



NATIONAL SOCIETY OF
PROFESSIONAL ENGINEERS

BOARD *of* ETHICAL REVIEW



CASE REVIEW:

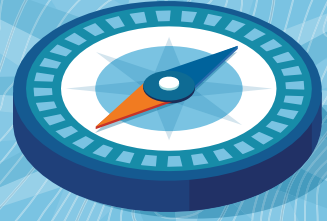
Public Welfare at What Cost?

CASE NO. 21-11
APPROVED MARCH 21, 2022

NSPE.ORG



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PUBLIC WELFARE AT WHAT COST?

CASE NO. 21-11

APPROVED 2/7/22

FACTS:

A consultant recently determined the existing water main in Shadyvale is generally in good condition but extremely old. Further, the water main is no longer large enough for all the properties served. The cost to replace is an unaffordable \$750,000.

The State DOT is planning a highway reconstruction project in Shadyvale. Engineer W is the senior DOT engineer responsible for this project. Engineer W delegates the project to Engineer Intern D, who is about to sit for the PE exam. State DOT policy unambiguously requires that only unavoidable utility conflicts will be paid for as part of highway projects, and that other utility work is to be considered as a betterment that must be paid for by the local municipality. Engineer Intern D initiates the design layout for the Shadyvale DOT project to avoid conflicts with the existing utilities, including separation of a new closed drainage system from the old water main.

During design development review, Engineer W conveys to Engineer Intern D in an indirect way that the design should be revised so that the old water main is

impacted. In that case, the cost to Shadyvale would be only the difference in price between the existing size of the water main and the proposed larger size, rather than the entire water main replacement cost. As a result, Shadyvale would pay an affordable \$50,000 for the water main upgrade, an amount they can afford. Engineer W tells Engineer Intern D, "I'll sign off on it."

QUESTIONS:

1. Would it be ethical for Engineer Intern D to revise the design so that the old water main is impacted by the DOT project?
2. Would it be unethical for Engineer W to sign off on the design where the old water main is impacted by the DOT project?

NSPE CODE OF ETHICS

REFERENCES:

- Section I.3. Engineers, in the fulfillment of their professional duties, shall issue public statements only in an objective and truthful manner.
- Section I.4. Engineers, in the fulfillment of their professional duties, shall act for each employer or client as faithful agents or trustees.
- Section I.5. Engineers, in the fulfillment of their professional duties, shall avoid deceptive acts.
- Section I.6. Engineers, in the fulfillment of their professional duties, shall conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession.

NSPE BER CASE REFERENCES:

[98-5](#), [05-5](#), [86-6](#)

DISCUSSION:

Engineer Intern D's adherence to DOT policy (avoiding the old water main) is in accord with the Canon 3 requirements of objectivity and truthfulness. Engineer W's willingness to overlook DOT policy is inconsistent with Canon 4, the engineer's obligation to act as faithful agent or trustee of one's employer and with Canon 5, to avoid deception, which, of course, challenges Canon 6, protecting the honor, reputation, and usefulness of the profession.

Of course, situations like this have happened before. In BER Case [98-5](#), Engineer Charlie served as director

of a building department in a major city where, as a result of a series of budget cutbacks and more rigid code enforcement requirements, he became concerned that his staff would be unable to perform adequate and timely building inspections. Engineer Charlie met with the chairman of the local city council to discuss his concerns. The chairman indicated that he would be willing to issue an order to permit the hiring of additional code officials for the building department. However, the chairman sought Engineer Charlie's concurrence on a city ordinance that would permit certain specified buildings under construction to be "grandfathered" under the older existing enforcement requirements and not the newer, more rigid requirements now in effect. Engineer Charlie agreed.

The Board acknowledged that Engineer Charlie might interpret the situation as one involving "trade-offs" in which one must weigh one "public good" (a better building inspection process) against a competing or concurrent "public good" (a consistent code enforcement process). In such a situation, the engineer could arguably rationalize a decision to compromise, something frequently done in the political arena. However, the Board rejected the logic of compromise for BER Case [98-5](#), concluding that Engineer Charlie had a responsibility to make it plain and clear to the chairman that "righting a wrong with another wrong," increases risk of grave damage to the public health and safety. As regards the present case, clearly the situation with the State DOT and Shadyvale is a political one, but the ethical value directly at risk is not the public safety, health and welfare, but rather, the truth.

The Board consistently upholds objectivity and truthfulness as a core ethical value of the engineering profession. BER Case [05-5](#) relates how Engineer Adam, while acting as the chief negotiator in the sale of a small engineering subsidiary to Engineer Baker, want-

ed to move the negotiations forward to finalize the deal, but Engineer Baker was stalling. Engineer Mary had expressed some initial interest in buying the subsidiary, but after further consideration, Engineer Mary decided she was definitely not interested in purchasing the subsidiary. In an effort to move the negotiations off “dead center,” and referring to Engineer Mary’s earlier interest, Engineer Adam told Engineer Baker, “Another company has expressed an interest in buying our subsidiary, so you had better move quickly if you are interested.”

In deciding that Engineer Adam’s negotiation approach merited the Board’s rebuke, the Board found Engineer Adam’s words “artfully misleading” or, in the words of prior BER Case [86-6](#), “intentionally designed to mislead... by obscuring the truth.” Had Engineer Adam disclosed the full circumstances relating to his conversation with Engineer Mary, the Board’s conclusion for Engineer Adam would have been different. “This Board strongly believes that honesty and truthfulness are hallmark qualities of a practicing engineer.”

Whereas BER Case [05-5](#) identifies Engineer Adam seeking his own interests, for this present case, it is appropriate to ask, “Whose interests is the engineer (Engineer W) serving? Is it the interests of the travelling public? Or is it the residents of Shadyvale interest in their water system? Or perhaps it is the engineer’s own interests?”

In the present case, clearly Engineer W is a DOT engineer and does not have a contractual relationship with Shadyvale. However, Engineer W’s direction to Engineer Intern D has placed the interests of Shadyvale above the interests of the DOT in violation of the clear policy of the DOT. If Engineer Intern D decides to cooperate with Engineer W, it is likely that no one else would ever know that \$700,000 of DOT money had

been diverted for the benefit of Shadyvale. All four of Canons 3, 4, 5, and 6 have been attacked.

The facts of the present case do not indicate Engineer W will personally profit by helping the residents of Shadyvale upgrade their water main. If anything, the facts imply both practical awareness of project efficiencies and a strongly altruistic motivation to do all the good he can do. However, benevolent motives do not make unethical conduct ethical.

In the present case, the Board is not concerned about Engineer W’s competence, his intention, or his motivation; these appear meritorious and praiseworthy. While Engineer W’s direct solution in Shadyvale may well be efficient and optimal, helping the residents of Shadyvale cannot be accomplished at the expense of the truth. The matter is particularly poignant when it is realized how formational the lesson will be to Engineer Intern D, a young engineer about to begin a professional career. Is secretly diverting \$700,000 of state DOT funds to benefit an impoverished village the best version of how projects are done? No.

Were Engineer W willing to try an open and transparent way, an ethical way, to help the residents of Shadyvale, this Board would offer our support, not our censure. Better approaches are available. For example, Engineer W could request a joint meeting to discuss the situation. Or Engineer W could run this up the chain of command with the State DOT. Perhaps Shadyvale could be allowed to benefit from construction activities the DOT was already undertaking. Perhaps that efficiency would sufficiently decrease the scope of Shadyvale’s work to make it affordable. Perhaps the DOT could assist Shadyvale with grant applications so that Shadyvale would be prepared to take advantage of the on-going DOT work. However, secretly diverting \$700,000 of state DOT funds is not an ethical solution.

CONCLUSIONS:

1. It would not be ethical for Engineer Intern D to accede to Engineer W's veiled directive to revise the design so that the old water main is impacted by the DOT project.
2. It would not be ethical for Engineer W to sign off on a design altered so that the old water main is impacted by the DOT project. Engineer W would not be acting as a faithful agent of the DOT.

conformance of individuals to the Code. The NSPE Code deals with professional services, which must be performed by real persons. Real persons in turn establish and implement policies within business structures.

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