B U L L E T I N # 0 2

DATE: February 11, 2025

TO: Piazza Inc.
Attn: Phil Pignatelli

CC: Jordan Medina, Hill Intl.,

FROM: Brian Dunn, AIA
KG+D Architects, PC

PROJECT: Harrison Recreation & Community Center – PHASE 2
Harrison, NY

RE: Geotechnical Revisions

Message:

Please see the attached letter from Skylands Engineering, LLC as regards the Lower Level groundwater control, the slab on grade beneath the Gym, and the backfill remediation at the 6 line wall recommendations.

The attached ASK-02 illustrates the revised under slab drainage configuration. Please proceed with Option 2 as shown on ASK-02. The attached letter provides descriptions of the materials.

The Gym slab on grade should be proof rolled as described in the letter and should soft areas be encountered those areas to be remediated as described in the letter.

The Work recommended to remediate the backfill behind the 6 line wall has been completed by the Phase 1 Contractor. As described in the attached report the top 4 feet of the excavation has been replaced. The Structural Engineer will provide a haunched spanning slab to bridge the remediated unsuitable area. That sketch will be distributed under separate cover.

Cc: File

Encl: Skylands Engineering Letter
ASK-02

KG+D Architects, PC
285 Main Street, Mount Kisco, New York 10549
914.666.5900 kgdarchitects.com

SKYLANDS ENGINEERING, LLC

124 MILTON ROAD
SPARTA, NJ 07871
(973) 729-4824
FAX (973) 729-5824

February 5, 2025

KG+D Architects, PC
285 Main Street
Mt. Kisco, NY 10549

Attn.: Erik A. Kaeyer, AIA LEED AP
Principal

Re: Recommendations following 2-4-2025 Field Visit
Harrison Recreation Center, 270 Harrison Avenue
Harrison, NY

Dear Mr Kaeyer:

Skylands Engineering, LLC (Skylands) visited the site yesterday with you, Michael Amodeo (Harrison Engineer), and others, in order to review some of the work performed to date. This letter presents our findings and recommendations regarding that work.

Garage Groundwater Control

We reviewed the current conditions in the garage area and discussed the slab being raised here approximately 1 ft. Considering the amount of underground utilities that need to fit within the stone layer below the slab, and the fact that the stone itself will act as a suitable conduit for groundwater removal, we are revising our previous recommendations to greatly reduce the number and extent of the underslab drain pipe network. We now recommend three (3) drain pipes be installed through the side wall of the trench drain at the garage entrance and either be connected in manifold-formation 10 ft. to 20 ft. into the garage (as space allows), or be splayed into the garage area (as space allows) and dead-ended. The attached sketch illustrates these options. These pipes should be as previously recommended - rigid, 2-hole perforated, smoothwall PVC pipe, either 3 in. or 4 in. diameter (ex. Charlotte PVC 30030P or PVC 30040P, or similar), with the two (2) holes centered facing downward, and be placed level or at a slight pitch towards the trench drain and enclosed in a filter fabric sock.

The moisture barrier previously recommended (Henry Blueskin PreSeal 435, or similar) should still be installed below occupied or enclosed portions of the slab, ex. mechanical room, to prevent intrusion of moisture into those rooms.

Gymnasium Slab-on-Grade Subgrade

Following our review of the garage underslab drainage issue, we reviewed the subgrade conditions within portions of the upper building area, i.e. the area north of column line 6. The area away from (>±10 ft. to the north of) the 6-line wall was generally firm, but with wet soils on the top and one (1) or two (2) areas that were soft. Hand probe penetrations were generally ≤ ½ in., with two (2) locations softer and with penetrations of ±1 in. It is our recommendation that after the weather warms and the ground thaws, this area be allowed to dry or the wet surficial soils scraped off, the underlying material be proofrolled and compacted, any soft areas encountered during proof rolling be replaced with dry fill or Item 4, then any additional fill and/or crushed stone be placed and compacted prior to constructing

the slab-on-grade.

6-Line Retaining Wall Backfill

Lastly, we observed the excavation of two (2) test pits behind (to the north of) the 6-line. Test pit TP-1 was performed along the westernmost ±8 ft. of the wall, while test pit TP-2 was performed along the easternmost ±10 ft. of the wall, and both pits were excavated to a depth of ±4 ft. The small excavator seemed to dig both test pits with relative ease, i.e. it did not struggle at all to penetrate the soils. Both test pits revealed the wall was backfilled with on-site soils along with cobbles ranging in size up to 8 in. to 10 in. diameter at TP-1, and up to 12 in. diameter at TP-2. The soils were very moist and a hand probe penetrated 6 in. to 8 in. vertically into the bottom and 8 in. to 10 in. horizontally into the sidewall of TP-1 at various locations, and 8 in. to 12 in. deep in the bottom of TP-2. Cobbles were observed in contact with the back of the retaining wall and also nested together.

The fact that the probe could penetrate >± ½ in. is an indication that adequate compaction was not achieved when placing this fill. This may be because the material was placed and compacted in lifts that were too thick for the compactor (a review of a construction photo appears to show a 2 ft. lift thickness was used), the material was placed too wet of its optimum moisture content, the presence of cobbles prevented complete compaction of the adjacent soils, or any number of other reasons. Additionally, the presence of cobbles against the back of the wall, and the presence of cobble nests, means there are likely small voids in these areas. The end result of these conditions is that, over time, it is expected that settlement of this 12 ft. of fill will occur, and this is a concern for the performance of the slab-on-grade.

It is our recommendation that either the backfill material behind this retaining wall be removed and replaced, in its entirety, with properly compacted fill, or that the structural engineer be consulted to determine what other redesign may be considered to prevent this future settlement from negatively impacting the slab-on-grade, and the overall building.

Should a structural solution be considered here, ex. constructing a structural slab to span this area, then we recommend, as a minimum, the top 4 ft. of fill here be removed, the subgrade compacted with a minimum of 8 passes of a vibratory padfoot trench compactor, then Item 4 fill be placed and compacted in maximum 12 in. loose lifts up to required grade. In this manner, some of the future settlement will be mitigated.

If you have any questions regarding the recommendations contained in this letter, please call us at 973-729-4824 or 973-670-5797.

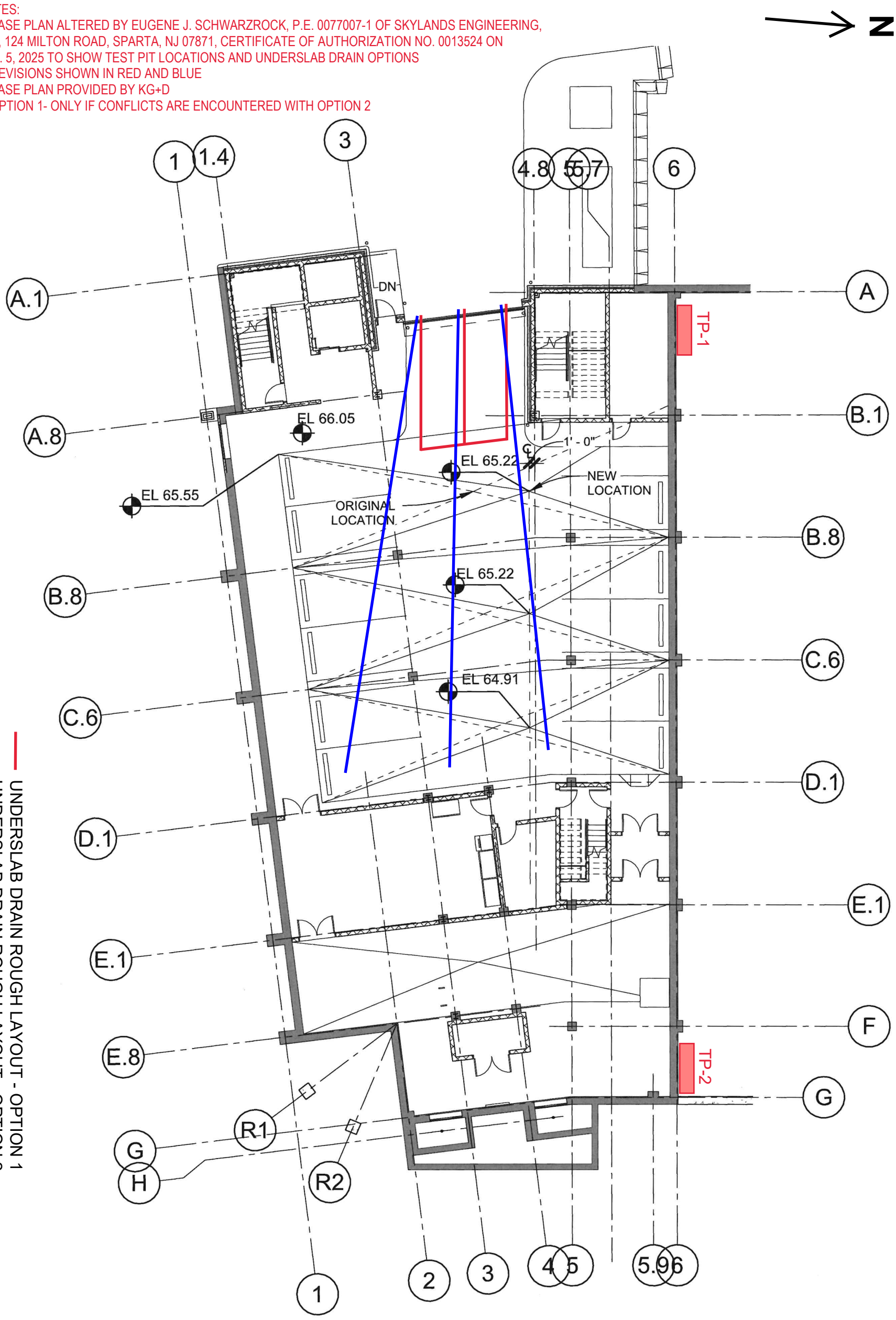
Sincerely,

Skylands Engineering, LLC
Certificate of Authorization No. 0013524

Eugene J. Schwarzrock, P.E.
Principal Engineer
New York Professional Engineer Lic. No. 077007-1

Attachment – Sketch

NOTES:
1. BASE PLAN ALTERED BY EUGENE J. SCHWARZROCK, P.E. 0077007-1 OF SKYLANDS ENGINEERING, LLC, 124 MILTON ROAD, SPARTA, NJ 07871, CERTIFICATE OF AUTHORIZATION NO. 0013524 ON FEB. 5, 2025 TO SHOW TEST PIT LOCATIONS AND UNDERSLAB DRAIN OPTIONS
2. REVISIONS SHOWN IN RED AND BLUE
3. BASE PLAN PROVIDED BY KG+D
4. OPTION 1- ONLY IF CONFLICTS ARE ENCOUNTERED WITH OPTION 2



HARRISON RECREATION & COMMUNITY CENTER

Town / Village of Harrison

KG+D listen imagine build
KG+D ARCHITECTS PC
285 MAIN STREET
MOUNT KISCO N. Y. 10549

Sheet Title: BASEMENT DRAINAGE	Job No: 2020-1005	Sheet No.: ASK-2
	Date: 1/24/2025	
S.E.D. Control No.	Scale: 1/16" = 1'-0"	Reference Drawing: