

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

FLORIDA ENGINEERS MANAGEMENT)
CORPORATION,)
)
Petitioner,)
)
vs.) Case No. 07-2862PL
)
JOSEPH POTTS, P.E.,)
)
Respondent.)
_____)

RECOMMENDED ORDER

Pursuant to notice, this cause was heard by Linda M. Rigot, the assigned Administrative Law Judge of the Division of Administrative Hearings, on August 13, 2007, in Tallahassee, Florida.

APPEARANCES

For Petitioner: John J. Rimes, III, Esquire
Florida Engineers Management Corporation
2507 Callaway Road, Suite 200
Tallahassee, Florida 32303-5267

For Respondent: Joseph Potts, P.E., pro se
4440 Northeast 13th Avenue
Fort Lauderdale, Florida 33334

STATEMENT OF THE ISSUE

The issue presented is whether Respondent is guilty of the allegations in the Administrative Complaint filed against him, and, if so, what disciplinary action should be taken against him, if any.

PRELIMINARY STATEMENT

On May 23, 2007, Petitioner Florida Engineers Management Corporation issued an Administrative Complaint against Respondent Joseph Potts, P.E., alleging that he had violated a statute and several rules governing his conduct as a licensed professional engineer in the State of Florida. Respondent requested an administrative hearing regarding the allegations in that Administrative Complaint, and this cause was transferred to the Division of Administrative Hearings to conduct the evidentiary proceeding.

Petitioner Florida Engineers Management Corporation presented the testimony of Joseph M. Berryman, P.E., and, by way of deposition, Rebecca Caldwell. Respondent Joseph Potts, P.E., testified on his own behalf. Additionally, Petitioner's Exhibits numbered 1-11 and Respondent's Exhibit numbered 1 were admitted in evidence.

During the final hearing Petitioner voluntarily dismissed the allegations contained in Paragraphs numbered 7E and 7H of the Administrative Complaint filed in this cause.

Only Petitioner filed a Proposed Recommended Order after the conclusion of the final hearing. That document has been considered in the entry of this Recommended Order.

FINDINGS OF FACT

1. At all times material hereto, Respondent Joseph Potts has been licensed as a professional engineer in the State of Florida. He has been a professional engineer for 40 years.

2. On September 23, 2005, and December 13, 2005, Respondent sealed, signed, and dated engineering documents for the construction of an aluminum screened pool enclosure to replace one which had been damaged in Boca Raton, Florida (the Hacker Project). The documents consisted of a hand-drawn design of the enclosure, a handwritten sheet of specifications sealed on September 23, 2005; and three handwritten pages of engineering calculations sealed on December 13, 2005.

3. Structural engineering documents intended to be submitted for the issuance of building permits, such as those prepared for the Hacker Project, normally are composed of several types of engineering work. The engineer creates (1) calculations, which represent the analysis used by the engineer in making the design decisions for the structure; (2) the design of the structure itself, which encompasses a visual representation of the proposed structure with notations conveying design information in varying levels of specificity depending on the type of project, and (3) specifications, which delineate the methods and prescribe the materials by which the design is to be completed by the builder/contractor. The

calculations must justify the engineer's design and specification decisions and must be consistent with the information conveyed in those documents.

4. In the pool enclosure industry it is accepted practice for the actual design of the enclosure to be rendered in a fairly schematic and simplified manner. However, because of this practice, the specifications for the pool enclosure are vitally important and must be clear and consistent in the information imparted to the builder/contractor. It is through the specifications that the intent of the design engineer is conveyed to the builder, and the amount of discretion left to the builder is permitted or circumscribed.

5. Indeed, since in the pool enclosure industry the specifications are generally intended to negate the necessity of an engineer in the design, the specifications must be sufficiently complete and correct so that the builder is able to utilize the information provided in the specifications with the assurance that all reasonable construction decisions will be structurally adequate. Because of the uses to which they are put in the pool enclosure industry, the specifications are "product evaluation documents."

6. Some of the engineering documents for the Hacker Project were submitted to the Palm Beach County Building

Department to obtain building permit approval on October 4, 2005. The calculations were submitted in December.

7. The documents for the Hacker Project contained several deficiencies when they were reviewed by employees of the Building Department. These included, among other things: lack of bracing, inadequate depiction of connection, and inappropriate stress increases.

8. The Building Department referred the Hacker Project documents to the Aluminum Association of Florida for review. The Association prepared a report which was forwarded to the Building Department. The report confirmed the Building Department's concerns with Respondent's engineering work on the Hacker Project. As a result, the Building Department rejected the permit application for the Hacker Project and filed a complaint against Respondent with the Board of Professional Engineers.

9. Upon receipt of the Building Department's complaint, Petitioner had the Hacker Project engineering work reviewed by a professional engineer retained for that purpose, Joseph Berryman, P.E. That expert has extensive experience in structural engineering design in general and, in particular, the review of aluminum pool enclosure design documents for compliance with the Florida Building Code and with other engineering practice requirements and standards.

10. While Berryman was reviewing the documents that Respondent had produced for the Hacker Project, Respondent submitted a revised set of sealed and signed design drawings, specifications, and calculations to Berryman in February 2006 but not to the Palm Beach County Building Department. The calculations provided with these new documents were also reviewed by Berryman with respect to the issues raised in his review of the 2005 Hacker Project documents.

11. There were numerous errors and deficiencies in the design and specifications documents prepared by Respondent and filed with the Palm Beach County Building Department. The details for the lap beam connections in Respondent's specification document are unclear. The fasteners for the connections are not adequately indicated as to whether they are to be placed on both sides of the beams or are simply the total number of fasteners without directions for placement. As a result, following the specification literally could result in an interpretation by the builder of the screen enclosure that would cause overstressing in a structural member.

12. The details for Respondent's mansard connection specifications are also deficient since Respondent gave a choice between a one-foot plate and a one-foot-four plate but did not indicate the criteria to be used by the builder in choosing which of the listed plates to use for the job. That failure is

a material deficiency since the longer plate produces less stress in the fastener groups, and a builder needs direction as to which plate to use. Further, the detail does not show the H distance (the distance from the outermost fasteners to the edge of the plate material), which should be shown on the documents.

13. Based upon the alloys noted on the specification drawing, the bearing stress on the bolt holes on the largest plate exceeds the allowable stress. Additionally, the beam and column schedule (setting out the maximum lengths and heights which can be achieved with the different sections at given spacing) in the specification drawing allows a builder to select combinations of beams and columns that would be overstressed by factors of from 15 to 90 percent, an improper result. Since builders have a financial incentive to utilize the least expensive size and thickness of structural elements permitted, it is quite possible that the overstressed combinations would be chosen by a builder.

14. The specification details addressing steel reinforcement and concrete strength are also deficient in that the existing foundation's concrete compressive strength is not specified. Absent that detail, the proper cover of steel reinforcing as prescribed by the concrete code is left to the choice of the contractor. Moreover, since the foundation for the Hacker Project would have been placed on existing concrete,

unless the strength of the concrete was known, or unless testing was required, or unless the design value was placed on the documents showing that the design was based upon a certain strength with a requirement that the contractor verify the information, it was not possible to know the capacity of the designated fastener.

15. The specification details for typical footings and bracing are deficient. Respondent did not provide sufficient details indicating how the ends of the braces are connected to the frame or the dimensions or configuration of the plates. The details of how the fasteners are attached to the frame of the structure are not provided, and since the screen specification should be the document the builder relies on to tell him how to put together the elements that are specified in the site-specific drawing, the missing details are material errors.

16. The specification details are deficient in the limitations on the rise and run of the mansards. Since allowable stresses are based on unbraced length, it is important to provide limitations on the length of mansard members. However, the calculations provided with the drawings, with only one or two exceptions, are based upon short members wherein no reduction for unbraced length is taken. Because there is no indication as to what the maximum unbraced lengths are in the specification document, a contractor could run members as long

as desired, which means, potentially, using a member that has less allowable stress than the design contemplated.

17. Additional errors and omissions existed in the calculations Respondent produced for the Hacker Project. The calculations must be consistent with the specifications in order for the information given to the user in the specifications to reflect the engineer's design decisions. First, the calculations were based on a stronger aluminum alloy than was specified in the screen specifications. If a weaker alloy were used, as allowed by the specifications, it would be likely to be overstressed.

18. Next, the calculation of the distribution of the loading to the individual fasteners and the fastener group at the mansard knee connection is not in accordance with accepted elastic bolt group theory. As a result, the fasteners are not designed for the maximum load that will be placed upon them, and the bearing stresses on the holes in the metal from the fasteners exceed allowable stresses.

19. In addition, on the long-span mansard on Respondent's design drawing shown as 37 feet, 4 inches, the length of the bay spaces is inaccurately calculated. With a mansard beam of this type that is uniformly loaded, as prescribed by the code, the torsional force (twisting) is greater at the center of the beam. Respondent calculated the bays based upon 84 inch spacing,

whereas the actual spacing in the largest bay is 108 inches, which means an increased torsion load on that bay which was not calculated by Respondent.

20. Moreover, the fasteners do not all receive the same load. The fasteners on the outside of the group, the ones with the farthest distance from the centroid (the center of gravity of the group), receive the largest portion of the torsional load. In Respondent's calculation, the loading to all the fasteners is averaged, i.e., each fastener gets the same torsional load, which does not comply with accepted engineering theory. The effect of Respondent's calculation decision is that the fasteners are not designed for the maximum load they will receive.

21. In the February 2006 revised documents which Respondent likely created in an attempt to stave off this prosecution and which he provided to Berryman but not to the Palm Beach County Building Department, many of the same errors and omissions appeared as appeared in the documents filed with the County. Additional errors and inconsistencies with the Hacker Project design are found in the February 2006 calculations.

22. Those calculations indicate an allowable tension pull-out for a tapcon anchor at approximately 1,800 pounds per connector. This pull-out value is four to six times as much as

is allowed by the product evaluation of those fasteners. Thus, since the value used by Respondent is erroneous, it is not possible to know what the allowable design capacity of the connection is.

23. In addition, the calculations for the K brace indicated a required bracing member that had wall thickness almost double what the original specification had required. Therefore, the February 2006 calculations indicated that Respondent had concurred that the Hacker Project specification was not adequate as far as the size of the brace.

24. While the February 2006 documents were useful in confirming Respondent's design analysis and the errors and omissions contained therein, the documents filed for public record with the Palm Beach County Building Department stand on their own and must meet acceptable engineering standards. Similarly, the revised documents Respondent provided to Petitioner in July 2007, shortly before the final hearing in this cause, are irrelevant to the determination of whether the documents filed with Palm Beach County in 2005 and the documents provided to Petitioner in February 2006 contained errors and deficiencies.

25. Respondent's 2005 calculations submitted to Palm Beach County call for aluminum alloy 6061-T6 in eleven places on the calculation sheets and aluminum alloy 6063-T6 once on the

calculation sheets and once in the notes on the beam and column schedule. Alloy 6063-T6 would not be adequate for good engineering standards. Although Respondent testified that this was a typographical error, that explanation for the hand-written entries is not convincing in view of the numerous other deficiencies in the Hacker Project documents.

26. Respondent agrees that the Hacker Project documents are product evaluation documents. He also admits that he did not include on those documents the required information regarding the suitability of the use of the drawings by a contractor as opposed to a licensed architect or engineer.

27. Respondent has previously been disciplined twice for providing substandard engineering services and twice for failing to comply with the final orders entered in those cases involving substandard services.

CONCLUSIONS OF LAW

28. The Division of Administrative Hearings has jurisdiction over the subject matter hereof and the parties hereto. §§ 120.569 and 120.57(1), Fla. Stat.

29. Petitioner seeks to take disciplinary action against Respondent in this proceeding. The burden of proof, therefore, is on the Petitioner, and the Petitioner must prove the allegations in its Administrative Complaint by clear and convincing evidence. Dept. of Banking & Finance, Division of

Securities & Investor Protection v. Osborne Stern & Co., 670 So. 2d 932 (Fla. 1996). Petitioner has met its burden.

30. The Administrative Complaint filed in this cause contains two counts. Count One alleges that Respondent has violated Section 471.033(1)(g), Florida Statutes, and Florida Administrative Code Rule 61G15-19.001(4) by engaging in negligence in the practice of engineering by sealing, signing, and dating materially-deficient engineering documents that were issued and filed of public record. Section 471.033(1)(g) authorizes the Board of Professional Engineers to take disciplinary action against a licensee who is negligent in the practice of engineering.

31. Florida Administrative Code Rule 61G15-19.001(4) defines negligence as failing to utilize due care or failing to have due regard for acceptable standards of engineering principles. That Rule further provides that professional engineers shall only approve and seal documents conforming to acceptable engineering standards. Petitioner has proven that Respondent committed negligence as defined by that Rule and, therefore, has violated Section 471.033(1)(g), Florida Statutes, as alleged in Count One of the Administrative Complaint.

32. Count Two alleges that Respondent was negligent in the practice of engineering in violation of that same statutory section and that same Rule as to the February 2006 revised

engineering documents which he sealed, signed, and provided to Berryman but did not file with Palm Beach County. Petitioner has proven as to those documents that Respondent committed negligence as defined by Florida Administrative Code Rule 61G15-19.001(4) and, therefore, has violated Section 471.033(1)(g), Florida Statutes, as alleged in Count Two of the Administrative Complaint.

33. In its Proposed Recommended Order, Petitioner requests that Respondent be ordered to pay the costs related to the investigation and prosecution of this case, other than costs associated with an attorney's time, as provided for in Section 455.227(3), Florida Statutes. Since no evidence was presented as to what those costs might be in order to determine, factually, the reasonable nature of the costs sought by Petitioner, no costs can be awarded in this proceeding.

34. In its Proposed Recommended Order, Petitioner recommends, with no explanation for its recommendation, that Respondent be reprimanded, placed on probation for a period of two years with extensive conditions attendant thereto, and fined \$8,000. The recommended conditions appear to have been copied from a settlement stipulation entered into by some unidentified person. The conditions may or may not be reasonable simply because they may or may not have been agreed to by some other

person. No evidence was offered to suggest that they would be reasonable or applicable in this case.

35. As to the amount of the recommended fine, Section 471.033(3), Florida Statutes, provides for a maximum fine of \$5,000 per count or separate offense. In this case, the Administrative Complaint contains two counts, the first of which concerns the engineering documents filed with the Palm Beach County Building Department. The second count involves Respondent's subsequent attempt to correct those deficient documents by sending a revised set to Petitioner's expert who was reviewing the first set. Although Respondent has been found guilty of two counts, they do not involve separate offenses but two attempts to prepare proper engineering documents involving the same screened pool enclosure.

36. It is appropriate, therefore, that Respondent be fined for one offense. In view of Respondent's disciplinary history, it is further appropriate that he be assessed the maximum fine of \$5,000.

RECOMMENDATION

Based on the foregoing Findings of Fact and Conclusions of Law, it is

RECOMMENDED that a final order be entered finding Respondent guilty of the allegations in the Administrative Complaint filed in this cause, reprimanding Respondent, placing

Respondent's license on probation for two years with appropriate conditions for this case, and imposing an administrative fine against Respondent in the amount of \$5,000.

DONE AND ENTERED this 26th day of September, 2007, in Tallahassee, Leon County, Florida.

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LINDA M. RIGOT
Administrative Law Judge
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Filed with the Clerk of the
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this 26th day of September, 2007.

COPIES FURNISHED:

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NOTICE OF RIGHT TO SUBMIT EXCEPTIONS

All parties have the right to submit written exceptions within 15 days from the date of this Recommended Order. Any exceptions to this Recommended Order should be filed with the agency that will issue the Final Order in this case.