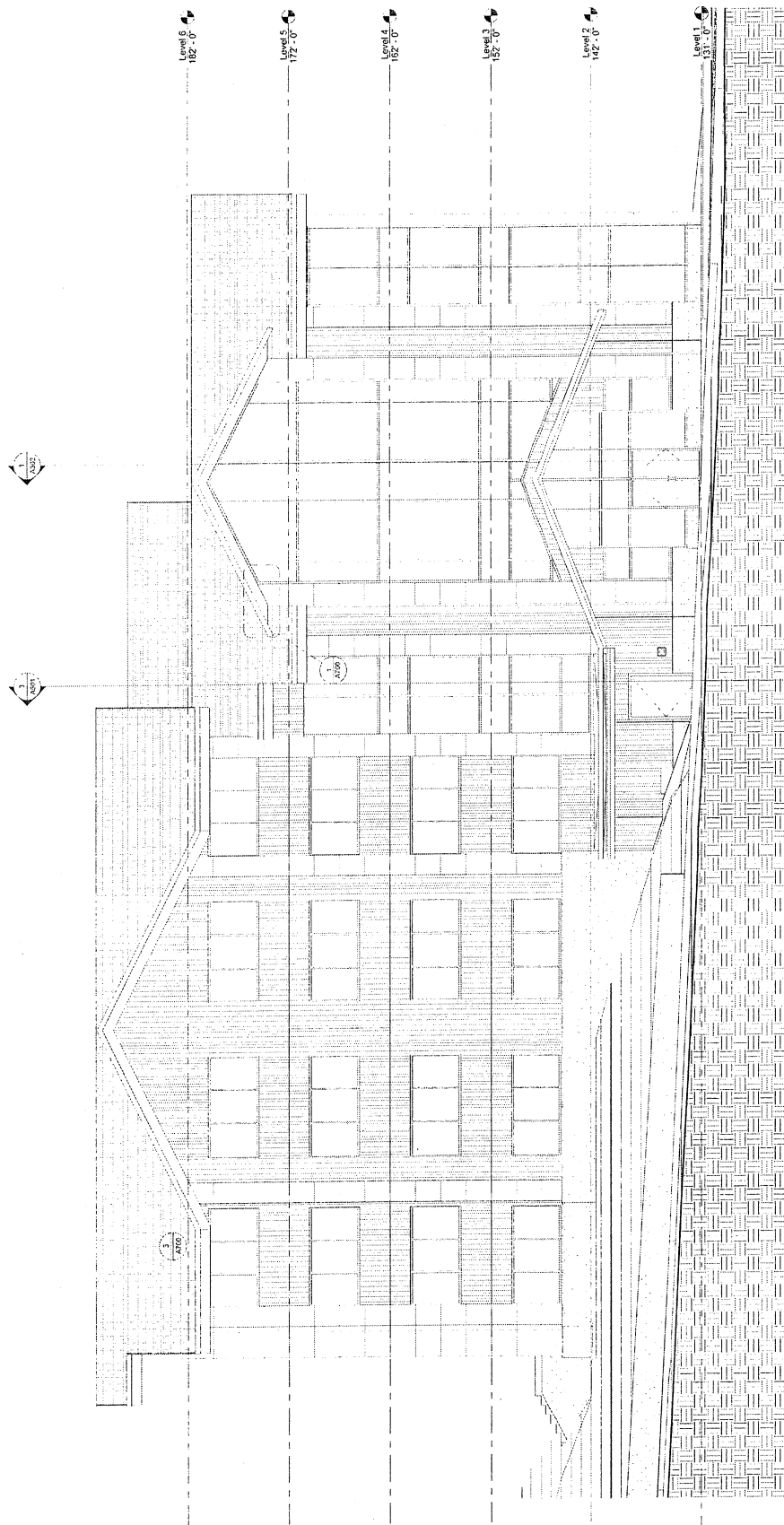


① North Elevation
3/16" = 1'-0"



NOTE: 11" x 17" PRINT IS HALF SIZE

SHEET NO.
A401

CHECKED: **FW**

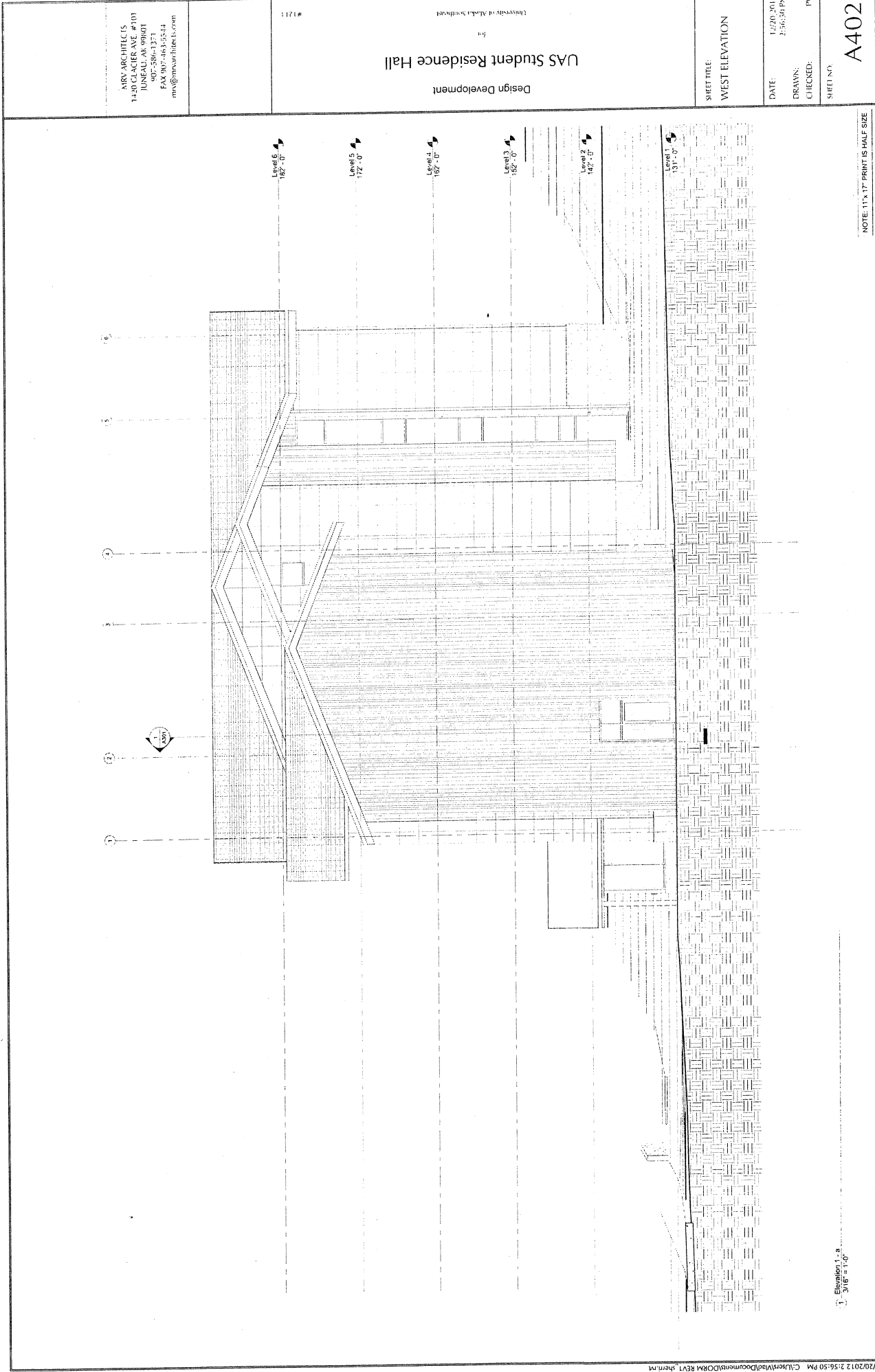
DRAWN: **FW**

DATE: 12/20/2012
2:56:48 PM

SHEET TITLE:
NORTH ELEVATION

Design Development
UAS Student Residence Hall
for
University of Alaska Southeast
#12711

MAN: MAN ARCHITECTS
1470 CLAGGER AVE. #101
DUNELAU, AK 99531
907-586-1371
FAX 907-418-5544
man@manarchitects.com



Elevation 1 - a
3/16" = 1'-0"

NOTE: 11" x 17" PRINT IS HALF SIZE

A402

SHEET NO.

CHECKED:

DRAWN:

DATE: 1/20/2012
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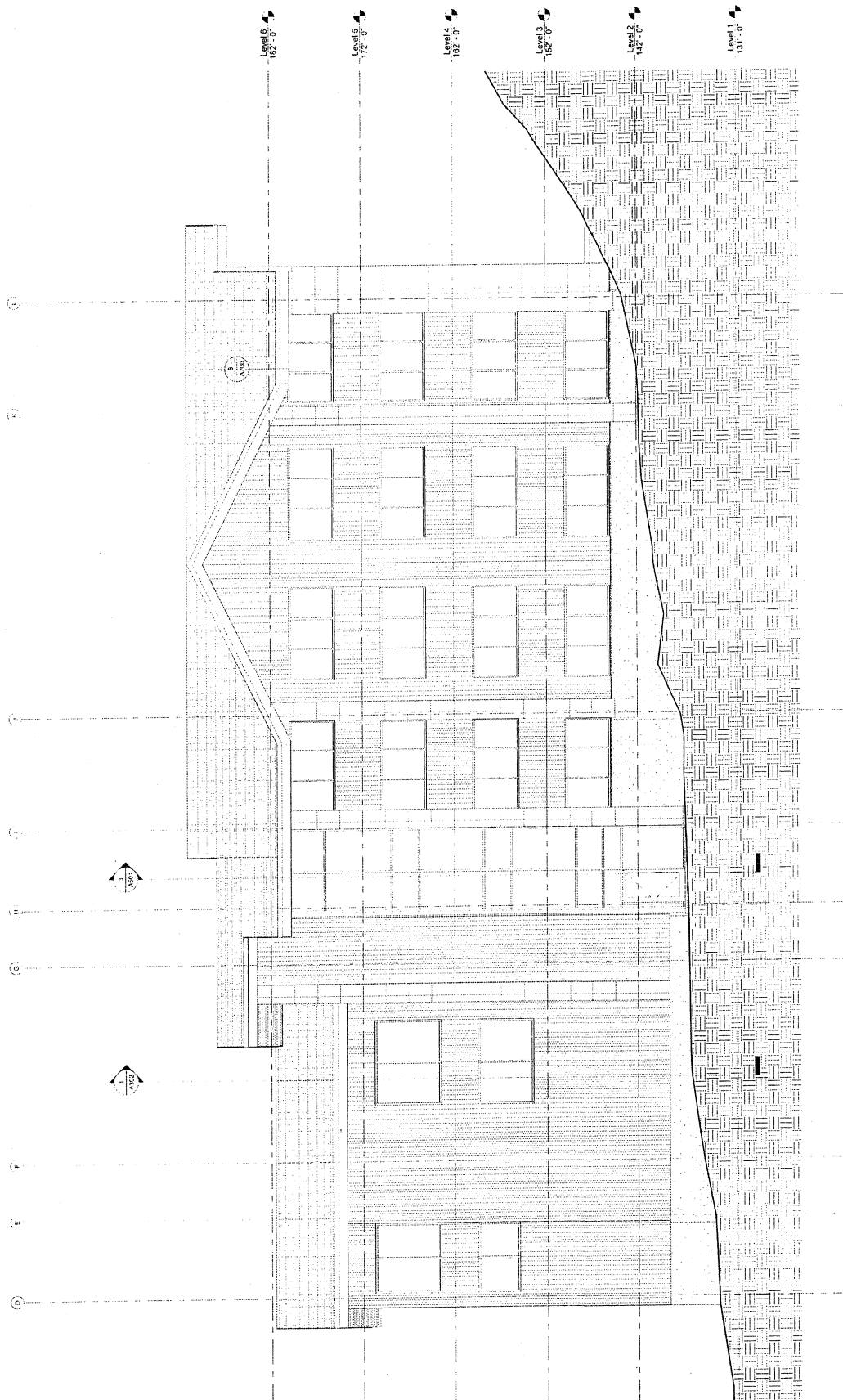
SHEET TITLE:
WEST ELEVATION

Design Development
UAS Student Residence Hall
University of Alaska Southeast
Box 1111

MRV ARCHITECTS
1430 CLACIER AVE. #101
JUNEAU, AK 99801
907-586-1271
FAX 907-463-5544
mrv@mrvarchitects.com

NOTE: 11" x 17" PRINT IS HALF SIZE

1. EAST ELEVATION
3/16" = 1'-0"



SHEET TITLE:
SOUTH ELEVATION

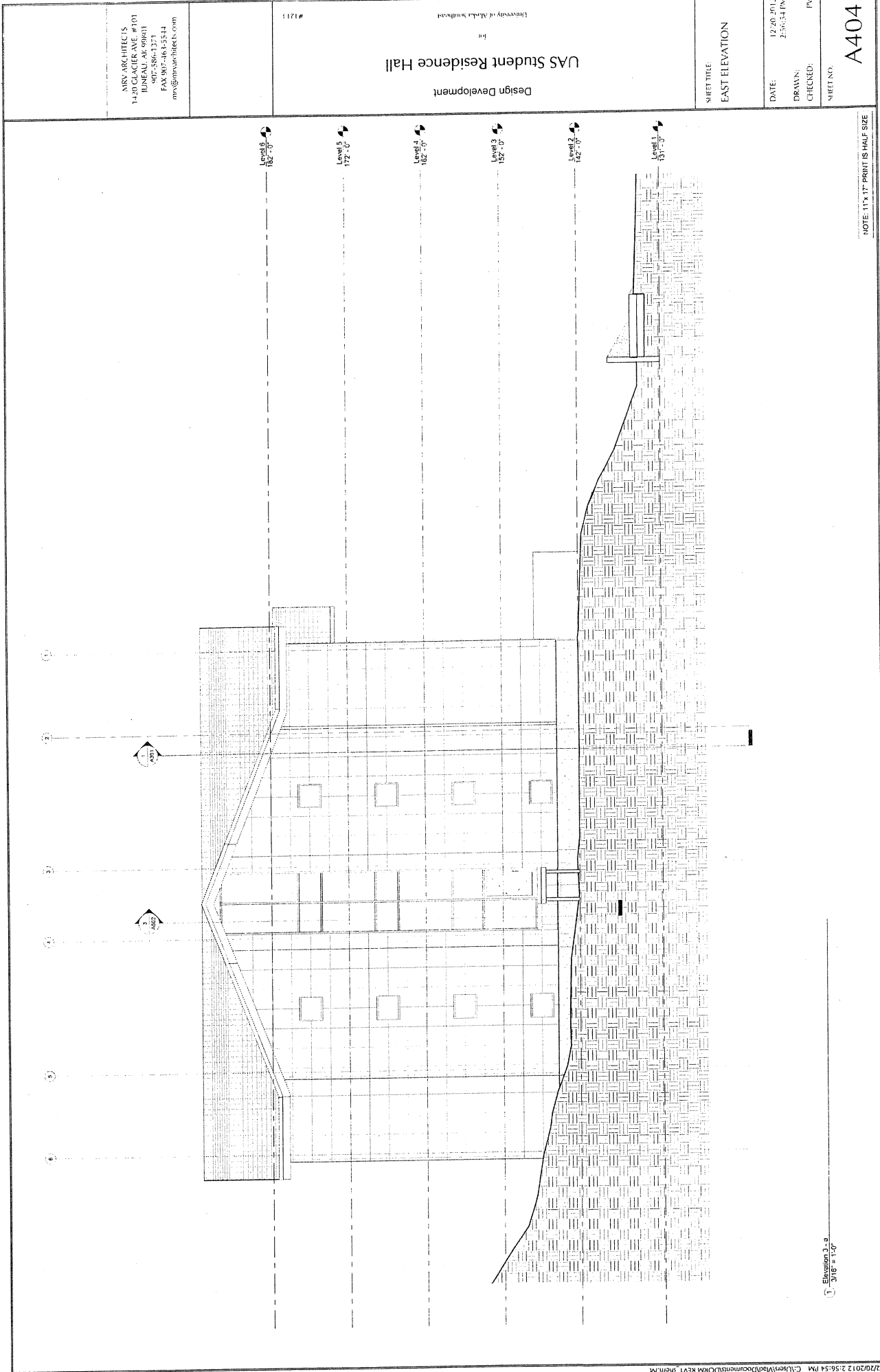
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CHECKED: PV
SHEET NO.

A403

Design Development
UAS Student Residence Hall
University of Alaska Southeast
Juneau, Alaska

#171

MRV ARCHITECTS
1420 CLACIER AVE #101
JUNEAU, AK 99801
907-586-1371
FAX 907-464-5544
mrv@mvarchitects.com



NOTE: 11" x 17" PRINT IS HALF SIZE

Elevation 3-9
3/16" = 1'-0"

A404

SHEET NO.

CHECKED: IV

DRAWN: 2:56:54 PM

DATE: 12-20-2012

EAST ELEVATION

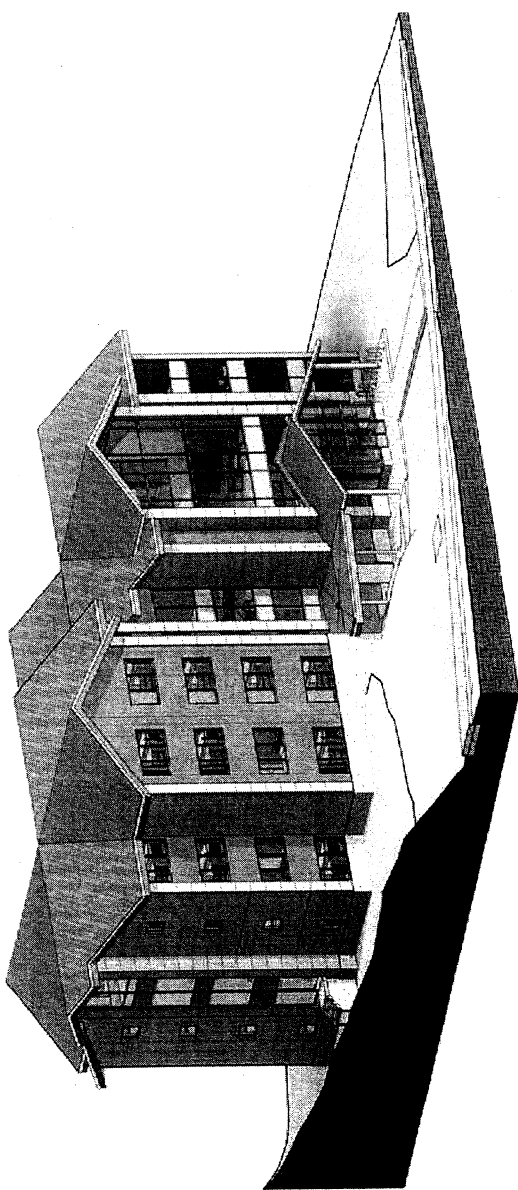
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Design Development
for
UAS Student Residence Hall

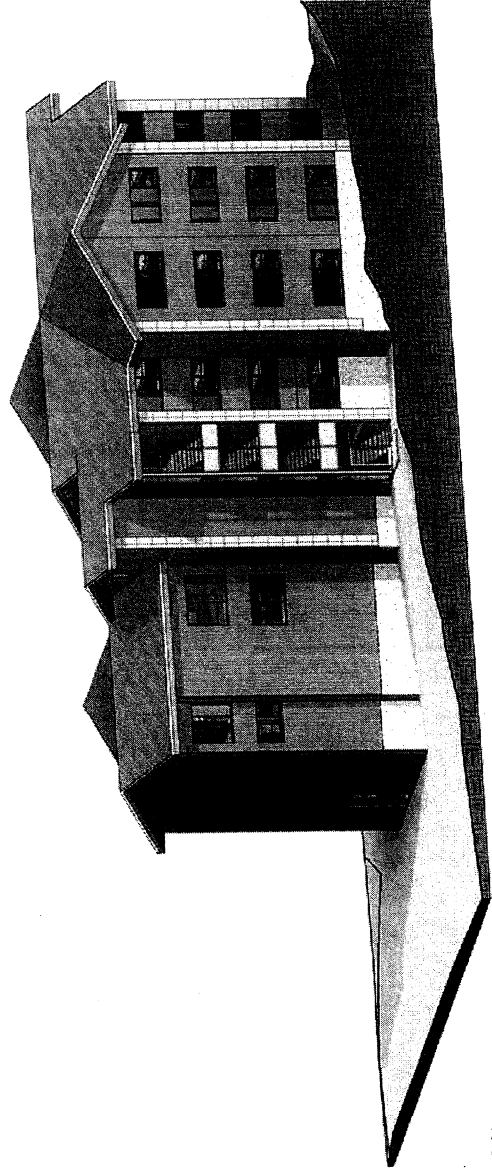
University of Alaska Southeast

#11715

NRV ARCHITECTS
1420 CLACIER AVE. #101
JUNEAU, AK 99801
907-586-1371
FAX 907-463-3344
nrva@nrvaarchitects.com



1 FRONT



2 BACK

NOTE: 11'x 17' PRINT IS HALF SIZE

A 3D

SHEET NO.

CHECKED: PV

DRAWN: 2:57:35 PM

DATE: 12/20/2012

SHEET TITLE:

3D VIEWS

Design Development

UAS Student Residence Hall

for

University of Alaska Southeast

11713

MMV ARCHITECTS
14-00 CLACUE AVE. #101
HUNEAU, AK 99901
907-556-1371
FAX 907-464-5544
mmv@mmvarchitects.com



FULL CAMPUS

NOTE: 11" x 17" PRINT IS HALF SIZE

806Z

SHEET NO.

CHECKED: PV

DRAWN:

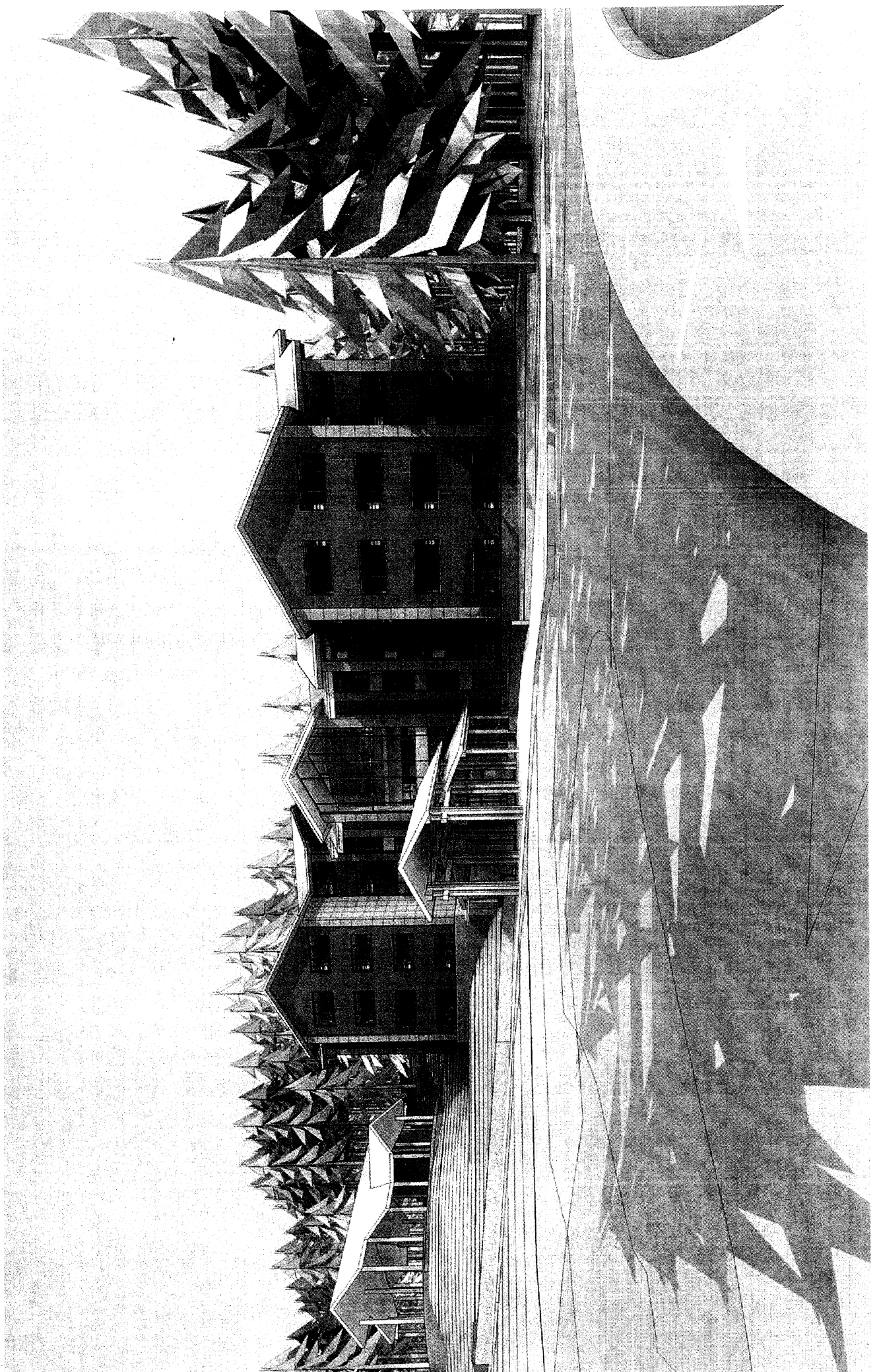
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3D VIEW

SHEET TITLE:

UAS Student Residence Hall
Design Development
for
University of Alaska Southeast
#1211

MMV ARCHITECTS
1405 LACROIX AVE. #101
JUNEAU, AK 99901
907-586-1271
FAX 907-463-3544
mmv@mmvarchitects.com



GENERAL SURVEY NOTES

1. THE BASIS OF HORIZONTAL CONTROL UTILIZED TO CONDUCT THIS SURVEY WAS THE LINE 30'-50'-50" BETWEEN 720'-5" SECONDARY MONUMENTS HAVING A COMBINED BEARING OF 143°58'42" E.

THE BASIS OF VERTICAL CONTROL FOR THIS SURVEY IS 3" B.M. 2101 POINT "A" WITH AN ELEVATION OF 128.47'. B.M. "FIRE HYDRANT" THE NORTH BOLT OF THE FLANGES OF THE EXISTING 12" WATER MAIN LOCATED UNDER THE SIDEWALK WITH AN ELEVATION OF 127.24'. AND T.M. 2102 POINT "A" SPK WITH AN ELEVATION OF 127.24'. THE SURVEY WAS CONDUCTED IN 2012. A SPK SIRENAIR WITH AN ELEVATION OF 87.23' (MULLAW GASTRIFEAU CHIMNEY-1979).

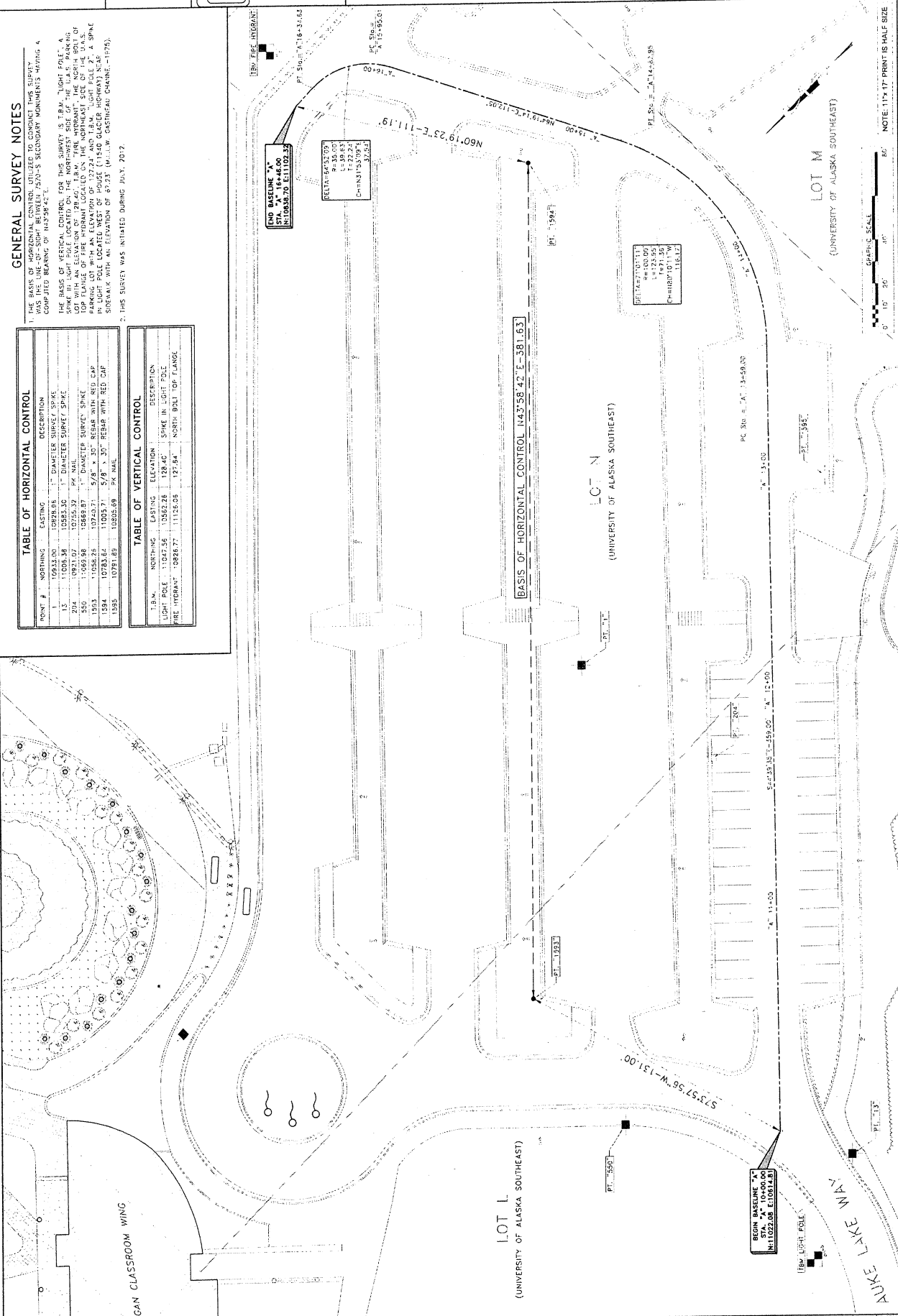
2. THIS SURVEY WAS INITIATED DURING JULY, 2012.

TABLE OF HORIZONTAL CONTROL

POINT #	NORTHING	EASTING	DESCRIPTION
1	10913.00	10828.95	1" DIAMETER SURVEY SPK
13	11005.38	10883.30	1" DIAMETER SURVEY SPK
204	10921.07	10755.32	PK NAIL
550	10603.98	10869.87	1" DIAMETER SURVEY SPK
1293	10728.25	10828.25	PK NAIL
1393	10728.25	10828.25	PK NAIL
1395	10721.85	10805.69	PK NAIL

TABLE OF VERTICAL CONTROL

P.B.M.	NORTHING	EASTING	ELEVATION	DESCRIPTION
LIGHT POLE	11047.56	10862.28	128.40	SPK IN LIGHT POLE
FIRE HYDRANT	10886.77	11125.05	127.84	NORTH BOLT TOP FLANG



UAS Student Residence

Design Development

Survey Control Diagram

DATE: 11-26-12

SCALE: N/A

CHECKED: N/A

SHEET NO. C101

11-26-12

N/A

N/A

C101

11-26-12

N/A

N/A

C101

11-26-12

N/A

N/A

C101

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C101

11-26-12

N/A

N/A

C101

11-26-12

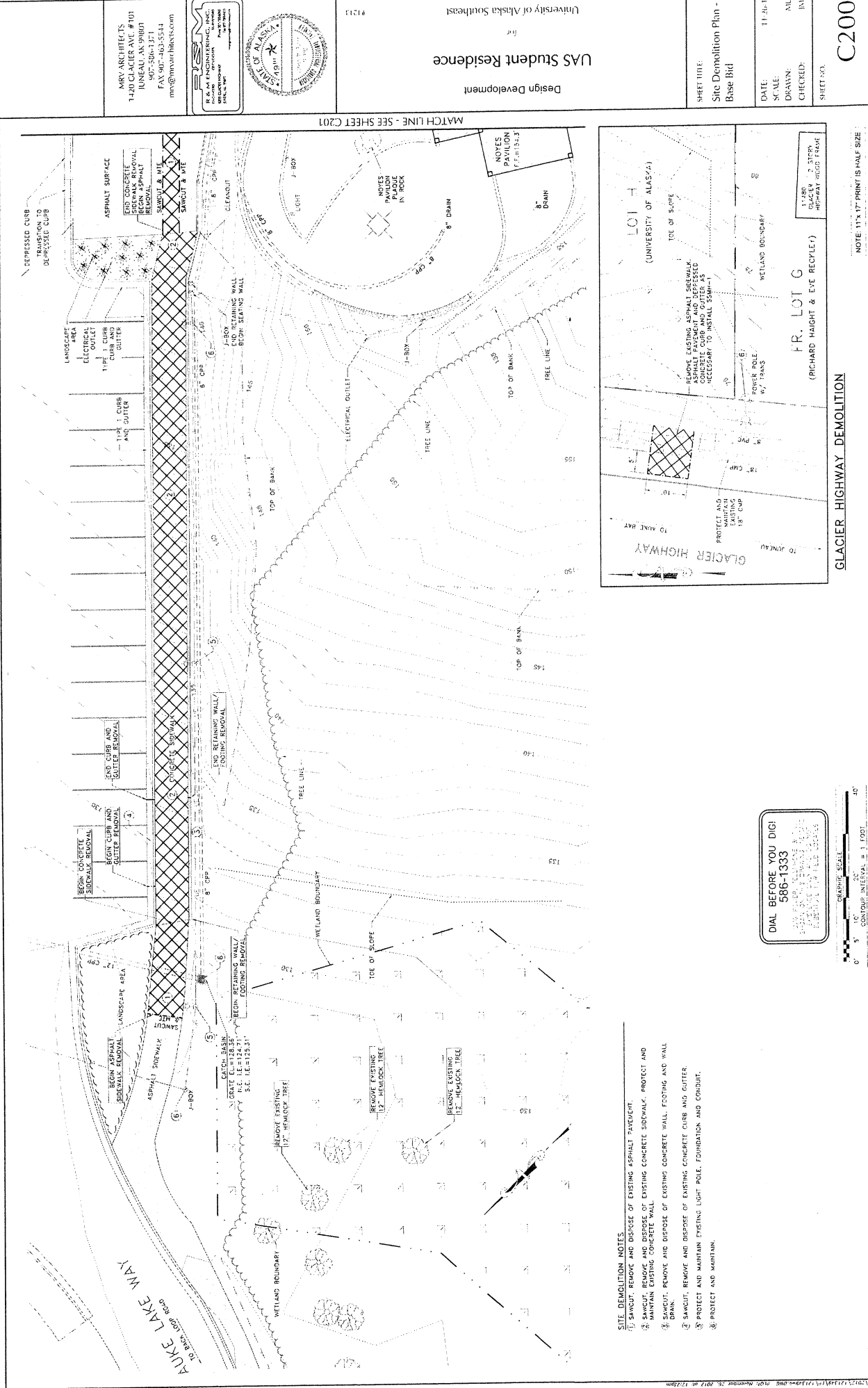
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N/A

C101

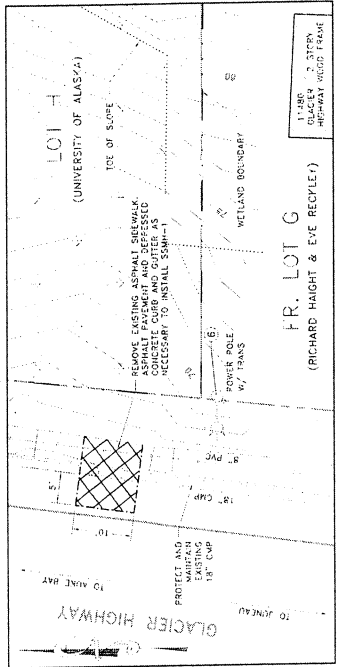
11-26-12

N/A



- SITE DEMOLITION NOTES**
- 1. SAWCUT, REMOVE AND DISPOSE OF EXISTING ASPHALT DRIVEWAY.
 - 2. SAWCUT, REMOVE AND DISPOSE OF EXISTING CONCRETE SIDEWALK. PROTECT AND MAINTAIN EXISTING CONCRETE WALL.
 - 3. SAWCUT, REMOVE AND DISPOSE OF EXISTING CONCRETE WALL, FOOTING AND WALL DRAIN.
 - 4. SAWCUT, REMOVE AND DISPOSE OF EXISTING CONCRETE CURB AND GUTTER.
 - 5. PROTECT AND MAINTAIN EXISTING LIGHT POLE, FOUNDATION AND CONDUIT.
 - 6. PROTECT AND MAINTAIN.

DIAL BEFORE YOU DIG!
586-1333
CALL BEFORE YOU DIG
STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOPHYSICS



GLACIER HIGHWAY DEMOLITION

NOTE: 11" X 17" PRINT IS FULL SIZE

MRV ARCHITECTS
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mrv@mrvarchitects.com

R & M ENGINEERING, INC.
1000 W. 10TH AVE. SUITE 100
KUNEAU, AK 99801
907-506-1371
FAX 907-463-5544
rm@mrvarchitects.com

UNIVERSITY OF ALASKA
SOUTHEAST
UAS Student Residence
Design Development
#1213

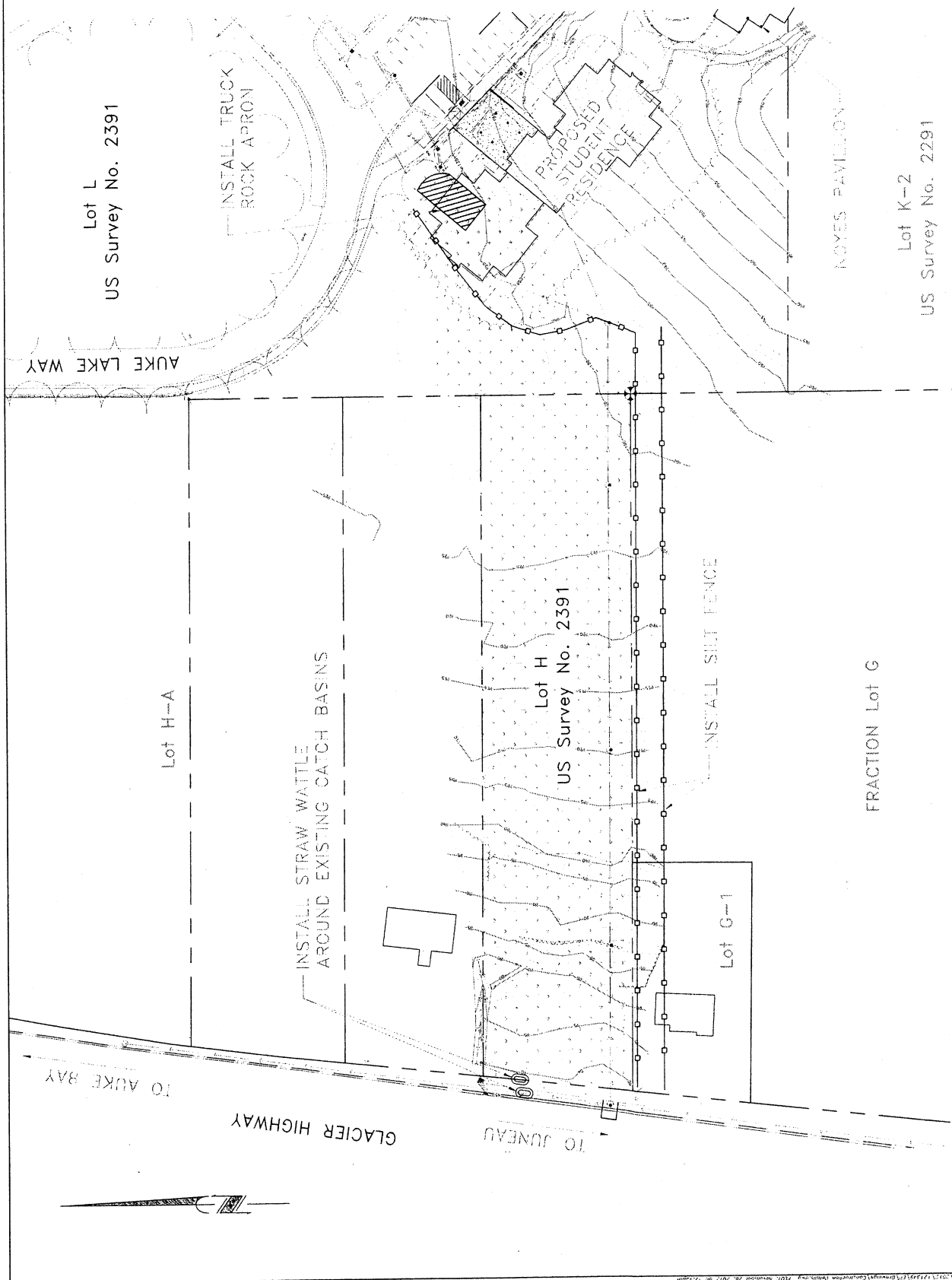
SHEET TITLE:
Site Demolition Plan -
Base Bid

DATE: 11.26.17
SCALE: N/A
DRAWN: N/A
CHECKED: N/A
SHEET: 001

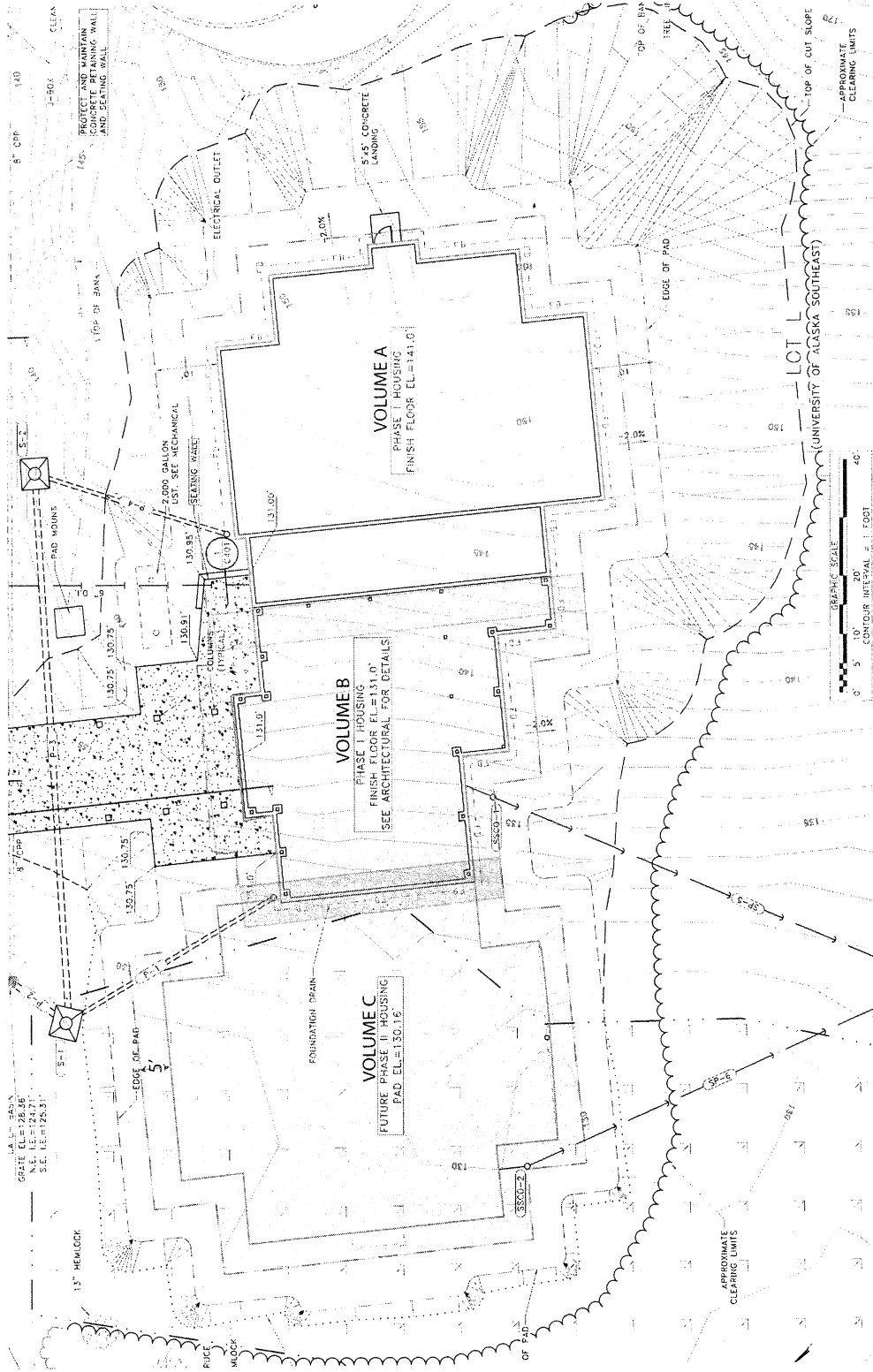
C200

SED CUBE
POSITION TO
SED CUBE





A1- BUILDING FOOTPRINT OVERLAY ON EXISTING TOPOGRAPHY



UAS STUDENT RESIDENCE HALL: Permitting Background Information

December 19, 2012

MRV ARCHITECTS

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JUNEAU, ALASKA 99801

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mrv@mrvarchitects.com

A2- HEIGHT VARIANCE CALCULATIONS: Height Variance 11'- 10 1/2" (12'-0" , for simplicity)

Volume A

Phase I Resident Unit- The maximum height difference of the existing topography from one building corner to the other is 10'.

Maximum building height is 42'- 4 1/2".

Volume B

Phase I Central Space- The maximum height difference of the existing topography from one building corner to the other is 10'.

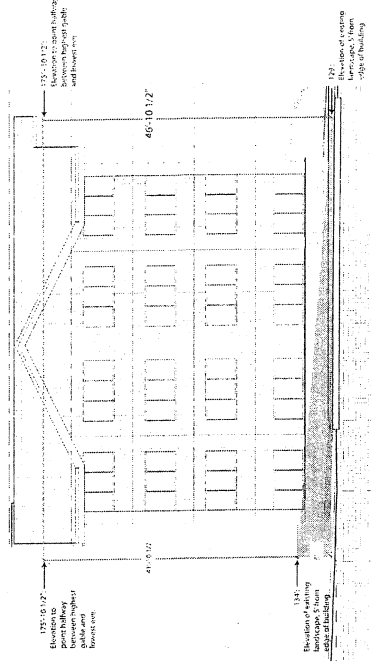
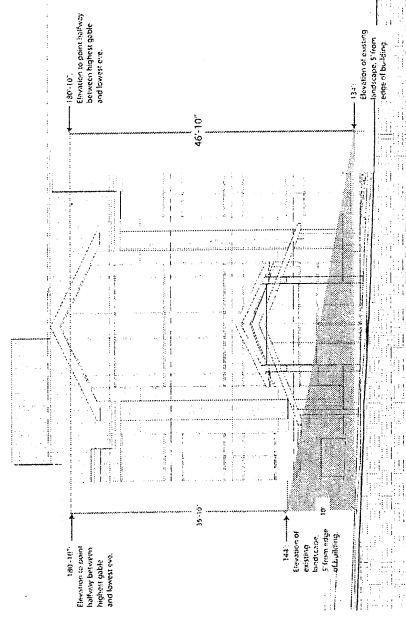
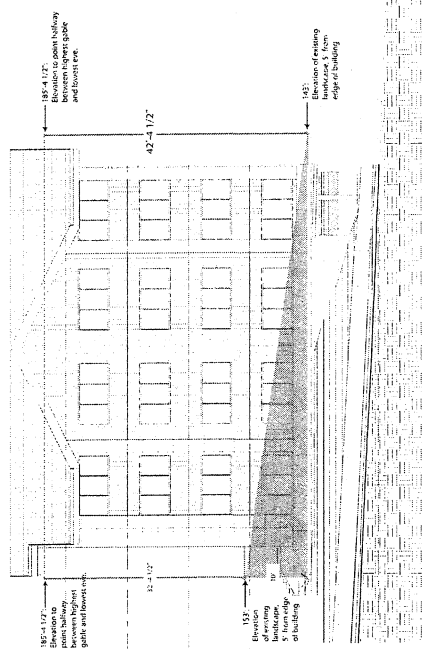
Maximum building height is 46'- 10".

Volume C

Phase II Resident Unit- The maximum height difference of the existing topography from one building corner to the other is 5'.

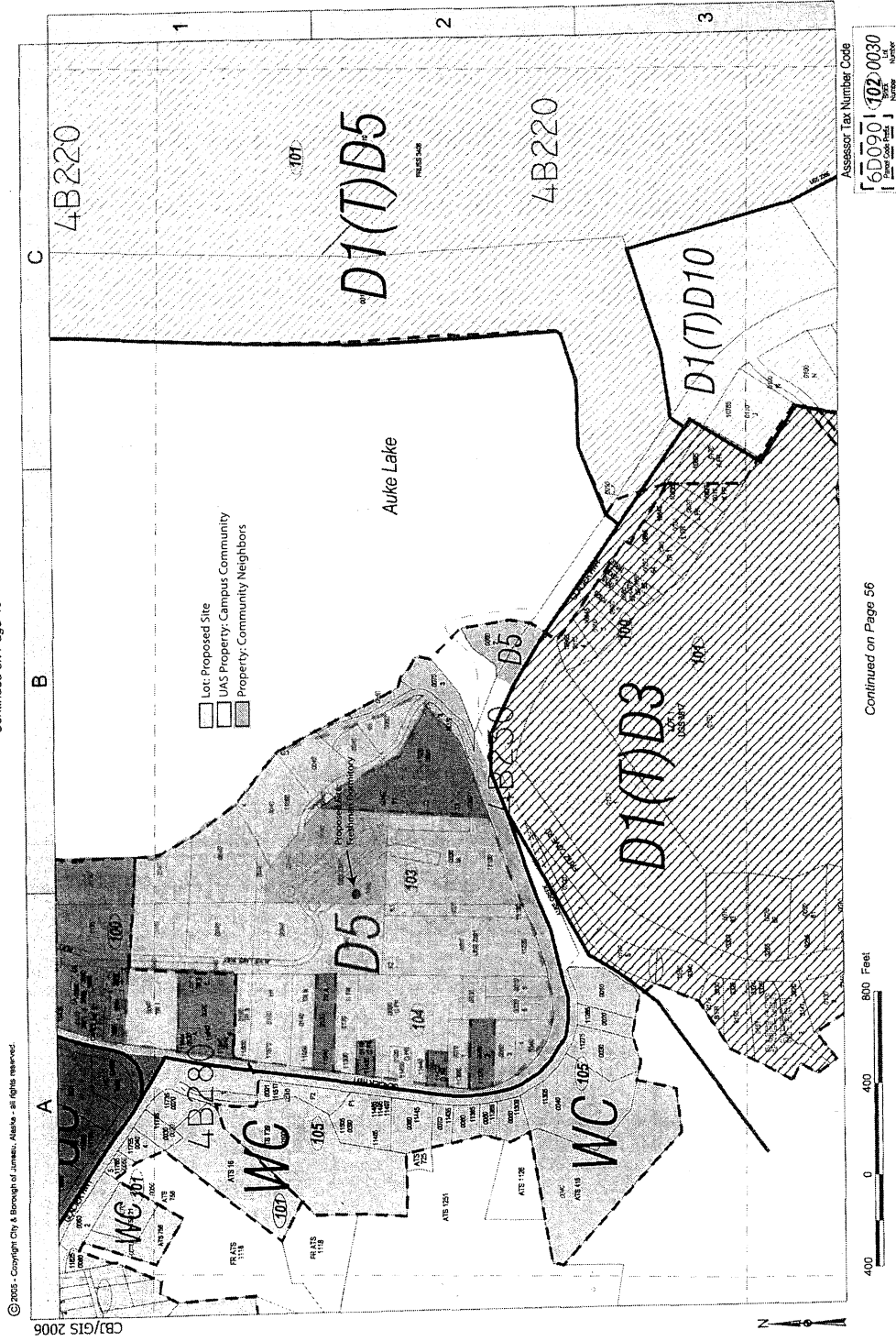
Maximum building height is 46'- 10 1/2".

This portion of the building demonstrates the largest height difference from existing topography and would require a height variance of 11'- 10 1/2".



A3- PROPERTY ADJACENCIES

Continued on Page 48



UAS STUDENT RESIDENCE HALL: Permitting Background Information

December 19, 2012

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1420 GLACIER AVENUE #101

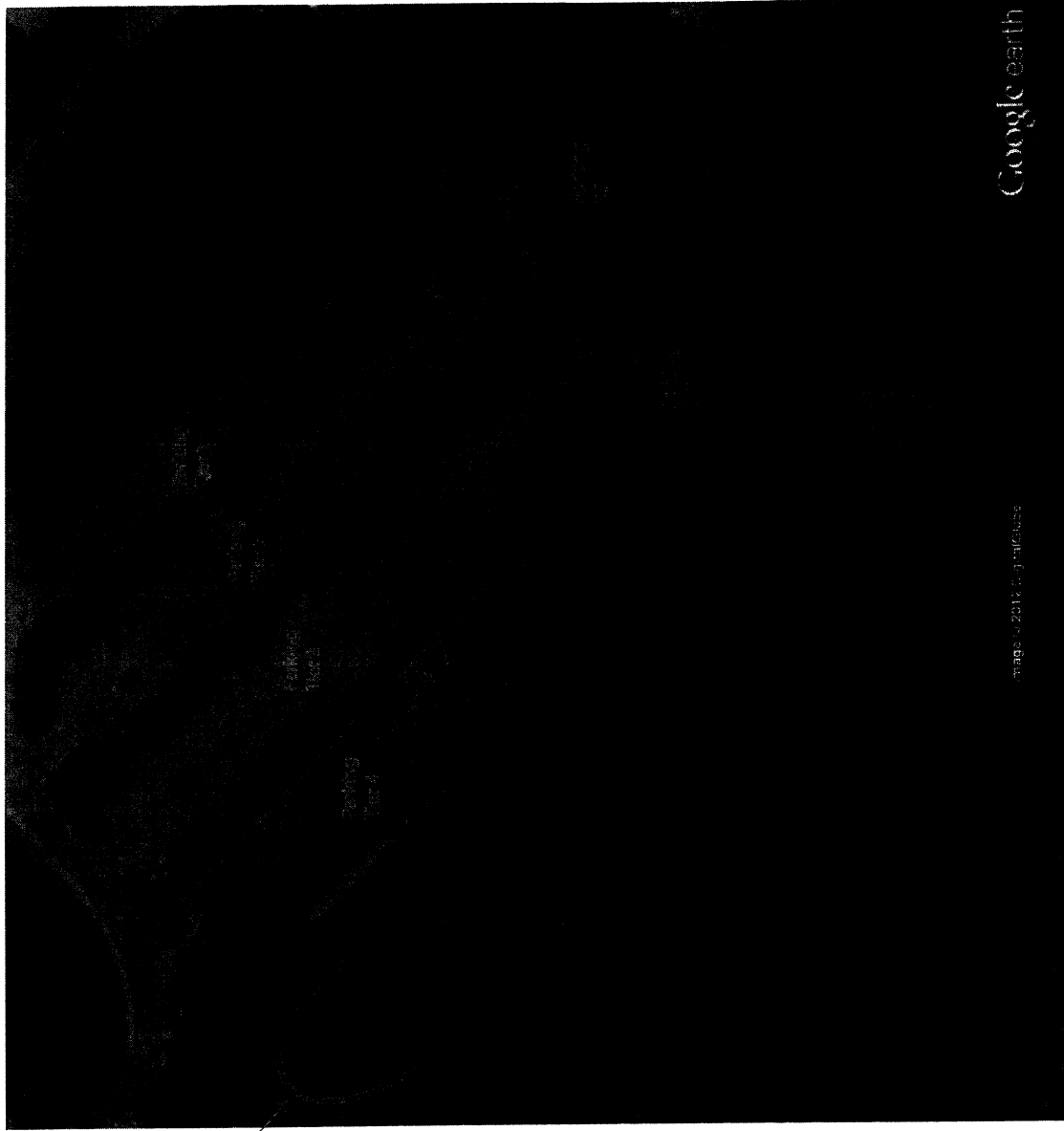
JUNEAU, ALASKA 99901

907-586-1371

mr@mrarchitects.com

A4- AERIAL PARKING IMAGE

PROPOSED SITE



UAS STUDENT RESIDENCE HALL: Permitting Background Information
December 19, 2012

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mrv@mrvarchitects.com

MRV ARCHITECTS

1420 GLACIER AVENUE, JUNEAU, AK 99801 (907) 586-1371

RECEIVED

DEC 27 2012

PERMIT CENTER/000

UAS Freshman Student Residence Hall

December 24, 2012

Juneau Permit Center
155 S. Seward Street
Juneau, AK 99801

Location:
230 South Franklin Street
4th Floor- Marine View Center

Re: Project Background for Conditional Use Permit and Height Variance,
120-bed Freshman Dormitory

To whom it may concern:

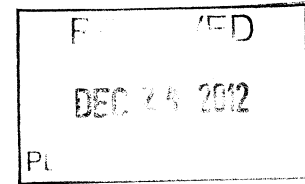
The University of Alaska Southeast has contracted with MRV Architects for planning and design on the long-anticipated new residence hall for incoming Freshmen students. A prime central campus site was selected for the new residence hall. This location will combine several positive attributes, with its central campus location, easy proximity to existing food service at Mourant Building, use of existing parking and infrastructure, and the potential for increased student academic and social connections. The new facility should function as a central campus anchor to support critical incoming student needs.

All major development on the UAS Auke Bay campus is subject to CCD Staff and Planning Commission review as part of a Conditional Use Approval. The following information is offered to facilitate that review, with an overview of major planning and design decisions for the new residence hall.

PROJECT BACKGROUND

Size and Capacity: The new residence hall will contain 60 beds in the current first phase, with future growth to 120 beds in a second phase, slated to occur within a year or two. The basic plan layout pairs two double occupancy rooms with a shared bathroom. ADA accessible rooms and a manager apartment are included. Phase I consists of the central core spaces and residential space totaling 21,600 sf. Phase II adds 13,124 square feet of residential space.

Support Spaces: The residence hall will feature a general-purpose meeting and social room, sized to hold all residents for a special event. This space is located on the third floor, with a panoramic view across the campus, Auke Lake, and to the mountains beyond. A small general-purpose kitchen space adjoins the assembly room, providing flexibility to support a variety of events. Other spaces in the



building include a flexible study room, a seminar space and full laundry facilities. The service spaces include mechanical, electrical/data, and a trash and recycling area.

ADA Access: Phase I and Phase II provide 60 double occupancy resident rooms. The code requires that 3 of these rooms be ADA accessible with roll-in shower access. For our project, two dedicated ADA suites will provide 4 accessible guest rooms with associated roll-in showers. All community spaces and routes are ADA accessible. Turning radius, fixtures, and clear floor space clearances comply with ADA requirements. There are two designated ADA parking spaces adjacent to the curb ramp.

Sustainability and LEED: The facility will embody best practices for environmental stewardship, including high levels of thermal insulation, low system operating costs, low maintenance, and healthy indoor materials. The University has directed MRV to design and construct the project as a LEED-Silver project, a 3rd party national benchmark for excellent sustainable design and construction. The Chancellor's office also approved a sustainability upgrade to install a ground source heating system, in lieu of a conventional fuel oil heating system.

PLANNING AND DESIGN GOALS

Site Planning: The new residence hall will be located on a prime site on the westerly edge of the developed parking area, situated between Noyes Pavilion and the drop-off circle to Egan Library. Food service will be provided at the Maurant Building. Generalized planning has considered the potential for a second future housing facility on the opposite side of Noyes Pavilion, and other adjoining UAS facilities and connective infrastructure, including roadways and pedestrian routes.

Site issues: Site development, to be completed in Phase II, will include a covered exterior canopy and amenities to support socialization and interaction between students exterior to the building, including benches, lighting and bike racks. Site features include ADA access for pedestrians and adjacent accessible parking. Maintenance service and accessibility to the building are considered.

The site is bordered by an existing parking lot, access road, Noyes Pavilion, and proximity to forested wetlands. Portions of the site are steep, with bedrock close to the surface. The area on the rising hillside behind, or westerly, of the Student Residence Hall will remain undisturbed forest.

PARKING

The existing UAS parking is underutilized for current University needs. Based on previous parking studies, it is anticipated that the existing parking will readily absorb the parking requirements associated with this freshman student dormitory. Resident parking projections are based on the following:

1. The dormitory is slated for incoming freshman students. These students do not typically own cars. As such, they are intentionally housed proximate to the university campus core, within walkable distance to classes, dining, library, and mixed-use resources. To reduce the impact of cars on the environment, UAS has promoted the use of alternative transportation, such as

walking, biking, and public transportation. The primary pedestrian routes, bus stop, and bike racks are located within 200 feet of the dormitory, encouraging alternative transportation use connecting both UAS students and our broader community.

2. UAS parking consists of six lots. (See A4- Aerial Parking Image) There are a total of 349 parking spaces available to students. Tier 4, the upper-most parking tier adjacent to Noyes, contains 54 parking spaces, including 2 designated ADA spaces for the freshman dormitory. This lot averages 10 vacant spaces per day. Tier 3 averages 14, Tier 2 averages 12, and Tier 1, averages 4 vacant spots per day. The two finger lots south of Noyes average 82 vacant spaces per day. (See attached parking count from week of September 10, 2012)
3. Assuming a walkable mixed-use parking requirement of 1 parking space per 500 sf of resident living area for Phase I and Phase II, only 53 spaces are required (26,248sf/500sf). Given the practical impact of points 1 and 2 above, the appropriate parking density could be argued in the range of 1 space per 1000sf resident living space, or a total of 26 spaces. This is readily absorbed within the current parking configuration.
4. UAS is committed to minimizing its impact on the natural environment and reducing its dependence on non-renewable energy. Strategies include densification of community resources and minimization of the impact of cars through the conservation and preservation of natural areas by limiting the potential over-development of parking.

Design Proposal: The upper, or southerly, Phase I housing wing starts one story above the main entry level, due to rising site slope and shallow bedrock, and has four levels. The project program, ADA elevator access requirements, and other mechanical parameters impart specific height requirements floor to floor.

HEIGHT VARIANCE

CBI Approvals: For the residence hall, a variance will be required relative to the D-5 height restriction of 35'.

Calculated Heights and Variance: The site is steeply graded. The building steps down the grade in three primary masses. Following the calculation process described by the city planner Ben Lyman, the maximum height of each building section is calculated independently, using the existing topography as baseline. (See attached document A1- diagram of building overlay on existing topography). Phase II (Volume C) is the highest, 46'-10 1/2", with a calculated project variance of 11'-10 1/2". (See attached document A2- diagram of height calculations.) For simplicity, a 12' variance is requested covering both Phase I and Phase II. All remaining dimensional standards are met.

Height Variance Rationale: The building is tucked into the forested slope on the uphill side of the existing parking lot. Authorization of the variance will not affect other private property or block views from adjacent UAS buildings. Due to the slope of the hill up from the campus dorm and down to Glacier Highway, and existing vegetation on neighboring properties, the building will not be visible from other properties. The smaller footprint associated with vertical expression of the building also limits site disruption and preserves more of the existing native vegetation and trees. The existing Noyes Pavilion roofline is of comparable height when viewed from the parking area.

Detailed Response to CBJ Variance 49.20.200, 6-Point Criteria:

- 1) Relaxation of the variance would provide substantial relief in the following areas:
 - a. Cost- The current footprint already requires extensive site work for rock removal and excavation. A larger footprint has significant costs implications.
 - b. Minimize Environmental Impact- The site is bordered by an existing parking lot, road, and forested wetlands. UAS is committed to preserving native landscaping and minimizing secondary issues impacting the environment such as soil erosion and sedimentation build up within sewer and waterways.
 - c. Preserve Trees- Minimization of the building footprint allows for preservation of more trees. This site is embedded in the university campus. The trees provide habitat for animals, a green relief between other buildings, and a privacy barrier for the freshman dormitory residents.
- 2) There are no negative safety implications. The building will contain a fire sprinkler system and has appropriate means of egress. The CBJ Fire Marshall has confirmed that fire safety needs are appropriately addressed, including access with the current fire truck and ladder.
- 3) Authorization of the variance will not injure nearby property. There is a significant distance between this site and the nearest private property owner. (See attached document A3- annotated property adjacencies) Given the topography, the site and building cannot be viewed from adjacent private properties.
- 4) The entire campus is currently designated a D5 zone. This is a historical zoning remnant for this region, predating the current campus. All UAS campus community development has required conditional use permitting. From the Table of Permissible Uses, 1.610, a conditional use permit includes use for '*rooming or boarding with shared facilities and a manager living on-site*'.
- 5) Criteria Five, in CBJ code, identifies several possible needs to justify the variance. Item C is most relevant to this project, stating:

Compliance with existing standards would be unnecessarily burdensome because unique physical features of the property render compliance with the standards unreasonably expensive.

Given the topographical & geological challenges of the existing site, a desire to protect natural habitat, and the unique program considerations of the campus community, compliance with the existing standards would be both cost prohibitive and impractical. The resultant project would either provide a much smaller housing complex in the current setting, or require relocation to a larger site which lacks the proximity needed for the unique freshman housing criteria.

- 6) A grant of the variance would provide significant benefits to the campus community. Incoming students would live within walkable distance to classes and mixed-use resources, without a necessary reliance on cars. Decreased reliance on cars provides environmental benefits to the campus community as well as our neighbors in Auke Bay and beyond.

Development of student housing on the core campus provides the additional benefit of improved safety for both students and our neighboring Auke Bay community. The current housing options

require students to cross a busy road to access the campus. The University has expressed safety concerns about the current crossing of Back Loop Road. The winding road and inclement weather diminishes both visibility and the range of cleared walking paths for students. Development of a central campus student residence reduces the incidence of exposure between ambulatory students and community drivers, improving the safety for both.

Densification of resources within the existing campus core also minimizes community sprawl. This is beneficial to the broader community as proximity improves access to facilities and services for everyone, while maximizing efficient use of existing infrastructures with resultant energy savings. Public transportation resources provide access and maintain mutual community links.

Thank you for your time and consideration. We look forward to discussing this project further and believe it will provide a major positive benefit to the UAS campus, and the greater Juneau community.

Sincerely,

Sherri Brown

Attached Documents:

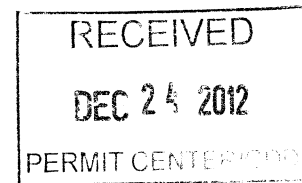
- UAS Parking Count Data
- Permit Application Forms (DPA, Conditional Use Permit, and Variance)
- Code Study
- Project Site
- Existing Parking
- Project Plans
- Project Elevations
- A1- Building Footprint Overlay on Existing Topography
- A2- Height Variance Calculation Diagram
- A3- Property Adjacencies, annotated
- A4- Aerial Parking Image

UAS Parking Count

WEEK OF <u>9/10/12</u>		MON	TUES	WED	THURS	FRI	Average Vacant	Average Occupied
Parking Lot	Spaces							
Tier 4 (top) Pavilion	54	5	8	12	9	15	9.8	44.2
Tier 3	42	2	8	24	18	20	14.4	27.6
Tier 2	78	3	11	16	14	19	12.6	65.4
Tier 1 (bottom)	33	1	4	5	2	8	4.0	29.0
Southeast Parking Lot	65	53	46	64	56	58	55.4	9.6
Southwest Parking Lot	43	36	28	29	24	20	27.4	15.6
Chapel Auxiliary Lot	34	0	0	0	0	0	0.0	34.0
Total Vacant Spaces:	349	100	105	150	123	140	77.3	225.4
		29%					65%	

MRV ARCHITECTS

1420 GLACIER AVENUE, JUNEAU, AK 99801 (907) 586-1371



Project: UAS Student Resident Hall
Subject: Code Study

To:

Cc:

From: Corey Wall

Date: October 29, 2012

MRV 1213

2009 IBC

Overview:

The building is 29,140sf overall on five total stories. The project will be constructed in two phases with the first phase being 17,357sf and the second 11,781sf. The interior spaces consist of 120 resident beds in double-occupancy bedrooms, laundry room, public lobbies and study spaces, and associated mechanical and storage spaces. There is one double-height space on the upper floors, but it is separated from the floor above with a glass wall.

Occupancy Classification (Chapter 3)

- Assembly Spaces: **A-3** (Section 303)
 - 303.1 Assembly spaces which are accessory to the main occupancy and have an occupant load of less than 50 (Exemption 1) or are less than 750sf (Exemption 2) can be classified as part of the main occupancy. Assembly spaces including the Lobby and Seating on Floor 1 (601 sf), Laundry/Lounge on Floor 2 (275sf), and Seminar on Floor 4 (612) meet these exemption requirements.
 - The assembly space (Central Meeting) on the third floor of the project does not have fixed seating (occupancy A-1), is not intended solely for the viewing of performing arts (occupancy A-1), and is not intended for food or drink consumption (occupancy A-2). Therefore, the assembly space is not "defined elsewhere" and will be occupancy A-3.
 - The A-3 spaces include the Central Meeting Space, Sitting Room and Kitchen on Floor 3. Total A-3 area is 1,516sf.
- Residential: **R-2** (Section 310)
 - The majority of the building is a dormitory.
 - The spaces include the portions of the building not otherwise defined and the accessory assembly spaces as described above. Total R-2 area is 27,624sf.

Detailed Requirements Based on Occupancy (Chapter 4).

- Atriums (Section 404).
 - The opening above the Central Meeting Space from Floor 3 to Floor 4 meets all the requirements of Section 708 (Shaft Enclosures), exception 7. The opening

does not connect more than two stories (7.1), is not part of the required means of egress (7.2), is not concealed within the wall (7.3), is not open to a corridor (7.4), and does not open to any non-sprinklered corridor (7.5). Therefore, the Central Meeting Space is an unprotected shaft and not an atrium and no special protection is needed at Floor 4 (see Separated Use, below).

- Combustible Storage (Section 413).
 - High-piled stock storage in any occupancy group shall comply with the International Fire Code.
- Group R-2 Requirements (Section 420).
 - Walls separating dwelling units, walls separating sleeping units, and walls separating dwelling and sleeping units from other occupancies shall be constructed as fire partitions according to Section 709 (420.2). Dwelling units are defined as “A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation.” Except for the Manager’s Apartment, no other suite meets the definition of dwelling unit due the lack of cooking and eating facilities.
 - Floor assemblies separating dwelling units, floor assemblies separating sleeping units, and floor assemblies separating dwelling and sleeping units from other occupancies shall be constructed as horizontal assemblies according to Section 712 (420.3).

Allowable Building Height and Area (Table 503 & Section 504).

- Grade Plane and Basement Calculations
 - Grade plane for the building is established at 134.3’. (225.9’ perimeter @ 130.5’, 54.5’ perimeter @ 131.0’, 45.7’ perimeter @ 136.25’ [average], 95.3’ perimeter @ 141.5’, and 123.0’ perimeter @ 136.25’ [average].)
 - Floor 1 is not considered a basement since Floor 2 elevation (142.0’) is greater than 6’ above the Grade Plane.
- Area and Height Calculations.
 - Group R-2 buildings with Construction Type IIB are allowed to be: 4 stories, 16,000sf per story with a maximum building height of 55’ (Table 503).
 - The building is to be equipped with an automatic sprinkler system, so the maximum building height is increased by 20’ and the maximum number of stories is increased by 1 to 5 stories, 16,000sf per story with a maximum building height of 75’ (Section 504.2).
 - The building is well under the allowable 16,000sf per floor, so no area adjustments are required.
 - Group A-3 buildings with Construction Type IIB are allowed to be 2 stories. With the sprinkler system increase, A-3 buildings are allowed to be 3 stories. The A-3 Central Meeting room on Floor 3 complies.

Incidental Accessory Occupancies (Table 508.2.5)

- Furnace rooms where any piece of equipment is over 400,000 BTU/hour, Boiler rooms where the largest piece of equipment is over 15 psi and 10HP, and Laundry rooms over 100sf require 1 hour separation or automatic fire-extinguisher system. The building has automatic sprinklers, so no area separation is required.

- Areas described above must be separated from other occupancies with construction limiting the passage of smoke (walls extend to deck, self-closing doors and no air transfer grilles in doors) as per 508.2.5.2.

Separated Occupancies (508.4)

- Central Meeting and associated spaces on Floor 3 are classified as A-3. These areas will be separated from the rest of the R-2 classified building with 1-hour rated construction (Table 508.4).

Construction Type (Chapter 6)

- Construction Type will be **Type IIB**
 - All building elements are allowed to be non-rated (Table 601). See R-2 unit separation requirements in Section 420 and Separated Occupancy requirements in Section 508.4.
 - Exterior walls all have greater than 30' fire separation distance and are allowed to be unrated (Table 602).
 - All building elements listed in Table 601 (primary structural frame, interior and exterior bearing walls, interior and exterior non-bearing walls, floor construction and roof construction) are to be non-combustible (602.2).
 - See Section 603 for specific exceptions to the non-combustible requirement. Note that the non-combustible requirement does not apply to millwork including window sashes and frames, or interior finish or trim (Section 703.4) and that wood siding is allowed as per Section 1406.2.2 and 1405.5. (see below).
 - Roof construction is allowed to be heavy timber framing (note c on Table 601).
 - Exterior columns more than 20' from the face of the building are allowed to be heavy timber (602.4.7).

Fire and Smoke Protection Features (Chapter 7)

- Projections (Section 705.2). Cornices and eave overhangs are required to be constructed of non-combustible materials.
- Openings (Section 705.8). Fire separation along all portions of the building is greater than 30'. Unprotected openings of unlimited area are allowed.
- Parapets (Section 705.11). Parapets are not required since exterior walls are not required to be fire-rated as per Table 602 (Exception 1).
- Shaft Enclosures (Section 708).
 - The unprotected shaft of the Central Meeting Space area (see discussion on Section 404 above) is allowable under the exceptions of 708.2.7.
 - All shaft enclosures which connect four or more stories are to be 2-hour construction (Section 708.4). This will apply to all plumbing shafts and stairwells.
 - The elevator hoistway is to be constructed with the same 2-hour shaft enclosure requirements (Section 708.14). See 715 below for opening requirements.
 - An enclosed elevator lobby is not required (Section 708.14.1, exception 4).
- Fire Partitions (Section 709).

- Fire partitions are required for all walls separating dwelling units (Manager's Apartment), and sleeping units (see Section 420, above).
- Fire partitions are required to be ½ hour rated since the building has an automatic sprinkler and type IIB construction (709.3)
- Fireblocking or draftstopping at the partition line where the fire partition line does not extend to the slab or roof deck/rated ceiling assembly above are not required since the building has a sprinkler system and the construction is non-combustible (709.4 Exception 6).
- Horizontal Assemblies (Section 712)
 - Rated horizontal assemblies are required for ceilings separating dwelling units (Manager's Apartment), and sleeping units (see Section 420, above).
 - Rated horizontal assemblies are required to be ½ hour rated since the building has an automatic sprinkler and type IIB construction (712.3)
 - Access doors in the rated horizontal assembly are allowed if they are tested in accordance with ASTM E 119 or UL 263 (712.3.2).
- Penetrations (Section 713). Penetrations through rated assemblies will comply with Section 713.
- Fire-Resistant Joint Systems (Section 714). Joints in rated assemblies will comply with Section 714.
- Opening Protections.
 - Fire doors into the ½-hour-rated sleeping and dwelling areas are required to have a 1/3 hour rating (Table 715.4).
 - Openings into the 2-hour-rated elevator hoistway (see 708.14 above) and stairways are to be protected with a 1-1/2-hour-rated fire door or shutter (Table 715.4). The doors or shutters are to be automatically smoke activated as per 715.4.8.3 (Section 708.7).
 - Fire-protection-rated glazing in 1-1/2-hour-rated doors cannot exceed 100 square inches (715.4.7.1.2). ??
- Duct and Air Transfer Openings. Ducts that penetrate the rated assemblies will comply with Section 716.
- Fireblocking. Wall and partition construction will be non-combustible so fireblocking and draftstopping is not required (Section 717.2 & 717.3).

Interior Finishes (Chapter 8)

- Interior finishes are to be Class C in all locations (Table 803.9).

Fire Protection Systems (Chapter 9)

- An automatic sprinkler system is to be provided as per Section 903.
- Portable fire extinguishers are to be provided as per Section 906.
- A fire alarm system will be provided as per Section 907.
- Fire department connections will be provided as per Section 912.
- Emergency responder safety features will be provided as per Section 914.

Means of Egress (Chapter 10)

- Occupant Load (Table 1004.1.1).

Floor 1

Mechanical, Storage and Equipment Rooms: 1,132sf / 300sf	4 occupants
Lobby/Gathering, (A-3, accessory to R-2): 473sf / 15sf	32 occupants
Remaining Floor 1: 790sf / 50sf	16 occupants
Total, Floor 1	52 occupants

Floor 2

Laundry, Lounge, (A-3, accessory to R-2): 277sf / 15sf	19 occupants
Remaining Floor 4: 216sf / 50sf	84 occupants
Total, Floor 2	103 occupants

Floor 3

Central Meeting, Sitting, Kitchen, WC (A-3): 1,626sf / 15sf	108 occupants
Remaining Floor 3: 867sf / 50sf	57 occupants
Total, Floor 3	165 occupants

Floor 4

Seminar, (A-3, accessory to R-2): 612sf / 15sf	41 occupants
Remaining Floor 4: 3,518sf / 50sf	70 occupants
Total, Floor 4	111 occupants

Building Total, Phase I **431 occupants**

- Egress Width (1005). The location with the highest occupant load is the central stair located on Floor 3. In this location, the stair will take half of the 165 occupants shown above as well as 29 occupants from the future Phase II giving a total of 122.
 - Minimum Stair Width: $112 \times 0.3 \text{ inches} = 33.6 \text{ inches}$. Note that 48" minimum width requirement for exit stairs does not apply to buildings with automatic sprinklers (1007.3, exception 2).
 - Minimum Other Component Width: $112 \times 0.2 \text{ inches} = 22.4 \text{ inches}$
- Accessible Means of Egress
 - Two accessible means of egress will be required (1007.1). Where the exit discharge does not connect to a public way (at the east stair), an exterior area for assisted rescue must be provided that complies with 1007.7 (1007.2, exception 1).
 - Areas of Refuge are not required since the building has an automatic sprinkler system (1007.3, exception 3; 1007.4, exception 2).
- Doors not part of the means of egress (or in the accessible suites, see ADA analysis), are not required to meet 32" width requirements (1008.1.1, exception 4).
- Stair landings are to be 44" wide, minimum. The door swing cannot reduce this width to below 22" (1008.1.6).
- Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to

one or the other and provide a disenable path of egress to an exit (1014.2). "The intent... is not that the accessory space be limited to the 10-percent area in Section 508.2.1, but that the spaces be interrelated so that doors between the spaces will not risk being blocked or locked" (Commentary, page 10-101).

- Common path of egress travel is limited to 125' in R-2 occupancies with an automatic sprinkler.
- Two Exits (Table 1015.1)
 - Two exits are required in A-3 spaces when the occupancy is greater than 49.
 - Two exits are required in R-2 spaces when the occupancy is greater than 10.
 - Separation distance between exits is 1/3 the diagonal dimension of the space (1015.2.1, exception 2).
 - Two exits are not required from Boiler Rooms under 500 sf (1015.3).
- Corridors
 - Corridors serving more than 10 occupants in an R-2 occupancy are required to be ½-hour rated (Table 108.1).
 - Minimum corridor width is to be 44" (1018.2).
 - Where more than one exit is required, there cannot be any dead ends in the corridor more than 50' in length (1018.4, exception 2).
- Corridors
 - Corridors serving more than 10 occupants in an R-2 occupancy are required to be ½-hour rated (Table 108.1).
- Exit Enclosures
 - Exit enclosures serving four or more stories are required to be 2-hour rated (1022.1).
 - Exit enclosures must lead directly to the exterior or to an exit passageway (1022.1). See 1027.1 below.
 - Where the exterior wall enclosure of an exit enclosure is unrated, any adjacent exterior wall at an angle of less than 180-degrees must have a 1-hour rating (1022.6).
 - A stairway in an exit enclosure cannot continue past its level of discharge without an approved barrier (1022.7).
 - Identification signage is required (1022.8).
- Exit Discharge
 - Exits shall discharge directly to the exterior of the building, except:
 - 50% of required exists may egress through areas on the level of discharge (1027.1, exception 1). See section for specific requirements.