
ANALYSIS REPORT

Hartwell Residence — New Construction

4821 Lakeview Drive, Edina, MN 55424



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DRAWING SET	Hartwell_ConstructionSet_Rev3.pdf	SPECIFICATION	Hartwell_MasterSelections.pdf
ANALYSIS DATE	April 09, 2026	PROJECT TYPE	Residential New Home

This report was generated by ConstructAI and is intended for use by the project team. All identified issues should be reviewed with the design team before construction proceeds. ConstructAI is a review assistance tool — professional judgment is required for all decisions.

Documents Analyzed

Document	Type	Pages	Status
Hartwell_ConstructionSet_Rev3.pdf	Construction Drawings	24	✓ Processed
Hartwell_MasterSelections_v4.pdf	Master Selections / Specifications	68	✓ Processed

Critical Issues

CRITICAL C-001 Structural / Dimension Conflict

Bearing Wall Removed on Drawing A3 Not Reflected in Structural Plans

Location: Drawing A3 (Main Floor Plan), S2 (Structural Plan)

Description

Drawing A3 shows the wall between the great room and kitchen as open with a flush beam, but Structural Drawing S2 still shows this wall as a load-bearing partition with no beam or post callout. The structural engineer's plan has not been updated to reflect the architectural revision.

Recommendation

Coordinate with the structural engineer to issue a revised S2 showing the flush beam size, bearing posts, and footing requirements. Do not frame until resolved.

CRITICAL C-002 Door Schedule Conflict

Primary Entry Door Size Mismatch Between Schedule and Plan

Location: Drawing A20 (Door Schedule), Drawing A3 (Main Floor Plan)

Description

The door schedule on A20 lists the primary entry door (Door 101) as 3'-0" x 8'-0" fiberglass, but the rough opening shown on A3 is dimensioned at 3'-6" x 8'-0". The specification section 08 14 00 references a 3'-0" unit. All three sources are inconsistent.

Recommendation

Confirm the intended door width with the architect and issue a clarification. Update the door schedule, floor plan dimension, and specification to match. Verify the rough opening size with the door manufacturer's installation guide.

CRITICAL C-003 Electrical / Plumbing Conflict**Electrical Panel Location Conflicts with Plumbing Chase**

Location: Drawing E1 (Electrical Plan), Drawing P1 (Plumbing Plan)

Description

The electrical panel is shown on E1 in the mechanical room at the north wall, but the plumbing plan P1 shows a 4" drain stack running through the same wall cavity. Both cannot occupy the same framing bay without significant modification.

Recommendation

Coordinate between the electrical and plumbing subcontractors before rough-in. Either relocate the panel to the adjacent wall or reroute the drain stack. Issue updated E1 and P1 drawings reflecting the resolution.

CRITICAL C-004 Omission — Missing Specification**No Waterproofing Specification for Below-Grade Foundation Walls**

Location: Specification (Foundation section), Drawing A1 (Foundation Plan)

Description

Drawing A1 shows a full basement with 9'-0" poured concrete walls, but the specification document contains no waterproofing or dampproofing specification for the below-grade exterior walls. This is a code-required element in MN climate zone 6 and must be specified before permit submission.

Recommendation

Add a waterproofing specification section (07 13 00 or 07 11 00) covering membrane type, drainage board, and protection course. Coordinate with the geotechnical report recommendations. Update the foundation detail drawings accordingly.

Warnings

WARNING W-001 Finish Schedule Omission**Primary Bathroom Shower Tile Not Specified**

Location: Drawing A20 (Finish Schedule), Specification (Tile section)

Description

The finish schedule on A20 lists 'Owner's Selection' for the primary bathroom shower wall tile but provides no manufacturer, series, size, grout color, or layout pattern. The tile specification section is also blank for this location.

Recommendation

Complete the finish schedule entry with manufacturer, product name, size, color, and grout specification. Update the tile section of the specification to match. Confirm selection with owner before ordering.

WARNING W-002 Window Schedule Inconsistency**Window Schedule Lists 14 Units; Floor Plans Show 16**

Location: Drawing A20 (Window Schedule), Drawings A3–A5 (Floor Plans)

Description

The window schedule on A20 lists 14 window units with associated rough opening sizes and specifications. Counting all window symbols across the floor plan drawings A3, A4, and A5 yields 16 units. Two windows on the east elevation of the upper floor (Drawing A4) have no corresponding schedule entry.

Recommendation

Reconcile the window schedule with the floor plans. Add schedule entries for the two unscheduled windows on A4, including unit size, manufacturer, glazing type, and rough opening dimensions.

WARNING W-003 Cabinet Hardware Omission**Kitchen Cabinet Hardware Not Specified**

Location: Specification (Millwork / Cabinet Hardware section)

Description

The cabinet hardware specification section lists 'TBD — Owner's Selection' for all kitchen cabinet pulls and knobs. No manufacturer, finish, or size is provided. This information is needed before cabinet shop drawings can be finalized.

Recommendation

Confirm hardware selection with the owner and update the specification with manufacturer, product number, finish, and size. Provide this information to the cabinet fabricator before shop drawing submission.

WARNING W-004 Ceiling Height Inconsistency**Great Room Ceiling Height Differs Between Plan and Section**

Location: Drawing A3 (Main Floor Plan), Drawing A8 (Building Section)

Description

The main floor plan note on A3 indicates a 10'-0" finished ceiling height in the great room. The building section on A8 dimensions the same space at 10'-6" finished ceiling. The discrepancy affects the stair layout and upper floor framing.

Recommendation

Confirm the intended ceiling height with the architect and issue a clarification. Update all affected drawings (plan, section, elevations, stair drawings) to reflect the confirmed dimension.

WARNING W-005 Appliance Specification Omission**Range Hood Specification Incomplete**

Location: Specification (Appliances section)

Description

The appliance specification lists the range hood as '48" insert hood — Owner's Selection' with no manufacturer, CFM rating, duct size, or makeup air requirement noted. Minnesota code requires makeup air for hoods over 400 CFM.

Recommendation

Specify the range hood manufacturer and model. Confirm CFM rating and determine if makeup air is required. If so, add a makeup air specification and coordinate with the HVAC drawings.

WARNING W-006 Plumbing Fixture Omission**Guest Bath Shower Valve Not Specified**

Location: Specification (Plumbing Fixtures section)

Description

The plumbing fixture schedule specifies shower valves for the primary bath and all secondary baths, but the guest bathroom shower valve entry is blank. The floor plan shows a shower in this location.

Recommendation

Add a shower valve specification for the guest bathroom. Confirm the manufacturer and model with the owner and update the plumbing fixture schedule.

WARNING W-007 Exterior Finish Inconsistency**Siding Species Differs Between Spec and Elevation Notes**

Location: Drawing A10 (West Elevation), Specification (Exterior section)

Description

The west elevation drawing A10 notes 'Cedar lap siding — 5" exposure' while the exterior specification section calls for 'Fiber cement lap siding — 5" exposure.' These are different materials with different installation, maintenance, and cost implications.

Recommendation

Confirm the intended siding material with the architect and owner. Update the elevation note or the specification to match. If cedar is selected, add a finish/stain specification.

WARNING W-008 Omission — Missing Detail**No Exterior Door Threshold Detail Provided**

Location: Drawing A20 (Door Schedule), Detail Drawings

Description

The door schedule lists four exterior doors but no threshold or sill detail drawings are included in the set. Threshold details are required for proper air sealing and ADA compliance at the primary entry.

Recommendation

Add threshold and sill detail drawings for all exterior door locations. Confirm ADA compliance at the primary entry (max 1/2" change in level). Coordinate with the weatherstripping specification.

WARNING W-009 Fireplace Specification Omission**Fireplace Surround Material Not Specified**

Location: Specification (Fireplace section), Drawing A3 (Main Floor Plan)

Description

The fireplace specification covers the firebox unit and gas line but does not specify the surround material, hearth material, or mantel. The floor plan shows a full-height surround but no finish is called out.

Recommendation

Add surround, hearth, and mantel specifications to the fireplace section. Coordinate with the tile and millwork specifications. Confirm selections with the owner.

Informational Notes

INFO I-001 Best Practice Note**Paint & Stain Schedule Not Yet Finalized**

Location: Drawing A20 (Paint & Stain Schedule)

Description

The paint and stain schedule on A20 lists room names and surface types but no specific colors, manufacturers, or sheen levels are provided. This is noted as 'Owner's Selection — TBD.' This is common at this stage but should be finalized before interior trim work begins.

Recommendation

Complete the paint and stain schedule with manufacturer, product name, color name/number, and sheen level for all surfaces. Provide to the painting subcontractor at least 4 weeks before scheduled start.

INFO

I-002

Coordination Note

Confirm Rough Opening Sizes with Window Manufacturer

Location: Drawing A20 (Window Schedule)

Description

The window schedule lists rough opening sizes based on standard allowances. These should be confirmed against the selected manufacturer's installation guides before framing begins, as tolerances vary by manufacturer and unit type.

Recommendation

Obtain installation guides from the window manufacturer and verify all rough opening sizes in the schedule. Issue a revised schedule if any dimensions need adjustment.

INFO

I-003

Coordination Note

Confirm Tile Layout Direction with Owner Before Ordering

Location: Specification (Tile section)

Description

The tile specification for the kitchen floor lists the tile product and grout but does not specify the layout direction or pattern (straight, diagonal, herringbone, etc.). Layout direction affects the quantity and cut waste.

Recommendation

Confirm tile layout direction and pattern with the owner before placing the tile order. Update the specification and provide a layout diagram to the tile installer.

INFO

I-004

Best Practice Note

Verify HVAC Equipment Sizing Against Final Window Schedule

Location: Mechanical Drawings (M1), Drawing A20 (Window Schedule)

Description

The HVAC equipment was sized based on an earlier version of the window schedule. Now that the window count and glazing areas have changed, it is advisable to verify that the equipment sizing is still appropriate.

Recommendation

Request a load calculation review from the mechanical engineer based on the current window schedule and confirmed ceiling heights.

INFO

I-005

Coordination Note

Countertop Template Timing — Confirm with Cabinet Schedule

Location: Specification (Countertops section)

Description

The countertop specification calls for field-templated stone countertops. Templating cannot occur until cabinets are fully installed and leveled. The current schedule shows countertop installation 2 weeks after cabinet delivery, which may be insufficient.

Recommendation

Confirm the countertop fabrication lead time with the supplier and adjust the schedule to allow adequate time between cabinet installation and countertop template.

INFO

I-006

Best Practice Note

Confirm Exterior Light Fixture Locations with Electrician

Location: Drawing E1 (Electrical Plan), Drawing A10–A13 (Elevations)

Description

Exterior light fixture locations are shown on the electrical plan but are not cross-referenced to the elevation drawings. It is advisable to verify that the fixture locations align with the architectural intent shown on the elevations.

Recommendation

Compare exterior fixture locations on E1 against the elevation drawings A10–A13. Confirm locations with the architect and owner before rough-in.

End of Report

This report was generated by ConstructAI on April 09, 2026. It is based solely on the documents listed above and should be reviewed in conjunction with the full drawing and specification set. Re-submit updated documents to ConstructAI for a revised analysis after issues have been addressed.