December 14th, 2023

Planning Commission
Town of Frisco
P.O. Box 4100
Frisco, CO 80443

Re: Project Narrative for Multi-Family Residential Homes located at:
160 Forest Drive
Frisco, CO 80443

Dear Planning Commission,

Thank you for considering our project for Sketch Plan approval for a Major Site Plan Application. In our submittal package you will see all required documents as well as our project narrative that is outlined below.

Sincerely,
Blue River Real Estate and BHH Partners

Project Description: This multi-family residential home is four units. The description of each unit is as follows:

- Unit A: 2 bedrooms, 2.5 bathrooms, 2 car garage
- Unit B: 2 bedrooms, 2.5 bathrooms, 1 car garage, and a flex room.
- Unit C: 3 bedrooms, 3.5 bathrooms, 2 car garage
- Unit D: 3 bedrooms, 2.5 bathrooms, 2 car garage

Additional outdoor parking spaces (five in total) are also provided to meet the required number of parking spaces per bedroom.

Exterior Materials: Please see the material color board provided. Wood, metal and stone siding will be utilized.

Landscape Features: The lot is home to a large granite boulder and the intention is to maintain as much of it as possible while meeting all slope disturbance requirements. The boulder will provide a unique experience for future home owners and will epitomize being in the Rocky Mountains.

Exterior Lighting: All the exterior lighting will be dark sky compliant.

Building Scales: The building complies with bulk plane requirements. Three levels are proposed. The sloped roofs are provided at a slope of at least 2/12.

Please see the detailed drawings for additional information.

160 FOREST DRIVE

GENERAL NOTES

1) COPYRIGHT:
All plans, designs, and concepts shown in these drawings are the exclusive property of BHH Partners, Planners and Architects, A.I.A./P.C. and shall not be used, disclosed, or reproduced for any purpose whatsoever without the Architect's written permission.

2) CODES:
This project is governed by the 2018 International Building Code as adopted by the Town of Frisco Colorado. Code compliance is mandatory. The drawings and specifications shall not permit work that does not conform to these codes. The General Contractor and Subcontractors shall be responsible for satisfying all applicable codes and obtaining all permits and required approvals. Building areas are shown for code purposes only and shall be recalculated for any other purposes.

3) FIELD VERIFICATION:
Verify all dimensions, conditions, and utility locations on the job site prior to beginning any work or ordering any materials. Notify Architect of any conflicts or discrepancies in the drawings immediately.

4) DIMENSIONS:
Written dimensions always take precedence over scaled dimensions. DO NOT SCALE DRAWINGS. Verify all dimensions shown prior to beginning any work and notify Architect of any conflicts or discrepancies for interpretation or clarification. Plan dimensions are to the face of framing members, face of wood furring or face of concrete walls unless otherwise noted. Section or elevation dimensions are to top of concrete, top of plywood, or top of wall plates or beams unless otherwise noted.

5) DISCREPANCIES:
The Owner has requested the Architect to provide limited architectural and engineering services. In the event additional details or guidance is needed by the Contractor for construction of any aspect of this project, he shall immediately notify the Architect. Failure to give simple notice shall relieve the Architect of responsibility. Do not proceed in areas of discrepancy until all such discrepancies have been fully resolved with written direction from the Architect.

6) DUTY OF COOPERATION:
Release of these plans contemplates further cooperation among the Owner, his Contractor, and the Architect. Design and construction are complex. Although the Architect and his Consultants have performed their services with due care and diligence, they cannot guarantee perfection. Communication is imperfect, and every contingency cannot be anticipated. Any ambiguity or discrepancy discovered by the use of these plans shall be reported immediately to the Architect. Failure to notify the Architect compounds misunderstanding and increases construction costs. A failure to cooperate by a simple notice to the Architect shall relieve the Architect from responsibility for all consequences.

7) CHANGES TO THE WORK:
Any items described herein that impact project budget or time shall be requested from the Contractor via a written change order request prior to such work. Performance of such work without approval by change order indicates General Contractor's acknowledgment of no increase in contract sum or time. Changes from the plans or specifications made without consent of the Architect are unauthorized and shall relieve the Architect of responsibility for any and all consequences resulting from such changes.

8) WORKMANSHIP:
It is the intent and meaning of these drawings that the Contractor and each Subcontractor provide all labor, materials, transportation, supplies, equipment, etc., to obtain a complete job within the recognized standards of the industry.

9) SUBSTITUTIONS:
Substitution of "equal" products will be acceptable with Owner's written approval. See specifications.

10) CONSTRUCTION SAFETY:
These drawings do not include the necessary components for construction safety. The General Contractor shall provide for the safety, care of utilities and adjacent properties during construction, and shall comply with state and federal safety regulations.

11) EXCAVATION PROCEDURES:
Upon completion of any excavation, the Owner shall retain a soils engineer to inspect the subsurface conditions in order to determine the adequacy of foundation design. See specifications.
CONTRACTOR SHALL NOT POUR ANY CONCRETE UNTIL APPROVAL IS OBTAINED FROM SOILS ENGINEER.

12) FIELD CUTTING OF STRUCTURAL MEMBERS:
The General Contractor and Subcontractors shall field coordinate and obtain approval from Engineer before any cutting, notching or drilling of any cast-in-place concrete, steel framing, or any other structural elements which may affect the structural integrity of the building. Refer to the appropriate Code Requirements, manufacturer's or supplier's instructions, and structural drawings for additional requirements.

13) WEATHER CONDITIONS:
The Owner has been advised that due to harsh winter conditions, roof and deck surfaces must be maintained reasonably free of ice and snow to ensure minimal problems with these surfaces. All roofing, roofing membranes, and waterproofing shall be approved in writing by product manufacturer (WR. Grace for bituthene, etc.) prior to proceeding with any work. Failure to provide these written approvals removes all responsibility for the work from the Architect.

14) BUILDING AREA
Building areas are shown for code purposes only and shall be recalculated for any other use.

15) PROJECT STAKING
The general contractor shall verify all existing grades and stake all building corners and the driveway location for Owner/Architect, review board and town of Silverthorne approval prior to beginning any site clearing.

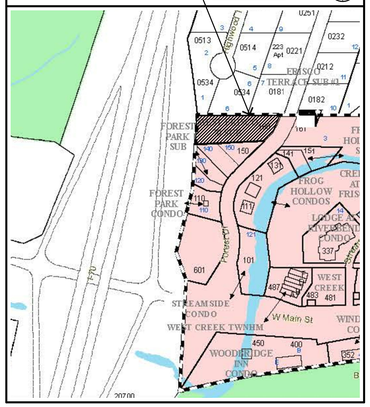
16) SITE DISTURBANCE
It is the responsibility of the contractor to protect the existing trees to remain and adjacent properties from damage during construction. Provide protective fencing throughout construction.

17) PROJECT GRADES
The general contractor shall check and verify all grades including paved area slopes prior to pouring any foundations. Survey work should be verified in detail. See numbers 5 and 6.

18) EXTERIOR MATERIAL MOCK UP
At Owner option, the General Contractor shall provide a mock up of all exterior materials for review by the Owner and Architect. This mock up shall be provided and signed off in writing prior to any exterior stain or exterior finish work. The sample shall include fascia, trim, window cladding and all other exterior finishes including a 3'-0"x3'-0" (min) sample of exterior stonework if applicable. This mock up shall be retained on site until the final punch.

19) 3D MODELING
This project has been digitally modeled in 3D software. The digital model is provided for reference purposes only. Transmission of digital model files constitutes a warranty by the party transmitting files to the party receiving files that the transmitting party is the copyright owner of the digital data. Unless otherwise agreed in writing, any use of, transmission of, or reliance on the model is at the receiving party's risk. The contractor shall notify the architect of questions or coordination issues between the contract documents and digital model.

VICINITY MAP



LEGAL DESCRIPTION

LOT 2, AMENDED FRISCO WEST 70, FILING 2
160 FOREST DRIVE
FRISCO, CO

FIRE SPRINKLER SYSTEM

PROVIDE NFPA 13 AUTOMATIC FIRE SPRINKLER SYSTEM FOR 4 UNIT CONDOMINIUM BUILDING AND NFPA 13 FOR PARKING TO INCLUDE FDC, EXTERIOR HORN, AND LIGHT. PROVIDE SIDE WALL HEADS TO GREATEST EXTENT POSSIBLE. PROVIDE SUBMITTAL FOR AUTOMATIC FIRE SPRINKLER SYSTEM

SITE NOTES

1. ELECTRIC, CABLE T.V. AND TELEPHONE UNDERGROUND IN COMMON TRENCH.
2. VERIFY ALL UTILITY LOCATIONS PRIOR TO ANY WORK. COORDINATE UTILITY ROUTING WITH APPLICABLE UTILITY COMPANY. ALL UTILITIES TO BE UNDERGROUND.
3. TOPOGRAPHIC INFORMATION OBTAINED FROM RANGE WEST ENGINEERS & SURVEYORS, INC. DATED 09/22/23.
4. PROVIDE POSITIVE DRAINAGE AT BUILDING PERIMETER (SLOPE AWAY FROM BUILDING AT 1:12 MIN.)
5. REFER TO FOUNDATION PLAN FOR FOUNDATION DRAIN LOCATION AND SLOPE. DRAINS TO BE SLOPED TO A DRYWELL.
6. FLAG ALL TREES FOR OWNER PRIOR TO THINNING OR REMOVING.
7. PROTECT ALL REMAINING TREES WITH SNOW FENCE OR OTHER APPROVED BARRIER DURING CONSTRUCTION.
8. PROVIDE 6" DIA. STONE RIP RAP OVER WEED BARRIER FABRIC AT EAVES AND VALLEY DRIP LOCATIONS.
9. STAKE HOUSE LOCATION FOR OWNER, ARCHITECT, AND ARCHITECTURAL REVIEW BOARD PRIOR TO ANY WORK.
10. GENERAL CONTRACTOR TO REVIEW & COMPLY WITH ALL SUBDIVISION CONDITIONS. COPIES OF CONDITIONS ARE AVAILABLE FROM ARCHITECT.

FINISHED FLOOR ELEVS

	U.S.G.S.	ARCH'L.
LOWER	9105.00'	100'-0"
MAIN	9116.00'	111'-0"
UPPER	9127.00'	122'-0

VIEW FROM FOREST DRIVE

AREA CALCULATIONS

NOTE: SQUARE FOOTAGES ARE CALCULATED FOR CODE PURPOSES ONLY AND SHOULD BE RECALCULATED FOR ANY OTHER PURPOSES.

UNIT A

	FINISHED	UNFINISHED	TOTAL
LOWER	164 S.F.	484 S.F.	648 S.F.
MAIN	867 S.F.	0 S.F.	867 S.F.
UPPER	325 S.F.	0 S.F.	325 S.F.
TOTAL	1356 S.F.	484 S.F.	1840 S.F.

UNIT B

	FINISHED	UNFINISHED	TOTAL
LOWER	586 S.F.	264 S.F.	850 S.F.
MAIN	589 S.F.	0 S.F.	589 S.F.
UPPER	610 S.F.	0 S.F.	610 S.F.
TOTAL	1785 S.F.	264 S.F.	2049 S.F.

UNIT C

	FINISHED	UNFINISHED	TOTAL
LOWER	268 S.F.	728 S.F.	996 S.F.
MAIN	975 S.F.	0 S.F.	975 S.F.
UPPER	713 S.F.	0 S.F.	713 S.F.
TOTAL	1956 S.F.	728 S.F.	2684 S.F.

UNIT D

	FINISHED	UNFINISHED	TOTAL
LOWER	268 S.F.	728 S.F.	996 S.F.
MAIN	975 S.F.	0 S.F.	975 S.F.
UPPER	627 S.F.	0 S.F.	627 S.F.
TOTAL	1870 S.F.	728 S.F.	2598 S.F.

SHEET INDEX

SOILS ENGINEER:
CTL THOMPSON, INC.
1390 AIRPORT RD., UNIT 2
BRECKENRIDGE, CO 80424
(970) 453-2047
bniggeler@ctlthompson.com

SURVEYOR:
RANGE WEST ENGINEERS & SURVEYORS, INC.
P.O. BOX 588
SILVERTHORNE, CO 80498
(970) 468-6281
(970) 668-3765 FAX

ENGINEER:
ROCKY'S ENGINEERING, LLC
215 4th AVE.
FRISCO, CO 80443
(970) 389-4895
rockysengineering1@gmail.com

CONTRACTOR:
SWEET HOMES OF COLORADO, INC.
P.O. BOX 1399 PMB 288
FRISCO, CO 80443
(970) 262-3818
eric@sweethomesinc.com

ARCHITECT:
BHH Partners of Colorado
560 ADAMS AVENUE
SILVERTHORNE, CO 80498
(970) 453-6880
jbuxkemper@bhhpartners.com

OWNER:
BLUE RIVER REAL ESTATE FUND III, LLC
P.O. BOX 1035
BRECKENRIDGE, CO 80424
(347) 834-1009
ajfrancis1985@gmail.com

REVISIONS:

JOB NO: 12317
DATE: 12-14-23
DRAWN BY: jbuxkemper
CHECKED BY: mhogan

ISSUED FOR:
MAJOR SITE PLAN
12-14-23

bhh Partners of Colorado
560 ADAMS AVE SILVERTHORNE, CO 80498 - P.O. BOX 7399-334 BRECKENRIDGE, CO 80424 (970) 453-6880

160 FOREST DRIVE
LOT 2, AMENDED FRISCO WEST 70, FILING 2, 160 FOREST DRIVE, FRISCO, COLORADO

SHEET NUMBER:
T1

SLOPE DISTURBANCE

SLOPE PERCENTAGE	EXIST. SLOPE AREA	ALLOWED DISTURBANCE	AREA OF DISTRIBUANCE
0%-15%	8519.04 S.F.	(100%) 8519.04 S.F.	4261.00 S.F.
15%-30%	10639.09 S.F.	(50%) 5319.54 S.F.	2641.00 S.F.
+30%	18104.48 S.F.	(15%) 2715.67 S.F.	2605.00 S.F.

FRISCO TERRACE FILING No. 1

LOT 1

LOT 6

LOT 7

WOODEN STEPS

FOUND ROCK "X" MARK CARVED

N90°00'00"E

344.26'

9168

ROCK OUTCROP AREA

9160

LOT 2
0.856 Ac.
ADDRESS: 160
FOREST DRIVE

9140

ROCK OUTCROP AREA

9130

TRENCH FLOWLINE

DISTURBANCE LINE

CP-RIDGE
EL. = 9146.18'

S88°01'00"W

9120

283.69'

BRICK WALL

FOREST PARK

LOT 150

8.31'

S19°

EDGE UNFINISHED ACCESS

PHONE

9116

PARKING AREA

9104

RIM EL. = 9004.59'

FOREST DRIVE
60' R.O.W.

EDGE OF ASPHALT

SLOPE DISTURBANCE PLAN

SCALE: 1" = 10'-0"

0' 5' 10' 20' 40'

NORTH

REVISIONS:

JOB NO: 12317
DATE: 12-14-23
DRAWN BY: J BUXKEMPER
CHECKED BY: mhogan

ISSUED FOR:
MINOR SITE PLAN
12-14-23

bhh Partners of Colorado
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160 FOREST DRIVE

LOT 2, AMENDED FRISCO WEST 70, FILING 2, 160 FOREST DRIVE, FRISCO, COLORADO

SHEET NUMBER:

SP1.0

LOT COVERAGE

	AREA	%
LOT SIZE:	37,287 S.F. 0.856 AC	
COVERAGES: BUILDING FOOTPRINT* DRIVE	4,752 S.F. 3,344 S.F.	
LOT COVERAGE:	8,096 S.F.	21.7%

*INCLUDES ROOFS, DECKS, PATIOS AND LANDSCAPE PLANTERS

REQUIRED SNOWSTACK

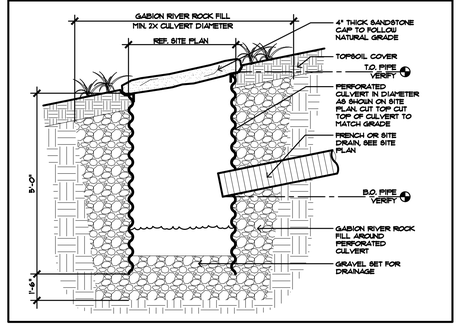
	SQ. FT.	%
HARDSCAPE (WALKS & DRIVEWAY)	3,344 S.F.	100%
REQ'D SNOW STACK (25% OF HARDSCAPE)	836 S.F.	25%
TOTAL SNOW STACK	936 S.F.	28%

BUILDING HEIGHT

ARCHITECTURAL 100'-0" FOR PROJECT=9105.00' USGS
ALLOWED BUILDING HEIGHT = 35.00'
PROPOSED BUILDING HEIGHT = 34.31'

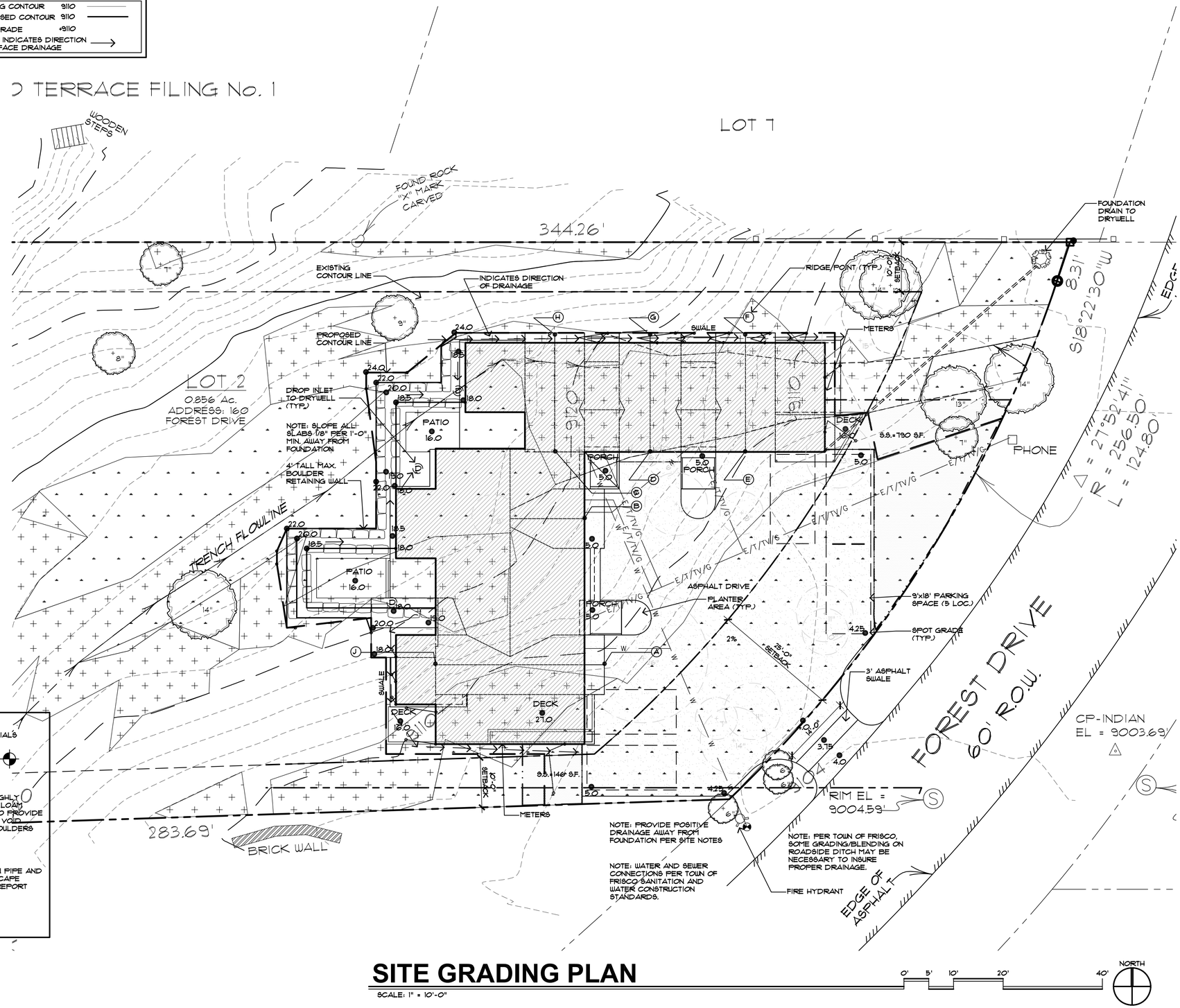
RIDGE POINT	RIDGE ELEV	NAT. GRADE ELEV	FIN. GRADE ELEV	MEASURED FROM	CALCULATIONS	HEIGHT
A	9139.23'	9108.50'	9105.00'	FIN. ELEV	9139.23'-9105.00'	34.23'
B	9139.23'	9118.00'	9105.00'	FIN. ELEV	9139.23'-9105.00'	34.23'
C	9139.23'	9120.50'	9105.00'	NAT. ELEV	9139.23'-9120.50'	18.73'
D	9139.31'	9116.50'	9105.00'	FIN. ELEV	9139.31'-9105.00'	34.31'
E	9139.23'	9110.50'	9105.00'	FIN. ELEV	9139.23'-9105.00'	34.23'
F	9139.23'	9113.00'	9113.00'	FIN. ELEV	9139.23'-9113.00'	26.23'
G	9139.31'	9119.50'	9119.50'	FIN. ELEV	9139.31' -9119.50'	19.81'
H	9139.23'	9122.00'	9122.00'	FIN. ELEV	9139.23'-9122.00'	17.23'
J	9139.23'	9114.00'	9105.00'	NAT. ELEV	9139.23'-9114.00'	25.23'

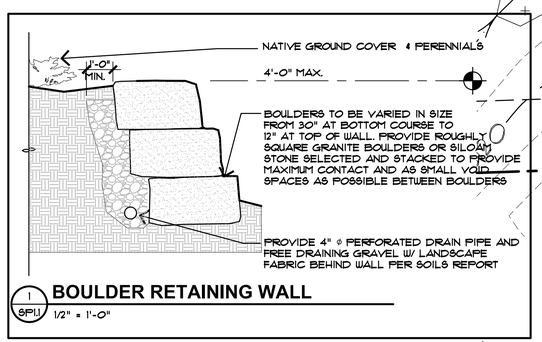
DRYWELL DETAIL



CONTOUR LEGEND

EXISTING CONTOUR 9110
PROPOSED CONTOUR 9110
SPOT GRADE +9110
ARROW INDICATES DIRECTION OF SURFACE DRAINAGE





1 / SP1.1 **BOULDER RETAINING WALL**
1/2" = 1'-0"

SITE GRADING PLAN

SCALE: 1" = 10'-0"

0' 5' 10' 20' 40' NORTH

REVISIONS:

JOB NO: 12317
DATE: 12-14-23
DRAWN BY: J.BUXKEMPER
CHECKED BY: M.HOGAN

ISSUED FOR:
MAJOR SITE PLAN
12-14-23

bhh Partners of Colorado
560 ADAMS AVE SILVERTHORNE, CO 80498 - P.O BOX 7399-334 BRECKENRIDGE, CO 80424 (970) 453-6880

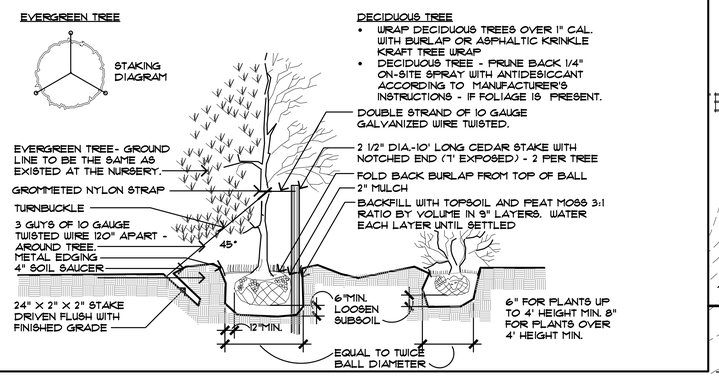
160 FOREST DRIVE

LOT 2, AMENDED FRISCO WEST 70, FILING 2, 160 FOREST DRIVE, FRISCO, COLORADO

SHEET NUMBER:

SP1.1

PLANTING DETAIL



PLANTING LIST & NOTES

KEY	COMMON	BOTANICAL	NO.	SIZE
EXISTING TREES				
	EXISTING	VARIES -	33	SEE SITE PLAN
EXISTING TREES TO BE REMOVED				
	VARIES -	VARIES -	13	SEE SITE PLAN
TREES				
	COLORADO SPRUCE	PICEA PUNGENS OR PICEA ENGELMANNI	0	10' TALL / 8' TALL
	ASPEN	POPULUS TREMULODES	8	50% 2" CAL 50 % 3" CAL
SHRUBS/GROUND COVERS & PERENNIALS				
	POTENTILLA	POTENTILLA FRUTICOSA	4	5 GAL.
	ALPINE CURRANT	RIBIES ALPINUM	0	5 GAL.
	PEKING COTONEASTER	COTONEASTER LUCIDUS OR APICULATUS	6	5 GAL.
	NATIVE GROUND COVER AND PERENNIALS	PROVIDE SUBMITTAL	0	1 FLAT

REVEGETATION NOTES

REVEGETATE ALL DISTURBED AREAS ON THE SITE WITH:

SHORT DRY GRASS MIX #2 LBS/1000 SF:

HARD FESCUE	30%
CREEPING RED FESCUE	30%
SHEEP FESCUE	25%
CANADA BLUEGRASS	10%
CANBY BLUEGRASS	5%

SLOPES OVER 3:1 SHALL BE HAY TACKIFIED OR NETTED.

MOUNTAIN MAGIC WILDFLOWER MIX #1 LB/10,000 SF:

BABY'S BREATH	BLANKETFLOWER
CALIFORNIA POPPY	SHIRLEY POPPY
BLUE FLAX	LUPINE MIX
WALLFLOWER	MAIDEN PINKS
PENSTEMON, ROCKY MOUNTAIN	
WILD THYME	

ROCKY MOUNTAIN BLUE COLUMBINE MIX #1LB/25,000 SF

OR

WESTERN NATIVE WILDFLOWER MIX #1 LB/6000 SF:

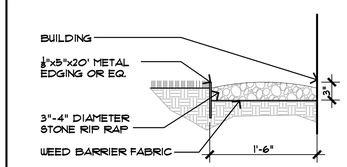
MOUNTAIN LUPINE	CONEFLOWER, WESTERN
COLUMBINE, COLORADO	SULFUR FLOWER
GERANIUM, RICHARDSON	NODDING GROUNDSEL
ASTER, ENGLEMANNS	WESTERN LARKSPUR
GAILLARDIA/BLANKETFLOWER	AMERICAN VETCH
ORANGE MOUNTAIN DAISY	GIANT LOUSEWORT
PENSTEMON, WASATCH	PENSTEMON, RYDBERGS
PENSTEMON, SMALL FLOWERED	
PENSTEMON, ROCKY MOUNTAIN	

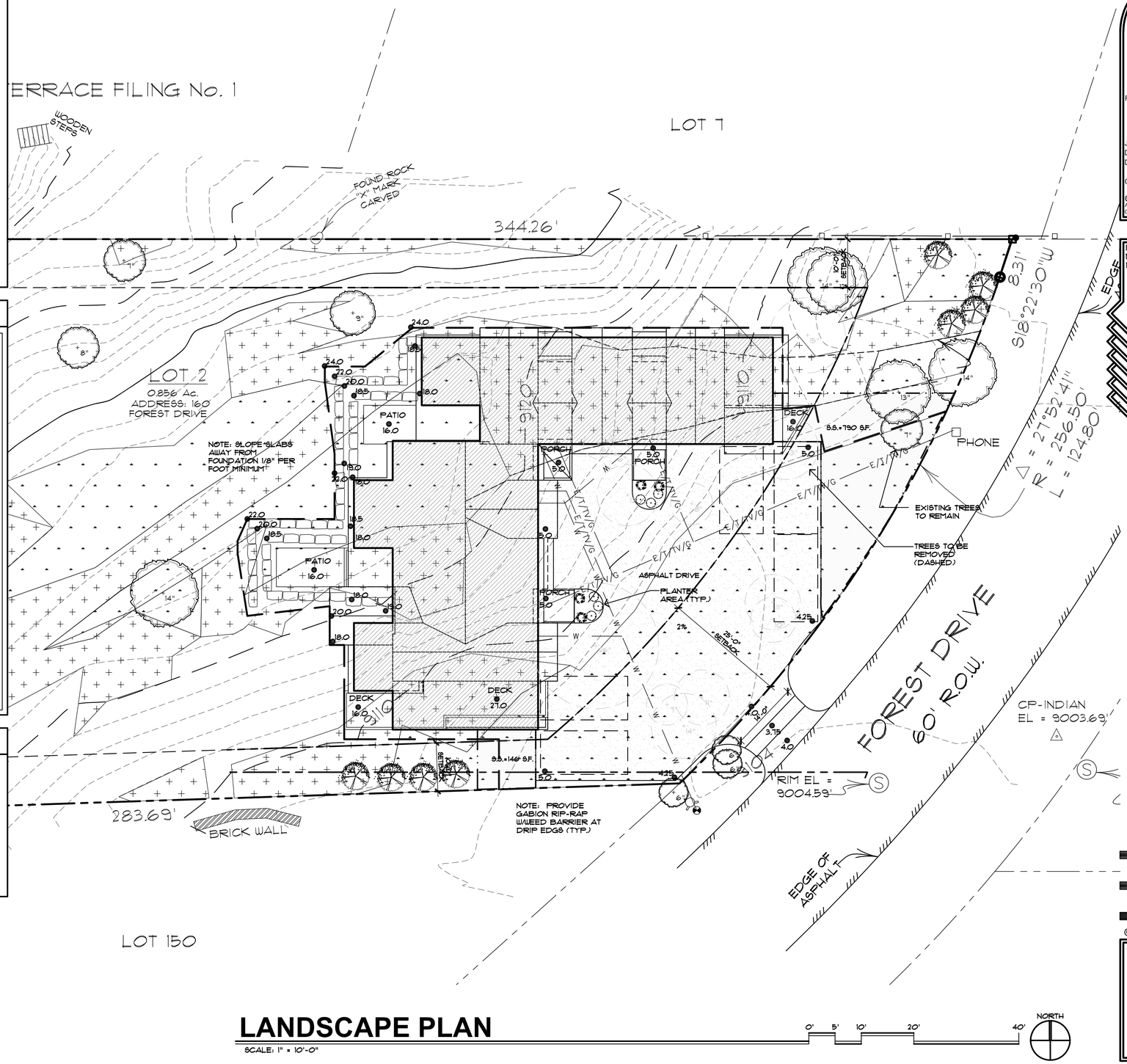
LANDSCAPE NOTES

1. PROVIDE 2"-3" (MIN.) CLAYTREE TOPSOIL AND SEED ALL DISTURBED AREAS WITH SUMMIT CO. SHORT SEED MIX (AS APPROVED BY THE TOUN OF FRISCO. STRIP AND STOCKPILE EXISTING TOPSOIL IN CONSTRUCTION AREA. SCREEN TOPSOIL PRIOR TO INSTALLATION.
2. KEEP EXISTING TREES WHERE POSSIBLE, TAKING INTO CONSIDERATION DRIP LINES AND ROOT STRUCTURE. PROTECT EXISTING TREES WITH FENCING LOCATED AT OR OUTSIDE DRIP LINE OF TREE. STOCKPILE AND REUSE EXISTING TREES WHERE POSSIBLE.
3. GENERAL CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDING FOUNDATIONS PER SPECIFICATIONS AND CODE REQUIREMENTS.
4. PRIOR TO ANY LANDSCAPE WORK, REMOVE ALL DEBRIS, PAINT, CONCRETE, STUMPS, SLASH, ETC. FROM LANDSCAPE AREA.
5. LOCATE ALL PLANTINGS TO AVOID SNOW STACKING & SNOW SLIDE AREAS FROM ABOVE.
6. SHRUBS ARE TO BE FIELD LOCATED AS APPROVED BY OWNER.
7. ALL NEW PLANTINGS SHOULD BE HIGH ALTITUDE GROWN AND OR COLLECTED TO ENSURE BETTER SURVIVAL.
8. NATURALIZE GROUPING OF TREES BY VARYING HEIGHT & LOCATION WHEREVER POSSIBLE.
9. SCREEN ALL UTILITY PEDESTALS WITH LANDSCAPE MATERIAL.
10. PROVIDE 3" TO 4" DIAMETER STONE RIPRAP OVER WEED BARRIER FABRIC AT BUILDING DRIP LINES. UNDULATE EDGES AND PROVIDE LANDSCAPE EDGING AT RIPRAP TO TOPSOIL JUNCTURE.
11. INSTALL & BACKFILL ALL PLANTINGS WITH SOIL MIX INCLUDING ORGANIC SOIL AMENDMENTS PER SPECIES REQUIREMENTS AND LANDSCAPE DETAILS.
12. ROOT FEED ALL NEWLY PLANTED TREES DURING INSTALLATION. PROVIDE LIQUID GROWTH TREE STIMULATOR AND SOLUABLE FERTILIZER AT RECOMMENDED RATE FOR EACH TREE SPECIES.
13. PROVIDE 3" OF SHREDDED BARK MULCH AT ALL SHRUB AND TREE WELLS.
14. ADDITIONAL CONSULTATION WITH A QUALIFIED LANDSCAPE PROFESSIONAL AT OWNER OPTION IS RECOMMENDED.

NOTE: ALL LANDSCAPING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE RESERVE AND TOUN OF FRISCO.

RIP RAP BORDER





LANDSCAPE PLAN

SCALE: 1" = 10'-0"

0' 5' 10' 20' 40' NORTH

REVISIONS:

JOB NO: 12317
DATE: 12-14-23
DRAWN BY: J.BUXKEMPER
CHECKED BY: M.HOGAN

ISSUED FOR:
MAJOR SITE PLAN
12-14-23

bhh Partners of Colorado
560 ADAMS AVE SILVERTHORNE, CO 80498 - P.O. BOX 7399-334 BRECKENRIDGE, CO 80424 (970) 453-6880

160 FOREST DRIVE

LOT 2, AMENDED FRISCO WEST 70, FILING 2, 160 FOREST DRIVE, FRISCO, COLORADO

SHEET NUMBER:

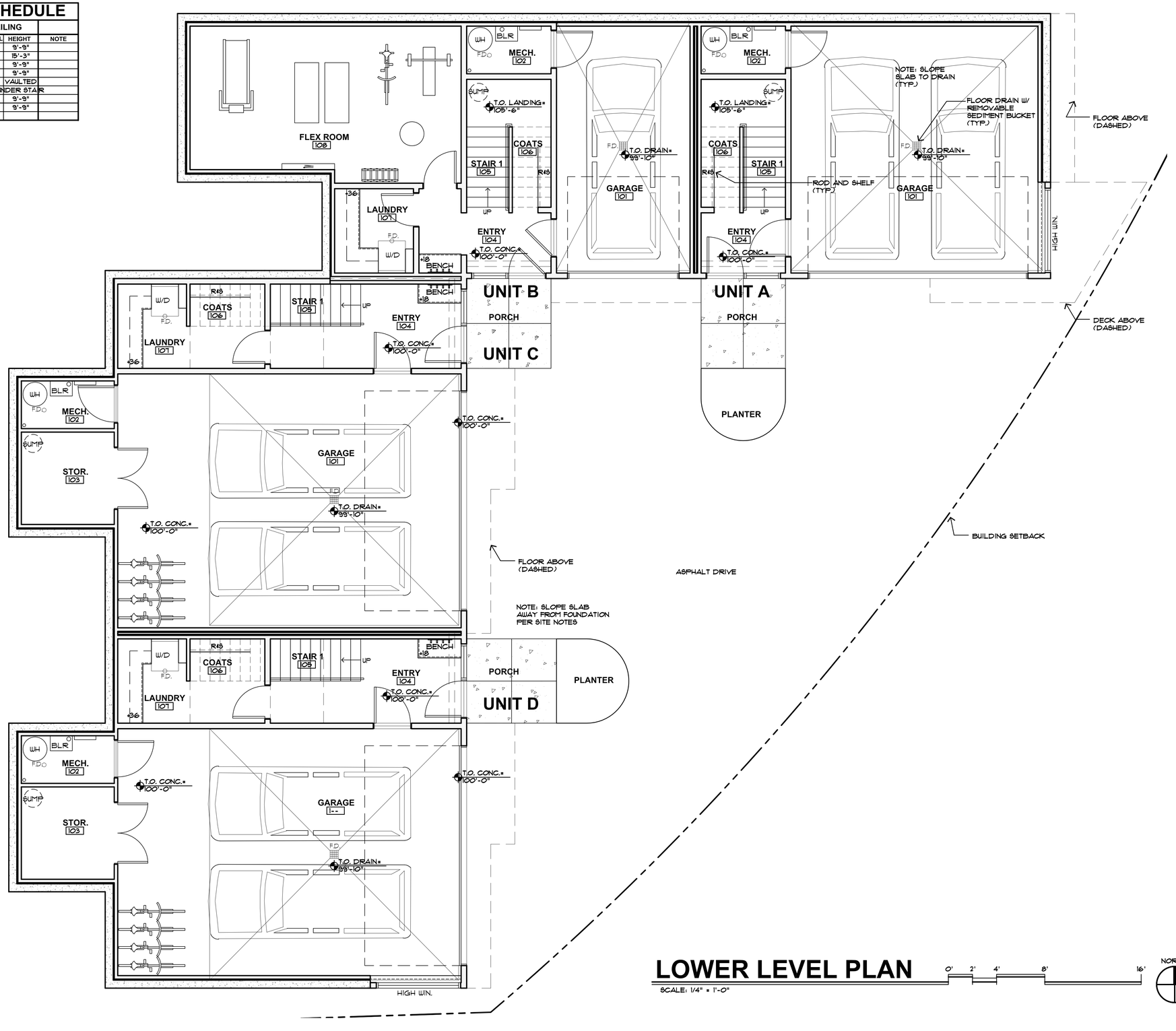
SP1.2

LOWER LEVEL ROOM FINISH SCHEDULE

#	ROOM NAME	FLOOR		WALLS	CEILING		
		MATERIAL	BASE	MATERIAL	MATERIAL	HEIGHT	NOTE
101	GARAGE	CONC.	VINYL	1	1	9'-9"	
102	MECHANICAL	CONC.	VINYL	1	1	15'-3"	
103	STORAGE	CONC.	VINYL	1	1	9'-9"	
104	ENTRY	CONC.	WOOD	1	1	9'-9"	
105	STAIR 1	WOOD	WOOD	1	1	VAULTED	
106	COATS	CONC.	WOOD	1	1	UNDER STAIR	
107	LAUNDRY	CONC.	WOOD	1,2	1	9'-9"	
108	FLEX ROOM	CONC.	WOOD	1	1	9'-9"	

(SEE SHEET A1.2 FOR ROOM FINISH SCHEDULE NOTES)

NOTE: AT ALL CONCRETE SLABS, PROVIDE TOOLED CONTROL JOINTS AT 4' MAX. O.C. EA. WAY, TYP. PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS, TYP.



LOWER LEVEL PLAN

SCALE: 1/4" = 1'-0"

0' 2' 4' 8' 16'

NORTH

REVISIONS:

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560 ADAMS AVE SILVERTHORNE, CO 80498 - P.O BOX 7399-334 BRECKENRIDGE, CO 80424 (970) 453-6880

160 FOREST DRIVE

LOT 2, AMENDED FRISCO WEST 70, FILING 2, 160 FOREST DRIVE, FRISCO, COLORADO

SHEET NUMBER:

A1.1

MAIN LEVEL ROOM FINISH SCHEDULE

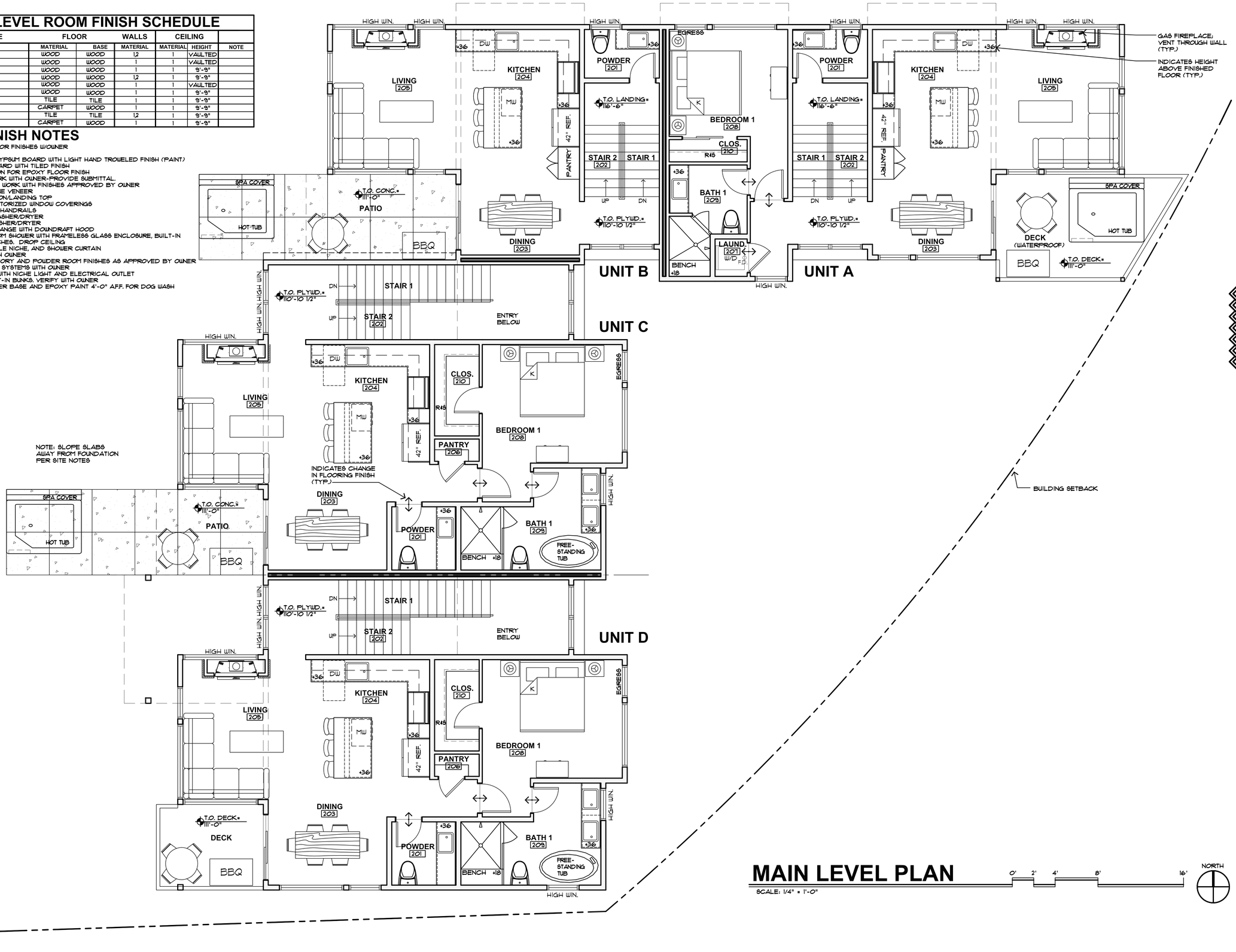
#	ROOM NAME	FLOOR		WALLS	CEILING		NOTE
		MATERIAL	BASE	MATERIAL	MATERIAL	HEIGHT	
201	POWDER	WOOD	WOOD	1,2	1	VAULTED	
202	STAIR 2	WOOD	WOOD	1	1	VAULTED	
203	DINING	WOOD	WOOD	1	1	9'-9"	
204	KITCHEN	WOOD	WOOD	1,2	1	9'-9"	
205	LIVING	WOOD	WOOD	1	1	VAULTED	
206	PANTRY	WOOD	WOOD	1	1	9'-9"	
207	LAUNDRY	TILE	TILE	1	1	9'-9"	
208	BEDROOM 1	CARPET	WOOD	1	1	9'-9"	
209	BATH 1	TILE	TILE	1,2	1	9'-9"	
210	CLOSET	CARPET	WOOD	1	1	9'-9"	

ROOM FINISH NOTES

NOTE: VERIFY INTERIOR FINISHES W/OWNER

1. 5/8" TYPE 'X' GYPSUM BOARD WITH LIGHT HAND TROWELED FINISH (PAINT)
2. 1/2" CEMENT BOARD WITH TILED FINISH
3. PROVIDE OPTION FOR EPOXY FLOOR FINISH
4. VERIFY MILLWORK WITH OWNER-PROVIDE SUBMITTAL.
5. PROVIDE BEAM WORK WITH FINISHES APPROVED BY OWNER
6. SPECIFIED STONE VENEER
7. DOCKING STATION/LANDING TOP
8. OPTION FOR MOTORIZED WINDOW COVERINGS
9. WALL MOUNTED HANDRAILS
10. FRONT LOAD WASHER/DRYER
11. STACKABLE WASHER/DRYER
12. PROVIDE 36" RANGE WITH DOWNDRAFT HOOD
13. PROVIDE CUSTOM SHOWER WITH FRAMELESS GLASS ENCLOSURE, BUILT-IN BENCH, AND NICHES. DROP CEILING
14. TUB, SHOWER, TILE NICHE, AND SHOWER CURTAIN
15. VERIFY TUB WITH OWNER
16. SPECIAL LAVATORY AND POWDER ROOM FINISHES AS APPROVED BY OWNER
17. VERIFY CLOSET SYSTEMS WITH OWNER
21. BUNK ALCOVE WITH NICHE LIGHT AND ELECTRICAL OUTLET
22. OPTIONAL BUILT-IN BUNKS. VERIFY WITH OWNER
23. PROVIDE SHOWER BASE AND EPOXY PAINT 4'-0" AFF. FOR DOG WASH

NOTE: SLOPE SLABS AWAY FROM FOUNDATION PER SITE NOTES



MAIN LEVEL PLAN

SCALE: 1/4" = 1'-0"

0' 2' 4' 8' 16'

NORTH

REVISIONS:

JOB NO: 12317
DATE: 12-14-23
DRAWN BY: J.BUXKEMPER
CHECKED BY: M.HOGAN

ISSUED FOR:
MAJOR SITE PLAN
12-14-23

bhh Partners of Colorado
560 ADAMS AVE SILVERTHORNE, CO 80498 - P.O BOX 7399-334 BRECKENRIDGE, CO 80424 (970) 453-6880

160 FOREST DRIVE

LOT 2, AMENDED FRISCO WEST 70, FILING 2, 160 FOREST DRIVE, FRISCO, COLORADO

SHEET NUMBER:

A1.2

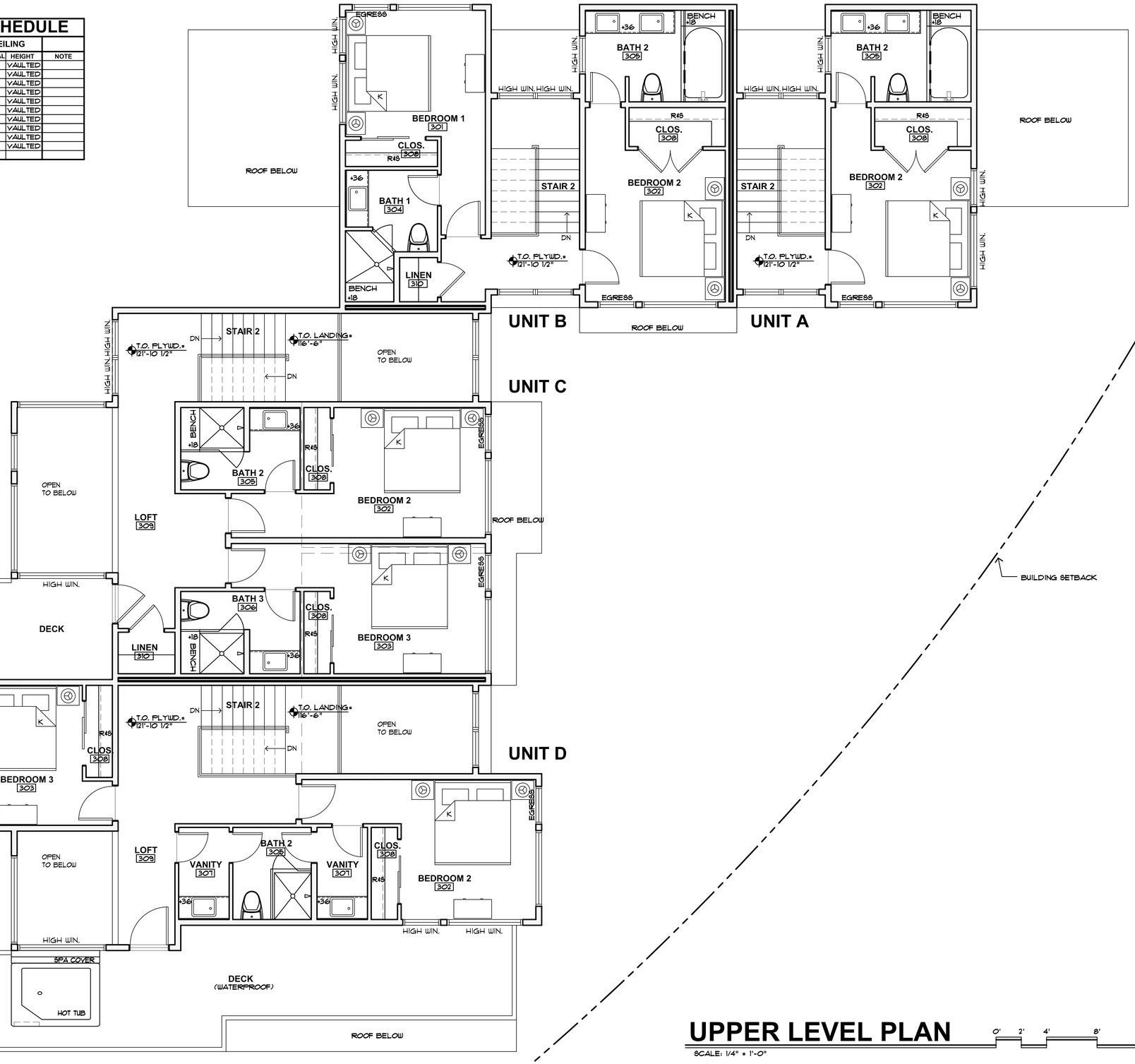
UPPER LEVEL ROOM FINISH SCHEDULE

#	ROOM NAME	FLOOR		WALLS	CEILING		
		MATERIAL	BASE	MATERIAL	MATERIAL	HEIGHT	NOTE
301	BEDROOM 1	CARPET	WOOD	1	1	VAULTED	
302	BEDROOM 2	CARPET	WOOD	1	1	VAULTED	
303	BEDROOM 3	CARPET	WOOD	1	1	VAULTED	
304	BATH 1	TILE	TILE	1,2	1	VAULTED	
305	BATH 2	TILE	TILE	1,2	1	VAULTED	
306	BATH 3	TILE	TILE	1,2	1	VAULTED	
307	VANITY	TILE	TILE	1,2	1	VAULTED	
308	CLOSET	CARPET	WOOD	1	1	VAULTED	
309	LOFT	WOOD	WOOD	1	1	VAULTED	
310	LINEN	WOOD	WOOD	1	1	VAULTED	

(SEE SHEET A1.2 FOR ROOM FINISH SCHEDULE NOTES)

DOOR & WINDOW NOTES

1) DUAL GLAZE ALL WINDOWS AND DOORS WITH GLASS.
2) PRIOR TO ANY FRAMING WORK, VERIFY ROUGH OPENING DIMENSIONS WITH WINDOW MANUFACTURER. NOTIFY ARCHITECT OF ANY DISCREPANCIES.
3) SEE PLANS AND ELEVATIONS FOR OPERATION AND WINDOW TYPE.
4) PROVIDE WEATHER STRIPPING AND ALUMINUM THRESHOLD AT ALL EXTERIOR DOORS.
5) VERIFY JAMB WIDTHS WITH WALL THICKNESS PRIOR TO INSTALLATION.
6) PROVIDE SAFETY GLASS TO COMPLY WITH CODE REQUIREMENTS (SEE 2018 I.B.C.).
7) ALL GLAZING SYSTEMS SHALL BE RATED FOR USE AT HIGH ALTITUDES PER MANUFACTURER'S REQUIREMENTS.
8) INSULATE ALL EXTERIOR SHIM SPACES AT DOORS.
9) WRAP ALL EXTERIOR OPENINGS WITH 15# FELT (PER SPECS.) PROVIDE 1-1/2" X 1-1/2" HEAD FLASHING AT ALL EXTERIOR OPENINGS (PRIME AND PAINT OR COLOR CLAD).
10) WINDOWS AND DOORS TO HAVE FIELD APPLIED EXTERIOR TRIM. (DO NOT PROVIDE BRICK MOLD).
11) PROVIDE SHOP DRAWINGS FOR ALL SPECIAL/CUSTOM DOORS AND WINDOWS PRIOR TO FABRICATION.
12) WINDOWS AND PATIO DOORS ARE GENERIC
13) SEE FLOOR PLANS FOR DOOR & WINDOW SIZES.
14) VERIFY ROUGH OPENING SIZES W/MANUFACTURER CATALOGUE PRIOR TO FRAMING.
15) FIELD MEASURE TO VERIFY ALL CUSTOM UNIT SIZES.
16) INTERIOR DOORS TO BE CENTERED ON SPACES OR INSTALLED W/ 4" OFFSET TO NEAREST WALL (U.N.O.)



BUILDING SETBACK

UPPER LEVEL PLAN

SCALE: 1/4" = 1'-0"

0' 2' 4' 8' 16'

NORTH

REVISIONS:

JOB NO: 12317
DATE: 12-14-23
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CHECKED BY: M.HOGAN

ISSUED FOR:
MAJOR SITE PLAN
12-14-23

bhh Partners of Colorado
560 ADAMS AVE SILVERTHORNE, CO 80498 - P.O BOX 7399-334 BRECKENRIDGE, CO 80424 (970) 453-6880

160 FOREST DRIVE

LOT 2, AMENDED FRISCO WEST 70, FILING 2, 160 FOREST DRIVE, FRISCO, COLORADO

SHEET NUMBER:

A1.3

ROOF NOTES:

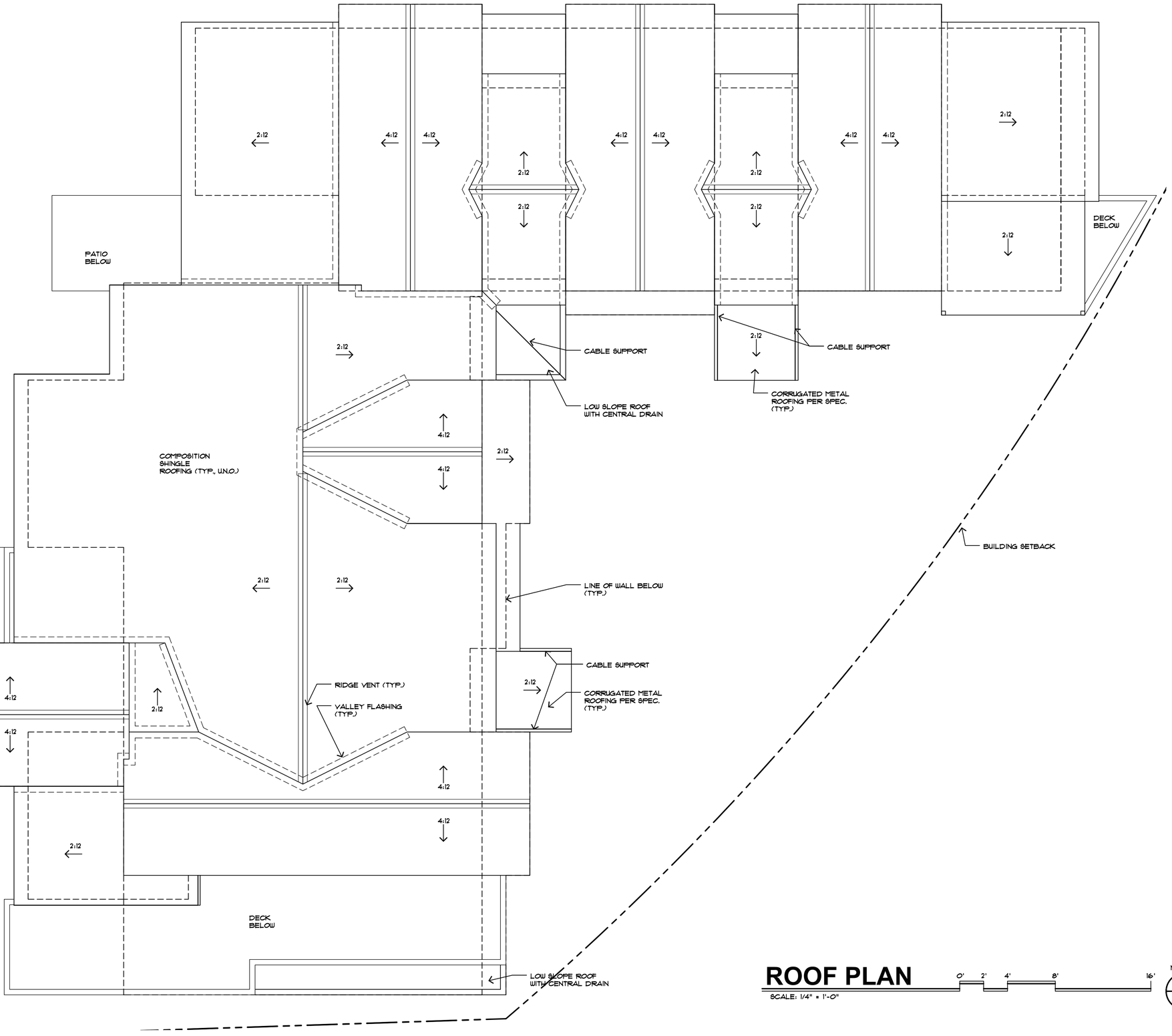
1. PROVIDE HEAT TAPE @ HEATED GUTTERS & DOWNSPOUTS. PROVIDE ELECTRIC OUTLET FOR HEAT TAPE AT EACH DOWNSPOUT TERMINATION LOCATION.
2. PAINT ALL EXPOSED PIPING EXTENDING THROUGH ROOF TO MATCH ROOF.
3. PROVIDE VALLEY FLASHING AT ALL VALLEYS.
4. OVERHANG DIMENSIONS ARE TO END OF RAFTER/TRUSSES - SEE DETAILS.
5. REFER TO PLAN FOR ALL ROOF OVERHANGS.
6. PROVIDE KICK-OUT FLASHING AT ALL EAVE/WALL JUNCTURES.
7. PROVIDE ADDITIONAL SOFFIT OUTLETS FOR CHRISTMAS LIGHTING - LOCATE PER OWNER INPUT.
8. SEE SHEET SP1.1 FOR BUILDING HEIGHT CALCULATIONS.
9. PROVIDE I.L.C AS REQUIRED.
10. CONTRACTOR TO COORDINATE HEATED GUTTER AND DOWNSPOUT LOCATIONS WITH ARCHITECT
11. ALL PLUMBING VENTS, BOILER VENTS, AND OTHER ROOF PENETRATIONS ARE WITHIN 4'-0" OF RIDGE LINES. PAINT TO MATCH ROOF COLOR.

COLD ROOF NOTE:

THIS PROJECT INCLUDES A "COLD ROOF" DESIGN. PROVIDE INSULATION BAFFLES AT ALL RAFTER SPACES AND HOLD DOWN VALLEY FRAMING TO ENSURE AIRFLOW ABOVE ALL VALLEYS. THIS INCLUDES FLUSH VALLEYS (SEE DETAIL). IF NECESSARY DRILL HOLES FOR VENTILATION AS APPROVED BY THE STRUCTURAL ENGINEER. THIS INCLUDES BEAMS AND ALL AREAS THAT RESTRICT AIR FLOW FROM SOFFIT VENTS UP TO RIDGE VENTS. PROVIDE 1" DIAMETER HOLES @ 8" O.C. IN THESE AREAS. RETAIN 1 1/2" OF BEAM ABOVE VENTILATION HOLES. VERIFY WITH STRUCTURAL ENGINEER.

ROOFING NOTE:
REFER TO SPECIFICATIONS. PROVIDE ROOF PRIMER, ROOF MEMBRANE AND ALL ROOFING PER SPECIFICATION REQUIREMENTS. PROVIDE "W.R. GRACE" MANUFACTURER CERTIFICATION LETTER STATING THAT ALL MEMBRANES HAVE BEEN INSTALLED IN COMPLETE COMPLIANCE WITH ALL MANUFACTURER'S REQUIREMENTS.

MAINTENANCE NOTE:
THE OWNER HAS BEEN ADVISED THAT ALL ROOF AND DECK SURFACES MUST BE MAINTAINED RELATIVELY FREE OF SNOW & ICE.



NOTE: OVERHANG DIMENSIONS ARE TO EDGE OF FASCIA - SEE DETAILS

NOTE: SEE SHEET SP1.1 FOR BUILDING HEIGHT CALCULATIONS.

ROOF PLAN

SCALE: 1/4" = 1'-0"

0' 2' 4' 8' 16'

NORTH

REVISIONS:

JOB NO: 12317
DATE: 12-14-23
DRAWN BY: J.BUXKEMPER
CHECKED BY: M.HOGAN

ISSUED FOR:
MAJOR SITE PLAN
12-14-23

bhh Partners of Colorado
560 ADAMS AVE SILVERTHORNE, CO 80498 - P.O BOX 7399-334 BRECKENRIDGE, CO 80424 (970) 453-6880

160 FOREST DRIVE

LOT 2, AMENDED FRISCO WEST 70, FILING 2, 160 FOREST DRIVE, FRISCO, COLORADO

SHEET NUMBER:

A1.4

SOUTH ELEVATION

SCALE: 1/4" = 1'-0"

0 2' 4' 8' 16'

MATERIAL LEGEND	
1 COMPOSITION SHINGLE ROOFING	GAF TIMBERLINE ULTRA HD 'CHARCOAL'
2 WOOD FASICA, BEAMS	OLYMPIC SEMI-TRANSPARENT STAIN 'EBONY 913'
3 HORIZONTAL SIDING	OLYMPIC SEMI-TRANSPARENT STAIN 'NATURAL TONE FIR 718'
4 WINDOW / DOOR TRIM	OLYMPIC SEMI-TRANSPARENT STAIN 'RUSSET 705'
5 WINDOW CLADDING, STL. COLS., BEAMS, FLASHING	BLACK
6 MTL. SIDING & ACCENT ROOFING	METAL SALES CORRUGATED 'MATTE BLACK'
7 STONE VENEER BASE	TELLURIDE STONE 'BLANCA PEAK'

NOTE: MATERIALS ARE TYPICAL FOR ALL ELEVATIONS, REFER TO ASSOCIATED COLOR BOARD FOR ADDITIONAL INFORMATION

ELEVATION NOTE

THESE ELEVATIONS ARE GRAPHIC IN NATURE. THE ELEVATIONS ILLUSTRATE EXTERIOR IMAGE AND COLORS. DO NOT SCALE OFF ELEVATIONS FOR THIS PROJECT.

MATERIAL COLORS ARE TYPICAL FOR ALL ELEVATIONS REFER TO COLOR LEGEND,
VERIFY ALL COLORS WITH OWNER

SEE BUILDING SECTIONS FOR ADDITIONAL INFORMATION.

NOTE: DOOR AND WINDOW HEAD HEIGHTS ARE SHOWN FROM TOP OF FINISHED FLOOR (TYP.)

EAST ELEVATION

SCALE: 1/4" = 1'-0"

0 2' 4' 8' 16'

REVISIONS:

JOB NO: 12317
DATE: 12/14/23
DRAWN BY: c eckel
CHECKED BY: m hogan

ISSUED FOR MAJOR SITE PLAN
12/14/2023

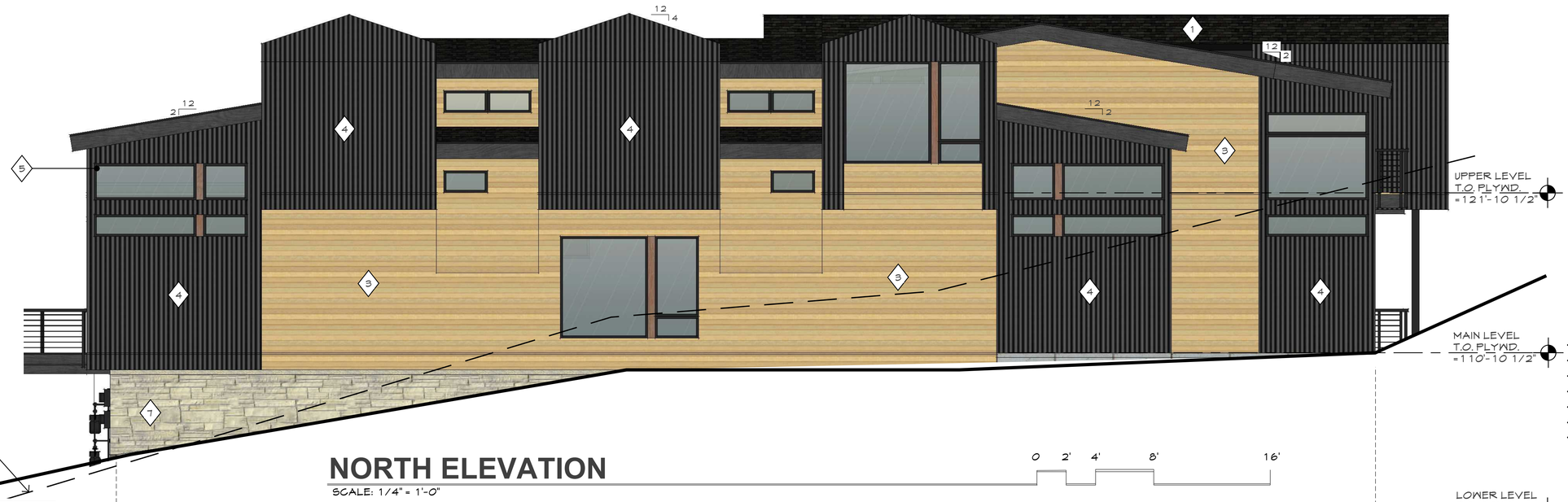
bhh Partners
P.O.BOX 931 160 EAST ADAMS BRECKENRIDGE, CO 80424 (970) 453-6880

160 FOREST DRIVE

LOT 2, AMENDED WEST FRISCO TO. FILING NO. 2

SHEET NUMBER:

A-2.1
ELEVATIONS



NORTH ELEVATION

SCALE: 1/4" = 1'-0"

0 2' 4' 8' 16'

MATERIAL LEGEND

1 COMPOSITION SHINGLE ROOFING	GAF TIMBERLINE ULTRA HD 'CHARCOAL'
2 WOOD FASICA, BEAMS	OLYMPIC SEMI-TRANSPARENT STAIN 'EBONY 913'
3 HORIZONTAL SIDING	OLYMPIC SEMI-TRANSPARENT STAIN 'NATURAL TONE FIR 718'
4 WINDOW / DOOR TRIM	OLYMPIC SEMI-TRANSPARENT STAIN 'RUSSET 705'
5 WINDOW CLADDING, STL. COLS, BEAMS, FLASHING	BLACK
6 MTL. SIDING & ACCENT ROOFING	METAL SALES CORRUGATED 'MATTE BLACK'
7 STONE VENEER BASE	TELLURIDE STONE 'BLANCA PEAK'

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MATERIAL COLORS ARE TYPICAL FOR ALL ELEVATIONS REFER TO COLOR LEGEND.
VERIFY ALL COLORS WITH OWNER

SEE BUILDING SECTIONS FOR ADDITIONAL INFORMATION.

NOTE: DOOR AND WINDOW HEAD HEIGHTS ARE SHOWN FROM TOP OF FINISHED FLOOR (TYP.)

WEST ELEVATION

SCALE: 1/4" = 1'-0"

0 2' 4' 8' 16'

REVISIONS:

JOB NO: 12317
DATE: 12/14/23
DRAWN BY: c eckel
CHECKED BY: m hogan

ISSUED FOR MAJOR SITE PLAN
12/14/2023

bhh Partners
P.O BOX 931 160 EAST ADAMS BRECKENRIDGE, CO 80424 (970) 453-6880

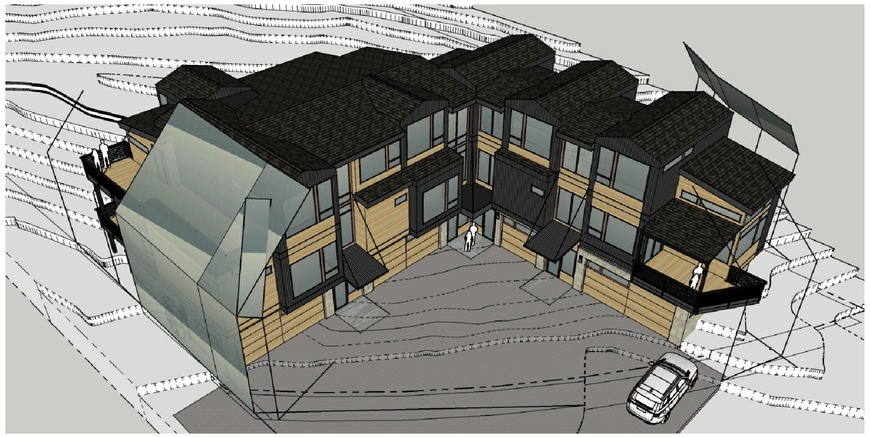
160 FOREST DRIVE

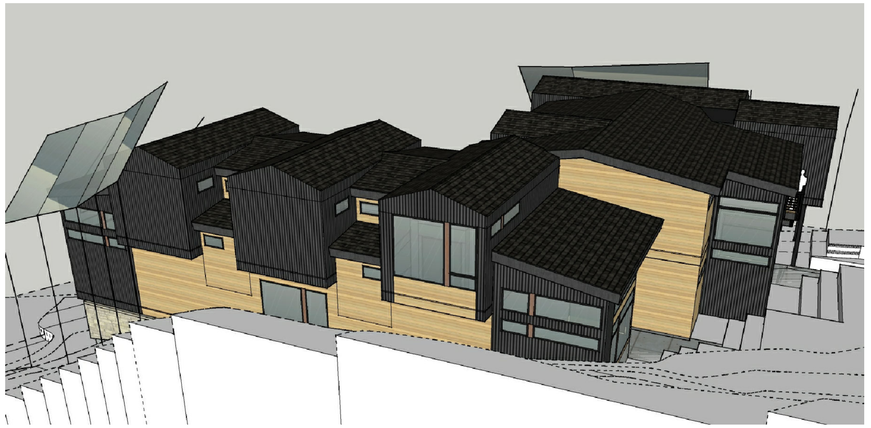
LOT 2, AMENDED WEST FRISCO TO, FILING NO. 2

SHEET NUMBER:

A-2.2

ELEVATIONS





3D MODEL SHOTS

NOT TO SCALE

REVISIONS:

JOB NO: 12317
DATE: 12-14-23
DRAWN BY: J.BUXKEMPER
CHECKED BY: M.HOGAN

ISSUED FOR:
MAJOR SITE PLAN
12-14-23

hhh Partners of Colorado
560 ADAMS AVE SILVERTHORNE, CO 80498 - P O BOX 7399-334 BRECKENRIDGE, CO 80424 (970) 453-6880

160 FOREST DRIVE

LOT 2, AMENDED FRISCO WEST 70, FILING 2, 160 FOREST DRIVE, FRISCO, COLORADO

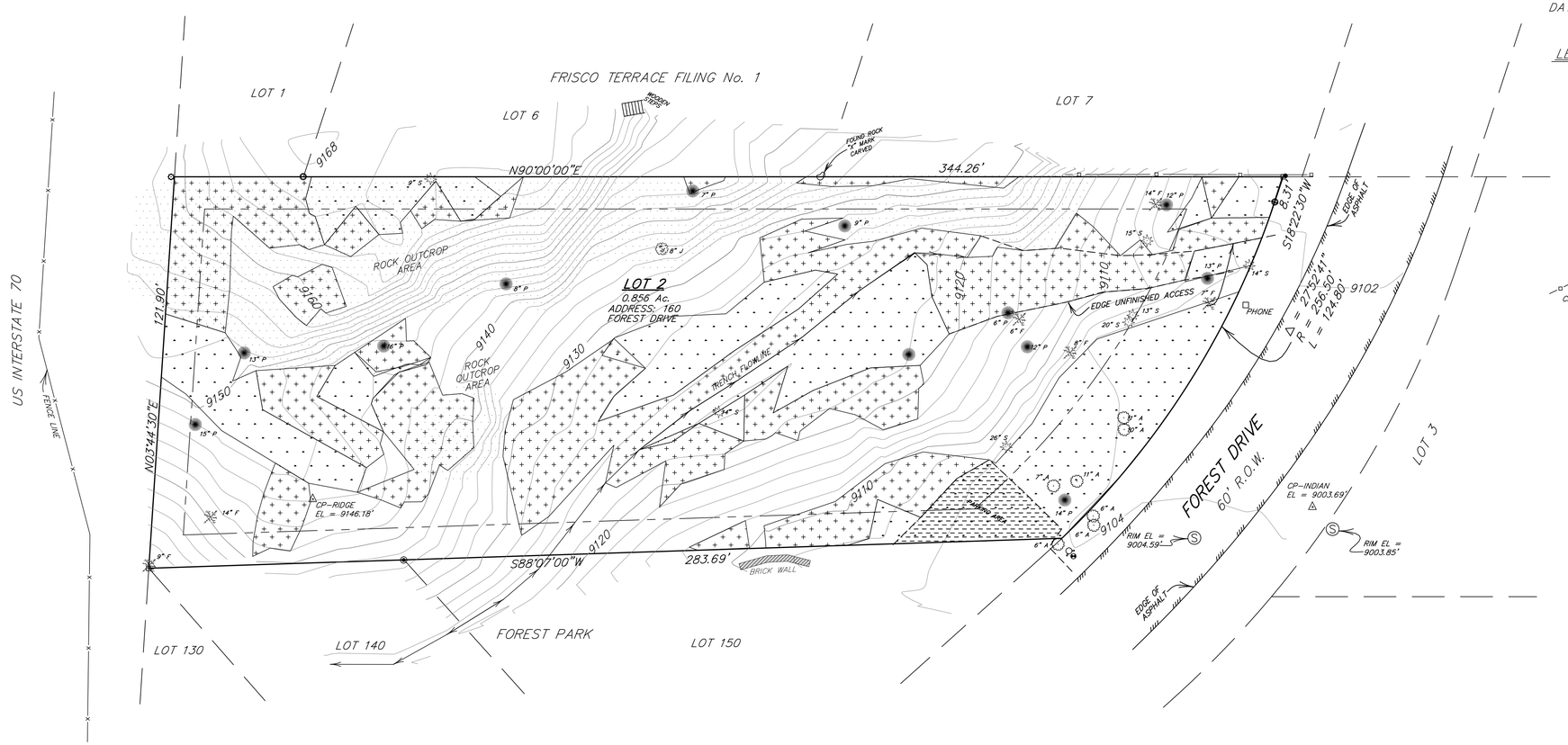
SHEET NUMBER:

A2.3

A TOPOGRAPHIC MAP OF

LOT 2, AMENDED WEST FRISCO 70, FILING NO. 2

TOWN OF FRISCO, SUMMIT COUNTY, COLORADO



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

ELEVATIONS BASED ON APPROX. U.S.G.S. MEAN SEA LEVEL DATUM
DATE OF FIELD SURVEY: 09/22/2023 & 12/12/2023
CONTOUR INTERVAL=2 FEET

LEGEND

- FOUND No. 4 REBAR & YELLOW PLASTIC CAP (PLS 15242)
- FOUND No. 4 REBAR & YELLOW PLASTIC CAP (PLS 10847)
- FOUND COPPER CAP (PLS 10847) EMBEDDED IN ROCK
- FOUND REBAR & PLASTIC CAP (PLS 4974)
- FOUND No. 5 REBAR
- SEWER MANHOLE
- WATER VALVE
- FIRE HYDRANT
- UTILITY PEDESTAL
- FENCE
- CP — RANDOM SURVEY CONTROL POINT
- 8" P — PINE TREE WITH TRUNK DIAMETER
- 8" S — SPRUCE TREE WITH TRUNK DIAMATER
- 8" F — FIR TREE WITH TRUNK DIAMATER
- 8" J — JUNIPER TREE WITH DIAMATER
- 8" A — ASPEN TREE WITH TRUNK DIAMATER

SLOPE ANALISIS

Color	Range Beg.	Range End	Percent	Area
	0.00 %	15.00 %	21.9	8519.04 SQ.FT.
	15.00 %	30.00 %	28.6	10639.09 SQ.FT
	30.00 %	100.00 %	49.5	18104.48 SQ.FT

COLORADO REGISTERED 38855 PROFESSIONAL LAND SURVEYOR

Drawn LLB/ESH/FG	Dwg 15317TP	Project 15317
Checked JJK	Date 12/12/2023	Sheet 1 of 1

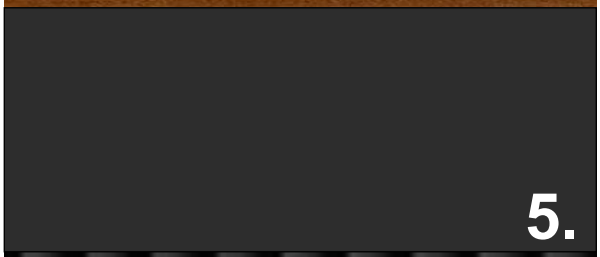
R-A-N-G-E W-E-S-T INC.
ENGINEERS & SURVEYORS
P.O. Box 589
Silverthorne, CO 80498 970-468-6281

1. COMPOSITION SHINGLE ROOFING - GAF TIMBERLINE ULTRA HD "CHARCOAL"

2. WOOD FASCIA & BEAMS - OLYMPIC SEM-TRANSPARENT STAIN "EBONY 913"

3. HORIZONTAL SIDING - OLYMPIC SEMI-TRANSPARENT "NATURALTONE FIR 718"

4. WINDOW/DOOR TRIM - OLYMPIC SEMI-TRANSPARENT STAIN "RUSSET 705"



5. WINDOW CLADDING,
STEEL. COLUMNS, BEAMS, FLASHING - "BLACK"

6. MTL. SIDING & ACCENT ROOFING - METAL SALES CORRUGATED "MATTE BLACK"

7. STONE VENEER BASE - TELLURIDE STONE "BLANCA PEAK"

bhh Partners of COLORADO
P.O. BOX 2113, 560 ADAMS AVENUE SILVERTHORNE, CO 80498 (970) 513-1000

DATE: 12/14/23
JOB NO: 12317

160 FOREST DRIVE

CTL|THOMPSON
Founded in 1971

SOILS AND FOUNDATION INVESTIGATION
PROPOSED TOWNHOMES
LOT 2
WEST FRISCO SUB #2
160 FOREST DRIVE
FRISCO, COLORADO

Prepared For:

Blue River Real Estate Fund III LLC.
PO Box 7035
Breckenridge, Colorado 80424

Attention: Seth Francis

Project No. SU02435.000-120

November 28, 2023

1790 Airport Road, Unit 2, PO Box 4928, Breckenridge, Colorado 80424
Telephone: 970-453-2047 www.ctlthompson.com

TABLE OF CONTENTS

SCOPE OF WORK

This report presents the results of our Soils and Foundation Investigation for the Proposed Townhomes on Lot 2, West Frisco Sub #2 in Frisco, Colorado. We conducted this investigation to evaluate subsurface conditions at the site and provide geotechnical engineering recommendations for the proposed townhomes. Our report was prepared from data developed during our field exploration, engineering analysis, and experience. This report includes a description of the subsurface conditions observed in four exploratory pits and presents geotechnical engineering recommendations for design and construction of the foundation, floor systems, and details influenced by the subsoils. The scope was described in a Service Agreement (SU-23-0127) dated September 12, 2023.

Recommendations contained in this report were developed based on our understanding of the planned construction. Once building plans are completed, we should review to determine whether our recommendations and design criteria are appropriate. A summary of our conclusions is presented below.

SUMMARY OF CONCLUSIONS

1. Subsurface conditions observed in the exploratory pits consisted of topsoil, existing fill soils, native gravel soils, and hard bedrock. The maximum depth explored was 9 feet. No groundwater was observed in the pits at the time of excavation.

2. Based on the proposed site plan and building locations, we anticipate that excavations for the new townhomes will result in hard bedrock being the predominant material at anticipated foundation elevations. The townhomes can be constructed on footing foundations supported by the undisturbed, hard bedrock. Should native gravel soils be encountered at footing subgrade elevation, we recommend extending the footings down to bear on hard bedrock to reduce the potential for differential settlement. All topsoil (surficial and buried) and existing fill soils must be removed entirely beneath footings and slabs. Design and con-

struction criteria are presented in the report. It is critical that we observe the excavation to check whether conditions are as anticipated, prior to placing footings.

3. Surface drainage should be designed to provide for rapid removal of surface water away from the townhomes.

4. The design and construction criteria for foundations and floor systems in this report were compiled with the expectation that all other recommendations presented related to surface and subsurface drainage, landscaping irrigation, backfill compaction, etc. will be incorporated into the project and that the owners will maintain the structure, use prudent irrigation practices, and maintain surface drainage. It is critical that all recommendations in this report are followed.

SITE CONDITIONS

The site is located on the west side of Forest Drive in Frisco, Colorado as shown on Figure 1. The property is bordered by single-family residences to the north and south, Forest Drive to the east, and Interstate 70 to the west. An outcrop of granitic gneiss dominates the site topography with a general slope of around 23 percent down to the southeast. Slopes of the granitic gneiss outcrop exceed 30 percent in some areas of the site. Vegetation consists of grass, aspens, and coniferous trees.

PROPOSED CONSTRUCTION

The proposed construction consists of one structure with four townhome units. The lower-level and garage floors will be slab-on-grade. Wood frame construction will be used above grade with cast-in-place concrete foundation walls below grade. Required excavations could be on the order of 15 feet or more, particularly for the west portion of the structure. Foundation loads are expected to be about 1 to 3 kips per linear foot of foundation wall, with maximum column loads of 50 kips or less.

SUBSURFACE CONDITIONS

Subsurface conditions were investigated by observing four exploratory pits excavated at the approximate locations shown on Figure 2. Subsurface conditions observed in the pits were logged by our representative who obtained samples of the soils during excavation. Graphic logs of the soils observed in the pits are shown on Figure 3 with associated legend on notes on Figure 4.

Subsurface conditions observed in TP-1 consisted of 18 inches of topsoil underlain by well-graded gravel with sand to the maximum depth explored of 9 feet below the existing ground surface. The gravel soils contained subrounded cobbles up to 10 inches in diameter. Subsurface conditions observed in TP-2 through TP-4 consisted of existing fill soils. The existing fill soils consisted of silty gravel with sand and contained some debris such as abandoned wires. The fill extended to a depth of 2 feet in TP-2, 4.5 feet in TP-3 and 2 feet in TP-4. Beneath the existing fill soils in TP-2, we encountered practical excavation refusal on hard granitic gneiss bedrock at a depth of 2 feet. Beneath the existing fill soils in TP-3, we encountered buried topsoil from 4.5 to 6.5 feet below the existing ground surface. Beneath the buried topsoil in TP-3, we encountered the native gravel soils from 6.5 feet to 7 feet. Practical excavation refusal on hard granitic gneiss bedrock occurred at depth of 7 feet in TP-3. Practical excavation refusal due to unmarked, live utilities occurred beneath the fill soils in TP-4. No groundwater was observed in the pits at the time of excavation. The pits were backfilled after excavation operations were completed.

Samples obtained in the field were returned to our laboratory where field classifications were checked and samples were selected for pertinent testing. Laboratory test results are summarized on Table I.

GEOLOGY

We reviewed the following geologic mapping showing the site.

1. Geologic Map of the Frisco Quadrangle, Summit County, Colorado, (Map MF-2340) by Karl S. Kellogg, Paul J Bartos and Cindy L. Williams with the U.S. Geologic Survey, 2002.

The site is mapped as granitic gneiss from the Lower Proterozoic and glacial till from the Pinedale Glaciation from the upper Pleistocene. Our field investigation and observations at the site support the mapping. We did not observe geologic constraints on this site that would inhibit the planned construction.

SITE EARTHWORK

Cuts on the order of 15 feet are anticipated along the western edge of the proposed townhomes. Based on our subsurface investigation, we anticipate that excavation in this area will consist of mostly hard granitic gneiss bedrock. Hard bedrock will likely be encountered in most areas of the foundation excavation. Difficult excavation at the site should be anticipated. A contractor with experience in hard rock excavation should be consulted for the project. Hard rock excavation methods, such as the use of a hydraulic hammer chisel, expansion grouting, or drilling and blasting (if permitted by Summit County) will be necessary.

We anticipate excavation of the existing fill soils and native soils can be accomplished using conventional, heavy duty excavating equipment. Hard cobbles should be expected. We did not encounter large boulders during our subsurface investigation, however, boulders encountered during foundation excavation could be large. A hydraulic hammer chisel (excavator attachment) or similar device may be required to split large boulders (if encountered).

Sides of excavations need to be sloped to meet local, state and federal safety regulations. We anticipate the on-site soils will likely classify as Type C soils based on OSHA standards governing excavations. Temporary slopes deeper than 4 feet that are not retained should be no steeper than 1.5 to 1 (horizontal to vertical) in Type C soils. The bedrock may classify as “stable rock” in some areas. Stable rock may be vertical. However, if joints or fractures dip into the excavation at a slope of 4H:1V or steeper, the bedrock should be classified as Type C. Some sloughing of the excavation face may occur as the soils dry out. Contractors are required to identify the soils encountered and ensure that applicable standards are met. Contractors are responsible for site safety and maintenance of the work site.

No groundwater or seepage was encountered in the exploratory pits at the time of excavation. Some seepage may occur during foundation excavation, particularly if it occurs during seasonal runoff. The footing areas should be protected from any seepage and precipitation through the use of shallow trenches and sumps. Excavations should be sloped to a gravity discharge or to a temporary sump where water can be removed by pumping, if necessary.

Slope Stability

We believe the existing hillside above the proposed structure is stable at this time. Based on our field exploration and experience, we believe that the proposed construction will not significantly increase the risk of slope instability. The factor of safety against slope instability will be lowest during construction when the cut slope is not retained. If the cut slope is not laid back, an earth retention system may be necessary for excavations in soil deeper than 4 feet below existing grade. Stable rock may be vertical. We can provide additional information regarding shoring systems upon request.

Structural Fill

We do not anticipate that structural fill will be needed below foundations. Structural fill may be necessary beneath the proposed slabs, following removal of topsoil and existing fill and gravel soils. The native gravel soils or excavated bedrock material, free of organic matter, debris and rocks larger than 6 inches in diameter, can be used as structural fill. Care should be taken during fill placement so the larger rocks do not become nested or grouped together. If required, import fill should consist of CDOT 5 or 6 aggregate base course or similar soil. Structural fill should have no rocks larger than 6 inches. We can evaluate potential fill materials upon request. Lean-mix concrete (flowable fill) can also be used to fill voids.

Prior to placing any structural fill, all topsoil (buried and surficial) and existing fill soils must be removed. The native gravel subgrade should be scarified, moisture conditioned and compacted with a vibratory padfoot or sheepsfoot roller. Structural fill should be benched into the existing hillside in flat and level lifts. Structural fill placed beneath floor slabs should be placed in thin loose lifts, moisture conditioned to within +/-2 percent of optimum moisture content and compacted to at least 98 percent of ASTM D 698 maximum dry density. Structural fill placed outside the building footprint should be placed in thin loose lifts, moisture conditioned to within +/-2 percent of optimum moisture content and compacted to at least 95 percent of ASTM D 698 maximum dry density. Moisture content and density of structural fill should be tested by a representative of our firm during placement.

FOUNDATIONS

The townhomes can be supported on footing foundations on the undisturbed, granitic gneiss bedrock. Placement of footings on soil and bedrock creates the potential for differential settlement and should be avoided. If necessary, footings should extend so that all footings bear on the bedrock. If bedrock is not encountered at a practical depth beneath the proposed footing subgrade elevation, we should be

consulted to evaluate our recommendations. All topsoil (buried and surficial) and existing fill soils should be removed completely beneath proposed footing areas. Prior to concrete placement, the footing areas should be cut and cleaned to provide a flat and level subgrade. Loose soil or bedrock fragments should be removed. Our representative should observe conditions exposed in the completed foundation excavation to confirm whether the footing subgrade is as anticipated and suitable for support of the foundation.

1. Loose soil and bedrock fragments created during the forming process for the footings should be removed prior to placing concrete. Lean concrete may also be used to fill depressions resulting from the removal of over ripped bedrock.

2. Footings can be sized using a maximum allowable soil pressure of 5,000 psf. Settlement of footings on hard bedrock is expected to be negligible. Settlement of foundations that bear on both soil and hard bedrock could be differential and should be avoided.

3. To resist lateral loads, a coefficient of friction of 0.70 can be used for concrete in contact with dry, hard bedrock. Lateral loads can be resolved by evaluating passive resistance using a passive equivalent fluid density of 425 pcf for native gravel backfill that is compacted to the criteria in Foundation Wall Backfill and will not be removed. These values have not been factored. The magnitude of strain required to develop passive resistance must be considered. Appropriate factors of safety must be applied in design.

4. Continuous wall footings should have a minimum width of at least 16 inches. Foundations for isolated columns should have minimum dimensions of 24 inches by 24 inches. Larger sizes may be required, depending upon foundation loads.

5. Grade beams and foundation walls should be well reinforced, top and bottom, to span undisclosed loose or soft soil pockets and resist lateral earth pressures. We recommend reinforcement sufficient to span an unsupported distance of at least 10 feet. Reinforcement should be designed by the structural engineer.

6. The soils under exterior footings should be protected from freezing. We recommend the bottom of footings be constructed at a depth of at least 40 inches below finished exterior grade. Footings that bear on hard bedrock are not frost susceptible.

SLABS-ON-GRADE

Slab-on-grade lower-level and garage floors are desired. Based on our laboratory test data and experience, we judge slab-on-grade construction supported by the undisturbed, bedrock, native gravel soils, or properly placed granular structural fill will have a low risk of damaging differential movement. All topsoil (buried and surficial) and existing fill soils must be removed beneath slabs. Fill placed to attain subgrade elevations below floor slabs should be placed in accordance with the recommendations outlined in Structural Fill. We recommend the following precautions for slab-on-grade construction at this site. These precautions will not prevent movement from occurring; they tend to reduce damage if slab movement occurs.

1. Slabs should be separated from exterior walls and interior bearing members with slip joints that allow free vertical movement of the slabs.

2. Underslab plumbing should be pressure tested for leaks before the slabs are constructed. Plumbing and utilities that pass through slabs should be isolated from the slabs with sleeves and provided with flexible couplings.

3. Frequent control joints should be provided, in accordance with American Concrete Institute (ACI) recommendations, to reduce problems associated with shrinkage and curling.

4. We recommend a 4-inch layer of clean gravel be placed beneath the slabs to provide a flat, uniform subgrade. This material should consist of minus 2-inch aggregate with at least 50% retained on the No. 4 sieve and less than 2% passing the No. 200 sieve.

5. The 2018 International Residential Code (IRC R506) states that a 4-inch base course layer consisting of clean graded sand, gravel, crushed stone, or crushed blast furnace slag shall be placed beneath below grade floors (unless the underlying soils are free-draining), along with a vapor retarder.

   IRC states that the vapor retarder can be omitted where approved by the building official. The merits of installation of a vapor retarder below floor slabs depend on the sensitivity of floor coverings and building use

to moisture. A properly installed vapor retarder is more beneficial below concrete slab-on-grade floors where floor coverings, painted floor surfaces, or products stored on the floor will be sensitive to moisture. The vapor retarder is most effective when concrete is placed directly on top of it, rather than placing a sand or gravel leveling course between the vapor retarder and the floor slab. Placement of concrete on the vapor retarder may increase the risk of shrinkage cracking and curling. Use of concrete with reduced shrinkage characteristics including minimized water content, maximized coarse aggregate content, and reasonably low slump will reduce the risk of shrinkage cracking and curling. Considerations and recommendations for the installation of vapor retarders below concrete slabs are outlined in Section 3.2.3 of the 2006 American Concrete Institute (ACI) Committee 302, “Guide for Concrete Floor and Slab Construction (ACI 302.R-96)”.

FOUNDATION WALLS

Foundation walls that extend below-grade should be designed for lateral earth pressures where backfill is not present to about the same extent on both sides of the wall. Many factors affect the values of the design lateral earth pressure. These factors include, but are not limited to, the type, compaction, slope, and drainage of the backfill, and the rigidity of the wall against rotation and deflection. For a very rigid wall where negligible or very little deflection will occur, an “at-rest” lateral earth pressure should be used in design. For walls that can deflect or rotate 0.5 to 1 percent of wall height (depending upon the backfill types), lower “active” lateral earth pressures are appropriate. Our experience indicates typical below-grade walls in residences deflect or rotate slightly under normal design loads, and that this deflection results in satisfactory wall performance. Thus, the earth pressures on the walls will likely be between the “active” and “at-rest” conditions.

If native gravel soil or excavated bedrock aggregate are used as backfill and the backfill is not saturated, we recommend design of basement walls at this site using an equivalent fluid density of at least 50 pcf. This value assumes deflection; some minor cracking of walls may occur. If very little wall deflection is desired, a higher design value is appropriate. The structural engineer should also consider site-

specific grade restrictions, the effects of large openings on the behavior of the walls, and the need for lateral bracing during backfill. Retaining walls that are free to rotate and allow the active earth pressure condition to develop can be designed using an equivalent fluid density of at least 40 pcf for native gravel soil or excavated bedrock aggregate backfill.

Foundation Wall Backfill

Proper placement and compaction of foundation backfill is important to reduce infiltration of surface water and settlement of backfill. The native gravel soils and excavated bedrock aggregate can be used as backfill, provided they are free of rocks larger than 6 inches in diameter, organics, and debris. Reuse of the existing fill soils for foundation wall backfill should be avoided. The upper 2 feet of fill should be a relatively impervious material to limit infiltration. Backfill that will support surface improvements (sidewalks, driveways, etc.) should be placed in thin loose lifts, moisture conditioned to within +/-2 percent of optimum moisture content, and compacted to at least 95 percent of ASTM D 698 maximum dry density. Backfill in landscape areas should be compacted to at least 90 percent of ASTM D 698 maximum dry density. Thickness of lifts will likely need to be reduced if there are small, confined areas of backfill, which limit the size and weight of compaction equipment. Some settlement of the backfill should be expected even if the material is placed and compacted properly. In our experience, settlement of properly compacted backfill could be on the order of 0.5 to 1 percent of backfill thickness. Increasing the minimum compaction level will reduce settlement potential. However, care should be taken not to over compact the backfill or use large equipment near the wall, since this could cause excessive lateral pressure and damage/cracking of the wall. Moisture content and density of the backfill should be tested during placement by a representative of our firm.

SUBSURFACE DRAINAGE

Water from snow melt, precipitation and surface irrigation of lawns and landscaping frequently flows through relatively permeable backfill placed adjacent to a structure, and collects on the surface of less permeable soils occurring at the bottom of foundation excavations. This process can cause wet or moist basement conditions after construction. To reduce the likelihood water pressure will develop outside foundation walls and the risk of accumulation of water at basement level, we recommend a foundation drain be installed. The drain should be installed along the entire basement perimeter. The foundation drain will not prevent moist conditions in the basement.

The drain should consist of a 4-inch diameter, perforated or slotted pipe encased in free-draining gravel, and a geocomposite drain board or clean gravel layer extending to within 2 feet of exterior grade, adjacent to the walls. The drain should lead to a positive gravity outlet or sump where water can be removed by pumping. Sump pumps and gravity outlet locations must be maintained by the owners. A typical foundation drain detail for basement construction is presented on Figure 6.

CONCRETE

Concrete in contact with soil can be subject to sulfate attack. We measured the water-soluble sulfate concentration in a sample taken from the site at less than 0.01 percent. For this level of sulfate concentration, ACI 332-08 *Code Requirements for Residential Concrete* indicates there are no special requirements for sulfate resistance.

Superficial damage may occur to the exposed surfaces of highly permeable concrete, even though sulfate levels are likely relatively low. To control this risk and to resist freeze-thaw deterioration, the water-to-cementitious materials ratio should not exceed 0.50 for concrete in contact with soils that are likely to stay moist due to

surface drainage or high water tables. Concrete should have a total air content of 6 percent ± 1.5 percent.

SURFACE DRAINAGE

Surface drainage is critical to the performance of foundations, floor slabs and concrete flatwork. Recommendations in this report are based on effective drainage for the life of the structure and cannot be relied upon if effective drainage is not maintained. We recommend the following precautions be observed during construction and maintained at all times after construction is completed:

1. The ground surface surrounding the exterior of the building should be sloped to drain away from the building in all directions. We recommend providing a slope of at least 12 inches in the first 10 feet in landscape areas. There are instances where this slope cannot be achieved. A slope of 6 inches in the first 10 feet should be used as a minimum. We recommend a slope of at least 3 inches in the first 10 feet in paved areas. A swale should be provided around the uphill side of the building to divert surface runoff.

2. Backfill around the exterior of foundation walls should be placed as described in Foundation Wall Backfill. Increases in the moisture content of the backfill soils after placement often results in settlement. Settlement is most common adjacent to north facing walls. Re-establishing proper slopes (owners' maintenance) away from the building may be necessary.

3. Landscaping should be carefully designed to minimize irrigation. Plants used near foundation walls should be limited to those with low moisture requirements; irrigated grass should not be located within 5 feet of the foundation. Lawn sprinklers should not discharge within 5 feet of the foundation and should be directed away from the building. Low-volume emitters can be used within 5 feet of the foundation.

4. Impervious plastic membranes should not be used to cover the ground surface immediately surrounding the building. These membranes tend to trap moisture and prevent normal evaporation from occurring. Geotextile fabrics can be used to control weed growth and allow some evaporation to occur.

5. Roof downspouts and drains should discharge well beyond the limits of all backfill. Splash blocks and/or extensions should be provided at all downspouts so water discharges onto the ground beyond the backfill. We generally recommend against burial of downspout discharge. Where it is necessary to bury downspout discharge, solid, rigid pipe should be used, and it should slope to an open gravity outlet. Buried downspout discharge pipes should be heated (with thermostat) during winter months to prevent freezing. Downspout extensions, splash blocks and buried outlets must be maintained by the owners.

CONSTRUCTION OBSERVATIONS

We recommend that CTL|Thompson, Inc. provide construction observation services to allow us the opportunity to verify whether soil conditions are consistent with those found during this investigation. If others perform these observations, they must accept responsibility to judge whether the recommendations in this report remain appropriate.

GEOTECHNICAL RISK

The concept of risk is an important aspect with any geotechnical evaluation primarily because the methods used to develop geotechnical recommendations do not comprise an exact science. We never have complete knowledge of subsurface conditions. Our analysis must be tempered with engineering judgment and experience. Therefore, the recommendations presented in any geotechnical evaluation should not be considered risk-free. Our recommendations represent our judgment of those measures that are necessary to increase the chances that the structure will perform satisfactorily. It is critical that all recommendations in this report are followed during construction. The homeowner must assume responsibility for maintaining the structure and use appropriate practices regarding drainage and landscaping. Improvements performed by the owner after construction, such as finishing a basement or construction of additions, retaining walls, decks, patios, landscaping, and exterior flatwork, should be completed in accordance with recommendations in this report.

RADON

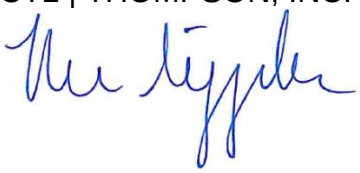
Radon is a gaseous, radioactive element that comes from the radioactive decay of uranium, which is commonly found in igneous rocks. The average indoor radon level in Summit County is approximately 7.7 pCi/L, which is above the recommended action level of 4 pCi/L as recommended by the Environmental Protection Agency. Testing for radon gas at the site is beyond the scope of this study. Due to the many factors that affect the radon levels in a specific building, accurate testing of radon levels is usually only possible after construction is complete. Typically, radon mitigation systems consist of ventilation systems installed beneath lower-level slabs and crawlspaces. The infrastructure for such a mitigation system can normally be installed during construction at a relatively low cost, which is recommended. The townhomes should be tested for radon once construction is complete. If test results indicate mitigation is required, the installed system can then be used for mitigation. We are not experts in radon testing or mitigation. If the client is concerned about radon, then a professional in this special field of practice should be consulted.

LIMITATIONS

This report has been prepared for the exclusive use of Blue River Real Estate Fund III LLC. and the design/construction team to provide geotechnical design and construction criteria for the proposed project. The information, conclusions, and recommendations presented herein are based upon consideration of many factors including, but not limited to, the type of structure proposed, the geologic setting, and the subsurface conditions encountered. The conclusions and recommendations contained in the report are not valid for use by others. Standards of practice evolve in the area of geotechnical engineering. The recommendations provided in this report are appropriate for about three years. If the proposed project is not constructed within about three years, we should be contacted to determine if we should update this report.

The exploratory pits were located to provide a reasonably accurate picture of subsurface conditions. Variations in the subsurface conditions not indicated by the pits will occur. A representative of our firm should observe placement of and test structural fill. We should observe the completed foundation excavation to confirm that the footing subgrade is suitable for support of the footings as designed. This investigation was conducted in a manner consistent with that level of care and skill ordinarily exercised by geotechnical engineers currently practicing under similar conditions. No warranty, express or implied, is made. If we can be of further service in discussing the contents of this report, please call.

CTL | THOMPSON, INC.



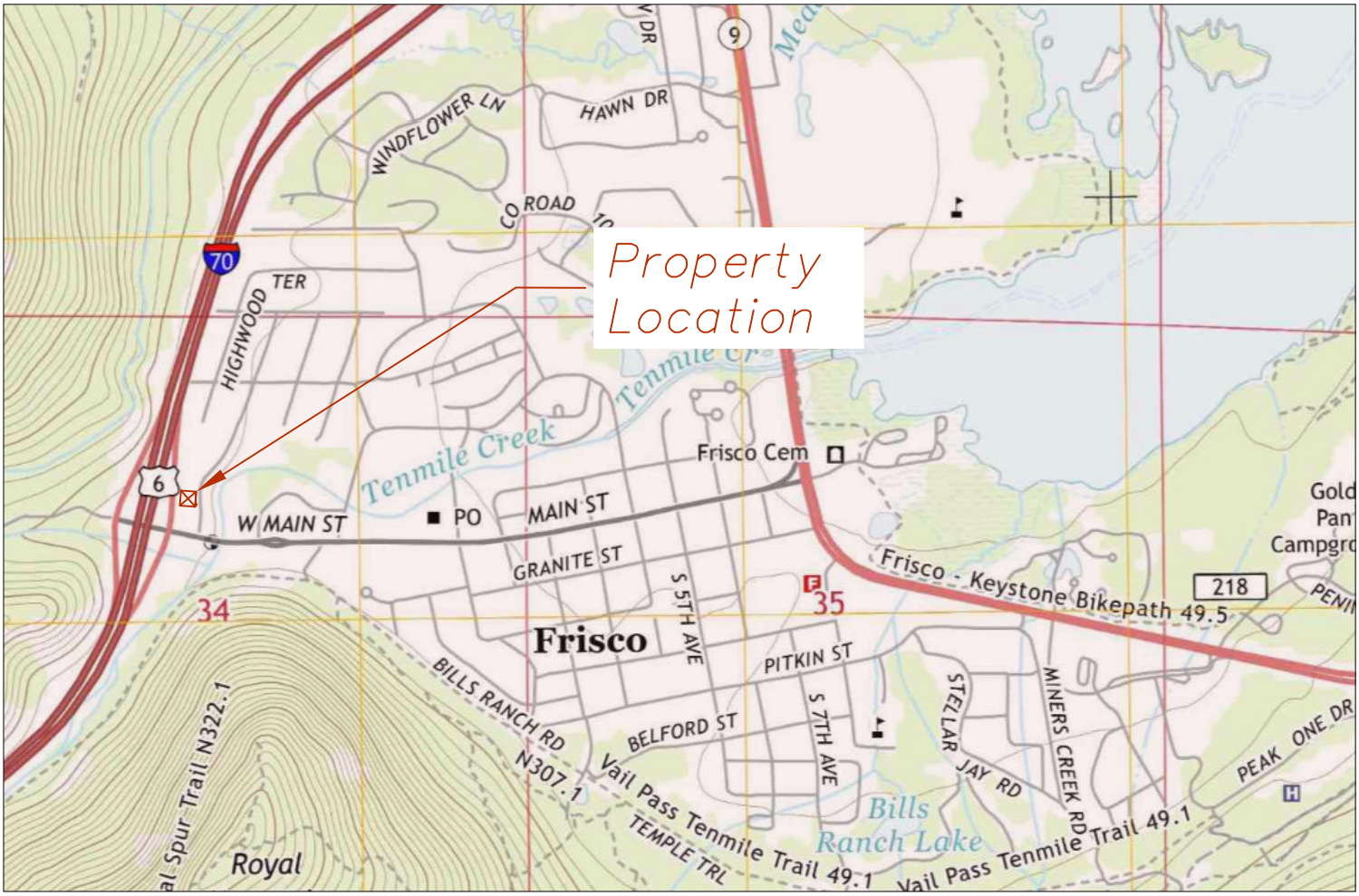
Brittany Niggeler
Staff Engineer

Reviewed By:

Greg Crum, P.E.
Principal Engineer
Division Manager, Summit County

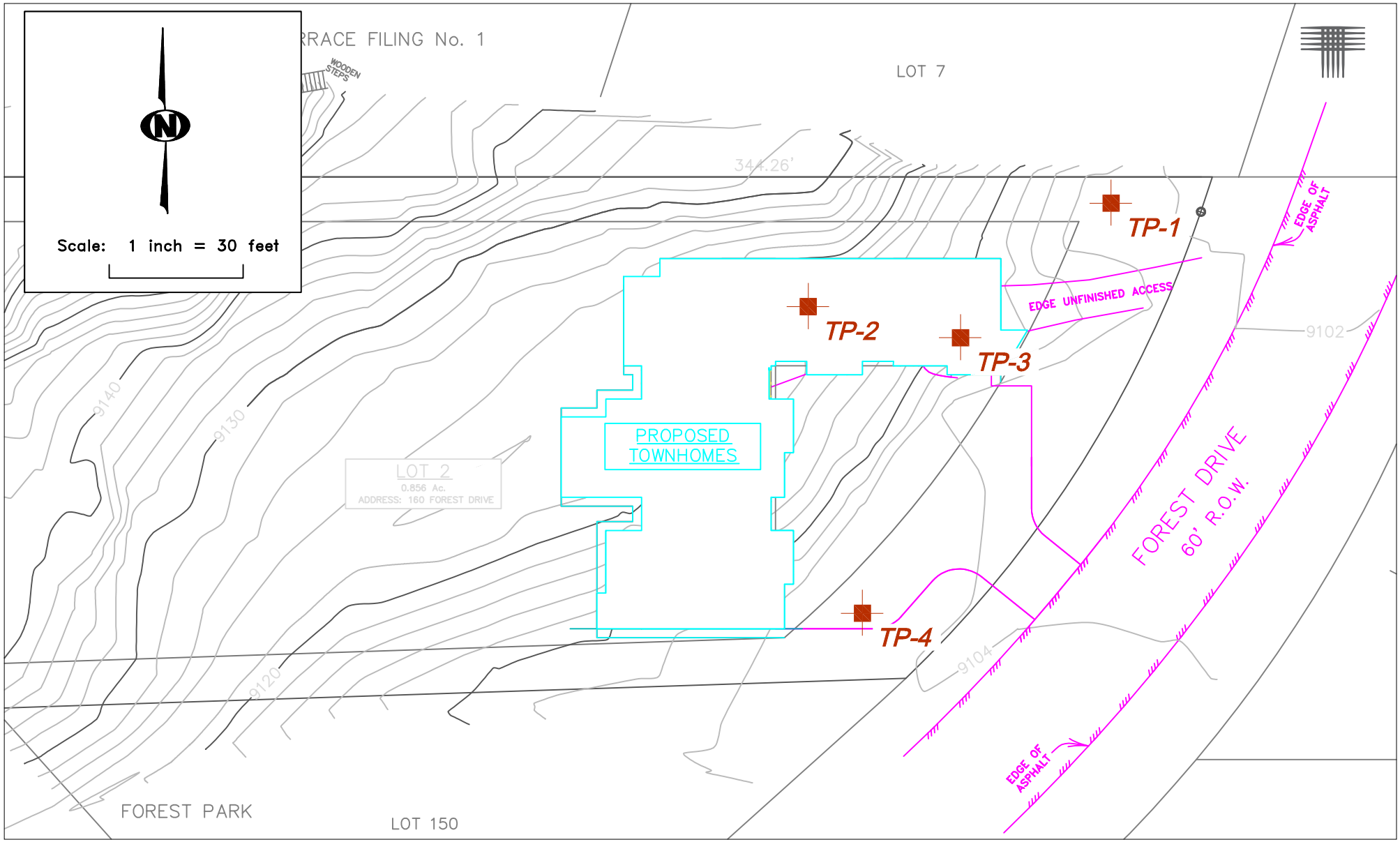
cc: sefrancis@deloitte.com

Not to scale



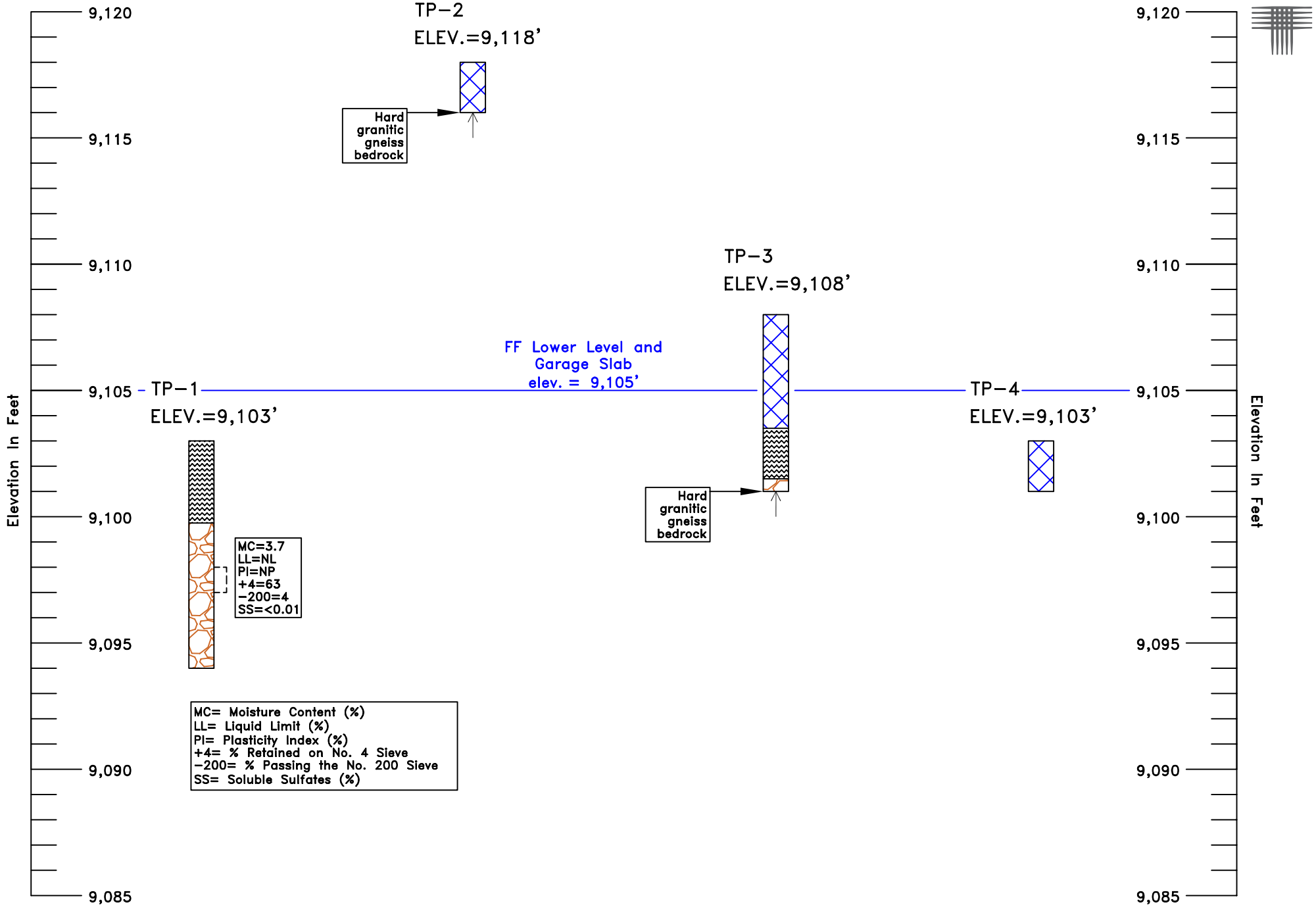
CTL|T Project No. SU02435.000-120

VICINITY MAP
Figure 1



LOCATIONS OF EXPLORATORY PITS
Figure 2

CTL|T Project No. SU02435.000-120



SUMMARY LOGS OF EXPLORATORY PITS
Figure 3

CTL|T Project No. SU02435.000-120

LEGEND:

TOPSOIL; clayey sand, with roots, slightly moist, dark brown.

FILL; silty gravel with sand, with subangular cobbles and boulders up to 16 inches in diameter, with some debris such as abandoned wires, loose, moist, brown.

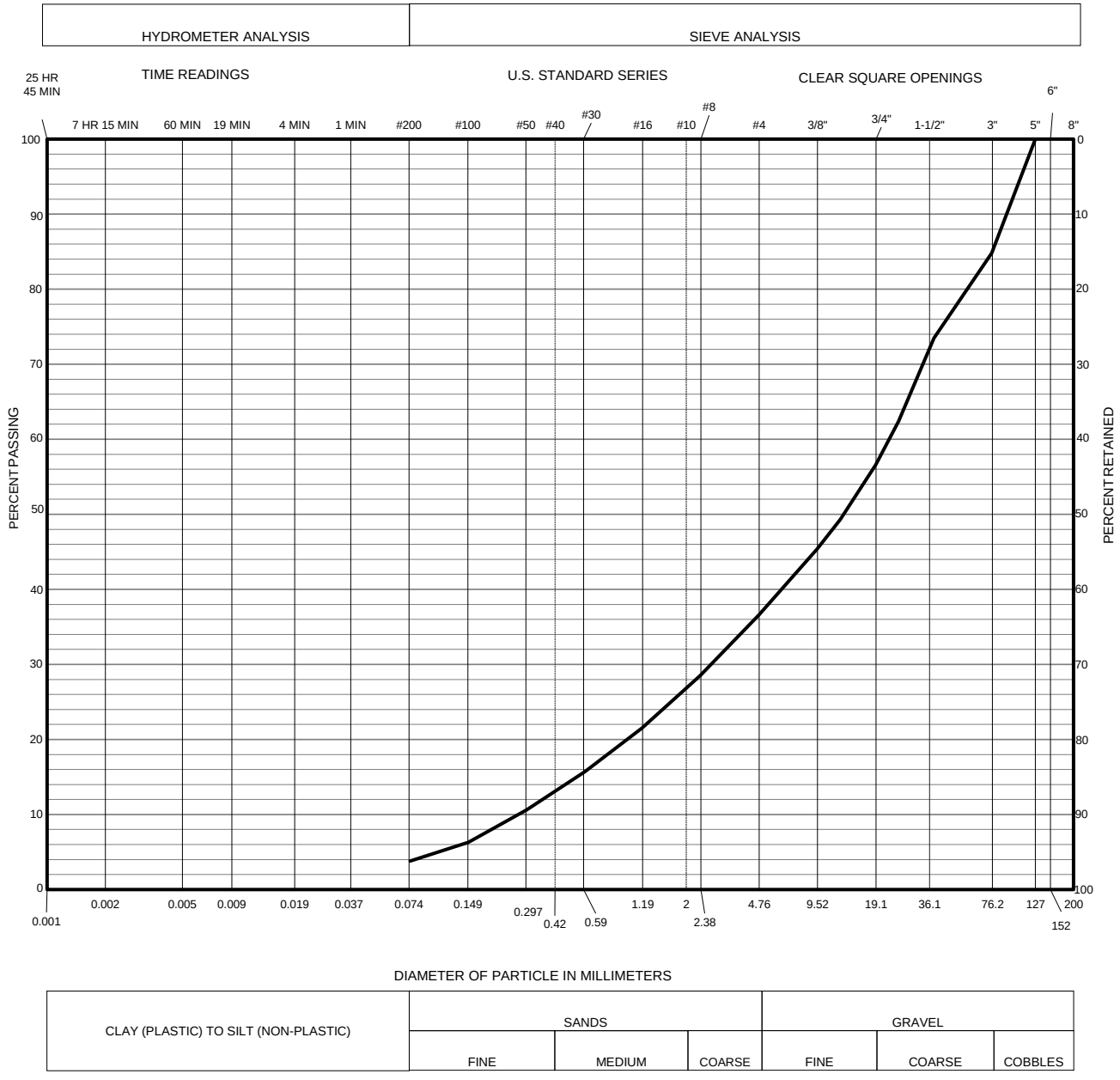
GRAVEL; well-graded gravel with sand, with subrounded cobbles up to 10 inches, dense, moist to very moist, brown. (GW)

Disturbed bulk sample.

Practical excavation refusal encountered at depth indicated on hard bedrock.

NOTES:

1. The pits were excavated with a track-mounted mini excavator on 09/27/23.
2. No groundwater was observed in the pits at the time of excavation. Groundwater levels can fluctuate. The pits were backfilled.
3. Pit locations as shown on Figure 2 were measured from site features and should be considered approximate.
4. Pit elevations are estimated from topography shown on Figure 2 and should be considered approximate. Relative elevations were checked by hand level.
5. These exploratory pits are subject to the explanations, limitations and conclusions contained in this report.



SAMPLE OF:	Well-graded Gravel with Sand (GW)	GRAVEL:	63%	SAND:	33%
FROM:	TP-1 at 5 feet	SILT & CLAY:	4%	LIQUID LIMIT:	NL
		PLASTIC INDEX:	NP		

D_{10}: 0.279 D_{30}: 2.803 D_{60}: 22.517 C_U: 80.7 C_C: 1.2

Size (mm)	75.7	38.1	25.0	19.0	12.5	9.5	4.8	2.4	1.2	0.6	0.3	0.2	0.1	-	-	-	-	-	-
% Passing	84.8	73.5	62.4	56.6	49.3	45.4	36.6	28.5	21.5	15.7	10.6	6.3	3.8	-	-	-	-	-	-

Gradation Test Results

TABLE - I

SUMMARY OF LABORATORY TEST RESULTS

TEST PIT	DEPTH (ft)	MOISTURE CONTENT (%)	ATTERBERG LIMITS		SOLUBLE SULFATE CONTENT (%)	RETAINED NO. 4 SIEVE (%)	PASSING NO. 200 SIEVE (%)	SOIL TYPE
			LIQUID LIMIT	PLASTICITY INDEX				
1	5	3.7	NL	NP	<0.01	63	4	Well-Graded Gravel with Sand (GW)

CTL|T PROJECT NO. SU02435.000-120