SUPPORTING STATEMENT FOR THE INFORMATION COLLECTION REQUIREMENTS OF THE STANDARD ON EXCAVATIONS (DESIGN OF CAVE-IN PROTECTION SYSTEMS) (29 CFR PART 1926, SUBPART P)[1] OFFICE OF MANAGEMENT AND BUDGET (OMB) CONTROL NUMBER 1218-0137 (February 2018)

A. JUSTIFICATION

1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.

Congress declared the purpose of the Occupational Safety and Health Act (OSH Act) was to "assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources" (29 U.S.C. 651). The OSH Act listed numerous ways of attaining its goals. One was "[to authorize] the Secretary of Labor ["Secretary"] to set mandatory occupational safety and health standards …" and another was "[to provide] for the development and promulgation of [the] standards" (29 U.S.C. 651). In addition, the OSH Act specifies that "The Secretary may by rule promulgate, modify, or revoke any occupational safety or health standard…" (29 U.S.C. 655) and that "[e]ach employer shall make, keep and preserve, and make available to the Secretary ... such records ... as the Secretary ... may prescribe by regulation as necessary or appropriate for the enforcement of this Act ...." (29 U.S.C. 657).

Under the authority granted by the OSH Act, the Department of Labor's Occupational Safety and Health Administration ("OSHA" or "the Agency") published 29 CFR part 1926, subpart P (Excavations). Among its many sections, subpart P at §1926.651(b)(2) requires that, before digging, contractors request utility companies or owners to establish the location of underground utilities on the contractors' jobsites. Additionally, the standard requires that "[each] worker in an excavation [must] be protected from cave-ins by an adequate protective system […]" (§1926.652(a)). Section 1926.652 contains several additional sections that describe protective systems. Sections 1926.652(b), (c), and (d), *Design of sloping and benching systems*, *Design of supports systems, shield systems, and other protective systems*, and *Materials and equipment*, respectively, provide methods for protecting workers as required in §1926.652(a). Some of the methods contain paperwork requirements that impose burden hour costs on employers as specified by the Paperwork Reduction Act of 1995 (PRA).

[1]The purpose of this Supporting Statement is to analyze and describe the burden hours and costs associated with provisions of this Standard that contain paperwork requirements; this Supporting Statement does not provide information or guidance on how to comply with, or how to enforce, the Standard.

2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.

Subpart P of 29 CFR part 1926 is comprised of §1926.650-.652 and appendices A-F. Section 1926.650 provides the scope, application and definitions applicable to the subpart. Section 1926.651 sets specific excavation requirements and §1926.652 provides requirements and options for using various protective systems. The appendices include: Soil Classification-(A); Sloping and Benching-(B); Timber Shoring for Trenches-(C); Aluminum Hydraulic Shoring for Trenches-(D); Alternatives to Timber Shoring-(E); and Selection of Protective Systems [a decision tree]-(F). Depending on the protective system option chosen by a contractor, some appended language becomes mandatory. Nevertheless, the temporarily mandatory language does not increase paperwork burden hours or costs because the standard language and appendices provides specifications needed to comply with the chosen option.

Section 1926.651(b)(2)[2] requires what is and has been a usual and customary practice or required by local codes for decades. For many decades, before any excavation begins, contractors have contacted local "One-Call Centers," utilities, or owners to request that underground utility installation locations be marked on the surface of their worksite(s).

Section 1926.652(a)(1) generates no paperwork burden but requires that "[e]ach worker in an excavation shall be protected from cave-ins … in accordance with paragraph (b) or (c) of this section…" Sections 1926.652 (b) and (c) of the Standard provide options for employers which assists them to choose amongst required protective systems. Depending on jobsite conditions, employers must choose how to and must protect their workers from cave-ins during the excavation work. Protective systems include sloping the sides of an excavation, benching the soil away from the bottom of an excavation, or using a support system (like shoring), a shield system (like a trench box), or other protective systems. Section 1926.652(d) requires that a registered professional engineer, under certain circumstances, must approve damaged and repaired protective system components for return to service.

More specifically, §1926.652(b) specifies allowable criteria for sloping and benching protective systems in excavations. The section provides contractors with four sloping or benching options for protecting workers. Sections 1926.652(b)(1) and (2), Options 1 and 2, rely on soil classification in Appendix A and sloping/benching in Appendix B to protect workers in excavations that are 20 feet or less deep. Options 1 and 2 generate no burden hours and cost since the necessary compliance information is included in the Standard and appendices. Also it is worth noting that there is no express requirement that options 1 and 2 be written, be maintained or be made available to the Secretary. Section 1926.652 (b) (3), Option 3, allows benching/sloping systems "…using other tabulated data…." and §1926.652(b)(4), Option 4,

[2]Paragraph (b)(2) of §1926.651 ("Specific Excavation Requirements") requires that "[u]tility companies or owners shall be contacted within established or customary local response times, advised of the proposed work, and asked to establish the location of the utility underground installations prior to the start of actual excavation…" Across the country excavation contractors are required to follow these steps by local custom or One-Call System call before you dig programs. The Agency considers this a long standing usual and customary business practice and, therefore, does not take burden for this provision under the PRA (see 5 CFR 1320.3(b)(2)).

allows systems based on written designs with registered professional engineer approval. These last two options require a written form, document maintenance, and document retrieval for the Secretary. (§§1926.652(b)(3)(ii) and (iii) as well as (b)(4)(ii) and (iii)).

Section 1926.652(c) specifies allowable criteria for excavation "support systems, shield systems and other protective systems". This section also provides four options and references the appendices for information that assists excavation contractors to select suitable systems for their projects. Option 1, §1926.652(c)(1), requires"[d]esign for timber shoring in trenches [to] be determined [according to appendices A, C, and D]. Option 2 in §1926.652(c)(2)(iii) requires that "[m]anufacturer's specifications, recommendations, and limitations, and manufacturer's approval to deviate from [them] shall be in written form." Option 3, §1926.652(c)(3), allows the use of support, shield, or other protective systems based on "[…] other tabulated data." Option 4, §1926.652(c)(4), Option 4, allows the use of such systems based on written designs with registered professional engineer approval. These three options create burden hours and costs for being written, maintained, and retrieved. "At least one copy of each is to be stored on site during excavation and off site after for retrieval pursuant to the Secretary's request" (§§1926.652(c)(2)(iii), (c)(3)(iii), and (c)(4)(iii)).

Section 1926.652(d)(3) requires that in certain circumstances damaged material or equipment used for protective systems must be "…removed from service, and [must] be evaluated and approved by a registered professional engineer before being returned to service." There is no express requirement that the approval be written, maintained, or retrieved for the Secretary, but usually and customarily, the engineer will certify approval in writing. To be conservative, the Agency will take a small burden hour charge for requiring the approval.

While each excavation project is unique, most employers/contractors can use either Option 1 or 2 from §§1926.652(b) or (c) to design and use protective systems without deviating from manufacturers' specifications, recommendations, and limitations. Option 2, paragraph (iii) of §1926.652(c)(2), as well as Options 3 and 4 of both, sections 1926.652(b) and (c), affect the small percentage of construction sites that may have unique situations requiring protective system use that generates paperwork burdens. The circumstances include the project size, its configuration, its location and its environment (weather, vibration, water, previous use, etc., for example).

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also, describe any consideration of using information technology to reduce burdens.

Employers may use improved information technology to establish and maintain the required records. The Agency wrote the paperwork requirements of the Standard in performance-oriented language, i.e., in terms of what data to collect, not how to record the data.

4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use of the purpose described in item A.2. above.

The information collection requirements in the Standard are specific to each employer involved, and no other source or agency duplicates these requirements or can make the required information available to OSHA (i.e., the required information is available only from employers).

5. If the collection of information impacts small businesses or other small entities, describe any methods used to reduce the burden.

The information collection requirements specified by the Standard do not have a significant impact on a substantial number of small entities.

6. Describe the consequence to federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.

Employers need to comply with each paperwork requirement specified by the Standard only once for each protective system constructed at a jobsite. Any reduction in frequency would eliminate the requirements entirely; thereby, jeopardizing the safety of workers who rely on properly constructed protective systems to prevent cave-ins during excavation work. The requirement also allows employers and OSHA compliance officers to assess if the selection and design of a protection system are appropriate to the excavation work.

7. Explain any special circumstances that would cause an information collection to be conducted in a manner:

- **requiring respondents to report information to the agency more often than quarterly;**
- **requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;**
- **requiring respondents to submit more than an original and two copies of any document;**
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- **requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records for more than three years;**
- **in connection with a statistical survey that is not designed to produce valid and reliable results that can be generalized to the universe of study;**
- **requiring the use of a statistical data classification that has not been reviewed and approved by OMB;**

- **that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or**

- **requiring respondents to submit proprietary trade secret, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.**

No special circumstances exist that require employers to collect information in the manner or using the procedures specified by this item.

8. If applicable, provide a copy and identify the data and page number of publication in the Federal Register of the agency's notice, required by 5 CFR 1320.8(d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments receive in response to that notice and describe actions taken by the Agency in response to these comments received on cost and hour burden.

Describe efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported. Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every 3 years – even if the collection of information activity is the same as in prior periods. There may be circumstances that may preclude consultation in specific situation. These circumstances should be explained.

Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every 3 years, even if the collection-of-information activity is the same as in prior periods. There may be circumstances that may preclude consultation in a specific situation. These circumstances should be explained.

As required by the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 506(c)(2)(A)), OSHA published a notice in the Federal Register on December 12, 2017 (82 FR 58450) soliciting comments on its proposal to extend the Office of Management Budget's (OMB) approval of the information collection requirements specified in the Standard on Excavations (Design of Cave-in Protection Systems) (29 CFR part 1926, subpart P). This notice was part of a preclearance consultation program that provided the general public and government agencies with an opportunity to comment. The Agency did not receive any comments in response to its notice.

9. Explain any decision to provide any payment of gift to respondents, other than remuneration of contractors or grantees.

The Agency will not provide payments or gifts to the respondents.

10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy.

The paperwork requirements specified by the Standard do not involve confidential information.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reasons why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons form whom the information is requested, and any steps to be taken to obtain their consent.

The paperwork requirements specified by the Standard do not involve sensitive information.

12. Provide estimates of the hour burden of the collection of information. The statement should:

· **Show the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated. Unless directed to do so, agencies should not conduct special surveys to obtain information on which to base hour burden estimates. Consultation with a sample (fewer than 10) of potential respondents is desirable. If the hour burden on respondents is expected to vary widely because of differences in activity, size, or complexity, show the range of estimated hour burdens, and explain the reasons for the variance. General estimates should not include burden hours for customary and usual business practices.**

· **If this request for approval covers more than one form, provide separate hour burdens estimates for each form and aggregate the hour burden.**

· **Provide estimates of annualized cost to respondents for the hour burdens for collections of information, identifying and using appropriate wage rate categories. The cost of contracting out or paying outside parties for information collection activities should not be included here. Instead, this cost should be included in Item 14.**

Respondent Burden Hour and Cost Burden Determinations

In the previous supporting statement issued in October 2014, the Agency began its burden hour analysis with the following estimates of the total number of construction sites in 2013 from the "Dodge Construction Potentials Bulletin":

--645,975 Residential Construction Sites
--115,898 Non-Residential Sites
--761,873 TOTAL CONSTRUCTION SITES

The Agency then described a methodology for taking this 2013 estimate of total construction sites and computing an estimate for total burden hours based on (1) data from construction trenching fatality investigations and (2) assumptions about burden hour requests based on the mix of residential versus non-residential construction sites.

For this revised burden statement, the Agency is using this same methodology updated with construction site estimates for 2014 through 2016. The Agency is also assuming that the relative mix of construction types (residential versus non-residential) has not changed appreciably in the last 3 years. The updated construction site estimate are as follows:

--**Total Construction sites for 2014**: **830,442** (based on a 9% increase in total reported construction starts for 2014 reported in the Dodge Outlook Report press release, October 30, 2015)

--**Total Construction sites for 2015: 921,791** (based on an 11% increase in total reported construction starts for 2015 reported in the Dodge Data & Analytics press release, June 24, 2017)

--**Total Construction sites for 2016: 931,009** (based on a 1% increase in total reported construction starts for 2016 reported in the Dodge Data & Analytics press release, June 24, 2017)

The above growth in the total number of construction sites from 2014 through 2016 represents an overall increase in construction sites of 21% over the 2013 construction site estimate. Therefore, using the same burden hour methodology as was used in the previous supporting statement, the Agency estimates that the total burden hours has also increased by 21% to **14,796** burden hours (6,114 sites requiring 2 hours of paperwork burden each, times 0.21).

The Agency determined the wage rate from mean hourly wage earnings to represent the cost of employee time. For the relevant standard occupational classification category, OSHA used the wage rates reported in the Bureau of Labor Statistics, U.S. Department of Labor, Occupational Employment Statistics (OES), May 2016 [date accessed: September 5, 2017]. (OES data is available at *https://www.bls.gov/oes/tables.htm*. To access a wage rate, select the year, "Occupation profiles," and the Standard Occupational Classification (SOC) code.)

To account for fringe benefits, the Agency used the Bureau of Labor Statistics' (BLS) *Occupational Employment Statistics (OES) (2017)*. Fringe markup is form the following BLS release: *Employer Costs for Employee Compensation* news release text; For release 10:00 AM (EDT), June 9, 2017 (*https://www.bls.gov/news.release/pdf/ecec.pdf*). BLS reported that for civilian workers, fringe benefits accounted for 31.7 percent of total compensation and wages accounted for the remaining 68.3 percent. To calculate the loaded hourly wage for each occupation, the Agency divided the mean hourly wage by 68.3 percent.

Table 1 – Estimated Wage Rates for Burden Hours and Cost

WAGE HOUR ESTIMATES[3]				
Occupational Title	**Standard Occupation Code**	**Mean Hour Wage Rate**	**Wage Percent**	**Loaded hourly Wage Rate**
Civil Engineer/Professional Engineer	17-2051	$43.14	.683	$63.16
Non-supervisory construction worker/laborer	47-2061	$18.22	.683	$26.68

Non-Residential Burden and Wage Hour Costs

Based on staff familiarity with construction and conversations with knowledgeable industry representatives, OSHA estimated above that 8,152 sites would be required to create, store and retrieve paperwork under §§1926.652(b)(3) and (b)(4) as well as under §§1926.652(c)(2)(iii), (c)(3), and (c)(4). The Agency estimates that for 1.284 of the 24,538, sites, an in-house registered professional engineer, earning $63.16 per hour, on average takes 2 hours to create, modify (deviate from manufacturers' specifications), or to approve the required protective system designs or materials.

Professional/Civil Engineer $43.14/.683 = $63.16

Source: https://www.bls.gov/oes/current/oes172051.htm

The number of project sites equals 7,398 which is 6,114 + (6,114 sites x 0.21)

Burden hours: 7,398 projects/sites x 2 hours per design = 14,796 hours
Costs: 14,796 hours x $63.16 hourly cost = $934,515

Also the Agency estimates that, on average, it would take a non-supervisory construction worker/laborer, earning $26.68 per hour, 15 minutes on average to maintain, retrieve or remotely retrieve the required written designs**.**

Non-supervisory construction worker/laborer $18.22/.683 = $26.68
https://www.bls.gov/oes/current/oes47061.htm

The number of project sites equals 9,864 which is 8,152 + (8,152 sites x 0.21)

Burden hours: 9,864 projects/sites x 15/60 hour = 2,466
Costs: 2,466 hours x $26.68 hourly cost = $65,793

[3] Source: *Employer Costs for Employee Compensation, Supplementary Table 2.* U.S. Department of Labor, Bureau of Labor Statistics, May 2016

Therefore, the annual burden hours and cost of this paperwork requirement are:

Total burden hours: 14,796 + 2,466 hours = 17,262
Total burden cost: $934,515 + 65,793 = $1,000,308

Table: 2 Estimated Annualized Respondent Burden Hours and Cost

Information Collection Requirement	Number of Respondents	Frequency per respondents	Total Response	Time per response	Burden Hours	Wage Rate	Costs
	a	b	*C = a x b*	*d*	*e = c x d*	*f*	*g = e x f*
Professional/ Civil Engineer	6,114	1.21000981	7,398	2 hours	14,796	$63.16	$934,515
Non-supervisory construction worker/laborer	6,114	1.61334642	9,864	0.25 hour	2,466	$26.67	$65,793
TOTAL	**8,382**		**17,262**		**17,262**		**1,000,308**

13. Provide an estimate of the total annual cost burden to respondents or recordkeepers resulting from the collection of information. (Do not include the cost of any hour burden shown in Items 12 and 14).

- **The cost estimate should be split into two components: (a) a total capital and start-up cost component (annualized over its expected useful life); and (b) a total operation and maintenance and purchase of service component. The estimates should take into account costs associated with generating, maintaining, and disclosing or providing the information. Include descriptions of methods used to estimate major cost factors including system and technology acquisition, expected useful life of capital equipment, the discount rate(s), and the time period over which costs will be incurred. Capital and start-up costs include, among other items, preparations for collecting information such as purchasing computers and software; monitoring, sampling, drilling and testing equipment; and record storage facilities.**

- **If cost estimates are expected to vary widely, agencies should present ranges of cost burdens and explain the reasons for the variance. The cost of purchasing or contracting out information collection services should be a part of this cost burden estimate. In developing cost burden estimates, agencies may consult with a sample of respondent (fewer than 10), utilize the 60-day pre-OMB submission public comment process and use existing economic or regulatory impact analysis associated with the rulemaking containing the information collection, as appropriate**.

- **Generally, estimates should not include purchases of equipment or services, or portions thereof, made: (1) prior to October 1, 1995, (2) to achieve regulatory compliance with requirements not associated with the information collection, (3) for reasons other than to provide information or keep records for the government, or (4) as part of customary and usual business or private practices.**

OSHA believes that one quarter (i.e., 2,466) of the 9,864 apartment and non-residential construction sites would require the use of outside contracted engineering services for the required protective system design, approval, etc. The hourly wage rate cost to employers for these engineering services is $63.16. In addition, the Agency estimates that the engineer will require 2 hours on average for this service. Therefore, the annual cost to employers for these engineering services at is:

Cost: 2,466 construction starts x 2 hours to develop each design x $63.16= $311,505

14. Provide estimates of annualized cost to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information. Agencies also may aggregate cost estimates from Item 12, 13, and 14, in a single table.

There is no cost to the Federal Government

15. Explain the reasons for any program changes or adjustments.

An increase in the number of construction from 761,873 to 931,009-projects/sites has resulted in an adjustment increase in burden hours from 14,266 to 17,262 a total increase of 2,996 burden hours. OSHA increased the number of apartment and non-residential construction sites that would use outside contractor engineering services for the required protective system design, approval from 2,038 to 2,466. There was also an increase in overall cost from $216,721 to $311,505, a difference of $94,784.

16. For collections of information whose results will be published, outline plans for tabulation, and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions.

The Agency will not publish the information collected under this standard.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be inappropriate.

OSHA lists current valid control numbers in §§1910.8, 1915.8, 1917.4, 1918.4, and 1926.5 and

publishes the expiration date in the Federal Register notice announcing OMB approval of the Information collection requirement (see 5 CFR 1320.3(f)(3). OSHA believes that this is the most appropriate and accurate mechanism to inform interested parties of these expiration dates.

18. Explain each exception to the certification statement.

The Agency is not seeking an exception to the certification statement.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS.

There are no collections of information employing statistical methods.