

AMENDED SITE DEVELOPMENT PLAN PETITION REVIEW REPORT

Petition Number: Z 20-02

Petitioner: Gerald Bedrin
65 Harristown Rd, Ste. 301
Glen Rock, NJ 07452

Agent: Matt Miller
TR,i Architects
9812 Manchester Rd
St. Louis, MO 63119

Project Name: Edge Fitness Site Plan Review

Requested Action: Special Use Exception for
Rear Addition Approval

Public Hearing Date: April 6, 2020

Code Section: Ordinance 00-30, Appendix A, Article IX,
Article XIV

Location: 14850 Manchester Rd

Existing Land Use/Zoning: Commercial/ C-1

Surrounding Land Use/Zoning: North – Commercial/ C-1
South - Residential/ R-1
West - Commercial/ C-1
East - Commercial/ C-1

Plan Designation: Commercial/Fitness

Project Description:

TR,i Architects is requesting that Ballwin approve an amended site development plan for Olde Town Plaza to include a 4,480 square foot addition to the rear of 14850 Manchester Rd.

Zoning Ordinance Requirements Appendix A, Article IX (Commercial/ C-1 District):

- Article IX, Section 1 is a general introductory statement and imposes no design or plan requirements so it is not germane to this review.
- Art. IX, Sec. 2 establishes uses allowed by right in the C-1 district. The use contemplated in this petition is allowed per Section 2 (8): Gym, exercise, fitness, dance and martial arts and similar facilities, both public and private, offering facilities, equipment and classes for exercise, training, skill enhancement, fitness, weight loss, and similar uses.
- Art. IX, Sec. 3 establishes a height limitation of 45'. The proposal at hand deals with an addition to the rear of the building, and does not affect the height of the building as it was initially approved.
- Art. IX, Sec. 4 (1) establishes a front yard depth of not less than 40', except for: Art. XI, Sec. 4 (1) (iii) Land lying along Manchester Rd, along which a front yard is required to have a depth of 20' with no parking to be allowed.
- Art. IX, Sec. 4 (2) establishes no requirement for a side yard, so long as the location does not adjoin with a dwelling, dwelling district, or any public activity district. The location of the proposed Panera restaurant complies with this requirement, and thus, no side yard is required.
- Art. IX, Sec. 4 (3) establishes a rear yard depth of not less than 25'. Even with the addendum allowed in Article XI, Sec. 4 (3) (iii), which states, "If a parcel contains physical building improvements existing prior to April 10, 2000 that are proposed to be reused and retained in conjunction with a redevelopment, a building expansion, site improvements, an amendment to an existing special use exception, and/or an application for a new special use exception, and there is insufficient room to provide the 25-foot landscaped rear yard required in subsection 3(i) above, then the screening provisions of subsection 3(ii) above shall apply.", subsection 3(ii) states that the rear yard need not exceed 20% of the depth, and that a site-proof fence may be substituted for the vegetation screening. **This location is part of the Olde Towne Plaza, which has been provided a massive boulder retaining wall along its eastern, western, and southern sides. This retaining wall provides the screening provisions as stated in Art. XI, Sec. 4 (3) (iii). The stability of the retaining wall was reviewed by the engineering firm that constructed it. A full analysis was requested to be submitted prior to any Commission meeting being held to ensure viability of the request.**

- Art. IX, Sec. 4 (4) refers to improvement of a C-1-zoned parcel with single-family dwellings, and is not pertinent to this evaluation.
- Art. IX, Sec. 5 (1) refers to off street parking and loading spaces, requiring that it comply with Article XV. The site development plan for Olde Towne Center was in full compliance with the minimum parking requirements of the zoning regulations when it was built. There has been no change to the parking requirements since that time. There is no specific parking requirement for this use in Ballwin's zoning ordinance, but the plaza was originally allocated the ratio of 1 space per 200 sq. ft. of gross floor area. By this rate, approximately 168 spaces in this parking lot are allocated to this 33,500 sq. ft. store. The proposal would add an additional 4,480 sq. ft, bringing the new square footage to 37,980. $(1/200) * 37,980 = 189.9$, or **190 spaces rounded up**. **A review by Ballwin's Building Commissioner, Michael Roberts, of similar parking requirements from the American Planning Association's 2002 Parking Standards Report showed a range of parking requirement from a maximum of 1 space/100 sq. ft. of recreation area (not the same as gross floor area) to a minimum of 1 space/1000 sq. ft. of gross floor area. Requirements in the 1 space/200 sq. ft. of gross floor area to 1 space /500 sq. ft. of gross floor area were commonly required. Olde Towne Plaza was designed on the high end of parking spaces to accommodate high volume retail sale events. High traffic volumes due to events such as holiday-based shopping could warrant the extra parking being required. However, the plaza is currently home to businesses not likely to experience the busy periods. As such, it is my recommendation that this requirement be loosened, as this suggests that the original 168 spaces allocated to this location should be considered reasonable for the intended use of fitness.**
- Art. IX, Sec. 5 (2) refers to parking for shopping centers, plazas and office complexes with two or more tenants, and is not pertinent to this evaluation.
- Art. IX, Sec. 6 is not applicable to this petition because no change to the Manchester Road curb cut is proposed by the petitioner.
- Art. IX, Sec. 7 (1) requires that the minimum spacing of curb cuts is to be 500' between centerlines. This plaza is compliant with this requirement.
- Art. IX, Sec 7 (2) requires the construction of a 6' wide sidewalk along Manchester Road. This sidewalk was constructed when the plaza was initially built in 2000.
- Art. IX, Sec. 7 (3) requires that commercial parking lots be interconnected or that a cross access, driveway/parking lot vehicular interconnection easement" be established to the benefit of Ballwin to allow a future parking lot interconnection with adjoining properties, As the plaza occupies an entire city block, there is no property to interconnect, and this requirement does not apply.

Zoning Ordinance Requirements/SUE Regulations
Appendix A, Article XIV

- Article XIV, Section 2 (1) refers to minimum yard requirements, which appear to have been met by this proposal.
- Art. XIV, Sec. 2 (2) refers to site illumination. The submitted site development plan shows no changes to the existing site illumination plan which was initially approved as part of the original site development plan in 2000.
- Art. XIV, Sec. 2 (3) refers to greenery and planting. No change to the existing approved landscaping is proposed.
- Art. XIV, Sec. 2 (4) refers to fencing. No change to the fencing on the site is proposed.
- Art. XIV, Sec. 2 (5) refers to parking. Parking was discussed earlier in this report under Art. IX, Sec. 5 (1). It is unlikely that the proposed use will require more than the currently provided 168 spaces.
- Art. XIV, Sec. 2 (6) refers to pavement. No changes to any pavement is proposed as a part of this petition.
- Art. XIV, Sec. 2 (7) refers to storm water runoff control. No changes to the impervious nature of the site or the existing storm water collection and detention systems is proposed as a part of this petition.
- Art. XIV, Sec. 2 (8) refers to loading docks and facilities. No dedicated loading spaces are necessary for this use.
- Art. XIV, Sec. 2 (9) refers to ingress and egress at the site. No. proposed changes to the site's existing curb cuts are proposed by the petitioner.
- Art. XIV, Sec. 2 (10) refers to adequate area for the use. The amended site development plan provides evidence that it has sufficient parking to meet the needs propagated by the use proposed for the site.
- Art. XIV, Sec. 2 (11) refers to dead storage, dismantling, and the repair of automobiles. This is not an issue, given the proposed use, and Ballwin has regulations in place to address this problem should it occur.
- Art. XIV, Sec. 2 (12) refers to rubbish and trash disposal and screening. The use proposed does not appear to be one that would generate substantial trash. There is an existing dumpster location in the rear of the building.

Staff Recommendation:

Staff has received the analysis on stability for the rear boulder retaining wall from SCI Engineering, and are satisfied that the retaining wall is not compromised and that neither the students nor any passing motorists behind Olde Towne Plaza are in danger from the potential of any collapsing structure, boulders, or landslides due to the increased compression resultant of the added tonnage from the 4,480 square foot rear addition.

Shawn Edghill
Planning Technician



February 13, 2020

Matt Miller
TR, i Architects
9812 Manchester Road
St. Louis, MO 63119

Dear Mr. Swingle,

The review of your submitted site plans for 14850 Manchester Road has been completed and has preliminary approval. Electronic plans on file. An online application and a \$100.00 permit fee will be required before a permit can be issued.

- No additional comments

Failure to identify a code violation during this plan review process does not give the applicant the right, nor the authority, to violate any code. Construction and installation shall comply with all applicable code requirements.

A copy of this letter must remain affixed to the permit card upon issue. A copy of the Metro West approved plans must stay on the construction site.

Please feel free to contact me if you have any questions or need further information.

Sincerely,

A handwritten signature in black ink that reads "J. Rodney Cook". The signature is written in a cursive, flowing style.

J. Rodney Cook
Deputy Chief / Fire Marshal
636.821.5806



SCI ENGINEERING, INC.

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NATURAL RESOURCES
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CONSTRUCTION SERVICES

March 20, 2020

Mr. Gerald Bedrin
The Bedrin Organization
65 Harristown Road, Suite 301
Glen Rock, New Jersey 07452

RE: Global Stability Analysis
Edge Fitness – Olde Towne Plaza
Ballwin, Missouri
SCI No. 2000-0140.1A, Task 300

Dear Mr. Bedrin:

At your request, SCI Engineering, Inc. (SCI) performed a Global Stability Analysis of the existing retaining wall for the above-referenced project, with respect to the planned building addition above the wall. This letter summarizes the results of our Global Stability Analysis, and associated recommendations.

PROJECT DESCRIPTION

A building addition is planned for the southern exterior wall of the Edge Fitness building located at 14850 Manchester Road in Ballwin, Missouri. The site currently consists of a paved parking lot and driving lanes above a three-tier boulder wall. The current site conditions are shown on the *Aerial Photograph*, Figure 1.

Based on the information provided, the addition will be a single-story, slab-on-grade structure with a footprint of approximately 4,480 square feet. The rear of the addition will be located approximately 37 feet from the existing three-tier boulder wall, which has a height of approximately 31 feet. The proposed construction is shown on the *Site Plan*, Figure 2.

SCI previously provided a geotechnical exploration, boulder wall design, and construction observation for the Olde Towne Plaza development, including the existing boulder wall in 2000 and 2001. The area of the retaining wall and existing buildings was filled with predominantly shot rock fill during grading.

STABILITY ANALYSES

A Global Stability Analysis was performed at the apparent critical cross-section of the retaining wall (Cross-Section A-A). The global stability analysis was conducted using Limit Equilibrium Slope Stability Methods and the commercially available software program Slide 2018 developed by Rocscience, Inc. In our analysis, a Morgenstern-Price analysis was used to search for a circular failure to calculate the critical factors of safety (FS) for the cross-section analyzed. Long-term soil parameters were developed from the soils encountered within our previous borings, documented observations during construction, as well as our experience with similar soils in the area. The soil parameters used in our analysis are summarized in Table 1, below.

Table 1 – Long-Term Soil Strength Parameters

Soil Type	Unit Weight (pcf)	Cohesion (psf)	Phi (degrees)
Lean Clay (CL)	125	100	26
Fat Clay (CH)	120	100	22
Existing Fill (CL)	125	100	26
Shot Rock Fill	140	0	42
Limestone	150	10,000	45

pcf - pounds per cubic foot
psf - pounds per square foot

The modeled configurations were based on the *Site Section* prepared by TR,i Architects, dated February 14, 2020, and the *Site Development Plan* prepared by Grimes Consulting, Inc., dated February 28, 2020. Surcharge loads of 250, 150, and 2,000 psf were modeled for the parking lot/driving lanes, building floor loads, and foundation loads, respectively. It was assumed that the long-term stability condition would be the most critical condition and, was therefore, the only one analyzed at this time. The *Global Stability Outputs* are enclosed.

Under long-term conditions, a minimum FS of 1.3 is typically required if the failure arc does not intersect a structure, or 1.5 if the failure arc intersects a permanent structure. A minimum FS of 1.5 was used our analysis. The results of our analyses indicates a sufficient FS for Cross-Section A-A as summarized in Table 2. **As such, the global stability of the existing wall remains sufficient with the additional loads from the proposed construction.**

Table 2 – Global Stability Results - Proposed Configurations

Global Stability Cross-Section	Configuration	Factors of Safety		Acceptable Factor of Safety (Yes/No)	Figure Designation
		Required	Calculated		
A-A	Existing	1.5	1.7	Yes	Figure 3
	Proposed	1.5	1.7	yes	Figure 4

It should be noted, that any change or modification from the provided layout or configuration may require further analyses by SCI.

LIMITATIONS

The recommendations provided herein are for the exclusive use of The Bedrin Organization. It is imperative that SCI be contacted by any third-party interests to evaluate the applicability of this letter relative to use by anyone other than The Bedrin Organization. Our recommendations are specific only to the project described and are not meant to supersede more stringent requirements of local ordinances. They are based on available subsurface information obtained from our geotechnical exploration, boulder wall design, and construction observation for the existing boulder wall in 2000 and 2001; our understanding of the project; and geotechnical engineering practice consistent with the standard of care. No other warranty is expressed or implied. SCI should be contacted if conditions encountered are not consistent with those described. In addition, any changes in the planned project or changed site conditions may require revised or additional recommendations on our part.

We should also be provided with a set of final development plans, once they are available, to review whether our recommendations have been understood and applied correctly, and to assess the need for additional exploration or analysis. Failure to provide these documents to SCI may nullify some or all of the recommendations provided herein. In addition, any changes in the planned project or changed site conditions may require revised or additional recommendations on our part.

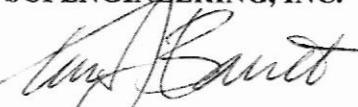
The final part of our geotechnical service should consist of direct observation during construction, to observe that conditions actually encountered are consistent with those described in this report, and to assess the appropriateness of the analyses and recommendations contained herein. **SCI cannot assume responsibility or liability for the adequacy of its recommendations without being retained to observe construction.**

We appreciate the opportunity to be of service to you on this project. If you have any questions or comments, please do not hesitate to contact me.

I can be reached at 636-757-1065 or tbarrett@sciengineering.com.

Respectfully,

SCI ENGINEERING, INC.


Timothy J. Barrett, P.E., CFM
Senior Engineer



ERA/TJB/hmm

Enclosures:

- Figure 1- Aerial Photograph
- Figure 2 - Site Plan
- Global Stability Outputs



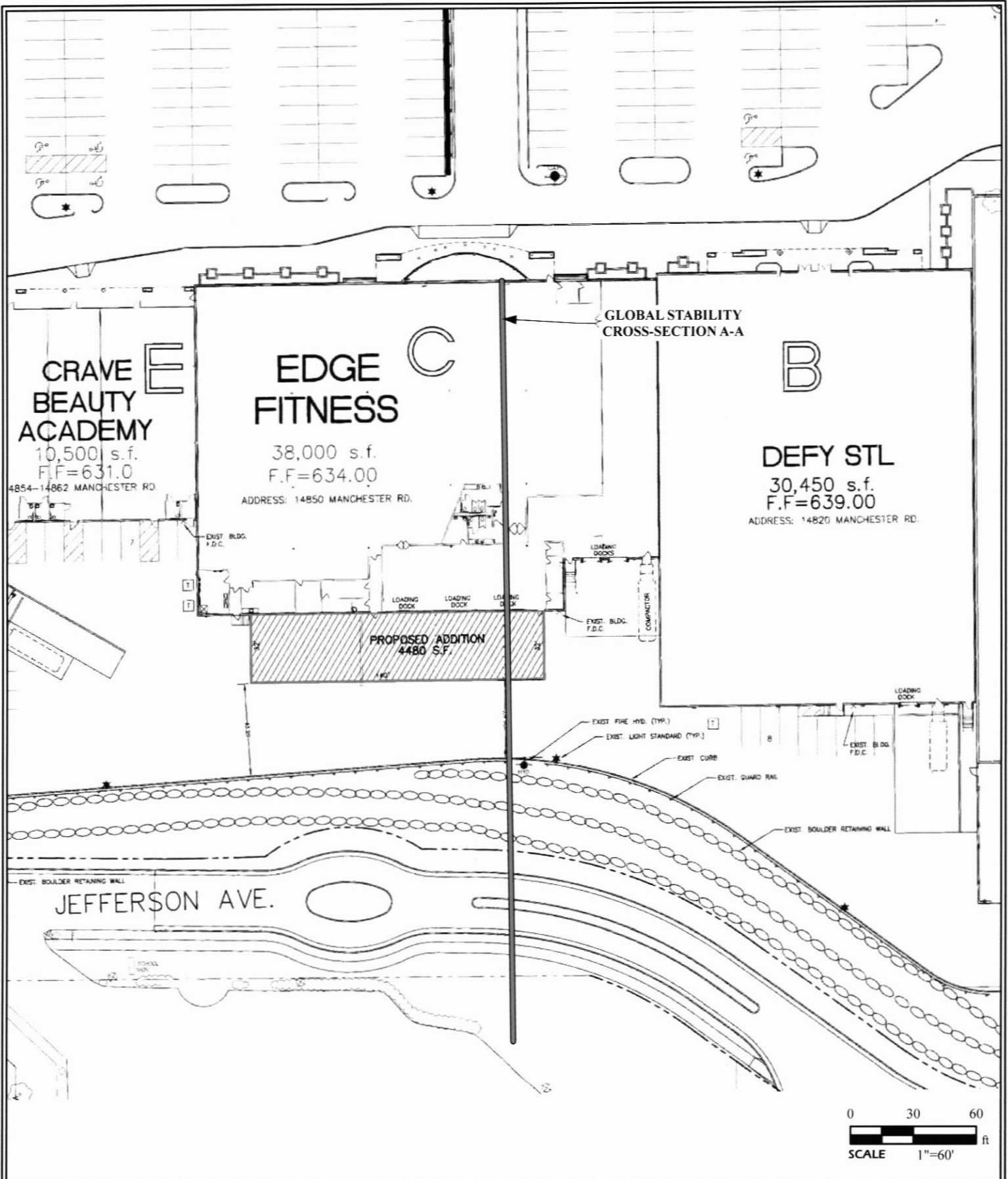
PROJECT NAME			
EDGE FITNESS – OLDE TOWN PLAZA BALLWIN, MISSOURI			
AERIAL PHOTOGRAPH			
DRAWN BY	RCV	DATE	JOB NUMBER
CHECKED BY	ERA	03/2020	2000-0140.1A

GENERAL NOTES/LEGEND

AERIAL PHOTOGRAPH OBTAINED FROM ARCGIS ONLINE, WORLD IMAGERY.

DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY.
DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.

FIGURE
1



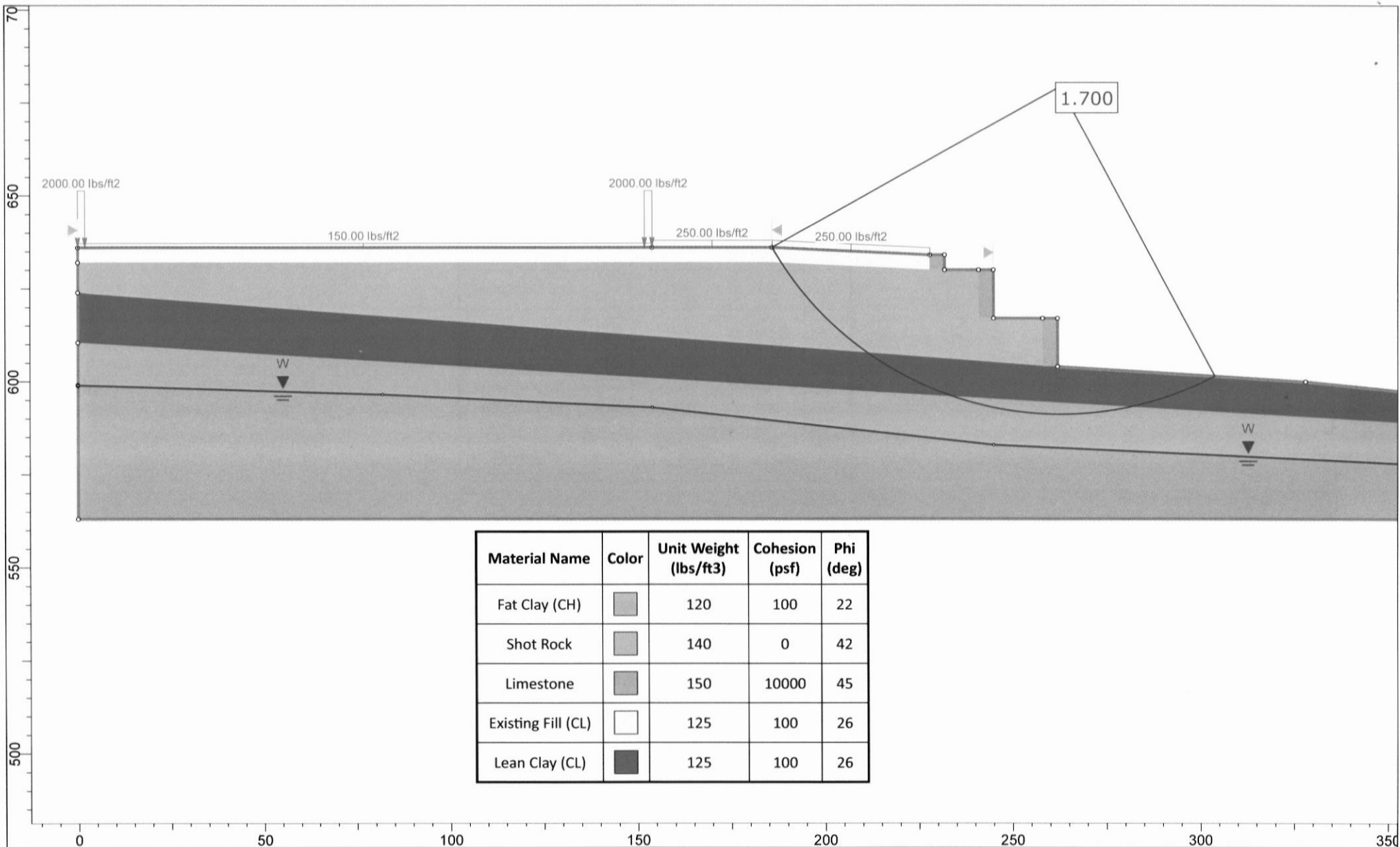
PROJECT NAME			
EDGE FITNESS – OLDE TOWN PLAZA BALLWIN, MISSOURI			
SITE PLAN			
DRAWN BY	RCV	DATE	JOB NUMBER
CHECKED BY	ERA	03/2020	2000-0140.1A






GENERAL NOTES/LEGEND

PLAN DATED 2/20/2020 BY GRIMES CONSULTING, INC.

DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY.
DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.

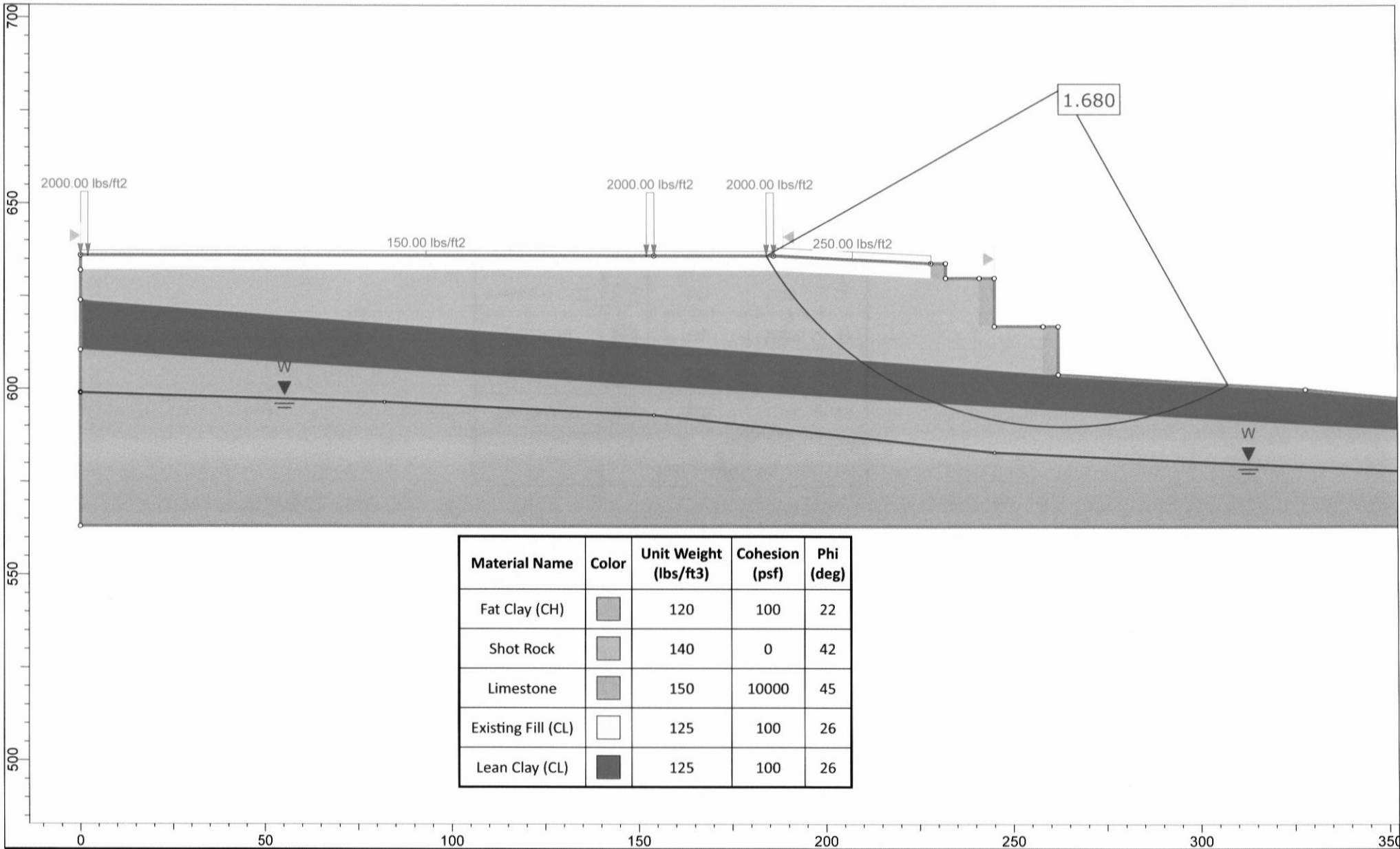
FIGURE
2



Material Name	Color	Unit Weight (lbs/ft3)	Cohesion (psf)	Phi (deg)
Fat Clay (CH)		120	100	22
Shot Rock		140	0	42
Limestone		150	10000	45
Existing Fill (CL)		125	100	26
Lean Clay (CL)		125	100	26



<i>Project</i>		Edge Fitness - Olde Towne Plaza SCI No.2000-0140.10	
<i>Analysis Description</i>		Figure 3 - Cross Section A-A - Existing Conditions	
<i>Drawn By</i>	ERA	<i>Reviewed By</i>	TJB
<i>Scale</i>	1:425	<i>Company</i>	SCI Engineering, Inc.
<i>Date</i>	March 19, 2020	<i>File Name</i>	Cross Section.slm



Material Name	Color	Unit Weight (lbs/ft ³)	Cohesion (psf)	Phi (deg)
Fat Clay (CH)	Light Gray	120	100	22
Shot Rock	Medium Gray	140	0	42
Limestone	Dark Gray	150	10000	45
Existing Fill (CL)	White	125	100	26
Lean Clay (CL)	Black	125	100	26



<i>Project</i>		Edge Fitness - Olde Towne Plaza SCI No.2000-0140.10	
<i>Analysis Description</i>		Figure 4 - Cross Section A-A - Proposed Addition	
<i>Drawn By</i>	ERA	<i>Reviewed By</i>	TJB
<i>Scale</i>	1:426	<i>Company</i>	SCI Engineering, Inc.
<i>Date</i>	March 19, 2020	<i>File Name</i>	Cross Section.slmd

Important Information about Your Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply the report for any purpose or project except the one originally contemplated.*

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse.

- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. Always contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.*

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that

have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

Rely, on Your ASFE-Member Geotechnical Engineer for Additional Assistance

Membership in ASFE/THE BEST PEOPLE ON EARTH exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.



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