Project No. G3017-32-02
June 5, 2023

Granite Construction
5860 El Camino Real
Carlsbad, California 92008

Attention: Mr. Tim Burhoe

Subject: RESPONSE TO CITY OF SAN DIEGO REVIEW COMMENTS
NIGHTHAWK GEN-TIE
SAN DIEGO, CALIFORNIA

References:
1. *Geotechnical Investigation, Granite Poway Pad No. 2, 13501 Kirkham Way, Poway, California*, prepared by Geocon Incorporated, dated November 14, 2022 (Project No. G3017-32-01).
2. *Geotechnical Investigation, Beeler Creek Access Roadway, 13501 Kirkham Way, Poway, California*, prepared by Geocon Incorporated, dated September 17, 2020 (Project No. G2592-32-01).
3. *Final Report of Testing and Observation Services During Site Grading and Improvement Construction, Beeler Creek Restoration and Access Road, 13501 Kirkham Way, Poway, California*, prepared by Geocon Incorporated, dated April 8, 2022 (Project No. G2592-32-02).
4. *Plans for: Nighthawk Gen-Tie*, prepared by TSAC Engineering, Sheets 1 through 19, undated.

Dear Mr. Burhoe:

This correspondence has been prepared to respond to a comment contained in the February 22, 2023, *Project Issues Report PRJ-1075505* prepared by the City of San Diego DSD-Environmental section. Specifically, we are responding to Comment No. 36, Geological Conditions. The comment along with our response is presented below.

Comment No. 36: *The site is located in Geological Hazard Type 32 (liquefaction). Per information Bulletin 515, Geotechnical Study Requirements, it appears a technical study would be required. Please review Bulletin and include Geology staff in the next submittal.*

Response: We reviewed the referenced plans, geotechnical reports and performed a geologic reconnaissance along the proposed alignment. The underground electric line will extend from the proposed Nighthawk Energy Storage facility in Poway (Pad No. 2), southward to the Sycamore Substation in the City of San Diego (see Vicinity Map, Figure 1). The portion within the City of San Diego will be mostly placed in

a 30-foot-wide existing graded easement road, and to a lesser extent, natural ground. The total length of the line within the City of San Diego limits is approximately 3,800 feet.

Our geologic reconnaissance was performed on May 30, 2023, and consisted of surface mapping along the proposed alignment. We also performed an aerial drone reconnaissance. In most areas, the geologic conditions were well exposed in slope excavations. The approximate location of the proposed alignment is presented on the regional geologic map, Figure 2.

The northern section, and majority of the proposed alignment, is contained within Green Valley Court which is an easement road situated on a hillside on the northeastern flank of a drainage. The roadway is underlain by very dense Stadium Conglomerate, or compacted fill generated from grading of the easement. Through this section, the proposed line will not traverse any natural drainages or be underlain by materials conducive to liquefaction.

A minor portion of the alignment (less than 100 feet of 3,800 feet) south of Stonebridge Parkway, will cross an ephemeral drainage that appears to be a first or second order tributary to Beeler Creek. Our observations indicated that no surface water was present in this drainage, and the alluvium was limited in extent. In addition, the alluvial soils appeared to be well graded, sandy cobble conglomerate derived from the Stadium Conglomerate. The proposed alignment south of this area will by supported by the Stadium Conglomerate.

Based on our geologic reconnaissance, and experience in the proposed project area, it is our opinion that the conditions necessary for seismically induced liquefaction beneath the proposed electric line do not exist; therefore, the potential for this phenomenon to occur in the event of a large earthquake is nil.

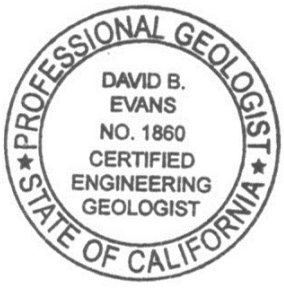
If there are any questions regarding this correspondence, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED

Trevor E. Myers
RCE 63773

David B. Evans
CEG 1860



TEM:DBE:am

(e-mail) Addressee

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NO SCALE

VICINITY MAP

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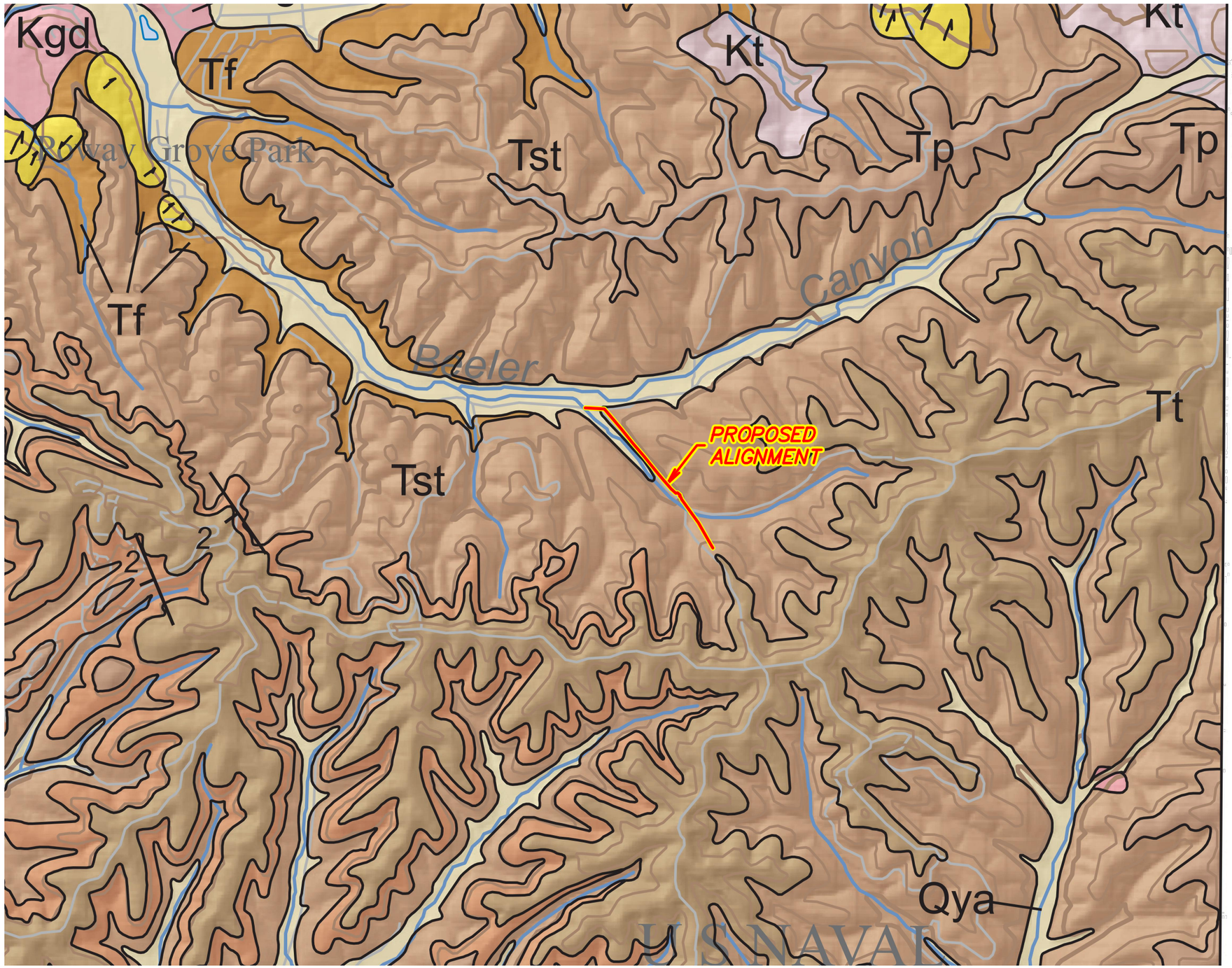
NIGHTHAWK GEN-TIE
SAN DIEGO, CALIFORNIA

RM / AML		DSK/GTYPD

DATE 06 - 05 - 2023	PROJECT NO. G3017 - 32 - 02	FIG. 1

Plotted:06/05/2023 9:15AM | By:RUBEN AGUILAR | File Location:Y:\PROJECTS\G3017-32-02 (Nighthawk Gen-Tie)\DETAILS\G3017-32-02 Vic Map.dwg

NIGHTHAWK GEN-TIE
SAN DIEGO, CALIFORNIA



0' 1,000' 2,000' 3,000' 4,000'

SCALE 1"=2,000'(on 11x17)

(SEE FIGURE 3 FOR LEGEND)

SOURCE: Kennedy P. Michael and Tan S. Siang, 2008, *Geologic Map of San Diego 30'x60' Quadrangle, California U.S. Geological Survey, Department of Earth Sciences, University of California, Riverside.*

REGIONAL GEOLOGIC MAP

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FIGURE 2
DATE 06 - 05 - 2023

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ABBREVIATED EXPLANATION

Approximate stratigraphic relationships only;
see pamphlet and CMU (Plate 2) for more detailed information

MODERN SURFICIAL DEPOSITS

- af — Artificial fill (late Holocene)
- Qw — Wash deposits (late Holocene)
- Qls — Landslide deposits, undivided (Holocene and Pleistocene)
- Qmb — Marine beach deposits (late Holocene)
- Qpe — Paralic estuarine deposits (late Holocene)
- Qmo — Undivided marine deposits in offshore region (late Holocene)
- Qcf — Canyon fill deposits in offshore region (late Holocene)

YOUNG SURFICIAL DEPOSITS

- Qya — Young alluvial flood-plain deposits (Holocene and late Pleistocene)
- Qyc — Young colluvial deposits (Holocene and late Pleistocene)
- Qct — Undivided canyon terrace deposits in offshore region (Holocene and Pleistocene)

OLD SURFICIAL DEPOSITS

- Qoa — Old alluvial flood-plain deposits, undivided (late to middle Pleistocene)
- Qop — Old paralic deposits, undivided (late to middle Pleistocene)
  - Qop_7 — Unit 7
  - Qop_6 — Unit 6
  - Qop_{2-4} — Units 2-4, undivided

VERY OLD SURFICIAL UNITS

- Qvoa — Very old alluvial flood-plain deposits, undivided (middle to early Pleistocene)
- Qvop — Very old paralic deposits, undivided (middle to early Pleistocene)
  - $Qvop_7$ — Unit 7
  - $Qvop_6$ — Unit 6
  - $Qvop_5$ — Unit 5
  - $Qvop_4$ — Unit 4
  - $Qvop_3$ — Unit 3
  - $Qvop_2$ — Unit 2
  - $Qvop_1$ — Unit 1
  - $Qvop_{13}$ — Unit 13
  - $Qvop_{12}$ — Unit 12
  - $Qvop_{11}$ — Unit 11
  - $Qvop_{10}$ — Unit 10
  - $Qvop_9$ — Unit 9
  - $Qvop_8$ — Unit 8
  - $Qvop_{11a}$ — Unit 11a
  - $Qvop_{10a}$ — Unit 10a
  - $Qvop_{9a}$ — Unit 9a
  - $Qvop_{8a}$ — Unit 8a

SEDIMENTARY AND VOLCANIC BEDROCK UNITS

- QTso — Undivided sediments and sedimentary rocks in offshore region (Holocene, Pleistocene, Pliocene and Miocene)
- Tsdcg / Tsd / Tsdss — San Diego Formation (early Pleistocene and late Pliocene)
  - Tsd - undivided
  - Tsdcg - transitional marine and nonmarine pebble and cobble conglomerate
  - Tsdss - marine sandstone
- Tba — Basaltic-andesite dike (Miocene)
- Tmo — Undivided sedimentary rocks in offshore region (Miocene)
- Tmvo — Undivided volcanic rocks in offshore region (Miocene)
- Tmuo — Undivided volcanic and sedimentary rocks in offshore region (Miocene)
- To — Otay Formation (late Oligocene)
- Tp / Tpm — Pomerado Conglomerate (middle Eocene)
  - Tpm - Miramar Sandstone Member
- Tmv — Mission Valley Formation (middle Eocene)
- Tst — Stadium Conglomerate (middle Eocene)
- Tf — Friars Formation (middle Eocene)
- Tsc / Tscu — Scripps Formation (middle Eocene)
  - Tscu - upper unit
- Ta — Ardath Shale (middle Eocene)
- Tt — Torrey Sandstone (middle Eocene)
- Td — Delmar Formation (middle Eocene)
- Td+Tf — Delmar Formation and Friars Formation, undivided (middle Eocene)
- Tmss / Tmsc — Mount Soledad Formation (middle Eocene)
  - Tmss - sandstone
  - Tmsc - cobble conglomerate
- Teo — Undivided Eocene rocks in offshore region (Eocene)
- Kcs / Kccg — Cabrillo Formation (Upper Cretaceous)
  - Kcs - sandstone
  - Kccg - cobble conglomerate
- Kp — Point Loma Formation (Upper Cretaceous)
- Kl — Lusardi Formation (Upper Cretaceous)
- Kuo — Undivided rocks of the Rosario Group in the offshore area (Upper Cretaceous)

UNNAMED CRETACEOUS ROCKS OF THE PENINSULAR RANGES BATHOLITH

- Kgu — Granodiorite and tonalite, undivided (mid-Cretaceous)
- Kgd — Granodiorite, undivided (mid-Cretaceous)
- Kt — Tonalite, undivided (mid-Cretaceous)
- Kd — Diorite, undivided (mid-Cretaceous)
- Kgh — Hypabyssal rocks, undivided (mid-Cretaceous)

JURASSIC AND CRETACEOUS METAMORPHOSED AND UNMETAMORPHOSED VOLCANIC AND SEDIMENTARY ROCKS

- M_Zu — Metamorphosed and unmetamorphosed volcanic and sedimentary rocks, undivided (Mesozoic)
- M_Zo — Undivided metamorphic rocks in offshore region (Mesozoic)

CENOZOIC: QUATERNARY (Holocene; Pleistocene); TERTIARY (Pliocene; Miocene; Oligocene; Eocene)
MESOZOIC: CRETACEOUS (Upper Cretaceous; mid-Cretaceous); JURASSIC

ONSHORE MAP SYMBOLS

- Contact - Contact between geologic units; dotted where concealed.
- Fault - Solid where accurately located; dashed where approximately located; dotted where concealed. U = upthrown block, D = downthrown block. Arrow and number indicate direction and angle of dip of fault plane.
- Anticline - Solid where accurately located; dashed where approximately located; dotted where concealed. Arrow indicates direction of axial plunge.
- Syncline - Solid where accurately located; dotted where concealed. Arrow indicates direction of axial plunge.
- Landslide - Arrows indicate principal direction of movement. Queried where existence is questionable.

Strike and dip of beds
- Inclined
Strike and dip of igneous joints
- Inclined
- Vertical
Strike and dip of metamorphic foliation
- Inclined

OFFSHORE MAP SYMBOLS

Contacts
- Contact - All contacts are extrapolated from a combination of seismic reflection data, seafloor samples and bathymetry, and are approximate in location.

Faults
- Fault - Solid where well defined; dashed where approximately located; short dash where inferred; dotted where concealed; queried where uncertain. Where fault offsets sea floor, age symbol is shown on bar on downthrown side. Where age was determined, age symbol is shown astride fault and relative offset, if known, is shown by "D" and "U" on downthrown and upthrown sides. Ages of faults are indicated as follows:
  - ☒ cuts strata of Holocene age
  - ■ cuts strata of late Quaternary age
  - ◪ cuts strata of Quaternary age
  - △ cuts Miocene or older strata
- Fault zone - Area of extensively sheared rock within a zone defined by multiple faults.

Folds
- Anticline - Solid where well defined; short dash where inferred.
- Syncline - Solid where well defined; short dash where inferred.

Channels
- Active - Dash-dot line marks axis, arrow indicates direction of sediment transport.

Levees
- Levees - Dashed where inferred.

Landslides
- Creep - Dashed where inferred.
- Creep (noted on single survey line) - Arrow indicates apparent direction of sediment movement.
- Slump - Dashed where inferred, queried where uncertain. Arrows indicate direction of movement.

ABBREVIATED INDEX TO GEOLOGIC SOURCE DATA

(Primary compilaton sources shown in bold type)
See pamphlet for complete citation

Del Mar Quadrangle
Kennedy, 1975; Kern, 1996a,b; Tan and Giffen, 1995.

Imperial Beach Quadrangle
Kennedy and others, 1975; **Kennedy and Tan, 1977**; Kern, 1996a,b; Tan, 1995.

La Jolla Quadrangle
Kennedy, 1975; Kennedy and others, 1975; Kern, 1996a,b; Tan, 1995.

La Mesa Quadrangle
Kennedy and Peterson, 1975; Kennedy and others 1975; Kern, 1996a,b; Tan, 1995.

National City Quadrangle
Kennedy and others, 1975; **Kennedy and Tan, 1977**; Kern, 1996a,b; Tan, 1995.

Point Loma Quadrangle
Kennedy, 1975; **Kennedy and Clarke, 1999a,b**; Kennedy and others, 1975; Kern, 1996a,b; Tan, 1995.

Poway Quadrangle
Kennedy and Peterson, 1975; Kern, 1996a,b; Tan and Giffen, 1995.

Offshore Region 1
Clarke and others, 1987; Ryan and others, (in press).

Offshore Region 2
Clarke and others, 1987; **Kennedy and others, 1980b; Ryan and others (in press).**

Offshore Region 3
Clarke and others, 1987; **Kennedy and others, 1980a; Ryan and others (in press).**

Offshore Region 4
Kennedy and Welday, 1980.

SOURCE: Kennedy P. Michael and Tan S. Siang, 2008, *Geologic Map of San Diego 30'x60' Quadrangle, California U.S. Geological Survey, Department of Earth Sciences, University of California, Riverside.*

REGIONAL GEOLOGIC MAP LEGEND

NIGHTHAWK GEN-TIE
SAN DIEGO, CALIFORNIA

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SCALE	NONE
DATE	06 - 05 - 2023
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FIGURE	3
SHEET	1 OF 1

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