boxes approved for use with ceiling fans. Boxes shall be connected to structure according to manufacturer's instructions. Ceiling fans shall be tested and balanced after installation by contractor.

24. Provide power circuits and receptacles for other trades' equipment shown elsewhere in MEP drawings and electrical schedule.
CONCRETE
- See foundation drawings for foundation height, reinforcement grade, spacing, and position from inside face of wall. Pier pads are sized for the loads imposed and show reinforcement size, form, and finish. Required air entrainment is 3%. Foundation shall be frost-protected foundation conforming to R403.3.
- 6 ft polyethylene vapor retarder with joints taped a minimum of 6" shall be installed below the concrete floor slab.

METALS
- Steel columns will be minimum Schedule 40.

WOOD
- Framing will be Douglas Fir 42 unless noted otherwise.
- Rafter ties and structural ridge beam will be installed per R802.3 and R802.3.1 of the IRC.
- See structural drawings for details showing compliance for condition where rafter ties are perpendicular to rafters at end walls. Rafter ties are provided at every rafter.
- Roof beam and rafter connectors for wall per R802.11 are noted on the roof framing plan.
- Ends of typical rafters are connected to walls with H2.5 ties. Rafter connectors shall be fastened to bearing point on Roof Framing Plan. All studs are continuous from the floor to the roof diaphragm per R802.3 and noted on plans where this is required.
- Connection details for beam to wall, beam to column, and column to floor are noted on the plans. See details.
- Rafter supports are supported by a structural rafter beam and typical rafter ends will be connected with H2.5 ties providing minimum of (4) 16d nails. Per exception U of R802.5.11 (r) rafter heel connections are not required to meet additional connection criteria.
- See structural drawings for wall bracing details and notes, in compliance with R802.10 requirements and conformance with these drawings.

WATER AND MOISTURE PROTECTION
- Water-resistant exterior wall covering referred to R701.2 and air barrier is provided by ZIP System Wall Sheathing by Huber. ZIP System shall be installed with exterior seams taped, following manufacturer's instructions.
- Contractor installation of exterior finishes should avoid damage to ZIP substrates. Any damage should be repaired according to ZIP's maintenance requirements prior to the installation of exterior finishes.
- Metal siding and roofing installation shall include all panels, flashing, hardware, and accessories required to complete installation.
- A lighting protection system (LPS) shall be installed in accordance with NFPA 780, using an terminals along the roof ridge, exposed conductor cables, and earth grounding. LPS shall be connected to proposed PV solar array. Installation of the LPS shall not void roof and siding warranties provided by contractor and installed by KSU.
- Sit wall moisture barrier shall meet ICC AC380 criteria for physical barrier systems.

DOORS AND WINDOWS
- Egress windows shall comply with section R301 of the IRC. Egress window size and location are noted on these plans.
- Windows, doors, and other glazing will comply with the requirements of section R308 of the IRC for safety glazing.
- All windows shall be provided by KSU. All exterior doors shall be provided by KSU and installed by finish contractor.
- After installation of doors and windows, fully seal shim space voids with compressible window and door foam sealant. Seal thresholds with silicone sealant.

FINISHES
- Finishes shall be installed according to MFR's recommendations and in compliance with rec's necessary for product warranties.
- All finishes shall be reviewed by both architectural team and client prior to construction.
- Substitutions may be reviewed and approved by both architectural team and client prior to construction.
- Gymnasium wall board (GWB) finishes shall be completed by contractor. Contractor shall report all installed and approved products from damage during construction.
- GWB installation shall include all required GWB accessories, taping, mudding, sanding, and priming necessary for final paint work. KSU architectural team shall inspect and approve GWB installation prior to painting.
- Interior paint selections shall be made by KSU architectural team and approved by client specified prior to finishing.

EQUIPMENT
- The following appliances shall be provided and installed by KSU: dishwasher, refrigerator, range, range hood/microwave combo, clothes washer, and clothes dryer.
- Contractors shall confirm electrical, plumbing, and ducting requirements for listed appliances and ensure that these requirements are met in the respective system installations.

PLUMBING
- Home shall have one frost-protected hose bib installed at rear of house.
- All plumbing installation work shall comply with Ch. 29 of IRC 2012.
- Domestic hot water shall be provided by tankless electric water heaters at the points of use. Equipment and installation equipment shall comply with applicable IRC sections and local codes.
- Water and sewage lines shall be roughed into ground below slab. General contractor will coordinate installation of slab insulation with rough-in. Refer to plumbing fixture schedule in plumbing drawings for fixtures to be provided by KSU and installed by contractor.

HEATING, VENTILATION, AND COOLING
- Heating and cooling system shall be a ductless mini-split system, located in the mechanical closet. Some ductwork and diffusers shall be located within casework as shown in drawings. Installation will be coordinated with KSU.
- HVAC equipment installation will conform to IRC Ch. 13 and 14 for mechanical system installation and clearances.

ELECTRICAL
- All electrical systems shall be provided with a concrete-encased “sleeve” ground per R306/1. See Foundation Plan.
- Electrical cable along exterior walls shall be routed through furred out wall space. Cabing shall be restrained per IRC requirements and protected by metal covering protective plates where crossing areas and penetrations.
- Front and rear porch shall have one GFCI receptacle with weather-resistantfinish.
- Front and rear porch shall have one exterior-rated, switch controlled light receptacle.
- Receptacle locations, spacing, and installation shall comply with Ch. 39 of IRC for exterior electrical installation.
- All habitable rooms shall have one switch-controlled lighting fixture or lighting receptacle, in compliance with Ch. 39 of IRC 2012. Exterior lighting fixtures shall be provided by KSU and installed by contractor.
- Electrical utility mast, extensions, meter, and service entrance shall comply with local ordinance and local utility requirements.
- Electrical service shall enter home beneath slab as shown in drawings. Installation of conduit below slab shall be coordinated with GC during foundation construction.

FIRE, LIFE SAFETY, AND SECURITY
- No walls or soffits are within 5 feet of the property line.
- Hardwired and interconnected smoke detectors will be installed per R314.
- No fuel-fired appliances will be installed in the house and there is no attached garage; therefore there will be no installed carbon monoxide alarms per R315.
- The house will comply with the physical security order R326.

TELECOMMUNICATIONS
- Owner shall install internet service with internet capability. Internet modem or connection device shall be located in mechanical closet near electrical panel.

PHOTOVOLTAIC SYSTEM
- Photovoltaic system and accessories shall be specified by KSU and its installation coordinated by KSU. Photovoltaic contractor shall coordinate with electrical contractor to connect system and components with household electrical system and utility.
GENERAL MEP REQUIREMENTS

1. The contract includes all labor, material, and equipment required for the complete systems as shown and specified. Provide all devices and accessories necessary for complete and working systems.

2. The contractors shall become familiar with the work of all other trades and shall fully coordinate their work prior to ordering equipment or installation of systems.

3. The materials, products and equipment described in these specifications or on the drawings, establish a standard of required function, dimension, appearance, and quality to be met or by any proposed substitution. Listing of these manufacturers shall in no way be construed as a device intended to limit the bidders to those specifically listed.

4. Reference to any article, device, product, material, fixture, form or type of construction by name, make, or catalog number, shall be interpreted as having established a standard of quality and shall not be construed as limiting competition. Articles, fixtures, etc. of equal quality by manufacturers listed in this specification for the applicable use, shall be acceptable, subject to performance, spatial, structural, and electrical constraints of the project design. The Engineer reserves last opinion as to a product's equality or superiority to that specified.

5. Shop drawings shall be submitted for all equipment and major materials supplied and shall include: manufacturer, model number, materials, and miscellaneous data as required to describe the equipment; capacity, voltage, phase, ampacity, and other miscellaneous data to quantify the size of the equipment; dimensional drawings showing layout, connection points, and detailed layout of components; electrical full load amps and minimum circuit amperage; and other pertinent information needed for complete review by the engineer. Conversely, mark on each submitted the exact model, fittings, accessories, and devices to be supplied. When a schedule is shown on the drawings or in the specifications, provide a copy of that schedule with the submittal. Contractor shall check all shop drawings to verify that they meet the requirements of the drawings and specifications before forwarding to the architect and engineer. All shop drawings submitted shall bear the stamp of the contractor to show that they have been reviewed in detail. No work shall be fabricated and no equipment ordered until the architect and engineer have returned acceptable reviewed shop drawings.

6. Before project close-out, submit three copies of installation, operating, maintenance instructions, and parts lists for equipment provided, plus all information in PDF format. Include in the manual a list of emergency service organizations capable of rendering service for each piece of equipment. Keep in a safe place all keys, wrenches, and other specialty tools furnished. Keep in a safe place all keys, wrenches, and other specialty tools furnished. Further, the other trades shall furnish all electric control items needed to the Electrical Contractor for installation and connection.

7. Locations of equipment, piping, and other work are indicated diagrammatically on the drawings. Each contractor shall coordinate exact locations subject to structural conditions, work of other contractors, and access requirements. Discrepancies shall be brought to the attention of the architect and engineer.

8. Drawings and specifications indicate minimum construction standards, but should any work indicated be sub-standard, to any ordinances, laws, codes, rules, or regulations bearing on work, the contractor shall execute work in accordance with such without increased cost to the owner, but not before such variances have been brought to the attention of the architect and engineer.

9. The contractors shall secure and pay for the necessary permits and certificates of inspection for their trade. Keep record of all permits and inspections and submit two copies to the engineer for final inspection.

10. The owner shall be provided with training on each piece of equipment as to startup, shut down, normal maintenance, seasonal changeover, and other pertinent information as recommended by the manufacturer.

11. This contractor shall warrant that the complete systems installed under this contract shall be free of defects in workmanship and materials for a period of one (1) year from the date of substantial completion by the architect. If defects occur during the one-year guarantee period, this contractor shall repair or replace such defects at no expense to the owner and to the satisfaction of the owner and engineer.

12. Provide 3-1/2 in. concrete bases for all floor mounted equipment unless shown or noted otherwise. Provide 6 ft. Welded wire fabric-reinforcing minimum or as required by the structural engineer.

13. Adequately protect equipment from damage after delivery to the jobsite. Cover with heavy polyethylene plastic. Elevate equipment when there is danger of water damage. Damaged equipment will be rejected.

14. Any scratches to factory finishes shall be touched up using factory supplied paint before final acceptance. If extensive damage to factory finishes has occurred, equipment panels shall be replaced to the satisfaction of the engineer. If rust has formed, remove as recommended by the manufacturer prior to touch-up.

15. Install all equipment in strict accordance with the manufacturer’s recommendations and the shop drawings reviewed by the Engineer. The complete installation shall function as designed and intended with respect to efficiency, capacity, and noise level. Any abnormal noise caused by rattling equipment, conduit, or fixtures will not be acceptable.

16. Contractor shall perform initial start-up of systems and shall provide necessary supervision at shop to make the first seasonal change-over of systems. Owner's operating personnel shall be present during this operation.

17. It is the contractor's responsibility to provide materials and trim which fit properly the types of ceiling, wall, or floor finishes installed whether or not included in the model numbers in specifications or shown on drawings.

18. Contractor shall provide all miscellaneous steel, wood, etc., for the proper installation of the systems specified and/or indicated on the plans. Any item connecting to building structure shall be done in a manner accepted by the architect or structural engineer. When bar joists are used for steel construction, items shall be supported from angle iron spanning the top chord of the joists.

19. Periodically during construction and prior to Owner acceptance of the building, Contractor shall remove from the premises and dispose of all packing material and debris.

20. Before submitting a bid, the Contractor shall visit the actual location of the job and shall fully understand the scope of the work to be done and the conditions under which it is to be performed. In no case shall additional compensation be granted when existing conditions could reasonably be determined.

21. Locate and mark all known utilities prior to proceeding with work. Work with caution since unmarked utilities may exist on site. Should any existing utilities be damaged or disrupted, immediately notify owner and repair to existing conditions.

22. The Electrical Contractor shall provide all conduit and wiring and shall connect complete and ready for operation all electrical motors and equipment in the other contracts. The other contractors shall furnish to the Electrical Contractor all switches, electrical controls, and other accessories required. First shut down of all motors, equipment, etc., shall be made by the Contractor furnishing the equipment, unless otherwise indicated.

23. Unless integral to the equipment supplied or noted otherwise, the Electrical Contractor shall provide disconnect switches, motor starters, and variable frequency drives as required by code and/or as shown on the drawings. The contractors responsible for installing the associated equipment shall coordinate with the Electrical Contractor to ensure devices of the proper size are furnished. Further, the other trades shall furnish all electric control items needed to the Electrical Contractor for installation and connection.

24. The contractor shall provide openings and chases, cutting and patching, excavation and backfilling, and pipe sleeves as needed for proper execution of the work.

25. The Contractor shall do all excavation and backfilling necessary to complete work under this contract. Trenches close to walls and Columns of the building shall not be excavated without the Architect’s prior consent. As a minimum, backfill in 6" lifts, compacting to a minimum of 90%. The first 12" of fill above any buried item outside the building shall be sand in order to contrast with other fill material. Provide a yellow warning tape at the top of the sand layer.

26. Sleeves are required in all penetrations through new exterior walls, masonry walls, floors and fire rated up board walls. Sleeves shall be either Schedule 5 steel pipe, EM conduit, field fabricated from minimum 10-gauge steel with 2" overlap at the seam, or as required by UL listed fire-stopping system. Sleeves will not be required in wall penetrations of masonry construction when such openings are made by "cold-drilling." Space between sleeves and pipe in outside walls shall be sealed using silicone sealant.

27. All sidewalks, streets, or alley surfaces that are broken in connection with this contract shall be patched to the satisfaction of the owner.

28. Provide fire stopping to maintain the fire rating of walls, floors, ceilings, or other building components. Fire stopping shall be composed of components that are compatible with each other, the substrates forming openings, and the items, if any, penetrating the fire stopping. Suitable fire stopping is based on testing and field experience. Firestop system installation must meet requirements of ASTM E-814, UL Standard 1479 or UL Standard 2079 tested assemblies that provide a fire rating equal to that of construction being penetrated.

29. Contractor shall coordinate with architectural team and client on final selection and installation of diffusers and other visible hardware that must integrate with interior finishes.

Client: Stafford County Economic Development

Prototype Home

M1.1
**Mechanical Schedules**

### Ventilation Requirements (IRC Table M1507.3.3(1) Continuous Whole-House Mechanical Ventilation)

<table>
<thead>
<tr>
<th>Dwelling Unit Floor Area</th>
<th>Number of Bedrooms</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1200 SF</td>
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</tr>
</tbody>
</table>

Airflow in CFM Required = 45 CFM Required

Ventilation Air Provided = 100 CFM Provided at M3

### IRC Table M1507.4 Minimum Required Local Exhaust Rates

- **Kitchens**: 100 CFM intermittent or 25 CFM continuous
- **Bathrooms**: 50 CFM intermittent or 20 CFM continuous each

**Ventilation Air Provided**

- **Number of Bedrooms**: 4
- **45 CFM Required**
- **100 CFM Provided at M3**

**AIRFLOW IN CFM REQUIRED =**

- **300 CFM INTermittent provided at M5**
- **70 CFM CONTINUOUS provided at M3**
- **70 CFM INTERMITTENT provided at M4**

### Schedule of Diffusers and Registers

<table>
<thead>
<tr>
<th>MANUFACTURER / MODEL</th>
<th>TYPE</th>
<th>NECK SIZE</th>
<th>FACE SIZE</th>
<th>MOUNTING</th>
<th>MATERIAL</th>
<th>FINISH</th>
<th>NC MAX</th>
<th>ACCESSORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>SUPPLY</td>
<td>8 x 4</td>
<td>SURFACE</td>
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<tr>
<td>A2</td>
<td>SUPPLY</td>
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</tr>
<tr>
<td>A3</td>
<td>SUPPLY</td>
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<tr>
<td>B</td>
<td>RETURN</td>
<td>30 x 20</td>
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<td>STEEL</td>
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<tr>
<td>C</td>
<td>WALL CAP</td>
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<td>SURFACE</td>
<td>STEEL</td>
<td>WHITE</td>
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<td></td>
<td></td>
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<tr>
<td>D</td>
<td>WALL CAP</td>
<td>12 x 4</td>
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<tr>
<td>E</td>
<td>TRANSFER</td>
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<td>STEEL</td>
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**MECHANICAL EQUIPMENT SCHEDULE**

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<tr>
<th>ID</th>
<th>DESCRIPTION</th>
<th>MANUFACTURER</th>
<th>MODEL</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>Air Handling Unit</td>
<td>MITSUBISHI</td>
<td>SVZ-KP30NA</td>
<td>Provide GFI Protected circuit branch from GFCI receptacle in bathroom</td>
</tr>
<tr>
<td>M2</td>
<td>Outdoor Condensor</td>
<td>MITSUBISHI</td>
<td>SUZ-KA30NA2</td>
<td></td>
</tr>
<tr>
<td>M3</td>
<td>Energy Recovery Ventilator</td>
<td>PANASONIC</td>
<td>FV-18Y1E1</td>
<td>Provide GFI Protected circuit branch from GFCI receptacle in bathroom</td>
</tr>
<tr>
<td>M4</td>
<td>Bathrooms Light / Exhaust Fan</td>
<td>BROAN</td>
<td>744</td>
<td>Provide GFI Protected circuit branch from GFCI receptacle in bathroom</td>
</tr>
<tr>
<td>M5</td>
<td>Range Hood</td>
<td>BEKO</td>
<td>MWO/30200CSS</td>
<td>Range hood integrated in microwave unit. Provided by others.</td>
</tr>
</tbody>
</table>
PLUMBING REQUIREMENTS

1. This contractor shall make connection to the water and sewer utilities; coordinate all connection requirements with civil engineer. Installation of utility connections shall be in complete conformance with all regulations having jurisdiction, and the requirements of each serving utility.

2. The Contractor shall pay any and all required utility service fees associated with this project and arrange for water meter installation to building.

3. Provide unions or grooved mechanical couplings at all equipment connections, at points where disconnection of piping will be required, and at other locations shown on the drawings.

4. Bronze or brass ball valves rated at 150 psi SWP and 600 psi WOG, shall have two or three piece stainless steel, cast bronze, or brass bodies with TFE seats, stainless steel full port ball, separate packing nut with adjustable stem packing, and anti-blowout stem shall be used in 3” and smaller copper and steel lines for domestic water duties.

5. All insulated horizontal piping shall be supported from outside the insulation. Provide inserts and saddles as recommended by the insulation manufacturer.

6. Pipe hangers for lines 1/2” to 2” shall be adjustable swivel ring. Provide hanger rods in diameters as required by the hanger rod holes.

7. Soil, waste, vent and drain pipe shall be properly supported.

8. Domestic water piping interior lines shall be hydrostatically tested at 100 psi.

9. Soil, waste, vent and roof drain pipe underground shall be tested before complete covering. This test shall be made by extending a 10 length of pipe vertically, temporarily caulking, and filling with water. This test shall remain 12 hours.

10. All water piping to be insulated with 1/2” uncoupling elastomeric (Armaloy or equivalent) insulation on domestic hot and cold water. Miter the insulation at tees and elbows. Seal all joints with adhesive. For condensate prevention and heat loss prevention, all water piping above ceiling must be fully insulated.

11. Potable domestic water piping:

   a. Meter to house pipe: Type K-weight soft or rigid copper with slip joints. At contractor's option, PEX may be used if approved by local jurisdiction. PEX, pipe, fittings, and connectors shall all be by the same manufacturer and piping laid out with no underslab fittings.

   b. Interior Piping, above slab: Type L, soft or rigid copper with 95/5 solder or silfos brazed connections, brass nipples, valves and unions. Provide dielectric unions or dielectric fittings and ball valves at both hot and cold connections of water heaters. At contractor's option, PEX may be used if approved by local jurisdiction. PEX, pipe, fittings, and connectors shall all be by the same manufacturer and piping laid out with no underslab fittings.

   c. Ball valve shut-off (of same size as entrance pipe) at service entrance. Provide accessible ball valves as locations require for proper serviceability. Provide a pressure regulator and pressure gauge on service entrance. Provide backflow preventer on the incoming service in the meter pit if required by the water department.

12. Exterior buried piping shall have a minimum of 36” cover.

13. All runs of pipe shall be installed as shown on drawings, unless some condition should arise which would make it necessary or seem advisable to alter same.

14. Air chambers shall be provided on all water supplies near each faucet control valve or Flush valve. Air chamber shall be equal in length to at least 12 diameters of the pipe.

15. All piping shall be concealed in walls, below floors, or above ceilings unless indicated otherwise or shown running through areas with exposed structure. All pipe shall be installed parallel or perpendicular to building surfaces.

16. Schedule 40 ABS or PVC drain waste and vent piping with solvent welded joints shall be used for all soil, waste, storm and vents lines.

17. The arrangement of waste and vent systems must be as direct as possible avoiding all unnecessary offsets. All pipe shall run as indicated on the drawings, unless some condition should arise which would make it necessary or seem advisable to alter same. Horizontal lines shall be graded at 1/4” per foot where possible or 1/8” per foot minimum, unless noted otherwise.

18. Each fixture and piece of equipment requiring connection to the sanitary drainage system shall be equipped with a trap. Each trap shall be placed as near the fixture as possible and no fixture shall be double trapped.

19. Provide cleanouts where shown or required by code. Cleanouts shall be the full pipe size.

20. Provide complete, all fixtures indicated. All fixtures shall be set firm and true, connected to all pipe and ready for use.

21. Quarter turn stop valves shall be provided on the hot and cold-water connections to all plumbing fixtures. Stainless steel braided flexible supply connections or supply risers are allowed.

22. Install Plumbing Fixtures and specified components in accordance with designations and locations indicated on Drawings and in complete compliance with the manufacturer’s recommendations and instructions.

23. Refer to elevations on the Architect’s drawings for installation height of wall mounted fixtures. Refer to architectural plans to ensure flush valve control handle is mounted for use from the wide side of handicapped toilet stalls.

24. Install stop valve in an accessible location in each water supply to each fixture.

25. Install escutcheons at each wall, floor, and ceiling penetration in exposed finished locations and within cabinets and millwork. Use deep pattern escutcheons where required to conceal protruding pipe fittings.

26. Seal fixtures to walls, floors, and counters using a sanitary-type, one-part, mildew-resistant, silicone sealant. Match sealant color to fixture color

27. Operate and adjust all plumbing fixtures and equipment. Replace damaged and malfunctioning fixtures, fittings, and controls. Adjust water pressure regulating valve at service entrance to 30 psi.

28. Vents through roof shall use 12” high min. preformed metal plumbing vents with boots, secured to vent pipes with stainless steel draw bands. Assembly shall be set with butyl sealant tape and screwed down with roof manufacturer’s approved screws, fastening to roof deck. Anchor vent pipes to roof deck or joists with U-bolt or pipe clamps and anchor iron screwed to deck. Provide 1/2” insulation around vent pipe on interior of building.
TWO-WAY

PLUMBING FIXTURE SCHEDULE

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>DESCRIPTION</th>
<th>MANUFACTURER</th>
<th>MODEL</th>
<th>DIMENSION</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>TUB</td>
<td>KOHLER</td>
<td>P1</td>
<td>1' - 1&quot;</td>
<td></td>
</tr>
<tr>
<td>P11</td>
<td>SHOWER BASE</td>
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</tr>
<tr>
<td>P3</td>
<td>LAV</td>
<td></td>
<td>P3</td>
<td>1' - 3&quot;</td>
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</tr>
<tr>
<td>P4</td>
<td>BATHROOM 1</td>
<td></td>
<td>P4</td>
<td>1' - 8&quot;</td>
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<tr>
<td>P12</td>
<td>MECH. CLOSET WATER HEATER</td>
<td>KOHLER</td>
<td>P9</td>
<td>1' - 8&quot;</td>
<td>240V, (2) 40A, 18 KW, TANKLESS, 0.3 GPM ACTIVATION</td>
</tr>
<tr>
<td>P13</td>
<td>EXTERIOR CLEAN OUT DOUBLE CLEAN OUT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P14</td>
<td>EXTERIOR HOSE BIB</td>
<td>KEHR</td>
<td>P14</td>
<td>1' - 8&quot;</td>
<td>NON FREEZE TYPE, SELF-DRAINING W/ VACUUM BREAKER, WHEEL HANDLE W/ 14&quot; EXTENSION</td>
</tr>
</tbody>
</table>

PLUMBING PLAN NOTES

1. Installation shall be accordance with all applicable local codes.
2. Scope of work; refer to architectural drawings for dimensional guidance.
3. Refer to the implications notes and schedules for additional requirements not shown on the plan.
4. Plumbing contractor shall fully coordinate with other trades.
5. Plumbing contractor shall fully coordinate with other trades.

WATER SUPPLY TO ROOMS OR BELOW SLAB AS INDICATED.

ELECTRICAL SERVICE: RUN PIPE TO MANIFOLD WITH INDIVIDUAL SHUT OFF VALVES AND BRANCH WAYS

2" VTR - 2" V TRIM

PROVIDE 1 1/2" P-TRAP AND SUPPLIES WITH STOPS FOR HOT WATER (HW) AND MAKE CONNECTIONS.

2. DOMESTIC WATER SERVICE STUBBED UP WITH BALL VALVE AND GROUNDING CLAMP FOR RUNNING UTILITIES AND TO OBTAIN WATER AND SEWER SERVICE.

3. PROVIDE AERATOR, STOPS, AND TRIM NOT SUPPLIED WITH SINK.

4. FIXTURE TO BE FURNISHED BY OTHERS AND INSTALLED BY CONTRACTOR.

5. EXTEND VENT PIPE UP FROM FIXTURE THROUGH ROOF. SEE "VENT-THRU-ROOF" NOTES IN KITCHEN CASEWORK.

6. WASTE PIPE AND WATER LINES SHALL BE RUN ALONG INTERIOR FINISH FACE OF WALL BEHIND CONSTRUCTION DOCUMENTS.

7. TANKLESS WATER HEATER TO BE MOUNTED WITHIN WALL CAVITY AND ACCESSIBLE FROM OUTSIDE. EXACT LOCATION AND COORDINATE WITH UTILITY PROVIDER.

8. FIXTURE TO BE FURNISHED BY OTHERS AND INSTALLED BY CONTRACTOR.

9. FIXTURE TO BE FURNISHED BY OTHERS AND INSTALLED BY CONTRACTOR.

10. SCALE: 3/8" = 1'-0"
WALL PANEL NOTES:

1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.

2. CONTINUOUS 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON-SITE.

3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS, AND WHERE RAYCORE INSULATION MEETS STUD.

4. 4"x8" OSB SHEATHING, INSULATION AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 24" BELOW THE TOP OF THE TOP PLATE, AND EXTEND 3 1/4" BELOW THE BOTTOM OF THE SILL PLATE.

5. FASTENING COMPLIES W/ IRC 2013 MINIMUM SIZE FASTENING SCHEDULE ON F0.1

6. SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING

7. SHEATHING-NAILBASE SHALL BE GAPPED 1/8" AT JOINTS

8. PANEL TO PANEL JOINT WILL BE SEALED IN FIELD

9. XPS INSULATION JOINT IN BETWEEN SHOULD BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS

Client: Stafford County Economic Development

St. John, KS
Affordable Net+ Prototype Home
WALL PANEL NOTES
1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.
2. CONTINUOUS 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON-SITE.
3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS, AND WHERE RAYCORE INSULATION MEETS STUDS.
4. 4"x8" OSB SHEATHING, INSULATION AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 24" BELOW THE TOP OF THE TOP PLATE, AND EXTEND 3" BELOW THE BOTTOM OF THE SILL PLATE.
5. FASTENING COMPLIES W/IRC 2012 MINIMUM SIZE FASTENING SCHEDULE ON F0.1.
6. SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING.
7. SHEATHING-NAIILBASE SHALL BE GAPPED 1/16" AT JOINTS.
8. PANEL TO PANEL JOINT WILL BE SEALED IN FIELD.
9. ZIP INSULATION SHAL BE SEALED IN THE FIELD.
10. XPS INSULATION JOINTS BETWEEN SHEATHING SHOULD BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS.

Panel Framing Elevation - N2
Panel Plan - N2
Sheathing Elevation - N2
Sheathing Plan - N2

Panel Code: N2

Client: Stafford County Economic Development
Date: March 14, 2020
Issue Status: CONSTRUCTION DOCUMENTS

Framing Panel N2
WALL PANEL NOTES:

1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.

2. CONTINUOUS 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON-SITE.

3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS, AND WHERE RAYCORE INSULATION MEETS STUDS.

4. 4'x8' OSB SHEATHING, INSULATION AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 2' BELOW THE TOP OF THE TOP PLATE, AND EXTEND 2 1/2' BELOW THE BOTTOM OF THE SILL PLATE.

5. FASTENING COMPLIES W/IRC 2012 MINIMUM SCHEDULE ON F0.1

6. SHEATHING EDGES SHALL BE FASTENED TO SOLID WOOD MEMBERS OR BLOCKING.

7. SHEATHING+NAILBASE SHALL BE CAPPED 1/16 AT JOINTS.

8. PANEL TO PANEL JOINT WILL BE SEALED IN FIELD.

9. ZIP INSULATION SHALL BE SEALED IN THE FIELD.

10. XPS INSULATION JOINTS BETWEEN SHEATHING SHOULD BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS.

LEGEND

| FRAMING MEMBERS ADDED DURING FABRICATION |
| RAYCORE FRAMING |

TYPICAL SHEATHING: 12" O.C. NAILING

BRACED WALL SHEATHING: 6" O.C. EDGE, 12" O.C. INTERMEDIATE NAILING

CONSTRUCTION DOCUMENTS

Issue Date: March 14, 2020

Client: Stafford County Economic Development

Project: Affordable Net+ Prototype Home

Framing Panel N3

PANEL CODE: N3
WALL PANEL NOTES

1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.
2. CONTINUOUS 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON-SITE.
3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS AND WHERE RAYCORE INSULATION MEETS STUD WALL.
4. 4'x8' OSB SHEATHING, INSULATION AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 24" below the top of the top plate, and extend 3/4" below the bottom of the sill plate.
5. FASTENING COMPLIES W/ IRC 2012 MINIMUM. SEE FASTENING SCHEDULE ON F0.1.
6. SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING.
7. SHEATHING+NUCLEUS SHALL BE GAPPED 1/8" AT JOINTS.
8. PANEL TO PANEL JOINT WILL BE SEALED IN FIELD.
9. ZIP INSULATION JOINTS BETWEEN SHEATHING SHOULD BE STaggered SO THEY DO NOT FALL AT ZIP JOINTS.
10. XPS INSULATION JOINTS BETWEEN SHEATHING SHOULD BE STaggered SO THEY DO NOT FALL AT ZIP JOINTS.

Panel Framing Elevation - N4

Sheathing Elevation - N4

Panel Plan - N4

Sheathing Plan - N4

PANEL CODE: N4

FRAMING MEMBERS ADDED DURING FABRICATION:

RXCORE FRAMING:

TYPICAL SHEATHING:

BRACED WALL SHEATHING: 8" C.C. SIDE, 6" C.C. INTERIOR (B/L SHEATHING):

LEGEND

SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING.

SHEATHING+NAILBASE SHALL BE GAPPED 1/8" AT JOINTS.

PANEL TO PANEL JOINT WILL BE SEALED IN FIELD.

ZIP INSULATION JOINTS BETWEEN SHEATHING SHOULD BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS.

XPS INSULATION JOINTS BETWEEN SHEATHING SHOULD BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS.
**WALL PANEL NOTES**

1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.

2. CONTINUOUS 2X4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON SITE.

3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS, AND WHERE RAYCORE INSULATION MEETS STUDS.

4. 4' x 8' OSB SHEATHING, INSULATION AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 3/4" BELOW THE TOP OF THE TOP PLATE, AND EXTEND 2 1/4" BELOW THE BOTTOM OF THE SILL PLATE.

5. FASTENING COMPLIES WITH IRC 2012 MINIMUM. SEE FASTENING SCHEDULE ON F0.1

6. SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING.

7. SHEATHING-NAILBASE SHALL BE GAPPED 1/8" AT JOINTS.

8. PANEL TO PANEL JOINT WILL BE SEALED IN FIELD.

9. ZIP INSULATION SHALL BE SEALED IN THE FIELD.

10. XPS INSULATION JOINTS BETWEEN PANELS SHOULD BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS.

---

**LEGEND**

- FRAMING MEMBERS ADDED DURING FABRICATION
- RAYCORE FRAMING
- TYPICAL SHEATHING: 12" O.C. NAILING
- BRACED WALL SHEATHING: 6" O.C. EDGE, 12" O.C. INTERMEDIATE NAILING
- SHEATHING+NAILBASE SHALL BE GAPPED 1/8" AT JOINTS
- PANEL TO PANEL JOINT WILL BE SEALED IN FIELD
- ZIP INSULATION JOINTS BETWEEN PANELS SHOULD BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS
WALL PANEL NOTES:

1. Externer Wall panel numbering begins at the northwest corner and continues in clockwise order.

2. Continuous 2x4 cap plate shown in drawings is to be attached on-site.

3. Apply adhesive and foam sealant between all Raycore joints, and anywhere Raycore insulation abuts studs.

4. 4' of OSB sheathing, insulation and zipper boards applied during prefabrication shall be 2 1/2" below the top of the top plate, and extend 3 1/4" below the bottom of the sill plate.

5. Fastening complies WIRC 2012 minimum. See Fastening Schedule on F1.1.

6. Sheathing edges shall be nailed to solid wood members or blocking.

7. Sheathing and base shall be gapped 1/8" at joints.

8. Panel to panel joint will be sealed in the field.

9. Zip insulation shall be sealed in the field.

10. XPS insulation joints between should be staggered so they do not fall at zip joints.

LEGEND:
- Framing members added during fabrication
- Raycore framing
- Typical sheathing 12" O.C. nailing
- Braced wall sheathing 6" O.C. bracing, 12" O.C. intermediate nailing
- Sheathing
- Nailbase

PANEL CODE: N6
1. **EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.**

2. **CONTINUOUS 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON-SITE.**

3. **APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS,** AND WHERE RAYCORE INSULATION MEETS STUDS.

4. **4’x8’ OSB SHEATHING, INSULATION AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 2” BELOW THE TOP OF THE TOP PLATE, AND EXTEND 3” BELOW THE BOTTOM OF THE SILL PLATE.**

5. **FASTENING COMPLIES W/ IRC 2012 MINIMUM SIZE FASTENING SCHEDULE ON F0.1**

6. SHEATING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING.

7. **SHEATHING-OTHERS BASE SHALL BE GAPPED 1” AT JOINTS**

8. PANEL TO PANEL JOINT WILL BE SEALED AT FIELD.

9. **ZIP INSULATION SHALL BE SEALED IN THE FIELD**

10. **ZIP INSULATION JOINTS/SHEATHING SHOULD BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS.**
WALL PANEL NOTES
1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.
2. CONTINUOUS 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON SITE.
3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS, AND WHERE RAYCORE INSULATION MEETS STUDS.
4. 4'x8' OSB SHEATHING, INSULATION AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 2'-3/4" BELOW THE TOP OF THE TOP PLATE, AND EXTEND 2'-1/4" BELOW THE BOTTOM OF THE SILL PLATE.
5. FASTENING COMPLIES W/IRC 2012 MINIMUM SIZEFASTENINGSCHEDULED ON FIG. 1.
6. SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING.
7. SHEATHING-NAILBASE SHALL BE GAPPED 1/8" AT JOINTS.
8. PANEL TO PANEL JOINT WILL BE SEALED IN FIELD.
9. ZIP INSULATION SHALL BE SEALED IN THE FIELD.
10. XPS INSULATION JOINTS BETWEEN SHOULD BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS.

LEGEND
- FRAMING MEMBERS ADDED DURING FABRICATION
- RAYCORE FRAMING
- TYPICAL SHEATHING: 12" O.C. NAILING
- BRACED WALL SHEATHING: 6" O.C. EDGE, 12" O.C. INTERMEDIATE NAILING

Client: Stafford County Economic Development
Project: St. John, KS
Affordable Net+
Prototype Home

Client: Stafford County Economic Development
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APDesign  |  Kansas State University
AY 2019-2020

CONSTRUCTION DOCUMENTS
Date: March 14, 2020
Issue Status: F3.E2
**WALL PANEL NOTES**

1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.
2. CONTINUOUS 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON-SITE.
3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS, AND WHERE RAYCORE INSULATION MEETS STUD.
4. 4" x 8" OSB SHEATHING, INSULATION AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 3/4" BELOW THE TOP OF THE TOP PLATE, AND EXTEND 2 1/4" BELOW THE BOTTOM OF THE SILL PLATE.
5. FASTENING COMPLIES W/PKC 2012 MINIMUM. SEE FASTENING SCHEDULE ON F0.1
6. SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING
7. SHEATHING-NAILBASE SHALL BE GAPPED 1/8" AT JOINTS
8. PANEL TO PANEL JOINT WILL BE SEALED IN FIELD
9. ZIP INSULATION TO BE SEALED IN THE FIELD
10. XPS INSULATION JOINTS IN BETWEEN SHALL BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS

**LEGEND**

- FRAMING MEMBERS ADDED DURING FABRICATION
- RAYCORE FRAMING
- TYPICAL SHEATHING
- ZIP SHEATHING
- BRADWOOD WALL SHEATHING: 6" O.C. BRAD, 12" O.C. INTERMEDIATE NAILS
- INTERIOR PARTY WALL SHEATHING
- 12" O.C. NAILING
- 6" O.C. EDGE, 12" O.C. INTERMEDIATE NAILING
- 2" O.C. EDGE, 12" O.C. INTERMEDIATE NAILING
- 2" O.C. EDGE, 12" O.C. INTERMEDIATE NAILING
- 2" O.C. EDGE, 12" O.C. INTERMEDIATE NAILING
- 3 1/8" COLUMN

**CONSTRUCTION DOCUMENTS**

Client: Stafford County Economic Development

Project: St. John, KS Affordable Net+ Prototype Home

Date: March 14, 2020
1. Exterior wall panel numbering begins at the northwest corner and continues in clockwise order.
2. Continuous 2x4 cap plate shown in drawings is to be attached on-site.
3. Apply adhesive and foam sealant between all Raycore joints, and where Raycore insulation meets studs.
4. 4x8 OSB sheathing, insulation and ZIP boards applied during prefabrication shall be 2 1/4” below the top of the top plate, and extend 3 1/4” below the bottom of the sill plate.
5. Fastening complies WRC 2013 Minimum Size Fastening Schedule on F0.1.
6. Sheathing edges shall be nailed to solid wood members or blocking.
7. Sheathing-nailbase shall be gapped 1/4” at joints.
8. Panel to panel joint will be sealed in field.
9. ZIP insulation shall be sealed in place. Nailhead/ZIP shall be staggered so they do not fall at ZIP joints.
10. XPS insulation joint within should be staggered so they do not fall at ZIP joints.

LEGEND
- Framing members added during fabrication
- Raycore framing
- Typical sheathing: 12” O.C. nailing
- Braced wall sheathing: 6” O.C. edge, 12” O.C. intermediate nailing (only)

Panel Framing Elevation - E4
Sheathing Elevation - E4
Panel Plan - E4
Sheathing Plan - E4

Panel Code: E4

Framing Panel E4

Client: Stafford County Economic Development
Project: St. John, KS Affordable Net+ Prototype Home
Issue Status: CONSTRUCTION DOCUMENTS
Date: March 14, 2020
WALL PANEL NOTES

1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.

2. CONTRUCTION 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON-SITE.

3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL STRACORE JOINTS, AND WHERE STRACORE INSULATION MEETS STUDS.

4. 4"x4" OSB SHEATHING, INSULATION, AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 3/4" BELOW THE TOP OF THE TOP PLATE, AND EXTEND 2 1/2" BELOW THE BOTTOM OF THE SILL PLATE.

5. FASTENING COMPLIES W/ IRC 2012 MINIMUM. SEE FASTENING SCHEDULE ON F0.1

6. SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING.

7. SHEATHING-MUULBASE SHALL BE 1 1/2" AT JOINTS.

8. PANEL TO PANEL JOINT WILL BE SEALED IN FIELD.

9. ZIP INSULATION SHALL BE SEALED IN THE FIELD.

10. XPS INSULATION JOINTS BETWEEN SHOUL BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS.

LEGEND

- FRAMING MEMBERS ADDED DURING FABRICATION
- RAYCORE FRAMING

TYPICAL SHEATHING: 12" O.C. NAILING
BRIDGING WALL SHEATHING: 6" O.C. EDGE, 12" O.C. INTERMEDIATE NAILING

Client: Stafford County Economic Development
Project: St. John, KS Affordable Net+ Prototype Home

Issue Status: CONSTRUCTION DOCUMENTS
Date: March 14, 2020

APDesign  |  Kansas State University
AY 2019-2020

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CONSTRUCTION DOCUMENTS
2020-03-14

2 Panel Framing Elevation - S1
SCALE: 1" = 1'-0"

3 Sheathing Elevation - S1
SCALE: 1" = 1'-0"

2 Panel Plan - S1
SCALE: 1" = 1'-0"

4 Sheathing Plan - S1
SCALE: 1" = 1'-0"

PANEL CODE: S1

F4.S1

Framing Panel S1
WALL PANEL NOTES

1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.

2. CONTINUOUS 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON SITE.

3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS, AND WHERE RAYCORE INSULATION MEETS STUDS.

4. 4x8 OSB SHEATHING, INSULATION, AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 24" BELOW THE TOP OF THE TOP PLATE, AND EXTEND 3 1/4" BELOW THE BOTTOM OF THE SILL PLATE.

5. FASTENING COMPLIES W/IRC 2012 MINIMUM. SEE FASTENING SCHEDULE ON F0.1.

6. SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING.

7. SHEATHING-HALFWALLBASE SHALL BE GAPPED 1/8" AT JOINTS.

8. PANEL TO PANEL JOINT WILL BE SEALED IN FIELD.

9. ZIP INSULATION SHALL BE SEALED IN THE FIELD.

10. XPS INSULATION JOINTS BETWEEN SHALL BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS.
1. Exterior Walls: Panel numbering begins at the northwest corner and continues in clockwise order.

2. Continuous 2x4 cap plate shown in drawings is to be attached on site.

3. Apply adhesive and foam sealant between all Raycore joints, and where Raycore insulation abuts studs.

4. 4’x8’ OSB sheathing, insulation and zip boards applied during prefabrication shall be 3/4” below the top of the top plate, and extend 2 1/4” below the bottom of the sill plate.

5. Fastening complies with IRC 2012 minimum. See fastening schedule on F0.1.

6. Sheathing edges shall be nailed to solid wood members or blocking.

7. Sheathing+nailbase shall be gapped 1/8” at joints.

8. Panel to panel joint will be sealed in field.

9. Zip insulation shall be sealed in the field.

10. XPS insulation joints in between should be staggered so they do not fall at zip joints.
WALL PANEL NOTES:

1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.

2. CONTINUOUS 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON-SITE.

3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS, AND WHERE RAYCORE INSULATION MEETS STUDS.

4. 4x8 OSB SHEATHING, INSULATION AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 24" BELOW THE TOP OF THE TOP PLATE, AND EXTEND 3 1/4" BELOW THE BOTTOM OF THE SILL PLATE.

5. FASTENING COMPLIES WIRK 2013 MINIMUM SIZE FASTENING SCHEDULE ON F0.1.

6. SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING.

7. SHEATHING-NAILBASE SHALL BE GAPPED 1/16" AT JOINTS.

8. PANEL TO PANEL JOINT WILL BE SEALED IN FIELD.

9. ZIP INSULATION SHALL BE SEALED IN THE FIELD.

10. XPS INSULATION JOINTS BETWEEN SHALL BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS.

LEGEND:

- FRAMING MEMBERS ADDED DURING FABRICATION
- RAYCORE FRAMING
- TYPICAL SHEATHING: 12" O.C. NAILING
- BRACED WALL SHEATHING: 6" O.C. EDGE, 12" O.C. INTERMEDIATE NAILING
- WOOD-NAIL SHEATHING: 4" O.C. EMB, 12" O.C. INTERMEDIATE NAILING

Client: Stafford County Economic Development

Project: Affordable Net+ Prototype Home

Date: March 14, 2020
WALL PANEL NOTES

1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.

2. CONTINUOUS 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON-SITE.

3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS, AND WHERE RAYCORE INSULATION MEETS STUD.

4. 4x8 OSB SHEATHING, INSULATION AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 24" BELOW THE TOP OF THE TOP PLATE, AND EXTEND 3 1/4" BELOW THE BOTTOM OF THE SILL PLATE.

5. FASTENING COMPLIES W/ IRC 2012 MINIMUM SCHEDULE ON F0.1

6. SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING.

7. SHEATHING-WALNUT Base SHALL BE GAPPED 1/16" AT JOINTS.

8. PANEL TO PANEL JOINT WILL BE SEALED IN FIELD

9. ZIP INSULATION SHALL BE SEALED IN THE FIELD

10. XPS INSULATION JOINTS BETWEEN SHALL BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS.

11. PANEL FRAMING ELEVATION - S5

12. SHEATHING ELEVATION - S5

13. Panel Plan - S5

14. Sheathing Plan - S5
1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.

2. CONTINUOUS 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON SITE.

3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS, AND WHERE RAYCORE INSULATION MEETS STUD.

4. 4x16 2x4 SHEATHING, INSULATION AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 24" BELOW THE TOP OF THE TOP PLATE, AND EXTEND 3 1/4" BELOW THE BOTTOM OF THE SILL PLATE.

5. FASTENING COMPLIES W/ IRC 2012 MINIMUM. SEE FASTENING SCHEDULE ON F0.1

6. SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING.

7. SHEATHING/NAilingBASE SHALL BE GAPPED 1/8" AT JOINTS

8. PANEL TO PANEL JOINT WILL BE SEALED IN FIELD

9. ZIP INSULATION SHALL BE SEALED IN THE FIELD

10. XPS INSULATION JOINTS IN BETWEEN SHOULD BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS

LEGEND

- FRAMING MEMBERS ADDED DURING FABRICATION
- RAYCORE FRAMING
- 12" O.C. NAILING
- LARGE NAILED SHEATHING 12" O.C. STUDS, 12" O.C. INTERMEDIATE NAILING
- BRACED WALL SHEATHING 6" O.C. EDGE, 12" O.C. INTERMEDIATE NAILING
- 6" O.C. EDGE, 12" O.C. INTERMEDIATE NAILING
- 6" O.C. EDGE, 12" O.C. INTERMEDIATE NAILING
- LARGE NAILED SHEATHING 12" O.C. STUDS, 12" O.C. INTERMEDIATE NAILING
- 12" O.C. NAILING

PANEL CODE: S6

Framing Panel S6
WALL PANEL NOTES

1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.
2. CONTINUOUS 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON-SITE.
3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS, AND WHERE RAYCORE INSULATION MEETS STUDS.
4. 4’x8’ OSB SHEATHING, INSULATION AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 24” BELOW THE TOP OF THE TOP PLATE, AND EXTEND 3 1/4” BELOW THE BOTTOM OF THE SILL PLATE.
5. FASTENING COMPLIES W/IRC 2012 MINIMUM. SEE FASTENING SCHEDULE ON F0.1
6. SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING
7. SHEATHING-MASONRY SHALL BE GAPPED 1/16” AT JOINTS
8. PANEL TO PANEL JOINT WILL BE SEALED IN FIELD
9. XPS INSULATION JOINTS BETWEEN SHEATHING SHOULD BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS

LEGEND
- FRAMING MEMBERS ADDED DURING FABRICATION
- RAYCORE FRAMING TYPICAL SHEATHING - 12” O.C. NAILING
- BRACED WALL SHEATHING - 6” O.C. EDGE, 12” O.C. INTERMEDIATE NAILING

PANEL CODE: W1
WALL PANEL NOTES:
1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.
2. CONTINUOUS 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON-SITE.
3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS, AND WHERE RAYCORE INSULATION MEETS STUDS.
4. 4x6 OSB SHEATHING, INSULATION AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 24" BELOW THE TOP OF THE TOP PLATE, AND EXTEND 3 1/4" BELOW THE BOTTOM OF THE SILL PLATE.
5. FASTENING COMPLIES W/IRC 2012 MINIMUM SIZE FASTENING SCHEDULE ON F0:1
6. SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING
7. SHEATHING-НАЛВАШЕЛЬ ШИЛА БЕЯДЭН 1Ф AT JOINTS
8. PANEL TO PANEL JOINT WILL BE SEALED IN FIELD
9. ZIP INSULATION SHALL BE SEALED IN THE FIELD
10. XPS INSULATION JOINTS BETWEEN SHOULD BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS

LEGEND:
- FRAMING MEMBERS ADDED DURING FABRICATION
- RAYCORE FRAMING
- TYPICAL SHEATHING: 12" O.C. NAILING
- RAYCORE SHEATHING: 4" O.C. NAILING, 12" O.C. INTERMEDIATE NAILING

PANEL CODE: W2

Client: Stafford County Economic Development
Project: St. John, KS
Affordable Net+ Prototype Home
**WALL PANEL NOTES**

1. EXTERIOR WALL PANEL NUMBERING BEGINS AT THE NORTHWEST CORNER AND CONTINUES IN CLOCKWISE ORDER.

2. CONTINUOUS 2x4 CAP PLATE SHOWN IN DRAWINGS IS TO BE ATTACHED ON-SITE.

3. APPLY ADHESIVE AND FOAM SEALANT BETWEEN ALL RAYCORE JOINTS, AND WHERE RAYCORE INSULATION MEETS STUDS.

4. 4' x 8' OSB SHEATHING, INSULATION AND ZIP BOARDS APPLIED DURING PREFABRICATION SHALL BE 3/4" BELOW THE TOP OF THE TOP PLATE, AND EXTEND 3 1/4" BELOW THE BOTTOM OF THE SILL PLATE.

5. FASTENING COMPLIES W/IRC 2012 MINIMUM SIZE FASTENING SCHEDULE ON F0.1.

6. SHEATHING EDGES SHALL BE NAILED TO SOLID WOOD MEMBERS OR BLOCKING.

7. SHEATHING/MATERIAL SHALL BE GAPPED 1/8" AT JOINTS.

8. PANEL TO PANEL JOINT WILL BE SEALED AT FIELD.

9. ZIP INSULATION JOINTS TO SHEATHING SHOULDN'T BE STAGGERED SO THEY DO NOT FALL AT ZIP JOINTS.

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**LEGEND**

- FRAMING MEMBERS ADDED DURING FABRICATION
- RAYCORE FRAMING
- TYPICAL SHEATHING: 12" O.C. NAILING
- BRACED WALL SHEATHING: 6" O.C. EDGE, 12" O.C. INTERMEDIATE NAILING
- 3/4" ZIP SHEATHING
- 1" ZIP INSULATION
- 3/4" OSB SHEATHING
- FULL SHEATHING PANEL

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**PANEL CODE: W3**

F5.W3
Wall Panel Notes:

1. *Exterior Wall Panel Numbering Begins at the Northwest Corner and Continues in Clockwise Order.*

2. Continuous 2x4 Cap Plate Shown in Drawings Is to Be Attached On-Site.

3. Apply Adhesive and Foam Sealant Between All RayCore Joints, and Where RayCore Insulation Meets Studs.

4. 4'x8' OSB Sheathing, Insulation and Zip Boards Applied During Prefabrication Shall Be 2" Below the Top of the Top Plate, and Extend 3 1/4" Below the Bottom of the Sill Plate.

5. Fastening Complies W/MRC 2013 Minimum Size Fastening Schedule on F0.1.

6. Sheathing Edges Shall Be Nailed to Solid Wood Members or Blocking.

7. Sheathing/Insulation Shall Be Gapped 1/8" at Joints.

8. Panel to Panel Joint Will Be Sealed In Field.


10. XPS Insulation Joining Between Shall Be Staggered So They Do Not Fall at Zip Joints.

Panel Framing Elevation - W4

Sheathing Elevation - W4

Panel Plan - W4

Sheathing Plan - W4

Sta. John, KS
Affordable Net+ Prototype Home

Client: Stafford County Economic Development

APDesign | Kansas State University
AY 2019-2020

CONSTRUCTION DOCUMENTS

Date: March 14, 2020

Issue Status:

Framing Panel W4

Client:

Project:

Date:

Issue State:

CONSTRUCTION DOCUMENTS

Date:

Issue State:

CONSTRUCTION DOCUMENTS

Date:

Issue State:

CONSTRUCTION DOCUMENTS

Date:

Issue State:
1 Panel Framing Elevation - I12

2 Panel Plan - I12

PANEL CODE: I12

F7.I12