CITY OF BOISE

INTER-DEPARTMENT CORRESPONDENCE

Date: May 31, 2016

To: Susan Riggs
Planning and Development Services

From: Jason C Taylor, P.E.
Public Works

Subject: Somerset Ridge #7 Subdivision
PWE 819, CFH16-00014, SUB16-00013

Somerset Ridge #7 Subdivision is a proposed 21 lot (18 buildable, 3 common) development located on approximately 25 acres in the lower Boise Foothills. The proposed development is located off of N. 8th street just north of the existing Somerset Ridge Subdivisions #5. The existing site consists of undeveloped hillsides with varying slopes that are as steep as 2:1(50%) in the gulch and ridge areas and as flat as 3:1 (33%) in others. The overall site has surficial soils consisting of silt, sand, clay, and gravel variations of these soils. Underlying theses surficial soils are cemented sands and sandstone. Vegetation is primarily sagebrush, bitterbrush, bunchgrass, and other native vegetation typical of the semi-arid Boise foothills. The development proposes to cut the ridge tops and fill the ravines to provide relatively flat areas for streets and building pads. This plan is similar to previous approved phases of the Somerset Ridge Subdivisions.

Grading Plan Review

The proposed grading for this development satisfies the intent of Public Works Hillside Development Manual for Technical Reports and the Boise City Hillside and Foothills Areas Development Ordinance. The preliminary grading plan (Breckon Land Design dated March 8, 2016) indicates that the majority of the grading is for construction of driveways, infrastructure, and lot padding. The proposed grading plan indicates that fills of up to 51 feet and cuts up to 12 feet are anticipated. The material will be removed from the existing stockpiles, ridgetops, and the slope faces to create gently sloped areas for roadways and building pads. Proposed cuts and fills will produce approximately 55,000 cubic yards of material. This material will consist of surficial soils and stockpiled material from the previous phases. Typical earth moving equipment is planned to be utilized. However, blasting could be required if bedrock is encountered and is unrippable with on-site equipment. The applicant is proposing a balanced earthwork condition (i.e.; no import or export of cut/fill material). If there is a material shortage, then material will need to be brought to the site from an approved source.

The proposed roadways have variable slopes ranging from 2-3% up to 10%, the maximum allowable by ACHD and Boise City Fire Department. The proposed lot grading shows that the lots have been graded to slope from side to side to minimize impact of drainage sheet flowing down the slope faces. The final grading plan will need to show that all stormwater will stay on the individual lots. All proposed roof drainage is to be piped to the stormwater system but will need to be approved by ACHD prior to approval of a grading permit. Public Works recommends that the developer consider allowing sheet flow from backyard areas of homes above the descending slope to be evenly discharged to the downslope areas. A temporary berm or an effective soil stabilization program may also be required until backyard vegetation becomes established.

The proposed access road to the stormwater pond will be an extension of an existing sewer maintenance road and will need to be approved by the Parks and Recreation Department, the Public Works Sewer Department, and ACHD prior to approval of a mass grading permit. Relocation of the access road should be considered.

All existing erosion and water seepage areas onsite will need to be confirmed prior to issuance of a grading permit. The following items will need to be addressed prior to approval of a grading permit:

1. Revised grading plan to show that all stormwater will stay on the individual lots or be intercepted into an approved drainage facility. Location of temporary berms.
2. Approval from ACHD for the roadway storm drain system.
3. Approval from Parks and Recreation Department, the Public Works Sewer Department, and ACHD for the drainage pond access road.

Geotechnical Review

The Final Geotechnical Engineering Evaluation and Engineering Geology Evaluation submitted by STRATA, Inc. (dated May 20, 2004, & Supplemental Geotechnical Consultation dated January 28, 2016) included multiple exploratory locations, laboratory testing, and a geologic and geotechnical literature review. The onsite soils consisted of varying mixtures of silts, clays and sands. The overall report did conclude that the onsite soils were adequate to support the proposed development. This will need to be addressed in the Final Geotechnical Engineering Report prior to any onsite grading activities or final plat.

Additional geotechnical exploration, including test pits and or test borings will need to be performed prior to final approval and the issuance of a grading permit. Specific areas of investigation that will need further investigation, as identified in the Public Works Hillside Development – Requirements for Technical Reports manual include:

1. Stormwater Disposal – Soils will be evaluated for infiltration, allowable infiltration rates, liner types, and recommended setback distances from structures, slopes, and potential impacts of subsurface drainage on existing downstream structures and domestic water wells. Any changes to the currently proposed system will need to be reviewed by the geotechnical engineer to ensure no adverse effects will occur. This report should address

the ACHD pond that is proposed to be used within this development. An underdrain system should be designed by the geotechnical engineer for the deep fill zones.

2. Earthwork and Grading – Final earthwork and grading recommendations will be required and should include: Suitable onsite soil types, evaluation of onsite fill soils for use as structural fill, testing requirements of fill, recommended over-excavations(in any), embankment construction, fill placement recommendations, additional recommendations relative to specific soil characteristics at proposed deep cut locations, reusability of soils developed from cut locations, boulder/rock outcropping depths and construction issues with removal or blending with fills. Additional recommendations based on proposed grading plan. Possible slope failures caused by poor soil conditions, erosion, groundwater springs, future construction activities, and future homeowner irrigation activities have been identified in the evaluation. The geotechnical engineer recommends that the development plan around this potential risk to ensure safety. It is not clear if this was done or will be done with future revised plans but will need to be addressed prior to any grading permit approval.

3. Slope Stability Analysis- – A detailed slope stability analysis will be required for critical cut and fill slopes. Slope instability in these areas may impact adjacent development, and should be evaluated as the project design progresses. Sampling and testing shall be sufficient enough to address saturated strength of materials, depth to slide surface, potential for future movements, and risks to proposed structures and roadways/driveways. The evaluation should include a numerical slope stability analysis and report. Minimum industry standard factors of safety should be applied under saturated and psuedostatic conditions that include vertical and horizontal accelerations.

4. Evaluation of Subgrade Soils below Pavements and Residential Lots – A specific evaluation of subgrade soils for pavements, residential lots, and structural fill will be required. Specifically, this evaluation should include identification of active clay soils, evaluation of settlement potential associated with proposed grading, recommendations for pavement and subgrade preparations, as well as recommendations to reduce the potential effects of identified detrimental soil conditions. This evaluation will not be used for each residential lot. A separate geotechnical report will be required for each lot as required per the Boise City Hillside and Foothills Areas Development Ordinance.

Revegetation Plan

The Slope Stabilization and Revegetation Plan proposes to reestablish all disturbed areas within the proposed subdivision with a native seed mix. The plan proposes to uses the native topsoil across all areas that will be disturbed except for the building pads. The disturbed areas will then be hydroseeded with a blend of hillside plant seed, mulch, and tackifier at a proposed application rate of 2000 lbs. per acre. The site includes a good stand of bitterbrush. Replanting of bitterbrush on disturbed slopes should be considered.

Conclusions

The proposed area, as determined by the geological, hydrological, and soils engineering analysis, has been shown to be capable of the volume and type of development proposed. Cut and fills for subdivision construction have been minimized to ensure compliance with the Hillside Ordinance. Fill areas will require engineering oversight and construction monitoring prior to approval by Public Works staff to ensure soil stability. All individual lots within this development will be subject to the Hillside and Foothills and Development Standards Ordinance and will be required to submit individual engineering reports and analysis.

Public Works Recommended Conditions of Approval

Once the above mentioned items are addressed and approved by Public Works a grading permit can be issued with the following conditions of approval.

1. All site work shall comply with the Boise City Hillside and Foothills Areas Development Ordinance (B.C.C. 11-07-08 through 11-07-09), International Building Code Chapter 18 and Appendix J as modified by Boise City Code Chapter 4-02 and the conditions of approval for CFH16-00014.

2. Prior to the start of earthwork construction, the project engineer shall hold a pre-construction meeting. Authorized representatives from the project engineer, the contractor, the developer, the geotechnical engineer, and Boise City shall attend this meeting. This meeting will outline all construction activities, erosion and sediment control techniques, geotechnical engineering testing, report submittal requirements, etc.

3. All earthwork must be done in compliance with the recommendations contained in the approved Final Geotechnical Engineering Evaluation and Engineering Geology Evaluation submitted by STRATA, Inc. (dated May 20, 2004, Supplemental Geotechnical Consultation dated January 28, 2016) and under the direct supervision of the geotechnical engineer. Inspection and testing of earthwork is to be provided by a soils engineer/testing laboratory. Embankment compaction test data and daily logs of construction activities shall be submitted to Public Works by the Project Engineer on a weekly basis.

4. Unforeseen or difficult soil conditions may be encountered during earthwork activities. If soil conditions, weather conditions, or other situations alter work activities or potentially impact satisfactory completion of work; the City shall be immediately notified. The geotechnical engineer shall respond to these conditions in a manner acceptable to the City. If these conditions are not appropriately dealt with, a “work stop” will be imposed on the project until satisfactory resolution of these problems can be achieved.

5. Stripping and topsoil removal shall not be done on an area until just prior to cutting or filling in the area.

6. If excess waste materials or excavated materials are to be removed from the site, positive measures shall be taken to prevent soil and other debris from being deposited on existing streets. Any offsite disposal of excess cut material must be approved in advance by Boise City Public Works or Erosion and Sediment Control. The permittee shall also repair any damage the work causes to existing public and/or private property.

7. Identify, stake, and maintain through construction markers at the limits of grading. Stakes shall be placed at reasonable intervals around the grading perimeter. All perimeter construction staking shall be in place prior to commencement of work. Disturbance outside the marked limits of grading shall not be permitted.

8. The permittee shall apply water or other dust palliative to control dust when necessary or requested by Boise City Erosion and Sediment Control.

9. All slopes and disturbed area shall be protected in accordance to an approved erosion control plan & revegetated in accordance to the approved Final Re-Vegetation Plan.

10. If blasting is required, it shall be done in compliance with a blasting permit obtained from the Boise City Fire Department.

11. No operation of heavy equipment shall occur prior to 7:00 a.m. or later than 7:00 p.m., Monday through Saturday. Upon request work may be permitted outside of these hours on limited basis provided that there is not excessive disturbance to adjacent property owners from noise and/or lights.

12. Boise City shall be reimbursed for review and inspection costs associated with Hillside Ordinance Requirements.

13. Final reports as required by International Building Code Chapter 18 and Appendix J as modified by Boise City Code Chapter 4-02 shall be provided prior to full release of grading performance security. Record drawings must include the location and the invert of the stormdrain stubouts to the individual lots.

14. The Owner/Contractor must provide for temporary erosion protection of all disturbed slopes on an “as required” basis until the project is successfully revegetated. The intent of this condition is to minimize erosion to this project and to prevent the transport of eroded materials outside the boundary of this project. The Owner/Contractor shall have onsite or readily available sandbags, sediment fence, or other materials deemed necessary by the Project Engineer for emergency response to drainage, erosion, or sedimentation problems.

15. All bonding for grading, erosion protection, re-vegetation, and related work, including an agreement to perform work under this permit, shall be submitted to and accepted by Boise City prior to the issuance of a grading permit. In the event of default and/or failure to complete the project and to perform the conditions stipulated herein, the developer/landowner hereby grants to Boise City and their agents the right of access to the property to do the work as necessary to complete the improvements and/or restore drainage and aesthetics of the site.

16. The Contractor and/or Developer, to whom this permit is issued, shall be responsible for maintaining the project site in a safe, environmentally stable condition. If the Project Engineer is notified of unacceptable conditions at the project site, including but not limited to, excessive dust generation, excessive erosion of soil materials from the site, and deposition of these materials on adjoining properties, and the permittee does not respond to and resolve these matters, then the City of Boise reserves the right to direct and have said unacceptable conditions corrected by a contractor of its choice. The cost of said work will be paid for by the Developer or Contractor as appropriate. In the event the Developer will not pay for work performed, the City will demand payment from the grading bond held for this grading work.

17. Any changes to the Grading, Erosion Control, or Re-vegetation plan shall be forwarded to the Public Works Department in writing for review and approval prior to commencing with actual construction.

18. Any correspondence and communications relative to this permit shall be directed to the Department of Public Works with copies to the Building Department.

19. This project falls within the boundaries of the "Foothills". As such all buildings are required to contain Class A roofs and a 30-foot defensible space on the sides of the properties that border wild lands. Information on naturally fire resistive plant materials can be obtained from the International Fire Code Institute (IFCI) Urban-Wild Land Interface Code, The National Fire Protection Association (NFPA) Standard #299, National Forest Service, Boise Interagency Fire Center, Boise National Forest, Idaho State Forest Service, Federal Bureau of Land Management (BLM), Boise Parks and Recreation Department Urban Forester, and the Colorado State Forest Service. For additional information call the Boise Fire Department at 384-3827.

20. The Landscape Architect shall be required to perform the following tasks:

    a. Sample the stockpiled topsoil and make any recommendations for necessary soil amendments before the topsoil is redistributed on the disturbed slopes.

    b. After the topsoil has been applied to the slopes, the Landscape Architect shall inspect and certify that the topsoil has been properly amended and spread at the minimum thickness recommended in the revegetation report.

c. After the hydroseed and mulch have been applied, the Landscape Architect shall inspect and certify that the correct rates were applied.

d. After the first year of re-vegetation, the Landscape Architect shall write a report on the progress and success of the re-vegetation. The report shall address the need for any remedial re-vegetation work that may be required. Periodic reports shall be required thereafter on an "as needed" basis until the landscape architect certifies the re-vegetation is complete. Re-vegetation must be 80% completed in 2 years as per the Hillside Ordinance. At this time the re-vegetation bond shall be released.

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sf PWE819