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017700 - Closeout Procedures - Project Record Documentation

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SECTION 01 7700 – CLOSEOUT PROCEDURES - PROJECT RECORD DOCUMENTS**PART 1 - GENERAL****1.1 SUMMARY**

- A. Record Drawings are required under the terms of the Standard University of New Hampshire construction and design services contracts.
- B. The work covered by this specification consists of providing all administration, planning, labor, materials, equipment and supervision necessary to complete all operations required per specifications and drawings herein, but shall not be limited to the following:
 - 1. Provide record drawings in both DWG and PDF format of the building and/or the site showing all utilities installed. Drawing shall be digital, AutoCAD latest format in *.dwg format utilizing color dependent plot styles, on hi-quality CD-R, DVD, or flash drive media in a non-compressed format (no zip files). Provide original File type if DWG is exported or created in a program other than Auto CAD No file protection or password protection shall be incorporated in the AutoCAD files provided to the university. In addition all record drawings shall be delivered as both a single multi-page (if applicable) PDF set as well as individual sheet PDFs. Both the PDF set and individual PDF sheets should be searchable (vector based). It is preferred that the PDFs be exported or printed from the creation program as a PDF, and not created from scans of printed materials. The record PDF set should have bookmarks for each discipline, and under each discipline there should be a book mark for each sheet. Example: Architectural: A-1, A-2, Electrical: E-1, E-2, etc. One full size hard copy set of the Record drawings and one ½ set of the record drawings shall be provided to the University in addition to the electronic formats required.
 - a. Provide a sheet index with both the hard copy set, as well as the electronic copy, listing in detail all all drawing sheets with the drawing/sheet number/ID (A-1, A-2, etc.), drawing titles and the most recent revision dates should be included on each sheet. In addition, a completed drawing information spreadsheet, using the Excel format template provided by the UNH Facilities project manager. Include all pertinent drawing information, as outlined in the template.
 - b. Electronic drawing files shall follow the layering standard for all architectural, plumbing, fire protection, mechanical, electrical and other drawings shall be similar to the AIA layering standard. The layering standard for Civil and Site drawings shall utilize the UNH layering standard for civil/site drawings. See Chapter 5, Division 01, Section 017250.
 - c. Utilize standardized blocks throughout all electronic drawings, with all entities internal to the block to preferably be on layer 0, with color and line type of by block; for attributes their color assignment is the designer's choice. Room numbers shall be provided as attributes of a block.



- d. Each sheet shall be in a separate AutoCAD file utilizing a single AutoCAD layout. If this is not practical, then multiple sheets can be in a single AutoCAD file; however, each sheet shall be on a separate AutoCAD layout. The AutoCAD layout sheet size shall match the plotted sheet size and the Layout names shall be the sheet number. The layout's viewport visibility shall be "ready to print" and require no layer visibility manipulations by UNH for each viewport in each layout of each drawing provided.
- e. Perform the AutoCAD etransmit command on each separate AutoCAD file, and include the following support files, if the etransmit command is unavailable simply provide the following:
 - 1) Appropriate pen setting files (*.stb)
 - 2) It is preferred that every DWG file has all external references "bound" to it. If this is not possible, every external reference should be delivered with the DWG(s).
 - 3) Font and shape files used (*.shx, *.ttf or *.shp) in the drawing, as well as the font map file (acad.fmp or similar appropriate file).
 - 4) Plotter setup files (*.pc3).
- f. Drawing shall consist of building plan (footprint) showing building features and utilities. Layers shall conform to AIA layering format and the civil/site requirements found in Chapter 5, Division 01, Section 017250. Building base information should be available from the Owner in a digital format. Site record drawings shall be done by a licensed land surveyor, and building record drawings shall be done by engineer or architect licensed in the State of New Hampshire.
 - 1) All site information for pertinent infrastructure (i.e. walkways, roadways, etc.) and utilities, including location and descriptive attributes, are to be collected at the time of installation by the contractor. The contractor will then be responsible for transmitting this information to the engineer or architect who will be preparing the final record drawings. Status checks of this process are to be provided to the UNH Project Manager by the contractor on a monthly basis. This expectation should be clearly addressed and agreed upon at the project kick off meeting.
 - 2) All drawings shall be in architectural units and standard architectural scales, with the exception of civil/site drawings, whose units shall be standard engineering units. North arrow shall be shown on all drawing where appropriate. All drawing shall include a site loci map for reference.
- g. A preliminary set of site/civil record drawings shall be provided to the University prior to project closeout for QA/QC review by UNH staff. Once UNH staff has reviewed said plans any necessary changes will be relayed to the preparer. Final record drawings sign off should occur at, or before, the final project close out meeting.



1. Operation and Maintenance Manuals: Submittal by the Contractor of Operation and Maintenance Manuals as required under Division 22, 23, 25 and 26 specifications and acceptance thereof by the Owner shall be a prerequisite for final payment. O&M manuals shall consist of maintenance schedules, maintenance manuals, and all approved submittals presenting full details for the care and maintenance of all equipment furnished and installed under the Contract. O&M manuals shall be submitted for each Division 22, 23 and 26 properly bound in a logical and well-arranged order, with index for Owner's use. Maintenance manuals shall consist of manufacturers' catalog cuts with descriptive information lubricating and maintenance instructions, parts lists, usage instructions, names, addresses and telephone numbers where replacement parts and service can be quickly obtained, and all other information required for the Owner to use, maintain, and service the items properly.
 - h. Provide one printed copy and an electronic file of O & M's in PDF format
 - All pages of the PDF must be in their proper orientation (portrait, landscape or even mixed). All pages of the PDF must be searchable, it is preferred that the pdf is exported of printed to PDF from the program as a pdf and not created by scans
 - Each pertinent section of the document must have bookmarks (example: Title page, Table of Contents, Section 1 – Specifications, Appendix D – Figures etc. etc).
 - Each section pertaining to a particular piece of equipment installed for the project must be bookmarked or “tagged” with the appropriate EQ number provided by UNH.
 - i. Provide a completed equipment location/information spreadsheet (must use the Excel format template provided by UNH Facilities) to include all building equipment installed as part of the project.
http://www.unh.edu/sites/www.unh.edu/files/departments/facilities/PLADEC_OG/equipment_template.xlsx
2. Guarantees/Warranties and Bonds: Compile all applicable guarantees, warranties and bonds for all materials and equipment incorporated into the Work; include written warranties from Contractor and Subcontractors for the one-year specified general warranty period.
 - a. Warranties shall also be submitted in electronic .pdf format.
3. Punchlist/Certificate of Substantial Completion: The Contractor shall notify the Owner when the Work or an agreed upon portion thereof is substantially completed by issuing a Certificate of Substantial Completion (AIA Document G704) which shall establish the Date of Substantial Completion which shall be mutually agreed



between the Owner and the Contractor prior to the issuance of the Certificate; shall state the responsibility of each party for security, maintenance, heat, utilities, damage to the Work and insurance; shall include a list of items to be completed or corrected (i.e. punchlist) and shall fix the time within which the Contractor shall complete the items listed therein. The Contractor shall prepare the punchlist in cooperation with the Owner Representative on site. The punchlist shall not be construed as an all-inclusive list of work which the Contractor will be required to perform prior to final payment.

4. Certificate of Occupancy: The Contractor shall provide a three ring binder of all architectural and engineering affidavits, inspections, reports, and testing results supporting the Certificate of Occupancy process. This document shall also be issued in PDF format on CD, DVD, or flash drive.
5. Certifications: Prior to final payment, the Contractor shall provide a Fire Alarm Testing Report and Certification issued by the system supplier and/or installer. Further, the Contractor shall coordinate with the Durham Fire Department relative to the issuance of a Certificate of Occupancy for the space and shall resolve all matters of concern to the Fire Department which lie within the scope of the Work. The SFMO will issue the C.O. directly to the University.
6. Evidence of Payments and Release of Liens: Contractor shall submit to the University duly executed documents as follows: The General Contractor's Affidavit of Payment of Debts and Claims (AIA Document G706); and The General Contractor's Affidavit of Release of Liens (AIA Document G706A) with Consent of Surety to Final Payment (AIA Document G707), General Contractor's release or waiver of liens, and separate releases or waivers of liens from Subcontractors, suppliers and others with lien rights against property of the Owner, together with a list of those parties.
7. Final Application and Certificate for Payment: Final payment constituting the entire unpaid balance due shall be paid by the Owner to the Contractor upon the Owner's receipt of the Contractor's final Application for Payment when the Work has been completed and the Contract fully performed except for those responsibilities of the Contractor which survive final payment.
8. As part of the project, the building or area renovated shall be turned over to the University completely cleaned by the Contractor and ready for occupancy. The Contractor shall provide their own equipment for clean-up and shall clean the buildings/space to meet the cleaning standards of UNH Housekeeping Services. The Contractor shall be charged for recleaning if the building/space has not been cleaned to the satisfaction of UNH Housekeeping Services.
9. Contractors will be required to recycle as many materials as possible in order to offset disposal costs on the related projects. This is especially true with cardboard. Contract monitors can call the Recycling Office at 862-3100 for assistance with requirement.
10. Upon completion of all close out procedures, a final project close out meeting will be held which include all key players. This meeting shall act as the final check off of all requirements of the contractor/designer by the University (i.e. punchlist review, As-Built review, warranty work completion and final acceptance).

PART 2 - MATERIALS (NOT USED)



END OF SECTION 01 7700