



# TOWN OF JACKSON PLANNING & BUILDING DEPARTMENT

## TRANSMITTAL MEMO

### Town of Jackson

- ☒ Public Works/Engineering
- ☐ Building
- ☐ Title Company
- ☒ Town Attorney
- ☐ Police

### Joint Town/County

- ☐ Parks and Recreation
- ☐ Pathways
- ☐ Housing Department

### Teton County

- ☐ Planning Division

- ☐ Engineer
- ☐ Surveyor- *Nelson*
- ☐ Assessor
- ☐ Clerk and Recorder
- ☐ Road and Levee

### State of Wyoming

- ☐ Teton Conservation
- ☐ WYDOT
- ☐ TC School District #1
- ☐ Game and Fish
- ☐ DEQ

### Federal Agencies

- ☐ Army Corp of Engineers

### Utility Providers

- ☐ Qwest
- ☐ Lower Valley Energy
- ☐ Bresnan Communications

### Special Districts

- ☐ START
- ☐ Jackson Hole Fire/EMS
- ☐ Irrigation Company

Date: January 24, 2020 <b>Third Submittal</b>	<b>REQUESTS:</b>  The applicant is submitting a request for an Encroachment Agreement for the property located at 645 S. Cache Street, legally known as, LOT 11, BLK. 4, KARNS-2.  For questions, please call Brendan Conboy at 733-0440, x1302 or email to the address shown below. Thank you.  <b>Please review the <b>third</b> submittal which has a new document on page 25.</b>
Item #: P20-003	
Planner: Brendan Conboy  Phone: 733-0440 ext. 1302  Email: bconboy@jacksonwy.gov	
<b>Owner:</b> NEWJACK LLC PO 11803 Jackson, WY 83001  <b>Applicant:</b> Hoyt Architects - Brett PO Box 7364 Jackson, WY 83002	
<b>Please respond by: January 27, 2020 (with Comments)</b>	

**RESPONSE:** For Departments not using Trak-it, please send responses via email to: [tstolte@jacksonwy.gov](mailto:tstolte@jacksonwy.gov)



## **ENCROACHMENT AGREEMENT APPLICATION**

### **Planning & Building Department**

### **Planning Division**

150 E Pearl Ave. | ph: (307) 733-0440  
P.O. Box 1687 | fax: (307) 734-3563  
Jackson, WY 83001 | www.townofjackson.com

#### **OWNER OF PROPERTY:**

Name: NewJack LLC Phone: \_\_\_\_\_

Mailing Address: 98 Center Street, Jackson, WY ZIP: 83001

E-mail: tom@cabinandcompany.com

#### **APPLICANT/AGENT:**

Name: Hoyt Architects / Brett Bennett Phone: 307.733.9955

Mailing Address: PO Box 7364 ZIP: 83002

E-mail: brettb@hoytarchitects.design

#### **DESIGNATED PRIMARY CONTACT:**

Owner \_\_\_\_\_ Applicant/Agent X

#### **PROPERTY:**

Physical Address of Property: 645 Cache

Lot, Subdivision: LOT 11, BLK. 4, KARNS-2

PIDN: 22-41-16-33-1-38-007

Description of Public Right-of Way: South Cache Street, curb and gutter, landscaping, and sidewalk.

**SUBMITTAL REQUIREMENTS.** Three (3) hard copies and one (1) digital copy of the application package (this form, plus all applicable attachments) should be submitted to the Planning Department. Please ensure all submittal requirements are included. The Planning Department will not hold or process incomplete applications. Partial or incomplete applications will be returned to the applicant.

Have you attached the following?

N/A **Application Fee.** Fees are cumulative. Applications for multiple types of permits, or for multiple permits of the same type, require multiple fees. See the currently adopted Fee Schedule in the Administrative Manual for more information.

10/29/15

X   **Notarized Letter of Authorization.** A notarized letter of consent from the landowner is required if the applicant is not the owner, or if an agent is applying on behalf of the landowner. If the owner is a partnership or corporation, proof that the owner can sign on behalf of the partnership or corporation is also required. Please see the Letter of Authorization template in the Administrative Manual for a sample.

  X   **Narrative Description of the Request.** Provide a detailed narrative description explaining the use of the noted public right-of-way.


  X   **Exhibit.** Provide an exhibit (picture, drawings, maps, plans) of the use of the noted public right-of-way including dimensions of requested encroachment.

**FORMAT:**

The main component of any application is demonstration of compliance with all applicable Land Development Regulations (LDRs) and Resolutions.

Note: Information provided by the applicant or other review agencies during the planning process may identify other requirements that were not evident at the time of application submittal. Staff may request additional materials during review as needed to determine compliance with the LDRs.

Under penalty of perjury, I hereby certify that I have read this application and state that, to the best of my knowledge, all information submitted in this request is true and correct. I agree to comply with all county and state laws relating to the subject matter of this application, and hereby authorize representatives of the Town of Jackson to enter upon the abovementioned property during normal business hours, after making a reasonable effort to contact the owner/applicant prior to entering.



Signature of Owner or Authorized Applicant/Agent

Brett Bennett

Name Printed

01.02.2020

Date

Architect

Title

# LETTER OF AUTHORIZATION

NewJack LLC

Suite D, Jackson, Wy 83001

, "Owner" whose address is: 98 Center Street,

(NAME OF ALL INDIVIDUALS OR ENTITY OWNING THE PROPERTY)

Tom Hedges and Alex Marshall

, as the owner of property  
more specifically legally described as:

645 S Cache St: LOT 11, BLK. 4, KARNS-2 and 655 S Cache St: LOT 12, BLK. 4, KARNS-2

(If too lengthy, attach description)

HEREBY AUTHORIZES Hoyt Architects, PO Box 7364, Jackson, WY 83002 as agent to represent and act for Owner in making application for and receiving and accepting on Owners behalf, any permits or other action by the Town of Jackson, or the Town of Jackson Planning, Building, Engineering and/or Environmental Health Departments relating to the modification, development, planning or replatting, improvement, use or occupancy of land in the Town of Jackson. Owner agrees that Owner is or shall be deemed conclusively to be fully aware of and to have authorized and/or made any and all representations or promises contained in said application or any Owner information in support thereof, and shall be deemed to be aware of and to have authorized any subsequent revisions, corrections or modifications to such materials. Owner acknowledges and agrees that Owner shall be bound and shall abide by the written terms or conditions of issuance of any such named representative, whether actually delivered to Owner or not. Owner agrees that no modification, development, platting or replatting, improvement, occupancy or use of any structure or land involved in the application shall take place until approved by the appropriate official of the Town of Jackson, in accordance with applicable codes and regulations. Owner agrees to pay any fines and be liable for any other penalties arising out of the failure to comply with the terms of any permit or arising out of any violation of the applicable laws, codes or regulations applicable to the action sought to be permitted by the application authorized herein.

Under penalty of perjury, the undersigned swears that the foregoing is true and, if signing on behalf of a corporation, partnership, limited liability company or other entity, the undersigned swears that this authorization is given with the appropriate approval of such entity, if required.

OWNER:

(SIGNATURE) (SIGNATURE OF CO-OWNER)

Title: Member

(if signed by officer, partner or member of corporation, LLC (secretary or corporate owner) partnership or other non-individual Owner)

STATE OF Wyoming )

)SS.

COUNTY OF Teton )

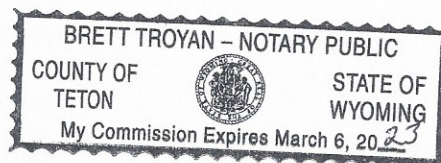
The foregoing instrument was acknowledged before me by Tom Hedges this 16<sup>th</sup> day of October, 2019.

WITNESS my hand and official seal.

(Seal)

(Notary Public)

My commission expires: 03/06/2023







Date: January 2nd, 2020

**Hoyt Architects**  
**PO Box 7364**  
**Jackson, WY 83002**  
**Contact: Brett Bennett 307.733.9955 (brettb@hoytarchitects.design)**

**Encroachment Narrative for Subsurface Soil Nails**  
**Project Location: 645 Cache, Jackson, Wy 83001**

**Project Description:**

Formally occupied as a restaurant and bar, the existing structure at 645 Cache is being converted into a mixed-use building including offices and two residential units. The new building form consists of three stories above grade and a basement with additions and renovations occurring on all stories. Specific to this project, shoring is proposed to accommodate zero set back construction along the east lot line.

**Subsurface Encroachment for Soil Nails:**

In order to achieve zero setback construction, shoring is proposed along a portion of the east lot line. As part of this shoring system, soil nails ranging from 13 feet to 18 feet (13' to 18') in length are typically required and remain in place providing a safe approach to retaining wall construction in urban settings. Geotechnical engineering services will be provided to outline the proposed soil nail wall and a specialty contractor will supply detailed shop drawings to prevent utility conflicts.

Please refer to supporting documents:

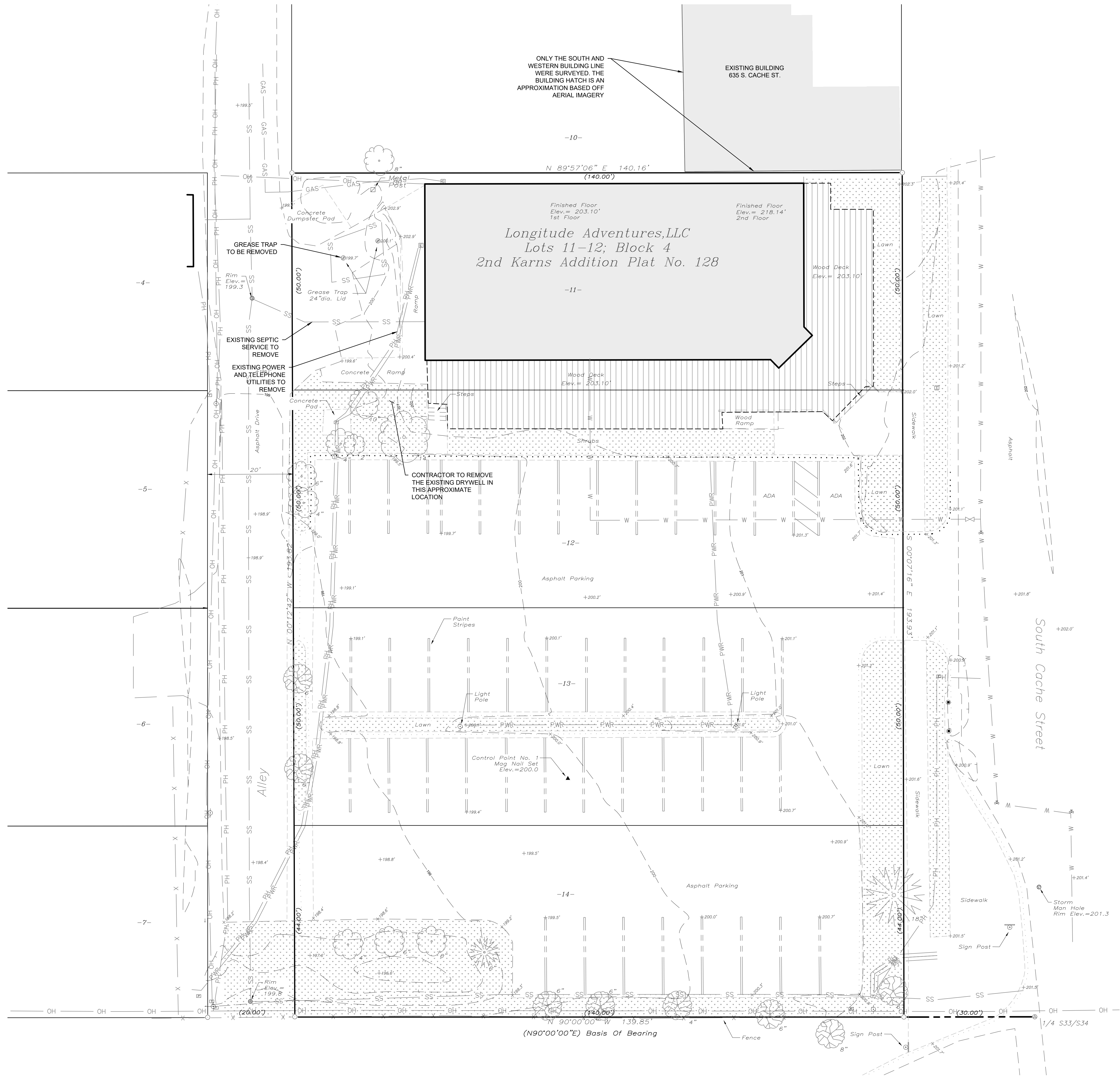
Town of Jackson Encroachment Agreement Application, C1.2, C2.1, A001, A101, A102, A203, & A303

Sincerely,

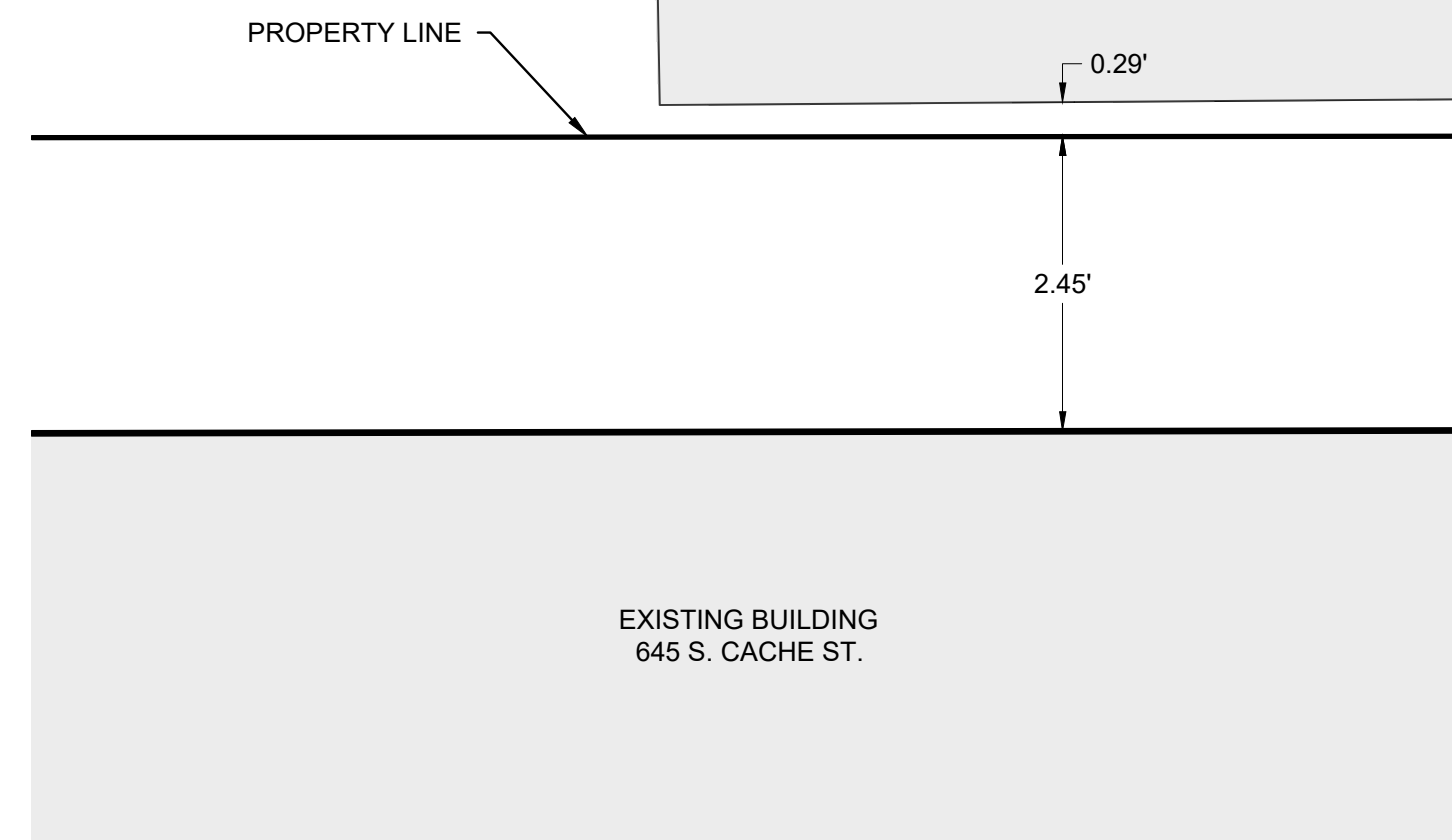
A handwritten signature in black ink, appearing to read "Brett Bennett", with a horizontal line extending to the right.

Brett Bennett / Hoyt Architects

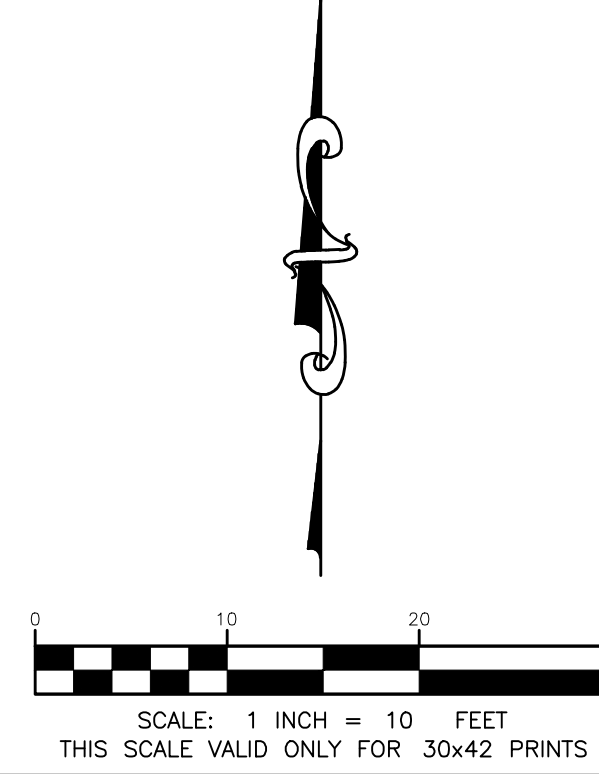
Printed by Jorgensen on 11/22/2019 1:13 PM  
V10.10.10  
P:\2018\18117 - The Jorgensen\18117 - Existing Conditions.dwg




NOTE:  
THERE IS 2.45' OF SEPARATION  
BETWEEN THE EXISTING BUILDING ON  
645 S. CACHE ST AND THE PROPERTY  
LINE TO THE NORTH.  
  
THERE IS 0.29' OF SEPARATION  
BETWEEN THE EXISTING BUILDING ON  
635 S. CACHE ST AND THE PROPERTY  
LINE TO THE SOUTH.



EXISTING BUILDING LOCATIONS AND PROPERTY BOUNDARY





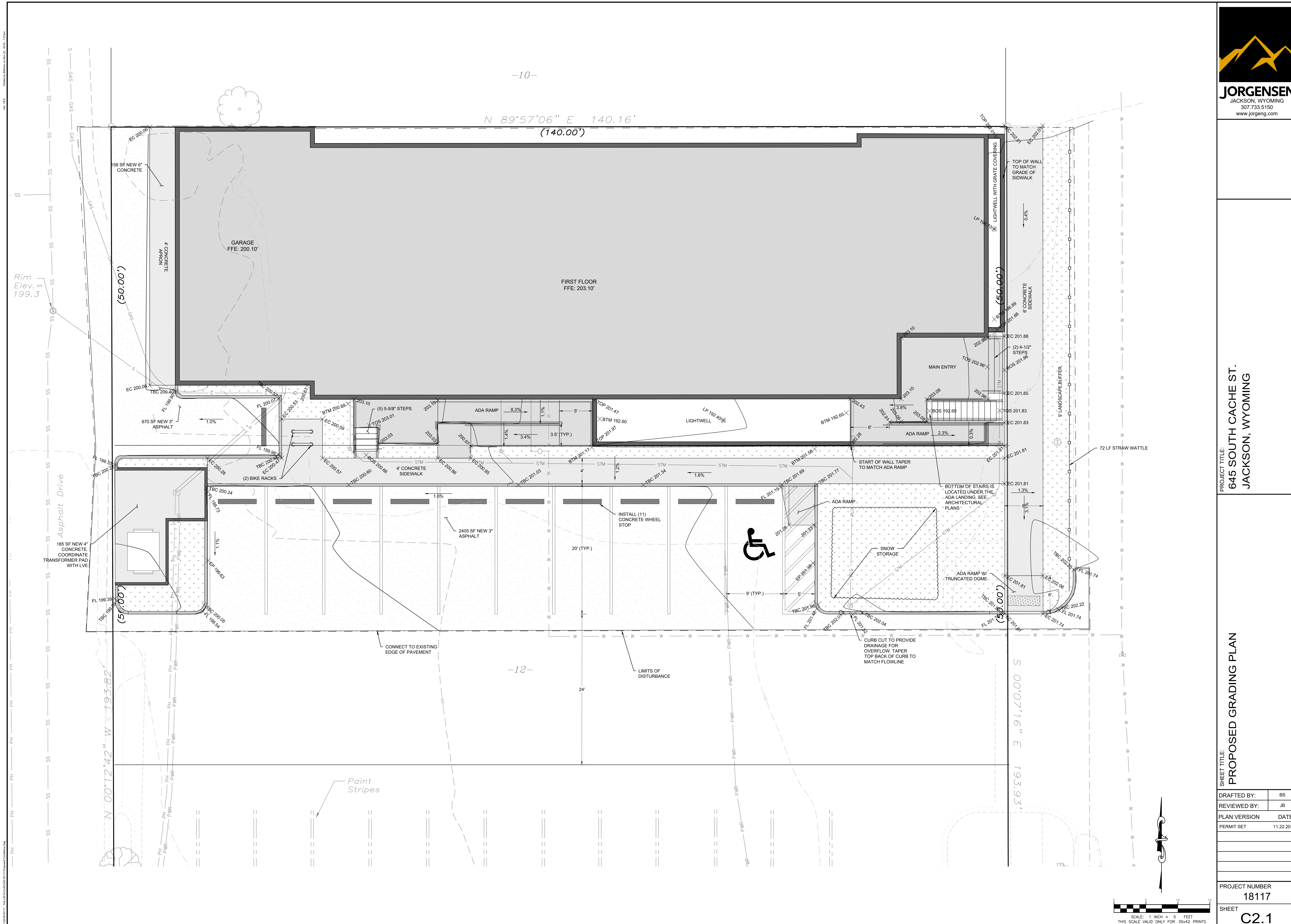
**JORGENSEN**  
JACKSON, WYOMING  
307.733.5150  
www.jorgeng.com

PROJECT TITLE:  
**645 SOUTH CACHE ST.  
JACKSON, WYOMING**

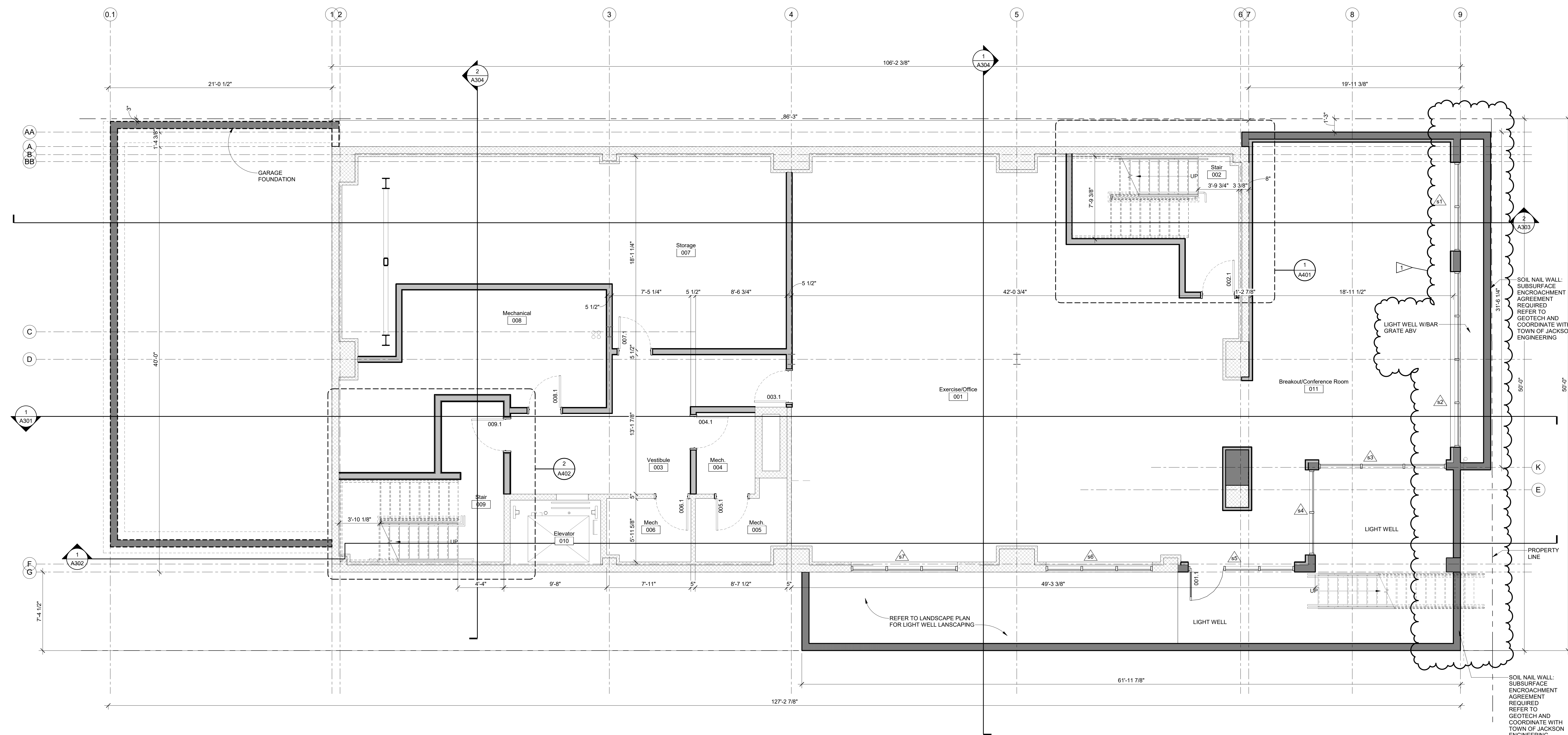
SHEET TITLE:  
**EXISTING CONDITIONS**

DRAFTED BY:	BS
REVIEWED BY:	JB
PLAN VERSION	DATE
PERMIT SET	11.22.2019
PROJECT NUMBER	18117
SHEET	C1.2





















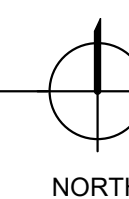


## PLAN LEGEND

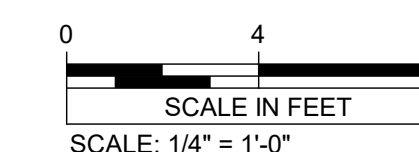
-  — WALL TYPE (SEE SHEET A101)  
 — WALL TYPE NOTE  
 — ROOM NUMBER  
 — WINDOW TYPE (SEE SHEET A601)  
 — SHEET NOTE  
 — SIM  
 — DETAIL OR SECTION NUMBER  
 — SHEET WHERE DRAWN  
 — INTERIOR ELEVATION CALLOUT AND DIRECTION OF ELEVATION VIEW  
 — BUILDING ELEVATION CALLOUT AND DIRECTION OF ELEVATION VIEW  
 — DOOR NUMBER (SEE SHEET A601)  
 — DIMENSION TO FACE OF STUD  
 — DIMENSION TO GRID LINE  
 — INDICATES ROOF SLOPE  
 - IF NO SLOPE IS LISTED ASSUME 1/4" PER 12" MIN - SLOPE ALL CRICKETS TO DRAIN - ROOF DRAIN SUMPS SLOPE 1/2" PER 12"

BASEMENT FLOOR PLAN


1/4" = 1'-0"



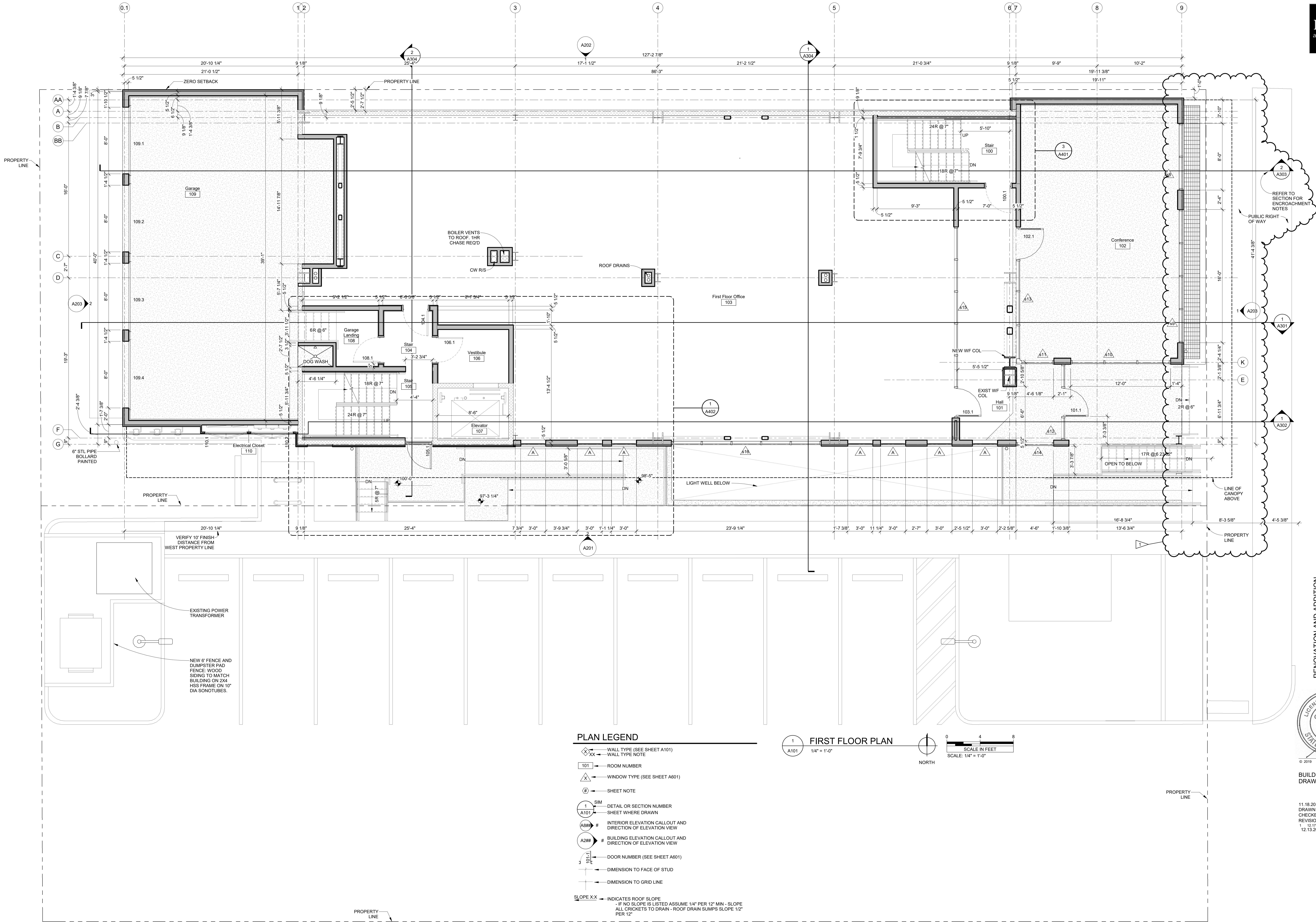
NORTI



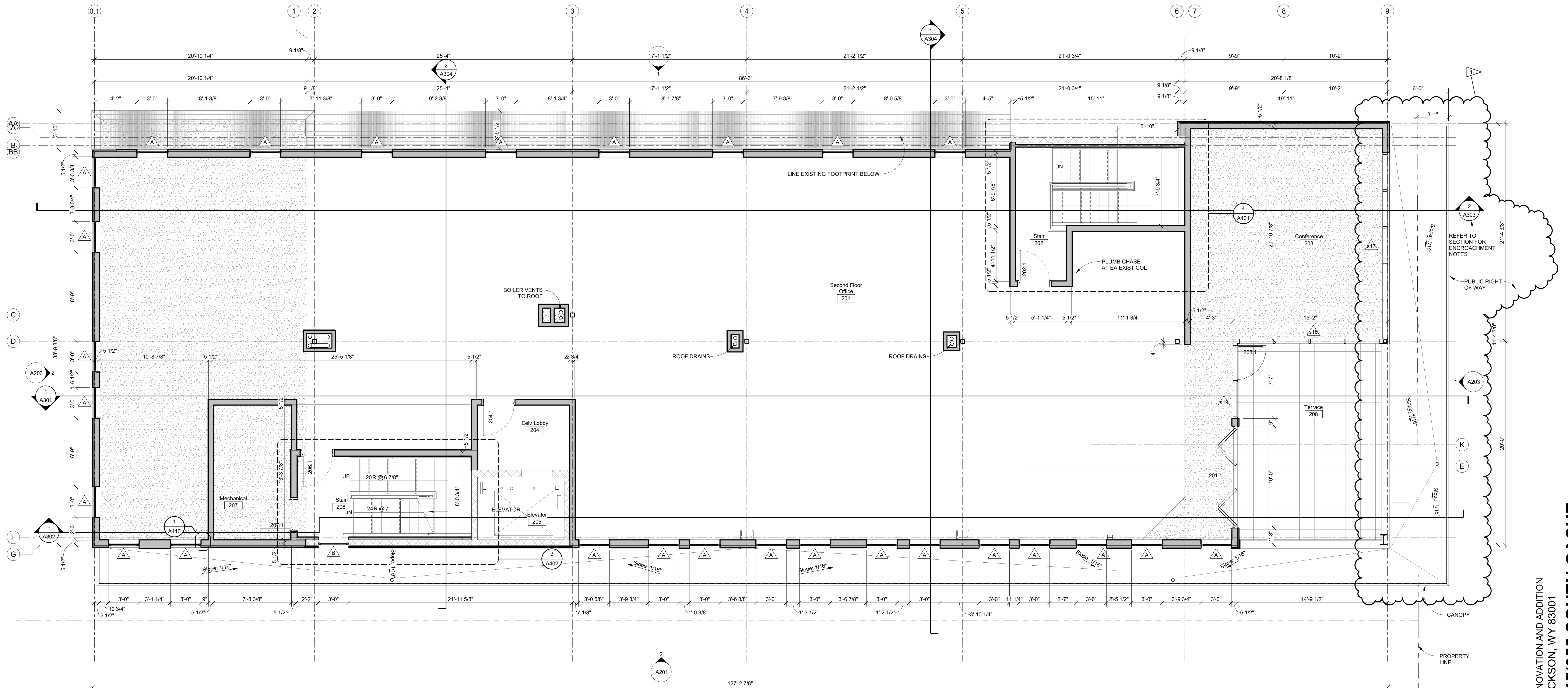
EXISTING & NEW CONSTRUCTION GRAPHIC LEGEND

-  NEW CONSTRUCTION
-  EXISTING CONSTRUCTION TO REMAIN









PLAN LEGEND

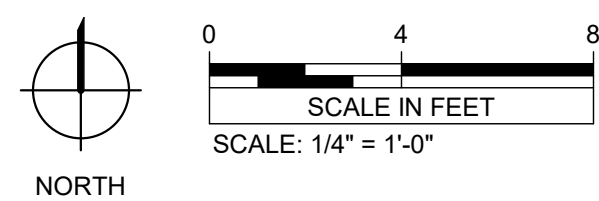
- WALL TYPE (SEE SHEET A101)
- ROOM NUMBER
- WINDOW TYPE (SEE SHEET A601)
- SHEET NOTE
- DETAIL OR SECTION NUMBER
- SHEET WHERE DRAWN
- INTERIOR ELEVATION CALLOUT AND DIRECTION OF ELEVATION VIEW
- BUILDING ELEVATION CALLOUT AND DIRECTION OF ELEVATION VIEW
- DOOR NUMBER (SEE SHEET A601)
- DIMENSION TO FACE OF STUD
- DIMENSION TO GRID LINE

SLOPE X.X — INDICATES ROOF SLOPE  
IF NO SLOPE IS LISTED ASSUME 1/4" PER 12" MIN - SLOPE  
ALL CRICKETS TO DRAIN - ROOF DRAIN SUMPS SLOPE 1/2" PER 12"

SECOND FLOOR PLAN

1/4" = 1'-0"

EXISTING & NEW CONSTRUCTION GRAPHIC LEGEND  
NEW CONSTRUCTION  
EXISTING CONSTRUCTION TO REMAIN



RENOVATION AND ADDITION  
JACKSON, WY 83001  
645/655 SOUTH CACHE



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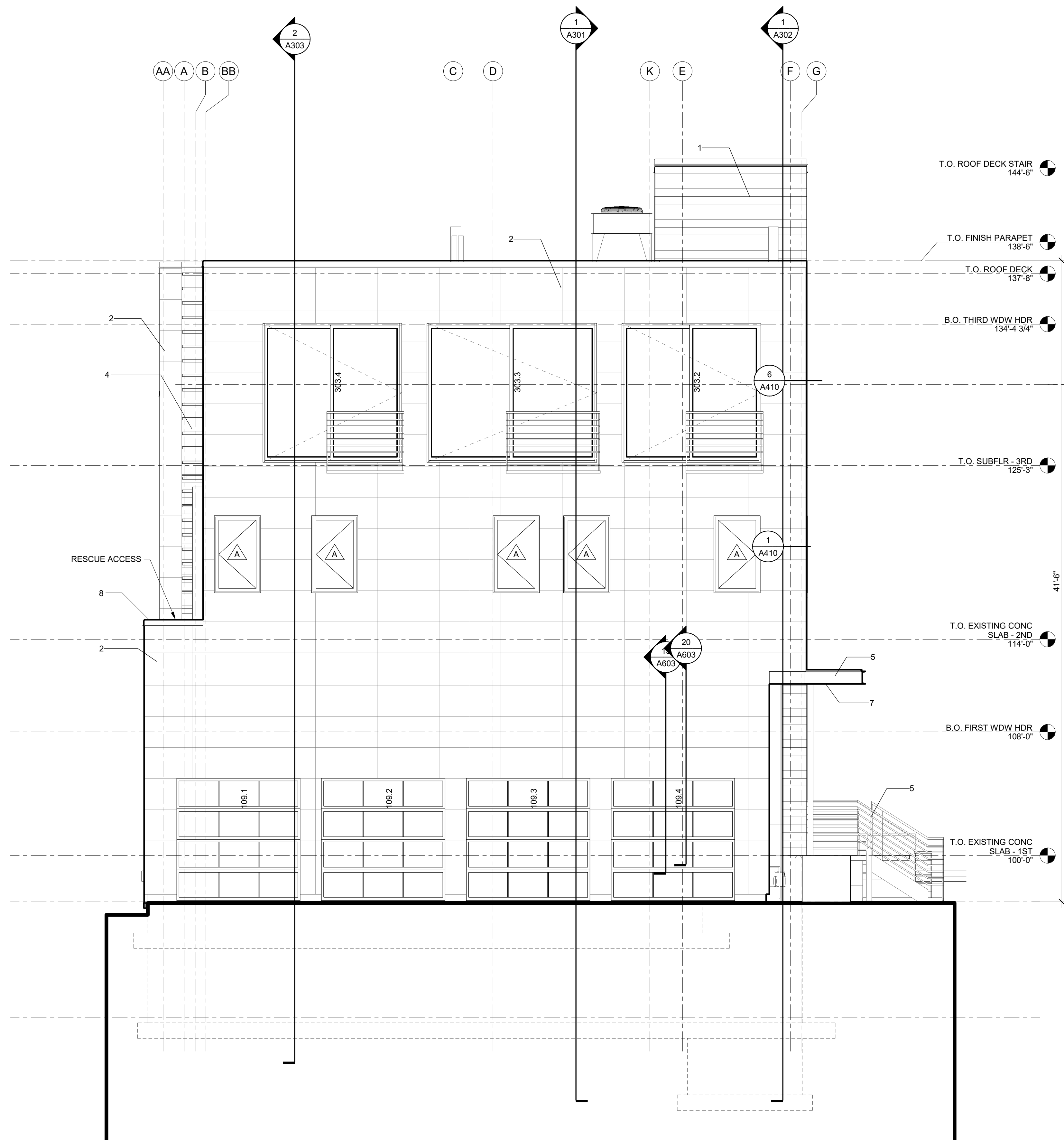
BUILDING PERMIT  
DRAWINGS

11.18.2019  
DRAWN BY | BENNETT  
CHECKED BY | HOYT  
REVISIONS  
12.13.2019 ENCROACHMENT  
12.13.2019 ADDENDUM 1

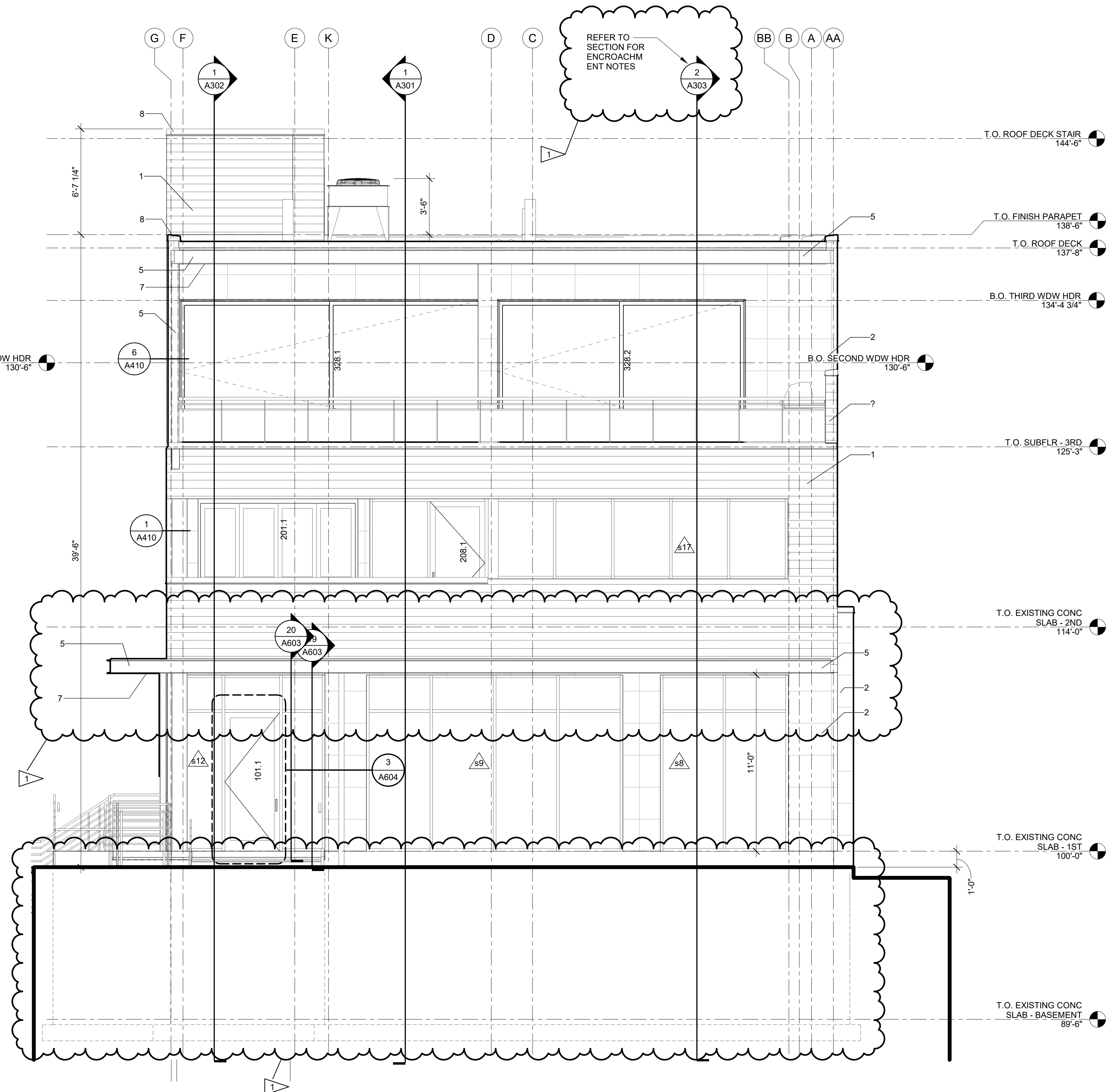
SECOND FLOOR PLAN

A102





2 WEST ELEVATION  
1/4" = 1'-0"



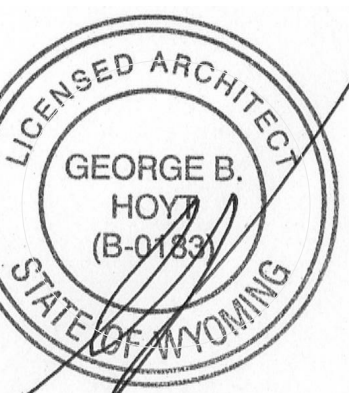
1 EAST ELEVATION  
1/4" = 1'-0"

#### EXTERIOR MATERIAL & FINISH SCHEDULE

1	1X6 RANDOM LENGTH CEDAR. GRADE C AND BETTER CLEAR. STAIN WITH (2) COATS, COLOR TBD. MITER ALL OUTSIDE CORNERS AND PROVIDE BISCUITS AND GLUE TO PREVENT SEPARATION.
2	AMERICAN FIBER CEMENT. 8MM NATURAL FIBER CEMENT PANELS CEMBRIT PATINA COLOR: P070 FLINT. ATTACHE W/ #12 X 1 1/2" SS SCREWS @ 16" VERTICAL. 24" HORIZ. INTO 1X4 FURRING STRIPS AT VERTICAL JOINTS. W/ UV-RESISTANT BLACK EPDM RUBBER SEALING STRIP AT VERTICAL JOINTS. GAP ALL EDGES 3/8" OVER DELTA FACADE 3 WEATHER BARRIER AS PER MANUFACTURER
3	CONCRETE FOUNDATION ABOVE GRADE AND ALL EXPOSED CONCRETE AT LIGHT WELLS. SMOOTH-FORMED FINISHED CONCRETE WITH FORM-FACING PANELS THAT PROVIDE CONTINUOUS, TRUE, AND SMOOTH CONCRETE SURFACES. FURNISH IN LARGEST PRACTICABLE SIZES TO MINIMIZE NUMBER OF JOINTS. REFER TO INSULATION SCHEDULE FOR DAMP PROOFING BELOW GRADE. 1/2" CHAMFER AT ALL EXPOSED EDGES.
4	EXISTING WOOD SIDING STAINED WITH CABOTS SEMI SOLID HEAVY BODY STAIN 2 COATS DARK SLATE.
5	EXPOSED ARCHITECTURAL AND STRUCTURAL STEEL: PRIME AND FINISH W/2 COATS EXTERIOR ENAMEL. COLOR TO MATCH WINDOW FINISH.
6	ROOFING: SINGLE PLY REINFORCED ROOFING MEMBRANE. REFER TO INSULATION AND VAPOR BARRIER SCHEDULE.
7	SOFFIT: 16GA POWDER COATED STEEL PANELS OVER BLACK UV RESISTANT WEATHER BARRIER. INSTALL WITH COLOR MATCHED NON-CORROSIVE SCREWS W/ INTEGRAL EPDM WASHER - HOLES TO BE OVERSIZED FOR MOVEMENT. ALL PANELS TO BE TEST FITTED ON SITE PRIOR TO POWDER COATING. NO FIELD CUTTING OF POWDERCOATED PANELS ALLOWED. COLOR TO MATCH WINDOW FINISH.
8	METAL FLASHING: INSTALL 20GA PAINT-LOCK METAL FLASHING AT LOCATIONS SHOWN AT ARCHITECTURAL DETAILS AND AS DICTATED BY GOOD CONSTRUCTION PRACTICE. ALL EXPOSED FLASHING TO BE FINISHED METAL. PROVIDE MIN 1/4" HEM AT EXPOSED BOTTOM EDGE. ALL FLASHING TO FOLLOW THE "SMACNA" MANUAL. COLOR TO MATCH WINDOW FINISH.
9	TERRACE PAVERS SHALL BE HANOVER PREST PAVERS 24" X 24" X 2". SEAL PAVERS WITH HANOVER NATURAL SEALER. SET PAVERS ON HANOVER PEDESTAL SYSTEM (HIGH-TAB PEDESTALS WITH ELEVATORS, COMPENSATORS AND LEVELING PLATES) OVER SLOPED HYDROTECH SYSTEM TO ROOF DRAINS. REFER TO INSULATION AND VAPOR BARRIER SCHEDULE.



RENOVATION AND SECTION  
JACKSON, WY 83001  
**645/655 SOUTH CACHE**



2019 | ALL RIGHTS RESERVED

## BUILDING PERMIT DRAWINGS

12.17.2019 ENCROACHMENT  
NOTES



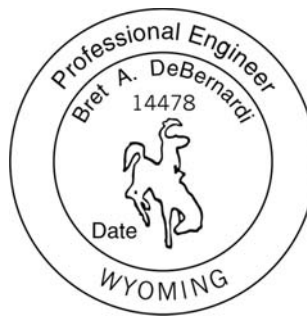
Design Memorandum

Temporary Shoring

645 South Cache Renovation and Addition

645 South Cache Street

Jackson, Wyoming



Prepared for:

NewJack LLC c/o Endeavor Group, Inc.  
P.O. Box 12777  
Jackson, Wyoming 83002

(Attention: Mr. Jackson Brandenburg)

Job No. 796-001-20  
January 24, 2020

## **Project Description**

Design temporary shoring for ground support during the renovation and addition to the existing 645 South Cache facility located in Jackson, Wyoming. The shoring will be installed along the east side of the site along South Cache Street. The temporary shoring will consist of cantilever soldier pile and lagging walls and will vary up to 11 feet in maximum exposed height. The soldier piles will be installed within 30-inch diameter drilled piers backfilled with lean mix concrete.

## **Professional Statements**

Supporting data upon which our design and plan preparation are based are presented in subsequent sections of this design memorandum. If subsurface conditions other than those described in the geotechnical report are encountered and/or if design, layout, or loading changes are implemented, Gordon Geotechnical Engineering Inc. (G<sup>2</sup>) must be informed so that our design and plans can be reviewed. No warranty is expressed or implied, only that these designs were prepared in general accordance with design principles and practices in use at the time the work was performed.

## **Design References**

The design of the shoring will be in conjunction with standard practice (Allowable Stress Design) as outlined in many texts. The following is a partial list of references used for the project.

Design References:

- NAVFAC DM-7, (U.S. Navy Design Manual).
- Lateral Support Systems and Underpinning, Volume II - Design Fundamentals, FHWA-RD-75-129, Goldberg, et al, April 1976.
- Earth Support Systems & Retaining Structures, Pile Buck, 1975.
- AISC Steel Construction Manual.
- Project Plans entitled, "Renovation and Addition Jackson, WY 83001, 645/655 South Cache, Building Permit Drawings," by Hoyt Architects, dated November 18, 2019.
- "Geotechnical Investigation, Irish Pub Addition, 645 S Cache Street, Lot 11, Block 4, Karns 2<sup>nd</sup> Addition, Jackson, Wyoming" by Nelson Engineering, dated January 2019.

## **Subsurface Soil and Groundwater Conditions**

From the boring information provided in the geotechnical report (specifically Test Pit 1), the site soils consist of placed fill material (clayey gravels with sand and cobbles) that are dense and extend to a depth of approximately 7 feet below existing site grade. These fills are underlain by dense to very dense gravel with sand, clay and cobbles to 12 inches in diameter. Based upon the subsurface information, our experience with similar soils, and correlations with material properties, the following parameters for the soils have been used in the design:

Dense Gravels (Fills & Native)  
Moist Unit Weight ( $\gamma$ ) = 135 pcf  
Friction Angle = 36 degrees  
Cohesion = 0 psf  
Ka = 0.26 (for c-phi soils)  
Kp = 6 (log spiral)

From the geotechnical studies, no groundwater was encountered to 16 feet (depth of test pit) and will not be included in the design of the shoring. If groundwater is encountered at shallower elevations, Gordon Geotechnical should be contacted immediately to discuss. Modifications to the shoring may be required.

### **Lateral Pressures**

For cantilever systems, the pressure distribution will be triangular using an equivalent fluid lateral pressure of  $K_a (\gamma) H$ .

### **Surcharge**

For the shoring, a 300 psf area loading behind the shoring will be included in the design (equivalent to a uniform lateral pressure of approximately 80 psf) to model conventional vehicular traffic. Larger surcharges such as cranes etc., are not anticipated.

### **Summary of Results**

The cantilever soldier pile wall will be designed using the computer program ct\_SHORING (Suite +Version 5.3) by CivilTech software. The results attached with a partial summary provided below.

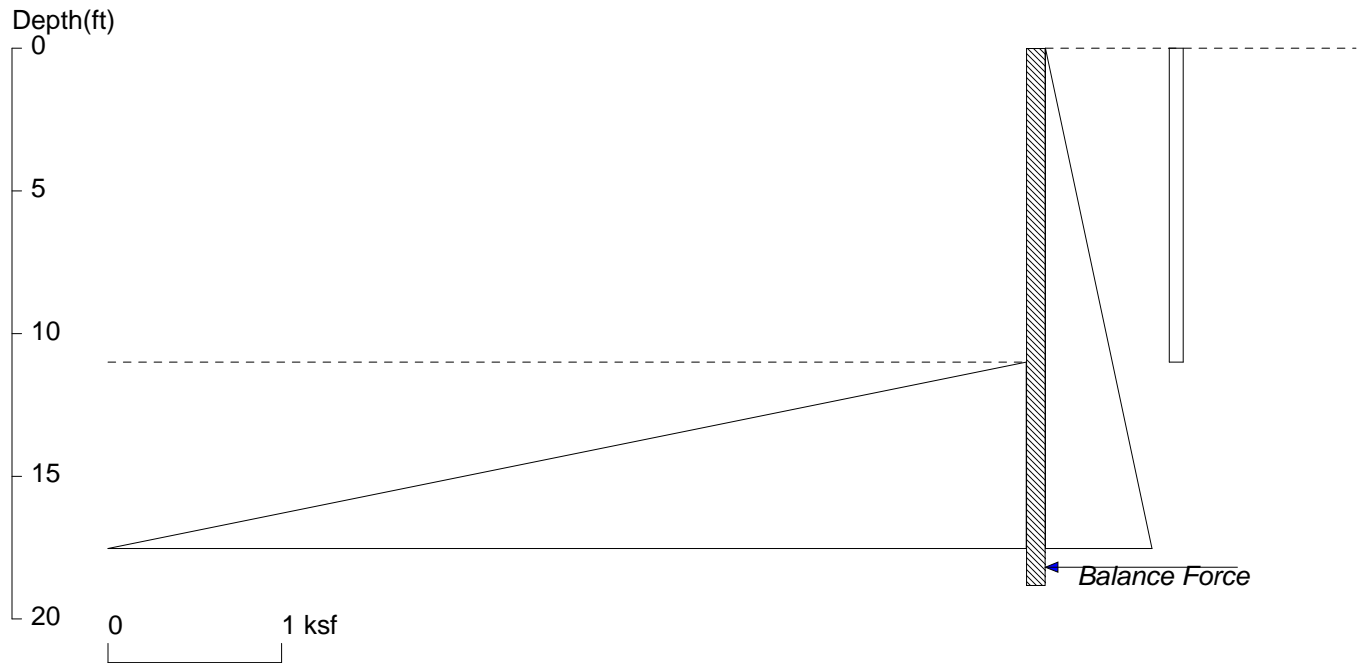
At the maximum height of 11 feet, the results of the analysis indicates that W18x35 piles with an embedment of 11 feet are adequate at 8-feet on center. Embedments include an increase of 30% over computed values. Estimated movements are approximately 1.0 to 1.5 inches vertically and laterally. Actual movements will vary based upon consistency of site soils, installation techniques, etc.

Design Complete.

o0o

# 645 South Cache, Jackson, WY

H =11'



<ShoringSuite> CIVILTECH SOFTWARE USA www.civiltechsoftware.com

Licensed to 4324324234 3424343

Date: 1/22/2020 File Name:

Wall Height=11.0 Pile Diameter=2.5 Pile Spacing=8.0 Wall Type: 2. Soldier Pile, Drilled

PILE LENGTH: Min. Embedment=7.84, Min. Pile Length=18.84

MOMENT IN PILE: Max. Moment=150.16 per Pile Spacing=8.0 at Depth=14.00

## PILE SELECTION:

Request Min. Section Modulus = 54.6 in<sup>3</sup>/pile, F<sub>y</sub> = 50 ksi = 345 MPa, F<sub>b</sub>/F<sub>y</sub>=0.66

-> Pile meet Min. Section Requirements:

W8X67 HP10X57 W10X54 HP12X53 W12X45

HP13X60 HP14X73 W14X43 W16X36 W18X35

W21X44 W24X55 W27X84 W30X90

ACTIVE SPACING:	Z depth	Spacing
1	0.00	8.00
2	11.00	2.50

PASSIVE SPACING:	Z depth	Spacing
1	11.00	7.50

## DRIVING PRESSURES (ACTIVE, WATER, & SURCHARGE):

No.	Z1	P1	Z2	P2	Slope
1	0.0	0.00	17.5	0.25	0.035
2	0.0	0.08	11.0	0.08	0.000

## PASSIVE PRESSURES:

No.	Z1	P1	Z2	P2	Slope
1	11.00	0.00	17.53	639.09	0.8100

UNITS: Width/Spacing/Diameter/Length/Depth - ft, Force - kip, Moment - kip-ft,

UNITS: Friction/Bearing/Pressure - ksf, Pres. Slope - kip/ft<sup>3</sup>, Deflection - in



SHORING WALL CALCULATION SUMMARY  
The leading shoring design and calculation software  
Software Copyright by CivilTech Software  
www.civiltechsoftware.com

ShoringSuite Software is developed by CivilTech Software, Bellevue, WA, USA.

The calculation method is based on the following references:

1. FHWA 98-011, FHWA-RD-97-130, FHWA SA 96-069, FHWA-IF-99-015
2. STEEL SHEET PILING DESIGN MANUAL by Pile Buck Inc., 1987
3. DESIGN MANUAL DM-7 (NAVFAC), Department of the Navy, May 1982
4. TRENCHING AND SHORING MANUAL Revision 12, California Department of Transportation, January 2000
6. EARTH SUPPORT SYSTEM & RETAINING STRUCTURES, Pile Buck Inc. 2002
5. DESIGN OF SHEET PILE WALLS, EM 1110-2-2504, U.S. Army Corps of Engineers, 31 March 1994
7. EARTH RETENTION SYSTEMS HANDBOOK, Alan Macnab, McGraw-Hill, 2002
8. AASHTO HB-17, American Association of State and Highway Transportation Officials, 2 September 2002

UNITS: Width/Spacing/Diameter/Length/Depth - ft, Force - kip, Moment - kip-ft, Friction/Bearing/Pressure - ksf, Pres. Slope - kip/ft<sup>3</sup>, Deflection - in

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Licensed to 4324324234 3424343  
Date: 1/22/2020 File: C:\Shoring8\645SCache-1.sh8

Title: 645 South Cache, Jackson, WY  
Subtitle: H =11'

\*\*\*\*\*INPUT DATA\*\*\*\*\*

Wall Type: 2. Soldier Pile, Drilled  
Wall Height: 11.00  
Pile Diameter: 2.50  
Pile Spacing: 8.00  
Factor of Safety (F.S.): 1.00  
Max. Moment reduce 20%  
Lateral Support Type (Braces): 1. No  
Top Brace Increase (Multi-Bracing): No  
Embedment Option: 1. Yes  
Friction at Pile Tip: No\*  
Pile Properties:  
Allowable Fb/Fy: 0.66  
Steel Strength, Fy: 50 ksi = 345 MPa  
Elastic Module, E: 29000.00  
Moment of Inertia, I: 272.00  
User Input Pile: W18x60

* DRIVING PRESSURE (ACTIVE, WATER, & SURCHARGE) *					
No.	Z2 top	Top Pres.	Z2 bottom	Bottom Pres.	Slope
1	0.00	0.00	800.00	0.25	0.0350
2	0.00	0.08	11.00	0.08	0.0000

* PASSIVE PRESSURE *					
No.	Z1 top	Top Pres.	Z2 bottom	Bottom Pres.	Slope
1	11.00	0.00	800.00	639.09	0.8100

* ACTIVE SPACE *		
No.	Z depth	Spacing
1	0.00	8.00
2	11.00	2.50

* PASSIVE SPACE *		
No.	Z depth	Spacing
1	11.00	7.50

\*For Tieback: Input1 = Diameter; Input2 = Bond Stength  
\*For Plate: Input1 = Diameter; Input2 = Allowable Pressure  
\*For Deaman: Input1 = Horz. Width; Input2 = Allowable Pressure; Angle = 0

\*\*\*\*\*CALCULATION\*\*\*\*\*

The calculated moment and shear are per pile spacing. Sheet piles are per one foot or meter; Soldier piles are per pile.

Top Pressures start at depth = 0.00

```

      |
      | D1=0.00
      |
== ==| D2=11.00
      |
      | D3=18.84
      |

```

D1 - TOP DEPTH  
D2 - EXCAVATION BASE  
D3 - PILE TIP (20% increased, see EMBEDMENT Notes below)

MOMENT BALANCE: M=0.00 AT DEPTH=17.53 WITH EMBEDMENT OF 6.53

FORCE BALANCE: F=0.00 AT DEPTH=18.84 WITH EMBEDMENT OF 7.84

The program calculates embedment for moment equilibrium, then increased by 20% to reach force equilibrium.

Total Passive Pressure = Total Active Pressure, OK!

\*\*\*\*\*RESULTS\*\*\*\*\*

\* EMBEDMENT Notes \*

report.out

Based on USS Design Manual, first calculate embedment for moment equilibrium, then increased by 20 to 40 % to reach force equilibrium.  
 The embedment for moment equilibrium is 6.53  
 The 20% increased embedment for force equilibrium is 7.84 (Used by Program)  
 The 30% increased embedment for force equilibrium is 8.49  
 The 40% increased embedment for force equilibrium is 9.14

Based on AASHTO Standard Specifications, first calculate embedment for moment equilibrium, then add safety factor of 30% for temporary shoring; add safety factor of 50% for permanent shoring.  
 The embedment for moment equilibrium is 6.53  
 Add 30% embedment for temporary shoring (FS=1.3) is 8.49  
 Add 50% embedment for permanent shoring (FS=1.5) is 9.80

PROGRAM RECOMMENDED MINIMUM EMBEDMENT = 7.84  
 TOTAL MINIMUM PILE LENGTH = 18.84

\* MOMENT IN PILE (per pile spacing)\*  
 Overall Maximum Moment = 150.16 at 14.00  
 Maximum Shear = 96.72  
 Moment and Shear are per pile spacing: 8.0 feet or meter

\* VERTICAL LOADING \*  
 Vertical Loading from Braces = 0.00  
 Vertical Loading from External Load = 0.00  
 Total Vertical Loading = 0.00

\*\*\*\*\*SOLDIER PILE SELECTION\*\*\*\*\*

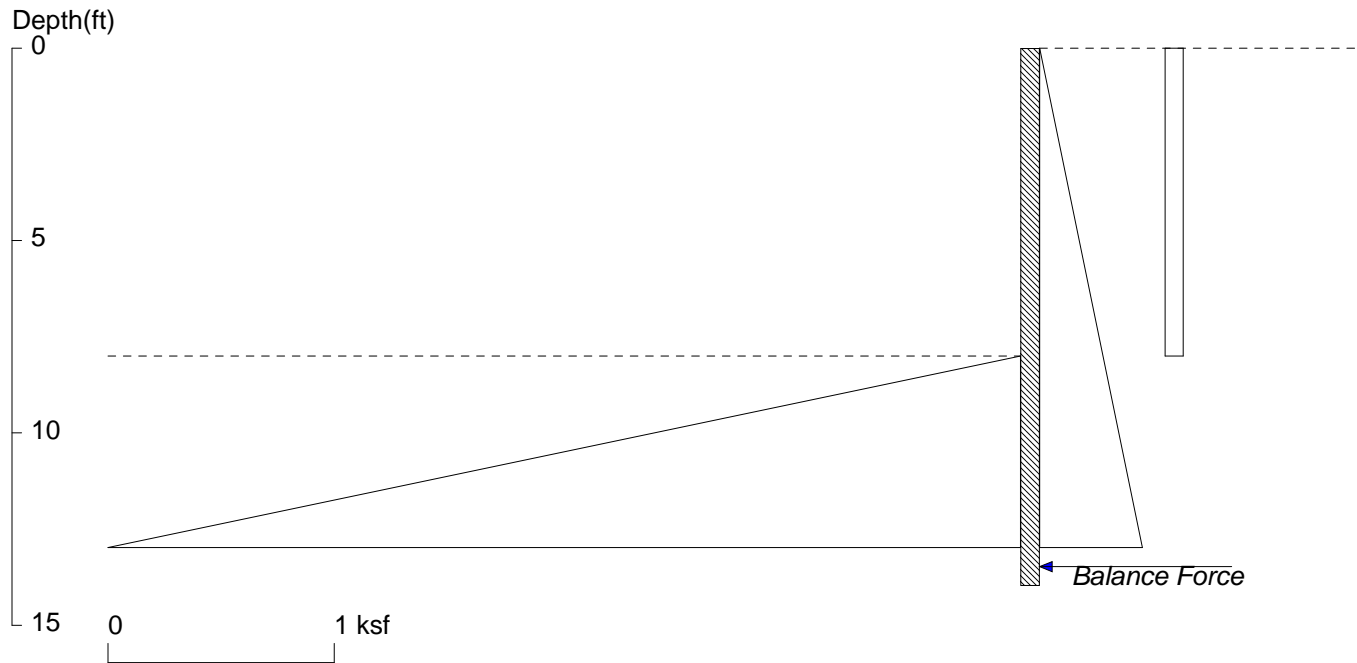
Request Min. Section Modulus = 54.6 in<sup>3</sup>/pile, Fy= 50 ksi = 345 MPa, Fb/Fy=0.66  
 The pile selection is based on the magnitude of the moment only. Axial force is neglected.

\* Note: All the pile dimensions are in English Units per pile.

W8X67  
 Area= 19.7 Depth= 9 Width= 8.28 Height= 8  
 Ix= 272 Sx= 60.4 Iy= 88.6 Sy= 21.4  
 Flange thickness= 0.935 Web thickness= 0.57 Top Deflection= 1.17  
 HP10X57  
 Area= 16.8 Depth= 9.99 Width= 10.225 Height= 10  
 Ix= 294 Sx= 58.8 Iy= 101 Sy= 19.7  
 Flange thickness= 0.565 Web thickness= 0.565 Top Deflection= 1.08  
 W10X54  
 Area= 15.8 Depth= 10.09 Width= 10.03 Height= 10  
 Ix= 303 Sx= 60 Iy= 103 Sy= 20.6  
 Flange thickness= 0.615 Web thickness= 0.37 Top Deflection= 1.05  
 HP12X53  
 Area= 15.5 Depth= 11.78 Width= 12.045 Height= 12  
 Ix= 393 Sx= 66.8 Iy= 127 Sy= 21.1  
 Flange thickness= 0.435 Web thickness= 0.435 Top Deflection= 0.81  
 W12X45  
 Area= 13.2 Depth= 12.06 Width= 8.045 Height= 12  
 Ix= 350 Sx= 58.1 Iy= 50 Sy= 12.4  
 Flange thickness= 0.575 Web thickness= 0.335 Top Deflection= 0.91  
 HP13X60  
 Area= 17.5 Depth= 12.54 Width= 12.9 Height= 13  
 Ix= 503 Sx= 80.3 Iy= 165 Sy= 25.5  
 Flange thickness= 0.46 Web thickness= 0.46 Top Deflection= 0.63  
 HP14X73  
 Area= 21.4 Depth= 13.61 Width= 14.585 Height= 14  
 Ix= 729 Sx= 107 Iy= 261 Sy= 35.8  
 Flange thickness= 0.505 Web thickness= 0.505 Top Deflection= 0.44  
 W14X43  
 Area= 12.6 Depth= 13.66 Width= 7.995 Height= 14  
 Ix= 428 Sx= 62.7 Iy= 45.2 Sy= 11.3  
 Flange thickness= 0.53 Web thickness= 0.305 Top Deflection= 0.74  
 W16X36  
 Area= 10.6 Depth= 15.86 Width= 6.985 Height= 16  
 Ix= 448 Sx= 56.5 Iy= 24.5 Sy= 7  
 Flange thickness= 0.43 Web thickness= 0.295 Top Deflection= 0.71  
 W18X35  
 Area= 10.3 Depth= 17.7 Width= 6 Height= 18  
 Ix= 510 Sx= 57.6 Iy= 15.3 Sy= 5.12  
 Flange thickness= 0.425 Web thickness= 0.3 Top Deflection= 0.62  
 W21X44  
 Area= 13 Depth= 20.66 Width= 6.5 Height= 21  
 Ix= 843 Sx= 81.6 Iy= 20.7 Sy= 6.36  
 Flange thickness= 0.45 Web thickness= 0.35 Top Deflection= 0.38  
 W24X55  
 Area= 16.2 Depth= 23.57 Width= 7.005 Height= 24  
 Ix= 1350 Sx= 114 Iy= 29.1 Sy= 8.3  
 Flange thickness= 0.505 Web thickness= 0.395 Top Deflection= 0.24  
 W27X84  
 Area= 24.8 Depth= 26.71 Width= 9.96 Height= 27  
 Ix= 2850 Sx= 213 Iy= 106 Sy= 21.2  
 Flange thickness= 0.64 Web thickness= 0.46 Top Deflection= 0.11  
 W30X90  
 Area= 26.4 Depth= 29.53 Width= 10.4 Height= 30  
 Ix= 3620 Sx= 245 Iy= 115 Sy= 22.1  
 Flange thickness= 0.61 Web thickness= 0.47 Top Deflection= 0.09

# 645 South Cache, Jackson, WY

## H =8'



<ShoringSuite> CIVILTECH SOFTWARE USA [www.civiltechsoftware.com](http://www.civiltechsoftware.com)

Licensed to 4324324234 3424343

Date: 1/24/2020 File Name:

Wall Height=8.0 Pile Diameter=2.5 Pile Spacing=8.0 Wall Type: 2. Soldier Pile, Drilled

PILE LENGTH: Min. Embedment=5.97, Min. Pile Length=13.97

MOMENT IN PILE: Max. Moment=66.47 per Pile Spacing=8.0 at Depth=10.29

### PILE SELECTION:

Request Min. Section Modulus = 24.2 in<sup>3</sup>/pile, F<sub>y</sub>= 50 ksi = 345 MPa, F<sub>b</sub>/F<sub>y</sub>=0.66

-> Pile meet Min. Section Requirements:

HP8X36 W8X28 HP10X42 W10X26 HP12X53

W12X22 HP13X60 HP14X73 W14X22 W16X26

W18X35 W21X44 W24X55 W27X84

ACTIVE SPACING:	Z depth	Spacing
1	0.00	8.00
2	8.00	2.50

PASSIVE SPACING:	Z depth	Spacing
1	8.00	7.50

### DRIVING PRESSURES (ACTIVE, WATER, & SURCHARGE):

No.	Z1	P1	Z2	P2	Slope
1	0.0	0.00	13.0	0.25	0.035
2	0.0	0.08	8.0	0.08	0.000

### PASSIVE PRESSURES:

No.	Z1	P1	Z2	P2	Slope
1	8.00	0.00	12.98	641.52	0.8100

UNITS: Width/Spacing/Diameter/Length/Depth - ft, Force - kip, Moment - kip-ft,

UNITS: Friction/Bearing/Pressure - ksf, Pres. Slope - kip/ft<sup>3</sup>, Deflection - in

\*\*\*\*\*

SHORING WALL CALCULATION SUMMARY  
The leading shoring design and calculation software  
Software Copyright by CivilTech Software  
www.civiltechsoftware.com

\*\*\*\*\*

ShoringSuite Software is developed by CivilTech Software, Bellevue, WA, USA.

The calculation method is based on the following references:

1. FHWA 98-011, FHWA-RD-97-130, FHWA SA 96-069, FHWA-IF-99-015
2. STEEL SHEET PILING DESIGN MANUAL by Pile Buck Inc., 1987
3. DESIGN MANUAL DM-7 (NAVFAC), Department of the Navy, May 1982
4. TRENCHING AND SHORING MANUAL Revision 12, California Department of Transportation, January 2000
6. EARTH SUPPORT SYSTEM & RETAINING STRUCTURES, Pile Buck Inc. 2002
5. DESIGN OF SHEET PILE WALLS, EM 1110-2-2504, U.S. Army Corps of Engineers, 31 March 1994
7. EARTH RETENTION SYSTEMS HANDBOOK, Alan Macnab, McGraw-Hill, 2002
8. AASHTO HB-17, American Association of State and Highway Transportation Officials, 2 September 2002

UNITS: Width/Spacing/Diameter/Length/Depth - ft, Force - kip, Moment - kip-ft, Friction/Bearing/Pressure - ksf, Pres. Slope - kip/ft<sup>3</sup>, Deflection - in

-----  
Licensed to 4324324234 3424343  
Date: 1/24/2020 File: C:\Shoring8\645SCache-2.sh8

Title: 645 South Cache, Jackson, WY  
Subtitle: H =8'

\*\*\*\*\*INPUT DATA\*\*\*\*\*

Wall Type: 2. Soldier Pile, Drilled  
Wall Height: 8.00  
Pile Diameter: 2.50  
Pile Spacing: 8.00  
Factor of Safety (F.S.): 1.00  
Max. Moment reduce 20%  
Lateral Support Type (Braces): 1. No  
Top Brace Increase (Multi-Bracing): No  
Embedment Option: 1. Yes  
Friction at Pile Tip: No\*  
Pile Properties:  
Allowable Fb/Fy: 0.66  
Steel Strength, Fy: 50 ksi = 345 MPa  
Elastic Module, E: 29000.00  
Moment of Inertia, I: 119.00  
User Input Pile: W18x60

* DRIVING PRESSURE (ACTIVE, WATER, & SURCHARGE) *					
No.	Z2 top	Top Pres.	Z2 bottom	Bottom Pres.	Slope
1	0.00	0.00	800.00	0.25	0.0350
2	0.00	0.08	8.00	0.08	0.0000

* PASSIVE PRESSURE *					
No.	Z1 top	Top Pres.	Z2 bottom	Bottom Pres.	Slope
1	8.00	0.00	800.00	641.52	0.8100

* ACTIVE SPACE *		
No.	Z depth	Spacing
1	0.00	8.00
2	8.00	2.50

* PASSIVE SPACE *		
No.	Z depth	Spacing
1	8.00	7.50

\*For Tieback: Input1 = Diameter; Input2 = Bond Stength  
\*For Plate: Input1 = Diameter; Input2 = Allowable Pressure  
\*For Deaman: Input1 = Horz. Width; Input2 = Allowable Pressure; Angle = 0

\*\*\*\*\*CALCULATION\*\*\*\*\*

The calculated moment and shear are per pile spacing. Sheet piles are per one foot or meter; Soldier piles are per pile.

Top Pressures start at depth = 0.00

```

      |
      | D1=0.00
      |
== ==|
      | D2=8.00
      |
      | D3=13.97

```

D1 - TOP DEPTH  
D2 - EXCAVATION BASE  
D3 - PILE TIP (20% increased, see EMBEDMENT Notes below)

MOMENT BALANCE: M=0.00 AT DEPTH=12.98 WITH EMBEDMENT OF 4.98

FORCE BALANCE: F=0.00 AT DEPTH=13.97 WITH EMBEDMENT OF 5.97

The program calculates embedment for moment equilibrium, then increased by 20% to reach force equilibrium.

Total Passive Pressure = Total Active Pressure, OK!

\*\*\*\*\*RESULTS\*\*\*\*\*

\* EMBEDMENT Notes \*

report.out

Based on USS Design Manual, first calculate embedment for moment equilibrium, then increased by 20 to 40 % to reach force equilibrium.  
 The embedment for moment equilibrium is 4.98  
 The 20% increased embedment for force equilibrium is 5.97 (Used by Program)  
 The 30% increased embedment for force equilibrium is 6.47  
 The 40% increased embedment for force equilibrium is 6.97

Based on AASHTO Standard Specifications, first calculate embedment for moment equilibrium, then add safety factor of 30% for temporary shoring; add safety factor of 50% for permanent shoring.  
 The embedment for moment equilibrium is 4.98  
 Add 30% embedment for temporary shoring (FS=1.3) is 6.47  
 Add 50% embedment for permanent shoring (FS=1.5) is 7.47

PROGRAM RECOMMENDED MINIMUM EMBEDMENT = 5.97  
 TOTAL MINIMUM PILE LENGTH = 13.97

\* MOMENT IN PILE (per pile spacing)\*  
 Overall Maximum Moment = 66.47 at 10.29  
 Maximum Shear = 56.27  
 Moment and Shear are per pile spacing: 8.0 feet or meter

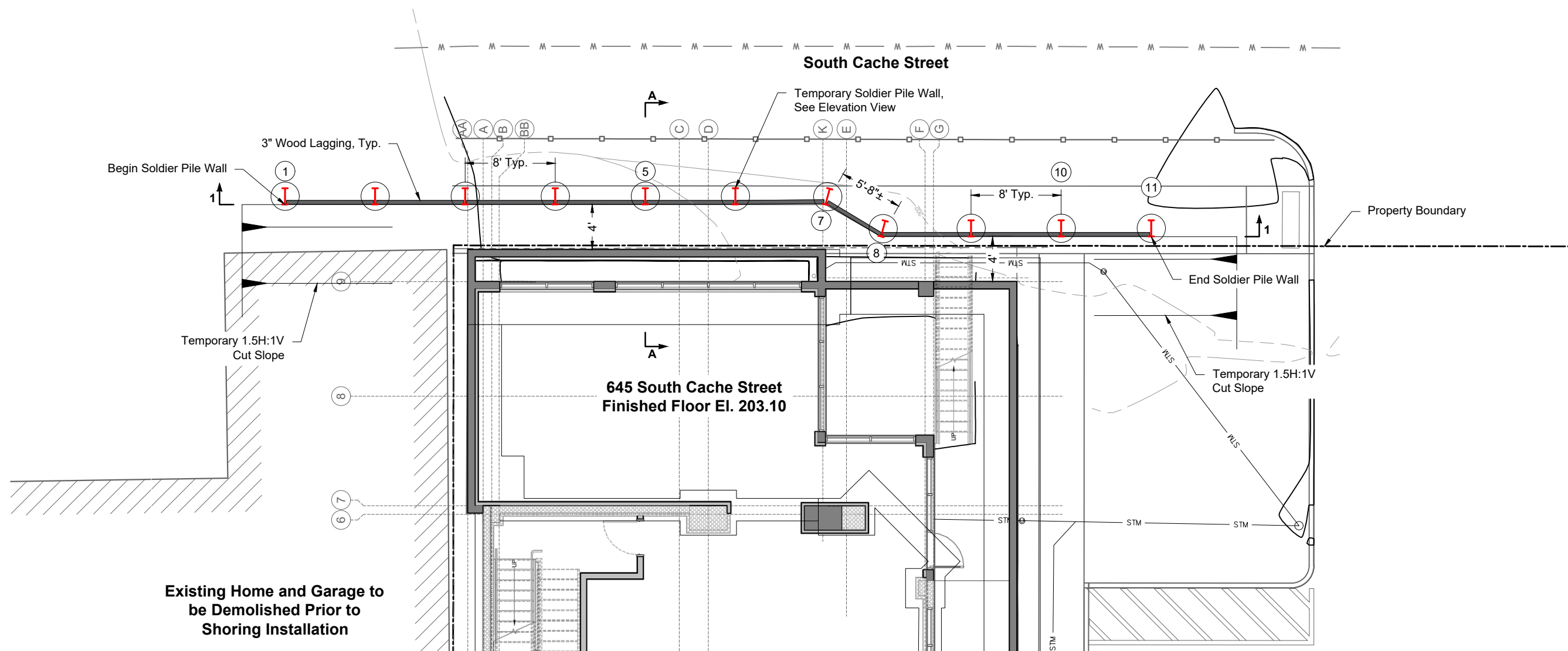
\* VERTICAL LOADING \*  
 Vertical Loading from Braces = 0.00  
 Vertical Loading from External Load = 0.00  
 Total Vertical Loading = 0.00

\*\*\*\*\*SOLDIER PILE SELECTION\*\*\*\*\*

Request Min. Section Modulus = 24.2 in<sup>3</sup>/pile, Fy= 50 ksi = 345 MPa, Fb/Fy=0.66  
 The pile selection is based on the magnitude of the moment only. Axial force is neglected.

\* Note: All the pile dimensions are in English Units per pile.

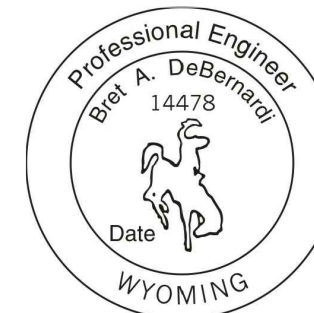
HP8X36  
 Area= 10.6 Depth= 8.02 Width= 8.155 Height= 8  
 Ix= 119 Sx= 29.8 Iy= 40.3 Sy= 9.88  
 Flange thickness= 0.445 Web thickness= 0.445 Top Deflection= 0.66  
 W8X28  
 Area= 8.25 Depth= 8.06 Width= 6.535 Height= 8  
 Ix= 98 Sx= 24.3 Iy= 21.7 Sy= 6.63  
 Flange thickness= 0.465 Web thickness= 0.285 Top Deflection= 0.80  
 HP10X42  
 Area= 12.4 Depth= 9.7 Width= 10.075 Height= 10  
 Ix= 210 Sx= 43.4 Iy= 71.7 Sy= 14.2  
 Flange thickness= 0.42 Web thickness= 0.415 Top Deflection= 0.37  
 W10X26  
 Area= 7.61 Depth= 10.33 Width= 5.77 Height= 10  
 Ix= 144 Sx= 27.9 Iy= 14.1 Sy= 4.89  
 Flange thickness= 0.44 Web thickness= 0.26 Top Deflection= 0.54  
 HP12X53  
 Area= 15.5 Depth= 11.78 Width= 12.045 Height= 12  
 Ix= 393 Sx= 66.8 Iy= 127 Sy= 21.1  
 Flange thickness= 0.435 Web thickness= 0.435 Top Deflection= 0.20  
 W12X22  
 Area= 6.48 Depth= 12.31 Width= 4.03 Height= 12  
 Ix= 156 Sx= 25.4 Iy= 4.66 Sy= 2.31  
 Flange thickness= 0.425 Web thickness= 0.26 Top Deflection= 0.50  
 HP13X60  
 Area= 17.5 Depth= 12.54 Width= 12.9 Height= 13  
 Ix= 503 Sx= 80.3 Iy= 165 Sy= 25.5  
 Flange thickness= 0.46 Web thickness= 0.46 Top Deflection= 0.16  
 HP14X73  
 Area= 21.4 Depth= 13.61 Width= 14.585 Height= 14  
 Ix= 729 Sx= 107 Iy= 261 Sy= 35.8  
 Flange thickness= 0.505 Web thickness= 0.505 Top Deflection= 0.11  
 W14X22  
 Area= 6.49 Depth= 13.74 Width= 5 Height= 14  
 Ix= 199 Sx= 29 Iy= 7 Sy= 2.8  
 Flange thickness= 0.335 Web thickness= 0.23 Top Deflection= 0.39  
 W16X26  
 Area= 7.68 Depth= 15.69 Width= 5.5 Height= 16  
 Ix= 301 Sx= 38.4 Iy= 9.59 Sy= 3.49  
 Flange thickness= 0.345 Web thickness= 0.25 Top Deflection= 0.26  
 W18X35  
 Area= 10.3 Depth= 17.7 Width= 6 Height= 18  
 Ix= 510 Sx= 57.6 Iy= 15.3 Sy= 5.12  
 Flange thickness= 0.425 Web thickness= 0.3 Top Deflection= 0.15  
 W21X44  
 Area= 13 Depth= 20.66 Width= 6.5 Height= 21  
 Ix= 843 Sx= 81.6 Iy= 20.7 Sy= 6.36  
 Flange thickness= 0.45 Web thickness= 0.35 Top Deflection= 0.09  
 W24X55  
 Area= 16.2 Depth= 23.57 Width= 7.005 Height= 24  
 Ix= 1350 Sx= 114 Iy= 29.1 Sy= 8.3  
 Flange thickness= 0.505 Web thickness= 0.395 Top Deflection= 0.06  
 W27X84  
 Area= 24.8 Depth= 26.71 Width= 9.96 Height= 27  
 Ix= 2850 Sx= 213 Iy= 106 Sy= 21.2  
 Flange thickness= 0.64 Web thickness= 0.46 Top Deflection= 0.03



**Notes:**

- 1) All shoring locations and layouts are approximate and subject to field verification. The General Contractor is to locate the wall as required in the field. It is recommended that the new structure be surveyed to provide a basis for the shoring location/alignment. Variations to the grading or geometry shown is to be reviewed by Gordon Geotechnical prior to shoring installation.
- 2) Existing utilities and facilities to be potholed and located prior to shoring installation. The presence of utilities and other facilities may require modification to the shoring.

**Plan View**



REFERENCE:  
Hoyt Architecture, 654/655 South Cache, Building Permit  
Drawings, Basement Floor Plan A100, Dated 11/18/2019

DATE	DESCRIPTION
01.24.20	Submitted for Review

DESIGNED FOR:

**NewJack LLC**  
c/o Endeavor Group

DESIGNED BY:



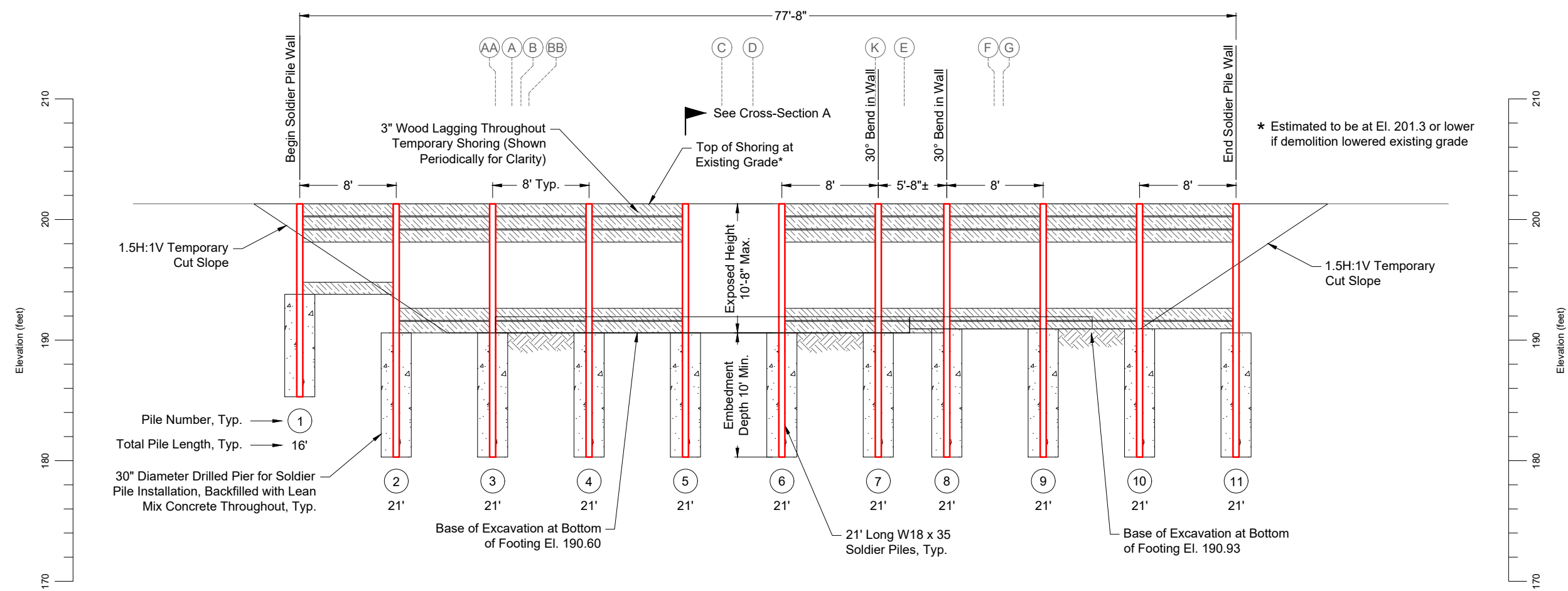
645 South Cache Renovation and Addition  
645 South Cache Street,  
Jackson, Wyoming

DESIGN BY: BD DRAWN BY: TT CHECKED BY: BD APPROVED BY: BD

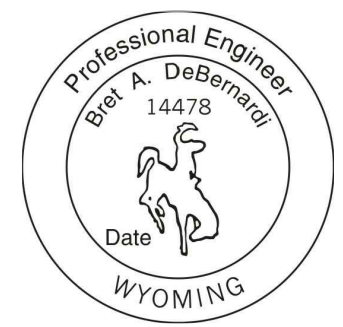
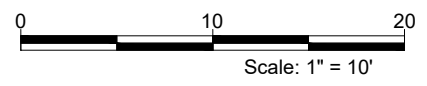
Temporary Soldier Pile Wall  
**Plan View**

G<sup>+</sup> PROJECT NO.:  
**796-001-20**

SHEET NO.:  
**1 of 3**



Elevation View





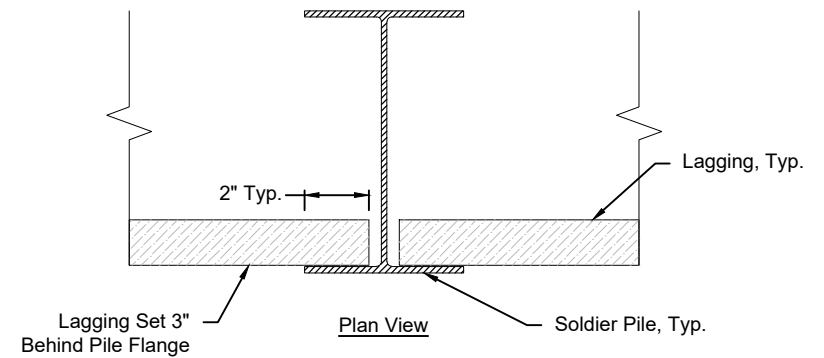
General Notes

Introduction

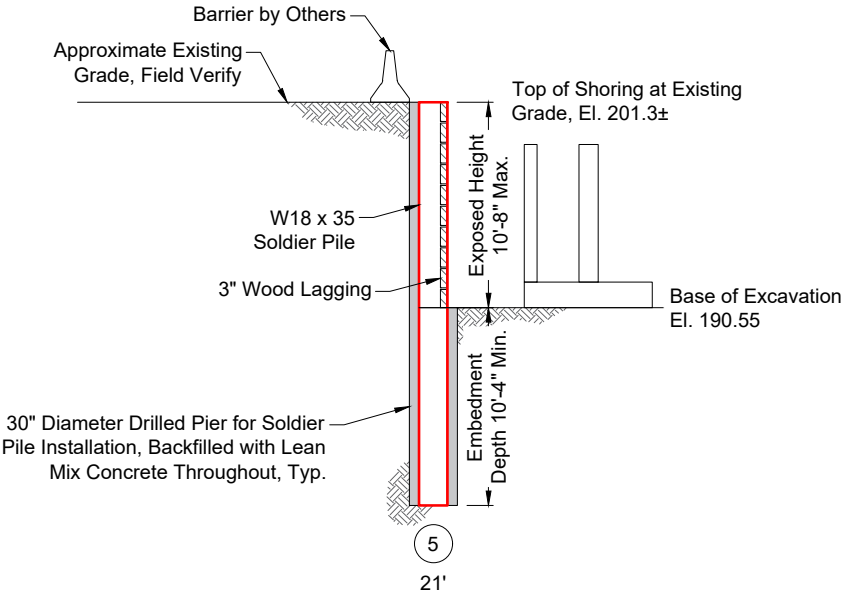
- These shoring drawings and design based upon the following documents:
  - Project Plans entitled, "Renovation and Addition Jackson, WY 83001, 645/655 South Cache, Building Permit Drawings," by Hoyt Architects, dated November 18, 2019.
  - "Geotechnical Investigation, Irish Pub Addition, 645 S Cache Street, Lot 11, Block 4, Karns 2nd Addition, Jackson, Wyoming" by Nelson Engineering, dated January 2019.
- The shoring to be installed to the approximate lines and grades indicated in these drawings subject to field verification. Note, little information is available as to the exact location of the shoring other than it is to be installed on west of the proposed office building for the length and exposed heights indicated. Overall project plans are still under development. Layout and limits of the shoring wall to the determined in the field by General Contractor in keeping with the intent and overall objectives of these plans. Gordon Geotechnical Engineering, Inc. (G<sup>2</sup>) to be notified immediately of potential conflicts with the shoring layout as shown. G<sup>2</sup> assumes no responsibility for damage to utilities or other structures.
- Prior to shoring installation, all utilities shall be potholed and verified. Gordon Geotechnical Engineering, Inc. shall be notified of potential conflicts with the shoring.
- All structural steel for the soldier piles to have a minimum yield strength of 50 ksi. All steel to be detailed according to AISC Standards. No splicing of piles allowed.
- Lagging to consist of 3-inch Douglas Fir No. 2 or better.
- Drilled pier holes to be filled with flowable fill or lean mix concrete and have a minimum of 250 psi 28-day strength. Pier backfill shall be placed with a tremie if water is present in the hole.
- Grout behind lagging to consist of lean mix concrete or flowable fill with a minimum 28-day strength of 250 psi. Care should be taken during excavation to minimize any excavation beyond the lagging in order to keep this requirement to a minimum.
- Fall protection on top of shoring and slopes to be provided by others.
- The stability of the cut slopes above and around the perimeter of the site are the responsibility of others.
- The shoring has been designed for a 300 psf area surcharge for conventional construction and vehicular traffic. The shoring has not been designed for other large surcharges operating on top of shoring such as cranes, etc. Higher loads than those indicated will have to be reviewed on a case by case basis.
- Projected movements are approximately 1" to 1.5" laterally and vertically. Actual movements will vary based upon installation techniques, soil consistency, etc.

Construction Sequence

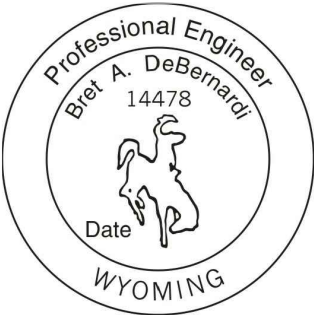
- Drill pier to depth required on the elevation views. Case as required. The site soils consist of dense to very dense gravels and cobbles up to 12 inches in diameter (refer to the Geotechnical Investigation by Nelson Engineering). Some difficulty in drilling in this coarse material should be anticipated. This will include slower install rates, possibly some caving, increase in diameter of the drilled holes and more quantities of drilled pier backfill than neat-line would indicate. Groundwater is not anticipated to the depth of the pier. If groundwater is encountered, G<sup>2</sup> should be contacted immediately. Modifications to the shoring may be required.
- Install soldier pile.
- Backfill pier with flowable fill or lean mix concrete throughout.
- Begin excavation. Install lagging. Maximum height of soil exposed prior to lagging placement dictated by consistency of site soils, but no more than 5 to 6 feet. If voids behind lagging are encountered from excavation operations, the voids are to be grouted with flowable fill / lean mix concrete (as noted above, this should be kept to a minimum).
- Repeat excavation and lagging placement until the base of excavation is achieved.



Standard Lagging Detail  
Not to Scale



Cross-Section A



REFERENCE:

DATE	DESCRIPTION
01.24.20	Submitted for Review

DESIGNED FOR:

**NewJack LLC**  
c/o Endeavor Group

DESIGNED BY:



645 South Cache Renovation and Addition  
645 South Cache Street,  
Jackson, Wyoming

DESIGN BY: **BD** DRAWN BY: **TT** CHECKED BY: **BD** APPROVED BY: **BD**

Temporary Soldier Pile Wall  
**Cross-Section, General Notes,  
and Detail**

G<sup>2</sup> PROJECT NO.:


**796-001-20**

SHEET NO.:

**3 of 3**

PROJECT TITLE:  
645 SOUTH CACHE ST.  
JACKSON, WYOMING

SHEET TITLE:  
**PROPOSED GRADING PLAN**

DRAFTED BY:	BS
REVIEWED BY:	JB
PLAN VERSION	DATE
PERMIT SET	11.22.2019
REV No. 	01.17.2020

PROJECT NUMBER
18117

SHEET

C2.1

