ADDENDUM TO GEOTECHNICAL INVESTIGATION

NIRVANA INDUSTRIAL BUILDINGS AND SELF STORAGE COMPLEX
821 MAIN STREET
CHULA VISTA, CALIFORNIA

GEOCON
INCORPORATED

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

VWP-OP NIRVANA OWNER, LLC
PHOENIX, ARIZONA

FEBRUARY 18, 2022
PROJECT NO. G2755-42-01

Project No. G2755-42-01
February 18, 2022

VWP-OP Nirvana Owner, LLC
2390 East Camelback Road, Suite 305
Phoenix, Arizona 85016

Attention: Mr. Steven Schwarz

Subject: ADDENDUM TO GEOTECHNICAL INVESTIGATION
NIRVANA INDUSTRIAL BUILDINGS
AND SELF STORAGE COMPLEX
821 MAIN STREET
CHULA VISTA, CALIFORNIA

References:
1. *Preliminary Geotechnical Investigation, Nirvana Industrial Buildings and Self Storage Complex, 821 Main Street, Chula Vista, California*, prepared by Geocon Incorporated, dated September 14, 2021 (Project No. G2755-42-01).
2. *Limits of Grading at Easterly Property Line, Nirvana Business Park, 821 Main Street, Chula Vista, California*, prepared by Pasco Laret Suiter & Associates, dated February 1, 2022.

Dear Mr. Schwarz:

In accordance with the request of Mr. Andrew Gracey, we prepared this addendum to the geotechnical investigation for the subject project. Recommendations provided in Reference 1 were to construct buttress fills along the eastern property line to mitigate for claystone beds that are expected to be present within and near the toe of the slope. Buttress cuts are shown in Reference 1 extending into the jurisdictional area. We understand that you desire to eliminate grading within the jurisdictional area and requested we provide revised grading recommendations.

To provide revised recommendations, we generated two additional cross sections (Cross Sections H and I) and performed slope stability analyses. The locations of the cross sections are shown on the Geologic Map, Figure 1. The cross sections are provided on Figure 2. For our analyses, we assumed grading can extend to within 10 feet of the jurisdictional limits shown in Reference 2.

The slope stability analysis was performed utilizing the computer program GeoStudio 2018 (SLOPE/W) distributed by Geo-Slope International. This program uses conventional slope stability

equations and a two-dimensional limit-equilibrium method to calculate the factor of safety against deep-seated failure. For our analysis, Spencer's Method with a block failure mode was used for failure in the claystone bed. We also analyzed a circular failure mode to check stability within the compacted fill buttress. Spencer's Method satisfies both moment and force equilibrium.

The computer program searches for the critical failure surface based on parameters inputted, including the location of the "left" and "right" sliding blocks. The critical failure surface for each analysis is shown on computer-generated output. The factor of safety is shown on each figure directly above the failure surface.

The results of the stability analysis are provided on Figures 3 through 6. Based on our analysis, remedial grading can be performed to construct the stability buttresses outside of the jurisdictional limits. To construct the revised buttresses, the forecut on the buttress will need to start at a distance of 10 feet from the jurisdictional limits and down at a 1:1 plane to a vertical distance of approximately 5 feet below the clay bed. At this elevation, a minimum 15-foot-wide buttress key needs to be constructed. We estimate the bottom of the clay bed to around elevation 145 feet MSL. We estimate the buttress key bottom elevation to be near 140 feet MSL, as shown on Figure 2.

Within a portion of the eastern buttress, geotextile reinforcing grid will be required to provide a factor of safety against slope instability of at least 1.5. The geotextile reinforcing grid should consist of Miragrid 20XT that has a length of at least 20 feet extending from the face of the buttress forecut. The grid should be placed every 3 feet vertical height as shown on Figure 2 and on the stability figures (Figures 3 and 4). The locations where geotextile reinforcing grid will be needed to installed is shown on Figure 1.

Modifications to the buttress dimensions, location, and grid reinforced area may be needed based on actual conditions encountered during grading. A representative of Geocon will observe buttress construction during grading and can provide additional and/or modified recommendations, if they are needed.

All other recommendations contained in Reference 1 outside of Cross Sections I and H area remain applicable. Additionally, all buttresses should incorporated drainage as recommended in Reference 1.

If you have any questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED

Rodney C. Mikesell
GE 2533

RCM:arm

(e-mail) Addressee

0' 25' 50' 75' 100' 150' 200'

SCALE 1"=50' (on 36x24)

GEOCON LEGEND

- *Qudf* ........UNDOCUMENTED FILL
- *Qal* ....ALLUVIUM
- *Qt* ....TERRACE DEPOSITS
- *To* ....OTAY FORMATION
- ....APPROX. LOCATION OF GEOLOGIC CONTACT
- LB-5 ....APPROX. LOCATION OF EXPLORATORY LARGE DIAMETER BORING (Current)
- B-2 ....APPROX. LOCATION OF EXPLORATORY BORING
- TP-8 ....APPROX. LOCATION OF EXPLORATORY TEST PIT (Current)
- TP-7 ....APPROX. LOCATION OF EXPLORATORY TEST PIT (AGS, 2014)
- T-6 ....APPROX. LOCATION OF EXPLORATORY TEST PIT (AET, 2008)
- ....APPROX. LOCATION OF GEOLOGIC CROSS SECTION
- ....APPROX. LOCATION OF PROPOSED SUBDRAIN
- ....APPROX. SURFACE EXPOSURE OF BENTONITIC CLAYSTONE

GEOLOGIC MAP

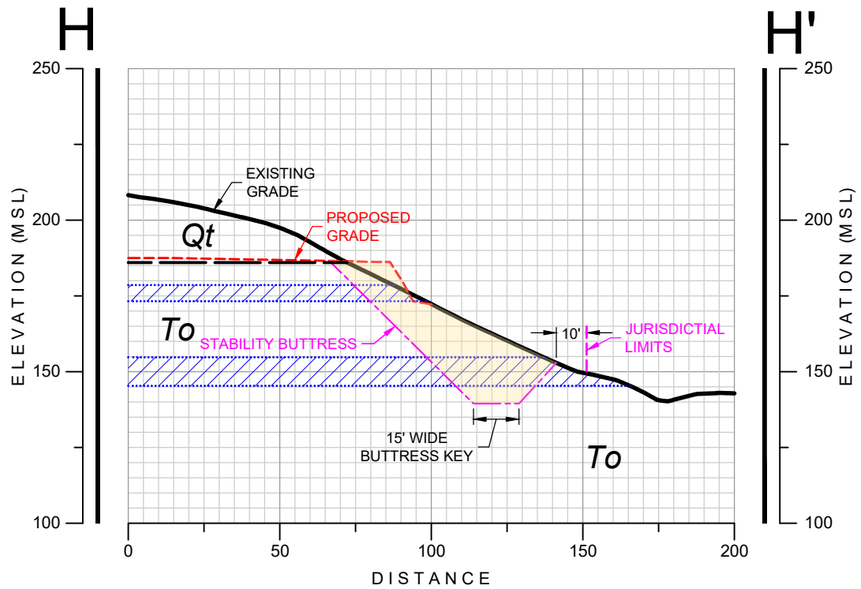
NIRVANA INDUSTRIAL BUILDINGS AND SELF STORAGE COMPLEX
821 MAIN STREET
CHULA VISTA, CALIFORNIA

GEOCON INCORPORATED
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS
6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE 858 558-6900 - FAX 858 558-6159

SCALE 1" = 50'	DATE 02 - 18 - 2022	
PROJECT NO. G2755 - 42 - 01		FIGURE 1
SHEET 1 OF 1		

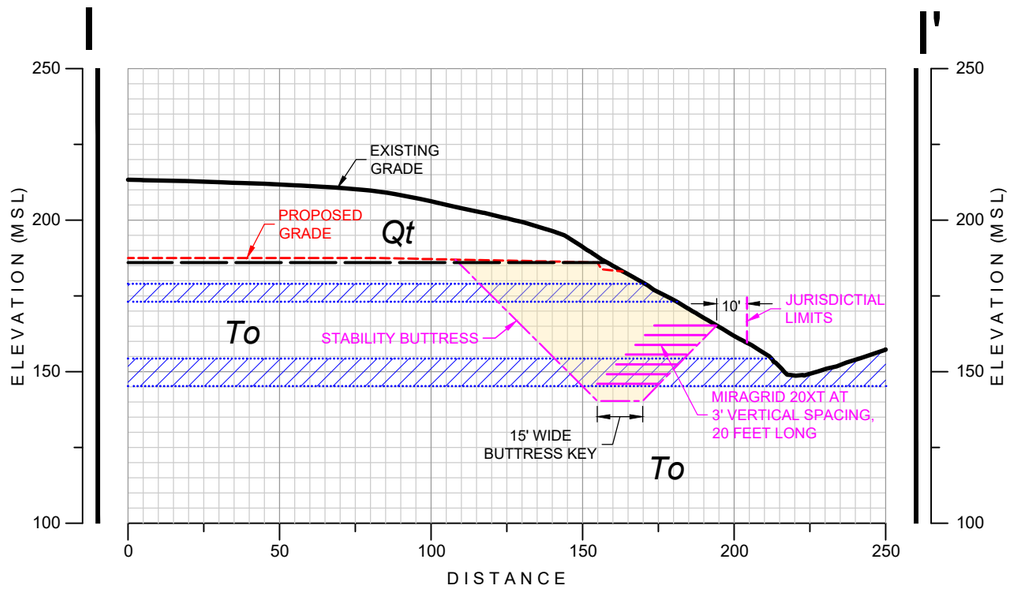
Plotted:02/18/2022 9:39AM | By:ALVIN LADRILLONO | File Location:Y:\PROJECTS\G2755-42-01 (Nirvana Self Storage)\SHEETS\G2755-42-01 Geo Map.20.dwg

NIRVANA INDUSTRIAL BUILDINGS AND SELF STORAGE COMPLEX
821 MAIN STREET
CHULA VISTA, CALIFORNIA



GEOLOGIC CROSS-SECTION H-H'

SCALE: 1" = 50' (Vert. = Horiz.)



GEOLOGIC CROSS-SECTION I-I'

SCALE: 1" = 50' (Vert. = Horiz.)

GEOCON LEGEND

Qt.....TERRACE DEPOSITS

To.....OTAY FORMATION

~~~.....APPROX. LOCATION OF GEOLOGIC CONTACT

GEOCON INCORPORATED
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS
6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE 858 558-6900 - FAX 858 558-6159

PROJECT NO. G2755 - 42 - 01
FIGURE 2
DATE 02 - 18 - 2022

Plotted:02/18/2022 2:09PM | By:ALVIN LADRILLONO | File Location:W:\1_GEOTECH\G2000\G2755-42-01\2022-02-18\G2755-42-01 XSections.20.dwg
~~~

NIRVANA
Project No. G2755-42-01
File Name: I-I' - Case3 Geogrid (15 ft Key).gsz
Date: 02/18/2022

Color	Name	Unit Weight (pcf)	Cohesion' (psf)	Phi' (°)	Piezometric Line
	Claystone Bed (CL/CH)	130	50	18	1
	Qcf	130	250	28	1
	Qt	130	350	35	1
	To	130	300	34	1
	To (2)				1

CROSS SECTION I-I'

Geogrid Reinforcement
20 ft long, Miragrid 20 XT @ 3 ft spacing

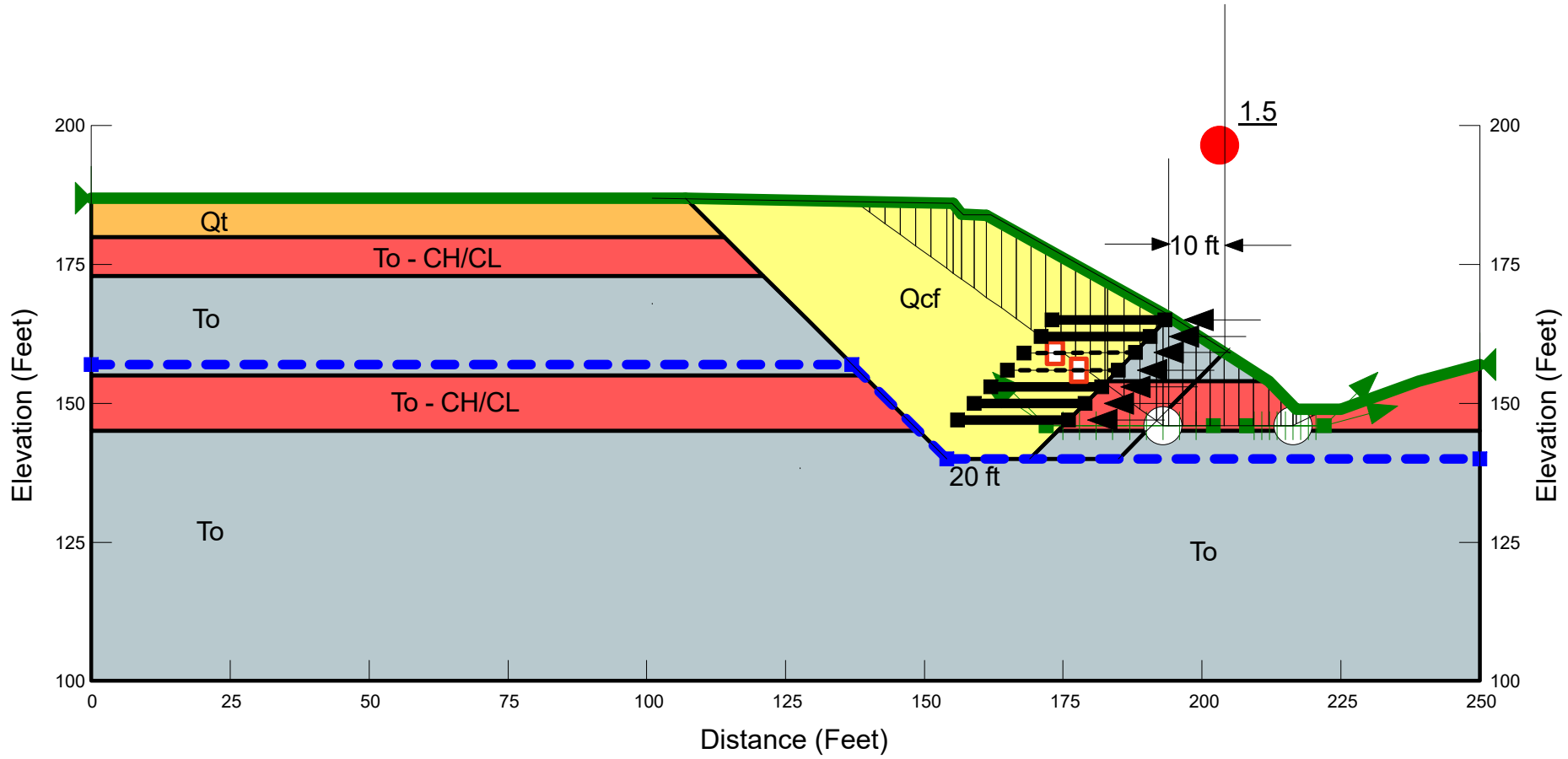


FIGURE 3

Directory: S:\Engineering and Geology\ENGINEER PROGRAMS, GUIDES, ETC\EngrgPrg\GEO-SLOPE2018\G2755-42-01 (Nirvana)\

NIRVANA
Project No. G2755-42-01
File Name: I-I' - Case3 Geogrid (15 ft Key) Circular.gsz
Date: 02/18/2022

Color	Name	Unit Weight (pcf)	Cohesion' (psf)	Phi' (°)	Piezometric Line
	Claystone Bed (CL/CH)	130	50	18	1
	Qcf	130	250	28	1
	Qt	130	350	35	1
	To	130	300	34	1
	To (2)				1

CROSS SECTION I-I'

Geogrid Reinforcement
20 ft long, Miragrid 20 XT @ 3 ft spacing

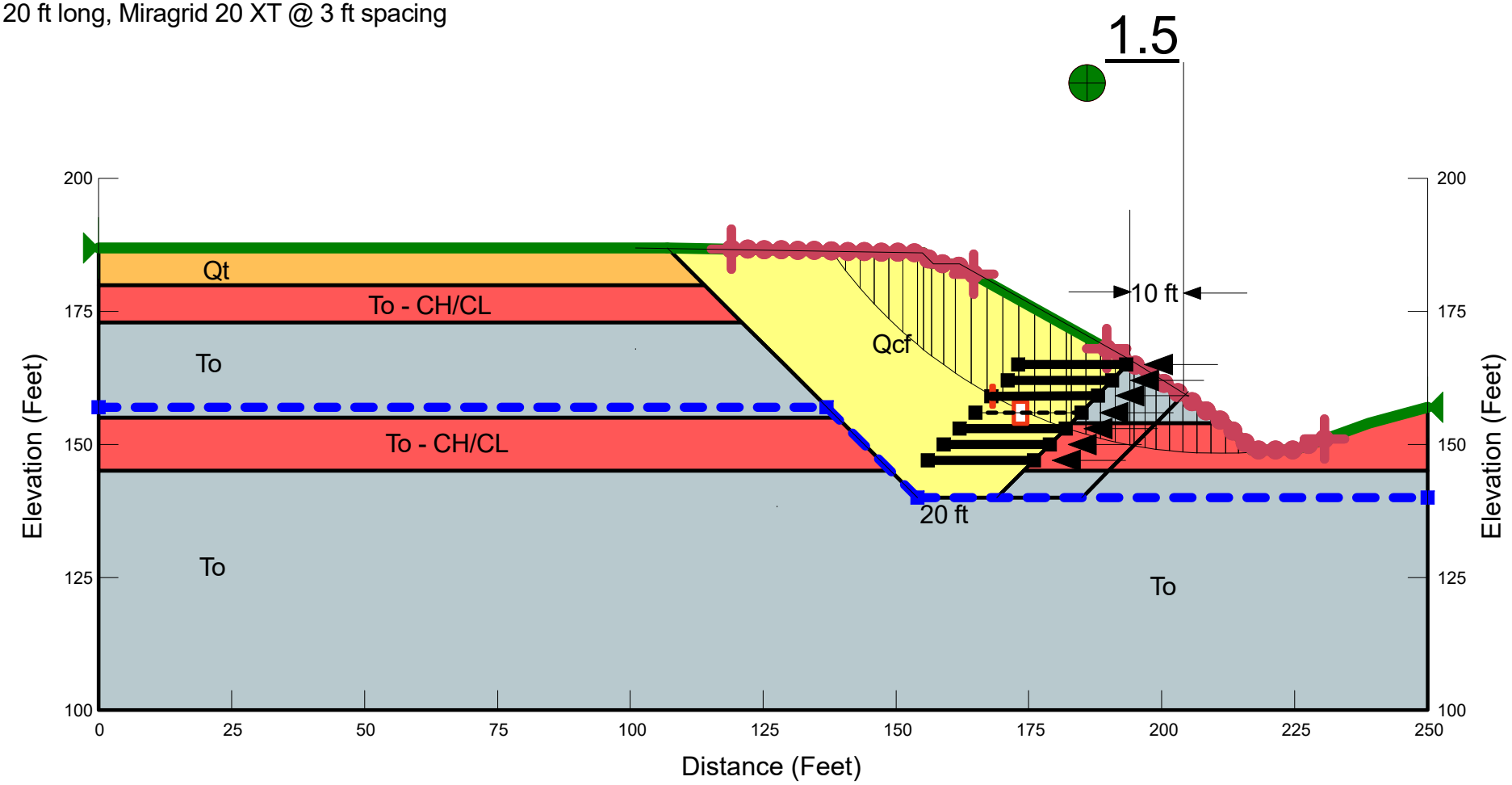


FIGURE 4

Directory: S:\Engineering and Geology\ENGINEER PROGRAMS, GUIDES, ETC\EngrgPrg\GEO-SLOPE2018\G2755-42-01 (Nirvana)\

NIRVANA
Project No. G2755-42-01
File Name: H-H' - Case1 (15 ft Key).gsz
Date: 02/18/2022

Color	Name	Unit Weight (pcf)	Cohesion' (psf)	Phi' (°)	Piezometric Line
	Claystone Bed (CL/CH)	130	50	18	1
	Qcf	130	250	28	1
	Qt	130	350	35	1
	To	130	300	34	1

CROSS SECTION H-H'

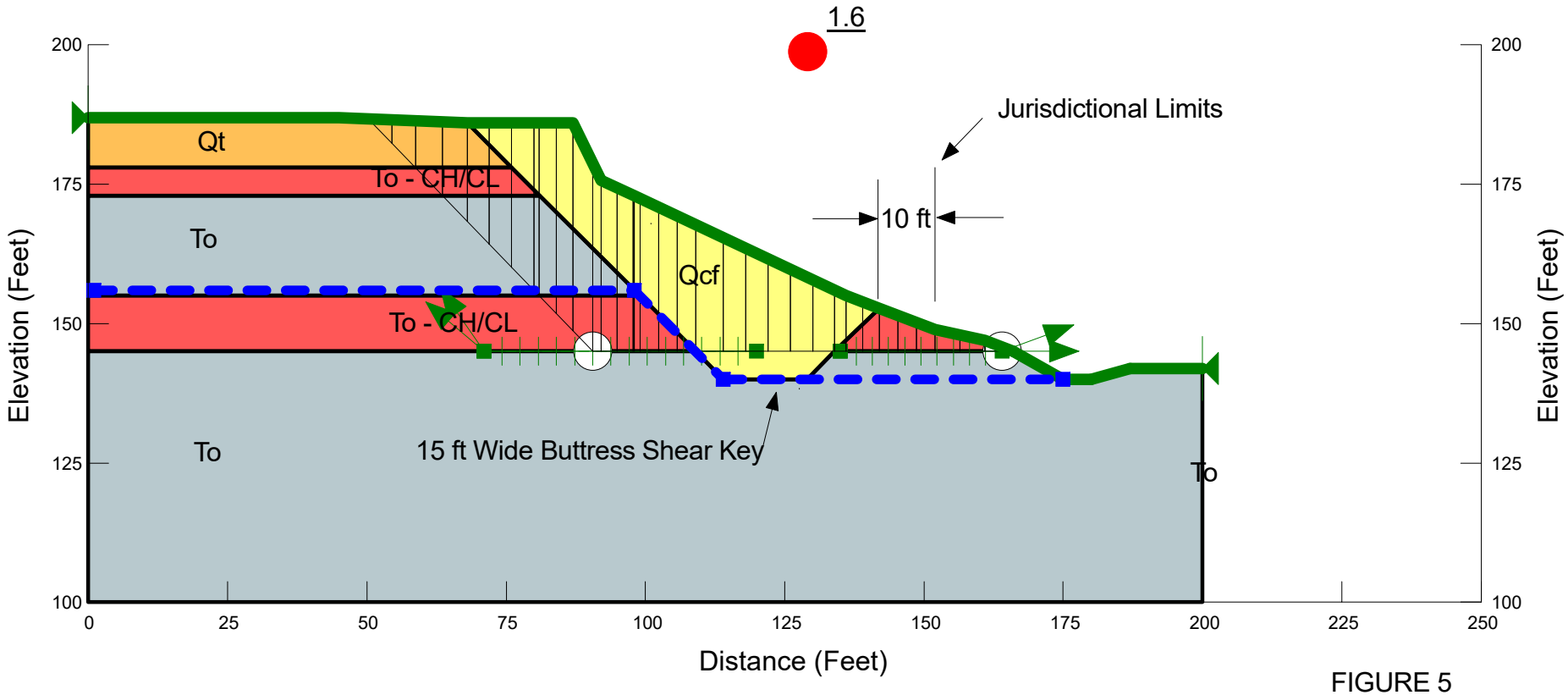


FIGURE 5

Directory: S:\Engineering and Geology\ENGINEER PROGRAMS, GUIDES, ETC\EngrgPrg\GEO-SLOPE2018\G2755-42-01 (Nirvana)\

NIRVANA
Project No. G2755-42-01
File Name: H-H' - Case1 (15 ft Key) Circular.gsz
Date: 02/18/2022

Color	Name	Unit Weight (pcf)	Cohesion' (psf)	Phi' (°)	Piezometric Line
	Claystone Bed (CL/CH)	130	50	18	1
	Qcf	130	250	28	1
	Qt	130	350	35	1
	To	130	300	34	1

CROSS SECTION H-H'

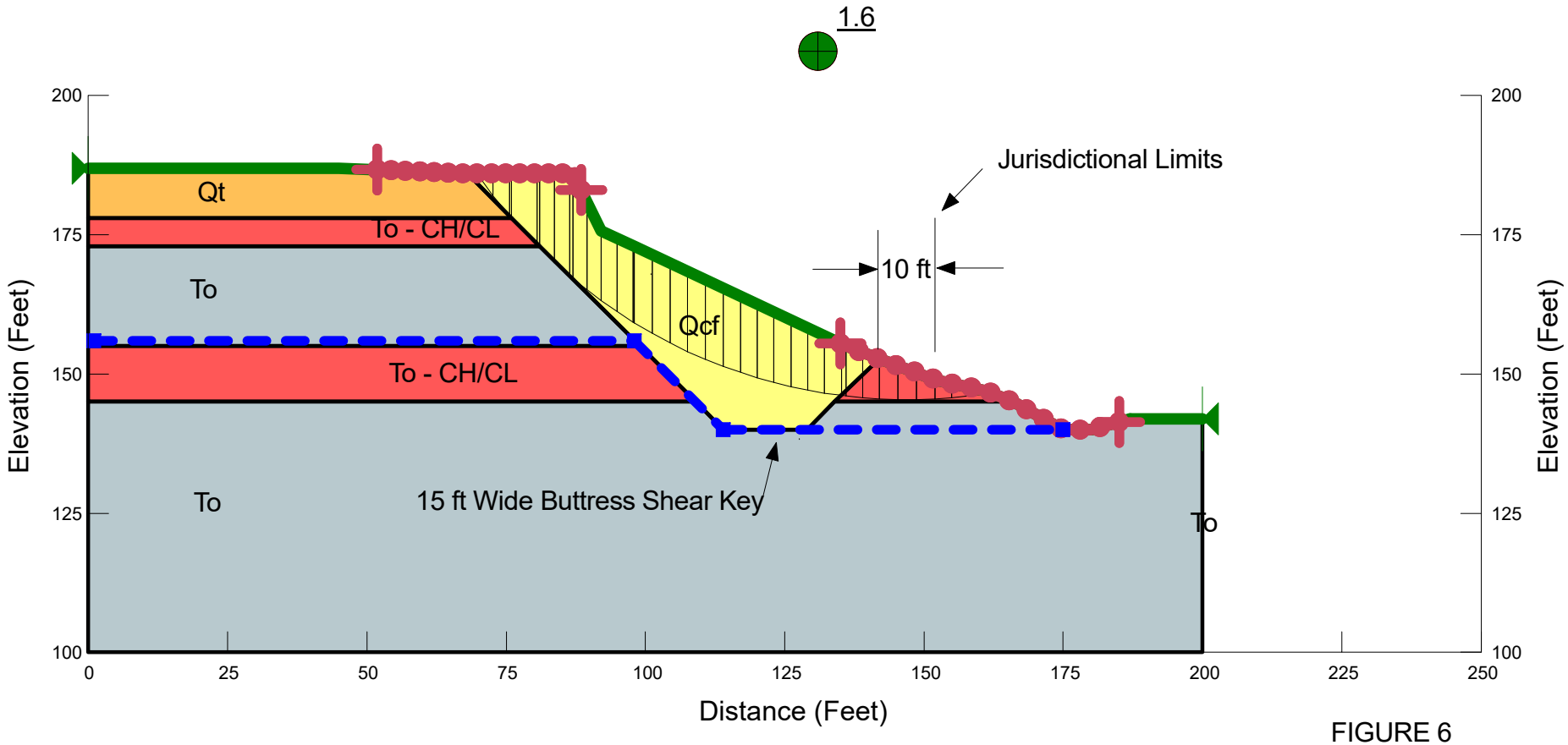


FIGURE 6

Directory: S:\Engineering and Geology\ENGINEER PROGRAMS, GUIDES, ETC\EngrgPrg\GEO-SLOPE2018\G2755-42-01 (Nirvana)\