Scaffolding in front of a building

Description automatically generatedA picture containing building, table, wooden, sitting

Description automatically generated**GC Exterior Finishing**

**Work Method: Exterior Finishing Carpentry**:

Cedar Sidings, Soffits, Wall Shingles, Trims, brackets

[Highlighted Version]

**Prepared by: Siavash Mahzari**

**Prepared for:**

**GC Exterior Finishing**

**And for**

**BCIT CMGT 8800 Capstone Project**

**Proponent and Work Method Description**

**Company Name:**

**Company type of service:** Exterior finishing/restoration carpentry

**Brief description of the Company or Company History:** GC is an independent carpentry company in the West Vancouver and downtown area. This company has been established for more than 20 years and participated in more than 80 million-dollar residential houses which enables it to achieve a well-known reputation in exterior wall wood finishing carpentry.

**Project Description:** Performing exterior carpentry from framing to finishing based on design and specifications for single or multi houses in Vancouver area.

**Work Method Activity Description:** This Work Method (WM) provides the required details of how the installation of exterior finishing is carried out, and it is also subject to a series of inspections, before the commencement, during the work, and after completion.

This Work Method will be used to ensure full compliance with GC quality policy and Quality Plan, drawings, specifications, and BC Building Codes.

**Work Method Scope:** This work method shall apply to the installation of cedar siding and wall shingles as well as window trimming based on drawings, building codes, and client requirements.

**Limitation of liability: Any organization engaged by GC as a Contractor or Subcontractor (the Contractor) agrees to use this Work Method only under the condition that those that wrote and developed this Work Method are to be held harmless for any errors or omissions, any inaccuracies in content resulting in any damages to property or any injury to any personnel that may be involved. It remains the sole responsibility of the Contractor to review any and all items contained in the above Work Method and to make any changes that may be required in order to satisfy any project specification or any regulatory or statutory obligation. As well, the Contractor shall review any and all suggested methods as contained herein and shall make any changes required and shall reissue prior to commencement of construction in order to achieve the specified product or to provide a safe work site for all workers involved. Ownership and final responsibility for the use of all Work Methods remains with the Contractor.**

[Note: If we offer inspection checklists or WMs to subs, we want to provide this limit of liability.]

**SIGNATURE PAGE**

As an Approver, with my signature, I confirm that this Work Method is the plan for construction of the work. If the plan changes, I will inform the Originator so that the Work Method can be revised. Alternately, I will make revisions myself and reissue to those that require copies.

As a Reviewer, my signature confirms that I have reviewed the document and any comments to the WM have been provided to the Originator and/or to the Approver.

Construction Director

Name: Date: \_\_\_\_ \_\_ Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Construction Manager

Name: Date: \_\_\_\_ \_\_ Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Contractor (or subcontractor) Representative

Name: Date: \_\_\_\_ \_\_ Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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# 1.0 PURPOSE

To define the responsibilities and describe the method to be used by GC crew leader, carpenters, and helpers to carry out wood-based exterior finishing walls and window trims as specified by drawings and specifications.

[And To avoid screw-ups and rework.

Typically, GC will be following Checklist and Work Method voluntarily.

Why? Because we think we can work safer, with more consistent quality, and maybe even smarter if we say what we will do, and then do what we say.]

# 2.0 SCOPE

This work method shall apply to execute all cladding, window trimming, and exterior wall finishing for all residential projects within the City of Vancouver and likely it works for Metro Vancouver.

Reference Standards include:

* British Columbia (or applicable province) Building Code

Note: Construction documents (design drawings and specifications) should be referenced as applicable and will govern over any procedure included in this document.

# 3.0 DEFINITIONS and ACRONYMS

BCBC British Columbia Building Code

PC Project Coordinator

CL Crew Leader

IF Inspection Form

OSHR Occupational Health and Safety Regulations (WorkSafeBC)

SRM Status Report of Materials

UFGS Unified Facilities Guide Specifications

WM Work Method

WRB Water-Resistive Barrier

PM Project Manager

# 4.0 RESPONSIBILITIES AND AUTHORITIES

## 4.1 Team Responsibilities

The GC team’s responsibilities describe on section 5.3.1 Position Description in company’s Quality plan.

## 4.2 Other Authorities

### 4.2.1 Contractor/Designer/Owner’s Rep (the level above Cedar Edge)

Providing shop drawings, specifications, and required information regarding safety obligations and environmental hazards within the job site before site mobilization.

Note: If supply of material is by the level above, the contractor or owner needs to supply materials and spaces for their storage on the job site.

### 4.2.2 City of Vancouver

All steps and the process of construction shall be checked by GCPC and by city inspectors before initiating the next stage for the compatibility of constructed work with BCBC or other mandatory regulations.

### 4.2.3 Trade Contractor

(Subcontractor) refers to the company that is bound by contract to GC for a certain scope of work. For their scope, the Subcontractor is responsible for environmental control, safety controls, and quality control for self-performed work. The Subcontractor is responsible to write his/her Work Methods. However, if the Subcontractor cannot provide the required WMs, GC may assist, but the final WM will be reviewed, changes made to reflect project requirements, codes, laws, and resubmitted to GC and owned by the subcontractor. The Subcontractor performs the work required by the contract documents and approved Work Methods to start and complete the Project and fulfill everything indicated by the contract documents. The Subcontractor shall perform activities described in this WM. If any revision is needed, the Subcontractor shall be instructed to revise and update this WM so that the WM reflects the intent and methods of the Subcontractor as well as plans and specifications. The Subcontractor shall be fully responsible for his means and methods, and for the content of the revised WM. The Subcontractor shall assign a representative who will permanently attend at the job site when the job is being done. [Likely the sub Rep will be foreman, who can do both quality and foreman roles.] The Site Manager or the Subcontractor’s site representative shall ensure that they follow the guidelines and/or Standard Specifications outline on this work method.

# 5.0 SAFETY

All construction activities and job procedures shall conform to

* WCB Regulations and other applicable codes, regulations, and acts
* Noise Regulation Bylaw per the municipality of jurisdiction
* Environmental Protection and Preservation Bylaw per municipality of jurisdiction

The following general safety rules should be followed by GC Crews on the job site:

## 5.1 Clothing & Hand Tools

* Wearing comfortable clothes on the job site allowing more flexibility on scaffolds and ladders.
* Having steel-toed leather or plastic shoes on the job site [preferably, waterproof boots].
* Having tape, puncher, ripping hammer, utility knife, and pencil within tool belt before entering the job site.
* Keeping other tools in the tool-storage box before and after operation [lock the toolbox at the end of each day before leaving the job site].

## 5.2 Power Tools

All electrical tools and extension cords should be plugged in prior to initiating the work and packed at the end of workday [make sure all cords are wrapped properly – no tangle - and all devices are disconnected]. Tie a knot to attach small power tools to electrical extension cords to prevent falling from a height. Connect electric box to the power pole for heavy-duty equipment. The following steps are required to be followed for power-tools during the construction: (P.Spence, 2008)

### 5.2.1 Circular Table Saw

* A picture containing tool, small, table, box

  Description automatically generatedDo not adjust the saw while it is working
* Clean sawdust on table and ground near its legs or ground
* Use a push stick to rip narrow or small pieces
* Keep hands away from the blade
* Use auxiliary support to level wide or long pieces
* The blade should not extend more ¼-inch beyond the thickness of boards being cut
* Do not forget to shut the saw off after ripping or cutting

### 5.2.2 Mitre Saw

* A person standing in a room

  Description automatically generatedAlways align the board with the fence
* Make sure blade teeth rotates down and back towards the table and fence
* Keep hands clear from cutting area [hold the switch with one hand and hold the material several inches away from blade]
* Make sure the saw is locked for angle cuts

### 5.2.3 Other Safety Requirements

1. Work at heights - Care should be exercised to prevent any planks, nails, tools, ladder, or wooden materials dropping from scaffolds on those who work at the job site so that health risks may be minimized. For work at heights for more than 1.5-2 m, all tools, materials, and ladders should be secured.
2. Fall Protection – working in an excavation deeper than 4’/on a scaffold.
3. Confined Space
4. Machinery and Tools Noise – wearing hearing protection.
5. Eye Injury – using safety glasses or eye protection, especially for soffits installation.

# 6.0 ENVIRONMENTAL REQUIREMENTS

# 7.0 INSPECTION

Specifications provide Crew Leaders and crew members with instructions on allowable tolerances and requirements. Specifications should be edited to be incorporated in Inspection Forms (IF) for the record that specified requirements were achieved.

Please refer to the attached Final Inspection Form (IF).

# 8.0 SUBMITTALS

As may be required by the contract, GC and any subcontractor shall submit:

* Bid documents or subcontract quotation for doing the work described in RFQ package including contract price and duration (including the work commencement date on the job site) – accepting all contract terms and documents
* GC Quality Plan
* Quality Management Submittals - Initial WM, Checklists, and any other documents required by the contract documents, not later than 21 working days prior to the work start time, (GC CM written confirmation required)
* Any shop drawing, specs, mock-ups, and designing layout, which is required for carrying out the work, and to satisfy any project specification or any regulatory or statutory obligation.
* Finalized WM, Inspection Checklists, and any other documents required by the contract, not later than that 10 working days before job commencement
* Insurance and WCB coverage
* Manufacturer’s Warranty if the materials are supplied by the subcontractor.

Note: Shop drawings should show: (UFGS – Unified Facilities Guide Specifications)

* Materials’ locations, types, and dimensions
* Fasteners’ size and type
* Details like color and pattern of exterior wood-base design
* Window trims components

# 9.0 SPECIFICATIONS

The specifications used in this work method include:

* BCBC: Section 3.1 General
* BCBC: Section: 3.7 Health Requirements
* UFGS: Section 2.1.14 Siding – Section 2.2 Soffits – Section 2.3 Fascia and Trims
* BC Housing Design Guidelines and Construction Standards 2019: 06 20 00 Finish Carpentry
* Teal-Jones Group Shingle Recommended Manual

# 10.0 PROCEDURE

Consult the specifications and construction drawings to determine the requirements for any aspect of the work. This Work Method is a guideline used by GC to describe the work process and the process of quality control by conducting the specific Inspections and relevant Checklists. The Drawings, and Specifications as well as any code and by-law are the ultimate requirements. The PM and the General Contractor shall review the Work Method and make any revision (prior to each use if necessary) so that any requirements will be identified and met.

Each stage of the work comes with a checklist and each checklist is subject to two inspections, during and after completion of task. Each Checklist includes several checkpoints which must be controlled and verified by the GC PM or PC. To continue the work and proceed to next step, PM approval is necessary. The PM will give the approval only if all Checklist’s items are checked and passed.

The following procedures shall be applied to construct exterior walls and window trimmings for residential projects:

## 10.1 Building Paper

The application of building paper is as follows:

|  |
| --- |
| 1. The outside of a building     Description automatically generatedPrior to unrolling and attaching, its edge should be placed on the end of one corner leaving a 12-inches overlap on the corner [in a case of having a stuck line, the second stuck line should be adjusted with the first stud of the wall]. The first roll shall be specified with the bottom of the wall or leaving 6-12-inches overhanging. 2. Generally, all the rolls should be attached by ¼-inches galvanized chisel point or stainless-steel staples every 12-inches on studs with help of staple gun or hammer [The staples should not be used carelessly, because the least amount of penetrations through the building paper/house wrap, the better chances there is for it not leaking]. If the wall is higher than the width of the first Tyvek roll, the second roll shall be attached to cover the whole surface by leaving at least 10-inches overlap the first one [Overlapping should be toward the outside from top to bottom].   Figure 1:Paparing   1. Cutter or utility knife shall be used to remove excess Tyvek from the top of the wall, leaving at least a 6-10-inches extra for top [later, it should be cut]. 2. If tears or damage occur during installation, repair with an appropriate exterior air barrier tape (e.g. tuck-tape). Large tears should be repaired by larger piece of building paper/house wrap, and tuck-tape at the top and the sides but not at the bottom. 3. Windows and doors spaces shall be cut by cutter or utility knife in ‘X’ and ‘I’ shapes respectively [the loosen parts need to be folded and stapled inside the framing].   Note: Tuck tape shall be used to seal the following parts:   * Overlapping areas where two Tyvek joined * Any tears or damages created during or after papering * Around any windows or doors except the baseline [leave it for flashing].   Please refer to attached [checklist 1](#_Checklist_1:_Building) for building paper on section 13.4. 10.2 Rain Screen for Long Board Cedar SidingA picture containing building, blue, window  Description automatically generated Bug Screen  Air Sealing Tape  Blue skin  Strapping  Figure 2:Rain Screen for Cedar Siding 10.2.1 Blue Skin (Sheathing Membrane) Application  1. Start at the bottom and work up so that lapping keeps moisture out 2. Clean the entire area to be covered with waterproofing blue skin ensuring no dust or debris remain on it. 3. Prime the surface or apply a thin layer of glue on the surface or wall. 4. Cut in manageable length and apply a self adhered water resistive and air barrier membrane in a sequential overlapping method used on building paper application starting from bottom of the wall toward the top. Remove protective release film and press firmly [reduce a chance of having air bubbles] into the desirable position [ensure alignment]. 5. Use air sealing tape (Wingluv) at joint parts where the wall is not covered with one roll.   Note: Pop the air bubbles and fill them with caulking   1. Make sure there is minimum 5-inches vertical overlap at all ends and 2-inches vertical subsequent Blue Skin application. 2. For windows and doors, make a cut at the center of space and wrap a half of membrane to cover full extent of door and window jambs. 3. Use window sill pan membrane for doors and windows extending on the face of sheathing board [extend membrane up vertically minimum 6-inches for left and right jambs and corners required double layer for waterproofing].   Henry Company on Twitter: "Henry® Blueskin® VP100 makes sealing ...  Figure 3:Window Sill Pan Membrane for Doors and Windows Extending 6" on the Face of Sheathing Board (Google, 2020)  Note: It is recommended to use non-metallic countertop roller for pressing the sill membrane.  Please refer to attached [checklist 2](#_Checklist_2:_Application) for application of blue skin and window sill on section 13.4. 10.2.2 Strapping The current BC Building Code now requires two layers of wall protection with an air cavity in between (the rainscreen). So, Strapping will be used as vertical wood furring to create a capillary break and ventilation space (rainscreen cavity).  The BCBC codes require that rainscreen cavities have a minimum free area of 80% (9.27.2), meaning that material used to create the space (strapping) must not exceed 20% of the cross-sectional area of the drained and vented cavity. This requirement can generally be met with most strapping arrangements, including the strapping widths given in the following table:    According to above table the 1/2"x2 1/2” plywood strapping and should be used for cedar siding. Screws used to attach the strapping should be either stainless steel or galvanized steel with a coating rated to 2000-hour salt spray per ASTM B117.  The application of rain screen for siding is as follows:   1. A picture containing outdoor, building, standing, small     Description automatically generatedFurring strips should be screwed into the studs making sure they stick tight to the wall [leaving 2-3-inches gapes from the bottom of metal flashing and below of soffits] 2. Below and top of windows, install short pieces of furring strips based on required measures [there should be at least two long strips screwed at both ends of the window]   Short Furring Strips  Strapping on Corner   1. Corners require at least two furring strips on both sides   Figure 4: Strapping   1. A picture containing sitting, building, table, small     Description automatically generatedUnroll bug or insect screen-roll on the bottom of Straps, fold it on half and attach it on the wall[bag or insect screen should be tacked by ¼-inches staples on the bottom of furring strips in case of not having metal flashing].   Extra Furring Strips  Note: Add extra furring strips around corners, windows, plugs or any obstacles on the house wall providing more backing for sidings.  Bug Screen A picture containing food  Description automatically generated Figure 5: Strapping under Window and Corner  Insulation 10.2.3 Exterior Insulation  1. In case of having insulation on wall, the blue skin should be replaced with sheathing or building paper 2. Follow Section 10.1 *Building Paper* for installation procedure. 3. Each piece of insulation should be screw to stud [they should stick to the wall tight   Figure 5:Exterior Insulation on Building Paper   1. Use utility knife to cut insulation pieces around windows and plugs 2. Follow the 10.2.2 *Strapping* to screw furring strips on the insulation.   Figure 6: Strapping on Exterior Insulation  Please refer to attached [checklist 3](#_Checklist_3:_Strapping) for strapping on section 13.4. 10.3 Rain Screen for Wall Shingles The application of rain screen for wall shingles or shakes includes:   1. Unroll Air vent rain screen-roll [consist of mesh and filter fabric] and tack it on the house wrap or building paper like papering processes [10.1] with 1/4-inches stainless staples [filter fabric should be seen even and tight on wall face – before striking staple hammer or gun, put pressure on rainscreen making it straight and even].   Filter Fabric  A close up of a brick building  Description automatically generatedMortairvent ® Rain Screen – advancedbuildingproductsshop.com  Joint part  Mesh  Figure 7: Air Vent Rain Screen Roll  Google, 2020   1. Leaving 4-inches overlapping filter fabric [mesh should be removed] where two rolls joined and the bottom line of the wall or metal flashing.   Overlapping on Bottom Line  Figure 8: Air Vent Rain Screen on Gable   1. Cover the corner with one roll from the long-end side and continue at least 10-12inches to short-end side. To fold the roll easily, cut the corner line with a utility knife or cutter [make sure mesh and filter fabric are still attached together].   Inside Corner  Outside Corner  Figure 9: Rain Screen Installation for Corners    Vertical Furring Strip   1. For foundation concrete wall, measure the height of the wall from below of rain screen or to 8-12-inches above the ground level. Cut furring strips according to measurement. Attach furring strips on building paper every 12-16-inches with fluted nails in vertical position [tack at least 3 to 4 1 1/4-inches stainless steel nails – all strappings should be tight to wall]. 2. Cut 3-6-pieces for space between two vertical strips. Install them in a diagonal direction to cover most of the surface [use at least 2 nails at both ends of each crossing pieces].   Crossing Furring Strip  Figure 10:Strapping Installation for Concrete Wall  Please refer to attached [checklist 4](#_Checklist_4:_Rain) for rain screen installation for wall shingle on section 13.4 10.4 Wood Window Trims10.4.1 Cutting/Ripping Planks  1. Based on specs and windows dimensions, the size of the boards should be measured. 2. For this WM, 2”x4” wood planks [which its actual size is = 1 ½-inches by 3 ½-inches] are commonly used for base and top and 2”x2” wood planks are proper sizes for the sides. In case of a lack of 2”x2” wood planks, 2”x4” boards can be ripped by the table saw. 3. To minimize wood waste, each wood boards should be inspected for the quality and suitable length should be selected according to measurement prior to cutting and ripping. 4. To rip the planks, put them on the table saw and adjust the blade teeth based on wood thickness [use auxiliary support after saw to level long boards]. Turn on the saw and move the plank forward slowly making sure it sticks to the saw fence all the way [pull backward for the end cut or use pull stick].  10.4.2 Sanding  1. All surfaces are required to be smooth and polished with *Medium Sandpaper* [80-120 grits] or mechanical sander.   Figure 11: Rounded the Edges  Sanding rounded the edge, how can I get a sharp edge back? : woodworkingNote: *Fine Sandpaper* [120-180 grits] is appropriate for edges.   1. Flat surfaces should be cleared from any marks, holes, or scratches which can be achieved through following up the direction of the grain or scrubbing back-and-forth strokes along with the board. 2. To remove sharp edge and turn it to round shape, the flat-to-flat rollover should be performed by putting consistent and light pressure on the entire of board. 3. All end corners require to be sanded from the long-grain edge and pulled down to the end-grain edge.   Note: The maximum number of strokes for corners should not be more than 4 to 6 to gain desirable results. 10.4.3 Priming  1. A close up of a building     Description automatically generatedFor the company’s projects, a water-based stain is mostly used as it is more resistant to mold. It can also be wiped out easily and gets dry quickly. 2. Prior to applying a water-based stain, it is required to clean the board with a wet sponge or apply wood conditioner to prevent raising the grain of the wood.   Note: Remember to stir stain can with a wooden or plastic stirring tool carefully.   1. Dip the brush into the stain and squeeze both sides and apply on the board in slow back-and-forth strokes to even out a thin layer of stain on the wood. There should not be any drips or splatters on the wood [In a cased of having leaks or drips because of applying too much stain, take them off by scraper]. 2. The primed board should be left on covered storage or shelter to get dried for at least 3 – 4 hours. Dried trims might need to be sanded before installing with 120 grits sandpaper.   Figure 12: Primed Trim Boards 10.4.4 Window Trims Installation  1. Making sure all trims inspected prior to installation in terms of lacking stain drips or leaks, scratches, sharp or uneven surfaces. 2. Level top board and bottom piece with window and use at least two 2 ½-inches [6.5cm] stainless-steel nails at both ends and one at center. 3. A picture containing indoor, sitting, wooden, counter     Description automatically generatedBoth side pieces should be leveled with the top board and nailed with at least two 2 ½-inches stainless-steel nails at both ends on the board and one at angle position from inside to be fastened with the bottom and top pieces. 4. Filling all holes or nail spots with wood filler [later, caulk should be applied into spaces between trims and siding or wall shingles].   Top Board  Figure 13: Window Trims Installation  Please refer to attached [checklist 5](#_Checklist_5:_Wood) for window trims on section 13.4. 10.5 Wooden Soffit(s) To enhance performance and ease of installation, select fine soffit boards from storage place [no scratches or damages] and bring them to the Miter Saw and make various bundles based on their length [place back of the boards leaning against the saw table in angle position]. Make sure both ends have fresh-cut [removing 2-3-inches from one end then start measuring and cutting].  Note: To prevent damaging plastic vents while cutting, put pressure on saw blade slowly and consistently. |
| 10.5.1 Gable(s)  1. Measure the width [distance between the back edge of fascia toward house wall] and the length of gable [distance between one end and the ridge of vent] to select the number of soffit boards required to be cut on Miter Saw [mostly, select the small length of boards from storage and leave longer for balcony or other parts].   **Your text here**   1. Generally, install 1 vent after the both first end pieces then use another one after a specified [based on specs] number of soffit boards [both sides of gable should have the same pattern] – make sure vents are at the same line in both sides. 2. Make two end pieces and the pieces after plastic vent as follows: |
| A picture containing sitting, person, oven, food  Description automatically generated  Female Part  Fascia End Edge   * End piece   45= Fascia end edge (required degree on Miter Saw to rip male part)  [Female part is used for vent or the any piece after the first piece]  Figure 14:End Soffit Piece for Gable  A picture containing person, outdoor, bench, sitting  Description automatically generated  Vent Space   * Vent piece   Female Part  0.5-inch=vent space (Required depth on Table Saw to cut male part)  [This piece is used after vent – the female part is used for the piece after the vent]  Figure 15: Vent Soffit Piece for Gable   1. A sign on the side of a building     Description automatically generatedTack first end pieces into backing with at least two 1 1/8-inches stainless nails on both sides and continue nailing soffits based on the pattern until the end.   Vent Space Piece   1. Remember to place vent piece before vent and leave 1/2-inches gape with next soffit board after vent as it requires to be a little bit flexible - hold vent with one hand and nail the next board. Make sure nails are attached to backing not on joint [tongue].   Plastic Vent   1. Measure the gap between two end pieces on the ridge of gable and rip the male part of the soffit board [removing the inside of tongue]. Hold the piece with one hand and level it with soffit line and nail on the surface – make sure nails go into the backing.   First End Rideg Piece    Figure 16: Soffit Installation for One Side of Gable 10.5.2 Narrow/Wide Eave(s) **10.5.2.1 Enclosed Eave(s)**   1. A picture containing building, table, wooden     Description automatically generatedMeasure the length and cut required soffit boards [According to eave dimensions] and start the installation from the back edge of fascia go toward the house wall [male part should be stacked to back edge of fascia - sometimes, it is required to rip and remove the male part of the first piece on Table saw to make sure it looks flat in entire surface].   Installtion Direction   1. 1 1/8-inches stainless nails should be tacked into the board and the backing behind it on both ends. In joint parts [tongue] hold the soffit gun at angle position in the middle of the board – make sure nail will not prevent the next board installation [check the space or gap between soffits – 1/2-inches should be seen]. 2. One plastic vent is required for each enclosed eave according to BCBC and its location is determined based on specs. Make sure plastic vent has enough space for flexibility or movement prior to installing the next board by holding vent and hammer a few nails in middle – nails can go through holes in the vent.   Figure 17:Soffits Installation for Enclosed Eave   1. The next piece after vent should be attached in the female part continuing in the same direction until the end. Remove nails from the plastic vent just by using a hammer and pulling down them. Hammer some nails in the middle of boards after and before vent to prevent putting pressure on the plastic vent. |
| **10.5.2.2 Wide Eave/Balcony/Deck**   1. A picture containing train, track, building, outdoor     Description automatically generatedPrior to start measuring, make sure backings are adequate and installed properly – having backing every 12-15-inches [add more if the length between two backings more than 12-15-inches – measure the width of eave and cut 2”x4” planks and attach them into the framing by 4-inches stainless steel finishing nails].   Backing   1. Measure the length of the entire eave to select the proper size of boards from the storage. Install the first piece and vent like enclosed eave processes. [rip the female part to level the board with fascia]. 2. Measure the length for 3 boards after the vent from one end of the eave toward the other side [reduce one backing - hold the tape in the middle of backing since the next piece needs space for attaching].   Figure 18: Soffits Installation for Wide Eave  Note: Remember install pieces in the opposite direction after plastic vent [female part toward plastic vent].   1. The length of boards is determined based on the length of the eave or balcony [divide the overall length into 3-4 parts]. Attach the first 3 boards with 2-inches stainless steel nails, two on boards for both ends and one in joint parts in the middle [inspect the space between soffits]. Continue until the end 3 by 3 pieces   Note: Use glue between two soffit boards joined in the center of one backing and remove the excess glue and sand the board.   1. A picture containing fence, train, building, track     Description automatically generatedFor lightening space, it is required to hold the piece on its location with one nail and draw a circular line with a pencil. Detach the piece and inspect the marked space and make it bold [drill one screw in the middle of the ring and attach one sting into the screw equal to the radius of the circle and bold the line with pencil].   Lightening Space   1. Cut the ring with a jigsaw and keep the removed part as it is required for other holes. Before nailing the part, check the shape of the hole(s).   Zigzag Pattern   1. A picture containing indoor, wooden, window, building     Description automatically generatedA corner has a form of a zigzag. The longer face or side should come over – equal to the width of the soffit. Make sure backings on the corner provide enough space for installation [add more backings on crossing line for corner joint or section.   Figure 19: Soffits Installation for Wide Eave   1. Measure the first piece for long-end plus the width of soffit, install it. Then, do the process for the short-end side [without adding the width of soffit]. The whole process should be continued until the end to cover the corner.   Figure 20: Soffits Installation for Corners or Square Shape  Note: Rip or cut the male of heading piece as the crossing piece should be attached without any gapes.   1. In case of having joists on backings, hammer all of them to make sure they occupy less space [create more space for soffit boards].   Metal Joist Hanger   1. For steel joist parts, hold the soffit on its location and mark the left and right side of the joists on the back of soffit with nails or sharp marker.   A picture containing person, outdoor, man, sitting  Description automatically generated  A picture containing indoor, table, sitting, small  Description automatically generated  Metal Joist Hanger Location  Figure 21: Soffits Installation for Wide Eave – Joists on Backing   1. Use hand circular saw to remove the thickness of soffit from the back [Because of having metal joist hangers on the backing, the soffit board can not be attached leveled with others]. Just hold the circular saw in angle position [or use Miter saw] to grind the back of the soffit board [do not put too much pressure as you might damage the surface of the board]. 2. To install the soffit board, hold it on its position [inspect it to be leveled with other boards before nailing] and install it.   Please refer to attached [checklist 6](#_Checklist_6:_Wood) for wood soffits installation on section 13.4.  Figure 22:Soffits Installation for Wide Eave - Cuts for Joist Parts 10.6 Fascia Bracket(s)  1. A sign on the side of a building     Description automatically generatedCheck the length and dimensions of prefabricated wood brackets [corbels] according to specs or drawings. Cut the extra length from the bottom side or back of the bracket and make sure they are fully painted and ready for installation. 2. Installation should be carried out by at least two persons. Hold a bracket under the rake edge or eave [under fascia] and mark its location on the wall [and for required rake edge cut]. 3. Cut the marked location on rake edge with jigsaw – it should be square shape   Sqare Cut    Figure 23: Rake Edge Cut for Bracket on Gable  Post Sheet   1. Create a centerline with help of square and level on the wall and mark the left and right of centerline based on the thickness of brackets [in case of having post face sheet on the back of bracket, consider the thickness of sheet too]. Left and right line marks are employed during installation as alignment guides.   Figure 24: Bracket Installation with Post Sheet on Back  Note: The following figure illustrates the alignment lines and center lines for bracket installation.  Center Line  Bracket  Alignement Line   1. During the installation, hold the bracket on alignment guidelines and use level and square to check the position of it at the correct angle. 2. To ease the installation processes at height, use the finishing nail gun to tack and hold the bracket into the place with 3-inches stainless nails. 3. Check and inspect the appearance and angle of the bracket with alignment guidelines, square, and level. Drill at least 2 large screws [4-6-inches] at angle position in each side going through the wall and rake edge to make sure it sticks to the mounting surface and house wall. All the holes should be filled out with wood filler.   Figure 25: Bracket Leveling  Please refer to attached [checklist 7](#_Checklist_7:_Fascia) for fascia brackets on section 13.4. 10. 7Siding All cedar sidings should stay in their bundle package and covered with a lumber wrap to make sure they are not going to get wet. Air circulation will help to keep dry. Also, keep siding in pile allowing air goes under the pile.  Remember to restore the pile coverage after each opening. Make sure the cover is tight and has slope to let rainwater pass over. Keep the siding pile in natural condition.  Use tape to measure sidings after opening the cover on storage place then select and move the sidings to Miter Saw in the proper direction for cutting [put siding on saw from the thin side]. 10.7.1 Enclosed Wall Figure 26: Siding Pile     1. Measure the length of the wall to select the appropriate size of siding from storage. After cutting according to measurement, start from the bottom course. 2. It is important to keep siding 8-12-inches off the ground [prevent rainwater splashing back]. The first siding should be adjusted based on the level of ground and specs. 3. Use finishing gun to attach the first piece with 3-inches stainless steel nails to furring strips and wall stud. Use at least 2 nails to attach the board on furring strip one in thin and one in the thick part of siding.   7 ½ “ Siding Spacer   1. 7 1/2-inches siding spacer [to make all spaces and overlapping between sidings identical] should be nailed into the board before installing the second one. Put the second siding on the spacer and 5/8 in. x 6 in. x 12 ft. Green Western Red Cedar Bevel Siding-0513232 - The  Home Depottack it like the first piece [make sure it overlaps the nail in thin parts of the first piece]. Continue until the top of the house wall.   Figure 27: Cedar Siding Installation for Enclosed Eave  **Narrow Part**   1. For the piece under the window, hold thick part (bottom of siding) below the window and mark the length of the window on the thick side of the siding. 2. Measure the width of siding occupied by window and mark from the top of the siding [it looks like rectangle]. Use a jigsaw to remove marked shape from top of the board and install it afterward.   **Thick Part**  Figure 28: Cedar Siding   1. For the piece at the top of the window, hold the narrow part (top of siding) then measure and remove the width occupied by the window from the bottom of the board.  10.7.2 Wide Surface/Wall  1. The length of the wall should be divided into 2-3 parts. Start measuring for 3 pieces by 3 pieces vertically from one end and move horizontally to middle of the marked strapping – end of first section [for the bottom line, select at least 12-16-feet siding] for the first one and reduce one furring strip for the second and the third respectively [to ease removal, in case of fault].   Joint Ends-Require Glue   1. Cut one end of all boards inward at 45 on Miter Saw prior to installation [creating joint ends]. 2. Tack the boards with the use of finishing gun and 7 1/2-inches spacer. 3. Repeat the above procedures [1 to 3] for the next 3 pieces in a row, but they require to have 45 outward cuts on one end side to join the previous pieces with 45 inward cuts and 45 inward cuts on the other ends attaching to next pieces.   Figure 29: Cedar Siding Installation for Wide Eave   1. Use glue and at least 6 nails to strengthen each joint ends. Remove extra glue on the board and sand it after that to make it smooth and even. 2. Continue until the end of the wall 3 pieces by 3 pieces [ the last 3 pieces only have 45outward cuts on one end to join previous pieces – like the first starting 3 pieces]. 3. All above procedures [1 to 6] should be repeated to finish the wall. 4. For corners, cut both large and short end side at 45 inward and apply glue and at least six 1 1/8-inches stainless steel nails at joint parts. Remove extra glue and sand the corner [use 120-grit sandpaper]. 5. It is important to hide nail holes on sidings. First, punch the nails that do not go into the boards. Then, use wood filler to hide the nail holes on sidings.   Figure 30: Cedar Siding corner installation   1. Place wood fillers on the putty knife and rub it to fill the holes completely. Leave it for 1-2 hours to make sure they are dry. Sand the filled holes to remove excess wood filler.     Please refer to attached [checklist 8](#_Checklist_8:_Cedar) for cedar siding installation on section 13.4.  Figure 31: Holes filled by Wood Filler 10.8 Cedar Wall Shingle   Shingle packages should be maintained in a pile format and covered by lumber wrap to allow air and water pass over and under the pile [keep moisture out]. After opening the lumber wrapped pile, all boxes should be split and keep under shades or preferably inside the house. 10.8.1 Single Coursing Figure 33: Shingle Pile  Straight Edge   1. Prior to starting installation, use a ripped plank or straight edge on metal flashing or 8-12-inch above the ground level [level the straight edge in case of not having metal flashing]. 2. The straight edge will help to keep shingle courses level and straight [nail it to the wall before starting for base course and in shingle course for next line] (Cedar Shake and Shingle Bureau, 2013).   Figure 34: Shingle Single Coursing Starting from the Ground |
|  |
|  |
| 1. At the starting course, use one underlayment of shingle [cut 2-3inches shingles width from bottom to prevent bulking]. It is recommended by manufacture to use dry low grade [#3 or #4] for under coursing shingles and do not space apart shingles for under coursing. |
| 1. A close up of a piece of paper     Description automatically generatedApply ½-inches lower than underlayment for the outer course in baseline to help shed water. For outer line and other shingle courses space shingles [1/8-1/4-inches] apart allowing expansion. Offset the side joints at least 1 ½ -inches from adjacent courses. 2. Use ¾-inches stainless steel staples or fasteners tacked ¾-inches from the edge of shakes and 1 inch above straight edge for underlayment and exposure line [above butt line of succeeding course to conceal the staples] for other shingle courses [place at least 1 staple in each side and 2 staples for 8-inches wide - add one staple in the center for wider than 10-inches].   Outer Course on BaseLine   1. To ease the installation, cut 7 ½-inch piece of 1”×4” plank and use it to move straight edge up for next row [put the spacer on straight edge and tack nails above it every 12-16-inches and then attach the straight edge below the nails.   Figure 35: Shingle Single Coursing Starting from Metal Flashing  Note: For Small shingles installation such as under window, Use 1 1/2-inches stainless steel nails [soffit nails] instead of staples.   1. For wide rows, start from both ends and complete it in middle. It helps to save time by using random-size shingles and cut one precise size in middle [for last piece, put a butt of wide shingle in position from the back marking the proper width – consider 1/8-inch space for both sides] and install it.  10.8.3 Gables  1. A picture containing building, indoor, floor, standing     Description automatically generatedObtain angle of gable(s) [usually 35-37]. Create at least 5-7 triangle pieces with 15-inches wide shingles [adjust Miter Saw on measured angle position and put end edge of shingle on 0 from the butt and cut the piece]. 2. They will be used for both ends of each line. Use two triangle pieces for the last line [ridge vent].   Angel Piece  A building next to a window  Description automatically generated  Figure 36: Shingle Installation for Gable  Ridge Vent  Figure 37: Shingle Installation for Gable 10.8.4 Corners A picture containing building  Description automatically generated10.8.4.1 Alternated Lace (Outside Corner)   1. Alternate each end cut course by course [row] until the end. 2. Keep and use wide shingles for outside corners. 3. Put one shingle on straight edge in left [or right] end side [line it up with end side corner] and tack it with 2 stainless steel staples [use 7 1/2-inch block spacer and staple 1-inch above it]. 4. Put another shingle on the straight edge on the right [or left] end side covering the shingle on the left side and scribe an angled line of opposing shingle.   Figure 38: Shingle Installation-Alternated Lace   1. Cut the shingle with the hand circular saw and staple it. Tack one staple on the joint part to fasten the corner side. Continue until the end.   10.8.4.2 Laced Inside (Inside Corner)   1. Like outside corners, flash one shingle with left [or right] end side. 2. Put another shingle on the straight edge and draw an angle line of opposing shingle. 3. Cut the angled line and attach it with stainless steel staples.   Figure 39: Shingle Installation-Laced Inside   1. Alternate row by row until the end.   Note: No need to use staple on the joint part.  Please refer to attached [checklist 9](#_Checklist_9:_Wall) for wall shingle on section 13.4. |
|  |

# 11.0 ORGANIZATION CHART

See attached Organization Chart

# 12.0 REFERENCES

Cedar Shake and Shingle Bureau. (2013, April). Exterior and Interior Wall Manual. Mission, BC, Canada.

P.Spence, W. (2008). *Finish Carpentry A Complete Exterior & Interior Guide.* New York: Sterling Publishing Co., Inc.

The Teal-Jones Group. (2019, May 11). *Shingles.* Retrieved from tealjones: https://tealjones.com/our-products/shingles/

The Handouts and QMS sample documents provided by Mr. Jim Turnham (CMGT-7246).

Based on the Writer Experience [All graphic without reference were taken by writer].

Manufacturer Installation Guide.

# 13.0 ATTACHMENTS

13.1 Inspection Form 01

13.2 Organization Chart

13.3 Flow Chart

13.4 Quality Inspection Checklists

**(END OF DOCUMENT)**

## 13.1 Final Inspection Form [10]

|  |  |
| --- | --- |
| Inspection Form for Exterior Wall Finishing | |
| Revision 01 | Date: 2020-04-27 |
| Prepared By: Siavash Mahzari  Reviewed By: | GC Exterior Finishing Carpentry |

| **Item No.** | **Item of Work to be Inspected or Tested** | **By QC**  **P = Pass**  **F = Fail** | **Acceptance Criteria, Notes** | **Checked by CL** | **Checked by PC** | **Comments:** |
| --- | --- | --- | --- | --- | --- | --- |
| 2 | Papering | P  F | Overlapping, Corners, Stainless Steel Staples, Windows & Doors Cuts, Tyvek Tape on Joint parts, No Tears | Date:  Initial: | Date:  Initial: |  |
| 3 | Cladding | P  F | Stainless Steel Nails, furring strips on Studs, Folded Bag Screens on Base and Top, Corners | Date:  Initial: | Date:  Initial: |  |
| 4 | Window Trims | P  F | Sanded Surfaces and Edges, Prime, Stainless Steel Nails, No Holes | Date:  Initial: | Date:  Initial: |  |
| 5 | Soffits | P  F | Flexible Vents in Eaves, ½-inch Gapes, lightening Round Cuts, Zigzag Corners, Stainless Steel Nails, Matches Patterns with Specs | Date:  Initial: | Date:  Initial: |  |
| 6 | Brackets | P  F | Leveled with fascia, Square Shape with House Wall, No Holes, No Gapes on Fascia | Date:  Initial: | Date:  Initial: |  |
| 7 | Siding | P  F | 7 ½-inch Between Sidings, No Holes, Corners Gapes and Cuts, Over lapping, Glue on Joint Parts | Date:  Initial: | Date:  Initial: |  |
| 8 | Wall Shingles | P  F | 7 ½-inch between courses, Stainless Steel Nails, No Holes, Alternated Laced outer Corners, Laced Inside Corners, 1/8-1/4-inches Space from Sides, No Bulking on Base or Top | Date:  Initial: | Date:  Initial: |  |
| 9 | Final Inspection | P  F | Matches Exterior Walls with Specs & Drawings | Date:  Initial: | Date:  Initial: |  |

## 13.2 Organization Chart

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 13.3 Flow Chart | | | | |
| **Inputs** |  | **Actions Taken** |  | **Outputs** |
| **Prior to going to Site**  Hold a meeting  Construction Manager  Project Coordinator  Crew Leader |  | Receive and review Shop Drawings, Specs, Contract Requirements and Expectations  🡫  Skilled carpenters and helpers matched and scheduled to the scope of the work  🡫  Safety Orientation Completed  🡫  Helpers sent a Work Method to study up for the task of the day  🡫 |  | Appropriately sized crew assigned and scheduled to the work  Meeting minutes recorded |
| **On Site**  Project Coordinator  Crew Leader  Site Supervisor |  | Site Safety Meeting  🡫  Power/hand tools safety orientation  🡫  Site Review of Work Method  🡫  Review drawings for papering and Cladding  🡫 |  | Safety meeting minutes recorded, good to go |
| **Building Paper**  Crew Leader  Skilled Carpenters |  | Wrapped whole house with paper  🡫  Review checklist for papering  🡫 |  | Papering completed  Ready for City Inspection  Ready for windows Installation |
| **City Inspection**  Project Coordinator  Site Supervisor |  | Require repairing?  🡫  No, good to/Yes, fix the problem  🡫 |  | City confirmation |
| **After Windows Installation**  **Window Trims**  Crew Leader  Skilled Carpenters |  | Rip and cut required planks  🡫  Sand surfaces and edges  🡫  Prime and keep them in coverage to get dry  🡫  Check edges and surfaces for any scratches or drips  🡫  Install window trims  🡫  Review Checklist and verify for window trimming  🡫 |  | Window trims completed, good to go |
| **Blue Skin**  Crew Leader  Skilled Carpenters |  | Prime the walls and apply glue if required  🡫  Install blue skin  🡫  Review checklists and verify for Blue Skin  🡫 |  | completed, good to go |
| **Strapping**  Crew Leader  Skilled carpenters |  | Screw Furring strips  🡫  Install bugs screen  🡫  Review Checklist and verify strapping |  | Completed, good to go |
| **City Inspection**  Project Coordinator  Site Supervisor |  | Require repairing?  🡫  No, good to go/Yes, fix the problem  🡫 |  | City Confirmation |
| **Soffits**  Crew Leader  Skilled Carpenters |  | Measure gables and eaves dimensions  🡫  Cut soffit boards and vents based on measurement  🡫  Install soffit boards and vents  🡫  Review checklist and verify for soffits |  | Soffits completed, good to go |
| **Brackets**  Crew Leader  Skilled Carpenters |  | Measure and draw alignment guides for brackets  🡫  Cut fascia or ridge vent  🡫  Install brackets on house walls  🡫  Review the angle of brackets with fascia and verify checklist  🡫 |  | Brackets completed, good to go |
| **Sidings/Wall Shingles**  Crew Leader  Skilled ed carpenters |  | Measure all house dimensions  🡫  Create 7 ½ spacer for sidings/straight edge for shingles  🡫  Cut and install siding/staple shingles  🡫  Review checklist and verify for exterior wall siding/shingles  🡫 |  | Exterior wall completed, good to go |
| **Final Inspection**  Construction Manger  Project Coordinator  Site supervisior |  | Inspect all exterior wall finishing  🡫  Review all checklists and quality scores  🡫  Require repairing?  🡫  No, good to go/Yes fix the problem |  | Final approval |

## 13.4 Quality Inspection Checklists

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Checklist 1: Building Paper | | | | | |
| Contractor Name | | Project: | Subcontractor: | | | |
| **Number** | **Checkpoints** | | | DI | AI | |
| **1** | Is the building paper/house wrap overlapped from top to bottom and towards the outside? | | |  |  | |
| **Comment** |  | | | | | |
| **2** | Is the building paper/house wrap secure with enough, but not too many staples? | | |  | |  |
| **Comment** |  | | | | | |
| **3** | Are tears repaired properly? | | |  | |  |
| **Comment** |  | | | | | |
| **4** | Are large tears left without tape at the bottom side? | | |  |  | |
| **Comment** |  | | | | | |
| **5** | Are window and door spaces cut and stapled properly? | | |  |  | |
| **Comment** |  | | | | | |
| **6** | Are all staples 1/4-inches point or stainless-steel staples and used every 12-inches on studs? | | |  |  | |
| **Comment** |  | | | | | |
|  |  | | | | | |
| **Quality Scores and Completion Sign-off** | | | | | | |
| **Inspection#**  Quality 5 4 3 2 1 Notes:  On-Time 5 4 3 2 1 Notes:  Sign and date\*: Cell # / ID #: Signed: Date:  Task has been verified complete and in compliance with contract drawings and specifications except for non-conformances and incomplete items reported above. | | | | | | |
| **DI=** Inspection **D**uring task in-process --------**AI=** Inspection **A**fter task completed  *Quality Score**5 = 100% NO problems 4 = 1 minor problem 3 = Hotspot or 2-3 minor 2 = 6+ or major problems 1 = Excessive problems*  ***On-Time Score*** *5 = On Time 4 = Late 3 = Late by 1 day 2 = Late by 2 days 1 = Late more than 2 days*  ***Safety Score*** *5 = 100% NO problems 4 = 1 minor problem 3 = Hotspot or 2-3 minor 2= 4+ or major problem 1= Injury* | | | | | | |
|  | Checklist 2: Application of Blue Skin and Window Sill | | | | | |
| Contractor Name | | Project: | Subcontractor: | | | |
| **Number** | **Checkpoints** | | | DI | AI | |
| **1** | Are there any wrinkles or tears on blue skin? | | |  |  | |
| **Comment** |  | | | | | |
| **2** | Are all air bubbles filled with caulking and joint parts tacked with air sealing tape? | | |  | |  |
| **Comment** |  | | | | | |
| **3** | Is window sill pan membrane reach up min 6-inches on both jambs? | | |  | |  |
| **Comment** |  | | | | | |
| **4** | Are all windows and door jambs wrapped properly? | | |  |  | |
| **Comment** |  | | | | | |
| **5** | Is there a double layer of sill membrane (or Plastic flashing corners) on the corners of the windows and doors? | | |  |  | |
| **Comment** |  | | | | | |
| **Quality Scores and Completion Sign-off** | | | | | | |
| **Inspection#**  Quality 5 4 3 2 1 Notes:  On-Time 5 4 3 2 1 Notes:  Sign and date\*: Cell # / ID #: Signed: Date:  Task has been verified complete and in compliance with contract drawings and specifications except for non-conformances and incomplete items reported above. | | | | | | |
| **DI=** Inspection **D**uring task in-process --------**AI=** Inspection **A**fter task completed  *Quality Score**5 = 100% NO problems 4 = 1 minor problem 3 = Hotspot or 2-3 minor 2 = 6+ or major problems 1 = Excessive problems*  ***On-Time Score*** *5 = On Time 4 = Late 3 = Late by 1 day 2 = Late by 2 days 1 = Late more than 2 days*  ***Safety Score*** *5 = 100% NO problems 4 = 1 minor problem 3 = Hotspot or 2-3 minor 2= 4+ or major problem 1= Injury* | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Checklist 3: Strapping | | | | | |
| Contractor Name | | Project: | Subcontractor: | | | |
| **Number** | **Checkpoints** | | | DI | AI | |
| **1** | Are all furring strips screwed into the wall insulation and framing studs? | | |  |  | |
| **Comment** |  | | | | | |
| **2** | Are all strapping the same size (1/2”x2 1/2”)? | | |  | |  |
| **Comment** |  | | | | | |
| **3** | Bug screen installed on the bottom wide enough to wrap up over the furring strips | | |  | |  |
| **Comment** |  | | | | | |
| **4** | Use at least 2 furring strips for each side of corners | | |  |  | |
| **Comment** |  | | | | | |
| **5** | Add extra furring strips around windows, corners, and plugs | | |  |  | |
| **Comment** |  | | | | | |
| **6** | Have short pieces below and top of the windows | | |  |  | |
| **Comment** |  | | | | | |
|  |  | | | | | |
| **Quality Scores and Completion Sign-off** | | | | | | |
| **Inspection#**  Quality 5 4 3 2 1 Notes:  On-Time 5 4 3 2 1 Notes:  Sign and date\*: Cell # / ID #: Signed: Date:  Task has been verified complete and in compliance with contract drawings and specifications except for non-conformances and incomplete items reported above. | | | | | | |
| **DI=** Inspection **D**uring task in-process --------**AI=** Inspection **A**fter task completed  *Quality Score**5 = 100% NO problems 4 = 1 minor problem 3 = Hotspot or 2-3 minor 2 = 6+ or major problems 1 = Excessive problems*  ***On-Time Score*** *5 = On Time 4 = Late 3 = Late by 1 day 2 = Late by 2 days 1 = Late more than 2 days*  ***Safety Score*** *5 = 100% NO problems 4 = 1 minor problem 3 = Hotspot or 2-3 minor 2= 4+ or major problem 1= Injury* | | | | | | |

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|  | Checklist 4: Rain Screen for Wall Shingle | | | | | |
| Contractor Name | | Project: | Subcontractor: | | | |
| **Number** | **Checkpoints** | | | DI | AI | |
| **1** | Are all rain screens attached with ¼-inches stainless staples? | | |  |  | |
| **Comment** |  | | | | | |
| **2** | Are there any wrinkles or swollen area? | | |  | |  |
| **Comment** |  | | | | | |
| **3** | Do all joint areas have one layer of mesh? | | |  | |  |
| **Comment** |  | | | | | |
| **4** | Are all corners covered with one roll extending at least 10-inches? | | |  |  | |
| **Comment** |  | | | | | |
| **5** | Is rain screen on the corners attached or paper can be seen easily? | | |  |  | |
| **Comment** |  | | | | | |
| **6** | Is foundation wall covered properly with furring strips with 1/4 -inches stainless steel nails every 12-16-inches? | | |  |  | |
| **Comment** |  | | | | | |
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| **Quality Scores and Completion Sign-off** | | | | | | |
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|  | Checklist 5: Wood Window Trim | | | | | |
| Contractor Name | | Project: | Subcontractor: | | | |
| **Number** | **Checkpoints** | | | DI | AI | |
| **1** | Choose right size of planks and ripping straight | | |  |  | |
| **Comment** |  | | | | | |
| **2** | Is there any hole, mark, and scratch on plank after sanding? | | |  | |  |
| **Comment** |  | | | | | |
| **3** | No sharp edges in middle and end corners | | |  | |  |
| **Comment** |  | | | | | |
| **4** | All trims should be stained without any drips or splatters | | |  |  | |
| **Comment** |  | | | | | |
| **5** | Status of all trims before installation | | |  |  | |
| **Comment** |  | | | | | |
| **6** | Use at least two 2 ½-inches stainless steel nails on both ends and one in center and at angle position | | |  |  | |
| **Comment** |  | | | | | |
| **7** | Is there any hole or mark on the window trim after installation? | | |  |  | |
| **Comment** |  | | | | | |
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|  | Checklist 6: Wood Soffits | | | | | |
| Contractor Name | | Project: | Subcontractor: | | | |
| **Number** | **Checkpoints** | | | DI | AI | |
| **Gables** | | | | | | |
| **1** | Have a vent after end piece? | | |  |  | |
| **Comment** |  | | | | | |
| **2** | Is there ½” gap between vent and piece of soffit after that? | | |  | |  |
| **Comment** |  | | | | | |
| **3** | Are all 2” stainless nails tacked on the face of soffits or in tongue? | | |  | |  |
| **Comment** |  | | | | | |
| **4** | Is soffits pattern the same at both side? | | |  |  | |
| **Comment** |  | | | | | |
| **Enclosed Eve** | | | | | | |
| **5** | Have one vent piece for entire area? | | |  |  | |
| **Comment** |  | | | | | |
| **6** | Are all 1 1/8 inches stainless nails tacked in tongue not on face except two on both ends each board? | | |  |  | |
| **Comment** |  | | | | | |
| **7** | Is there ½-inches gap between all soffit pieces? | | |  |  | |
| **Comment** |  | | | | | |
| **Wide Eave** | | | | | | |
| **8** | Are there enough backings before or during installation? Does any soffit loosen? | | |  |  | |
| **Comment** |  | | | | | |
| **9** | Have two 2” stainless nails on face only on both ends and center of each board only? | | |  |  | |
| **Comment** |  | | | | | |
| **10** | Is there ½” gap between all soffits and vent? | | |  |  | |
| **Comment** |  | | | | | |
| **11** | Can glue be seen on face of joint area? | | |  |  | |
| **Comment** |  | | | | | |
| **12** | Are all lighting cuts right size and circular shape? | | |  |  | |
| **Comment** |  | | | | | |
| **13** | Are all corners a form of zigzag? | | |  |  | |
| **Comment** |  | | | | | |
| **14** | Are all soffit pieces level and straight? | | |  |  | |
| **Comment** |  | | | | | |
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|  | Checklist 7: Fascia Brackets | | | | | |
| Contractor Name | | Project: | Subcontractor: | | | |
| **Number** | **Checkpoints** | | | DI | AI | |
| **1** | Brackets should be primed and cut before installation | | |  |  | |
| **Comment** |  | | | | | |
| **2** | Does bracket require post face sheet? | | |  | |  |
| **Comment** |  | | | | | |
| **3** | Are brackets screwed with 3” stainless steel screw? | | |  | |  |
| **Comment** |  | | | | | |
| **4** | Are brackets in center line and leveled? | | |  |  | |
| **Comment** |  | | | | | |
| **5** | Is front of brackets screwed to mounting surface in square shape? | | |  |  | |
| **Comment** |  | | | | | |
| **6** |  | | |  |  | |
| **Comment** |  | | | | | |
|  |  | | | | | |
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|  | Checklist 8: Cedar Siding Installation | | | | | |
| Contractor Name | | Project: | Subcontractor: | | | |
| **Number** | **Checkpoints** | | | DI | AI | |
| **1** | Is the first siding piece above ground at least 8”? | | |  |  | |
| **Comment** |  | | | | | |
| **2** | is the overlapping pattern the same for all siding? | | |  | |  |
| **Comment** |  | | | | | |
| **3** | All 3” stainless nails should be tacked into strapping | | |  | |  |
| **Comment** |  | | | | | |
| **4** | Is there any glue on siding face or joints? | | |  |  | |
| **Comment** |  | | | | | |
| **5** | Is there any nail hole on siding? | | |  |  | |
| **Comment** |  | | | | | |
| **6** | Are all sidings attached fully in the corners? If any is not, is it filled with glue sanded properly? | | |  |  | |
| **Comment** |  | | | | | |
| **7** | Below and above window pieces have proper and correct cuts | | |  |  | |
| **Comment** |  | | | | | |
| **8** | No gaps between window trims and sidings | | |  |  | |
| **Comment** |  | | | | | |
| **9** | Use at least two 1 1/8-inches nails in corner and four in joint area | | |  |  | |
| **Comment** |  | | | | | |
| **Quality Scores and Completion Sign-off** | | | | | | |
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|  | Checklist 9: Wall Shingles Installation | | | | | |
| Contractor Name | | Project: | Subcontractor: | | | |
| **Number** | **Checkpoints** | | | DI | AI | |
| **1** | Is there any bulky area in shingle courses? If it is, is it repaired? | | |  |  | |
| **Comment** |  | | | | | |
| **2** | Is the underlayment ½-inches above starting course? The expansion should not be more that ¼-inches and for offset 1 1/2inches. | | |  | |  |
| **Comment** |  | | | | | |
| **3** | All staples should be ¾-inches stainless steel and all holes should be covered by next row [They should be tacked ¾-inches from the edges and 1-inch above straight edge or spacer during the construction – after the construction there should not be any holes on shingles, if any, it should be filled with wood filler] | | |  | |  |
| **Comment** |  | | | | | |
| **4** | There should be 1/8-inches gap between all shingles [The random sizes should be installed – not use with same size]. | | |  |  | |
| **Comment** |  | | | | | |
| **5** | Do all triangle pieces have same angle as the gable? No gap should be seen. | | |  |  | |
| **Comment** |  | | | | | |
| **6** | Do all outside corners have Alternated Lace patterns? | | |  |  | |
| **Comment** |  | | | | | |
| **7** | Inside corners should be attached together with two 1 1/8-inches stainless staples. | | |  |  | |
| **Comment** |  | | | | | |
| **8** | Do all inside corners have Lace Inside patterns? No need staples for joint parts. | | |  |  | |
| **Comment** |  | | | | | |
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**End of Work Method**