

**MA107
TERMS AND CONDITIONS
ENGINEER'S AGREEMENT FOR
SERVICES RENDERED TO
OREGON HEALTH & SCIENCE UNIVERSITY**

The parties agree as follows:

1. AGREEMENT

Engineer has been selected to provide professional services relating to projects undertaken by Owner. Engineer will be authorized to perform work for specific projects by separate Project Contract Authorizations that will specify the scope of Engineer's work, the compensation amount, the schedule for the work, and the particulars of Engineer's work. Unless expressly stated to the contrary in a Project Contract Authorization, the terms of this Agreement shall govern the work performed by Engineer under any Project Contract Authorization.

2. SERVICES

Engineer's services, or any other services, shall be defined on the individual Project Contract Authorization. Engineer shall be responsible for the acts and omissions of its consultants of any tier.

Engineer's services shall include the following unless otherwise identified on the individual Project Contract Authorization:

a. Schematic Design Phase

In consultation with Owner, Engineer shall:

- i. determine the general features of the Project to satisfy Owner's requirements, including program and space needs, budget, time schedule, availability and suitability of utilities, effects of codes and ordinances, safety and energy requirements, survey and investigation of existing structures, etc.;
- ii. study various approaches to the design and construction and consider value engineering suggestions;
- iii. develop schematic design studies consisting of drawings and other documents in accordance with the specific requirements described in attachment "A" for Owner's approval; and
- iv. prepare and submit to Owner an estimate of the direct construction cost of the project.

b. Design Development Phase

Upon notification of Owner's approval of the Schematic Design Phase, and upon written authorization from Owner to proceed, Engineer shall

- i. prepare design development studies consisting of drawings and other documents in accordance with the specific requirements described in attachment "A" that fix and describe the size and character of the entire Project as to structural, mechanical, acoustical and electrical systems, materials and appearances, and such other features and essentials as may be appropriate;
- ii. submit to Owner, for approval, a further estimate of the probable direct construction costs for the project based upon the current unit costs referred to above, as applied to the final development of the design.
- iii. Coordinate and integrate input from Owner's other consultants, if any.

c. Construction Documents Phase

Upon notification of Owner's approval of the Design Development Phase and upon written authorization from Owner to proceed, Engineer shall

- i. prepare working drawings, in accordance with the specific requirements described in attachment "A" for Owner's approval, setting forth all necessary plans, elevations and construction details with full and complete coordination between all consultant disciplines;
 - ii. prepare specifications setting forth descriptions of materials and equipment, methods of installation and standards of workmanship;
 - iii. solicit and analyze value engineering suggestions;
 - iv. Develop all required bidding information and assist Owner in preparation of bidding forms, the conditions of the contract and the form of the contract documents proposed for the Project;
 - v. If requested by Owner and compensated under Article 9, EXTRA SERVICES, Engineer shall provide Owner, for review and approval prior to finalizing the contract documents, three sets of the project manual that include the bidding requirements, contract forms, bond, OHSU conditions of the contract, and specifications and drawings.
 - vi. advise Owner of any updated adjustments to the previous estimates of direct construction costs for the Project; and
 - vii. Provide on Owner's behalf all required construction documents and file the required documents for the approval of various governmental agencies having jurisdiction over the Project.
- d. Bidding Phase

Upon notification of Owner's approval of the Construction Documents Phase and upon written authorization from Owner to proceed, Engineer shall

- i. furnish Owner up to three copies of the contract documents including working drawings and specifications complete as required for bid and construction purposes (for additional copies, see Section 2, Extra Services and Special Cases);
 - ii. assist Owner in soliciting bids including prequalifying Subcontractors, if applicable; and
 - iii. review the bids and assist in recommending the award of contract(s) for the work. If the lowest acceptable bid exceeds the direct construction cost budget authorized by Owner, then at Owner's request and at no cost to Owner, Engineer shall modify the drawings and specifications in order that new bids may be solicited and a construction contract award made within said budget.
- e. Construction Administration Phase

Commencing with the award of a construction contract by Owner, Engineer shall:

- i. participate in partnering processes as requested by Owner;
- ii. provide general administration to the work as contemplated by the provisions of the construction contract, including assisting Owner with evaluation of the feasibility of Contractor provided project time schedule;
- iii. make periodic visits to the Project site with such frequency as necessary to ascertain the progress and quality of the work and to determine in general if the work is proceeding in accordance with the contract documents;
- iv. arrange for periodic visits of consulting engineers to make similar determinations with respect to mechanical, acoustical and electrical work, as applicable;

- v. review and approve in a prompt manner the shop drawings, samples and submittals submitted by the Contractor;
- vi. prepare any supplemental drawings or large-scale details needed to clarify the contract documents;
- vii. respond promptly to requests from Contractor or Owner for assistance, approvals or interpretations so as not to delay the progress of construction and to minimize Owner's exposure to additional costs or delay;
- viii. advise and consult with Owner and Contractor;
- ix. analyze and approve proposed costs of any modifications to the contract and prepare written change orders for signature by Contractor and Owner;
- x. participate in job site progress meetings and provide reports sufficient to record job progress, including tracking of clarifications, meeting minutes, proposal requests and other construction-related issues;
- xi. review the Contractor's applications for payment and certify to Owner the amounts due;
- xii. endeavor to guard Owner against defects and deficiencies in the construction;
- xiii. reject work that does not conform to the contract documents and recommend to Owner that Contractor stop the work whenever, in Engineer's opinion, it may be necessary for the proper performance of the contract;
- xiv. issue certification to Owner and Contractor when all terms of the construction contract have been fulfilled to Engineer's satisfaction;
- xv. conduct on-site observations to determine the date of final completion, receive written guarantees and related documents assembled by Contractor and issue final certificate of payment;
- xvi. assist Owner in the implementation of its art program, if applicable;
- xvii. Inspect Project work to assist Owner in making all appropriate claims during the contractor's repair warranty period;
- xviii. Assist in the evaluation of any claims for time or additional compensation made by Contractor as long as said claims involve any contention of the fault of Engineer or design; and
- xix. Upon completion of the construction work, prepare a set of As-Built drawings as identified under Article 15, DOCUMENTS.

3. COMPENSATION

As consideration of the work to be performed by the Engineer, the Owner shall compensate the Engineer as specified in the Project Contract Authorization for the work ("Agreed Compensation"). The Engineer shall not be entitled to any compensation in excess of the Agreed Compensation, except as provided in Article 7.

4. PAYMENT

- a. Based upon the percentage of work completed, monthly progress payments shall be made upon presentation of two copies of

- b. At its discretion, Owner may require as a condition of payment proof of payment by Engineer of amounts due its consultants and a waiver of claims through the date of request for progress payment.
- c. The total payments to Engineer for amounts earned and invoiced shall not exceed the following percentages for each phase:
 - i. For the Schematic Design Phase, not to exceed twenty (20) percent of the Agreed Compensation;
 - ii. For the Design Development Phase, not to exceed in combination with payments for the Schematic Design Phase in a) above, forty (40) percent of the Agreed Compensation;
 - iii. For the Construction Documents Phase, not to exceed in combination with payments made in (a) and (b) above, seventy-seven (77) percent of the Agreed Compensation;
 - iv. For the Bidding Phase, not to exceed in combination with (a), (b) and (c) above, eighty (80) percent of the Agreed Compensation;
 - v. For the Construction Administration Phase, not to exceed the remainder of the Agreed Compensation. (Acceptance of this phase will be acknowledged by a notice from Owner of the acceptance of the work of the construction contractor.

No deduction shall be made from Engineer's compensation on account of penalty, liquidated damages or other sums withheld from payment to Contractor except as may be necessary due to the negligence of Engineer or its consultants.

5. STANDARDS AND ADMINISTRATIVE PROVISIONS

Owner, with assistance from Engineer, will establish certain administrative procedures for the management of the projects and will create design and material standards for elements of the construction, furniture and equipment. This standardization is intended to streamline the design and specifications and provide directives on Owner preferences.

6. COMPUTER AND COMMUNICATION NETWORK

The Owner and Engineer may select common software systems to be utilized by all Engineers, contractor(s) and Owner representatives for the Oregon Health & Science University projects.

7. EXTRA SERVICES

- a. If Engineer is requested in writing to perform extra services outside the scope of its work, the Agreed Compensation for Engineer's work shall be increased equitably prior to the performance of the extra work.
- b. Engineer shall not be entitled to compensation for any extra services without prior written authorization from Owner and agreement as to the increase in the Agreed Compensation.
- c. Engineer shall presents any claim for compensation for extra services by written notice within ten days of commencing the extra services. The failure of Engineer to provide timely written notice shall bar any claim for extra compensation.
- d. Engineer shall be paid for extra service resulting from:
 - i. substantial changes ordered by Owner after Owner has accepted one or more of the planning phases described above; or
 - ii. damage occurring as a result of fire or other casualty to the structure.

8. PERSONNEL AND LICENSING

- a. Engineer warrants that it is licensed to perform Engineering services in Oregon and that all of its consultants are properly licensed engineers with Oregon.
- b. Engineer agrees that its personnel shall perform the following key roles on this Project:

<u>Personnel</u>	<u>Roles</u>
See Proposal	See Proposal

*Project Engineer to be identified on the individual Project Contract Authorization

Provided the above individual(s) remain in the employ of Engineer, they shall perform in these roles for the duration of the performance of Engineer's services under this Agreement unless agreed otherwise in writing in advance by Owner. Owner shall have the right to approve persons proposed by Engineer to replace the individuals named above.

9. SCHEDULE

Engineer's services shall be performed in accordance with the schedule established by Owner, except for reasonable cause outside Engineer's control. Engineer acknowledges and agrees that time is of the essence in Engineer's performance of its services in accordance with the approved schedule for performance of Engineer's services.

11. OWNER'S REVIEW

Owner's review or approval of any shop drawings, submittals, Schematic Design documents, Design Development documents or the Drawings and Specifications (both preliminary and final) shall not in any way relieve Engineer of its responsibilities for the design or any aspect of its work.

12. OWNERSHIP OF DESIGN

The design, drawings, specifications and other documents prepared by Engineer and its consultants for this Project (including without limitation CAD disks) are the property of Owner and, unless otherwise provided, Owner shall be assigned and retain all common law, statutory and other reserved rights including without limitation whatever copyrights and rights under the Visual Artists Rights Act of 1990 may exist. Engineer hereby assigns to Owner any copyright that Engineer or its consultants has in the design, drawings, specifications, other design documents and work prepared by Engineer or its consultants has in the design, drawings, specifications, other design documents and work prepared by Engineer under this Agreement, and the work as constructed pursuant to such documents and work prepared by Engineer under this Agreement. Engineer shall be permitted to retain copies, including reproducible copies, of the drawings, specifications and other documents prepared by Engineer for information and reference in connection with Owner's use and occupancy of the Project. Except as provided below, the drawings, specifications and other documents prepared by Engineer shall not be used by Engineer or others on other projects, except pursuant to an agreement in writing with Owner providing for appropriate compensation to Owner. Engineer may use renderings or photographs of the Project for promotional purposes, provided that Owner may upon written notice to Engineer limit or rescind this authorization for the use of such Project materials for promotional purposes.

Engineer shall cause its consultants and other parties and persons performing services under this Agreement that have or reasonably may have a copyright or other rights in the design, drawings, specifications, other documents or work prepared under this Agreement, or the work as constructed pursuant to such documents and such work prepared under this Agreement, to assign them to Owner.

In the event Owner performs or has work performed on its behalf for which Engineer is not retained, Owner, to the extent permitted by the Oregon Tort Claims Act, ORS 30.260 through 30.300 and the Oregon Constitution, Article XI Section 7, shall indemnify, defend, protect, and hold Engineer free and harmless from liability, if any, arising from the use of the Project Documents by Owner, including, but not limited to, any liability to third parties for personal injury, death or property damage.

13. SERVICES OF ENGINEER'S CONSULTANTS

- a. Engineer shall be assisted by, and shall be totally responsible for, the acts and omissions of its consultants, listed as follows:
 - i. Structural: To be identified on each executed Project Contract Authorization.
 - ii. Mechanical: To be identified on each executed Project Contract Authorization.
 - iii. Acoustical: To be identified on each executed Project Contract Authorization.
 - iv. Electrical: To be identified on each executed Project Contract Authorization.
- b. Owner may authorize and provide reimbursement to Engineer for additional consulting services, upon prior written requests from Engineer for supplements to this Agreement. Such agreements shall be made in advance of the consultant's services, with negotiation to determine the effect, if any, upon Engineer's Agreed Compensation.

14. ENGINEER'S RESPONSIBILITIES IN REGARD TO HAZARDOUS MATERIALS

- a. It is envisioned that the work to be performed by Engineer will not involve the removal of and destruction of asbestos or asbestos-related or asbestos-containing materials, substances or products. It is understood and agreed that Owner will contract separately for the identification of and removal of asbestos, asbestos-related or asbestos-containing materials, substances or products, either prior to the commencement of construction or at such time as such materials, substances or products are detected. It is understood and agreed that Engineer shall not and does not prescribe any safety measure or abatement procedure, and it is not responsible for any act or omission relating to the acts of Owner and/or the professional consultant and/contractor selected by Owner relating to the abatement of asbestos, asbestos-related or other asbestos-containing materials.
- b. Engineer shall not specify or approve the installation of any known hazardous materials.
- c. Engineer shall immediately notify Owner when any hazardous materials are discovered or encountered on any project.

15. DOCUMENTS

Two (2) copies of Engineer produced CAD drawings will be supplied to Owner in ACAD 2002 or compatible format, on two (2) CD's or Zip disks for IBM PC compatible computers. Record drawings provided at the end of the project shall conform to the appropriate sections of the OHSU Base plan Standards that reference layering, font styles and types, and drawing compatibility. A copy of the Base plan Standards is provided to Engineer as Attachment "B." An electronic or hard copy drawing index is required.

Record drawings; setting forth all necessary plans, elevations, and construction details shall be supplied to Owner in bond print format. Size of the bond prints shall be not less than 8 ½" by 11" nor larger than 30" by 42". Each sheet of electronic and bond print drawings shall list the date, OHSU Work Order number, and a clause stating that the document is a Record drawing. All electronic files shall include a Title Block and all X-References shall be bound to drawings. See also Attachment "A"2.d.viii.

16. TERMINATION OF AGREEMENT

Owner, on seven days' written notice to Engineer, may terminate this Agreement or any Work Authorization for any reason deemed appropriate in Owner's sole discretion.

In the event of termination of the Agreement: 1) Owner shall compensate Engineer for all services performed prior to the termination date, together with expenses then due, based upon the percentage of completion and the Agreed Compensation amount; and 2) Engineer shall provide to Owner all plans, specifications, drawings, CAD drawings, diskettes, Mylar drawings or other work product related to any

Project authorized under this Agreement or Supplement hereto. In the event Owner terminates this Agreement, Engineer shall be responsible to Owner for the quality of its work product through the date of termination.

In no event shall Engineer be entitled to compensation in excess of what would be due under the Work Authorization for work performed as of the date of the termination.

17. INSURANCE PROVISIONS

During the term of this Agreement, Engineer shall maintain in full force at its own expense, from companies licensed to do business in Oregon, each insurance noted below:

- a. Workers' Compensation – Engineer, its consultants, if any, and all employers working under this Agreement and supplement(s) hereto are subject employers under the Oregon Worker's Compensation Law and shall comply with ORS 656.017, which requires subject employers to provide Oregon Worker's Compensation coverage for all their subject workers.
- b. General Liability – Engineer shall secure Commercial General Liability insurance with a minimum limit of not less than \$1,000,000 per occurrence and \$2,000,000 annual aggregate for Bodily injury and Property damage. It shall include personal injury coverage, products/completed operations and contractual liability coverage for the indemnity provided under this Agreement.
- c. Automobile Liability – Engineer shall secure Automobile Liability insurance with a combined single limit of not less than \$1,000,000 each occurrence for bodily injury and property damage, including coverage for owned, hired or non-owned vehicles, as applicable. This coverage may be written in combination with the Commercial General Liability Insurance.
- d. Professional Liability Insurance, including contractual liability, with limits no less than \$1,000,000 per claim and \$2,000,000 annual aggregate limit applying. If such insurance is written on a claims-made form, coverage shall survive for a period of not less than three (3) years following Final Completion of the Project or termination of this Agreement. Coverage shall also provide for a retroactive date of placement prior to or coinciding with the effective date of this Agreement. Engineer shall notify Owner of any claim that may materially impair the level of coverage. In such event, Owner shall have the right to require Engineer at Engineer's expense to obtain additional coverage to ensure \$1,000,000 of available insurance for the Project.

Upon return of this signed Agreement Engineer shall furnish Certificates of Insurance with a copy of the additional insureds endorsement as evidence of the insurance coverages required under this Agreement. The certificates shall provide that the insurance company or companies shall give a 30-calendar day notice (without reservation) to Owner before the insurance is canceled or changed. The certificates should state specifically that the insurance is provided for this Agreement.

The Certificates of Insurance, except for Workers' Compensation and Professional Liability, shall provide that Owner and its directors, officers and employees are Additional Insureds with respect to Engineer's services to be provided under this Agreement and that the coverage to be provided is primary to coverage Owner may independently maintain.

These insurance policies, which cannot be excess to a self-insurance program, are to be issued by an insurance company authorized to do business in the State of Oregon, and must also have an A.M. Best rating of A(IX) or better. If written on a claims made basis, the commercial general insurance shall be maintained for a period of not less than two years following termination of this contract. OHSU and its officers and employees shall be included as an additional insured in these insurance policies. All applicable policies shall be endorsed so that coverage is primary and non contributory.

If requested, complete policy copies shall be provided to OHSU. The Contractor shall be financially responsible for all pertinent deductibles, self-insured retentions and/or self-insurance

Engineer shall be responsible for payment of all deductibles. The insurance coverages required herein shall not in any way limit the liability of Engineer.

18. MEDIATION

Engineer and Owner, in an effort to resolve any conflicts that may arise during the design or construction of the Project or following the completion of the Project, agree that all disputes between them arising out of or relating to this Agreement hereto shall be submitted to nonbinding mediation unless the parties mutually agree otherwise. Engineer further agrees to include a similar provision in all agreements with subconsultants retained for the Project, thereby providing for mediation as the initial method for dispute resolution between the parties to those agreements. All parties agree to exercise their best effort in good faith to resolve all disputes in mediation.

Each party will pay its own costs for the time and effort involved in mediation. All parties to the dispute shall share the cost of the mediator equally.

19. INDEMNITY

- a. Claims for Other Than Professional Liability – To the fullest extent of the law, Engineer shall save, defend and hold harmless Owner and its directors, officers, agents and employees from all claims, suits or actions of whatsoever nature, including intentional acts, resulting from or arising out of the activities of Engineer and/or its consultant, partners, joint ventures, agents or employees acting under this Agreement or any supplement.
- b. Claims for Professional Liability – To the fullest extent of the law, Engineer shall save, defend and hold harmless Owner and its directors, officers, agents and employees from all claims, suits or actions arising out of the professional negligent acts, errors or omissions of Engineer and/or its consultants, partners, joint ventures, agents or employees acting under this Agreement or supplement.

20. COMPLIANCE WITH REQUIREMENTS/APPLICABLE LAWS/GOVERNING LAW

All work to be done by Engineer shall meet Owner's requirements and shall comply with all federal, state, county and local laws, ordinances and regulations applicable to the work to be done under this Agreement at the time the construction contract is signed. Engineer also specifically agrees to comply with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations. Engineer also shall comply, without limitation, to the provisions of: Title VI of the Civil Rights Act of 1964; Section V of the Rehabilitation Act of 1973; the Americans with Disabilities Act of 1990 (Pub L No. 101-336), ORS 659.425, and all amendments of, and regulations and administrative rules established pursuant to those laws; and all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations.

This contract shall be governed and construed in accordance with the laws of the State of Oregon, without resort to any jurisdiction's conflict of laws rules or doctrines. Any claim, action, suit, or proceeding (collectively, "the claim") between OHSU and the contractor that arises from or relates to this contract shall be brought and conducted solely and exclusively within the Circuit Court of Multnomah County. Provided, however, if the claim must be brought in a federal forum, then it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. Engineer hereby consents to the in personam jurisdiction of said courts.

Office of Federal Contract Compliance Programs (OFCCP): The requirements of Executive Orders 13201 and 11246 and 41 CFR part 60 are hereby incorporated by reference. EO 13201 <http://www.dol.gov/esa/regs/compliance/ofccp/13201ofp.htm>, EO 11246 <http://www.dol.gov/compliance/guide/discrim.htm#who>

Federal Health Care Program Eligibility: Engineer represents and warrants that it is not excluded from participation, and is not otherwise ineligible to participate, in a "Federal health care program" as defined in 42 U.S.C. Section 1320a-7b(f) or in any other government payment program. In the event Engineer is excluded from participation, or becomes otherwise ineligible to participate in any such program during the Term, Engineer will notify OHSU in writing within three (3) days after such event, and upon the occurrence of such event whether or not such notice is given to OHSU, OHSU may immediately

terminate this contract upon written notice to Engineer. OHSU will not make any payments under this contract during any period of debarment, ineligibility or exclusion from participation.

Conflict of Interest: Engineer acknowledges that OHSU uses ethical business practices in its vendor selection and other contracting practices. Engineer certifies that neither it nor its employees or agents have, with an intent to establish or maintain a business relationship with OHSU, provided any gift or sponsorship having more than minimal value: (i) to any person working on behalf of OHSU involved in the negotiation of the contract; (ii) to any OHSU Department or unit procuring items or services under this contract; or (

27. MERGER CLAUSE

THIS AGREEMENT CONSTITUTES THE ENTIRE AGREEMENT BETWEEN THE PARTIES. THERE ARE NO UNDERSTANDINGS, AGREEMENTS OR REPRESENTATIONS, ORAL OR WRITTEN, NOT SPECIFIED HEREIN REGARDING THIS AGREEMENT. NO AMENDMENT, CONSENT OR WAIVER OF TERMS OF THIS AGREEMENT SHALL BIND EITHER PARTY UNLESS IN WRITING AND SIGNED BY ALL PARTIES. ANY SUCH AMENDMENT, CONSENT OR WAIVER SHALL BE EFFECTIVE ONLY IN THE SPECIFIC INSTANCE AND FOR THE SPECIFIC PURPOSE GIVEN. ENGINEER, BY THE SIGNATURE BELOW OR ITS AUTHORIZED REPRESENTATIVE, ACKNOWLEDGES HAVING READ AND UNDERSTOOD THE AGREEMENT AND ENGINEER AGREES TO BE BOUND BY ITS TERMS AND CONDITIONS.

ATTACHMENT A
TO ARCHITECTUARL/ENGINEERING AGREEMENT
FOR SERVICES RENDERED TO
OREGON HEALTH & SCIENCE UNIVERSITY

OUTLINE: DESIGN CONSULTANT ADMINISTRATIVE REQUIREMENTS

This outline includes the requirements for each submittal for design services for an Oregon Health & Science University ("OHSU") project unless noted otherwise.

1. Submittal Milestones

- a. 100% Schematic Design
- b. 100% Design Development
- c. 90% Construction Documents
- d. 100% Construction Documents

2. Standards

- a. For each submittal, all drawings shall be dated and each sheet shall be appropriately labeled "100% SCHEMATIC DESIGN, 90% CONSTRUCTION DOCUMENTS"...
- b. The floor plans for structural, mechanical and electrical drawings shall be at the same scale of Architectural drawings to facilitate coordination and checking. Project drawings are to be on a standard size format or as determined by OHSU.
- c. In each submittal, Architect will incorporate the corrections made on the marked-up drawings of the prior submittal.
- d. All drawings shall contain the following minimum information.
 1. Title (as provided by OHSU Facilities Manager ("FM"))
 2. Title of Specific Project (as provided by OHSU FM)
 3. Date (use Date of Current Submittal)
 4. Scale
 5. North Arrow
 6. Drawing Name and Number
 7. Consultant Team Firm Names and Addresses, Contact Name for each Consultant Firm listed and Telephone/Fax/Internet Address
 8. Small Scale Vicinity and Location Key Diagram (standard as provided by OHSU FM)

3. Submittal Standards by Design Planning Phase

a. 100% SCHEMATIC DESIGN

1. Program Verification
 - Computation of Departmental Gross Area (DGSF) per floor
 - Computation of DGSF per Project Area
 - Computation of Programmed area to designed DGSF
2. Architectural
 - Floor Plans @ 1/8" = 1'-0"
 - All rooms and services clearly shown and each room titled
 - Preliminary Equipment and Furnishings Schedule
3. Demolition

- None
4. Specification
 - Systems and Materials Narrative
 5. Building Exterior Envelope (if applicable)
 - Building Exterior Elevation
 - Penetration Layout
 - Material Designations
 - Energy Code Requirements Narrative
 - Room Layout (as required)
 6. Structural
 - Structural Scheme (as required)
 - Narrative Analysis of Existing Seismic Investigations and/or Regulatory Requirements: Proposal Defined for Seismic Strengthening
 - Column references to match architectural
 7. Mechanical: Plumbing/Piping
 - Written Description of Proposed Systems: Design Criteria and Diagrams of Proposed Systems and Functional Narrative of Proposed System
 8. Mechanical HVAC
 - Special Occupancy Zones Identified
 - Written Description of Proposed Systems: Design Criteria and Diagrams of Proposed Systems and Functional Narrative of Proposed System
 9. Mechanical: Fire Protection
 - Written Description of Proposed Systems: Design Criteria and Diagrams of Proposed Systems and Functional Narrative of Proposed System
 10. Electrical: Power Distribution
 - Written Description of Proposed Systems: Diagram of Normal and Emergency Power Distribution Systems
 - Panel(s) location
 11. Fire Detection System
 - Panel(s) location
 12. Voice/Data/Low Voltage Systems
 - Closet locations and sizes
 13. Cost Estimate
 - Prepare Preliminary Project Direct Construction Cost Estimate prepared by Contractor
 14. Project Schedule
 - Prepare Preliminary Total Project Schedule
- b. 100% DESIGN DEVELOPMENT

1. Program Verification
 - Computation of DGSF per floor
 - Computation of DGSF per Project Area
 - Computation of Programmed area to designed DGSF
2. Architectural
 - Life Safety Plan On-Site Investigations complete. Preliminary plan prepared and reviewed by local fire authorities
 - Dimensioned Floor Plans
 - All rooms and services clearly numbered from Owner-Furnished Numbering System and each room titled
 - Interior Elevations
 - Reflected Ceiling Plans of All Areas
 - Preliminary Room Finish Schedule
 - Updated Equipment and Furnishings Schedule
 - Preliminary Materials Finishes Schedule
3. Demolition
 - Preliminary Architectural, Mechanical and Electrical Demolition Plans, including items to be removed
 - Preliminary Demolition and phasing Diagrams indicating Infections Control planning
4. Specification
 - Outline: All CSI Sections. Preliminary specifications for basic materials, systems and special finishes
 - Manufacturer's Cut-Sheets on plumbing, mechanical and electrical equipment, including light fixtures
5. Building Exterior Envelope (if applicable)
 - Typical Wall Sections
 - Typical Window Sections
 - Exterior Door Details
 - Roofing Details (as required)
 - New & Existing Grades @ Face of Building
6. Structural (if applicable)
 - Structural Sections
 - Typical Floor Framing Plan
 - Preliminary Listing of Testing & Inspection Requirements
 - Area Separation and firewalls coordinated
 - Seismic Scheme Calculations, Investigation and/or regulatory requirements, proposal for required seismic strengthening.
7. Mechanical
 - Piping Plans
 - Life Cycle Cost Analysis (as required)
 - Preliminary Calculations
 - One Line Duct Layout Complete
 - Equipment List 100% Complete
 - All Equipment Located
 - Control Diagrams
 - Sequence of Operations Narrative

- Diagram of Room and Air Pressurization Relationships
 - Diagram of Intended Air Flow by Room
8. Mechanical: Fire Protection
 - Location of Risers, pressure and flow
 9. Electrical: Lighting
 - Fixture/Switching Layout
 - Light Level Calculations
 10. Electrical: Power Distribution
 - Equipment Layout sizes
 - Panel Schedules/Locations
 - Power Riser Diagram
 - Load Calculations/Estimates
 11. Fire Detection System
 - Device locations
 - Panel locations
 12. Voice/Data/Low Voltage Systems
 - Riser Diagrams per System
 - Material Cut Sheets
 - Conduit Plans
 - Voice/Data/Low Voltage Outlet locations
 - Cable Tray System Route
 13. Cost Estimate
 - Prepare Project Direct Construction Cost Estimate
 - Prepare Critical Path Schedule of all Project Activities

c. 90% CONSTRUCTION DOCUMENTS

1. Program Verification
 - Computation of DGSF per floor
 - Computation of DGSF per Project Area
 - Computation of Programmed area to designed DGSF
2. Architectural
 - Floor Plans, Reflected Ceiling Plans, Building Elevations, Interior Elevations, Wall Sections Room Finish, Door and Window Schedules essentially complete
 - Equipment/Furnishings List complete and coordinated
 - All detail sheets essentially complete and cross referenced
 - Phasing Plan approved
 - Owner Security and Signage Systems coordinated
 - Fire and Life Safety Plans and Details as approved from review with regulatory agency officials
 - Demolition Plans essentially complete
3. Demolition

- Identification of all items to be removed, items to be patched and repaired noted, approved list of Owner salvage items, approved route for demolition activities in building
 - Update Phasing Information
4. Specification
 - All CSI Sections Updated
 5. Building Exterior Envelope
 - Flashing Details
 - Roof-Mounted Equipment Details
 - Exterior Details
 - Roofing Details Complete
 6. Structural
 - Seismic Details complete
 - Framing Plans complete
 - Column & Beam Schedules complete
 - Stair sections and Details complete
 - All anchorage details complete
 - Structural Calculations complete
 7. Mechanical: Plumbing/Piping
 - Demolition Plans Complete
 - Piping runs, floor drains, sinks coordinated
 - All Devices located/coordinated/connected
 - All enlarged drawings complete
 8. Mechanical: HVAC
 - Demolition Plans Complete
 - HVAC piping, devices, coordination with equipment, duct sizes and routings coordinated
 - All enlarged drawings complete
 - Flow diagrams, building controls diagrams, user diagrams, details including cross sections and sizing calculations complete
 - Rebate program documentation complete
 9. Mechanical: Fire Protection
 - Update all documents
 10. Electrical: Lighting
 - Update drawings
 11. Electrical: Power Distribution
 - Electrical demolition drawings complete
 - Electrical Plans complete including circuiting, power plan, closet coordination, house clock, paging, mechanical equipment coordinating, fire alarm/detection systems, television, security systems, enlarged room plans, rebate program documentation complete.
 12. Fire Detection System
 - Update Drawings
 13. Voice/Data Communications

- Update Drawings
14. Cost Estimate
- Prepare Project Direct Construction Cost Estimate
 - Prepare Critical Path Schedule of all Project Activities
- d. 100% CONSTRUCTION DOCUMENTS
1. Program Verification
 - Computation of DGSF per floor
 - Computation of DGSF per Project Area
 - Computation of Building Efficiency Ration
 - Computation of Programmed area to designated DGSF
 2. Architectural
 - 100% Complete Submission
 3. Demolition
 - 100% Complete
 4. Specification
 - Complete Specification
 5. Building Exterior Envelope
 - 100% Complete
 6. Structural
 - 100% Complete
 7. Mechanical: Plumbing/Piping
 - 100% Complete
 8. Mechanical: HVAC
 - 100% Complete
 9. Mechanical: Fire Protection
 - 100% Complete
 10. Electrical: Lighting
 - 100% Complete
 11. Electrical: Power Distribution
 - 100% Complete
 12. Fire Detection System
 - 100% Complete
 13. Voice/Data Communications
 - 100% Complete
 14. Cost Estimate
 - For CM/GC Projects:
 - Prepare Project Direct Construction Cost Estimate
 - Prepare Critical Path Schedule of all Project Activities

ATTACHMENT B
TO ARCHITECTURAL/ENGINEERING AGREEMENT
FOR SERVICES RENDERED TO
OREGON HEALTH & SCIENCE UNIVERSITY

DRAWING STANDARDS: CAD Drawings Directory, File and Layering, structure and format Standards

I. **CAD Software Standards**

- A. AutoCAD is the CAD software employed by Oregon Health & Science University. Current version employed is AutoCAD 2008.

II. **CAD File Standards**

- A. The AutoCAD DWG © format is the file format used by Oregon Health & Science University to store and manipulate CAD drawings.

III. **CAD Drawings Layering Standards**

- A. The AIA-American Institute of Architects CAD layering standard is the CAD layering standard adopted by Oregon Health & Science University.
B. The "*AIA short format*" published in 1992 is preferred over the other layering text formats.
C. The Architect will provide a layering and drawing legend.

IV. **CAD Drawing Directory/File Management**

A. **Directory naming**

- i) In the instance of a multi-discipline project where Architect, Structural and MEP consultants are involved, files must be structured accordingly. The directory (*folder*) structure naming should clearly indicate the discipline or Consultant producing the drawing, as shown below:

<u>Discipline</u>	<u>Directory Name</u>
Architecture	Architectural
Civil	Civil
Electrical	Electrical
Fire Protection	Fire-protection
Fire Life Safety	LSS
GIS	GIS
Landscape	Landscape
Mechanical	Mechanical

Plumbing Plumbing

Structural Structural

B. File Naming of Drawings

- i) For the purpose of file identification and management, the use of the AIA file-naming standard is required. A file prefix is required for identifying drawings by discipline.

Discipline	File Prefix	Example
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Architectural	A	A-01
Civil	C	C-01
Electrical	E	
Fire Protection	F	
Fire Life Safety	LSS	
GIS	G	
Hazardous Materials	H	
Interiors	I	
Landscape	L	
Mechanical	M	
Plumbing	P	
Pneumatic Tube Equipment	PT	
Resource	Q	
Structural	R	
Telecom & Data	S	
Other Disciplines	T	
	X	

V. CAD Drawings Internal Structure Standard and Format

- A. All vector graphics shall be created at 1:1 scale. Scaling of drawings is not allowed. Paperspace shall be used for creating/printing scaled drawings.
- B. The use of X-REF is required. Upon transmittal of CAD drawings all X-REF's must be bound (using AutoCAD X-REF BIND command)
- C. The use of Model and Paper space is required for all CAD drawings. No title block should be located in Model Space. Title blocks shall be located and used only in Paper space.
- D. Before transmittal, all CAD drawings should be PURGED and subsequently verified.
- E. If BLOCK ATTRIBUTES are used, the BLOCK ATTRIBUTE STRUCTURES and BLOCK NESTING should be included in the transmittal. Use of Microsoft Word for Windows to create such a list is preferred. ANSI text files are also acceptable.

- F. The use of standard AutoCAD fonts and shapes is required. Non-standard FONTS and SHAPES must be transmitted with the drawings in their original file format as separate files in a separate FONTS subdirectory.

VI. **CAD Drawings Indexing**

- A. A text file (readme.txt) describing the indexing and organization of the Project and each file shall be located in the root directory. The file shall contain a listing of all the files being distributed.

VII. **Drawing Standards**

- A. All drawings shall contain the following minimum information:
 - i) Title of Specific Project (as provided by OHSU FM)
 - ii) Date (use Date of Current Submittals)
 - iii) Scale
 - iv) North Arrow
 - v) Drawing Name and Number
 - vi) Consultant Team Firm Names and Addresses, Contact Name for each Consultant Firm listed and Telephone/Fax/Internet Address.
 - vii) Small Scale Vicinity and Location Key Diagram (standard as provided by OHSU FM)
- B. Size of the bond prints shall be not less than 8 ½" by 11" nor larger than 30" by 42". Each sheet of electronic and bond print drawing shall list the date, OHSU Work Order number, and a clause stating that the document is an As-Built. All electronic files shall incl