



Oregon

**State Board of Examiners for
Engineering & Land Surveying**

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**OREGON STATE BOARD OF EXAMINERS FOR
ENGINEERING AND LAND SURVEYING**

PROFESSIONAL PRACTICES COMMITTEE MEETING MINUTES

Friday, August 3, 2007, 10:00 a.m.

Members Present:

Carl Tappert, Chair

Ron Stuntzner

Amin Wahab

Others Present:

Sue Laszlo, (Observer)

Joanna Tucker-Davis, AAG

Mari Lopez

Jenn Gilbert

James R. (JR) Wilkinson

Guests:

Mark Zeman, PE

Carrie Pak, Clean Water Services

Marvin Spiering, Clean Water

Brad Schleining, PE

William Baierski, PLS

Professional Practices Committee (PPC) Chair Carl Tappert called the meeting to order in the OSBEELS conference room at 10:05 a.m., on Friday, August 3, 2007. He had audience guests introduce themselves. The Chair next reviewed the agenda and called for any additions.

William Baierski, PLS, introduced himself and a topic for PPC discussion. For the convenience of guests, the PPC voted to reorder discussion topics and amend the agenda (Stuntzner/Wahab).

NEW BUSINESS:

As-built Plan Stamping: Mark Zeman, PE, email July 20, 2007

Michael Monical, PE, contacted the Board regarding the stamping of as-built drawings in relation to an opinion expressed by the Board in the February 16, 2007, PPC minutes stating, *“there are no requirements in the statutes or rules that require the engineer to seal and sign as-built drawings. If the engineer did not supervise or observe the changes made in the field, then they do not have the knowledge to certify the work on the as-built plans and therefore should not seal and sign the documents.”*

However, Clean Water Services (CWS), a public utility committed to protecting water resources in the Tualatin River Watershed, has a requirement that the engineer of record is to seal and sign as-built drawings. Mr. Zeman previously believed his as-built seal and signature was a certification that the contractor constructed the project to plan specifications. Since he is often not onsite to supervise construction, but is required by CWS to seal as-built drawings as the engineer of record, he believed a third party should perform a post-construction survey to sign and certify construction performance. Mr. Zeman also stated he had reservations about signing and sealing a topographic survey because of his limited experience in land surveying. This is especially true in light of his firm having a staff PLS that is qualified to seal and sign topographic surveys. He is looking to the Board for a clear and concise statement on as-built procedures.

Carrie Pak, CWS, stated their interest was to clarify the issue for all municipalities affected by CWS requirements. CWS uses the as-built drawings to manage their facilities and can consider a code change, but CWS wants a level of assurance that the contractor built what was designed. CWS also wants clarification for the engineer of record to sign and seal documents that the construction was per design.

OAR 820-010-0621, Final Documents, contains the requirements for sealing and signing engineering documents. If a registered engineer prepared an as-built drawing considered a final document, the document must be sealed. Ms. Pak stated that some as-built drawings appear the same as the construction drawings, but the construction was not to plans. Suspicions arise when construction design documents look the same as the as-built drawings. Furthermore, CWS has received construction plans stamped with an as built and disclaimer statement on the front, but there was no difference between the construction documents and the as-built drawings. CWS wants verification for what was actually built.

Marvin Spiering, CWS, is aware of engineers of record who have taken construction drawings and stamped them as built. This creates problems when the as-built drawings show no cross-offs or changes because CWS cannot make the assumption that the project was constructed to plans. He added the code could be amended to allow other professionals to certify construction.

Chair Tappert noted that the issue falls back to CWS. The initial question was about certifying construction when the engineer was not involved in construction. The questions here are the level of supervision and control the professional exercises over the project. If the jurisdictions required a post-construction survey or an inspection report, then the developer has the obligation to meet that requirement. To require the engineer of record to seal and sign as-built drawing as a final document causes problems when the engineer is not involved in the construction project. For the engineer of record to seal and sign as-built drawings, it would require them to provide supervision and control over the construction project, which is often not the case. The engineer frequently transfers his approved design to a contractor for construction and is not involved past that point. The code requirement therefore creates the conflict.

The discussion turned to a PE conducting topographic surveys when a PLS is available to perform the service. Can the PE, as engineer of record, also seal and sign a record of survey? OAR 820-010-0623 explains the requirements for dual stamping of documents. However, if the PE does not feel competent to oversee a topographic survey then the work cannot be done under their supervision and control. Therefore, the PE should not seal and sign the document.

The PPC and guests discussed other options including post-construction surveys and inspections. If the requirements were for a post-construction survey then the seal and signature would certify that the survey was done under the supervision and control of the registrant. The survey would represent what was constructed at the site and would not be a certification of construction. Inspection reports done by qualified personnel would be separate from as-built drawings. Mr. Zeman added that the code requires the engineer of record to seal and sign as-built drawings. Post-construction surveys were not acceptable. Ms. Pak explained that CWS takes over public facilities with private financing and they have no ability to contract with inspectors for quality control. CWS has to rely on the owner or developer to certify that design and construction

documents were followed. She stated CWS has not violated any rules or laws, but wants the construction verified.

To close discussion, AAG Tucker-Davis reminded attendees of the definitions of engineering under ORS 672.005(1) and of supervision and control under ORS 672.002(10) and OAR 820-010-0010(6). As-built drawings are not a certification of construction or inspection, but are a post-construction survey. The Board cannot define “as-built” drawings for the purpose of clarifying CWS codes and requirements. Furthermore, OSBEELS does not have jurisdiction over CWS codes, only over the registrant. A disclaimer for as-built drawings might include statements that the registrant is not certifying the contractor’s work or that the drawings are for the location of works and not for construction performance. Participants acknowledged that this issue would keep arising since each municipality and code is different.

Geodetic Control, William Baierski, PLS, letter August 1, 2007

William Baierski, PLS, Oregon Park and Recreation Survey Team Leader, presented the PPC an August 1, 2007, letter to the Board regarding the agency’s intent to use GPS to establish horizontal and vertical control at its parks statewide. The purpose is for the agency to locate its assets according to the Oregon Coordinate System. The requirements causing concern are under ORS 209.005 and ORS 209.250. Mr. Baierski reasoned that the agency is establishing geodetic control defined by ORS 209.005(4), which under ORS 209.250(5)(a) requires the agency to “file a report of survey with the county surveyors of those counties where the newly establish monuments are located.” He also listed five questions for the Board to consider.

PPC members asked if the agency was setting permanent monuments. Mr. Baierski responded that it depends on the location, but primarily using iron rods with plastic caps. For control, aluminum caps are set and for traverse points 60d nails are set.

Chair Tappert agreed that the proposed survey fits the definition of geodetic control under ORS 209.250(5)(a). Mr. Baierski replied that the control points under discussion are for the agency to use with their GPS/GIS system and are not intended for general public use. He added, however, that control points set by the agency, which are also used by the public, are set consistent with ORS 209.250(5)(a).

A discussion ensued regarding the five questions. After members debated the permanence of monuments, the differences between survey control and geodetic control, and the agency’s intent in establishing the points, it was decided that the full Board should review this matter. The PPC agreed to forward the agency letter for discussion at the September Board meeting.

RETURN TO LISTED AGENDA:

OSSC 1704.1.1 Special Inspections, Frank Huebsch, Request for Interpretation, June 18, 2007

Staff received an email inquiring if an engineer of record is required to stamp a Special Inspections Agreement (Agreement) compiled by the City of Bend Community Development Department, Building Division. Oregon Structural Specialty Code Chapter 1705.1 requires “the

registered design professional in responsible charge shall prepare a statement of special inspections in accordance with Section 1705 for submittal by the permit applicant.” Frank Huebsch, Plans Examiner III with the City of Bend, inquired whether a PE would be required to seal and sign the Statement of Special Inspections.

The PPC observed that the Statement of Special Inspections is a checklist of reports that need to be completed. The engineer of record is to identify those specialist reports that are required from other entities (e.g., testing agency). This is verified in that a representative from the testing agency is required to sign in the Acknowledgments section of the Agreement. The PPC asserted that many of the reports listed on the checklist require the seal and signature of a registered professional. Regardless, the Agreement is not a final document and does not require the seal and signature of the engineer of record. Staff will respond to Mr. Huebsch.

General Document and Electronic Media Release, LE referral and email July 10, 2007

From the July Board meeting, the PPC commenced a discussion regarding a firm's contract that a professional land surveyor was required to sign in order to receive electronically released engineering and surveying documents. In the contract, the firm reserved the right to remove identifiers causing the PLS to question whether someone can remove professional identifiers, such as logos and surveyor seals. This is a common practice in engineering, but causes problems for land surveyors. The PPC discussed that a document is “finalized” by seal and signature and cannot be modified unless done so under OAR 820-010-0622, Modifying Designs or Documents Prepared by Another Professional Engineer. The concern comes from a registrant's stamp being appropriated for another party's use.

The PPC discussed that there is one answer for engineers and one for land surveyors. Engineers can reference documents they use in developing their plans. For filed records of survey, they can only be modified by an affidavit of correction. Once the record of survey is filed, it becomes a legal document. A surveyor's seal cannot be removed and no modifications are allowed to final documents unless certain conditions are met.

Also discussed was how this question relates to the issue of electronic signatures. The question becomes the electronic transmittal of final documents that need some form of digital signature to validate since it is inappropriate to remove a seal and signature from a final document. Members agreed that clarifying the issue of digital signatures would help this issue. Staff was directed to respond accordingly.

Official Seals, OAR 820-010-0620, Linda Miller, PLS, WRE, letter July 10, 2007

Staff received an inquiry from Linda Miller, PLS, regarding whether the rubber seal she purchased complies with OAR 820-010-0620, Official Seal. The PPC observed that the seal is not an exact replica in size and style of Exhibit 1, which is available to download from the Board's website. The seal contained lettering in a font size that is too small and not in all capital letters. The PPC reasoned that the seal did not comply with Exhibit 1. Staff will respond accordingly.

HVAC system an appurtenance? Brad Page, email July 13, 2007

Brad Page emailed the Board asking if the design of a heating, ventilation, and air conditioning system (HVAC) required a professional engineer for a non-exempt structure. He wrote that OAR 806-010-0125 defines appurtenances *“as the interior or exterior elements that are necessary for the overall function of a building and therefore they require that an engineer handle the design. But does an HVAC system constitute an appurtenance?”*

The PPC discussed that appurtenances are necessary to the function of a building. The term is defined in the *Reference Manual for Building Officials* on page 23 and it affirms that a design professional is required for appurtenances to include HVAC systems. Staff will respond accordingly.

Preparing a Record of Survey, John Wade, PLS, email July 17, 2007

John Wade, PLS, emailed the Board regarding the setting of monuments. He began a partition in 2004 and set iron rods. Mr. Wade subsequently left the firm and did not complete the project, as he believed he had handed the project to his successor. Now, Washington County is requiring Mr. Wade to file a record of survey for a firm that has since gone bankrupt.

The PPC noted that Mr. Wade wrote he had set monuments. ORS 209.250 requires a record of survey to be filed within 45-days of setting monuments. However, it appeared that Mr. Wade did not file the record of survey. The PPC directed staff to notify Mr. Wade that he is responsible for filing the record of survey and will refer the matter to the Law Enforcement Committee.

Sealing of Naval Engineering reports, Robert Horsefield, Out of State PE email July 18, 2007, staff memorandum

This inquiry arose from a law enforcement case in which the respondent is an unlicensed Oregon naval engineer who produced a February 2003 stability analysis of the vessel SAVIII for an Oregon firm. However, the individual affixed his Washington State engineering seal to the report.

Upon learning of his complaint, this individual contacted other naval engineers causing Mr. Horsefield of Seattle, WA, to telephone the Board office about Oregon rules to seal and sign naval engineering reports. To postulate his concerns, he wrote a series of scenarios based on work performed at his Seattle office. He then changed the client's resident state (WA, CA, OR) and the location of the contracted shipyard (WA, OR, CA). For each scenario, he asked if the plans would need an Oregon seal.

The PPC discussed the unique nature of naval engineering in that the outcome is not a fixed works project. For a fixed project, a local jurisdiction would permit the construction. With this type of project, however, the U.S. Coast Guard evaluates boat designs and accepts engineering reports with a professional engineering seal affixed from any state under U.S.C.G. NVIC 10-92.

Using the scenarios presented, the PPC expressed the opinion that putting a boat design out for bid or construction in Oregon would be making the claim that the person is a registered engineer and would require Oregon certification. The offering in Oregon to construct the prepared naval engineering design would fall within ORS 672.007(1)(a), “*by verbal claim, sign, advertisement, letterhead, card or in any other way implies that the person is or purports to be a registered professional engineer.*” Under ORS 672.020, a seal and signature of a registered Oregon professional engineer is required in order to practice engineering in Oregon. Engineering seals are only valid within the state that issued the registration.

Since this is a unique issue, the PPC urged Mr. Horsefield to consult an attorney for legal advice on matters outside the Board’s jurisdiction. Finally, Mr. Horsefield may submit a comity application to the Board if he is registered in another jurisdiction.

Oregon Geologist Examiner newsletter article, Carl Tappert, various emails July 19, 2007

A recent article in the *Oregon Geologist Examiner* generated interest. The Oregon State Board of Geologist Examiners (OSBGE) July 2007 newsletter contained an article entitled, Geotechnical Reports Completed by Engineering Geologists. The following is the excerpt from page four of the article that contributed to the questions:

A qualified CEG [Certified Engineering Geologist] candidate is tested on [geologic hazards evaluation, soil and rock mechanics, geotechnics, foundation analysis and design, earthquake engineering, and hydrogeology] before acquiring certification as an engineering geologist (CEG). This specialty certification in engineering geology allows CEGs to practice as registered design professionals in Oregon’s geotechnical industry. Therefore, it is the Boards [sic] position that CEGs can complete geotechnical investigation, analysis and design as part of their engineering geology practice, and complete geotechnical reports.

The PPC discussed ORS 672.505(3), which defines an engineering geologist to mean “*a person who applies geologic data, principles and interpretation to naturally occurring materials so that geologic factors affecting planning, design, construction and maintenance of civil engineering works are properly recognized and utilized.*” The Board received several emails objecting to the extension of the CEG practice into the analysis and design of engineering works.

Ms. Lopez noted that an article is planned for the next edition of the OSBEELS *Oregon Examiner*. The article was written in conjunction with members of the Joint Compliance Committee (JCC) and it will clarify that a CEG can support the engineering design, but they are not authorized to perform engineering with design decision authority. The PPC agreed this was a topic for the next meeting of the JCC. The individuals who contacted the Board will receive a response. JCC members are to be copied on letters.

City of Beaverton Comment, David Beedle, email July 27, 2007, various attachments

David Beedle is the Electrical Plans Examiner/Inspector for the City of Beaverton. Don Penn, PE, submitted a set of plans for review that were rejected because Mr. Penn is a professional

engineer especially qualified in mechanical engineering and not in electrical engineering. However, Mr. Penn claims to be an electrical engineer registered in Texas and OSBEELS rules allow a PE to practice in any field in which they are competent (see OAR 820-020-0020).

Mr. Beedle responded that the plan review was done under OAR 918-311-0040(4)(c)(G), which requires the “professional registration number if the person is an architect or registered professional electrical engineer.” Unfortunately, Mr. Penn is not certified as an electrical engineer in Oregon and, therefore, he cannot seal and sign electrical engineering documents that fall within the purview of OAR 918-311-0040(4)(c)(G). This is another example of conflicting rules between agencies. Mr. Penn is encouraged to apply by comity to add the electrical discipline to his current registration in order to provide plans for structures defined as occupancy code A-2.

Unfinished Business:

2007 Reference Manual for Building Officials

Since the Board will lead this year’s revisions to the Reference Manual, the PPC discussed if there were any changes to the laws that affected registrants. While no major changes seemed to have occurred, AAG Tucker-Davis was requested to review the outcome of the 2007 legislative session to determine if there are any required Reference Manual updates. Once this is done, the Board will contact the Architect Board to determine if there were any changes to their laws. If changes are required for either board, the modifications will be reviewed and made to the Reference Manual. However, if there are no changes then the Reference Manual will remain as currently constituted.

Fire Protection Systems and Sprinkler Design

The PPC discussed options regarding the requirement for an engineer’s seal and signature on fire protection systems and sprinkler designs. A previous attorney general opinion was reviewed for current application, but the conclusion remains that professional engineers should be preparing fire protection systems. However, with the notable exception of the City of Bend, few jurisdictions are following that requirement. It has come to pass that fire sprinkler contractors are doing design work that is routed through an architect, yet jurisdictions are not enforcing the sealing and signing of fire protection plans particularly for non-exempt buildings. The PPC agreed to develop a strategy to work with building officials and fire protection contractors to begin enforcement of Board rules. This will be a continuing topic.

Digital Signatures

Chair Tappert and Chair Davis, RRC, will schedule a joint meeting to discuss digital signatures. The date of the joint meeting has yet to be determined.

Adjourned: 1:05 pm.