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February 5, 2020

SENT VIA: E-Mail

City of Garden City
c/o Charles Wadam
6015 Glenwood Street
Garden City, ID 83714
cwadams@gardencityidaho.org

Re: Bridge Townhomes Subdivision – Reconsideration

Mr. Wadams, what follows are the principal points for presentation to the City Council at the Special Meeting:

1. SUBFY2017-1/PUD2013-2 - May 8, 2017: Bridge Townhomes Subdivision: City Council - APPROVED
2. June, 2018: Building Permit issued - Based upon the Construction Drawings, Renderings, and Elevations approved in May of 2017.
    a. The Elevations reflect the Building Height, Deck Height, and Retaining Wall Height. All grades and elevations were submitted prior to PUD Approval, and were part of the Design Review, P & Z, and City Council Approval Packets. (*See* Enclosures 1, 2, 3, and 4).
    b. As evidenced by the approval of the PUD, all elements of the construction, including the retaining wall, were reviewed and approved by the City.
3. Garden City does not require the submission of structural engineering drawings for the construction of the retaining wall, nor is an individual permit required.
4. In June of 2018, the retaining wall was constructed as designed and in accordance with structural engineering design by Carl Geiger. (See Enclosure 5).
5. At the time of construction and shortly thereafter, Surfer's Paradise, LLC through its principal, Todd Weltner, was in direct, multiple e-mail communications with Jenah Thornborrow regarding construction of the retaining wall, including the transmittal of photographs during the course of construction. (See Enclosure 6).
6. No issues were raised by anyone about the retaining wall, until spring of 2019 as part of an encroachment objection raised by Victor Myers, long after completion of the retaining wall.
7. At no time has a finding been made by the City that the Bridge Townhomes PUD, as completely constructed, does not substantially conform to the approved PUD.
8. As stated in previous correspondence to the City, Surfer's Paradise, LLC as the Developer, was advised that it had to undertake an undefined process, not provided for in Garden City Ordinances, for the "modification" of the PUD to allow for the retaining wall as previously reviewed, approved, and constructed. Surfer's Paradise, LLC restates and incorporates the prior submissions to the City.

9. Surfer's Paradise, LLC followed the directive from the Development Director, and received approval in Design Review and P & Z hearings. The City Council chose not to accept either the Design Review nor the P & Z approvals. (See Attachment 7).
10. The City Council, did not take into consideration the prior approval, the failure in process, and the fact that the construction of Bridge Townhomes "substantially conforms" to the PUD as approved.

Sincerely,

Kim J. Trout

CC: Client

ATTACHMENT 1

Revisions

REV.	DESC.	DATE/BY

B&A Engineers, Inc.
Consulting Engineers, Surveyors & Planners
5305 W. Franklin Rd. Boise, Id. 83705
(208) 345-3381

PROFESSIONAL ENGINEER 4116 STATE OF IDAHO JOSEPH D CANNING REGISTERED

Bridge Townhomes Subdivision

A RESUBDIVISION OF LOTS 2 AND 3, BLOCK 1 OF WATERFRONT DISTRICT SUBDIVISION, SITUATE IN THE EAST HALF OF SECTION 15, TOWNSHIP 3 NORTH, RANGE 2 EAST, BOISE MERIDIAN, GARDEN CITY, ADA COUNTY, IDAHO.

Grading Plan

DATE:	JANUARY 4, 2017
HORIZ. SCALE:	AS NOTED
VERT. SCALE:	AS NOTED
DRAWN BY:	DAC/KMK
CHECKED BY:	J.D. CANNING
FILE:	NJOB-A Const Plans.dwg

SHEET NO.:

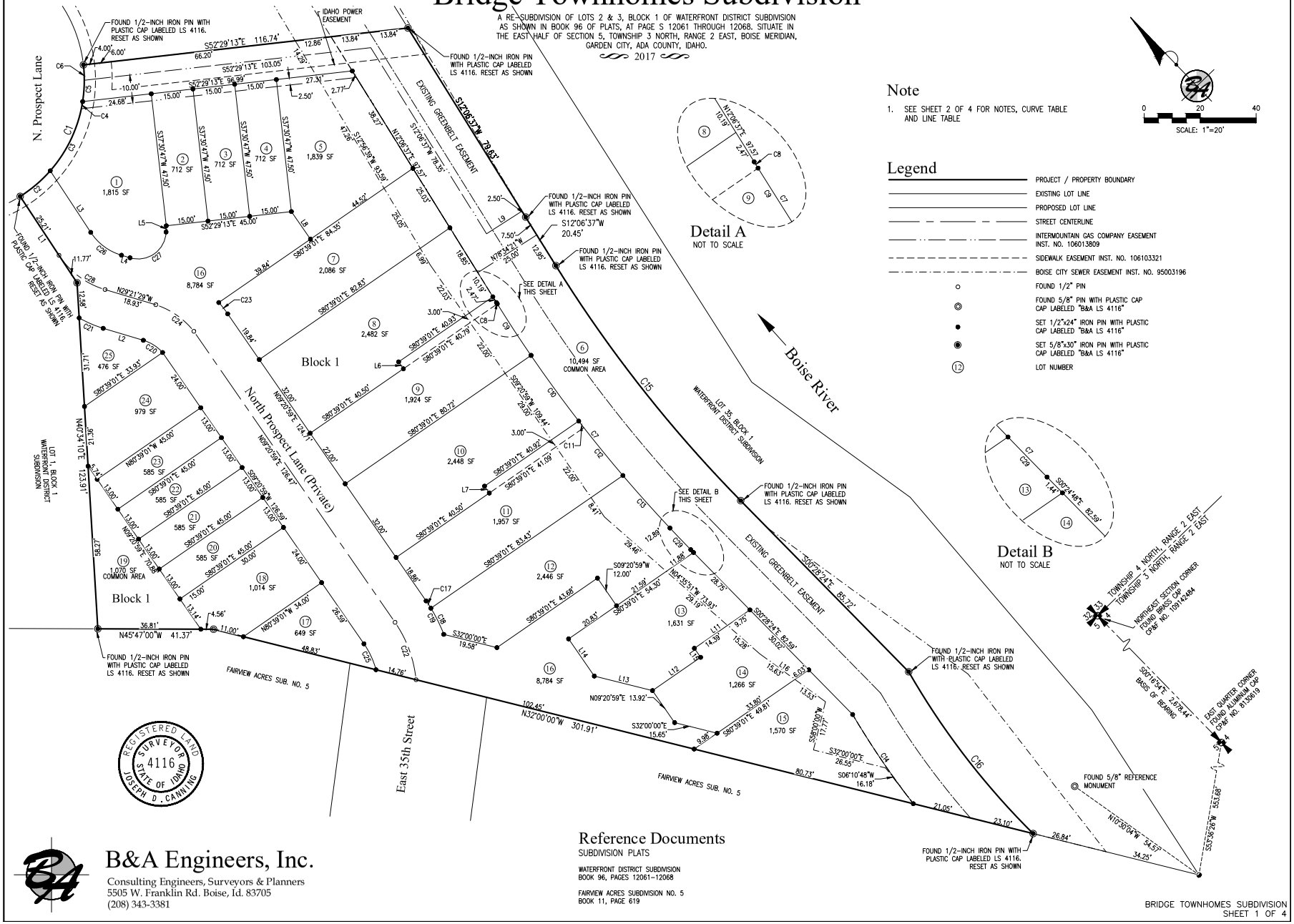
GRADING

ATTACHMENT 2

Bridge Townhomes Subdivision

A RE-SUBDIVISION OF LOTS 2 & 3, BLOCK 1 OF WATERFRONT DISTRICT SUBDIVISION AS SHOWN IN BOOK 96 OF PLATS, AT PAGE S 12061 THROUGH 12068. SITUATE IN THE EAST HALF OF SECTION 5, TOWNSHIP 3 NORTH, RANGE 2 EAST, BOISE MERIDIAN, GARDEN CITY, ADA COUNTY, IDAHO.

2017



Note

1. SEE SHEET 2 OF 4 FOR NOTES, CURVE TABLE AND LINE TABLE

SCALE: 1"=20'

Legend

- PROJECT / PROPERTY BOUNDARY
- EXISTING LOT LINE
- PROPOSED LOT LINE
- STREET CENTERLINE
- INTERMOUNTAIN GAS COMPANY EASEMENT INST. NO. 106013809
- SIDEWALK EASEMENT INST. NO. 106103321
- BOISE CITY SEWER EASEMENT INST. NO. 95003196
- FOUND 1/2" PIN
- FOUND 5/8" PIN WITH PLASTIC CAP CAP LABELED "B&A LS 4116"
- SET 1/2"x24" IRON PIN WITH PLASTIC CAP LABELED "B&A LS 4116"
- SET 5/8"x30" IRON PIN WITH PLASTIC CAP LABELED "B&A LS 4116"
- (12) LOT NUMBER

REGISTERED LAND SURVEYOR 4116 STATE OF IDAHO JOSEPH D. CANNING

Reference Documents

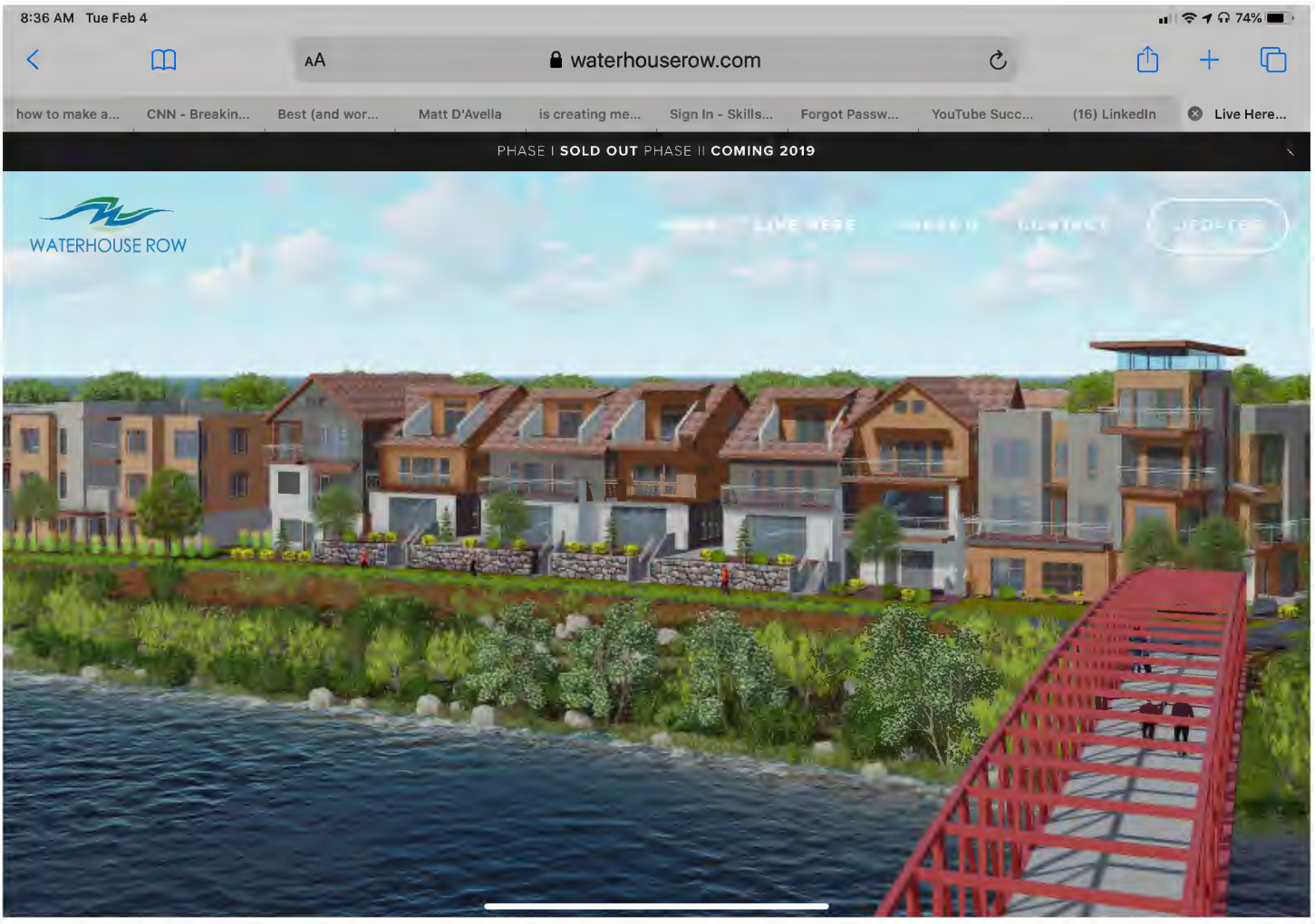
SUBDIVISION PLATS

WATERFRONT DISTRICT SUBDIVISION
BOOK 96, PAGES 12061–12068

FAIRVIEW ACRES SUBDIVISION NO. 5
BOOK 11, PAGE 619

B&A Engineers, Inc.
Consulting Engineers, Surveyors & Planners
5505 W. Franklin Rd. Boise, Id. 83705
(208) 343-3381

ATTACHMENT 3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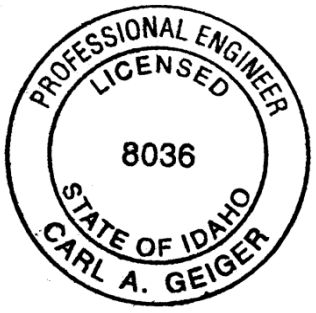
Forgot Passw...
YouTube Succ...
(16) LinkedIn
Live Here...
PHASE I SOLD OUT PHASE II COMING 2019
WATERHOUSE ROW

ATTACHMENT 4

ATTACHMENT 5

The Bridge Townhomes
3576 N. Prospect Way
Garden City, Idaho

Boulder Retaining Wall Calculations



Digitally signed by Carl Geiger, PE
DN: C=US,
E=focusboise@gmail.com,
O=Focus Engineering, CN="Carl Geiger, PE"
Date: 2018.04.27 13:47:39-06'00'

Focus Engineering
5140 W. Catalpa Court
Boise, Idaho
(208) 395-1979

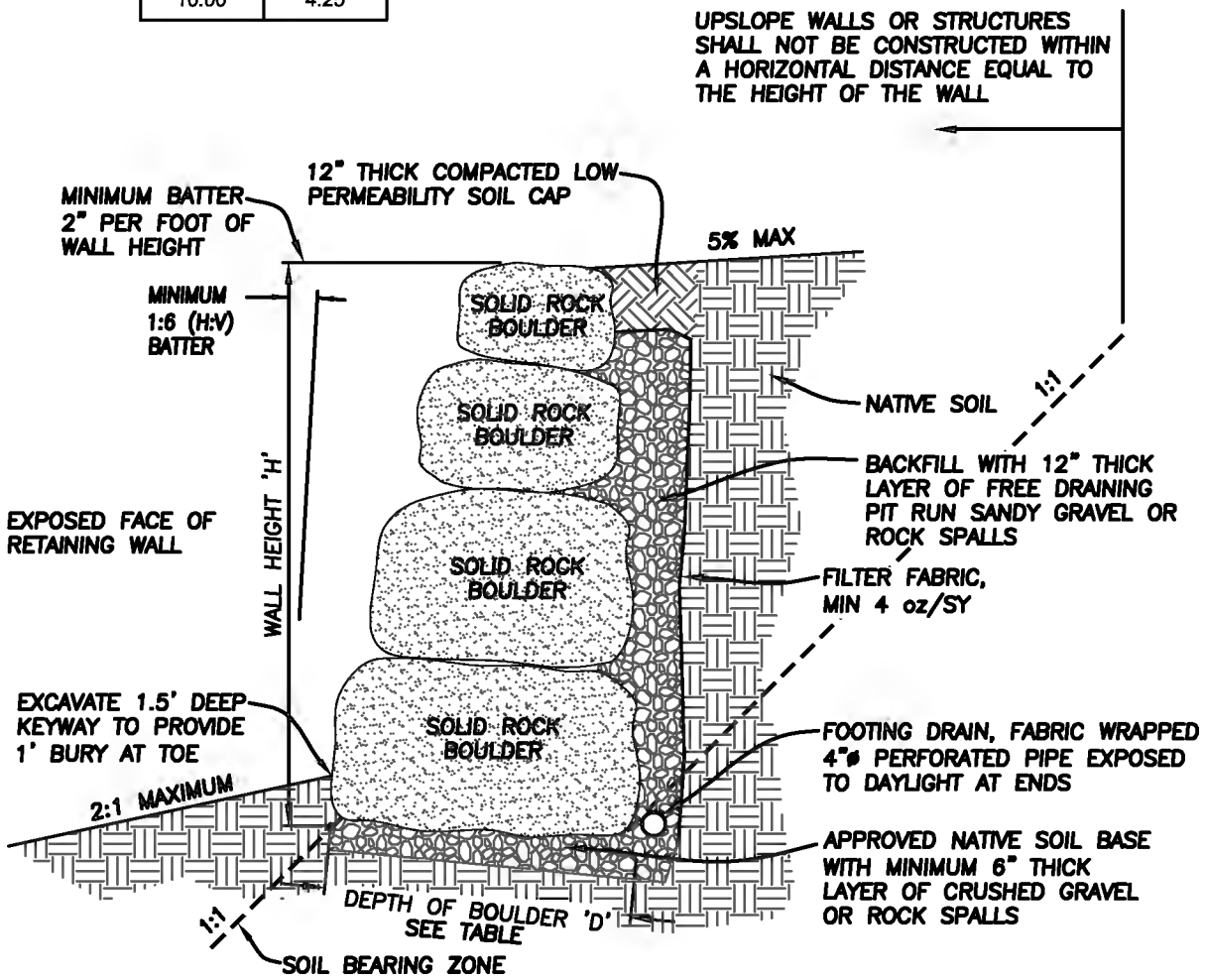
BOULDER RETAINING WALL NOTES:

1. BOULDER SIZE 'D' SHALL CONFORM TO THE ROCK BOULDER SIZE SHOWN IN THE TABLE RELATIVE TO THE RETAINED EARTH HEIGHT 'H' OF THE RETAINING WALL.
2. SOIL AT BASE OF BOULDER WALL SHALL BE APPROVED BY THE ENGINEER OR AN APPROVED TESTING AGENCY.
2. BACKFILL MATERIAL SHALL BE FREE DRAINING AND SHALL BE APPROVED BY THE ENGINEER OR AN APPROVED TESTING AGENCY.
3. 12" THICK LAYER OF COMPACTED LOW PERMEABILITY SOIL CAP SHALL BE PLACED OVER THE FILTER FABRIC AND WALL BACKFILL TO HELP PREVENT INTRUSION OF SURFACE RUNOFF INTO THE SOIL AND BACKFILL BEHIND THE RETAINING WALL.
4. DRIVEWAY, PARKING STALLS, BUILDINGS OR OTHER STRUCTURES SHALL NOT BE CONSTRUCTED ABOVE THE NEW RETAINING WALL WITHIN A HORIZONTAL DISTANCE EQUAL TO THE WALL HEIGHT.
5. SOIL AT BASE OF WALL SHALL NOT HAVE CUT SLOPE WITHIN THE SOIL BEARING ZONE BELOW THE WALL ANY STEEPER THAN 2:1 (H:V) SLOPE EXTENDING DOWNWARD FROM THE BASE OF WALL FOR AT LEAST 10' HORIZONTALLY.

ROCK BOULDER SIZE

H	D
(ft)	(ft)
2.00	2.00
4.00	2.00
6.00	2.50
8.00	3.50
10.00	4.25

NOTE:
SITE GRADING SHALL BE CONSTRUCTED TO DIVERT SURFACE RUNOFF AWAY FROM THE RETAINING WALL OR SHALL HAVE A NON-PERMEABLE SOIL CAP TO CAUSE RUNOFF TO FLOW OVER THE TOP OF THE WALL OR SHALL HAVE A DRAIN PIPE INSTALLED NEAR THE TOP OF THE WALL. RUNOFF UPSLOPE FROM THE WALL SHOULD NOT BE ALLOWED TO ENTER THE SOIL BEHIND THE WALL.



BOULDER RETAINING WALL DETAIL AND NOTES

NTS

bridge townhomes ret wall detail

The Bridge Townhomes
3576 N. Prospect Way
Garden City, Idaho

4/27/2018

Soil Properties

Backfill Soil Description		Pit Run Sandy Gravel		
Maximum Wall Height	H =	10	ft	
Density	γ =	120	pcf	
Cohesion	c =	0	psf	
Internal Angle of Friction	ϕ =	32.00	°	
Angle of backfill (H:V)	β =	20.00	:1	
	=	2.86	°	
	=	5.0%		
Coeff Active Earth Press	K_{ab} =	$\cos(\beta)*((\cos(\beta)-[\cos^2(\beta)-\cos^2(\phi)]^{\wedge 0.5})/(\cos(\beta)+[\cos^2(\beta)-\cos^2(\phi)]^{\wedge 0.5})$		
		0.308		
Equivalent Fluid Pressure	P_{fp} =	37.0	psf/ft	
Maximum Active Earth Pressure	P_a =	$0.5*\gamma*H^{\wedge 2}*K_{ab}$		
	=	1,850	lb	
Allowable Soil Bearing Pressure	sbp =	2,000	psi	
Friction Coefficient	μ =	0.50		(applied at boulder-soil interface)
Passive Lateral Pressure	R_p =	496	psf/ft	

Rock Boulder Properties

Description		Quartzite, solid boulder		
Specific Gravity	SG =	2.65		
Density	γ =	165	pcf	
Friction Coefficient	μ =	0.70		(applied boulder to boulder)
Average Boulder Height	h =	2.0	ft	

The Bridge Townhomes
3576 N. Prospect Way
Garden City, Idaho

4/27/2018

H (ft)	D (ft)	p (plf)	P (lb)	Rock Mass (lb)	Mot (lb*ft)	Mr (lb*ft)	Overturning FS	Sliding FS	SBP (psf)		D/H
2.00	2.00	74	74	661	74	661	8.94	6.26	331	ok	100%
4.00	2.00	148	296	661	296	661	2.23	3.13	661	ok	50%
6.00	2.50	222	666	827	666	1,034	1.55	2.26	860	ok	42%
8.00	3.50	296	1,184	1,158	1,184	2,026	1.71	1.96	945	ok	44%
10.00	4.25	370	1,850	1,406	1,850	2,987	1.61	1.54	1,109	ok	43%
				4,713							

Boulder Height

Average Boulder Height — h = 2.0 ft

Overturning

Active Earth Pressure (bottom of each boulder) — $p = \gamma * H * K_{ab}$

Resultant Earth Active Force — $P = (h_2-h_1)*p_1+0.5*(p_2-p_1)$

Overturning Moment — $M_{ot} = P*(h_2-h_1)/3$

Batter — b = (H:V) 1: 6
= 16.7%
= 9.46 °

Shift of COG due to Batter — $\Delta x = [0.5*(H^2+D^2)^{0.5} * \cos(90-\Phi-\Theta) - [0.5*(H^2+D^2)^{0.5} * \sin(\text{atan}(D/H))]$

Rock Center of Gravity — $CoG = 0.5*D+\Delta x)$

Rock Mass — $W_{rock} = \gamma*(h_2-h_1)*D$

Resisting Moment — $M_r = W_{rock}*D/2$

Req'd Factor of Safety — $FS = M_r/M_{ot}$
= 1.5

Sliding

Lateral Force — $P = (h_2-h_1)*p_1+0.5*(p_2-p_1)$

Friction Resistance — $R_f = W_{rock} * \mu$

Lateral Passive Resisting Force (at base) — $R_p = d_{embed}\text{^}2*SBP_{lat}/2$
= 496 lb

Depth of Embedment (at base) — d_{embed} = 1.0 ft

Lateral Soil Bearing Pressure — SBP_{lat} = 496 psf/ft

Req'd Factor of Safety — $FS = P/(R_f+R_p)$
= 1.5

Soil Bearing

Base Area — A_b = 1*D sf/ft

Passive Lateral Pressure — R_p = 496 psf

Soil Bearing Pressure — $SBP = \sum W_{rock} / A_b$
= 1,109 psf

Allowable Soil Bearing Pressure — SBP_{allow} = 2,000 psf

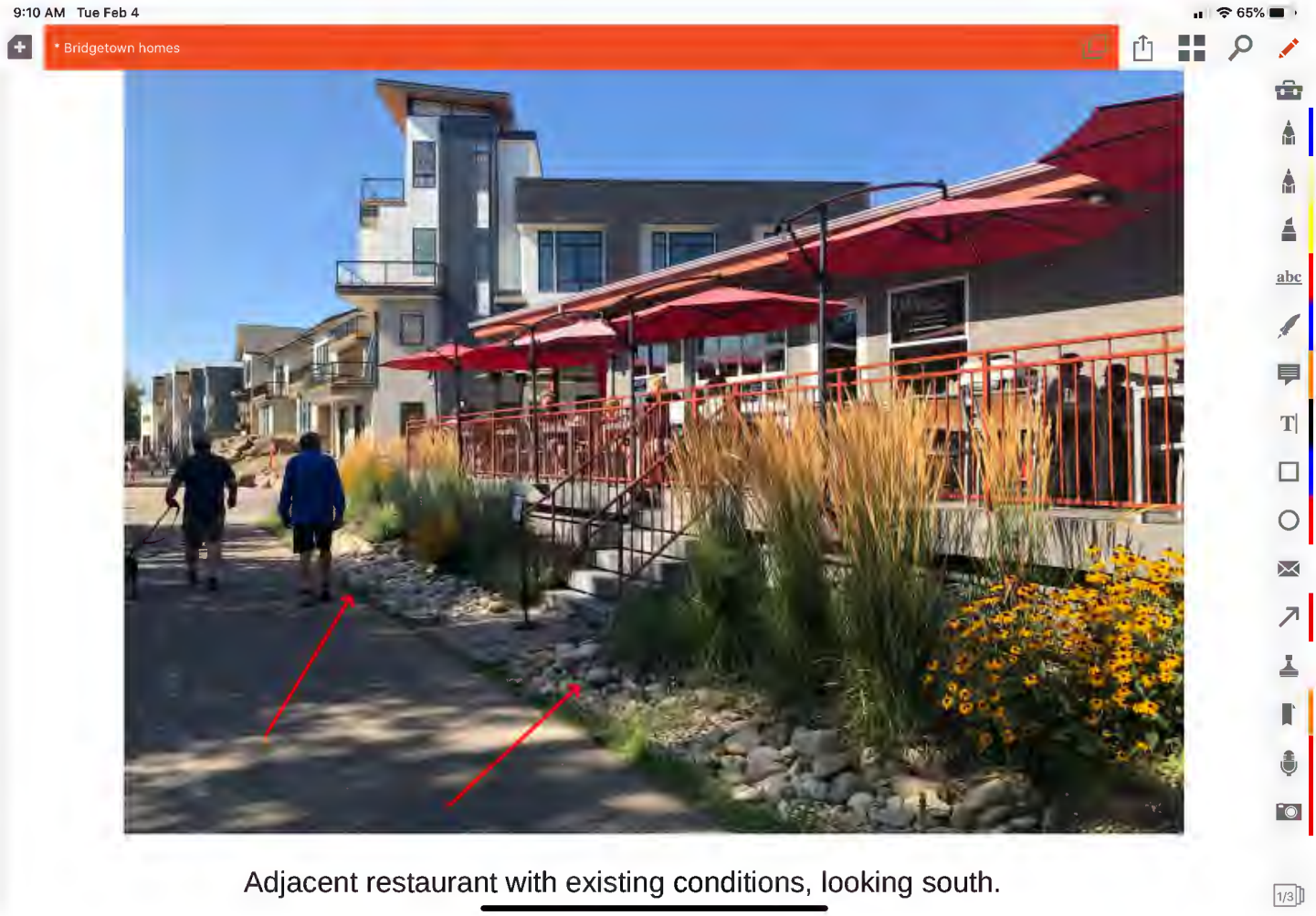
Global Stability

Global Overturning — $M_{ot} = R_{\sum}*H/3$
= 6,167 lb*ft
$M_r = \sum W_{rock}*D/2$
= 10,015 lb*ft
FS_{ot} = 1.62 ok

Global Sliding — P = 1,850 lb
$R_f = \sum W_{rock} * \mu + R_p$
= 2,852 lb
FS_s = 1.54 ok

Global Soil Bearing — $SBP = \sum W_{rock}/D$
= 1,109 psf ok < 2,000

ATTACHMENT 6



Adjacent restaurant with existing conditions, looking south.

ATTACHMENT 7

Date: February 4, 2020

To: Charles Wadams, City of Garden City

From: Todd Weltner TW

Re: Bridge Townhomes Subdivision
Boulder Retaining Wall

1. I am the Managing Member of Surfer's Paradise, LLC, the developer of Bridge Townhomes Subdivision;
2. Attached hereto is a true and correct copy of the letter from Carl Geiger, P.E., carrying his Professional Engineering Stamp, confirming that the retaining wall for the project must be kept and maintained in its currently constructed form, without modification or removal of any sections of the retaining wall.
3. The retaining wall was constructed in accordance with the engineered grading & drainage and building plans submitted, reviewed and approved by Garden City as part of the PUD in 2017.

VERTICAL

208-336-9860
vertical-corp.com
300 East 35th Street
Garden City, ID 83714

Focus Engineering
Civil-Geotechnical-Environmental-Structural
5140 W. Catalpa Court, Boise, Idaho 83703
(208) 395-1979 focusboise@gmail.com

January 23, 2020

Todd Weltner
Vertical Construction
300 E. 35th Street
Garden City, ID 83714

Re: Bridge Townhomes
Boulder Retaining Walls

Focus Engineering has created boulder retaining wall calculations, construction detail and has performed site visits and construction observation of the boulder wall that is adjacent to the greenbelt path at The Bridge Townhomes. Construction of the boulder wall looks good and is acceptable.

Design height of the wall and location of the wall was provided by others. Focus Engineering has not created any site plan, grading plan, drainage plan or design for the heights of the wall. We have only designed the boulder wall and have inspected it during construction. Focus Engineering has not evaluated or approved the location of the wall.

Moving the boulder retaining wall is not recommended. Moving the wall away from the greenbelt path and closer to the existing building would risk undermining the building foundation and the structural integrity of the building.

Saw cutting or otherwise reducing the boulder sizes is not recommended. Boulder size is critically important in a gravity retaining wall, especially at the bottom course where the lateral soil pressure is greatest.

Please contact me if you have any questions or comments.

Sincerely,

Focus Engineering, Inc.
Boise, Idaho
Carl Geiger, PE

Digitally signed by Carl Geiger, PE
Date: 2020.01.23 11:53:18-07'00'