



ADDENDUM # 1

RE: Humboldt State University Behavioral & Social Sciences Building

DATE: February 17, 2011

FROM: Humboldt State University
Arcata, CA 95521-8299

TO: ALL Prospective Proposers

Humboldt State University Facilities Management is conducting a study on the feasibility of incorporating as-built BIM plans into a new facilities management software. Please provide an **Add Alternate** cost to provide a Level of Development 400, as defined in the AIA Document E202TM – 2008, as-built BIM files upon completion of the project. Your proposal should include a discussion of the value added to Humboldt State University during both construction and facilities management. At a minimum the model shall provide the following items:

(A) Architectural

- 1) Walls and curtain walls shall be depicted to the exact height, length, width and thickness to properly reflect wall types. The model shall include all walls both interior and exterior and the necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.
- 2) Exterior doors, windows and louvers shall be depicted to represent their actual size, type and location.
- 3) Roof, including configuration, drainage and major penetrations.
- 4) Floors shall be developed in the structural model and then referenced by the architectural model for each floor.
- 5) Ceilings shall be modeled to include soffits, ceiling materials or other special conditions.
- 6) Vertical circulation shall be accurately depicted (i.e. stairs, handrails and guardrails).

(B) Structural

- 1) Foundations and footing elements shall be modeled to reflect size and location.
- 2) Floor slabs shall be depicted with all necessary recesses, curbs, pads, closure pours and major penetrations.
- 3) Structural Steel columns, primary and secondary framing members shall be modeled including member size tags.
- 4) Cast-in-Place concrete walls, columns and beams shall be modeled accurately including major penetrations and block-outs.
- 5) Shafts and pits shall be included at all locations.



(C) Mechanical

- 1) HVAC will include all specific items required to produce LOD 400. Coordination with campus facilities management to insure proper formatting of HVAC systems to match facility software is required.
- 2) Plumbing will include all specific items required to produce LOD 400. Coordination with campus facilities management to insure proper formatting of Plumbing systems to match facility software is required.
- 3) Equipment clearances shall be modeled to ensure all equipment is serviceable as designed.

(D) Electrical/Telecommunications

- 1) Electrical power and lighting shall be modeled to show lighting receptacles, special and general purpose power receptacles, lighting fixtures, panel boards, control system and equipment clearances. Cable tray routing may be modeled without detail of cable components.
- 2) Communications service controls and connections (existing and new, both above and below ground) shall be modeled to as-built conditions and shall show size, location and elevation of components.
- 3) Exterior building lighting shall be modeled to show fixture location, type and size. Coordination with campus facilities management to insure proper formatting of lighting systems to match facility software is required.

(E) Fire Protection

- 1) Fire protection system shall be modeled to include at a minimum all relevant piping, sprinkler heads, fittings, drains, pumps, tanks, sensors and control panels.
- 2) Fire alarms/mass notification devices and detection system shall be indicated to show location and elevation.

(F) Civil

- 1) Terrain shall be modeled to show final as built conditions.
- 2) Storm water and sanitary sewers shall be modeled to the connection with the existing storm water and sanitary sewer system. This shall include connections to the building, on site connection from other buildings and both new and existing storm water and sanitary sewers on site.
- 3) Utilities shall be modeled from the point of connection to the existing utilities.



ACKNOWLEDGEMENT OF ADDENDUM # 1

RE: Humboldt State University Behavioral & Social Sciences Building

Date: February 17, 2011

FROM: Humboldt State University
Arcata, CA 95521

TO: ALL Prospective Proposers

This Addendum forms a part of the Contract Documents and modifies the Behavioral & Social Sciences Building RFP dated, February 17, 2011 as noted below.

Acknowledgement and receipt of this Addendum is required in the space provide. Failure to do so may result in the Proposal being deemed non-responsive. Return this form completed acknowledging the Addendum no later than 10:00 pm on Thursday, February 17, 2011.

Attention: Toni Lands, Project Manager
Humboldt State University

Signed: _____
Contractor Representative

Company or Contractor's name

University

Date



AIA[®] Document E202[™] – 2008

Building Information Modeling Protocol Exhibit

This Exhibit is incorporated into the accompanying agreement (the “Agreement”) dated the _____ day of _____ in _____ the year _____
(In words, indicate day, month and year.)

BETWEEN:
(Name, address and contact information, including electronic addresses)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

AND:
(Name, address and contact information, including electronic addresses)

for the following Project:
(Name and location or address)

TABLE OF ARTICLES

- 1 GENERAL PROVISIONS
- 2 PROTOCOL
- 3 LEVEL OF DEVELOPMENT
- 4 MODEL ELEMENTS

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 This Exhibit establishes the protocols, expected levels of development, and authorized uses of Building Information Models on this Project and assigns specific responsibility for the development of each Model Element to a defined Level of Development at each Project phase. Where a provision in this Exhibit conflicts with a provision in the Agreement into which this Exhibit is incorporated, the provision in this Exhibit will prevail.

§ 1.1.1 The parties agree to incorporate this Exhibit by reference into any other agreement for services or construction for the Project.

Init.

§ 1.2 Definitions

§ 1.2.1 Building Information Model. A Building Information Model(s) is a digital representation of the physical and functional characteristics of the Project and is referred to in this Exhibit as the “Model(s),” which term may be used herein to describe a Model Element, a single Model or multiple Models used in the aggregate. “Building Information Modeling” means the process and technology used to create the Model.

§ 1.2.2 Level of Development. The Level(s) of Development (LOD) describes the level of completeness to which a Model Element is developed.

§ 1.2.3 Model Element. A Model Element is a portion of the Building Information Model representing a component, system or assembly within a building or building site. For the purposes of this Exhibit, Model Elements are represented by the Construction Specifications Institute (CSI) UniFormat™ classification system in the Model Element Table at Section 4.3.

§ 1.2.4 Model Element Author. The Model Element Author is the party responsible for developing the content of a specific Model Element to the LOD required for a particular phase of the Project. Model Element Authors are identified in the Model Element Table at Section 4.3.

§ 1.2.5 Model User. The Model User refers to any individual or entity authorized to use the Model on the Project, such as for analysis, estimating or scheduling.

ARTICLE 2 PROTOCOL

§ 2.1 Coordination and Conflicts

Where conflicts are found in the Model, regardless of the phase of the Project or LOD, the discovering party shall promptly notify the Model Element Author(s). Upon such notification, the Model Element Author(s) shall act promptly to mitigate the conflict.

§ 2.2 Model Ownership

In contributing content to the Model, the Model Element Author does not convey any ownership right in the content provided or in the software used to generate the content. Unless otherwise granted in a separate license, any subsequent Model Element Author’s and Model User’s right to use, modify, or further transmit the Model is specifically limited to the design and construction of the Project, and nothing contained in this Exhibit conveys any other right to use the Model for another purpose.

§ 2.3 Model Requirements

§ 2.3.1 Model Standard. The Model shall be developed in accordance with the following standard, if any: *(Set forth below object naming conventions, graphic standards, common symbology, etc., or state an applicable standard, such as the National Building Information Model Standards (NBIMS).)*

§ 2.3.2 File Format(s). Models shall be delivered in the following format(s) as appropriate to the use of the Model:

Use of Model

Required File Format(s)

§ 2.4 Model Management

§ 2.4.1 The requirements for managing the Model include, but are not limited to, the duties set forth below in this Section 2.4. The Architect will manage the Model from the inception of the Project. If the responsibility for Model management will be assigned to another party at a particular phase of the Project, indicate below the identity of the party that will assume that responsibility, and the phase at which that party will assume those responsibilities.

Responsible Party	Project Phase
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§ 2.4.2 Initial Responsibilities. The party responsible for managing the Model shall facilitate the establishment of protocols for the following:

- .1 Model origin, coordinate system, and units
- .2 File storage location(s)
- .3 Processes for transferring and accessing Model files
- .4 Clash detection
- .5 Access rights
- .6 Other protocols:
(Insert additional protocols below.)

§ 2.4.3 Ongoing Responsibilities. The party responsible for managing the Model shall have the following ongoing responsibilities:

- .1 Collect incoming Models:
 - .1 Coordinate submission and exchange of Models
 - .2 Log incoming Models
 - .3 Validate that files are complete and usable and in compliance with applicable protocols
 - .4 Maintain record copy of each file received
- .2 Aggregate Model files and make available for viewing
- .3 Perform clash detection in accordance with established protocols and issue periodic clash detection reports
- .4 Maintain Model archives and backups
- .5 Manage access rights
- .6 Follow protocols established in Section 2.4.2

§ 2.4.4 Model Archives: The party responsible for Model management as set forth in this Section 2.4 shall produce a Model Archive at the end of each Project phase and shall preserve the Model Archive as a record that may not be altered for any reason.

§ 2.4.4.1 The Model Archive shall consist of two sets of files. The first set shall be a collection of individual Models as received from the Model Element Author(s). The second set of files shall consist of the aggregate of those individual Models in a format suitable for archiving and viewing. The second set shall be saved in the following file format:

§ 2.4.4.2 Additional Model Archive requirements, if any, are as follows:

§ 2.4.4.3 The procedures for storing and preserving the Model upon final completion of the Project are as follows:

§ 2.4.5 Other requirements for Model management, if any, are as follows:
(Describe in detail any other Model management requirements.)

ARTICLE 3 LEVEL OF DEVELOPMENT

§ 3.1 The following LOD descriptions identify the specific content requirements and associated authorized-uses for each Model Element at five progressively detailed levels of completeness. Each subsequent LOD builds on the previous level and includes all the characteristics of previous levels. The parties shall utilize the five LOD described below in completing the Model Element Table at Section 4.3, which establishes the required LOD for each Model Element at each phase of the Project.

§ 3.2 LOD 100

§ 3.2.1 **Model Content Requirements.** Overall building massing indicative of area, height, volume, location, and orientation may be modeled in three dimensions or represented by other data.

§ 3.2.2 Authorized Uses

§ 3.2.2.1 **Analysis.** The Model may be analyzed based on volume, area and orientation by application of generalized performance criteria assigned to the representative Model Elements.

§ 3.2.2.2 **Cost Estimating.** The Model may be used to develop a cost estimate based on current area, volume or similar conceptual estimating techniques (e.g., square feet of floor area, condominium unit, hospital bed, etc.).

§ 3.2.2.3 **Schedule.** The Model may be used for project phasing and overall duration.

§ 3.2.2.4 **Other Authorized Uses.** Additional authorized uses of the Model developed to a Level 100, if any, are as follows:

§ 3.3 LOD 200

§ 3.3.1 **Model Content Requirements.** Model Elements are modeled as generalized systems or assemblies with approximate quantities, size, shape, location, and orientation. Non-geometric information may also be attached to Model Elements.

§ 3.3.2 Authorized Uses

§ 3.3.2.1 **Analysis.** The Model may be analyzed for performance of selected systems by application of generalized performance criteria assigned to the representative Model Elements.

§ 3.3.2.2 **Cost Estimating.** The Model may be used to develop cost estimates based on the approximate data provided and conceptual estimating techniques (e.g., volume and quantity of elements or type of system selected).

§ 3.3.2.3 **Schedule.** The Model may be used to show ordered, time-scaled appearance of major elements and systems.

§ 3.3.2.4 Other Authorized Uses. Additional authorized uses of the Model developed to a Level 200, if any, are as follows:

§ 3.4 LOD 300

§ 3.4.1 Model Content Requirements. Model Elements are modeled as specific assemblies accurate in terms of quantity, size, shape, location, and orientation. Non-geometric information may also be attached to Model Elements.

§ 3.4.2 Authorized Uses

§ 3.4.2.1 Construction. Suitable for the generation of traditional construction documents and shop drawings.

§ 3.4.2.2 Analysis. The Model may be analyzed for performance of selected systems by application of specific performance criteria assigned to the representative Model Elements.

§ 3.4.2.3 Cost Estimating. The Model may be used to develop cost estimates based on the specific data provided and conceptual estimating techniques.

§ 3.4.2.4 Schedule. The Model may be used to show ordered, time-scaled appearance of detailed elements and systems.

§ 3.4.2.5 Other Authorized Uses. Additional authorized uses of the Model developed to a Level 300, if any, are as follows:

§ 3.5 LOD 400

§ 3.5.1 Model Content Requirements. Model Elements are modeled as specific assemblies that are accurate in terms of size, shape, location, quantity, and orientation with complete fabrication, assembly, and detailing information. Non-geometric information may also be attached to Model Elements.

§ 3.5.2 Authorized Uses

§ 3.5.2.1 Construction. Model Elements are virtual representations of the proposed element and are suitable for construction.

§ 3.5.2.2 Analysis. The Model may be analyzed for performance of approved selected systems based on specific Model Elements.

§ 3.5.2.3 Cost Estimating. Costs are based on the actual cost of specific elements at buyout.

§ 3.5.2.4 Schedule. The Model may be used to show ordered, time-scaled appearance of detailed specific elements and systems including construction means and methods.

§ 3.5.2.5 Other Authorized Uses. Additional authorized uses of the Model developed to a Level 400, if any, are as follows:

§ 3.6 LOD 500

§ 3.6.1 Model Content Requirements. Model Elements are modeled as constructed assemblies actual and accurate in terms of size, shape, location, quantity, and orientation. Non-geometric information may also be attached to modeled elements.

§ 3.6.2 Authorized Uses

§ 3.6.2.1 General Usage. The Model may be utilized for maintaining, altering, and adding to the Project, but only to the extent consistent with any licenses granted in the Agreement or in a separate licensing agreement.

§ 3.6.2.2 Other Authorized Uses. Additional authorized uses of the Model developed to a Level 500, if any, are as follows:

ARTICLE 4 MODEL ELEMENTS

§ 4.1 Reliance on Model Elements

§ 4.1.1 The Model Element Table at Section 4.3 identifies (1) the LOD required for each Model Element at the end of each Project phase, and (2) the Model Element Author responsible for developing the Model Element to the LOD identified. Each Model Element Author's content is intended to be shared with subsequent Model Element Authors and Model Users throughout the course of the Project.

§ 4.1.2 It is understood that while the content of a specific Model Element may include data that exceeds the required LOD identified in Section 4.3 for a particular phase, Model Users and subsequent Model Element Authors may rely on the accuracy and completeness of a Model Element consistent only with the content required for the LOD identified in Section 4.3.

§ 4.1.3 Any use of, or reliance on, a Model Element inconsistent with the LOD indicated in Section 4.3 by subsequent Model Element Authors or Model Users shall be at their sole risk and without liability to the Model Element Author. To the fullest extent permitted by law, subsequent Model Element Authors and Model Users shall indemnify and defend the Model Element Author from and against all claims arising from or related to the subsequent Model Element Author's or Model User's modification to, or unauthorized use of, the Model Element Author's content.

§ 4.2 Table Instructions

§ 4.2.1 The table in Section 4.3 indicates the LOD to which each Model Element Author (MEA) is required to develop the content of the Model Element at the conclusion of each phase of the Project.

§ 4.2.2 Abbreviations for each MEA to be used in the Model Element Table are as follows:
(Provide abbreviations such as "A – Architect," or "C – Contractor.")

§ 4.3 Model Element Table

Identify (1) the LOD required for each Model Element at the end of each phase, and (2) the Model Element Author (MEA) responsible for developing the Model Element to the LOD identified.

Insert abbreviations for each MEA identified in the table below, such as "A – Architect," or "C – Contractor."

NOTE: LODs must be adapted for the unique characteristics of each Project.

Note Number (See 4.4)

Model Elements Utilizing CSI UniFormat™				LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	
A SUBSTRUCTURE	A10 Foundations	A1010	Standard Foundations													
		A1020	Special Foundations													
		A1030	Slab on Grade													
	A20 Basement Construction	A2010	Basement Excavation													
		A2020	Basement Walls													
	B SHELL	B10 Superstructure	B1010	Floor Construction												
B1020			Roof Construction													
B20 Exterior Enclosure		B2010	Exterior Walls													
		B2020	Exterior Windows													
		B2030	Exterior Doors													
B30 Roofing		B3010	Roof Coverings													
		B3020	Roof Openings													
C INTERIORS		C10 Interior Construction	C1010	Partitions												
			C1020	Interior Doors												
	C1030		Fittings													
	C20 Stairs	C2010	Stair Construction													
		C2020	Stair Finishes													
	C30 Interior Finishes	C3010	Wall Finishes													
		C3020	Floor Finishes													
		C3030	Ceiling Finishes													
	D SERVICES	D10 Conveying	D1010	Elevators & Lifts												
D1020			Escalators & Moving Walks													
D1030			Other Conveying Systems													
D1040			Other Conveying Systems													
D20 Plumbing		D2010	Plumbing Fixtures													
		D2020	Domestic Water Distribution													
		D2030	Sanitary Waste													
		D2040	Rain Water Drainage													
		D2090	Other Plumbing Systems													
		D2090	Other Plumbing Systems													
D30 HVAC		D3010	Energy Supply													
		D3020	Heat Generating Systems													
		D3030	Cooling Generating Systems													
		D3040	Distribution Systems													
		D3050	Terminal & Package Units													
		D3060	Controls & Instrumentation													
		D3070	Systems Testing & Balancing													
		D3090	Other HVAC Systems & Equipment													
		D3090	Other HVAC Systems & Equipment													
D40 Fire Protection		D4010	Sprinklers													
		D4020	Standpipes													
	D4030	Fire Protection Specialties														
	D4030	Fire Protection Specialties														
	D4090	Other Fire Protection Systems														

§ 4.3 Model Element Table

Identify (1) the LOD required for each Model Element at the end of each phase, and (2) the Model Element Author (MEA) responsible for developing the Model Element to the LOD identified.

Insert abbreviations for each MEA identified in the table below, such as "A – Architect," or "C – Contractor."

NOTE: LODs must be adapted for the unique characteristics of each Project.

Note Number (See 4.4)

Model Elements Utilizing CSI UniFormat™			LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	
D50	Electrical	D5010	Electrical Service & Distribution														
		D5020	Lighting and Branch Wiring														
		D5030	Communications & Security														
		D5090	Other Electrical Systems														
E EQUIPMENT & FURNISHINGS	E10 Equipment	E1010	Commercial Equipment														
		E1020	Institutional Equipment														
		E1030	Vehicular Equipment														
		E1090	Other Equipment														
E20	Furnishings	E2010	Fixed Furnishings														
		E2020	Movable Furnishings														
F SPECIAL CONSTR. & DEMO	F10 Special Construction	F1010	Special Structures														
		F1020	Integrated Construction														
		F1030	Special Construction Systems														
		F1040	Special Facilities														
		F1050	Special Controls & Instrumentation														
F20	Selective Bldg Demo	F2010	Building Elements Demolition														
		F2020	Hazardous Components Abatement														
G BUILDING SITEWORK	G10 Site Preparation	G1010	Site Clearing														
		G1020	Site Demolition & Relocations														
		G1030	Site Earthwork														
		G1040	Hazardous Waste Remediation														
	G20 Site Improvements	G2010	Roadways														
		G2020	Parking Lots														
		G2030	Pedestrian Paving														
		G2040	Site Development														
		G2050	Landscaping														
	G30 Site Civil/ Mech. Utilities	G300	G3010	Water Supply & Distribution Systems													
			G3020	Sanitary Sewer Systems													
			G3030	Storm Sewer Systems													
			G3040	Heating Distribution													
			G3050	Cooling Distribution													
			G3060	Fuel Distribution													
			G3090	Other Civil/ Mechanical Utilities													
	G40 Site Electrical Utilities	G400	G4010	Electrical Distribution													
			G4020	Site Lighting													
			G4030	Site Communications & Security													
			G4090	Other Electrical Utilities													
	G50 Other Site Construction	G500	G5010	Service Tunnels													
			G5090	Other Site Systems & Equipment													

Init.

§ 4.3 Model Element Table <i>Identify (1) the LOD required for each Model Element at the end of each phase, and (2) the Model Element Author (MEA) responsible for developing the Model Element to the LOD identified.</i> <i>Insert abbreviations for each MEA identified in the table below, such as "A – Architect," or "C – Contractor."</i> <i>NOTE: LODs must be adapted for the unique characteristics of each Project.</i>													Note Number (See 4.4)
	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	LOD	MEA	
Model Elements Not Utilizing GSI Uniformat™													

§ 4.4 Model Element Table Notes

Notes:

(List by number shown on table.)

Sample