**NOTES TO SPECIFIER:**

**Review and remove any text in RED before sending.**

**Edit options are typically flagged in the following manner:**

**EDIT – choices need decision or detailed review**

**NOTE – note to specifier regarding selection**

**OPTION – note when there may be an option for the article and/or paragraph**

**[font in brackets] = edit options for consideration**

SECTION 087101

SLIDING BARN DOOR HARDWARE

1. GENERAL
	* + 1. GENERAL PROVISIONS
				1. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
			2. DESCRIPTION OF WORK
				1. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

Sliding door tracks.

Continuous wall strike system.

* + - * 1. Related Work: The following items are not included in this Section and are specified under the designated Sections:

Section 087100 - Door Hardware for door hardware not specified in this Section.

Section 087111 – Exposed Track and Hardware Sliding Door Systems.

Section 087113 – Under Glass Sliding Door Systems.

Section 087114 – Pocket Door Hardware.

* + - 1. REFERENCE STANDARDS
				1. Comply with the following reference standards and publications as applicable to the project..
				2. American National Standards Institute (ANSI):

ANSI A117.1 Accessible and Usable Buildings and Facilities.

* + - * 1. Door and Hardware Institute (DHI):

ANSI/DHI A115.IG Installation Guide for Doors and Hardware.

DHI Sequence and Format for the Hardware Schedule.

* + - 1. SUBMITTALS
				1. Product Data: Include installation details, material descriptions, dimensions of individual components and profiles, and finishes.
				2. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."

Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening.

Organize door hardware sets in same order as in the Door Hardware Schedule at the end of Part 3.

Content: Include the following information:

Type, style, function, size, label, hand, and finish of each door hardware item.

Manufacturer of each item.

Fastenings and other pertinent information.

Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.

Explanation of abbreviations, symbols, and codes contained in schedule.

Mounting locations for door hardware.

Door and frame sizes and materials.

Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

* + - * 1. Qualification Data: For firms and persons specified in "Quality Assurance" Article.

Include lists of completed projects with project names and addresses of architects and owners, and other information specified.

* + - * 1. Maintenance Data: For each type of door hardware to include in maintenance manuals specified in Division 01.
				2. Warranties: Special warranties specified in this Section.
			1. QUALITY ASSURANCE
				1. Installer Qualifications: An experienced installer who has completed door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
				2. Supplier Qualifications: Door hardware supplier with warehousing facilities in Project's vicinity and who is or employs a qualified Architectural Hardware Consultant, available during the course of the Work to consult with Contractor, Designer, and the Owner about door hardware and keying.
				3. Architectural Hardware Consultant Qualifications: A person who is currently certified by the Door and Hardware Institute as an Architectural Hardware Consultant and who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project.
				4. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.
				5. Regulatory Requirements: Comply with provisions of the following:

Where indicated to comply with accessibility requirements, comply with Massachusetts Architectural Access Board and the Americans with Disabilities Act (ADA), "Accessibility Guidelines for Buildings and Facilities (ADAAG)."

* + - * 1. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01. Review methods and procedures related to electrified door hardware including, but not limited to, the following:

Inspect and discuss electrical roughing-in and other preparatory work performed by other trades.

Review sequence of operation for each type of electrified door hardware.

Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

Review required testing, inspecting, and certifying procedures.

* + - 1. DELIVERY, STORAGE, AND HANDLING
				1. Delivery: Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
			2. COORDINATION
				1. Coordination: Coordinate layout and installation of recessed pivots and closers with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Section 033000 - CAST-IN-PLACE CONCRETE.
				2. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
			3. WARRANTY
				1. General Warranty: Special warranties specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
				2. Special Warranty: Written warranty, executed by manufacturer agreeing to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following:

Structural failures including excessive deflection, cracking, or breakage.

Faulty operation of operators and door hardware.

Deterioration of metals, metal finishes, and other materials beyond normal weathering.

* + - * 1. Warranty Period: Three years from date of Substantial Completion, unless otherwise indicated.
				2. Warranty Period for Manual Closers: Ten years from date of Substantial Completion.
			1. MAINTENANCE SERVICE
				1. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for the Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
1. PRODUCTS
	* + 1. MANUFACTURER
				1. Basis-of-Design, Canada Contact: K.N. CROWDER MFG. INC., 1220 Burloak Drive, Burlington, Ontario L7L 6B3. Telephone (905) 315-9788. Toll Free 1-866-999-1KNC (1562). Fax (905) 315-8090. Toll Free Fax 1-800-567-0123.
				2. Basis-of-Design, USA Contact: K.N. CROWDER INC., 210 Eighth Street South Lewiston, New York 14092. Telephone (716) 754-8247. Toll Free 1-866-999-1KNC (1562). Toll Free Fax 1-800-567-0123.
			2. PERFORMANCE REQUIREMENTS
				1. Standards Compliance:

ANSI/ BHMA A156.14 – Sliding and Folding Door Hardware.

ANSI/ DHI A115.IG – Installation Guide for Doors and Hardware.

American with Disabilities Act (ADA) 2010 Standards for Accessible Design.

ANSI A117.1 Accessibility Guidelines for Building and Facilities.

All state and local accessibility standards.

* + - * 1. Operating hardware shall be fully exposed and usable from both sides at all times.
				2. Doors shall comply with maximum opening force of 5 lbf applied parallel to door at latch.
			1. CATCH’N’CLOSE SLIDING DOOR HARDWARE
				1. Basis of Design: Catch’N’Close Hanger: CCSF-410-W Zero Clearance Catch’N’Close Hanger with Side Mount Track by K.N. Crowder Inc. with the following characteristics:

Features: Zero Clearance, side mount track system, Catch’N’Close system: prevents bouncing and slamming of doors, in-track adjustable stops, nylon wheels with precision ground ball bearings, bottom guide system

Vertical Adjustment: 3/8 inch (10 mm).

Cycles: Tested for up to 150,000 cycles.

Material: Extruded aluminum, 6063 Alloy

Hanger: CC-410: Zero Clearance Catch’N’Close hanger: 7/8 inch (22.2 mm) x 5/8 inch (15.9 mm] x 6 inch (152.4 mm) recessed into door

Track, CC-408: 2-3/8 inch (60.1 mm) x 2-7/8 inch (73.0 mm) extruded side mount track

Finish: **Choose 1 finish: [Standard Clear Anodized] [Optional: Bronze Anodized] [Optional: Black Anodized] [Optional: Powder Coated, Colour\_\_\_\_\_\_\_\_\_]**

Optional Fascia: CC-480: 2-31/32 inch (75.2 mm) x 4-17/32 inch (114.8 mm) extruded fascia **Choose 1 option: [One side] [Not required]**Finish: **Choose 1 finish: [Standard Clear Anodized] [Optional: Bronze Anodized] [Optional: Black Anodized] [Optional: Powder Coated, Colour\_\_\_\_\_\_\_\_\_]**

Optional End Cap, CC-482: **NOTE: For use with track & CC-480 fascia only. [One end] [Two ends] [Not required]**

Finish: **Choose 1 finish: [Standard Clear Anodized] [Optional: Bronze Anodized] [Optional: Black Anodized] [Optional: Powder Coated, Colour\_\_\_\_\_\_\_\_\_]**

Load Capacity: up to 150 lbs. (68 kg)

Catch’N’Close Capacity: **Choose 1 option: [CC-1 for 150lbs doors] [CC-75 for 75lbs doors]**

Guide Channel, C-914: 1 inch (25.4 mm) x 29/32 inch (22.9 mm), recessed into bottom of door. Finish Standard Mill

Guide: **Choose 1 option: NOTE: for doors wider than 55 inch (1397 mm) it is recommended to choose the C-913-2 double roller guide for better stability [C-913 single roller floor guide] [ C-913-2 double roller floor guide]**

* + - 1. CONTINUOUS WALL STRIKE SYSTEM
				1. Basis of Design: C-CWS Series Continuous Wall Strike by K.N. Crowder Inc. with the following characteristics:

Description: Continuous aluminum jamb and strike extrusion mounted to wall to provide a clean look with aluminum cover.

Material: Extruded aluminum, 6063 Alloy

Inserts: Silicone & Pile inserts reduce sound and light transmission.

Door Thickness: **Choose 1 option: [1-3/8 inches (34.9 mm)] [1-3/4 inches (44.5 mm)]**

Maximum Door Height: **Choose 1 option: [84-5/8 inches (2150 mm)] [96 inches (2438 mm)] [120 inches (3048 mm)]**

Distance from Wall to Center of Strike: 1-1/2 inches (38.1 mm).

Handing: **Choose 1 option: [RH-Outside] [RH-Inside] [LH-Outside] [LH-Inside]**

Cut Out: **Choose 1 or both options: [Strike plate] [Dust proof box]**

Maximum Depth of Dust Proof Box: 1-1/2 inches (38.1 mm).

Finish: **Choose 1 finish: [Standard Clear Anodized] [Optional: Bronze Anodized] [Optional: Black Anodized] [Optional: Powder Coated, Colour\_\_\_\_\_\_\_\_\_]**

1. EXECUTION
	* + 1. EXAMINATION
				1. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
				2. Proceed with installation only after unsatisfactory conditions have been corrected.
			2. PREPARATION
				1. Steel Doors and Frames: Comply with DHI A115 series.

Surface-Applied Door Hardware: Drill and tap doors and frames according to SDI 107.

* + - * 1. Wood Doors: Comply with DHI A115-W series.
			1. INSTALLATION
				1. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:

Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."

Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."

Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."

* + - * 1. Installation: Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work. Do not install surface-mounted items until finishes have been completed on substrates involved.

Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.

Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

* + - 1. ADJUSTING
				1. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
				2. Six-Month Adjustment: Approximately six months after date of Substantial Completion, Installer shall perform the following:

Examine and readjust each item of door hardware as necessary to ensure function of doors, door hardware, and electrified door hardware.

Consult with and instruct the Owner's personnel on recommended maintenance procedures.

Replace door hardware items that have deteriorated or failed due to faulty design, materials, or installation of door hardware units.

* + - 1. CLEANING AND PROTECTION
				1. Clean adjacent surfaces soiled by door hardware installation.
				2. Clean operating items as necessary to restore proper function and finish.
				3. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.
			2. HARDWARE SET SCHEDULE
				1. Refer to the Drawings.

END OF SECTION