READ THIS FIRST

This Project Spec Document may need additional modifications to suit your project. It is recommended that you proofread each section, paying attention to any “Notes” boxes such as this one--you should remove these “Notes” sections as you go. Also, do a search for all bracket characters “ [ ] “ as they are used to show you areas containing options or project specific details (you can use Microsoft Word’s Find feature {Ctrl-F} to jump to an open bracket “ [ “ character quickly). Again, these bracket characters should be removed.

It is important that every paragraph be numbered to allow for easy referencing. If you use the document’s built in styles and formatting your outline should be fine (turn on the formatting toolbar by going to View > Toolbars > Formatting). Most paragraphs will use the style “Numbered Material” and can be promoted (Shift) or demoted (Shift-Tab).

You should not have to manually enter extra spaces, carriage returns or outline characters such as A, B, C, or 1.01, 1.02; the formatting will do this for you. The entire document is 11 pt. Arial. If you paste items in, you may need to reapply the “Numbered Material” format.

1. GENERAL
   1. SUMMARY OF WORK
      1. The extent and location of the “Hardware” Work is indicated in the Contract Documents. The Work includes providing all necessary architectural hardware and specialty items for the proper operation, fastening, and locking of doors or other movable closures.
   2. GOVERNING CODES, STANDARDS, AND REFERENCES
      1. None.
   3. SUBMITTALS
      1. Submit material data in accordance with Section 01 33 00 - Submittals. Furnish manufacturers’ technical literature, standard details, product specifications, and installation instructions for all products.
      2. Submittals shall include the following:
         1. Samples: If requested by the Engineer, submit one sample of each exposed hardware category, finished as required, and tagged with full description for coordination with the hardware schedule.
         2. Samples will be reviewed by the Engineer in coordination with the Port Lock Shops, for design and finish only; compliance with other requirements is the responsibility of the Contractor, the compliance shall be detailed on the submittal. Sample units which are acceptable and remain undamaged through submittal may be used on the project.
         3. Manufacturer’s Data: Submit manufacturer’s data for each item of finish hardware.
         4. Hardware Schedule including locks for access panels, mechanical enclosures, electrical enclosures, and restroom accessories:
            1. At the earliest possible date, submit the Finish Hardware schedule and catalog cuts of each item scheduled. Approval of the Hardware schedule does not relieve the Contractor of the responsibility to fulfill the project requirements in accordance with the contract documents.
            2. The submitted Finish Hardware Schedule shall indicate the complete designation of every item required for each door or opening. List each opening individually. Each heading shall also indicate opening location, hardware group number, door and frame material, type and size, fire rating, handing, and degree of opening. A cross reference for any abbreviations or symbols used shall be included. Schedules in coded or horizontal format are unacceptable. Submittals not conforming to the above requirements will be returned without review, for re-submittal. Delays due to return of non-conforming submittals are the responsibility of the Supplier and General Contractor.
            3. A Key Schedule and index shall be included in the submittals indicating the locking function of each Opening for the use in the development of Keying System.
            4. After the schedules have been approved by the Engineer, submit the corrected schedules, with catalog cuts of each item and installation and maintenance instructions for inclusion in the O&M Manual. Submit the corrected schedules.
         5. Templates: Furnish hardware templates for each fabricator of doors, frames, and other Work to be factory prepared for the installation of hardware. Upon request, check the shop drawings of such other Work to confirm that provisions will be made for the proper installation of hardware.
   4. QUALITY ASSURANCE
      1. Supplier: Finish hardware shall be supplied by a recognized builders’ hardware supplier accepted by the Engineer in coordination with Port Lock Shop. The suppliers shall have not less than two years of experience furnishing hardware in the same area as the project. They shall be a factory authorized distributor of the exit devices, locksets, and door closers. The supplier’s organization shall include a member of the American Society of Architectural Hardware Consultants who is available within two working days during the course of the Work to meet with the Port of Seattle and/or Contractor for project hardware consultation.
      2. Installer: Finish hardware shall be installed only by experienced trades people, either at the door and frame fabrication plant or at the project site.
      3. Codes:
         1. All finish hardware shall comply with applicable local and state current building codes.
         2. Hardware for fire-rated openings shall also be in compliance with all fire building codes applicable to the building. Provide only hardware which has been tested and listed by “UL” for the types and sizes of doors required, and which complies with the requirements of the door and door frame labels.
   5. SPECIAL WARRANTIES
      1. Finish hardware shall be warrantied against defects in workmanship and operation for a period of one year, backed by a factory warranty of the hardware manufacturer. The following products shall be warrantied for periods beyond one year:
         1. Door Locks - Lifetime Mechanical
         2. Door Closers - Ten Years
         3. Panic Devices - Three Years
         4. Power Openers – Two Years
      2. No liability shall be assumed by the hardware supplier where faulty operation is due to improper installation or failure to exercise normal maintenance.
   6. PRODUCT HANDLING
      1. Packaging:
         1. Furnish all finish hardware and specialty items with each unit clearly marked or numbered in accordance with the Hardware Schedule.
         2. Pack each item complete with all necessary pieces and fasteners.
         3. Properly wrap and cushion each item to prevent scratches during delivery and storage.
      2. Delivery: Deliver all finish hardware and specialty items to the installers in a timely manner to ensure orderly progress of the total Work.
2. PRODUCTS

A. If only one product is acceptable (single or sole source product), obtain an approved Competition Waiver and submit to the CPO Construction, Contract Administrator. The language shall read as: “Manufacturer Name, Product # XXXXX, No Equal.” Refer to CPO-6 Competition Waiver Policy for more information. For the airport, the [Waiver for Stanley Security Systems (BEST) for brass keyed (non-electronic) locking mechanisms is valid until December November 9, 2030](https://portseattle.sharepoint.com/sites/cpotracking/Lists/Competition%20Waiver%20Log/Attachments/224/CPO-6%20Competition%20Waiver_Stanley%20Security%20BEST.pdf?web=1).

B. If a Competition Waiver is not approved or more than one product is acceptable, this section must list a minimum of 2 products plus the language “Or Approved Equal,” along with salient characteristics. Refer to CPO Construction’s Salient Characteristics Guidelines for more information.

* 1. GENERAL
     1. Provide hardware capable of 180° door swing.
     2. Manufacturers: Unless specified otherwise, the numbers listed in the hardware groups are taken from the following manufacturers:

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| --- | --- | --- |
| **itEM** | **Brand** | **APPROVED ALTERNATE** |
| Butts | Stanley | Lawrence, McKinney, or approved equal |
| Latches and Locksets | BEST | None |
| Surface Door Closers | LCN, Model 4040 series 180° swing  For Airport hold room doors to loading bridges: LCN Model 4314 ME-SF 24V, 0°-180° swing with no pressure. Connect to smoke alarm(s) in the passenger loading bridge and rotunda. | Corbin, Russwin, or approved equal |
| Automatic / Power Door Openers  It is not acceptable to require a computer to program the opener.  Pushbutton / operating switch shall be heavy duty. | LCN,  Security Door Controls (SDC) | or approved equal |
| Door Stops | Glynn-Johnson | Corbin, Checkmate, or approved equal |
| Push and Pull Plates | Builders Brass, Trimco | Hagar, Tice, or approved equal |
| Thresholds | Pemko | Reese, National Guard, or approved equal |
| Door Silencers | Pemko/Rockwood | IVES, National Guard, or approved equal |
| Weatherstripping | Pemko | Reese, National Guard, or approved equal |

* + 1. Finishes: Unless specified otherwise, all architectural hardware shall be [dull chrome, US26D] [\_\_\_] finish except:
       1. Door closers - sprayed to match.
       2. Kickplates, threshold, weather-strip, and door bottoms - as listed in hardware groups.
  1. FASTENERS
     1. Provide all necessary screws, bolts, expansion shields, toggle bolts and other proper means for correct and secure application and for corrosive environments. Such fastenings shall be of suitable size and type and shall harmonize with the hardware as to design, material and finish. Excepting where flat-head screws are necessary for proper clearance and fit, use oval-head screws for hardware application.

Competition waiver to be submitted to CPO for Redd & Prince recessed-head type to be the only approved product for the Port.

* + 1. In general, all exposed screws required for the attachment of architectural hardware items shall be Redd & Prince recessed-head type, No Equal.
  1. HINGES
     1. All butts shall be of the finish specified above and of the metal indicated by catalog number in the hardware sets.
     2. Provide 1-1/2 pair of butts for doors exceeding 60 inches in height, up to 90 inches. Provide two pair of butts for doors wider than 36” and for hold room doors to Passenger Loading Bridges.
     3. The width of butts shall be as required to clear projecting trim. In no case shall the barrel of butts project more than required by the conditions of installation.
     4. All standard butts shall have concealed tips and a retainer device to prevent rising during use.
     5. All butts shall be full mortise, excepting those to be used on channel iron door frames, which shall be half mortise. The jamb leaves of butts for exterior doors opening out and hung in channel iron frames shall be attached with security machine screws.
  2. LATCHES AND LOCKSETS
     1. Unless otherwise specified, exposed parts of locks and latches shall be of the metal and finish specified above and shall have the following features:

Competition waiver to be submitted to CPO for BEST Series to be the only approved product for the Port. For the airport, the Waiver for Stanley Security Systems (BEST) for brass keyed (non-electronic) locking mechanisms is valid until December 202011/24/2030.

In preparation of hardware groups, do not use Function A or AB for locksets.

* + - 1. Mortise Type: BEST Series [45H (Levers)], No Equal. Heavy duty mortise type with 2-3/4-inch backset and 3/4-inch throw latch bolt, conforming to ANSI A156.13, Series 1000, Operational Grade 1, Security Grade 2. Function and design as listed in hardware groups. [Levers shall be 15H Design.]
      2. Cylindrical Type: BEST Series [83K (Knobs)] [93K (Levers)], No Equal. Heavy duty cylindrical type with 2-3/4-inch backset and 9/16-inch throw latch bolt, conforming to ANSI A156.2, Series 4000, Grade 1. Function and design as listed in hardware groups. [Levers shall be 15H Design.]
      3. Mortise Deadbolts: BEST Series 38H, No Equal with 2-3/4-inch backset and 1-inch throw deadbolt, conforming to ANSI A156.5, Grade 2. Function and design as listed in hardware groups.
      4. For single occupant and family restroom doors (not metal partition doors), depending on the right handing or left handing of the door, the restroom door hardware with visual indicators shall be BEST dormitory function 45H7T15H626RH VIB or 45H7T15H626LH VIB.
      5. Tubular Deadbolts: BEST Series 83T, No Equal with 2-3/4-inch backset and 1-inch throw deadbolt, conforming to ANSI A156.5, Grade 1. Function and design as listed in hardware groups.
      6. Provide locksets with figure 8, 7-pin Stanley Security Systems (BEST) Small Format Interchangeable Core (SFIC) cylinders as approved by the Engineer.
  1. SURFACE DOOR CLOSERS
     1. Surface-type door closers shall be of a well-proven mechanical design, liquid-controlled type, as indicated in the following hardware sets and of the proper size and shall include the following features:
        1. Cast iron or pressure-cast aluminum shell and other cast parts
        2. Wrought parts of malleable iron or steel
        3. Coil spring with power adjustment
        4. Steel, brass, or bronze screws or bolts
        5. Regular, parallel arms as specified
        6. Adjustable back-check
        7. Positive door closing and quiet operation
        8. Five-year factory guarantee warranty of satisfactory performance
     2. Closers shall in no case limit the swing of the door and shall permit the door to open as far as construction conditions permit or to the degree specified.
     3. Closers shall be provided with key-type regulating screws.
  2. CONCEALED DOOR CLOSERS
     1. Concealed door closers shall be [overhead] [floor space] type with built-in hold-open and positive back stop at 105° angle of opening.
  3. DOOR STOPS AND HOLDERS
     1. Provide door stops and holders of the type indicated by catalog number in the hardware groups.
     2. Holders shall be of the proper size and operation to suit the individual door and swing.
     3. If wall bumpers cannot be used due to unusual wall conditions, furnish floor-type stops, F8064X series (Note to Designer – Provide 2 manufacturers), Or Approved Equal. Where wall bumpers are used, install solid backing between the wall studs.
  4. KICKPLATES
     1. Unless specified otherwise, kickplates for exterior doors shall be of 16 gage stainless steel, beveled on four edges; kickplates for interior doors shall be 0.125-inch thick Panelyte [Note to Designer – Provide 2 manufacturers], or approved Equal, color selected by the Engineer.
     2. Generally, kickplates shall be ten inches high, with a length equal to the width of the door leaf, less clearance for stops unless otherwise noted or specified on the drawings.
     3. Install kickplates with oval-head, full-thread stainless steel screws spaced uniformly at a maximum of eight inches.
  5. DOOR SILENCERS
     1. Provide rubber door silencers for all door frames at openings having single-acting doors in wood or pressed steel frames.
     2. Provide three silencers for single doors. Locate and install in accordance with manufacturer’s printed instructions.
  6. KEYING

For airport projects

* + 1. Locksets and cylinders shall be keyed into the existing BEST Lock Co. factory registered Master Key System using figure 8, 7 pin Small Format Interchangeable Cores (SFIC), as approved by the Engineer.
    2. Provide construction cylinders and keys during the construction period.
    3. The lock manufacturer’s representative shall meet with the Port of Seattle to prepare the permanent keying schedule.
    4. For locks other than BEST, furnish 2 keys per lock.
    5. For BEST locksets, the permanent key cores shall be furnished provided by the Port of Seattle Lock Shops.
    6. Keys shall match existing Port keys. In addition to the BEST keys for personnel and roll up doors, the current keys in use are:

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| --- | --- | --- |
| **Key** | **Blank** | **Application** |
| Flat blade screwdriver | | Access panels which are not specified with a key |
| NSR251 |  | Square D Panels |
| D018 |  | Allen-Bradley pilot devices. Widely used as JAM RESET switches in conveyor system. |
| 270 | 54G | Access Control Systems (ACS) electrical cabinets for:  Interface Termination Box (ITB)  power supply cabinets  CK721 cabinets |
| CAT 45 |  | Access panels, plumbing, piping and other cabinets |
| CAT 74 | Bobrick, CompX, FMJ or approved equal. Ilco S1000V | Dispensers, Restroom accessories |
| FAB 11 | CCL | Coin boxes inside diaper dispensers, coin boxes inside sanitary napkin dispensers and sharps containers |
| B286A | Illinois Lock Co. | Sometimes interchangeable with CAT 45 |
| 508CH | Y14 | Loading Bridge Cabinet Locks |
| WEM 2 |  | “Flat Key” (no groove on one side) manufactured by Illinois Lock Co. for Eaton Electrical Panel |
| Simplex | B | Fire Alarm panels |
| LL805 |  | Fire Alarm panels |

|  |  |  |
| --- | --- | --- |
| E158 | Illinois Lock Co. | Emergency Fuel Shut Off (EFSO) |

OR for non-airport projects use the following

* + 1. Provide construction cylinders and keys during the construction period.
    2. The Permanent Cores and Keys (prepared to the accepted keying schedule) shall be transmitted directly to the Engineer. Stamp all Keys with change designation as directed.
    3. Furnish:
       1. [Six] Building Grand Master Keys.
       2. [Six] Master Keys per set.
       3. [Four] change keys per lockset or cylinder.
       4. [Six] construction keys.
  1. HARDWARE SCHEDULE
     1. Refer to Door Schedule and previously listed instructions for related information concerning following hardware groups.

Prepare a hardware schedule.

1. EXECUTION
   1. PREPARATORY WORK
      1. Inspection: Prior to all Work of this section, carefully inspect the Work of all other trades and verify that all such Work is complete to the point where this Work may properly commence.
      2. Discrepancies: In the event of a discrepancy, do not proceed until resolved by the Engineer.
   2. INSTALLATION
      1. General:
         1. Locate hardware strictly in accordance with the hardware manufacturer’s printed instructions.
         2. Mortise doors as required before painting. Remove locks and latches until painting is done, then reinstall.
         3. Cover and protect exposed surfaces of hardware in an approved manner during installation and construction operations to avoid damage to finishes.
         4. Install all locksets with a 2-3/4 inch backset unless otherwise specified. Provide soffit shoes for all closers, parallel arm or regular style as required. The installation shall be done by skilled workers using jigs to ensure proper alignment of the butts to permit doors to swing freely. Adjust all moving parts to operate freely at the time of final acceptance. The Contractor shall make any further adjustments required during the one-year warranty period.
      2. Standard Dimensions: Unless otherwise indicated or required, locate hardware items as follows:

|  |  |
| --- | --- |
| Latch and Locksets | 38” finish - floor to center of knob |
| Dead Locks | 60” finish - floor to center of cylinder |
| Push Plates | 48” finish - floor to center of push plate |
| Pulls (on plates) | 42” finish - floor to center of pull |
| Top Hinge | 5” head - rabbet to top of hinge |
| Bottom Hinge | 10” finish - floor to bottom hinge |
| Center Hinge | equal distance between top and bottom hinges |

* + 1. Verify all dimensions and ensure the correct installation and fit of hardware at the locations indicated on the drawings and as specified.

1. MEASUREMENT AND PAYMENT
   1. GENERAL
      1. No separate measurement or payment will be made for the Work required by this section. The cost for this portion of the Work will be considered incidental to, and included in the payments made for the applicable bid items in the [Schedule of Unit Prices] [Lump Sum price bid for the Project].

End of Section

Revision History:

05/01/2014 Conversion to 2004 CSI Numbering System

10/15/2014 Added Sole Source and Salient Characteristics Note to Part 2

01/31/2018 Added Sole Source for STANLEY/BEST, added closer for airport hold rooms, added key list for the airport, and added backing at bumpers.

3/12/2018 Clarified STANLEY/BEST key core to be figure eight, 7 pin SFIC.

12/3/2019 Updated the airport key list to include Key 270 for electronic systems and FAB11 for coin boxes. Added door hardware for restrooms. Deleted requirements for six copies of submittal documents.

5/31/2022 Added approved equals, Update BEST competition waiver date to 2030, increased hinge requirement for boarding bridge doors, added power door openers, reformatted and expanded key list, clarified Port (SEA) will provide cores for only BEST locks, added visual indicators locks for restrooms.