

SECTION 329300 - PLANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Plant materials.
2. Mulches.

1.2 PREINSTALLATION MEETINGS

- ##### A. Preinstallation Conference: Conduct conference at Project site .

1.3 ACTION SUBMITTALS

- ##### A. Product data.
- ##### B. Samples of each type of mulch.

1.4 INFORMATIONAL SUBMITTALS

- ##### A. Product certificates.
- ##### B. Sample warranty.

1.5 CLOSEOUT SUBMITTALS

1.6 QUALITY ASSURANCE

- ##### A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of plants.
1. Installer's Field Supervision: Maintain an experienced full-time supervisor on Project site when work is in progress.
 2. Pesticide Applicator: State licensed, commercial.

1.7 WARRANTY

- ##### A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.

PART 2 - PRODUCTS

2.1 MULCHES

- A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:
 - 1. Type: Shredded hardwood .
 - 2. Size Range: 3 inches maximum, 1/2 inch minimum .
 - 3. Color: Natural.

PART 3 - EXECUTION

3.1 PLANTING AREA ESTABLISHMENT

- A. Placing Planting Soil: Blend planting soil in place .
- B. Before mulching, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.2 EXCAVATION FOR TREES AND SHRUBS

- A. Backfill Soil: Subsoil and topsoil removed from excavations may not be used as backfill soil unless otherwise indicated.

3.3 GROUND COVER AND PLANT PLANTING

- A. Use planting soil for backfill.

3.4 INSTALLATION OF MULCHES

- A. Mulch backfilled surfaces of planting areas and other areas indicated.
 - 1. Organic Mulch in Planting Areas: Apply 2-inch average thickness of organic mulch over whole surface of planting area, and finish level with adjacent finish grades. Do not place mulch within 3 inches of trunks or stems.

3.5 CLEANING AND PROTECTION

- A. Maintain protection during installation and until time of Final Acceptance.

END OF SECTION 329300

FORM OF PROPOSAL

North Carolina State University Brooks Hall

Phase I - Renovations

Contract: _____

Bidder: _____

SCO#22-25338-02A

NCSU# 20222002

Date: _____

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The bidder further declares that he has examined the site of the work and the contract documents relative thereto, and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed. The bidder further declares that he and his subcontractors have fully complied with NCGS 64, Article 2 in regards to E-Verification as required by Section 2.(c) of Session Law 2013-418, codified as N.C. Gen. Stat. § 143-129(j).

The Bidder proposes and agrees if this proposal is accepted to contract with the State of North Carolina through the North Carolina State University in the form of contract specified below, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of North Carolina State University Brooks Hall – Phase I Renovations in full in complete accordance with the plans, specifications and contract documents, to the full and entire satisfaction of the State of North Carolina, and North Carolina State university with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and the contract documents, for the sum of:

SINGLE PRIME CONTRACT:

Base Bid:

_____ Dollars(\$)

General Subcontractor:

_____ Lic _____

Plumbing Subcontractor:

_____ Lic _____

Mechanical Subcontractor:

_____ Lic _____

Electrical Subcontractor:

_____ Lic _____

GS143-128(d) requires all single prime bidders to identify their subcontractors for the above subdivisions of work. A contractor whose bid is accepted shall not substitute any person as subcontractor in the place of the subcontractor listed in the original bid, except (i) if the listed subcontractor's bid is later determined by the contractor to be non-responsible or non-responsive or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work, or (ii) with the approval of the awarding authority for good cause shown by the contractor.

ALTERNATES:

Should any of the alternates as described in the contract documents be accepted, the amount written below shall be the amount to be "added to" or the base bid.

ADD ALT 01.

ADD ALT Bid: Dollars(\$)

ADD ALT 02.

ADD ALT Bid: Dollars(\$)

DEDUCT ALT 03.

ADD ALT Bid: Dollars(\$)

DEDUCT ALT 04.

ADD ALT Bid: Dollars(\$)

ADD ALT 05.

ADD ALT Bid: Dollars(\$)

ADD ALT 06.

ADD ALT Bid: Dollars(\$)

ADD ALT 07.

ADD ALT Bid: Dollars(\$)

ADD ALT 08.

ADD ALT Bid: Dollars(\$)

MINORITY BUSINESS PARTICIPATION REQUIREMENTS

Provide with the bid - Under GS 143-128.2(c) the undersigned bidder shall identify **on its bid** (Identification of Minority Business Participation Form) the minority businesses that it will use on the project with the total dollar value of the bids that will be performed by the minority businesses. **Also** list the good faith efforts (Affidavit **A**) made to solicit minority participation in the bid effort.

NOTE: A contractor that performs all of the work with its own workforce may submit an Affidavit (**B**) to that effect in lieu of Affidavit (**A**) required above. The MB Participation Form must still be submitted even if there is zero participation.

After the bid opening - The Owner will consider all bids and alternates and determine the lowest responsible, responsive bidder. Upon notification of being the apparent low bidder, the bidder shall then file within 72 hours of the notification of being the apparent lowest bidder, the following:

An Affidavit (**C**) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the 10% goal established. This affidavit shall give rise to the presumption that the bidder has made the required good faith effort and Affidavit **D** is not necessary;

*** OR ***

If less than the 10% goal, Affidavit (**D**) of its good faith effort to meet the goal shall be provided. The document must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations and other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract.

Note: Bidders must always submit **with their bid** the Identification of Minority Business Participation Form listing all MB contractors, vendors and suppliers that will be used. If there is no MB participation, then enter none or zero on the form. Affidavit A **or** Affidavit B, as applicable, also must be submitted with the bid. Failure to file a required affidavit or documentation with the bid or after being notified apparent low bidder is grounds for rejection of the bid.

Proposal Signature Page

The undersigned further agrees that in the case of failure on his part to execute the said contract and the bonds within ten (10) consecutive calendar days after being given written notice of the award of contract, the certified check, cash or bid bond accompanying this bid shall be paid into the funds of the owner's account set aside for the project, as liquidated damages for such failure; otherwise the certified check, cash or bid bond accompanying this proposal shall be returned to the undersigned.

Respectfully submitted this day of _____

(Name of firm or corporation making bid)

WITNESS:

(Proprietorship or Partnership)

By: _____
Signature

Name: _____
Print or type

Title _____
(Owner/Partner/Pres./V.Pres)

Address _____

ATTEST:

By: _____

Title: _____
(Corp. Sec. or Asst. Sec. only)

License No. _____

Federal I.D. No. _____

Email Address: _____

(CORPORATE SEAL)

Addendum received and used in computing bid:

Addendum No. 1 _____ Addendum No. 3 _____ Addendum No. 5 _____ Addendum No. 6 _____

Addendum No. 2 _____ Addendum No. 4 _____ Addendum No. 6 _____ Addendum No. 7 _____

State of North Carolina AFFIDAVIT A – Listing of Good Faith Efforts

County of _____

(Name of Bidder)

Affidavit of _____

I have made a good faith effort to comply under the following areas checked:

Bidders must earn at least 50 points from the good faith efforts listed for their bid to be considered responsive. (1 NC Administrative Code 30 I.0101)

- ☐ **1 – (10 pts)** Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
- ☐ **2 --(10 pts)** Made the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bids are due.
- ☐ **3 – (15 pts)** Broken down or combined elements of work into economically feasible units to facilitate minority participation.
- ☐ **4 – (10 pts)** Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- ☐ **5 – (10 pts)** Attended prebid meetings scheduled by the public owner.
- ☐ **6 – (20 pts)** Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- ☐ **7 – (15 pts)** Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- ☐ **8 – (25 pts)** Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.
- ☐ **9 – (20 pts)** Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.
- ☐ **10 - (20 pts)** Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

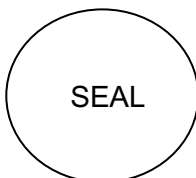
The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d) Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

**State of North Carolina --AFFIDAVIT B-- Intent to Perform Contract
with Own Workforce.**

County of _____

Affidavit of _____

(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the _____

_____ contract.

(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type project, and normally performs and has the capability to perform and will perform all elements of the work on this project with his/her own current work forces; and

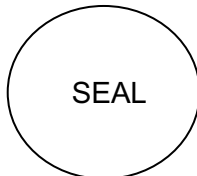
The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement. The Bidder agrees to make a Good Faith Effort to utilize minority suppliers where possible.

The undersigned hereby certifies that he or she has read this certification and is authorized to bind the Bidder to the commitments herein contained.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

State of North Carolina - AFFIDAVIT C - Portion of the Work to be Performed by HUB Certified/Minority Businesses

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the portion of the work to be executed by HUB certified/minority businesses as defined in GS143-128.2(g) and 128.4(a),(b),(e) is equal to or greater than 10% of the bidders total contract price, then the bidder must complete this affidavit.

This affidavit shall be provided by the apparent lowest responsible, responsive bidder within **72 hours** after notification of being low bidder.

Affidavit of _____ I do hereby certify that on the _____
(Name of Bidder)

Project ID# _____ (Project Name) Amount of Bid \$ _____

I will expend a minimum of _____ % of the total dollar amount of the contract with minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below. Attach additional sheets if required

Name and Phone Number	*Minority Category	**HUB Certified Y/N	Work Description	Dollar Value

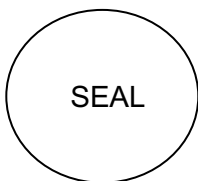
*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

**** HUB Certification with the state HUB Office required to be counted toward state participation goals.**

Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____



Signature: _____

Title: _____

State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

State of North Carolina AFFIDAVIT D – Good Faith Efforts

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the goal of 10% participation by HUB Certified/ minority business **is not** achieved, the Bidder shall provide the following documentation to the Owner of his good faith efforts:

Affidavit of _____ I do hereby certify that on the
(Name of Bidder)

Project ID# _____ (Project Name) Amount of Bid \$ _____

I will expend a minimum of _____% of the total dollar amount of the contract with HUB certified/ minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below. (Attach additional sheets if required)

Name and Phone Number	*Minority Category	**HUB Certified Y/N	Work Description	Dollar Value

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

**** HUB Certification with the state HUB Office required to be counted toward state participation goals.**

Examples of documentation that may be required to demonstrate the Bidder's good faith efforts to meet the goals set forth in these provisions include, but are not necessarily limited to, the following:

- Copies of solicitations for quotes to at least three (3) minority business firms from the source list provided by the State for each subcontract to be let under this contract (if 3 or more firms are shown on the source list). Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contact, and location, date and time when quotes must be received.
- Copies of quotes or responses received from each firm responding to the solicitation.
- A telephone log of follow-up calls to each firm sent a solicitation.
- For subcontracts where a minority business firm is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.
- Documentation of any contacts or correspondence to minority business, community, or contractor organizations in an attempt to meet the goal.
- Copy of pre-bid roster
- Letter documenting efforts to provide assistance in obtaining required bonding or insurance for minority business.
- Letter detailing reasons for rejection of minority business due to lack of qualification.
- Letter documenting proposed assistance offered to minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

Failure to provide the documentation as listed in these provisions may result in rejection of the bid and award to the next lowest responsible and responsive bidder.

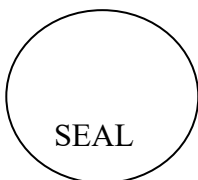
Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS THAT _____

_____ as principal, and _____, as surety, who is duly licensed to act as surety in North Carolina, are held and firmly bound unto the State of North Carolina* through _____ as obligee, in the penal sum of _____ DOLLARS, lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Signed, sealed and dated this ____ day of ____ 20__

WHEREAS, the said principal is herewith submitting proposal for
and the principal desires to file this bid bond in lieu of making
the cash deposit as required by G.S. 143-129.

NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION is such, that if the principal shall be awarded the contract for which the bid is submitted and shall execute the contract and give bond for the faithful performance thereof within ten days after the award of same to the principal, then this obligation shall be null and void; but if the principal fails to so execute such contract and give performance bond as required by G.S. 143-129, the surety shall, upon demand, forthwith pay to the obligee the amount set forth in the first paragraph hereof. Provided further, that the bid may be withdrawn as provided by G.S. 143-129.1

_____(SEAL)

_____(SEAL)

_____(SEAL)

_____(SEAL)

_____(SEAL)

*(Community college projects: Delete State of North Carolina as owner and replace with community college name.)

FORM OF CONSTRUCTION CONTRACT

(ALL PRIME CONTRACTS)

THIS AGREEMENT, made the _____ day of _____ in the year of
20__ by _____ and _____ between _____

hereinafter called the Party of the First Part and the *State of North Carolina, through
the _____

_____ hereinafter called
the Party of the Second Part.

WITNESSETH:

That the Party of the First Part and the Party of the Second Part for the
consideration herein named agree as follows:

1. Scope of Work: The Party of the First Part shall furnish and deliver all of the
materials, and perform all of the work in the manner and form as provided by the following
enumerated plans, specifications and documents, which are attached hereto and made a
part thereof as if fully contained herein: advertisement; Instructions to Bidders; General
Conditions; Supplementary General Conditions; specifications; accepted proposal;
contract; performance bond; payment bond; power of attorney; workmen's compensation;
public liability; property damage and builder's risk insurance certificates; approval of
attorney general; certificate by the Office of State Budget and Management, and drawings,
titled:

Consisting of the following sheets: _____

Dated: _____ and the following addenda:

Addendum No. _____ Dated: _____ Addendum No. _____ Dated: _____

Addendum No. _____ Dated: _____ Addendum No. _____ Dated: _____

Addendum No. _____ Dated: _____ Addendum No. _____ Dated: _____

Addendum No. _____ Dated: _____ Addendum No. _____ Dated: _____

2. That the Party of the First Part shall commence work to be performed under this
agreement on a date to be specified in a written order of the Party of the Second Part and
shall fully complete all work hereunder within _____ consecutive calendar days

from said date. For each day in excess thereof, liquidated damages shall be as stated in Supplementary General Conditions. The Party of the First Part, as one of the considerations for the awarding of this contract, shall furnish to the Party of the Second Part a construction schedule setting forth planned progress of the project broken down by the various divisions or part of the work and by calendar days as outlined in Article 14 of the General Conditions of the Contract.

3. The Party of the Second Part hereby agrees to pay to the Party of the First Part for the faithful performance of this agreement, subject to additions and deductions as provided in the specifications or proposal, in lawful money of the United States as follows:

(\$ _____).

Summary of Contract Award:

4. In accordance with Article 31 and Article 32 of the General Conditions of the Contract, the Party of the Second Part shall review, and if approved, process the Party of the First Party's pay request within 30 days upon receipt from the Designer. The Party of the Second Part, after reviewing and approving said pay request, shall make payments to the Party of the First Part on the basis of a duly certified and approved estimate of work performed during the preceding calendar month by the First Party, less five percent (5%) of the amount of such estimate which is to be retained by the Second Party until all work has been performed strictly in accordance with this agreement and until such work has been accepted by the Second Party. The Second Party may elect to waive retainage requirements after 50 percent of the work has been satisfactorily completed on schedule as referred to in Article 31 of the General Conditions.

5. Upon submission by the First Party of evidence satisfactory to the Second Party that all payrolls, material bills and other costs incurred by the First Party in connection with the construction of the work have been paid in full, final payment on account of this agreement shall be made within thirty (30) days after the completion by the First Party of all work covered by this agreement and the acceptance of such work by the Second Party.

6. It is further mutually agreed between the parties hereto that if at any time after the execution of this agreement and the surety bonds hereto attached for its faithful performance, the Second Party shall deem the surety or sureties upon such bonds to be unsatisfactory, or if, for any reason, such bonds cease to be adequate to cover the performance of the work, the First Party shall, at its expense, within five (5) days after the receipt of notice from the Second Party so to do, furnish an additional bond or bonds in such form and amount, and with such surety or sureties as shall be satisfactory to the Second Party. In such event no further payment to the First Party shall be deemed to be due under this agreement until such new or additional security for the faithful performance of the work shall be furnished in manner and form satisfactory to the Second Party.

7. The Party of the First Part attest that it and all of its subcontractors have fully complied with all requirements of NCGS 64 Article 2 in regards to E-Verification as required by Section 2.(c) of Session Law 2013-418, codified as N.C. Gen. Stat. § 143-129(j).

IN WITNESS WHEREOF, the Parties hereto have executed this agreement on the day and date first above written in _____ counterparts, each of which shall without proof or accounting for other counterparts, be deemed an original contract.

Witness:

Contractor: (Trade or Corporate Name)

(Proprietorship or Partnership)

By: _____

Title: _____
(Owner, Partner, or Corp. Pres. or Vice Pres. only)

Attest: (Corporation)

By: _____

Title: _____
(Corp. Sec. or Asst. Sec. only)

The State of North Carolina through*

(CORPORATE SEAL)

(Agency, Department or Institution)

Witness:

By: _____

Title: _____

FORM OF PERFORMANCE BOND

Date of Contract: _____

Date of Execution: _____

Name of Principal
(Contractor) _____

Name of Surety: _____

Name of Contracting
Body: _____

Amount of Bond: _____

Project _____

KNOW ALL MEN BY THESE PRESENTS, that we, the principal and surety above named, are held and firmly bound unto the above named contracting body, hereinafter called the contracting body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind, ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the contracting body, identified as shown above and hereto attached:

NOW, THEREFORE, if the principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the contracting body, with or without notice to the surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in _____ counterparts.

Witness:

(Proprietorship or Partnership)

Attest: (Corporation)

By: _____

Title: _____
(Corp. Sec. or Asst. Sec. only)

(Corporate Seal)

Witness:

Countersigned:

(N.C. Licensed Resident Agent)

Name and Address-Surety Agency

Surety Company Name and N.C.
Regional or Branch Office Address

Contractor: (Trade or Corporate Name)

By: _____

Title: _____
(Owner, Partner, or Corp. Pres. or Vice
Pres. only)

(Surety Company)

By: _____

Title: _____
(Attorney in Fact)

(Surety Corporate Seal)

FORM OF PAYMENT BOND

Date of Contract: _____

Date of Execution: _____

Name of Principal
(Contractor) _____

Name of Surety: _____

Name of Contracting
Body: _____

Amount of Bond: _____

Project _____

KNOW ALL MEN BY THESE PRESENTS, that we, the principal and surety above named, are held and firmly bound unto the above named contracting body, hereinafter called the contracting body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the contracting body identified as shown above and hereto attached:

NOW, THEREFORE, if the principal shall promptly make payment to all persons supplying labor/material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in _____ counterparts.

Witness:

(Proprietorship or Partnership)

Attest: (Corporation)

By: _____

Title: _____
(Corp. Sec. or Asst. Sec.. only)

(Corporate Seal)

Witness:

Countersigned:

(N.C. Licensed Resident Agent)

Name and Address-Surety Agency

Surety Company Name and N.C.
Regional or Branch Office Address

Contractor: (Trade or Corporate Name)

By: _____

Title _____
(Owner, Partner, or Corp. Pres. or Vice
Pres. only)

(Surety Company)

By: _____

Title: _____
(Attorney in Fact)

(Surety Corporate Seal)

Sheet for Attaching Power of Attorney

Sheet for Attaching Insurance Certificates

APPROVAL OF THE ATTORNEY GENERAL

**CERTIFICATION BY THE OFFICE OF STATE
BUDGET AND MANAGEMENT**

Provision for the payment of money to fall due and payable by the

under this agreement has been provided for by allocation made and is available for the purpose of carrying out this agreement.

This _____ day of _____ 20____.

Signed _____
Budget Officer

STATE OF NORTH CAROLINA
COUNTY SALES AND USE TAX REPORT
SUMMARY TOTALS AND CERTIFICATION

CONTRACTOR: _____

Page 1 of _____

PROJECT: _____

FOR PERIOD: _____

	TOTAL FOR COUNTY OF:	TOTAL FOR COUNTY OF:	TOTAL FOR COUNTY OF:	TOTAL FOR COUNTY OF:	TOTAL FOR COUNTY OF:	TOTAL FOR COUNTY OF:	TOTAL ALL COUNTIES
CONTRACTOR							
SUBCONTRACTOR(S)*							
COUNTY TOTAL							

* Attach subcontractor(s) report(s)

** Must balance with Detail Sheet(s)

I certify that the above figures do not include any tax paid on supplies, tools and equipment which were used to perform this contract and only includes those building materials, supplies, fixtures and equipment which actually became a part of or annexed to the building or structure. I certify that, to the best of my knowledge, the information provided here is true, correct, and complete.

Sworn to and subscribed before me,

This the _____ day of _____, 20____

Signed

Notary Public

My Commission Expires: _____

Print or Type Name of Above

Seal

NOTE:
This certified statement may be subject to audit.

STATE OF NORTH CAROLINA SALES AND USE TAX REPORT DETAIL

CONTRACTOR: _____

Page 2 of

SUBCONTRACTOR _____

FOR PERIOD: _____

PROJECT: _____

PURCHASE DATE	VENDOR NAME	INVOICE NUMBER	TYPE OF PROPERTY	INVOICE TOTAL	COUNTY TAX PAID	COUNTY OF SALE *
				\$	\$	
				TOTAL:	\$	

* If this is an out-of-state vendor, the County of Sale should be the county to which the merchandise was shipped.

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[Designer shall incorporate this document into the specification in its entirety.]

Safety Measures pertaining to COVID-19 Transmission

North Carolina State University is committed to preventing transmission of COVID-19 in our community. Safety protocols have been implemented throughout the university for faculty, staff, and students to prevent the spread of COVID-19. These protocols were developed based on guidance from the Centers for Disease Control and Prevention, the Occupational Safety and Health Administration, and the State of North Carolina. Contractors shall comply with any NC State, federal, state, or local mandates relative to the pandemic. The most stringent requirement shall be enforced, including those established by any contractor's corporate policy in place.

Face Coverings – Student Health Services and CVM Areas

Face coverings must be worn, tightly covering the mouth and nose, inside all buildings (even those under construction). Until further notice, NC State Student Health Services and the College of Veterinary Medicine (CVM) will require face coverings to be worn by contractors while indoors in any facility until further notice. Minimum expectation is that face coverings must be properly worn at all times while indoors; face coverings may be removed only while eating and/or drinking.

1.0 Purpose

- A. The purpose of this guideline is to define NC State contractor safety requirements. This guideline is intended to be a supplement to the General Conditions of the contract.
- B. The Designer shall incorporate this document into the Project Manual in its entirety.
- C. Contractors and subcontractors are responsible for the safety of their employees and all persons on and around a work site. Contractors are solely responsible for the development and implementation of their safety programs. This document does not relieve the duty and responsibility of contractors, subcontractors, their agents, employees, and other persons performing portions of the work on a project to comply with federal, state, and/or local laws or regulations that relate to work site safety.

2.0 Scope

- A. This document provides contractors with the University's specific requirements that must be incorporated into the contractor's Site-Specific Safety Plan. This document is not designed or intended to replace the contractor's safety program, nor to address every possible safety, environmental, or health hazard associated with the contractor's work. In the event that the contractor's safety program includes a requirement or practice that is more stringent than set forth herein, the more stringent shall be followed. This document does not relieve the contractor of this obligation to: (1) control the means and methods by which its employees, and any subcontractors perform work, and (2) independently ascertain what health and safety practices are necessary for the performance of the work.

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- B. No specific requirements herein shall be construed to limit, replace or supersede applicable provisions of federal, state, or local laws or regulations. [Occupational Safety and Health Administration \(OSHA\) Regulations; Standard Number 29 CFR 1926](#) are the foundation of these Guidelines.
- C. Deliverables
 - 1. Competent Person Designation (see attached form) (4.0/C)
 - 2. Verification of OSHA 30 or OSHA 10 compliance, based on project requirements. (4.0/D/1/b)
 - 3. Contractor Site Specific Safety Plan (SSSP). (4.0/I)
 - 4. Summary of the Daily Safety Inspections documented as part of regular project meeting minutes. (4.0/F/1)
 - 5. Monthly Safety Reports. (4.0/F/2)

3.0 Reference Materials

- A. The following reference materials are required to be available upon request at every job site:
 - 1. OSHA Regulations published by NC Department of Labor (DOL) (Available at: (800) NC-LABOR, <http://www.nclabor.com/pubs.htm>).
 - 2. Safety Data Sheets (SDS) for all chemical products the contractor has brought to the worksite.
 - 3. The written Safety Plan of the Contractor or Subcontractor.
 - 4. Site inspection documentation.
 - 5. Worksite employee training records.
 - 6. Mishap reports and investigations.

4.0 General Responsibilities

- A. The contractor must notify the NC State Project Manager in writing at least 10 days prior to:
 - 1. Utilizing powder-actuated tools
 - 2. Starting operations that will produce excessive odor, dust, noise affecting occupied buildings or work near air intakes
 - 3. Using a combustion engine indoors
 - 4. Using a mobile crane or tower crane (50-day notice is required)
 - 5. Breaking ground for an excavation or trench
 - 6. Using a laser
 - 7. Using any source of radioactive material
 - 8. Working with lead or asbestos containing materials
 - 9. Performing energized electrical work
 - 10. Working on or near active underground utility infrastructure (steam, chilled water, natural gas, water, etc.)
 - 11. Entering electrical distribution assets

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Violation of any safety, security, or environmental requirement may result in the permanent removal of the contractor or their employees from the NC State premises.

B. Construction Management

1. Contractor is responsible for compliance with all federal, state, and local laws, regulations, standards, executive orders, etc. applicable in part or whole pertaining to the scope of work.
2. Contractors are responsible for compliance with all applicable NC State safety practices, procedures, policies, standards, and requirements.
3. Contractors are responsible for providing qualified and competent personnel to perform activities under the scope of work. Contractors must provide documentation of training prior to beginning work on-site.
4. Contractors are responsible for ensuring that subcontractors, their agents, employees, visitors, and other persons performing portions of the work on a project comply with federal, state, and/or local laws or regulations that relate to work site safety.
5. Contractors are responsible for ensuring that subcontractors are informed of and comply with all applicable requirements within the scope of work.

C. Competent Person Designation

1. Contractors shall designate a competent person for activities as specified in OSHA 29 CFR 1926. Such activities include, but are not limited to, the following activities, as applicable to the job:
 - a) general provisions
 - b) ionizing/non-ionizing radiation
 - c) gases, vapors, fumes, mists, dusts
 - d) ventilation
 - e) hazard communication
 - f) lead
 - g) asbestos
 - h) personal protective equipment
 - i) hearing conservation
 - j) respiratory protection
 - k) rigging and material handling equipment
 - l) welding, cutting, brazing
 - m) electrical
 - n) scaffold
 - o) fall protection
 - p) cranes (overhead and mobile)
 - q) motor vehicles and equipment
 - r) excavations
 - s) concrete and masonry
 - t) steel erection
 - u) demolition

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- v) stairways and ladders
 - w) toxic and hazardous substances.
 - 2. OSHA 29 CFR 1926.32(f) "Competent person" means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
- D. Contractor Safety Personnel
 - 1. Safety Representative
 - a) For all projects contractors must designate a Safety Representative prior to the start of the project. The Safety Representative may be the Project Superintendent, and as such, must be onsite during any and all construction operations.
 - b) **For projects bid through Capital Project Management, the Safety Representative must have completed, at a minimum, an OSHA 30-hour Construction Safety Course. For projects bid through Construction Services, the safety representative must have completed, at a minimum, an OSHA 10-hour Construction Safety Course.**
 - c) The Safety Representative must actively monitor the jobsite for safety issues on a daily basis. The safety representative may have additional site duties outside the scope of safety; when the safety representative is not on the project site, a competent designee must be assigned to monitor safety on the site.
 - 2. Safety Professional
 - a) When appropriate, the contractor shall provide a full-time safety professional assigned to the project. The duties of the full-time safety professional must be strictly limited to safety-related activities, with no additional job site duties.
 - b) Safety professionals must have one or more of the following credentials: a professional certification (beyond an OSHA 30-hour course), a college or professional degree related to safety and health, or significant previous experience and skills necessary to thoroughly understand the health and safety hazard and controls relevant to the project. The designation and adequacy of qualifications of the full-time safety professional shall be reviewed and accepted by the University prior to commencement of the work.
 - c) Project-specific requirements for a full-time safety professional will be addressed in the contract documents and discussed during the Pre-Bid Meeting.
- E. Daily Pre-Job Meetings.
 - 1. A pre-job meeting (i.e. "Tailgate" or "toolbox" meeting) shall be held at the beginning of each work period (normally in the morning before leaving the yard or work staging area). The pre-job meeting should include a discussion of the scope of work to be completed, associated hazards, and means and methods to mitigate the hazards. The pre-job meeting must be led by the supervisor or other competent person.
- F. Safety Inspections.
 - 1. Daily Inspections: The Contractor shall perform daily job inspections and correct any unsafe conditions or actions. A summary of these inspections will be reviewed as a

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- portion of and captured in the minutes of the weekly Owner, Designer, Contractor job meetings.
2. Monthly Inspections: For projects with a duration of more than one calendar month (4 weeks), the safety inspection must be documented and include, at a minimum, the name of the person performing the inspection, the date, a checklist of items observed, any identified safety concerns, and actions taken to address identified concerns.
 3. University Project Visits: The NC State Project Manager, or other owner representative, may perform unscheduled visits to project sites to address adherence to the Contractor Safety Requirements or Site-Specific Safety Plans. Any safety concerns identified will be reported to the responsible contractor for prompt mitigation.
- G. Mishap Reporting: All mishaps occurring on the project site must be investigated to determine causes and actions must be taken to prevent recurrence. Mishaps resulting in injury requiring medical treatment or damage to NC State property must be reported in writing to the NC State Project Manager as soon as possible but no later than 24 hours from occurrence; the Project Manager shall be notified immediately of mishaps resulting in life-threatening injury.
- H. The Contractor shall address safety concerns at regularly scheduled meetings with subcontractors.
- I. Contractor Site-Specific Safety Plan - The Contractor must develop and implement a Site-Specific Safety Plan (SSSP) The SSSP is a comprehensive safety plan for his or her employees, which covers all aspects of onsite construction operations and activities associated with the contract. This plan must comply with all applicable health and safety regulations and any project-specific requirements. The Safety Plan must be submitted to, reviewed and accepted by NC State prior to beginning any on-site work activities.
1. As applicable to the project, these items must be included in the Safety Plan:
 - a) Scope of Work
 - b) Emergency Procedures
 - c) 24-hour emergency points of contact
 - d) Identification of Designated Competent On-Site Personnel (per OSHA requirements)
 - e) Designated On-Site Safety Personnel
 - f) Safety orientation program
 - g) Site logistics Plan: address public (student, faculty, staff, visitor) safety, traffic plan, equipment and lay-down areas, site security, dust containment, etc.
 - h) Minimum PPE requirements
 - i) Hazard Assessment (for defined project tasks) - include hazard identification and mitigation
 - j) Mishap reporting and investigation procedures
 - k) Safety inspection/audit procedures
 - l) Sub-contractor requirements

5.0 General Requirements

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- A. Asbestos - If asbestos-containing materials are uncovered during construction, NC State must be notified *immediately*. Do *not* attempt to remove the material. Contractors shall comply with provision of the [State Construction Office Asbestos Abatement Guidelines and Policies](#) and the [NC State Asbestos Management Plan](#).
 - 1. If asbestos containing material is present in any building material and is in good condition (i.e. non-friable) and will not be disturbed during construction, the material may be left in place. If asbestos containing material is disturbed during construction activities, then it shall be removed; removal shall be performed by appropriately qualified and accredited personnel and in accordance with federal, state and local regulations.
- B. Compressed Gas Cylinders
 - 1. Compressed gas cylinders shall be properly used, stored, and maintained as per federal, state, and local requirements.
 - 2. Cylinders shall not be stored in a location in which they are subject to mobile equipment traffic (including vehicles) unless adequately protected.
- C. Confined Space Entry
 - 1. Contractors required to enter a confined space at NC State must have and implement a written confined space entry program in accordance with OSHA 1926 Subpart AA Confined Spaces in Construction or OSHA 1910.146 permit required confined spaces, as applicable.
 - 2. Controlling contractors (those with overall responsibility for construction at the work site) must ensure space entry coordination when more than one entity will enter the space.
 - 3. Each contractor must have a competent person that will identify confined spaces associated with the scope of their work. Before entry into a permit required confined space, contractors must obtain the following information from the controlling contractor (when there is no controlling contractor, the contractor will obtain the information from the NC State Project Manager):
 - a) The location of each known permit space associated with the project scope;
 - b) The known hazards or potential hazards that make it a permit space;
 - c) Any precautions needed to be taken based on the known hazards or potential hazards.
 - 4. Each contractor performing work in a permit space must perform a hazard assessment specific to the work to be performed and establish corresponding hazard controls.
 - 5. A competent person from each contractor performing work in a permit space must complete and sign [Appendix F](#) to the [NC State Confined Space Entry Program](#).
- D. Contaminated Soil - If soil or any materials appear to be contaminated, the NC State Project Manager must be notified immediately. The NC State Project Manager will contact NC State EHS for assistance (919) 515-7915.
- E. Electrical Power Lines (Overhead) - The contractor shall have a trained and knowledgeable observer (signal person) within sight of the operator and the overhead lines that will effectively provide guidance and clearance information to the operator as the equipment

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may approach the minimum approach distances. Advising the operator shall be the signal person's one and only task. When conducting any work with a crane, derrick or hoist in the vicinity of any overhead electric power transmission or distribution line, the contractor shall observe all clearance requirements dictated by all applicable OSHA rules, as specifically contained within 29 CFR 1910 - Standards for General Industry, CFR 1926 - Standards for Construction, IEEE C2 - NEC, NFPA 70 - NEC, the NCSBC, ANSI standards and other applicable NC State safety guidelines and requirements. Further, no crane, derrick or hoist operator or contractor shall conduct any operation at any distance closer than 20 feet to any electric power line lower than 200 kV or closer than 35 feet to any electric power transmission line at voltages higher than 200 kV and lower than 250 kV, unless the requirements of OSHA 1926 Sub CC for preventing encroachment/electrocution are strictly followed.

- F. Elevators/Material Hoists
 1. Any persons operating elevators/hoists must be trained to do so. Documentation shall be kept onsite.
 2. No elevator/hoist with a defect shall be used.
 3. Elevator/hoist safety devices shall not be overridden or made inoperable.
- G. Emergency Equipment- The following shall not be moved, blocked, disabled or rendered inaccessible unless authorized by NC State:
 1. Fire equipment
 2. First aid equipment, fire blankets, stretchers, eyewash fountains and safety showers
 3. Fire protection, hydrants, and detection systems
- H. Emergency Medical Treatment - To receive immediate assistance for emergency medical treatment call 911.
- I. Environmental and Chemical Requirements
 1. Contractors must provide NC State with a list of all chemicals to be used on NC State property and maintain a copy on site of the SDS for each chemical prior to being brought on site. Each chemical container must be labeled clearly with the identity of the chemical and any associated hazards in accordance with the OSHA Hazard Communication Standard (1910.1200).
 2. Contractors must follow the safety procedures recommended by the manufacturer or seller of any chemicals, tools, equipment, or other materials. Contractors are to remove all empty containers, excess chemicals and chemical waste from NC State property.
 3. For all chemical incidents, contractors shall call 911 and also notify the NC State Project Manager.
- J. Excavation and Trenches - Before doing any excavation work, the Contractor must locate all utilities by calling the local utility locator service and NC State.
- K. Excavations
 1. Underground Facilities Locate. Contractors shall ensure underground installations and facilities are identified by calling 811 (Call Before You Dig) before performing any excavating activity. Note: excavation includes movement or removal of earth, rock, or other materials in or on the ground by use of manual or mechanized equipment. This is

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required for any project with earth-moving activities before you dig so that underground facilities can be identified and avoided. Detailed instructions and requirements can be found at nc811.org.

2. Competent Person. Trench and excavation work must be performed under the direction of a competent person. Responsibilities include: classifying soil, inspecting protective systems, monitoring water removal and conducting site inspections.
 3. Cave-In Protective Systems. A protective system is required by OSHA-1926 Subpart P for trenches and excavations that are 5 feet or more in-depth OR if the competent person has examined the ground and finds indication of a potential cave-in. Protective systems typically include: sloping/benching, shoring or shielding. In order to determine what protective systems are appropriate, the competent person must first determine the soil type: Stable Rock, Type A, Type B or Type C soil. Type C soil is the least cohesive and therefore, the least stable. No work shall be permitted in excavations where water has accumulated unless the integrity of the excavation has been protected.
 4. Excavations >20 feet in depth or which cannot comply with OSHA requirements require written approval by a Registered Professional Engineer (RPE).
 5. A ladder, stairway, ramp or other means of access must be provided within the excavation, when excavations are >4 feet in depth.
 6. Barricades (stop-logs) shall be provided where vehicles or mobile equipment are used near or adjacent to excavations.
 7. Spoil piles must be placed a minimum of 2 feet from the edge of the excavation.
 8. Air monitoring must be performed if the excavation is >4 feet in depth and there is a potential for a hazardous atmosphere to exist.
- L. Exit Routes
1. Exit routes must be maintained at all times during construction.
 2. Lighting and marking must be adequate and appropriate.
 3. Exit routes must be kept free of explosive or highly flammable furnishings.
 4. Exit routes must be free and unobstructed. No materials or equipment may be placed, either permanently or temporarily, within the exit route. The exit access must not go through a room that can be locked, such as a bathroom, to reach an exit or exit discharge, nor may it lead into a dead-end corridor. Stairs or a ramp must be provided where the exit route is not substantially level. No materials shall be stored in a stairwell.
- M. Explosives: Blasting on university property is prohibited.
- N. Fall Prevention. A fall hazard is any condition on a walking-working surface that exposes an employee to a risk of fall on the same level or to a lower level. Examples of fall hazards include, but are not limited to: floor openings, hoist area, roofs, leading edge, scaffolding, ramps, etc.
1. Preventing or protecting falls from height may be necessary at any height given the circumstances, but is required when an employee is at a height of 6 feet or more above a lower level.
 2. Contractor work generally falls within construction industry applications, where acceptable methods depend on the type of work being performed: unprotected sides or

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edges, roof work, leading edge, etc. In all cases, contractors shall comply with the respective OSHA standards.

3. Contractors shall ensure that every employee required to work at unprotected heights (greater than 6 feet) are trained in fall hazard recognition and prevention.
4. **Guardrail System.** A guardrail system provides the highest level of protection and is always preferred. The system must be capable of supporting 200 lbs. in any direction and still maintain its integrity. The individual heights of the components must conform to the following minimum standards:
 - a) The top rail of the system must be at a height of 42" (+ or - 3");
 - b) the mid rail must be at a height of 21" with a 3" variation possible;
 - c) the toe board must have a minimum vertical height of 3.5".

Note: building code has more stringent requirements for permanent installations.

5. **Personal Fall Protection Systems.** At times, it is necessary to work in areas where guardrails cannot be constructed; in these instances, a personal fall protection system must be used. Personal Fall Protection Systems are systems (including all components) that provide protection from falling or that safely arrest a fall. Examples include travel restraint and personal fall arrest. All components of this system shall meet the applicable design requirements as specified in OSHA 1910, 1926, or ANSI Z359. All components shall be inspected by the wearer prior to each use and at least annually by a competent person. No employee may use a personal fall protection system without proper training and an understanding of proper use and safe application of the system.
 - a) **Travel Restraint System.** A travel restraint system is a combination of an anchorage, anchorage connector, lanyard (or other means of connection) and body support that the wearer uses to eliminate the possibility of going over the edge of a walking-working surface. Anchorages for travel restraint systems shall have a strength capable of sustaining static loads of at least 1,000 lbs. (per person) or two times the foreseeable forces for certified anchorages. Anchorage connectors, lanyards (or other means of connection) and body support devices shall be used in accordance with the manufacturer's requirements. The system shall be installed so that a fall cannot occur; therefore, a rescue plan is not required.
 - b) **Personal Fall Arrest System.** A personal fall arrest system is a system used to safely arrest a user in a fall from a walking-working surface. It includes an anchorage, anchorage connector and a full body harness. The means of connection may include a lanyard, deceleration device, lifeline or a suitable combination of these. Equipment must be worn and used in accordance with the manufacturer's requirements. Anchorages for personal fall arrest systems shall have a strength capable of sustaining static loads of at least 5,000 lbs. (per person) or two times the maximum arresting force for certified anchorages. The system shall be installed so that should a fall occur, the wearer will not contact the lower level or any other obstruction. Since there is a potential for a fall to occur, a rescue plan written by a qualified person is required.

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- c) **Warning Line System.** A warning line may be used for construction roofing work when closer to the fall hazard than 15ft, but no closer than 6ft and in conjunction with one of the following: a guardrail system, a safety net system, a personal fall protection system, or a safety monitoring system. A warning line system shall conform to regulatory requirements and enclose all authorized employees conducting work protected by the Warning Line System. Refer to OSHA 1926.502(f).
- O. Fire Protection and Prevention
 - 1. The contractor shall be responsible for the development and maintenance of an effective fire protection and prevention program at the job site throughout all phases of the construction. Contractors shall perform inspections on fire extinguishers monthly. Contractors shall immediately replace fire extinguishers that do not pass inspection.
 - 2. Fire cutoffs shall be retained in buildings undergoing alterations or demolition until operations necessitate their removal.
 - 3. If work requires the disabling of Fire Protection Devices, then the Contractor must request a Fire Alarm Disconnect; through the appropriate NC State process; beginning with the Project Manager. No alarm shall be disabled at any time by the Contractor.
- P. Hand and Power Tools
 - 1. All hand and power tools and similar equipment, whether furnished by the employer or the employee, shall be maintained in a safe condition. Any tool found not in proper working order, or that develops a defect during use, shall be immediately removed from service and not used until properly repaired.
 - 2. All tools shall be used, operated and maintained in accordance with OSHA and manufacturer requirements.
- Q. Hot Work Permits - A Hot Work Permit is required when any indoor or outdoor work will involve hot work, defined as operations including cutting, welding, thermite welding, brazing, soldering, grinding, thermal spraying, thawing pipe, installation of torch-applied roof systems or other similar activities. Requirements for Contractors performing this work are contained in the NC State Hot Work Permit Program that is a part of the specifications package and can also be found at [Hot Work Permit Form](#).
- R. Housekeeping
 - 1. The Contractor must maintain a clean and orderly project job site. The Contractor shall maintain NC State's pathways free of rocks, mud, and other miscellaneous construction debris. The Contractor shall prevent the accumulation of dirt, dust, and/or other debris on NC State's roadways. The Contractor shall clean the travel ways on a daily basis. (Refer to project specifications for requirements.)
 - 2. Waste material and debris must be removed from the work and access areas at least once a day. Waste material and debris should not be thrown from one level to another but should be carried down, lowered in containers or deposited in a disposal chute.
 - 3. Materials must be neatly piled, stacked or otherwise stored to prevent tipping or collapsing. Materials must be carefully stacked and located so they do not block aisles,

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- doors, fire extinguishers, safety showers and eyewash stations, fixed ladders or stairways.
- 4. Material to be lifted by crane or other hoisting devices must not be stored under overhead power lines.
- 5. No materials may be stored on penthouses, roofs, or other areas until a specific area is assigned by NC State for a specific project.
- 6. Adverse Weather: If NC State becomes aware of an adverse weather event, the NC State Project Manager shall notify the construction superintendent, and the contractor shall perform a job site review to ensure any debris or construction materials are secured and protected from the elements.
- S. Illumination - Construction areas, ramps, runways, corridors, offices, shops, and storage areas shall be lit to not less than the minimum illumination intensities required by OSHA.
- T. Ladders - All ladders must meet OSHA requirements.
- U. Lasers
 - 1. Lasers must comply with the OSHA Construction Industry Standards.
 - 2. Lasers must be low power (<5mw) devices with visible beams. Lasers to be used must bear a label indicating this maximum power output. Lasers that do not bear this label shall not be used.
 - 3. "Laser in use" signs shall be posted according to OSHA requirements.
 - 4. Lasers must be used in a manner that will not risk exposure to others.
- V. Lead
 - 1. Lead may be found in certain painted surfaces. A check for lead presence should be conducted prior to certain activities such as grinding, sanding, or burning over painted surfaces. If lead containing paint is disturbed or a material is questionable the NC State Project Manager must be notified *immediately*. Do *not* attempt to remove the material.
 - 2. Hot Work over lead painted surfaces is generally not permitted.
- W. Lock Out/Tag Out
 - 1. All contractors that work on energized equipment with any hazardous energy source are required to have a hazardous energy control (i.e. lockout tagout) program. The program shall specify policy and procedures for deenergizing, verifying deenergized, and secure the source potential using energy isolating devices and applying locks/tags or implement other forms of hazardous energy control as specified in OSHA standards. Types of potential energy sources include, but are not limited to:
 - a) Electrical (refer to section of these requirements titled "Electrical") Pneumatic
 - b) Hydraulic,
 - c) Thermal
 - d) Kinetic (motion)
 - e) Hazardous gas, liquid, air
 - f) Radiation
 - g) Lasers

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2. When multiple contractors are performing work on the same project, hazardous energy control procedures shall be coordinated by the controlling entity which includes establishing device standardization.
3. Contractors shall ensure site personnel are trained on the hazardous energy control program.
4. Central [Utility Plant \(CUP\) - Lockout Tagout Procedure](#).
 - a) Contractors with the need to perform LOTO operations within the operating CUP shall be trained in accordance with the procedure and comply with applicable sections of the procedure. The contractor is responsible for providing this training; a copy of this procedure will be provided to the contractor.
 - b) Contractor management shall ensure that authorized personnel are assigned to perform work in which they are qualified.
 - c) Contractor management shall comply with applicable sections of the procedure.
- X. Mobile Cranes, Tower Cranes, etc. (Reference OSHA 1926 Subpart CC).
 1. Prior to the set up or operation of any crane on university property, the NC State Project Manager (or other point of contact) shall be notified; notification must be made with as much lead time as possible, but no fewer than fifty (50) working days
 2. Cranes shall be set up and operated in compliance with the manufacturer and applicable OSHA requirements.
 3. Contractors are responsible for ensuring ground conditions are capable of supporting the equipment and load, which will include performing underground facilities/utilities location (i.e. 811 call) as well as factual confirmation of necessary compaction capacities. This confirmation is to be by third party inspection services, at the expense of the contractor.
 4. No lifts may occur over occupied spaces unless a registered structural engineer evaluates and certifies that the building can withstand the impact of load being dropped on the building as a worst-case scenario. If it is determined that the building cannot withstand the impact without compromising the structure, areas of the building within the load fall zone must be evacuated during the duration of the lift. This evacuation process must be a part of the lift plan and managed by the contractor.
 5. The crane contractor shall provide equipment documentation, including the annual inspection and last monthly inspection. Documentation must be signed.
 6. Crane operators shall be certified by an Accredited Crane Operator Certification Agency for the type of equipment operated. Examples of such agencies, include, but are not limited to:
 - a) National Commission for the Certification of Crane Operators (NCCCO)
 - b) National Center for Construction Education and Research (NCCER)
 - c) Operating Engineers Certification Program (OECF)
 - d) Electrical Industry Certifications Association (EICA)

Additionally, the crane operator's employer must attest that the operator was evaluated to verify the operator demonstrates skills and knowledge to safely

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operate the equipment as well as the ability to recognize and avert risk, as required under 29CFR1926.1427(f).

7. All rigging personnel and signal persons shall be qualified in accordance with OSHA 1926 Subpart CC.
8. Crane Lift Plan. A lift plan is required for any lift in a location not under the exclusive control of the contractor, including lifts affecting NC State property, structures, employees, students, or visitors. Each lift plan must be developed by a qualified person and include at least the following:
 - a) The identity of the controlling entity, meaning the employer with the overall responsibility for construction operations associated with the crane lift.
 - b) Identify a lift director (i.e. primary signal person) and method of communication (hand signals, radio, etc.).
 - c) Contractors conducting crane operations are required to obtain required FAA permits according to 14CFR Part 77; to be submitted with the lift plan.
 - d) Equipment positioning locations, including load staging and movement and paths to and from the working position
 - e) Equipment specifications including load and reach capacities
 - f) Current qualifications, certifications, and licenses of operators and riggers
 - g) For lifts involving more than one crane, the lift plan shall encompass all cranes.
 - h) Fall Zone: The contractor shall identify the Fall Zone. The Fall Zone is the area (including but not limited to the area directly beneath the load) in which it is reasonably foreseeable that partially or completely suspended materials could fall. Spaces within the Fall Zone (including buildings, foot traffic, vehicle traffic, etc.) shall be barricaded to control access. The Fall Zone shall be cleared of personnel not participating in the lift.
 - i) Wind limitations
 - j) Ground and subsurface stability at crane and load placement locations. The contractor must ensure a qualified person evaluates the crane set-up location to ensure ground conditions are sufficient. (See X., 3. above)
 - k) Other conditions or factors that may affect the safety of the lift
 - l) A pre-lift meeting must be completed immediately before the lift and shall include all personnel involved with the lift and a thorough review of the elements and specifics of the lift plan and personnel assignments.
 - m) Specify distance to closest energized lines and applicable minimum approach distance of any lift component.
 - n) Where items positioned by a crane lift are rigged at heights above easy reach height, the lift plan shall include safe attachment and de-attachment procedures and the control of exposure to fall hazards.
 - o) The contractor must provide documentation of annual and monthly inspections for the previous 3 months. 1926.1412(f) & .1412(e)

Y. Electrical

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1. Electrical Contractor shall ensure that their personnel using electrically powered equipment are trained to recognize electrical hazards, inspect and maintain electrically powered equipment, and on safe work procedures to prevent exposure to electric shock.
 2. Premises Electrical Equipment. All electrical installations must comply with the National Electrical Code® (NEC®). Work associated with electrical equipment installed in accordance with the NEC® will be conducted in accordance with NFPA 70E® Standard for Electrical Safety in the Workplace. NC State's goal is to minimize exposure to shock and arc flash hazards during the installation, repair, maintenance, and operation of electrical equipment, components, and systems.
 - a) Electrical power sources shall be deenergized, verified, and locked out prior to working on electrical equipment except when de-energization creates a greater hazard and a properly executed Energized Electrical Work Permit (EWP) has been completed.
 - b) Contractors performing electrical work must have their own energized electrical work program that includes a permit process.
 3. Power Generation & Distribution: Work by Qualified Persons and Unqualified Persons working on or near power generation or distribution equipment is addressed in OSHA 29CFR1910.269. It includes work on or directly associated with installations used for the generation, control, transformation, transmission, and distribution of electricity. Any work involving the NC State distribution system shall be coordinated by the NC State Project Manager (or other university contact person) in collaboration with the Facilities Division Power Systems group.
 - a) Work involving the NC State electrical distribution system shall only be performed after authorization by the Facilities Division Power Systems group in accordance with the Power Systems Switching Procedure.
 - b) System Check In/Out: Prior to entering any primary enclosure (substation, transformer, manhole, switch, switching station, etc.) of the NC State Power System the NC State Project Manager or other designated person shall send a text or email to group-powersystementry@ncsu.edu with the work location and brief description of the tasks to be performed (photos are welcomed). When exiting the enclosure, check out with NC State Power Systems using the same method. This is only for unescorted access. For example, if you're with a member of the Power Systems team there's no need to check-in/out, but if that team member has to leave your work site, you're expected to check-in and check-out.
 4. Contractor will follow all requirements as noted in NFPA 70E.
- Z. Mobile Elevating Work Platforms (MEWPs)
1. General Requirements.
 - a) MEWPs shall be operated in accordance with the manufacturer's requirements and specifications.
 - b) Employees must always stand firmly on the floor of the MEWP and must not sit or climb on the edge of guardrails, or use planks, ladders or other devices for a work

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position. The guardrail system of the platform must not be used to support materials, other work platforms, or employees.

- c) A personal fall arrest/restraint system shall be used in accordance with the manufacturer's requirements. A scissor lift with approved guardrails may be used without a personal fall arrest system when specified by the manufacturer, however, if there are designated anchor points, the use of a fall arrest/restraint system is required.
 - d) The MEWP must be used only in accordance with the manufacturer's operating instructions and safety rules.
 - e) The designed rated capacity for a given angle of elevation must not be exceeded.
 - f) At least 10 ft distance must be maintained away from overhead power lines with a nominal voltage of 50kV or less; 20 ft for power lines over 50kV (or if voltage is unknown). Note: qualified workers using appropriately insulated MEWPs may approach closer than 10 ft when following provisions specified in OSHA 1910.268, 1910.269, and 1926 Subpart V, as applicable.
 - g) The manufacturer's rated load capacity must not be exceeded. The load and its distribution on the platform must be in accordance with the manufacturer's specifications. The rated load capacity must not be exceeded when loads are transferred to the platform at elevated heights. Only employees, their tools, and necessary materials must be on or in the platform.
 - h) A trained spotter with no other job duties is required when a MEWP is driven; the spotter will assess conditions that could pose a hazard to the operation (for example, drop-offs, holes, slopes, inadequate surface and support, obstructions, pedestrians, vehicles, debris, electric lines, etc.) and stop operations and alert the operator. The operator shall halt operations until hazards are adequately controlled.
2. Training
- a) Only personnel who have received training to operate the specific type(s) of MEWPs are authorized to operate them on NC State property.
 - b) Training must include inspection, application, and operation of MEWPs (including recognition and avoiding hazards associated with their operation). Operators are only authorized to use MEWPs of the specific model for which they are trained and evaluated.
 - c) Training must be provided by a person who has knowledge regarding the laws, regulations, safe use practices, manufacturer's requirements, and recognition and avoidance of hazards, and is familiar with the specific type(s) of MEWPs. Note: Personnel may not operate rented equipment unless qualified to operate the specific equipment; the rental provider or other authorized evaluator must provide familiarization training to satisfy this requirement.
3. Inspection, Maintenance, and Testing
- a) Each MEWP must be inspected, maintained, repaired, and kept in proper working condition in accordance with the manufacturer's operating or maintenance and

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repair manual or manuals. Maintenance inspections shall be completed at intervals no less frequent than annual.

- b) Before use, visual equipment inspections and a functional check must be performed before each shift in accordance with the manufacturer's operating manual. Any MEWP found not to be in a safe operating condition must be removed from service until repaired. All repairs must be made by an authorized person in accordance with the manufacturer's operating or maintenance and repair manual or manuals.
- c) Before and during use, visual worksite inspections must be performed and include workplace risk assessment. The workplace risk assessment includes identifying and evaluating hazards (for example, drop-offs, holes, slopes, inadequate surface and support, obstructions, pedestrians, vehicles, debris, electric lines, etc.) and establishing effective control measures. Uncontrolled hazardous situations must be corrected prior to initial or continued use of the MEWP.

AA. Noise/Vibration

- 1. Noise producing equipment, such as power drills, jackhammers, welders, etc., can create sound levels of 80dB(A) or greater in and around a construction area. Notify the NC State Project Manager in advance to determine the appropriate times to operate high noise/vibration equipment for that project's location.
- 2. Appropriate personal protective equipment shall be used when working around high noise/vibration equipment.

BB. Overhead Work

- 1. Work must not be performed above other personnel, including other contractor employees. Affected areas must be roped off or barricaded and marked to prohibit traffic.
- 2. Contractors must not climb on the heating and air-conditioning ductwork, plumbing steam piping, sprinkler piping, electrical cable trays, fixtures, or furniture or use as work platforms.
- 3. Contractors are expected to comply with OSHA fall protection requirements.

CC. Paints and Solvents - Contractors must provide the following safeguards:

- 1. Adequate ventilation must be maintained at all times when paints or solvents are being used. Refer to NC State Odor Prevention and Dust Control in Occupied Buildings for additional information.
- 2. Contractor personnel must use proper respiratory protection and protective clothing when toxicity of the material requires such protection.
- 3. Flammable solvents and materials must be used with extreme caution when possible sources of ignition exist.
- 4. Flammable paints and solvents must be stored in an approved flammable liquid storage cabinet when storage is required inside buildings. Acids and flammables must never be stored together. If an approved flammable liquid storage cabinet is not available, flammable paints and solvents must be removed from the building.
- 5. Flammable liquids must be dispensed in a safety can with a flash screen bearing a Factory Mutual or Underwriters Laboratory (UL) approval.

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- DD. Personal Protective Clothing and Equipment - Contractor shall determine this minimum level of protective equipment to be worn on the jobsite (example: hard hat, eye protection, safety vest, gloves and safety shoes); NC State expects contractors to conform to industry accepted minimum PPE standards, for example, hard hats, safety glasses, and protective toe footwear. Any additional safety equipment required by a specific activity shall also be worn and shall meet or exceed OSHA standards. (Refer to NC State Community Standards for specific COVID-19 related PPE).
- EE. Powder-Actuated Tools
 - 1. Powder-actuated tools are not to be used on NC State property unless specific approval is obtained from NC State prior to usage.
 - 2. If approved, powder-actuated tools must be used in accordance with OSHA and manufacturer regulations.
- FF. Power Vehicle Equipment
 - 1. Only trained operators are allowed to use power vehicles on NC State property. Contractor management will be expected to provide proof of training if requested.
 - 2. Generally, LP gas powered trucks are not to be used inside NC State buildings. Prior approval from NC State is required.
 - 3. The design of the LP gas fueled industrial truck for use within NC State buildings must comply with the following:
 - a) LP gas fueled industrial trucks must comply with NFPA 505-1982.
 - b) If trucks are in continuous use in a populated area, they must be equipped with a catalytic converter.
 - c) LP gas containers must not exceed the nominal 45 pounds LP gas.
 - 4. The following conditions and requirements will govern the use of LP gas fueled vehicles inside the confines of NC State buildings and structures:
 - a) LP gas fueled trucks must be removed from the building and parked at the end of each workday and not left unattended while in use. When the job requiring the truck is complete, the truck must be removed from the job site.
 - b) Trucks and tanks must not be refueled inside buildings.
 - c) All areas where LP gas fueled trucks are used must be well ventilated.
 - 5. All LP cylinders must be stored outside and secured by a chain in an upright position.
- GG. Roof Safety
 - 1. The contractor shall request authorization from NC State prior to accessing a roof.
 - 2. During all rooftop operations, the contractor must provide fall protection measures in accordance with OSHA.
 - 3. A Hot Work Permit and at least two appropriate fire extinguishers of the correct ABC type are required when performing hot work on roofs. Other persons acting as a Fire Watch shall be in place on the roof and on the floor(s) directly below operation.
- HH. Sanitation
 - 1. Drinking Water - An adequate supply of water, meeting the U.S. Public Health Service Drinking Water Standards, shall be provided.
 - 2. Washing Facilities

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- a) The contractor shall provide adequate washing facilities for employees engaged in the application of paints, coating, herbicides, or insecticides, or in other operations where contaminants may be harmful to the employees. Such facilities shall be in near proximity to the worksite and shall be so equipped as to enable employees to remove such substances. (Refer to NC State Community Standards for specific COVID-19 related washing requirements).
- b) Hand soap or similar cleansing agents shall be provided.
- c) Individual hand towels, cloth or paper, warm air blowers or clean individual sections of continuous cloth toweling, shall be provided.
3. Toilet facilities shall be provided for employees according to the OSHA requirements.
- II. Scaffolding
 1. Contractor shall erect, use and dismantle scaffolding in accordance with OSHA and manufacturer regulations.
 2. Competent Person. Scaffolds must be erected and dismantled under the direction of a competent person. Responsibilities include, but are not limited to:
 - a) supervise and direct scaffold erection, moving, dismantling, or alteration.
 - b) determine the feasibility and safety of providing fall protection for employees erecting or dismantling supported scaffolds. Employers are required to provide fall protection for employees erecting or dismantling supported scaffolds where the installation and use of such protection is feasible and does not create a greater hazard.
 - c) inspect scaffold and scaffold components for visible defects before each work shift and after any occurrence which could affect a scaffolds structural integrity and ensure identified deficiencies are corrected,
 - d) determine if it is safe for employees to work on scaffolds during storms or high winds.
 3. Access. When scaffold platforms are more than 2 feet (0.6 m) above or below a point of access, portable ladders, hook-on ladders, attachable ladders, stair towers (scaffold stairways/towers), stairway-type ladders (such as ladder stands), ramps, walkways, integral prefabricated scaffold access, or direct access from another scaffold, structure, personnel hoist, or similar surface shall be used. Crossbraces shall not be used as a means of access.
 4. Fall Protection. Each employee on a scaffold more than 10 feet (3.1 m) above a lower level shall be protected from falling to that lower level; each employee on a suspended scaffold shall be protected by a personal fall arrest system attached to an independent anchorage.
 5. Falling Object Protection. Where potential for tools, materials, or other equipment could fall from a scaffold, the area below must be barricaded, and personnel not permitted to enter the area OR effective means shall be implemented to prevent objects from falling.
- JJ. Signs, Tags, and Barricades (references 1926 Sub G and ANSI Z535)
 1. Signs and Tags: Each sign and tag must include a signal word, symbol, and text.

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- a) Signal words:
 - (1) DANGER = the hazard will most likely result in serious injury or death;
 - (2) WARNING = the hazard could possibly result in serious injury or death;
 - (3) CAUTION = the hazard would not likely result in serious injury or death;
 - (4) NOTICE = indicates important information, but not directly hazard-related.
 - b) Symbols or graphics are used to bridge language barriers and draw attention to the message.
 - c) Text is used to convey the safety message in a clear, concise manner.
2. Barricades. Barricades must be installed for situations where a physical obstruction is necessary to deter the passage of people, vehicles, or equipment. When used, barricades must be installed at all points of access.
- a) Barricades associated with traffic control in a public roadway must comply with the Federal Manual of Uniform Traffic Control Devices and the North Carolina Supplement. Coordinate with the NC State Transportation Office.
 - b) Barricades may take many forms on construction sites, but when used, they must clearly indicate the intent of the barricade. All barricades are required to include a sign that includes the name of the person responsible for the barricaded area, method for contacting the responsible person (ex. phone number), and clear and concise text describing the purpose of the barricade.
 - (1) CAUTION Tape Barricades should be used when the hazardous condition is not likely to cause serious physical harm but could result in injury. Standard CAUTION Tape must be used, which includes yellow tape with the word “CAUTION” in black letters. Personnel may enter the barricaded area only when implementing precautions to address the identified hazard.
 - (2) DANGER Tape Barricades are used when a serious or imminent danger may exist. Standard DANGER Tape must be used, which includes red tape with the word “DANGER” in black letters. Only personnel specifically authorized by the person responsible for the barricaded area may enter the barricaded area.
- KK. Silica (Respirable Crystalline Silica) – The following requirements apply to all operations involving exposure to respirable crystalline silica. Examples of such operations include: cutting, grinding, drilling, or crushing brick, block, concrete, stone, rock, mortar, and other materials that contain crystalline silica.
- 1. Contractors shall comply with OSHA standard 29 CFR 1926.1153 including taking all necessary steps to comply with the established exposure limits.
 - 2. Contractors must have a written Exposure Control Plan specific to their operations in accordance with 29 CFR 1926.1153 that includes specific detail for controlling exposure to NC State personnel and the public. A copy of this plan shall be made available to NC State EHS and/or the university Project Manager upon request.
 - 3. Tasks performed indoors or in an enclosed area, shall have effective exhaust ventilation to minimize the accumulation of visible airborne dust. In situations where ventilation is exhausted in an area with potential to expose people to dust must incorporate effective

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HEPA filtration; such areas include but are not limited to, inside a building or outside where people may be present.

4. When a building ventilation system services an area where work with the potential for generating respirable crystalline silica exists, the building air returns shall be blanked or closed while such work is in progress. Contractors must coordinate this with the university project manager.
5. Contractors must establish a "Temporary Restricted Area" for tasks that require the use of respiratory protection in accordance with 29 CFR 1926.1153.
 - a) *Temporary Restricted Area* means an area demarcated by the employer where an employee is required to wear respiratory protection.
 - b) *Temporary Restricted Areas* must be designated with signs, barriers, or other effective means that will ensure unauthorized persons do not enter.

If such work is performed in *occupied* buildings, dust barriers shall be installed as necessary to isolate the restricted area. Refer to [NC State Odor Prevention and Dust Control in Occupied Buildings](#) for additional information.

LL. Smoking and Open Flames

1. Smoking is not allowed in any NC State buildings, including roofs, penthouses, electrical/mechanical rooms and basements.
2. The use of open flames is strictly prohibited in areas where flammable liquids, gases, or highly combustible materials are stored, handled or processed.
3. The use of open flames, where allowed, requires a Hot Work Permit.

MM. Tarpaulins - When tarpaulins are required for the deflection of hot slag, dust, paint drippings, etc., or as a security barrier, they must be flame resistant and in good condition, free of holes and worn edges.

NN. Tar Pots (tar kettles) - Tar Pots are not allowed on roofs. The contractor must notify the NC State Project Manager prior to using tar pots and obtain a Hot Work permit.

OO. Temporary Heating - When heaters are used in confined spaces, special care shall be taken to provide sufficient ventilation in order to ensure proper combustion, maintain the health and safety of workmen, and limit temperature rise in the area.

PP. Temporary Lighting - Contractor shall submit a lighting plan for night work, underground work, and any other worksites without adequate lighting.

QQ. Temporary Traffic Control

1. All traffic control shall be approved by NC State and meet the Institute for Transportation Research and Education (ITRE) Work Zone Safety Guidelines for Construction, Maintenance and Utility Operations. Should this be referencing the federal [Manual on Uniform Traffic Control Devices](#) and the [North Carolina Supplement to the Manual on Uniform Traffic Control Devices](#)?
2. The contractor shall provide warning signs, barriers, barricades, etc., in accordance with the construction plans and specifications or whenever such protection is needed.
3. Where signs and barricades do not provide adequate protection, particularly along a road, walkway, or main aisle, flagmen shall be used.

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4. Review with the crew, each person's responsibility regarding the traffic control set-up (e.g. sign installation, lane closure setup, etc.).
5. Review traffic control devices to be used at the site. Assure that traffic control set-up is properly installed. Installer shall document what traffic control set-up was used (including the sign types and sign locations) and how it was installed.

RR. Vehicle Operation

1. All equipment shall have operational backup alarms. Equipment shall not be utilized until such device is functioning properly.
2. All vehicles shall be operated in accordance with OSHA and manufacturer regulations.

SS. Vertical Lifts - All contractors' platforms or vertical lifts must meet OSHA and manufacturer requirements.

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Division 01 Temporary Facilities

1.0 Purpose

- A. The following guidelines for the use of temporary facilities during construction shall be incorporated into the Construction Documents.

2.0 General Requirements

- A. Project Signs – Project signs are not allowed. Directional signs for material deliveries are allowed within the construction area, if required, and shall be 4' wide x 2' high maximum, black and white only. The NCSU Project Manager shall approve the design of the sign and the sign text. **[Designer shall coordinate with NCSU PM for a sample layout of temporary construction sign.]**
- B. **[Designer shall provide detailed pedestrian detour plans as part of the contract documents** and show quantity, location, and layout of pedestrian detour signs on the detour plan.] Sidewalks shall remain open and accessible during construction. Should sidewalks require closure, an accessible and safe temporary (concrete, asphalt or plywood) pedestrian path around construction shall be required if an alternative accessible route is not close by. Temporary paths shall be shown on the contract documents clearly showing path and type of construction.
- C. The construction site shall be secured. Contract documents shall clearly indicate limits of construction and location of the construction fence. The fence shall be constructed of heavy-duty chain link material, have a minimum height of six feet and shall have a continuous top tubular rail. Swing gates shall be included at every access to the enclosed area and shall be lockable. The fence shall have an integral visual barrier or shall have shading type material applied and maintained for the duration of the project. Locks for the gates shall be interlocked with a padlock provided by NCSU in order to allow access by NCSU or other emergency personnel in case of emergency.
- D. Walks, Root Zones, and Lawn Protection - A permit, issued by NC State Grounds Management, is required for vehicular access to brick and landscape areas. For single loads up to 9000 lbs., a ¾" minimum plywood base shall be placed over brick paving, root zones of trees, and lawn areas to be protected from vehicular work traffic at a construction site. For single loads over 9000 lbs., two layers of ¾" plywood is required. Root zones and lawn areas shall not be covered with plywood for more than 3 consecutive days.
- E. For projects of duration longer than 3 days or requiring multiple heavy loads into a construction landscape protection zone, a construction entry road shall be included in the contract documents **[Designer must show on the contract drawings, including a detailed cross section]** to indicate access route for heavy loads into the site. This construction entry shall consist of 10' x 16' oak logging mats on 6" coarse, chipped, hardwood placed on a permeable structural, filter fabric, top-dressed with an additional 10" of hardwood mulch. Mulch and logging mats shall be supplemented throughout the project to keep the access area structurally functional. At the end of the project the

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Division 01 Temporary Facilities

logging mats shall be offered to Facilities Operations for salvage or disposed of off site at the discretion of the Owner.

- F. All pruning of existing plant materials, including roots and limbs, for construction clearances shall be done by a trained, licensed, insured arborist and according to standards set forth in the National Arborist Association publication "Standards for the Pruning for Shade Trees". All pruning shall be coordinated with and inspected by NC State Grounds Management. **[The Designer and University Landscape Architect shall assess the necessity for this work during the design phase and determine whether work will be performed by contractor or NC State Grounds Management. Designer shall identify on contract drawings who will perform pruning.]**
- G. Transportation/Parking. **[Designer shall incorporate latest NC State Transportation Guidelines for Parking, Traffic Control and Road Closures.]**

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Division 02 Decommissioning & Decontamination

1.0 Purpose

- A. These guidelines provide a methodology and requirements for the Designer to incorporate into bid documents that a Contractor shall follow in order to assure appropriate methods are undertaken prior to demolishing, repairing or replacing existing fume hoods, fume hood ductwork, fume hood fans, chemical waste piping, sinks, or other parts of buildings that may have had contact with hazardous materials. The design must provide a comprehensive plan from the bid process, through project implementation and construction management.
- B. The Designer and Contractor shall refer to the NC State's Environmental Health and Safety (EHS) website, www.ncsu.edu/ehs/haz_waste/index.htm referring to the university's comprehensive program for the management of hazardous materials from university operations.

2.0 General Requirements

- A. Requirements for contractor qualifications -Regardless of projects size, all contractors performing decommissioning/ decontamination work involving hazardous materials on NC State property are required to submit qualifications for university approval.
- B. Contractor Required Submittals - The following items shall be required to be submitted for pre-qualification review:
 - 1. Evidence of a minimum 5 years experience in decontamination work involving hazardous material. Include evidence of experience and training of personnel to be performing decontamination activities.
 - 2. Certification and or licensure to perform decontamination activities.
 - 3. DOT Hazardous Waste Transportation ID Number.
 - 4. Proof of all training required under OSHA and EPA standards for all workers involved, including but not limited to Hazardous Communication Training and Personal Protective Device Training.
 - 5. Name, Address, and ID Number of Hazardous Waste Treatment, Storage, and Disposal (TSD) Facility proposed to be used .
 - 6. Proof of Insurance as required by NC State minimum insurance requirements.
- C. Cleaning Agents - The Contractor shall apply methods that utilize non-hazardous cleaning agents, and methods that generate the lowest possible quantity of waste materials. For example, if steam cleaning is utilized, rinse material should be filtered/treated in a manner to allow discharge to the sanitary sewer.

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Division 02 Decommissioning & Decontamination

- D. Hazard Assessment - The Contractor will be provided with a copy of the latest chemical inventory for the space. This will represent “best available information” and contractor shall assume that the potential for unlisted residues exists.

3.0 Hazardous Waste Removal Requirements

- A. Waste Management - The contractor shall provide a Waste Management Plan to NC State for approval prior to implementing any work. www.ncsu.edu/ehs/haz_waste/index.htm
Contractor to provide all materials, personnel, protective equipment, chemical analysis capabilities, necessary to remove hazardous chemical residues from laboratories. Management of waste generated by project activities will be the responsibility of the contractor, and should be described in their plan.

4.0 Hazardous Waste Liabilities

- A. Waste disposal responsibility shall be either the contractor or NC State per NC State EHS website's, *Management of Building Demolition Debris*
www.ncsu.edu/ehs/environ/BUILDING_RENOVATION.pdf
- B. Containers - Containers used for storage of waste must be United States Department of Transportation (DOT) approved. The contractor shall supply bins, tanks, or tank trucks, per plan. Containers shall remain closed at all times except when material is being added. NC State shall provide containers for items collected by NC State EHS, see link to *Hazardous Waste Generator Manual*,
www.ncsu.edu/ehs/haz_waste/haz_waste_manual.pdf
- C. Labels - Containers of hazardous waste shall display hazardous waste labels that clearly identify waste streams. The Contractor shall not mix different waste streams in the same container. The Contractor shall mark the initial accumulation date on the hazardous waste label when waste is first placed in the container.
- D. Waste Storage Area - Contractor shall store closed and sealed waste containers on the construction site in an area that is secured, covered, and well identified with hazardous chemical signage. The Contractor shall ensure that hazardous wastes are not stored for more than 90 days.
- E. Spill Response - Contractor shall ensure that appropriate portable fire extinguishers, spill supplies and communications are present where hazardous wastes are stored. Contractor shall maintain enough spill response supplies to contain at least 110% of any accumulated waste. Contractor shall immediately contact NC State if there is a spill, and begin clean up procedures per the spill plan.

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- F. The Manifest Report - NC State shall receive a copy of all disposal certifications/manifests for all waste shipped.

5.0 Materials

- A. Bio-hazardous Materials - Contractors shall identify and develop a plan for biological hazardous materials that utilizes NSF 49 standards for decontamination of biological safety cabinets, per NC State EHS Guidelines, www.ncsu.edu/ncsu/ehs/www99/left/bioSafe/index.pdf . See also NC State University's Biological Safety Manual, www.ncsu.edu/ncsu/ehs/biosafety.htm
- B. Radioactive Materials - If regulated radioactive materials were used in the room, the room will be cleared by NCSU prior to the Contractor performing work in the room. For posted areas, NC State shall provide documentation to the Contractor that the room is free of regulated radioactive contamination. If the Contractor discovers an intact radioactivity warning label, immediately notify NC State EHS Radiation Protection at (515-5208). Also, refer to NC State EHS's Radiation Safety Manual, www.ncsu.edu/ehs/radsafety.htm
- C. Chemical Materials - The Contractor is not responsible for removing containers of hazardous chemicals. If the Contractor finds a hazardous chemical container, contractor should notify NC State.
- D. Fume Hoods and Ductwork – NC State shall provide the designer with chemical usage records for the current hood owner. However, contractors shall utilize perchlorate screening tests prior to the removal or demolition of fume hoods.
- E. Drain Traps and Plumbing - Assume that all laboratory drain traps contain mercury. If drain traps are to be removed, the Contractor shall remove the trap so that the trap contents are contained.
- F. Light Ballasts and Lamps - NC State shall provide containers to the electrical contractor for disposal of non PCB tubes and ballasts.
- G. Mercury - The Designer shall note on drawings that the Contractor shall have a mercury spill kit, mercury vacuum and appropriate communication equipment on site at all times. If mercury is detected visually or by mercury vapor detection, the Contractor shall immediately notify NC State and the Contractor shall initiate cleanup activities, per plan.
- H. Vacuum Pumps and Lines - Vacuum systems may contain mercury. Use spill prevention methods to avoid spilling mercury when removing vacuum lines.

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Division 02 Decommissioning & Decontamination

- I. Ozone Depleting Compounds / Refrigerants - The Designer shall note on drawings that the Contractor shall remove ozone depleting compounds (refrigerants) from refrigeration or air conditioning equipment before demolition.

6.0 Reports/ Documentation

- A. Spreadsheet/Decontamination Tracking Procedure - The Designer shall note on drawings that the Contractor shall use a spreadsheet to list rooms to be decontaminated and track decontamination progress. A sign shall be posted on each room indicating the status of the cleaning / demolition process. At the conclusion of the job, the Contractor shall provide NC State with a copy of all disposal certifications/manifests for all waste shipped.
- B. Samples and Analytical Reporting Procedure - NC State shall notify Contractor where analytical testing after cleaning is required. The contractor shall provide a price per sample, including a breakdown of labor to collect the sample, testing, materials, and analytical costs. The Contractor shall use a unique identification number that can be referenced to the location indicated on a map.
- C. Subcontracting Restriction - Hazardous materials demolition work under this contract will not be sublet. Hazardous Materials contractors are only authorized to subcontract work that does not involve disturbance of hazardous materials. Ductwork removal may be subcontracted if demonstrated by the contractor to be non-hazardous.
- D. Certification of Clean - Surfaces cleaned shall be certified by the Contractor that they have been cleaned according to ANSI 29.11, laboratory decommissioning standard, for surface contamination.

NC State University Design and Construction Guidelines

Division 02 Waste Materials Management – Reuse, Recycling, & Hazardous Waste

1.1 Purpose

- A. The following guidelines define waste management and disposal responsibilities for both hazardous and non-hazardous construction and demolition (C&D) wastes. The guidelines also address performance and reporting requirements.

2.0 General Requirements

A. Definitions

1. Construction & Demolition Waste: Building and site improvement materials, and other solid waste resulting from construction, demolition, renovation, or repair operations. Material stream also includes brick, concrete, asphalt, and aggregate.
2. Special Waste: Solid wastes that require special handling and management.
3. Hazardous Waste: Any solid waste that is ignitable, corrosive, reactive, or toxic; a listed hazardous material or containing a listed hazardous material per Title 40 Code of Federal Regulations Parts 260-270.
4. Universal Waste: Hazardous wastes that have been provided specific exemptions (40 CFR 273) to encourage recycling. Universal wastes are limited to recalled or cancelled pesticides and intact batteries, lamps, and mercury containing devices. State regulations prohibit the crushing of fluorescent lamps.
5. Salvage: Recovery of waste for reuse in the existing facility, a different facility, subsequent sale as State Surplus property, or other reuse efforts.
6. Recycle: Recovery of waste for processing and preparation into products or raw materials.
7. Yard waste: A solid waste consisting solely of vegetative matter resulting from landscaping maintenance.

B. Performance Goals and Requirements

1. All hazardous and non-hazardous generated waste shall be managed in accordance with local, state, and federal regulations.
2. Seventy-five percent (75%) of a project's non-hazardous waste must be diverted from landfill disposal through reuse and recycling.
3. One hundred percent (100%) of yard waste must be diverted from landfill disposal through reuse and recycling.
4. The Designer must complete the Designer Waste Information Form (<http://go.ncsu.edu/wasteinfoform>) and identify regulated wastes, as well as materials, fixtures, and equipment that are to be salvaged for reuse or recycled. The location of the staging area as well as the responsible party for removal, delivery, and/or pick up must also be included.
5. The completed **Designer Waste Information Form must be included in the Construction Documents** that go out for review and bid.
6. The Contractor must provide a Waste Management Plan (<http://go.ncsu.edu/wastemanagementplan>) to NC State for approval prior to implementing work. The plan shall include details on how the hazardous and non-hazardous generated waste will be managed in accordance with local, state, and federal regulations. Contractor must also provide all

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Division 02 Waste Materials Management – Reuse, Recycling, & Hazardous Waste

materials, personnel, and protective equipment necessary to remove and store wastes in accordance with the plan. The Contractor must coordinate salvage or reuse efforts identified on the Designer Waste Information Form with NC State and/or the non-profit entity.

C. Reporting Requirements

1. Hazardous Waste

a) The Contractor must provide NC State with a copy of all hazardous, universal, and special waste disposal certifications and/or manifests for all waste shipped.

2. Non-Hazardous C&D Waste

a) All reuse, recycling, and landfilled materials are to be tracked and complied on NC State's tracking forms, which can be found at <https://recycling.ncsu.edu/wp-content/uploads/sites/3/2018/04/CD-Tracking-forms-for-upload.pdf>. The completed form, with weight tickets/invoices attached, is considered a required close-out document and must be submitted before final payment is issued.

3.0 Management of Hazardous, Universal, and Special Wastes

A. Hazardous, universal, and special wastes must be managed separately from other C&D wastes.

B. Disposal must be coordinated with NC State Environmental Health & Safety.

C. Special wastes include:

1. Paints, varnish, solvents, sealers, thinners, resins, roofing cement, adhesives, lubricants, and caulk, or drums and containers that once held these materials.
2. Treated wood including lumber, posts, ties, decks, and utility poles (creosote, arsenic, chromium, pentachlorophenol).
3. Asbestos, PCBs, mercury, or lead containing materials
4. Used oil
5. Lead acid batteries
6. Medical wastes

D. Waste disposal responsibility falls to one of two parties: the Contractor or NC State, as defined in the NC State Environmental Health and Safety's document:

Management of Building Demolition Debris available at: <http://go.ncsu.edu/demodebris>

1. Containers used for waste storage must be United States Department of Transportation approved. The Contractor must supply bins, tanks or tank trucks. Containers must remain closed at all times except when material is being added. NC State will provide containers for items collected by NC State.
2. Hazardous waste containers must have labels that clearly identify waste streams. Different waste streams cannot be combined in a shared container. The Contractor must identify the initial accumulation date on

NC State University Design and Construction Guidelines

Division 02 Waste Materials Management – Reuse, Recycling, & Hazardous Waste

- the hazardous waste label when waste is first placed in the container.
3. Waste containers must be stored in a secured, covered, and well identified area of the construction site. Hazardous waste cannot be stored for more than 90 days. Any waste stored for more than six days must be inspected, and the inspection documented, weekly.
 4. Spill response supplies must be on-site and adequate to contain 110% of any accumulated waste. Portable fire extinguishers must also be readily available. If a spill occurs, Contractor must contact NC State immediately and proceed with spill containment and clean up.
 5. The Contractor must provide NC State with a copy of all hazardous, universal, and special waste disposal certifications and/or manifests for all waste shipped.

4.0 Management of Non-Hazardous Waste

- A. Priority 1 - Salvage of Construction and Demolition Waste for Reuse
1. Salvaged materials should first be evaluated for use in University construction projects. NC State Surplus Property Services should be considered if there are reusable materials that have resale value and are no longer needed by the University. Contact Waste Reduction and Recycling (ajbensle@ncsu.edu) for assistance with disposition.
Examples of Salvageable material include:
 - a) Furniture and electronics
 - b) Cabinets and shelves that are not built-in
 - c) Sinks and water fountains
 - d) Paper towel dispensers
 - e) Newer light fixtures
 - f) Dry erase boards, chalkboards, and cork boards
 - g) Solid wood panel doors
 - h) Brick pavers
 2. Contact vendors about take-back programs to recycle materials their company provides. These materials include, but are not limited to ceiling tiles, carpet tiles, and cubicle walls.
 3. Coordinate with the Project Manager to utilize the [NC State Construction Shop](#) for the careful removal of salvageable items prior to contractor demolition. An estimate for the Construction Shop's work must be received during design and must be initiated prior to the project going out to bid.
- B. Priority 2 - Recycling of Construction and Demolition Waste
1. If materials are not a salvageable for reuse, they must be source separated to the greatest extent possible and recycled.
 2. Common source separated materials for recycling include:
 - a) Cardboard
 - b) Bottles and cans
 - c) Scrap metal and wire

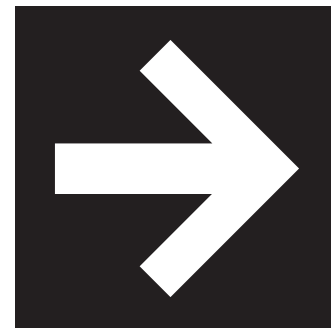
NC State University Design and Construction Guidelines

Division 02 Waste Materials Management – Reuse, Recycling, & Hazardous Waste

- d) Rigid plastics
 - e) Untreated/unpainted dimensional lumber
 - f) Gypsum board (unpainted)
 - g) Concrete
 - h) Asphalt (pavement and shingles)
 - i) Aggregate
 - j) Brick and CMU
3. 100% of the following materials must be recycled:
- a) Cardboard
 - b) Bottles and cans
 - c) Scrap metal and wire
 - d) Concrete
 - e) Asphalt (pavement and shingles)
 - f) Aggregate
 - g) Brick and CMU
 - h) Designer shall coordinate with Waste Reduction and Recycling office during design to properly coordinate selective demolition requirements and recycling goals.**
- C. Priority 3 - Disposal of Construction and Demolition Waste
- 1. If material/s cannot be salvaged for reuse or source separated and recycled, they must be sent to a C&D recycling and reclamation facility. Materials are not to be sent directly to a landfill or a facility that does not sort and recycle.
- D. All solid waste management facilities must be permitted to operate by NCDEQ in accordance with [15A NCAC 13B .0201](#).
- E. University Contract Pricing**
- 1. When available, the contractor may utilize University contract pricing for related facility tip costs or recycling rebates. In order to utilize contracts, contractor must coordinate with the University project manager and Waste Reduction and Recycling office.
- F. University Rolloff Services
- 1. Depending upon the scale of the work, dumpster services can be provided for Informal or Formal construction projects. Coordinate with NCSU Waste Reduction and Recycling to provide 17-20 cubic yard rollofs. Rental and contact information; <https://recycling.ncsu.edu/rentals/>

INTERIOR SIGNAGE

MANUAL

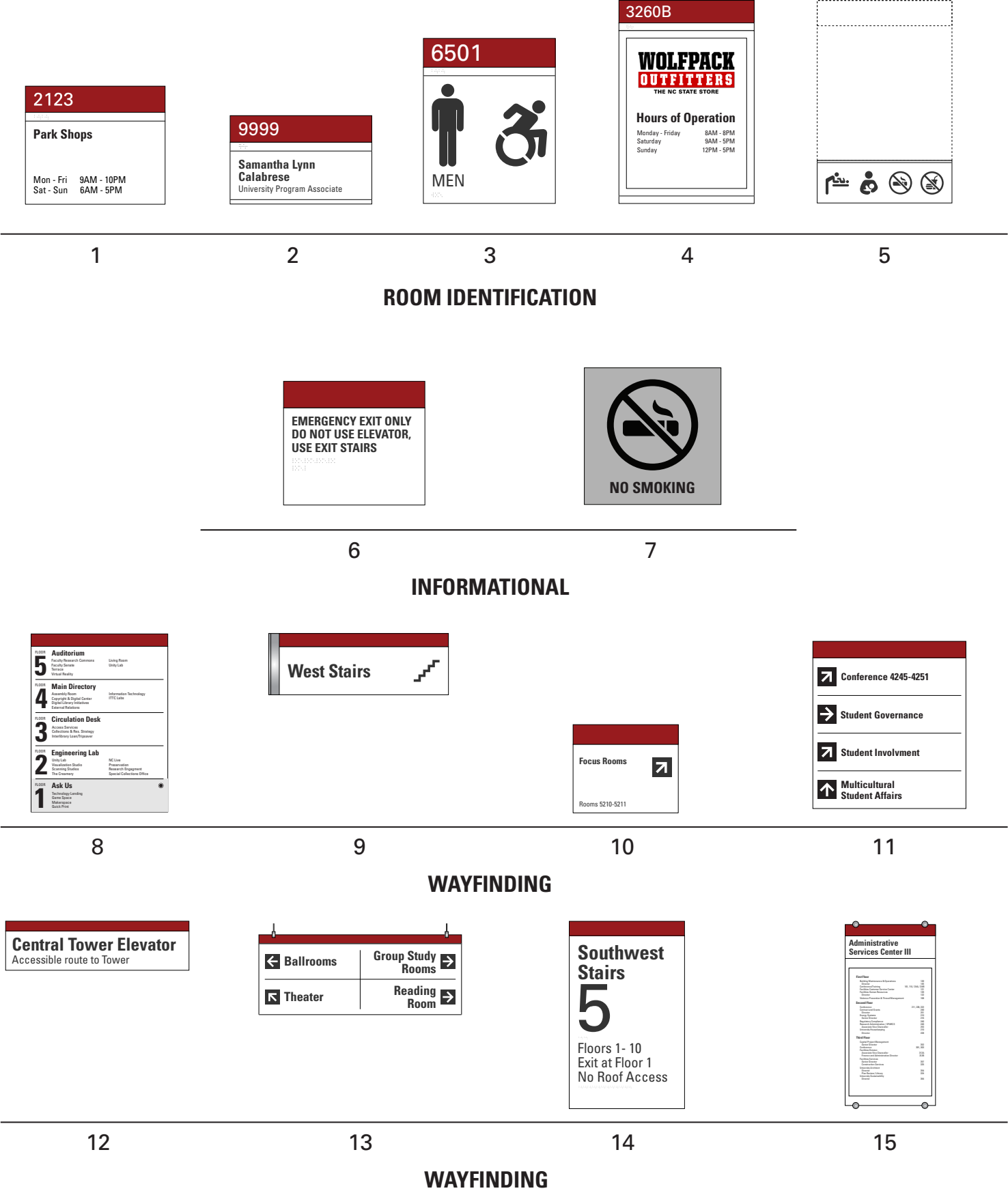


Contact the office of the University Architect for approval to use

Refer to Appendix: 2001 Interior Sign Manual - Updated 2019

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Appendix: 2001 Interior Signage Manual - Updated 2019



SECTION 1: GENERAL

SYSTEM COMPONENTS

APPLICATION OF SIGN STANDARDS

The signage standards included in this document are guidelines to facilitate a clearer and more effective means of understanding and using interior spaces on the campus at NC State University. The campus has many diverse building types and space uses so an absolute set of standards is impractical in application. These signage standards represent a means of addressing the most prevalent conditions which will be encountered on campus both in retrofitting existing buildings and in new construction.

The primary needs of information, direction and identification are described and recommendations are made as to the application of the standards. Realizing that many conditions will occur that do not neatly fit into the applications described herein, these standards represent an approach which can be extended to the many exceptions which are inevitable in an institution as diverse and complex as NC State University.

The interior sign system shall be designed to comply with all applicable local, state and federal codes and regulations. It shall be the primary objective of the interior sign system to provide people with the necessary information to assist them in finding their way to destinations along their chosen routes through buildings. The information provided may be text (typographic) or image (pictographic) based.

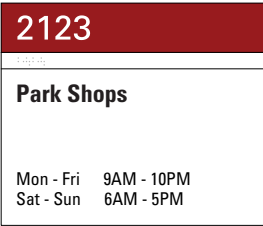
Interior signs shall include braille as required by ADA. All signs with a raised room number shall have corresponding braille, unless otherwise noted.

The interior sign system shall be designed with a wayfinding approach and it shall be congruent with the following building characteristics: layout, spatial content, form, organization and circulation. The interior sign system shall provide for uniformity throughout all buildings on campus.

The interior sign system components of signs such as identification, wayfinding, and simple informational signs may be manufactured using materials and equipment owned and maintained by NC State Facilities Operations personnel. Larger wayfinding shall be submitted to outside contractors with the requirements for colors and graphics to match standards established by internally-produced signs.

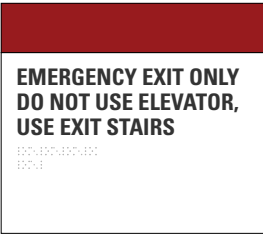
ROOM IDENTIFICATION:

Identification signs provide room numbers, department names, space uses, personnel names and other information.



INFORMATIONAL:

Informational signs provide specific information, situational warnings, and/or obligatory directions.



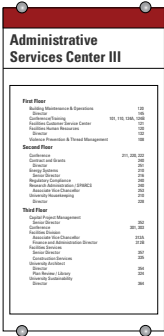
WAYFINDING:

Wayfinding signs provide directional or building layout information for guidance to a destination.



BUILDING DIRECTORIES:

Wall sign with a printed insert showing a list of room numbers and room functions within a building, with college or departmental location information. Building directories shall be placed in building lobbies and primary entrance points.



COMMEMORATIVE:

Commemorative signs provide recognition to those who have donated to a space, area, feature, or building.

SYSTEM COMPONENTS

SYSTEM DESIGN CRITERIA

The Interior Sign System is designed to meet the following criteria:

- The system should provide uniformity throughout all buildings on campus and the sign types should use a common visual language to provide consistency and to aid in the recognition of sign information.
- Message design, nomenclature and application shall be standardized per the sign types in this document.
- Message legibility should be considered from the perspective of a variety of users: visitors, university community, vendors and service people, vision and mobility impaired people, and other users.
- The room numbering sign system shall comply with university room numbering system.
- The system is built on a color scheme of red, gray, and white. Additional colors may be used to assist with wayfinding at the discretion of the Office of the University Architect (OUA).

- This manual was designed using the 2010 ADA Standards for Accessible Design, and the components herein reflect those requirements.
- In addition to meeting accessibility-related standards (including those governed by ADA, as well as state regulations and local codes) it is our belief that public institutions, like NC State University, have a responsibility to go beyond compliance and make wayfinding as easy as possible for all users, including people with physical, sensory, and brain-based functional limitations, and older people, who often experience one or more types of functional limitations.
- It is the responsibility of the project sign designer to refer to the current version of the Accessibility Code and adjust their design accordingly.

SIGN SCHEDULE EXAMPLE:

Standard NC State Signage Schedule						
Project Title: Place name of building here						
Location Key	Quantity of Signs Needed	NC State Signtype	NC State Permanent Room ID Number	Sign Message Text	Non-Fading Material	Remarks
1	1	2	001	Mechanical		
2	1	2	002	Elevator Equipment		
3	1	2	101	Pottery Studio		
4	2	2	102	Clay		
5	1	1+12	104			Occupant's name can be added later
6	1	1+12	106			Occupant's name can be added later
7	1	6	107			
8	1	6	109	Women		
9	1	2	110	Glaze Mixing		
10	1	2	111	Break		
11	1	2	112	Supply Storage		
12	1	2	113	Electrical		
13	1	2	114	Custodial		
14	1	2	115	Kiln		
15	1	1+12	116			Occupant's name can be added later
16	1	2	117	Fiber Studio		
17	1	2	117A	Elevator Equipment		
18	1	1+12	118			Occupant's name can be added later
19	1	1+12	119			Occupant's name can be added later
20	1	2	121	Lapidary Studio		
21	1	2	123	Glass Studio		
22	1	2	125	Jewelry Studio		
23	2	2	127	Wood Studio		
24	1	2	131	Art on Paper		
25	1	2 + 4A	132	Dark Room		
26	1	2 + 4A	133	Photo Studio		
27	1	6	135	Women		
28	1	1	135A			
29	1	2 + 4A	136	Film Development		
30	1	6	137	Men		

SYSTEM COMPONENTS

INSTALLATION: GUIDELINES AND METHODS

Permanent room identification will occur at every room and may include room function. An individual’s name may be added to the room identification sign of their office using a name plate. If two people share a private office, both names may be on the sign using 2 separate name plates. Where several rooms are accessed off of a common room, there will be a sign at the door or entrance to the shared space indicating room numbers within the common space. Note that individuals within the common space are not indicated here.

Permanent identification signs shall be installed such that the placement and height are compliant with the current ADA code requirements. This manual was designed using the 2010 ADA Standards for Accessible Design, and the components herein reflect those requirements. It is the responsibility of the project sign designer to refer to the current version of the Accessibility Code and adjust their design accordingly.

See individual sign types for specific mounting heights.

When to implement these standards:
When a small portion of an existing building is renovated, the signage shall match existing. When a large portion of a building is renovated, the renovated portion will follow the 2019 Standards. New buildings and additions will follow the 2019 Standards.

Methods of attachment for interior signs:
The primary means of attaching wall-mounted interior signs will be **double sided foam tape**. This adhesive tape is the appropriate attachment for substrates as follows:

- Painted gypsum board
- Concrete masonry units, painted and unpainted
- Brick, painted and unpainted
- Wood
- Glass

Where vandalism requires other means of attachment, tamper-proof screws set 9/32” from side will be employed. Screws will be set into expansion anchors suitable for gypsum board substrates. Avoid mechanical attachment for masonry or concrete substrates.

Signs mounted on glass will have a backer plate of equal size. Backer plate to be matte white 0.080” 1-Ply ADA Alternative by Rowmark, color 311201.

Perpendicular signs will be mounted to wall with an aluminum channel extrusion with hidden fasteners. Overhead signs are to be attached to ceiling grid by clips screwed into signs.

SECTION 2: ELEMENTS

SIGN SYSTEM

SIGN TYPE EXAMPLES

The interior sign system will be comprised of the following four components:

- 1. ROOM IDENTIFICATION
- 2. INFORMATIONAL
- 3. WAYFINDING
- 4. DIRECTORIES
- 5. COMMEMORATIVE

This section outlines multiple examples of where and how to use each sign type.

1. ROOM IDENTIFICATION SIGNS: Identification signs provide room numbers, department names, space uses, personnel names and other information. Identification signs shall be uniform throughout buildings on campus. Each building must be carefully evaluated to determine specific identification sign elements appropriate for the building setting. Identification signs include the following type of signs:

Permanent Room Identification

- Building room numbers
- Restrooms
- Exits
- Stairs
- Mechanical, Electrical, Custodial, Elevator

Room Function Identification

- Departmental offices
- Conference
- Information
- Vending
- Lounge
- Other building specific room functions

Room Occupant Identification

- Faculty, staff, and post doc / graduate student employees. Where employees, such as graduate students, may change regularly, an insert sign type may be used to list individual names.
- Student and other associations

Informational

These signs may be either add-ons to identification signs or stand-alone signs that provide information or procedures:

- Office hours
- Accessible work space
- Telephone Device for the Deaf (TDD) directional signage
- Assistive listening systems in assembly areas

**Note that some types of rooms, such as data centers, security panel rooms, etc., will not be identified for security reasons.*

2. INFORMATIONAL SIGNS: Informational signs provide specific information, situational warnings, and/or obligatory directions.

Regulatory signs shall be uniform throughout buildings on campus. Each building must be carefully evaluated to determine specific informational signs elements appropriate for the building setting. Regulatory signs may be related to:

- Eating
- Smoking
- Environmental Health
- Area of Rescue Assistance
- Accessible exits directional signs
- National Electric Code
- National Fire Protection Association
- Emergency procedures

Lab safety signs shall use Sign Type 4B with the printed Hazardous Materials insert.

3. WAYFINDING SIGNS: Wayfinding signs provide directional or building layout information for guidance to a destination.

Wayfinding is a multi-level process. It starts with finding the building address via electronic means, such as a website, phone app, and/or GPS, or via other means, such as paper maps or instructions.

The exterior building sign with the street address and building name confirms the building destination. The directories, placed at the entrance(s), elevator(s) and / or stairs indicate on which floor to find the suite or room. Typically, the leading digit(s) of the room number will indicate the floor and / or wing. The room numbering methodology provides an intuitive wayfinding system, with odd / even and ascending / descending numbers indicating building general layout.

Directional wayfinding signs indicate locations for elevators, public areas, meeting rooms, room number ranges, restrooms, etc. The department and room signs will confirm the final destination.

Wayfinding signs shall be uniform throughout buildings on campus. Each building must be carefully evaluated to determine specific wayfinding elements appropriate for the building setting.

Wayfinding signs may include:*

- Building Orientation Maps
- Building Directory
- Directional Information

**See Glossary of Terms for more definitions*

4. BUILDING DIRECTORIES: Building directories provide a list of room numbers and room functions within a building, with college or departmental location information. Building directories shall be placed in building lobbies and primary entrance points.

5. DIGITAL SIGNAGE: NC State University is currently assessing the campus needs in regards to digital signage and digital wayfinding. For more information please contact the Office of the University Architect.

SIGN SYSTEM

SIGN TYPE EXAMPLES

6. COMMEMORATIVE SIGNS:

All rooms at NC State have permanent room identification signage according to NC State Interior Signage Standards’ room identification signs. The room function on NC State’s permanent room identification signage may include the donor’s name (example: Progress Energy Conference , Ron Jones Faculty Lounge) as well as other sign requirements.

On the wall outside the commemorative room and in addition to the permanent room identification sign, the donor’s name, room function (i.e., Auditorium, Conference, Classroom, etc.) may appear collectively in one field not to exceed 100 square inches (example: 4” x 25”, 10” x 10”, etc.). Logos are not permitted.

All recognition signage outside the room must be mounted at the same height as the standard permanent room identification signage and preferably on the wall adjacent to the permanent room signage.

All letters naming the room function and donor (individual or corporate name) must be found within the 100 square inch field and must be one of the following materials:

- Raised metal letters (brushed aluminum or brushed stainless steel finish) mounted directly onto the finished wall material
- Raised metal letters (brushed aluminum or brushed stainless steel finish) applied to a clear acrylic panel not to exceed 100 square inches mounted onto the finished wall
- Vinyl cutout or silk screened letters (white, black or 50% gray) applied directly to the finished wall material
- Vinyl cutout or silk screened letters (white, black or 50% gray) applied to a clear acrylic panel not to exceed 100 square inches mounted onto the finished wall
- Raised metal letters to be between 0.25” and 0.5” thick.
- Clear acrylic panel shall not protrude more than 1” from the wall, accounting for the thickness of the panel and the offset from the wall. The 1” limit

does not include the thickness of the applied raised letters.

The standards for room recognition inside the room are the same as the standards for outside recognition with the exception that the field for the recognition signage inside the room may be 250 square inches maximum found in one location. In addition, donor plaques of various materials such as wood, bronze, Plexiglas or any solid material may be used not to exceed 250 square inches.

DONOR RECOGNITION WALLS AND PLAQUES:

The background of the donor wall shall be rectangular and uniform, to be mounted on a wall as a single unit. The background may be any material; natural materials (i.e., marble, granite, metal, wood) are preferred. There is no limit to the size of the background, as it will vary according to the number of listings.

The donor listings may be mounted or engraved directly onto the donor wall background. Letters may be any material with a non-glare, semi-matte or matte finish and must be

black, white or shades of gray. If the background is constructed of a natural material, the letters may also be constructed of the same material or may be the same color as that material. Typeface of donor listings shall be Univers with a maximum height of 5/8” and may be raised.

Titles and subtitles may be used to recognize the donor lists. Typeface of titles and subtitles may be any font and shall not exceed 1 ½” in height.

Corporate logos shall not be used in donor listings.

Back lighting of the donor wall or its components is prohibited.

Standard donor recognition products that meet all of the specifications listed in this document may be used. It is recommended that an architect or independent specialty signage designer design large installations.

University Advancement will not support language requests on donor signs that is not verifiable (such as secret codes, Klingon, Elvish, etc.)

The Office of the University Architect shall review all plans, specifications and locations for donor recognition walls or plaques prior to fabrication or purchase.

TYPOGRAPHY

CHARACTER SYSTEM

CHARACTER FONT:

The type font shall be UNIVERS. Raised lettering for the visually impaired shall be case sensitive, and must comply with current ADA code requirements.

CHARACTER PROPORTION:

Letters and numbers on signs shall have a width-to-height ratio between 3:5 and 1: 1 and a stroke width-to-height ratio between 1:5 and 1:10.

This manual uses 3 styles within the UNIVERS font family to establish hierarchy: **Roman, Condensed, and Bold Condensed**. Other font styles, such as Expanded, Extra Bold, Oblique, light, and condensed light are not acceptable.

Different fabrication techniques may require adjusting the weight of the characters to compensate for errors incurred in fabrication. The final sign characters must comply with the above stated proportions and should match the UNIVERS typeface. The size of characters should be tested based upon the intended viewing distance.

CHARACTER HEIGHT:

The minimum height is measured using an upper case X.

Lettering for signage suspended or projected overhead shall be 1.5 inches minimum cap height. The intended viewing distance for this character height is 75-100 feet.

Larger signs in buildings with longer intended viewing distances (i.e. stadium, arena, or conference center) will require larger signs with larger type. It is recommended that an architect or independent specialty signage designer design large signs, with approval by the Office of the University Architect. Other lettering should be sized according to the viewing distance from which they are to be read. The guideline of one inch cap-height for 50 feet viewing distance is recommended. If possible, lettering for maps should have a minimum height of 0.625 inches.

FONT FAMILY:

0123456789

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz0123456789

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz0123456789

CHARACTER HEIGHT:

Woodward Student X Cap height

TYPOGRAPHY

DESIGN CRITERIA

HIERARCHY:

A clear informational hierarchy shall be followed for identification and regulatory signs. The hierarchy is as follows:

- 1. Room Number
- 2. Department Name
- 3. Room Function
- 4. Room Information (i.e., office hours)
- 5. Room Occupant
- 6. Room Regulation

MESSAGE BREAKS:

Messages are to be laid out on the sign panels so the words break onto the next line of type in a way that communicates most easily.

An example of an inappropriate message break which can miscommunicate is as follows:
Department of Pest
Control

For multi-line, avoid widows by evenly distributing text over 2 lines.

For a horizontal break within a line of text use 6 spaces.

RAISED AND BRAILLE CHARACTERS:





Raised lettering and numerals shall be raised 1/32 inch, upper case, UNIVERS and shall be accompanied with Grade 2 Braille with clear finish. Raised characters shall be at least 5/8 inches height, but no higher than two inches. The standard dimensions* for literary Braille are as follows:

Dot base diameter	0.059 – 0.063 inches
Inter-dot spacing	0.090 – 0.100 inches
Horizontal separation between cells	0.241 – 0.300 inches
Vertical separation between cells	0.395 – 0.400 inches


Room numbers and characters that are raised shall be represented in Braille.

**Refer to current ADA code requirements*

DISTRIBUTION:

 Faculty Commons	West Wing Elevator 8 
 Auditorium	Student Involvement 

HORIZONTAL BREAK:

Mon - Fri  9AM - 7PM

TYPOGRAPHY

DESIGN CRITERIA

FINISH:

The characters and background of signs shall be eggshell, matte, or other non-glare finish. An eggshell finish (11 to 19 degree gloss on 60 degree glossimeter) is recommended per ADA requirements. The products listed in these signage standards meet these requirements.


COLOR AND CONTRAST:

Characters and symbols are to be a dark color shown against a light background. The colors within the manual, dark gray and white, comply with the established minimum contrast of 70 percent (ADA requirement). Contrast in percent shall be determined by: $\text{Contrast} = [(B1 - B2)/B1] \times 100$ where B1 = light reflectance value (LRV) of the lighter area and B2 = light reflectance value (LRV) of the darker area. Note that in any application both white and black are never absolute; thus, B1 never equals 100 and B2 is always greater than 0.

NOMENCLATURE:

Sign messages should be proposed by the designer and approved by NC State University, prior to fabrication and installation. Message units should use plain and consistent language to describe locations and routes. The information hierarchy is established by the sign types for identification and informational signs. In all instances, text lines should break within the message in ways that make reading sense. Sign messages should be flush left, ragged right aligned. The designer is responsible for specifying line breaks to fabricators on all signs.

With the exception of directories and specified regulatory information and other university approved exceptions, messages on individual signs should not exceed three lines of text with appropriate line spacing for optimum legibility.

FLOOR	Auditorium	
5	Faculty Research Commons Faculty Senate Terrace Virtual Reality	Living Room Unity Lab
FLOOR	Main Directory	
4	Assembly Room Copyright & Digital Center Digital Library Initiatives External Relations	Information Technology ITTC Labs
FLOOR	Circulation Desk	
3	Access Services Collections & Res. Strategy Interlibrary Loan/Tripsaver	
FLOOR	Engineering Lab	
2	Unity Lab Visualization Studio Scanning Studios The Creamery	NC Live Preservation Research Engagment Special Collections Office
FLOOR	Ask Us	
1	Technology Lending Game Space Makerspace Quick Print	

ICONS

ARROWS

Arrows are used on directional signage, and shall adhere to the following rules:

WALL-MOUNT:

Text justified left, directional arrows on the left of the sign.

BLADES:

Text justified to the wall edge, arrows justified to the open edge

OVERHEAD:

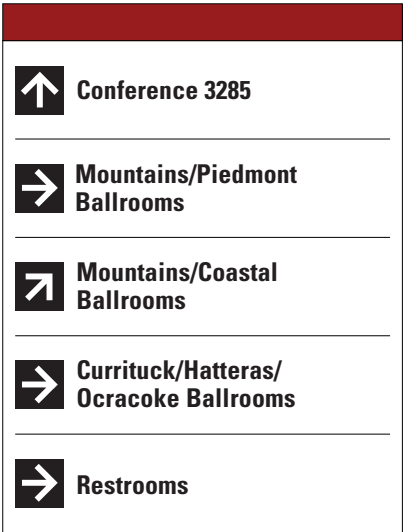
Text and arrows justified to the adjacent open edge.

Example:
for 2 columns of text, left column is justified left and right column is justified right

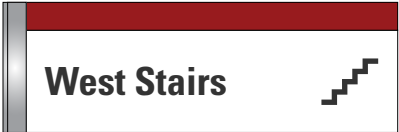
for 3 columns of text, left and center column are justified left, right column is justified right

Where several messages are involved, it is recommended to dedicate a complete blade of a sign to the directional function, arrow or plain language description.

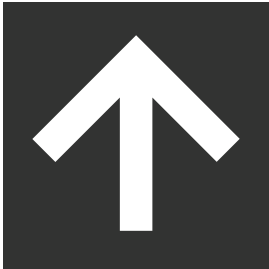
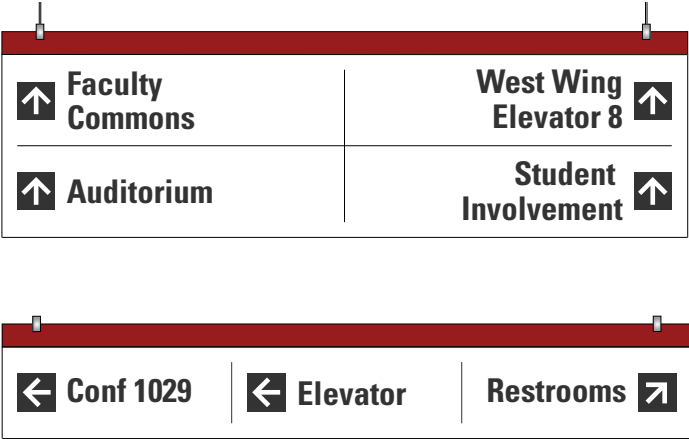
WALL-MOUNT:



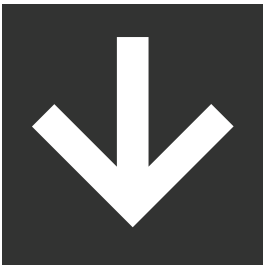
BLADES:



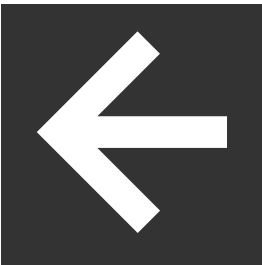
OVERHEAD:



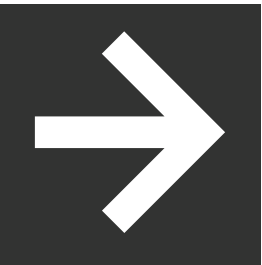
FORWARD



BACK



LEFT



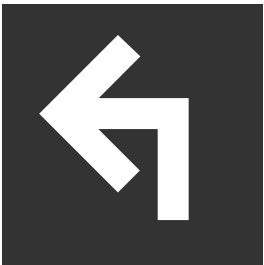
RIGHT



45° RIGHT



45° LEFT



90° TURN LEFT



90° TURN RIGHT



U-TURN LEFT



U-TURN RIGHT

ICONS

PICTOGRAPHS

PICTORIAL SYMBOL SIGNS:

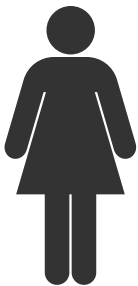
Pictographs shall be accompanied by the equivalent verbal description placed directly below the pictograph. When pictographs are used to identify permanent rooms or spaces, like restrooms, verbal descriptions shall be in raised letters and in braille.

The total height of the background of the pictograph shall be six inches minimum. This rule does not apply if the pictograph is used as non-essential add-on information to another sign.

Facilities and elements required to be identified as accessible by ADA, Title III Accessibility Guidelines, section 4.1, shall use the international symbol of accessibility. Pictographs required for Volume Control Telephones, Text Telephones, and Assistive Listening Systems shall comply with this section.



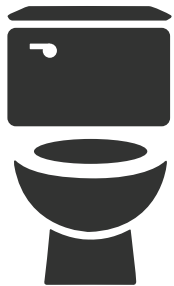
ACCESSIBILITY



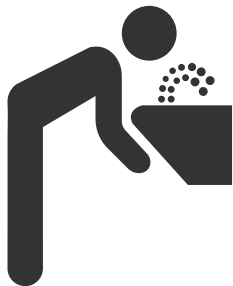
WOMEN



MEN



**SINGLE OCCUPANT
TOILET**



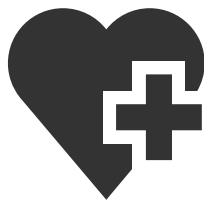
DRINKING FOUNTAIN



CHANGING STATION



LACTATION



PERSONAL HEALTH



PASSPORT



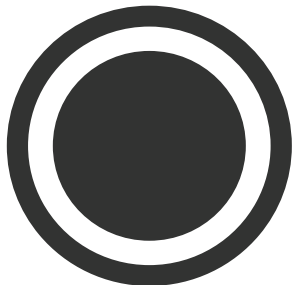
RESTAURANT



COFFEE SHOP



**ASSISTIVE LISTENING
DEVICE**



YOU ARE HERE



INFORMATION



NO FOOD OR DRINK



NO SMOKING

MATERIALS

PICTOGRAPHS

The Interior Sign System manufacture, installation and maintenance shall comply with the criteria listed below. Based on research, study and analysis of products, manufacturing equipment and operating software, the following system was recommended by 310 Architecture + Interiors and adopted by NC State University for identification signs and other simple plaque signs to be internally manufactured:

EQUIPMENT:

- New Hermes Engraver (existing)
- Vinyl Cutter (existing)
- Computer with Monitor (existing)
- Microsoft Operating System (existing)
- Braille Font Conversion Program (existing)
- Flexi-Sign PRO software (existing)
- New Rotary Cutter bits appropriate for cutting acrylic (described below)

The Flexi-Sign PRO software will generate the graphics and provide

the database for the system. It is recommended that a laser cutter be considered for future purchase. The capacity to cut sign blanks with a laser will result in cleaner cuts and a more polished finish product.

MATERIALS:

The primary sign materials consist of products as described below. Products identified as “basis of design” are opportunities for material substitution, provided the substitution meets the performance specs. Products not identified as “basis of design” will not accept substitutes.

White Acrylic – (basis of design) 0.125” or 0.080” clear acrylic; non-glare P-99 finish; sub-surface applied color, matched to Wolfpack White, with protective back coating; Plaskolite Optix P-99, Evonik Pop Touch, Mitsubishi Non-Glare, or other approved alternate

Color to be pre-applied to 2’ x 4’ sheets by approved third party fabricator; sign blanks to be cut, in-house, with rotary machine or laser cutter

Solid Body Acrylic, Red - 0.125” or 0.080” 1-Ply ADA Alternative by Rowmark; Color 341601, all parts cut in-house

Solid Body Acrylic, White - 1/32” 1-Ply ADA Alternative by Rowmark; Color 311201; Raised letters and icons cut in-house and adhered through the New Hermes system

Solid Body Acrylic, Gray - 1/32” 1-Ply ADA Alternative by Rowmark; Color Matched to HEX 333333 (90% gray) from manufacturer’s standard colors; Raised letters and icons cut in-house and adhered through the New Hermes system

Sheet Vinyl, Gray – (basis of design) Gray gloss opaque vinyl by 3M Nimbus Gray 97 or other approved alternate, Color Matched to HEX 333333 (90% gray, pantone 7540c) from manufacturer’s standard colors; letter and icons cut, with vinyl cutter, and applied in-house

Sheet Vinyl, Frosted – (basis of design) frosted look translucent vinyl, SX-3140 Dusted Crystal by Solyx or other approved alternate; letter and icons cut, with vinyl cutter, and applied in-house

Foam Tape – (basis of design) 1/2” width x 36 yards. To be used on on solid walls.

Sheet Adhesive – (basis of design) 3M 9088 12” wide x 60 yards. to be used on translucent walls.

Magnetic Tape – (basis of design) 1” width x 100 feet x 0.030” steel tape (on back plate) and 1/2” x 100’ x 0.060” magnetic stripping (on face plate), both by Grimco or approved alternate

Sheet Magnet – (basis of design) 24” x 50’ x 0.030” sheet magnet, color white, by Grimco or approved alternate

Larger wayfinding signs shall be constructed of a variety of materials, but all colors and graphics shall comply with these identification sign standards.

There will be instances of interior signs being required in exterior locations, such as an outdoor-facing mechanical room. In such cases the fabrication shall employ more appropriate materials and methods.

Exterior Alternates

- White Acrylic: Aluminum Panel with WHITE (Matthews Acrylic polyurethane paint to match 3M Scotchal Vinyl #3470 Matte White) high gloss finish
- Red Acrylic: Aluminum Panel with RED (Matthews Acrylic polyurethane paint to match 3M Scotchal Vinyl #7725-63 Geranium Red), satin finish
- Gray Vinyl: BLACK vinyl machine-cut letters, 3M Scotchal Vinyl #3475, Matte Black
- Acrylic Braille: metal braille, finish to match painted substrate
- All fasteners are to be stainless steel.
- When dissimilar materials are in contact, the contacting surfaces shall be coated with asphalic paint to prevent oxidation and electrolysis. Aluminum and steel are not to come in contact.

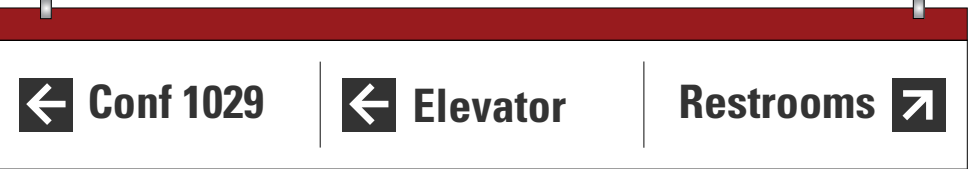
ABBREVIATIONS

STANDARD ABBREVIATIONS

ACCESSIBLE	ACC	INFORMATION	INFO
ADMINISTRATION	ADMIN	MANAGEMENT	MGMT
ASSISTANCE	ASST	MANUFACTUR(E/ING)	MFR
BOOKSTACK	STACK	NORTH	N
CENTER	CTR	REFERENCE	REF
CIRCULATION	CIRC	REQUIRED	REQD
COMPUTER	COMP	RESTROOMS	TOILET
COMMUNICATIONS	COMMS	ROUTE	RTE
CONFERENCE	CONF	SCIENCE	SCI
DELIVERY	DEL	SOUTH	S
DEPARTMENT	DEPT	STUDENT	STUD
DIRECTORY	DIR	TECHNOLOGY	TECH
EAST	E	WEST	W
ELECTRICAL	ELEC		
ELEVATOR	ELEV		
EMERGENCY	EMERG		
ENGINEERING	ENG		
ENTRANCE	ENT		
EQUIPMENT	EQUIP		
EVACUATION	EVAC		
FLOOR	FLR		
GRADUATE	GRAD		

WHEN TO USE:

If there is limited character allowance, use these abbreviations for consistent destinations.



GLOSSARY

BACK PLATE:

Secondary layer of acrylic, between wall surface and face of sign

BLADES:

Directional signs, mounted perpendicular to the wall face

BRAILLE BAR:

Raised strip of white acrylic, thickness to match adjacent red header, to receive raised braille

BUILDING DIRECTORY:

List of room numbers and room functions within a building, with college or departmental location information

BUILDING ORIENTATION MAP:

Building floor plans showing location of college and department destinations, accessible building elements, special accommodations and restrooms; larger more complex buildings may require color to aid in wayfinding

CHARACTER LIMIT:

The maximum number of letters, spaces, and numbers that will fit in a field of text.

COMMEMORATIVE SIGN:

Commemorative signs provide recognition to those who have donated to a space, area, feature, or building.

DIRECTIONAL SIGN:

List of landmark locations on a single building floor, with directional arrows

EVACUATION MAP:

Building floor plans showing building exits and routes to exit the building in case of an emergency

FIRST SURFACE:

The top or front face of a material, i.e. the side facing the viewer

FOAM TAPE:

Double sided foam tape strips, standard method for mounting signs to wall surface unless otherwise noted. Not to be used for transparent applications.

INFORMATIONAL SIGN:

Informational signs provide specific information, situational warnings, and/or obligatory directions.

INSERT:

Printed information sheet, 8.5” x 11” or 11” x 17”, generated by end users, placed into insert holders by end users; template provided by OUA

MOUNTING LOCATION DIAGRAM:

Diagram of sign as intended to be installed, showing relative scale and installation dimensions

MAGNETIC BACK PLATE:

Secondary layer of acrylic, between wall surface and face of sign, with thin layer of magnetic film on first surface

METAL FASTENERS:

Threaded and tapped metal screws running through multiple layers of material

GLOSSARY

NAME PLATE:

1/8” clear acrylic, non-glare
P-99 finish, subsurface printed
color matched to Wolfpack
White, protective back coating;
gray text is printed on first
surface, with thin layer of
magnetic film on subsurface

OVERHEAD SIGN:

List of landmark locations
within a building, with
directional arrows, to be hung
from the ceiling or structure
above corridor or along a path
of travel

RAISED BRAILLE:

ADA compliant braille
characters, clear, produced
with rotary machine

RAISED ICON:

ADA compliant icons or
pictograms, produced with
rotary machine or laser cutter

RAISED TEXT:

ADA compliant text characters,
produced with rotary machine
or laser cutter

ROOM IDENTIFICATION SIGNS:

Identification signs provide
room numbers, department
names, space uses, personnel
names and other information.

SHEET ADHESIVE:

Double sided sheet adhesive,
run full length and width of
sign, standard method for
laminating layers of acrylic
unless otherwise noted.Utilize
sheet adhesive when installing
on glass.

STICKERS:

Vinyl material adhered to glass,
conveys information like office
hours, no smoking, etc

SUBSURFACE:

The bottom or back face of a
material, i.e. the side facing
the wall, also called second
surface

SUITE DIRECTORY:

List of departments or staff
members located in a suite

T-BAR:

2” deep extruded clear
anodized aluminum T profile,
cut to length as needed. Basis
of design: JRS Combo Ceiling
Bracket

WAYFINDING SIGNS:

Wayfinding signs provide
directional or building layout
information for guidance to a
destination.

WIDOW:

A very short line – usually
one word, or the end of a
hyphenated word – at the end
of a paragraph or column

SECTION 3: SIGN STANDARDS

SIGN TYPE 1:

ROOM ID (BRAILLE)

DESCRIPTION:

Wall sign with permanent room number

MATERIAL:

Back Plate: 8” wide x 2” high, white acrylic (0.125” clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

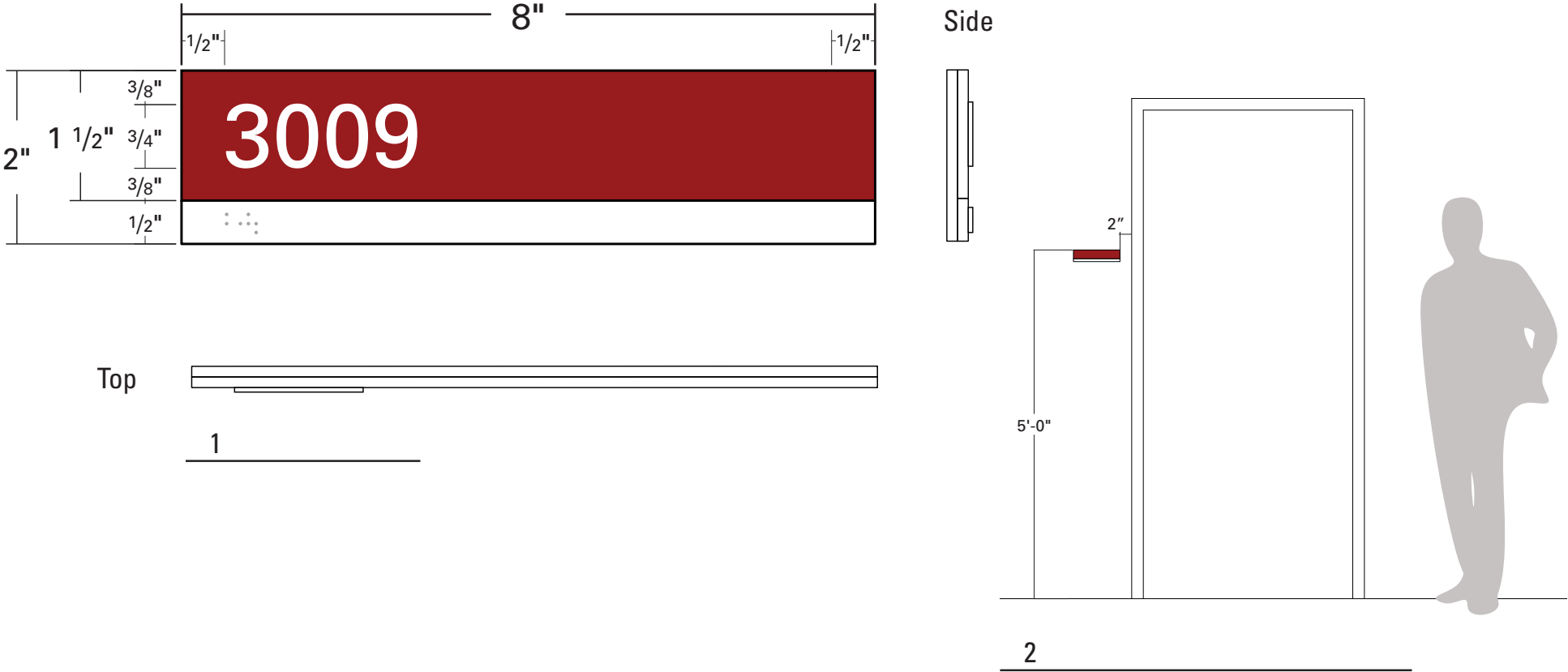
Raised Header: 8” wide x 1.5” high, red acrylic (0.080” 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plate with sheet adhesive

Braille Bar: 8” wide x 0.5” high, white acrylic (0.080” clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating) attached to back plate with sheet adhesive

TYPOGRAPHY / GRAPHICS:

Room number: UNIVERS 55, 3/4” cap height, raised letters appliqué, 1/32” 1-ply ADA Alternative by Rowmark, color #311201

Braille: 1/4” height, clear finish appliqué



SIGN TYPE 1A:

ROOM ID WITH TEXT (BRAILLE)

DESCRIPTION:

Wall sign with permanent room number and secondary information including room function

MATERIAL:

Back Plate: 8” wide x 5” high, white acrylic (0.125” clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

For signs with less text, the back plate may be reduced to 8” wide x 5” high

Raised Header: 8” wide x 1.5” high, red acrylic (0.080” 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plate with sheet adhesive

Braille Bar: 8” wide x 0.5” high, white acrylic (0.080” clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating) attached to back plate with sheet adhesive

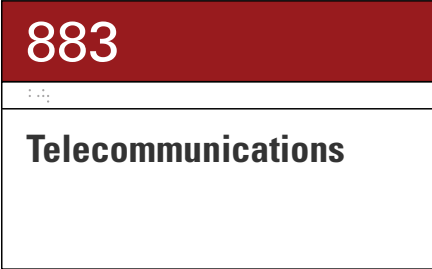
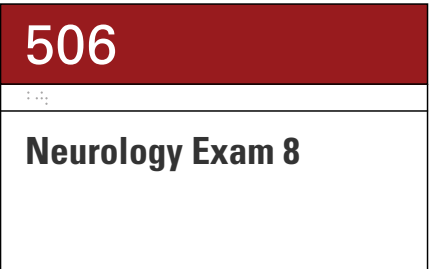
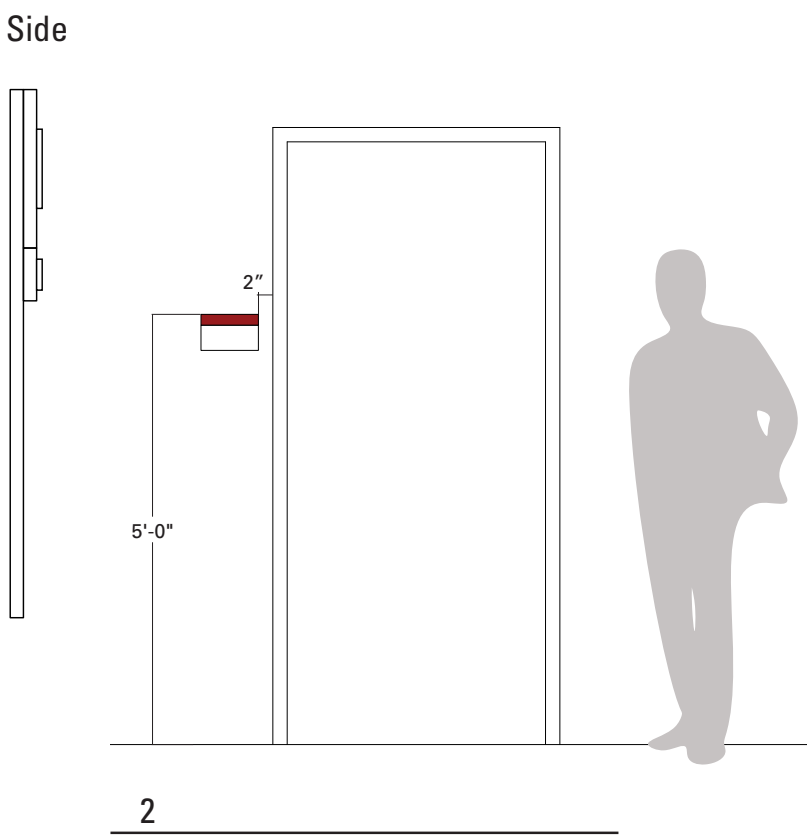
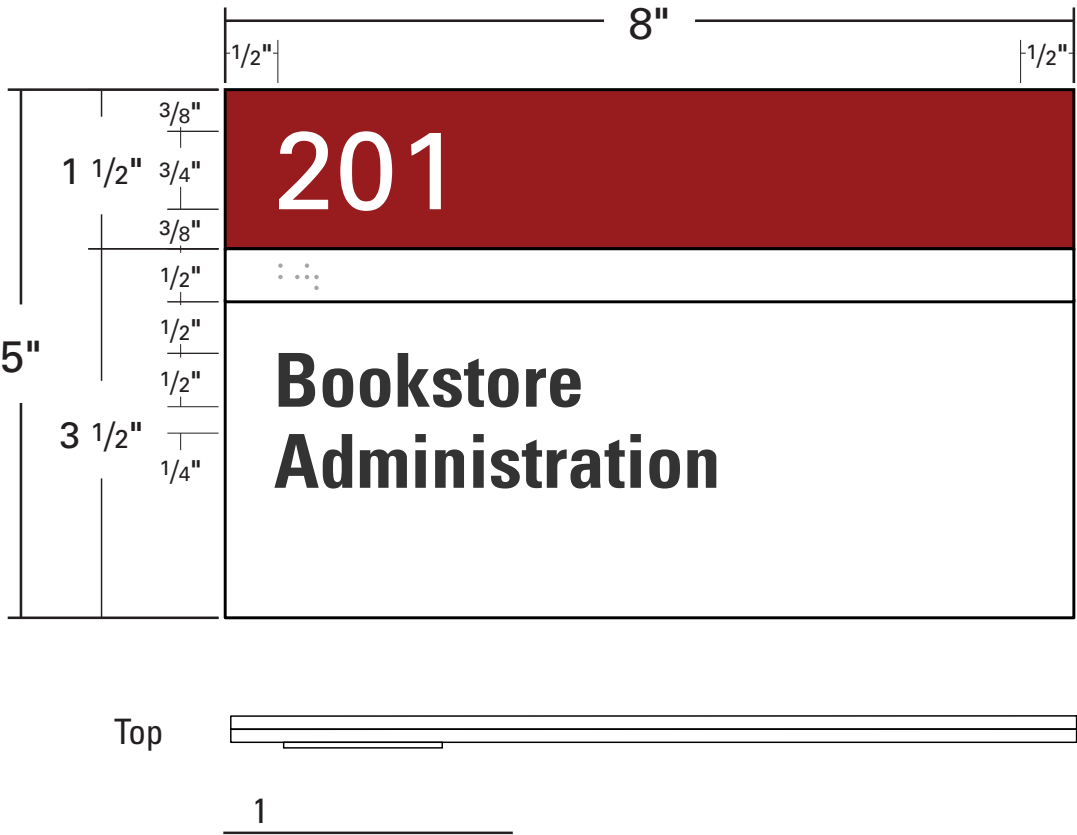
TYPOGRAPHY / GRAPHICS:

Room number: UNIVERS 55, 3/4” cap height, raised letters appliqué, 1/32” 1-ply ADA Alternative by Rowmark, color #311201

Braille: 1/4” height, clear finish appliqué

Information Copy: UNIVERS 67, 1/2” and 3/8” cap height, gray cut vinyl applied to first surface of back plate

Character Limits:
Header = 17 characters per line, 51 characters in total



SIGN TYPE 1B:

DESCRIPTION:

Wall sign with permanent room number and secondary information including room function

MATERIAL:

Back Plate: 8" wide x 7" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

For signs with less text, the back plate may be reduced to 8" wide x 5" high

Raised Header: 8" wide x 1.5" high, red acrylic (0.080" 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plate with sheet adhesive

Braille Bar: 8" wide x 0.5" high, white acrylic (0.080" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating) attached to back plate with sheet adhesive

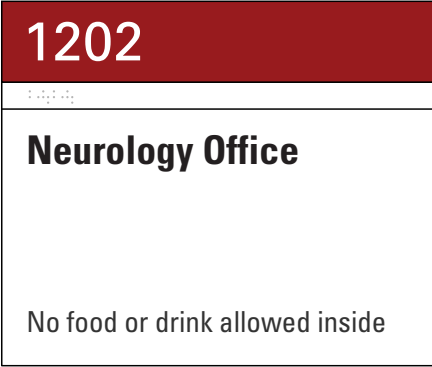
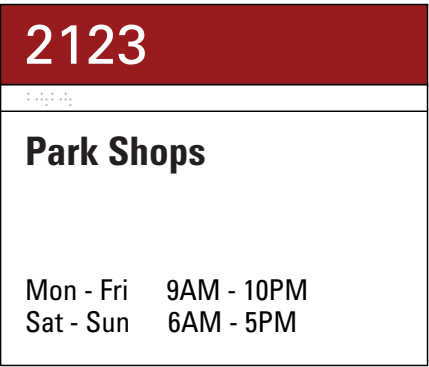
TYPOGRAPHY / GRAPHICS:

Room number: UNIVERS 55, 3/4" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, color #311201

Braille: 1/4" height, clear finish appliqué

Information Copy: UNIVERS 67, 1/2" and UNIVERS 57 3/8" cap height, gray cut vinyl applied to first surface of back plate

Character Limits:
Header = 18 characters per line, 72 characters in total
Sub-header = 24 characters per line, 48 characters in total



SIGN TYPE 1C:

HOTEL WORKSTATIONS

DESCRIPTION:

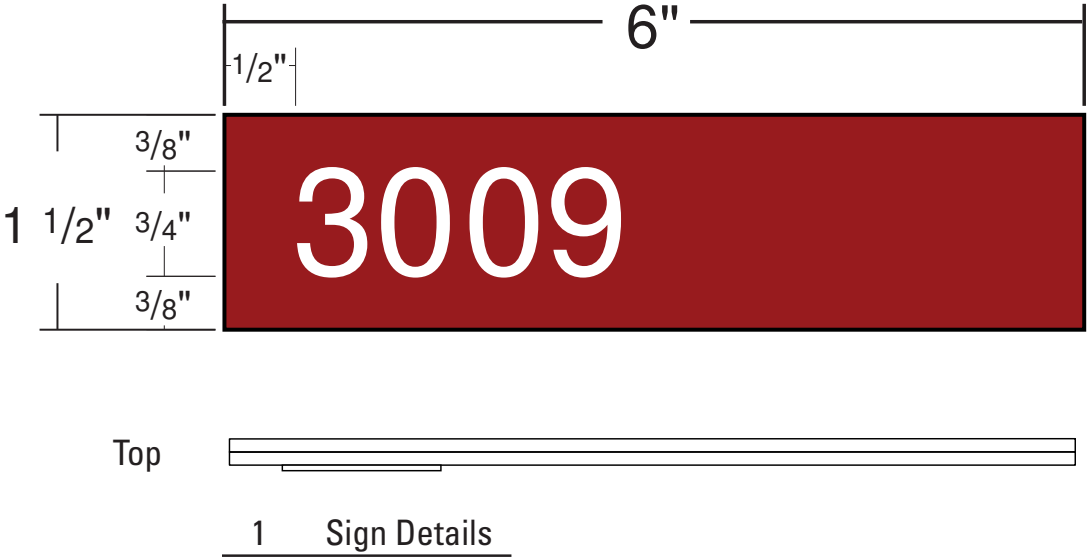
Grouped workstation identification number. Used for clusters of workstations not individually numbered.

MATERIAL:

Backer: 6" wide x 1.5" high, red acrylic (0.080" 1-ply ADA Alternative by Rowmark, Color #341601), attached directly to workstation with double-sided tape.

TYPOGRAPHY / GRAPHICS:

Room number: UNIVERS 55, 3/4" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, color #311201



SIGN TYPE 2A:

DESCRIPTION:

Wall sign with permanent room number identification and (1) interchangeable name plate

MATERIAL:

Back Plate: 8" wide x 5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), steel tape for magnetic name plate mounting, attached to wall with foam tape

Face Plates: 8" wide x 2" high and 8" wide and 2.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to back plate with sheet adhesive

Name Plate: 8" wide x 3" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to back plate with subsurface applied magnetic tape

Raised Header: 8" wide x 1.5" high, red acrylic (0.125" 1-ply ADA

Alternative by Rowmark, Color #341601), attached to face plate with sheet adhesive

Braille Bar: 8" wide x 0.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating) attached to back plate with sheet adhesive

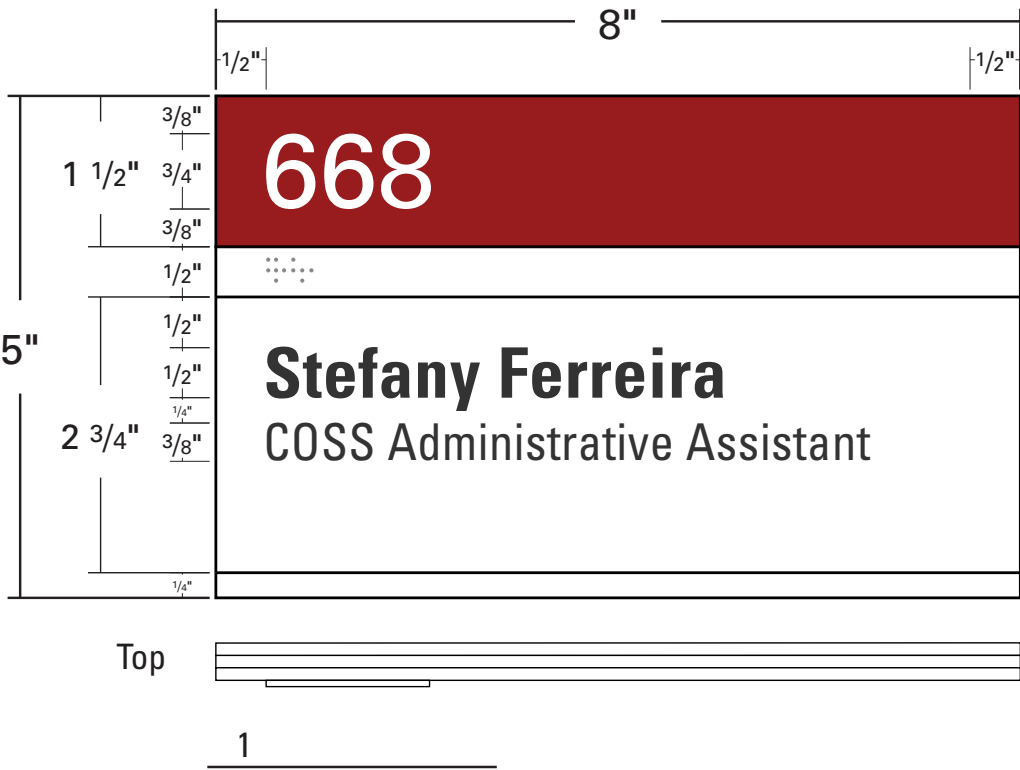
TYPOGRAPHY / GRAPHICS:

Room number: UNIVERS 55, 3/4" cap height, raised letters applique, 1/32" 1-ply ADA Alternative by Rowmark, color #311201

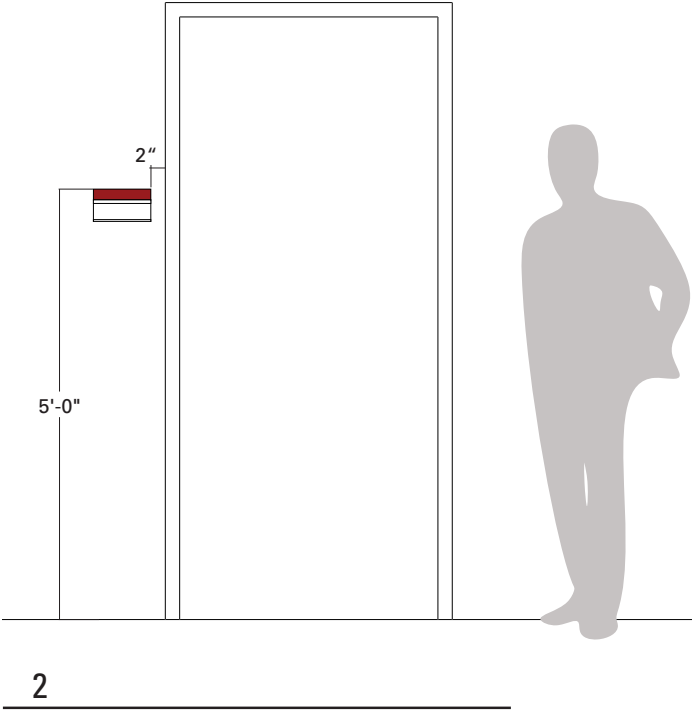
Braille: 1/4" height, clear finish appliqué

Information Copy: UNIVERS 67, 1/2" and UNIVERS 57 3/8" and cap height, gray cut vinyl applied to first surface of back plate


Character Limits:
Header = 18 characters per line, 36 characters in total
Sub Header = 25 characters per line, 50 characters in total



Side




9999

Samantha Lynn Calabrese
University Program Associate

503

Zandra Alford
Nutrition Programs Manager

1560

Joseph Rodrigez
Business Services Administrative Support

SIGN TYPE 2B:

ROOM ID WITH DOUBLE NAME PLATE

DESCRIPTION:

Wall sign with permanent room number identification and (2) interchangeable name plates

MATERIAL:

Back Plate: 8” wide x 8.25” high, white acrylic (0.125” clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), steel tape for magnetic name plate mounting, attached to wall with foam tape

Face Plates: 8” wide x 2” high (Quantity 1) and 8” wide and .25” high (Quantity 2), white acrylic (0.125” clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to back plate with sheet adhesive

Name Plates: 8” wide x 3” high, white acrylic (0.125” clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to back plate with subsurface applied magnetic tape

Raised Header: 8” wide x 1.5” high, red acrylic (0.125” 1-ply ADA Alternative by Rowmark, Color #341601), attached to face plate with sheet adhesive

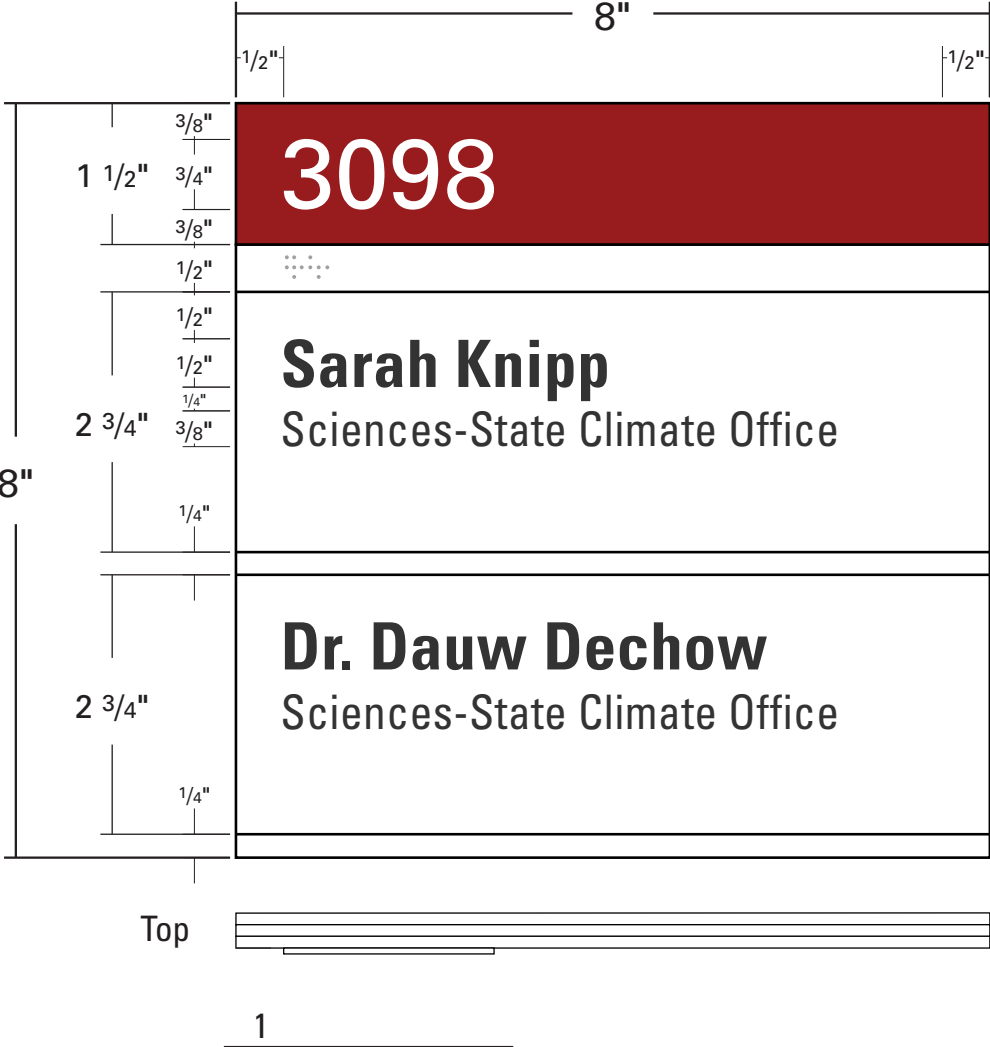
Braille Bar: 8” wide x 0.5” high, white acrylic (0.125” clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating) attached to back plate with sheet adhesive

TYPOGRAPHY / GRAPHICS:
Room number: UNIVERS 55, 3/4” cap height, raised letters appliqué, 1/32” 1-ply ADA Alternative by Rowmark, color #311201

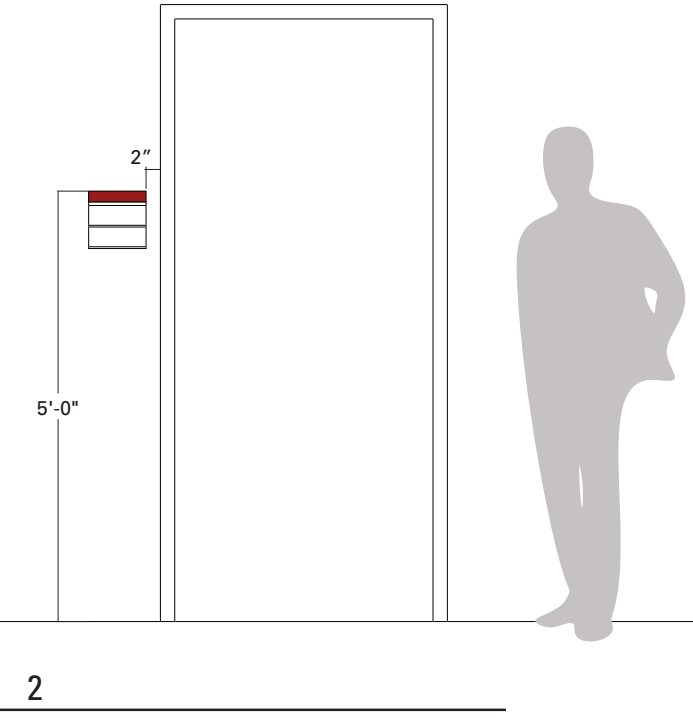
Braille: 1/4” height, clear finish appliqué

Information Copy: UNIVERS 67, 1/2” and UNIVERS 57 3/8” cap height, gray cut vinyl applied to first surface of back plate

Character Limits:
Header = 18 characters per line, 36 characters in total
Sub Header = 25 characters per line, 50 characters in total



Side



546

Dr. Christine S. Grant
Associate Dean of Faculty Advancement

Dr. Jerome Lavelle
Associate Dean of Academic Affairs

263

Dr. John G. Gilligan
Associate Dean of Faculty Advancement

Griffin Lamb
Dean for Development and College Relations

6677

Brent Lancaster
Interim Director of Communication

Lauren Carlton
Public Communications Specialist

SIGN TYPE 3A:

DESCRIPTION:

Wall sign with permanent room number and restroom information, 1 text line

MATERIAL:

Back Plate: 8" wide x 9.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

Raised Header: 8" wide x 1.5" high, red acrylic (0.080" 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plate with sheet adhesive

Braille Bar: 8" wide x 0.5" high, white acrylic (0.080" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating) attached to back plate with sheet adhesive

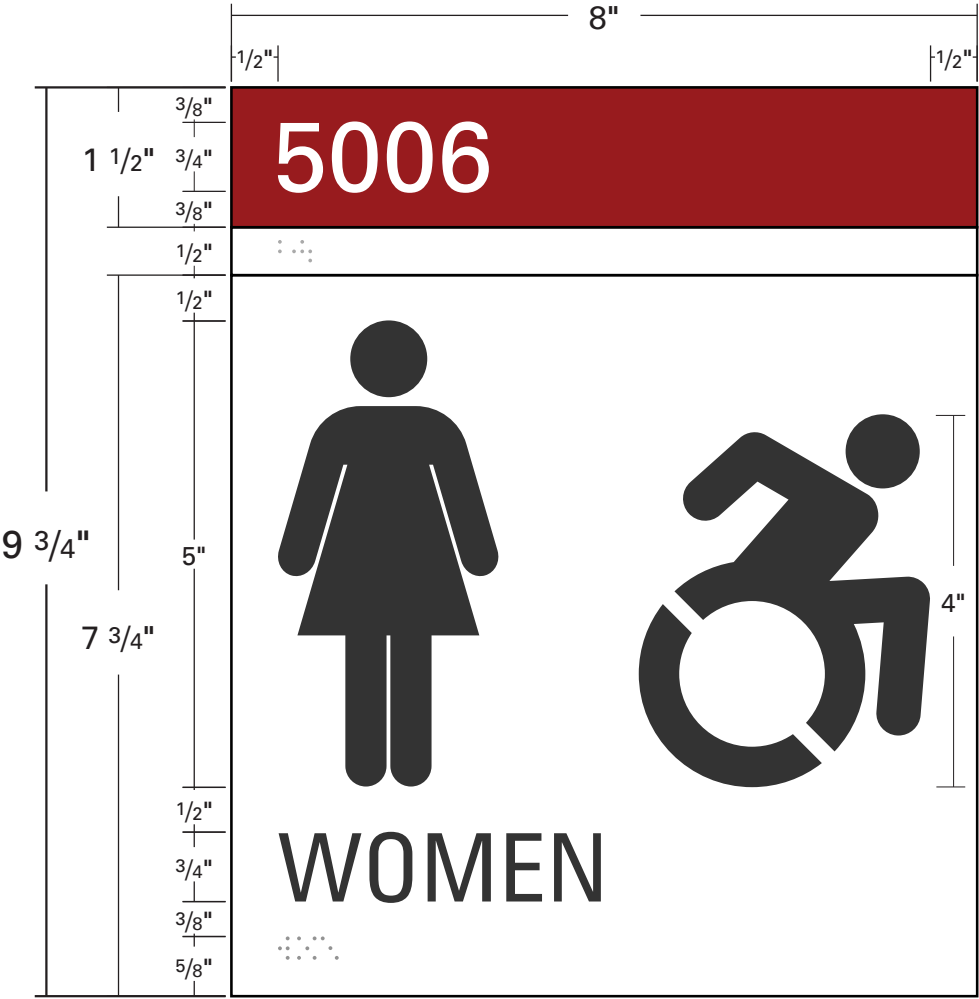
TYPOGRAPHY / GRAPHICS:

Room number: UNIVERS 55, 3/4" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, color #311201

Braille: 1/4" height, clear finish appliqué

Information Copy: UNIVERS 57, 3/4" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, Color Matched to HEX 333333 (90% gray) from manufacturer's standard colors

Character Limits:
13 characters

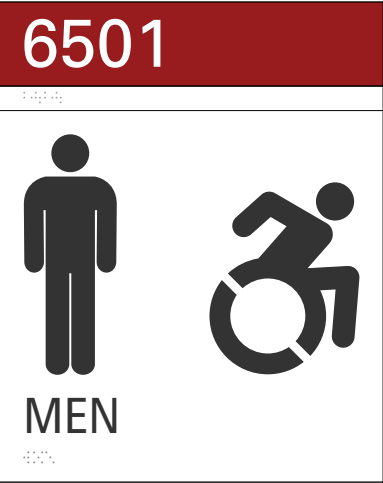
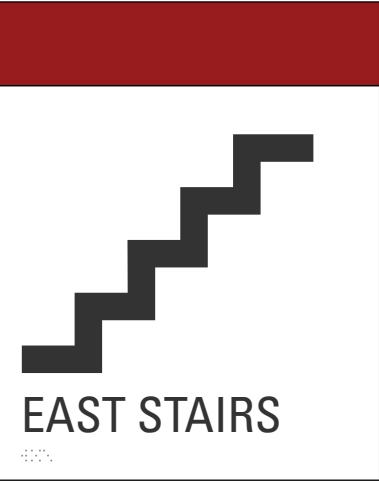


Top

1

Side

2



SIGN TYPE 3B:

ROOM ID WITH ICON: MULTI-LINE

DESCRIPTION:

Wall sign with permanent room number and restroom information, 3 text lines

MATERIAL:

Back Plate: 8" wide x 9" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

Raised Header: 8" wide x 1.5" high, red acrylic (0.080" 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plate with sheet adhesive

Braille Bar: 8" wide x 0.5" high, white acrylic (0.080" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating) attached to back plate with sheet adhesive

TYPOGRAPHY / GRAPHICS:

Room number: UNIVER 55, 3/4" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, color #311201

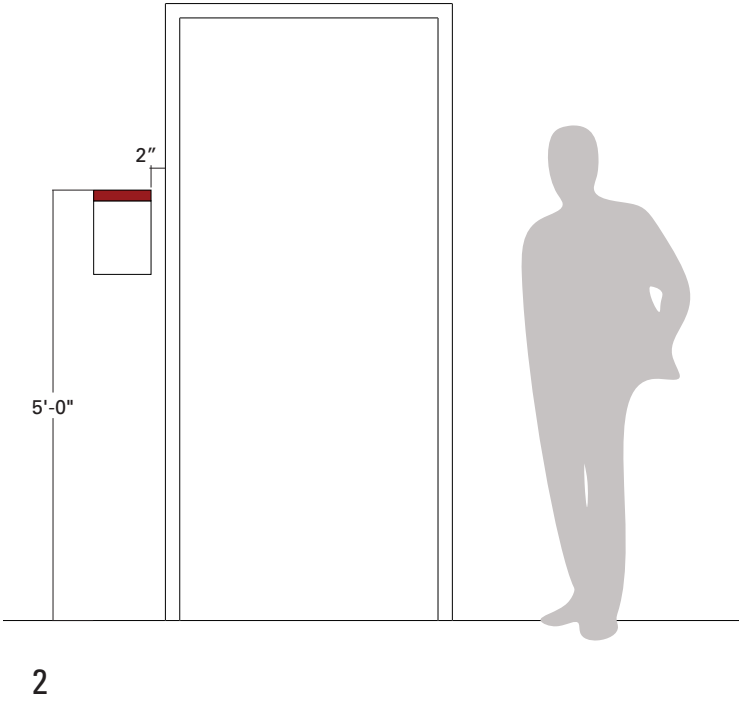
Braille: 1/4" height, clear finish appliqué

Information Copy: UNIVER 57, 3/4" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, Color Matched to HEX 333333 (90% gray) from manufacturer's standard colors

Character Limits:
13 characters per line, 39 characters in total

ICONS:

4" high appliqué, 1/32" 1-ply ADA Alternative by Rowmark, Color Matched to HEX 333333 (90% gray) from manufacturer's standard colors



SIGN TYPE 3C:
ROOM ID WITH ICON: MULTI-LINE

DESCRIPTION:

Wall sign with permanent room number and secondary information

MATERIAL:

Back Plate: 8" wide x 11-1/2" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

Raised Header: 8" wide x 1.5" high, red acrylic (0.080" 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plate with sheet adhesive

Braille Bar: 8" wide x 0.5" high, white acrylic (0.080" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating) attached to back plate with sheet adhesive

TYPOGRAPHY / GRAPHICS:

Room number: UNIVERS 55, 3/4" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, color #311201

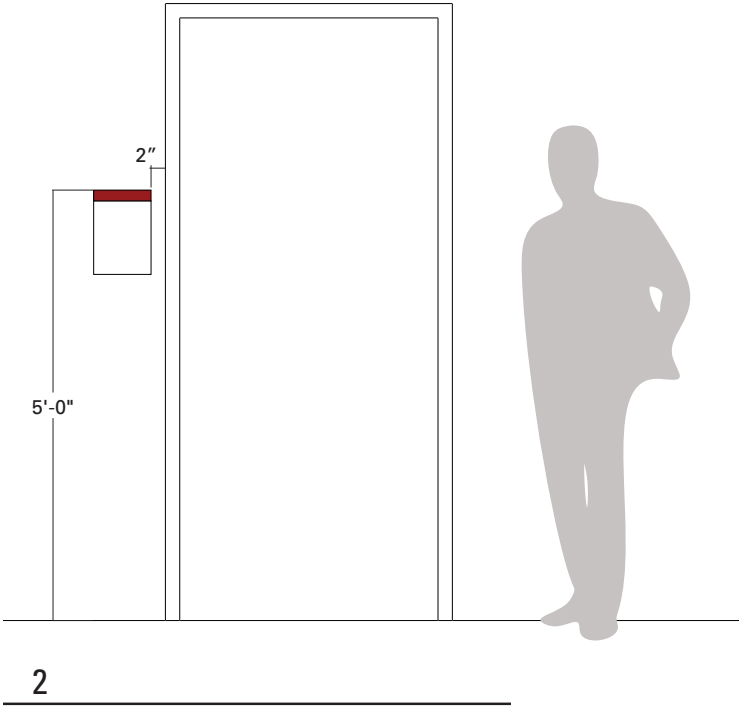
Braille: 1/4" height, clear finish appliqué

Information Copy: UNIVERS 57, 1/2" cap height, gray cut vinyl applied to first surface of back plate

Character Limits:
20 characters per line, 100 characters in total

ICONS:

5" high appliqué, gray cut vinyl applied to first surface of back plate



SIGN TYPE 4A:

INSERT HOLDERS: 8.5" x 11" PORTRAIT

DESCRIPTION:

Wall sign with optional room number and clear acrylic frame to hold short-term printed information inserts, 8.5 x 11 portrait, information to include program schedule, floor/suite directory, or evacuation map

MATERIAL:

Back Plate: 9" wide x 13.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), steel tape for magnetic insert plate mounting, attached to wall with foam tape

Face Plates: 9" wide x 2" high and 9" wide x 0.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to back plate with sheet adhesive

Insert Plate: 9" wide x 11" high, clear acrylic (0.125" clear acrylic, non-glare P-99 finish), white frame (0.5" border subsurface printed color matched to Wolfpack White, protective back coating at border)

attached to back plate with subsurface applied magnetic tape

Raised Header: 9" wide x 1.5" high, red acrylic (0.125" 1-ply ADA Alternative by Rowmark, Color #341601), attached to face plate with sheet adhesive

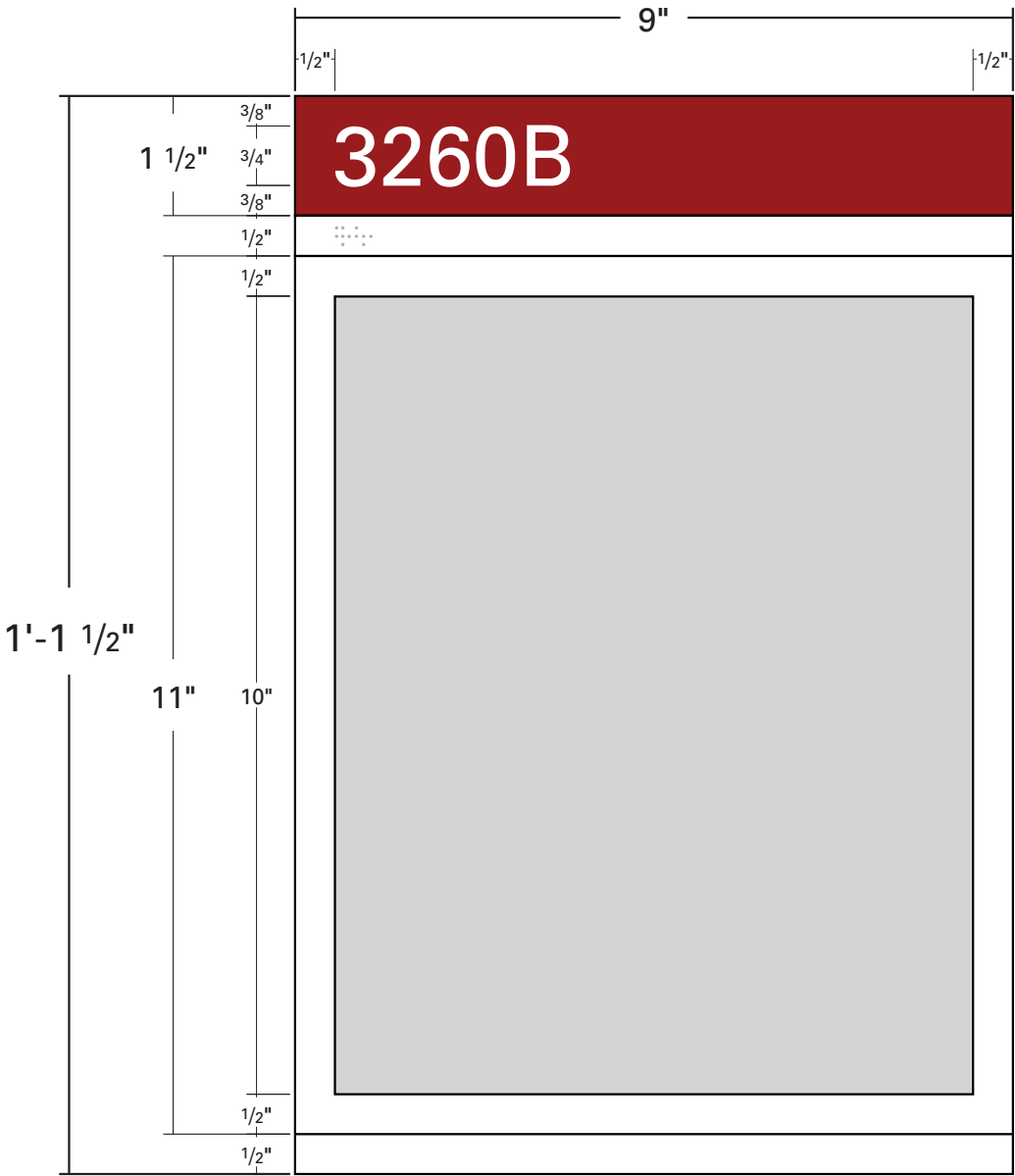
Braille Bar: 9" wide x 0.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating) attached to back plate with sheet adhesive

TYPOGRAPHY / GRAPHICS:

Optional Room number: UNIVERS 55, 3/4" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, color #311201

Optional Braille: 1/4" height, clear finish appliqué

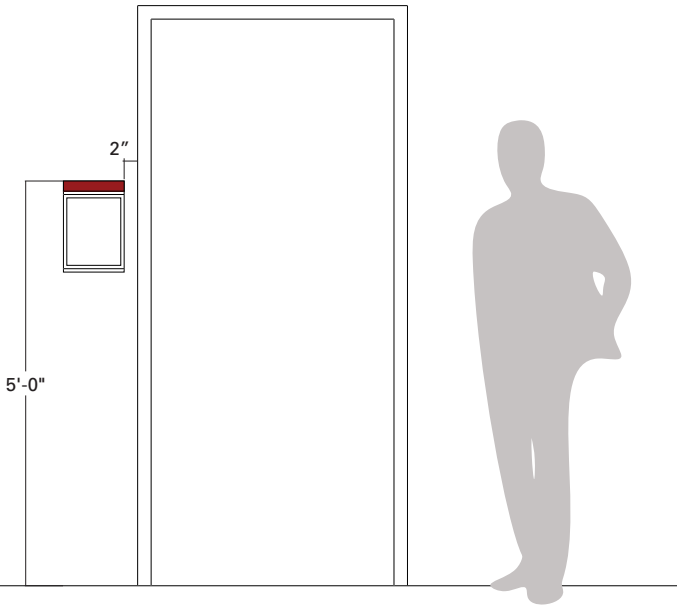
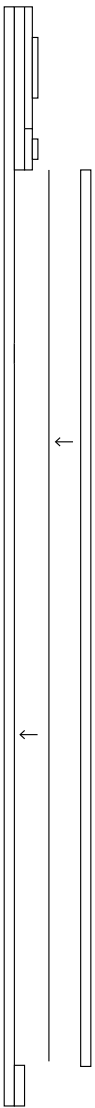
Information Copy: none



Top

1

Side



2



SIGN TYPE 4B:

INSERT HOLDERS: 8.5" x 11" PORTRAIT

DESCRIPTION:

Wall sign with optional room number, secondary information, and clear acrylic frame to hold short-term printed information inserts, 8.5 x 11 portrait, information to include program schedule, floor/suite directory, or evacuation map

MATERIAL:

Back Plate: 9" wide x 16" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), steel tape for magnetic insert plate mounting, attached to wall with foam tape

Face Plates: 9" wide x 4.5" high and 9" wide x 0.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to back plate with sheet adhesive

Insert Plate: 9" wide x 11" high, clear acrylic (0.125" clear acrylic, non-glare P-99 finish), white frame (0.5" border subsurface printed color matched to Wolfpack White, protective back coating at border)

NC STATE UNIVERSITY

attached to back plate with subsurface applied magnetic tape

Raised Header: 9" wide x 1.5" high, red acrylic (0.125" 1-ply ADA Alternative by Rowmark, Color #341601), attached to face plate with sheet adhesive

Braille Bar: 9" wide x 0.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating) attached to back plate with sheet adhesive

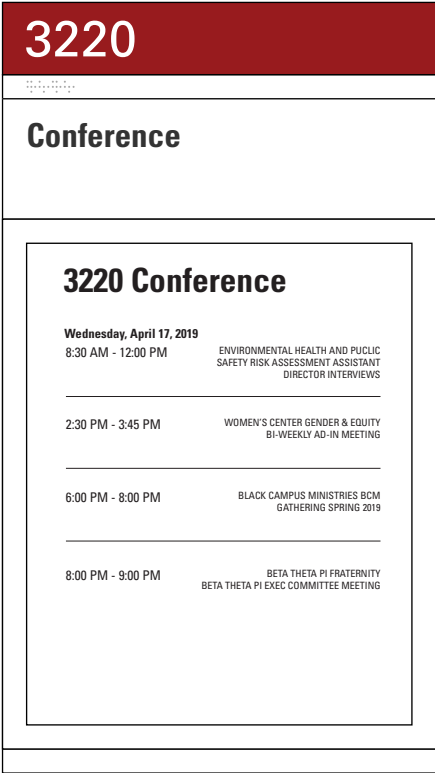
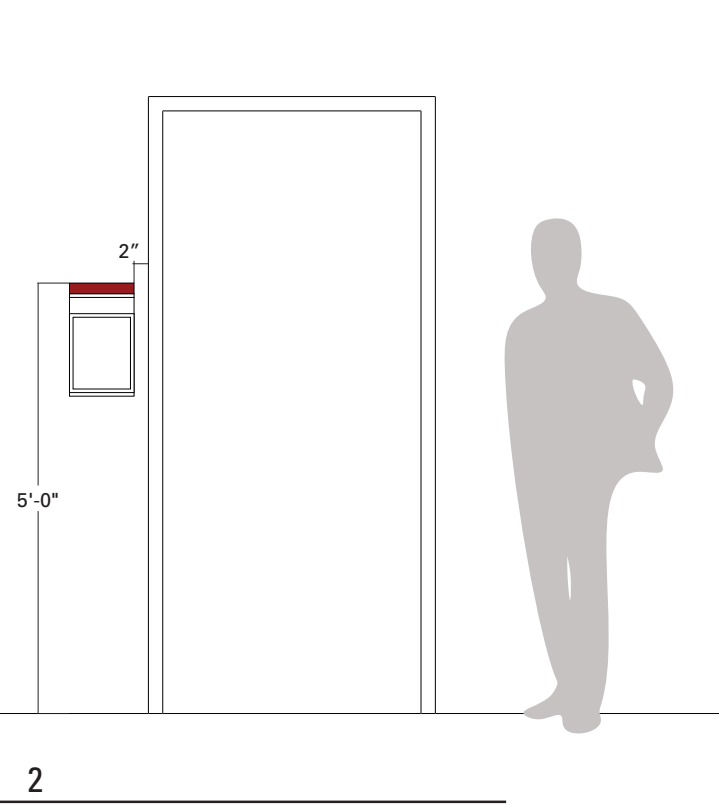
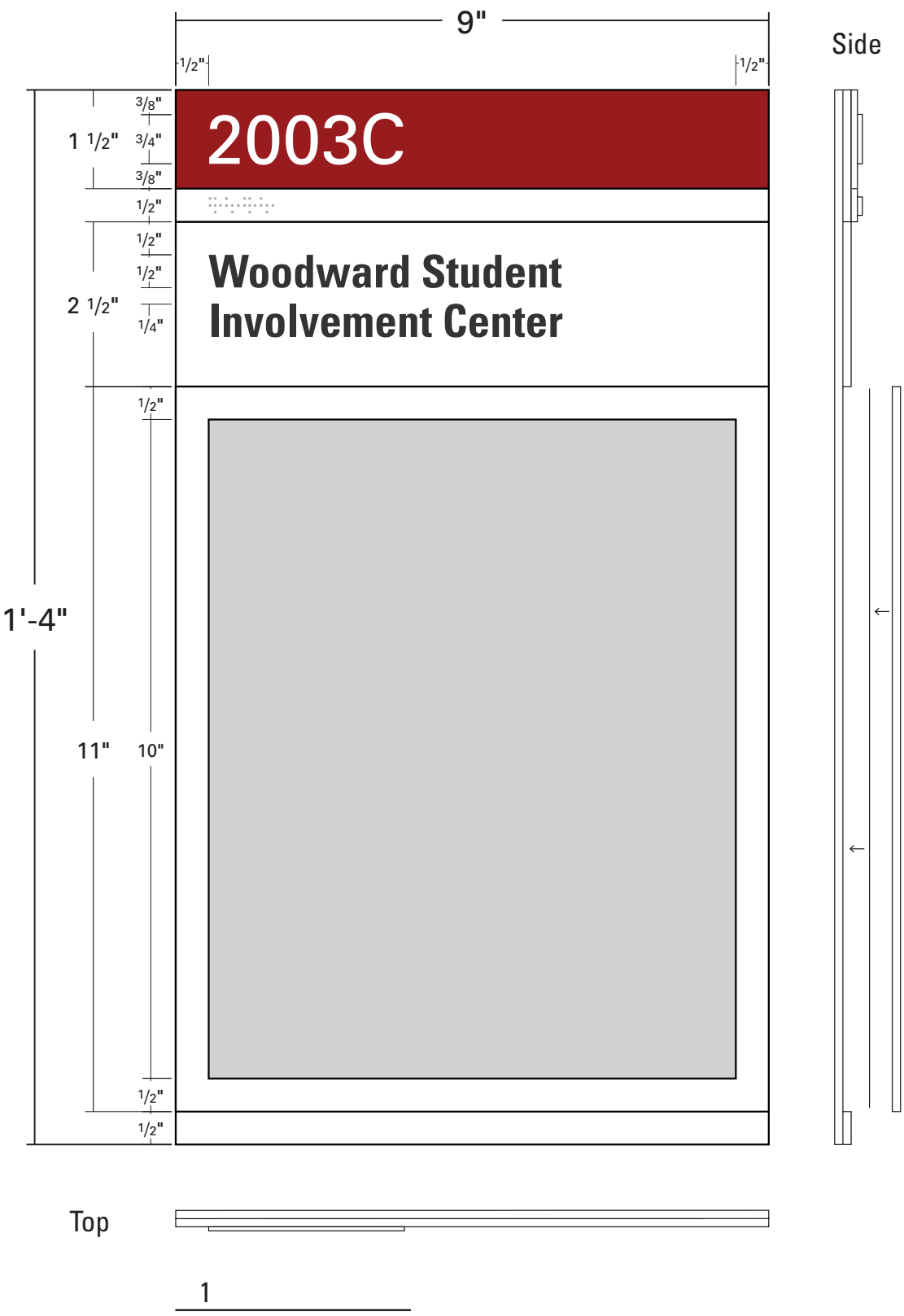
TYPOGRAPHY / GRAPHICS:

Room number: UNIVERS 55, 3/4" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, color #311201

Braille: 1/4" height, clear finish appliqué

Information Copy: UNIVERS 67, 1/2" cap height, gray cut vinyl applied to first surface of back plate

Character Limits:
20 characters per line, 40 characters in total



SIGN TYPE 4C:

INSERT HOLDERS: 8.5" x 11" LANDSCAPE

DESCRIPTION:

Wall sign with optional room number, secondary information, and clear acrylic frame to hold short-term printed information inserts, 8.5 x 11 landscape, information to include program schedule, floor/suite directory, or evacuation map

MATERIAL:

Back Plate: 11.5" wide x 13.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), steel tape for magnetic insert plate mounting, attached to wall with foam tape

Face Plates: 11.5" wide x 4.5" high and 11.5" wide x 0.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to back plate with sheet adhesive

Insert Plate: 11.5" wide x 8.5" high, clear acrylic (0.125" clear acrylic, non-glare P-99 finish), white frame (0.5" border subsurface printed color matched to Wolfpack White, protective back coating at border)

NC STATE UNIVERSITY

attached to back plate with subsurface applied magnetic tape

Raised Header: 11.5" wide x 1.5" high, red acrylic (0.125" 1-ply ADA Alternative by Rowmark, Color #341601), attached to face plate with sheet adhesive

Braille Bar: 11.5" wide x 0.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating) attached to back plate with sheet adhesive

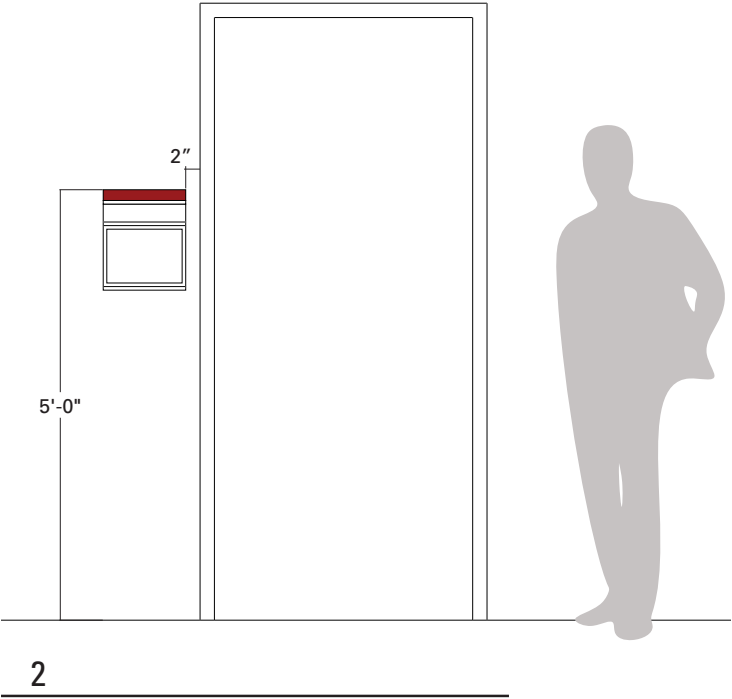
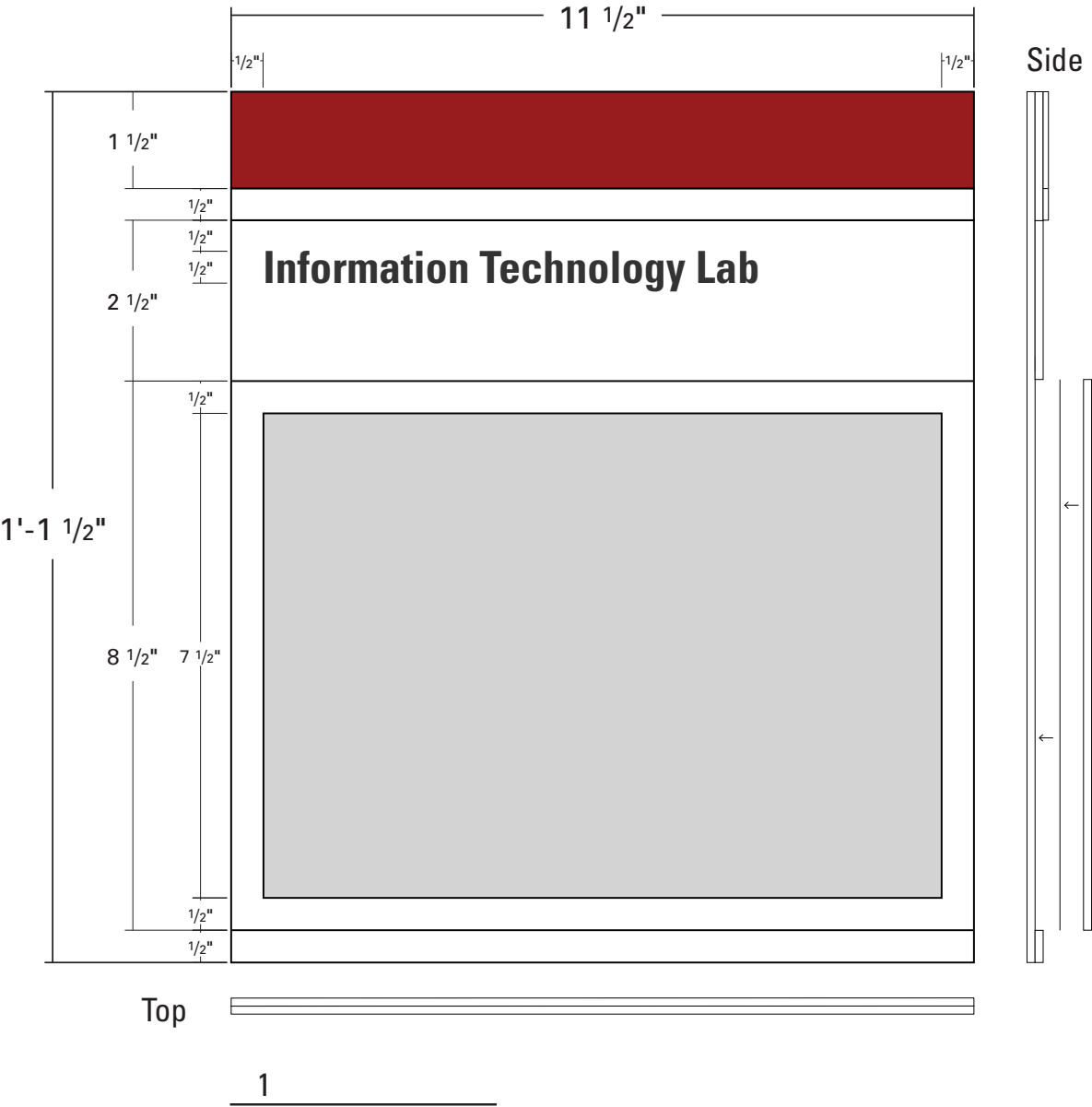
TYPOGRAPHY / GRAPHICS:

Optional Room number: UNIVERS 55, 3/4" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, color #311201

Braille: 1/4" height, clear finish appliqué

Information Copy: UNIVERS 67, 1/2" cap height, gray cut vinyl applied to first surface of back plate

Character Limits:
27 characters per line, 54 in total



450

Information Technology Lab

IT Help Desk Hours

Mon - Fri 8AM - 5PM
Sat - Sun Closed

Lab Hours

Mon - Fri 8AM - 10PM
Sat - Sun 8AM - 7PM

SIGN TYPE 4D:

INSERT HOLDERS: 11" x 17" PORTRAIT

DESCRIPTION:

Wall sign with optional room number, secondary information, and clear acrylic frame to hold short-term printed information inserts, 11 x 17 portrait, information to include program schedule, floor/suite directory, or evacuation map

MATERIAL:

Back Plate: 11.5" wide x 22" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), steel tape for magnetic insert plate mounting, attached to wall with foam tape

Face Plates: 11.5" wide x 4.5" high and 11.5" wide x 0.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to back plate with sheet adhesive

Insert Plate: 11.5" wide x 17" high, clear acrylic (0.125" clear acrylic, non-glare P-99 finish), white frame (0.5" border subsurface printed color matched to Wolfpack White, protective back coating at border)

NC STATE UNIVERSITY

attached to back plate with subsurface applied magnetic tape

Raised Header: 11.5" wide x 1.5" high, red acrylic (0.125" 1-ply ADA Alternative by Rowmark, Color #341601), attached to face plate with sheet adhesive

Braille Bar: 11.5" wide x 0.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating) attached to back plate with sheet adhesive

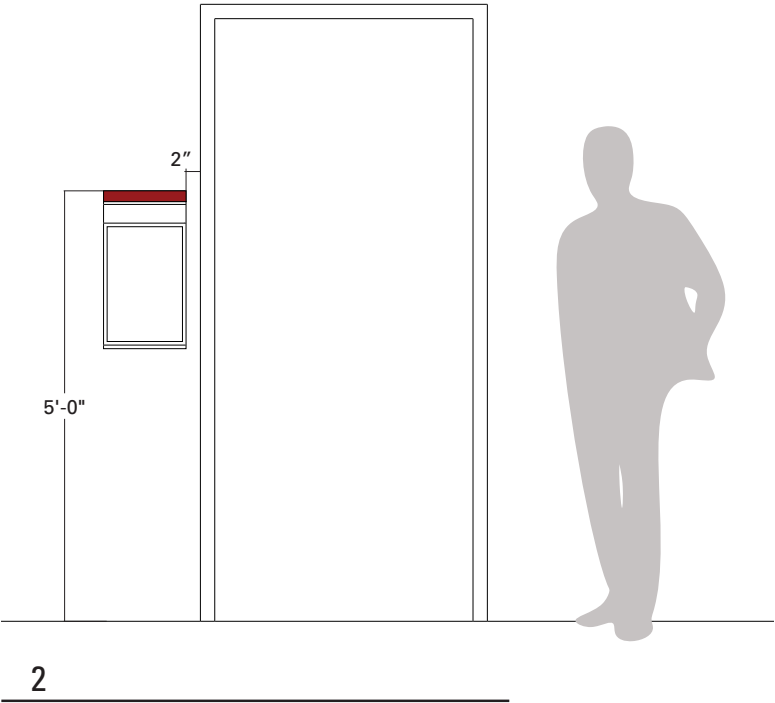
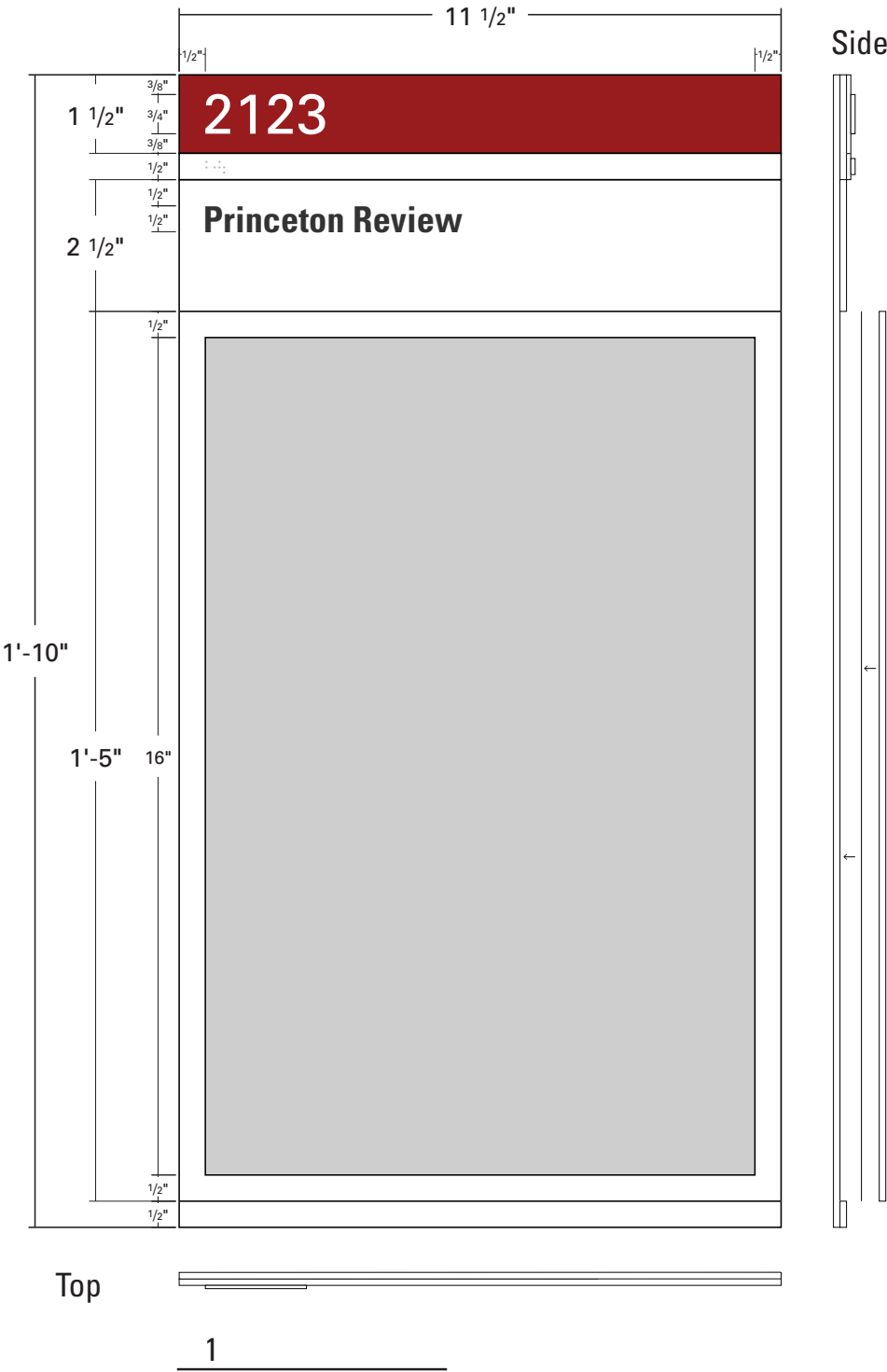
TYPOGRAPHY / GRAPHICS:

Room number: UNIVERS 55, 3/4" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, color #311201

Braille: 1/4" height, clear finish appliqué

Information Copy: UNIVERS 67, 1/2" cap height, gray cut vinyl applied to first surface of back plate

Character Limits:
27 characters per line, 54 characters in total



SIGN TYPE 4E:

INSERT HOLDERS: 11" x 17" LANDSCAPE

DESCRIPTION:

Wall sign with optional room number, secondary information, and clear acrylic frame to hold long-term printed information inserts, 11 x 17 landscape, information to include program schedule, floor/suite directory, or evacuation map

MATERIAL:

Back Plate: 17.5" wide x 15" high, white acrylic (1/8" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), tapped and threaded holes to receive mechanical fasteners, attached to wall with foam tape

Face Plates: 17.5" wide x 3.5" high and 17.5" wide x 1/2" high, white acrylic (1/8" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to back plate with sheet adhesive

Insert Plate: 17-1/2" wide x 11" high, clear acrylic (1/8" clear acrylic, non-glare P-99 finish), white frame (1/2" border subsurface printed color matched to Wolfpack

White, protective back coating at border) attached to back plate with threaded mechanical fasteners

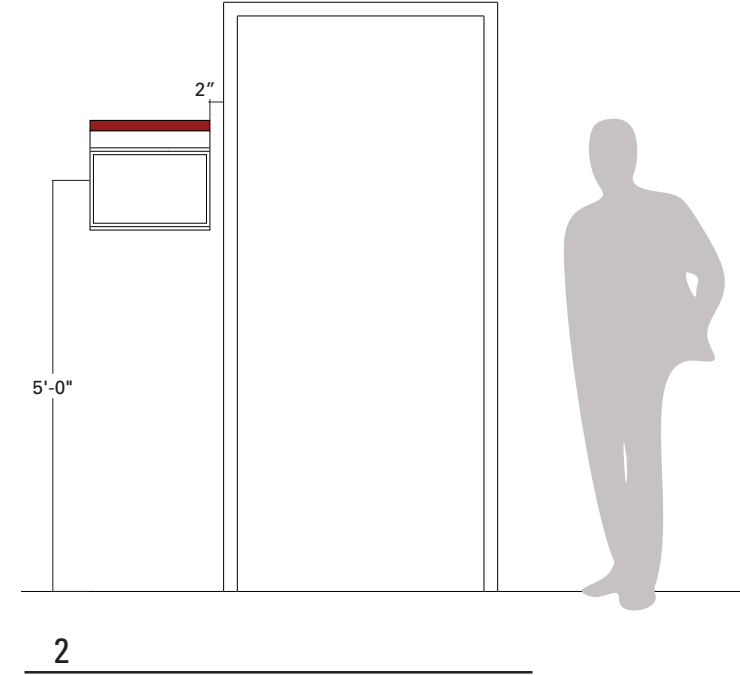
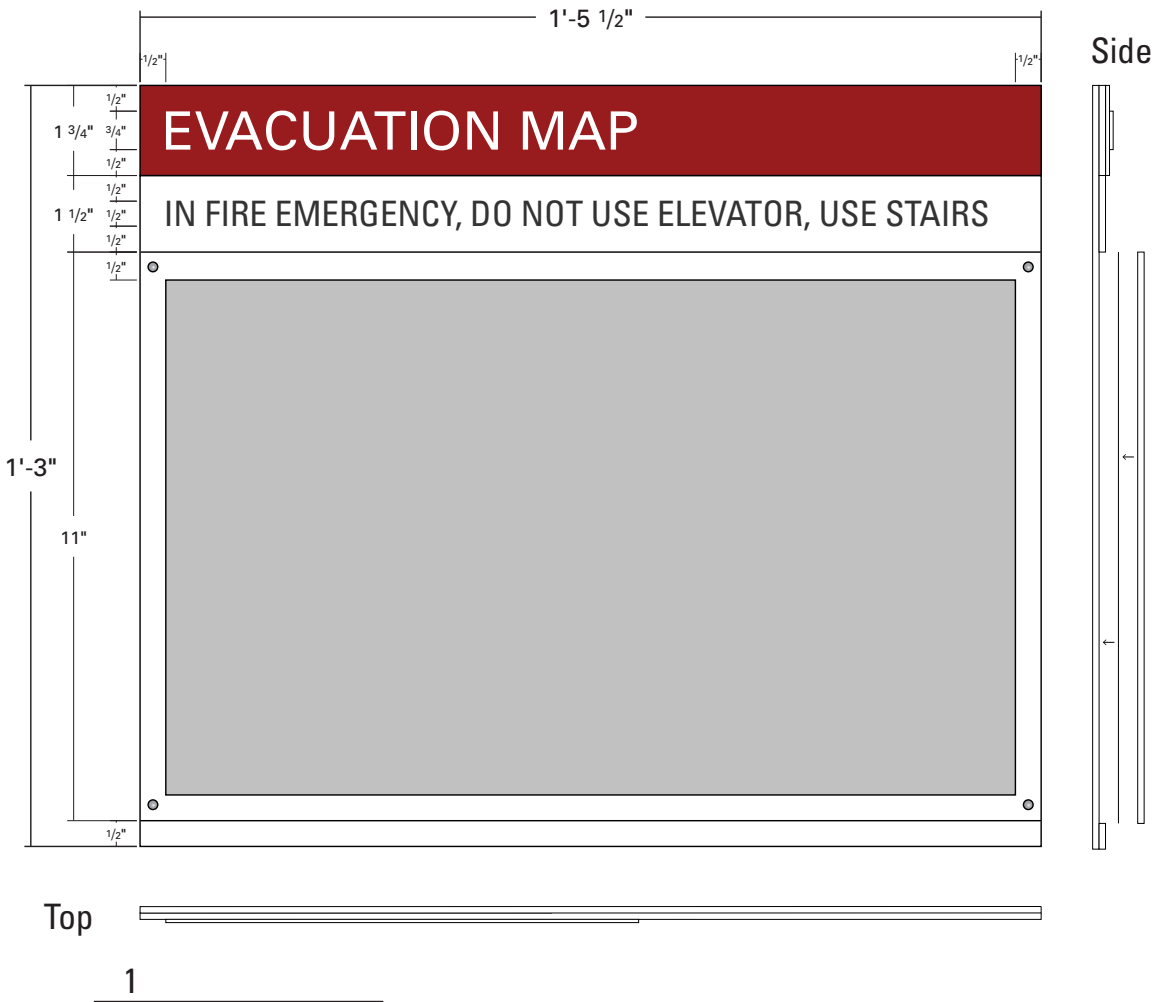
Raised Header: 17.5" wide x 1.75" high, red acrylic (0.125" 1-ply ADA Alternative by Rowmark, Color #341601), attached to face plate with sheet adhesive

TYPOGRAPHY / GRAPHICS:

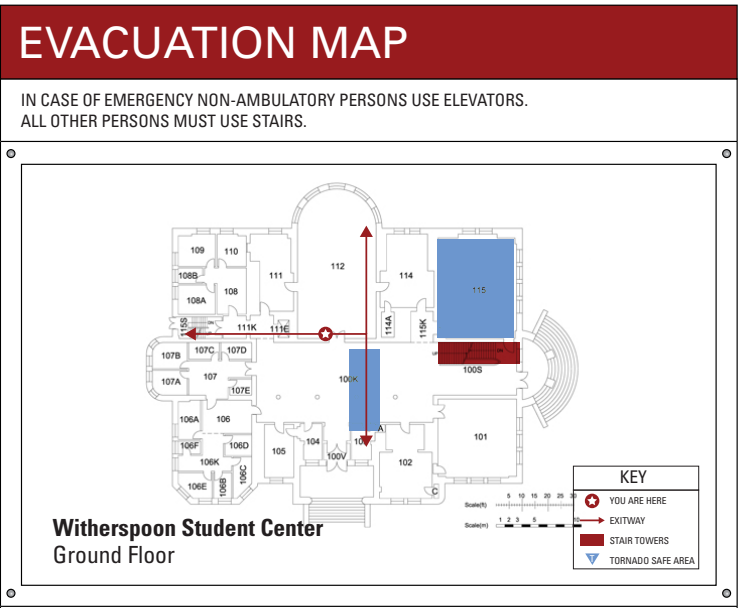
Header: UNIVERS 55, 3/4" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, color #311201

Braille: none

Information Copy: UNIVERS 57, 1/2" cap height, gray cut vinyl applied to first surface of back plate



Alternate wording to be used at discretion of the Office of the University Architect

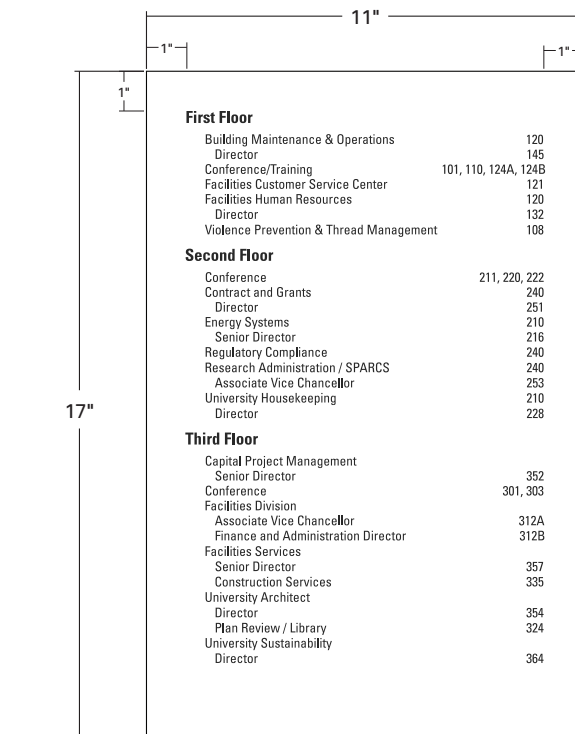
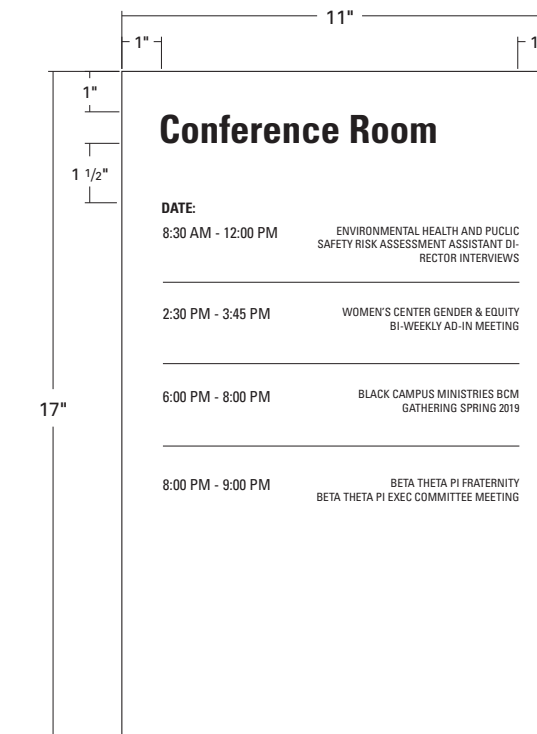
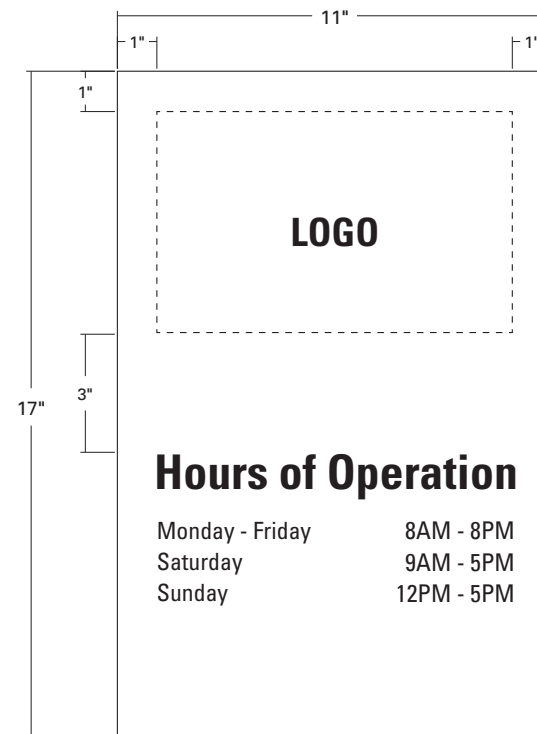
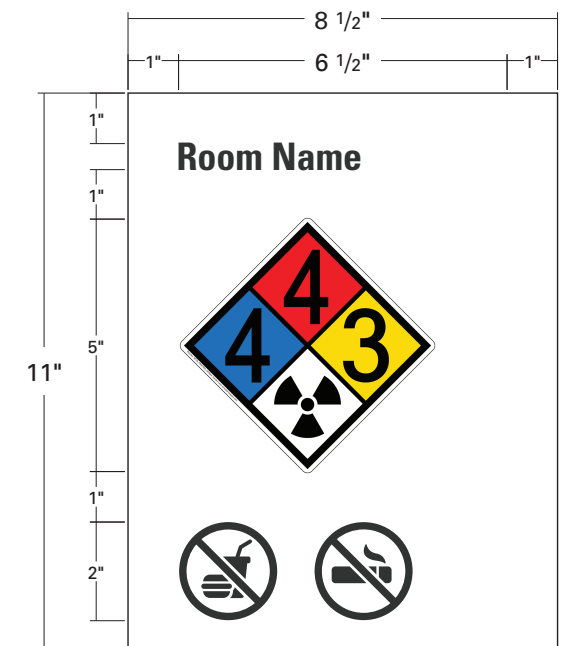
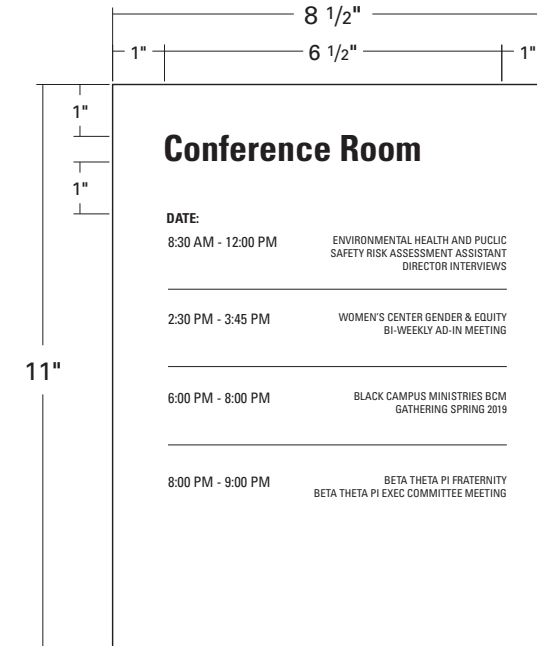
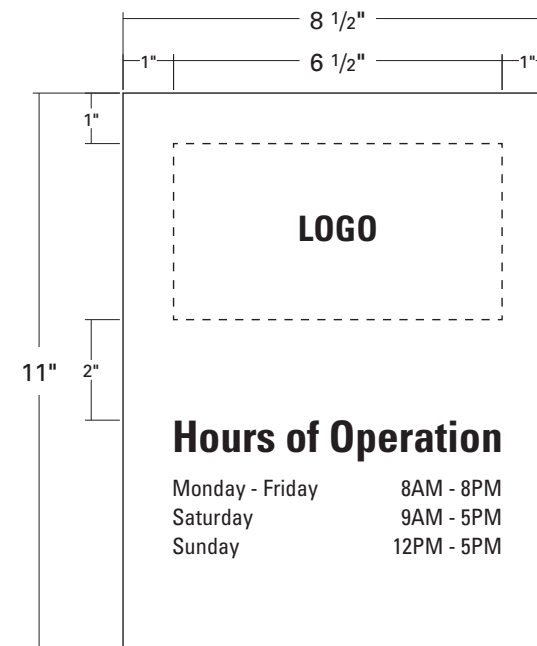


SIGN TYPE 4T:

Template files for Type 4 insert holders

Digital file, to be edited and printed as needed by the end user.
Microsoft Word and Adobe Illustrator file formats.

Information Copy: Varies



SIGN TYPE 5A:

TEXT ADD ONS/DONOR RM NAMINGS

DESCRIPTION:

Additional plate, placed below existing wall sign, with additional information

MATERIAL:

Back Plate: 8" wide x 2.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), 1/8" high rabbet at top edge, attached to wall with foam tape

TYPOGRAPHY / GRAPHICS:

Room number: none

Braille: none

Information Copy: UNIVERS 57, 1/2" cap height, gray cut vinyl applied to first surface of back plate

Character Limits:
18 characters per line, 36 characters in total

DESCRIPTION:

Additional plate, placed below existing wall sign, with additional information for Donor naming, specialty titles and award information

MATERIAL:

Back Plate: 8" wide x 2.5" high, brushed metal aluminum, attached to wall with foam tape

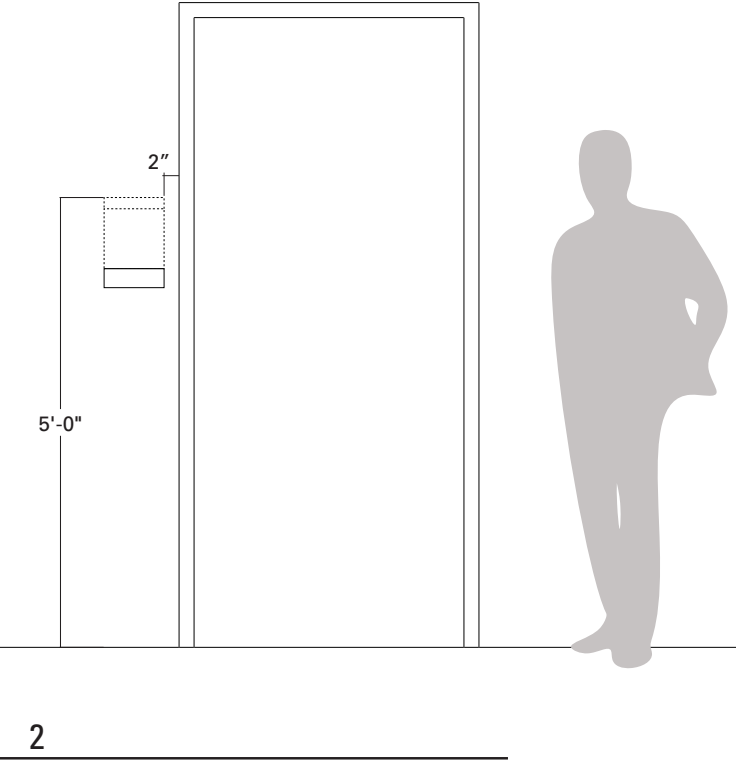
TYPOGRAPHY / GRAPHICS:

Room number: none

Braille: none

Information Copy: UNIVERS 57, 1/2" cap height, screen printed

Character Limits:
18 characters per line, 36 characters in total



Please do not knock

Please use other entrance

SIGN TYPE 5B:

DESCRIPTION:

Additional plate, placed below existing wall sign, with additional information

MATERIAL:

Back Plate: 8" wide x 2.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), 1/8" high rabbet at top edge, attached to wall with foam tape

TYPOGRAPHY / GRAPHICS:

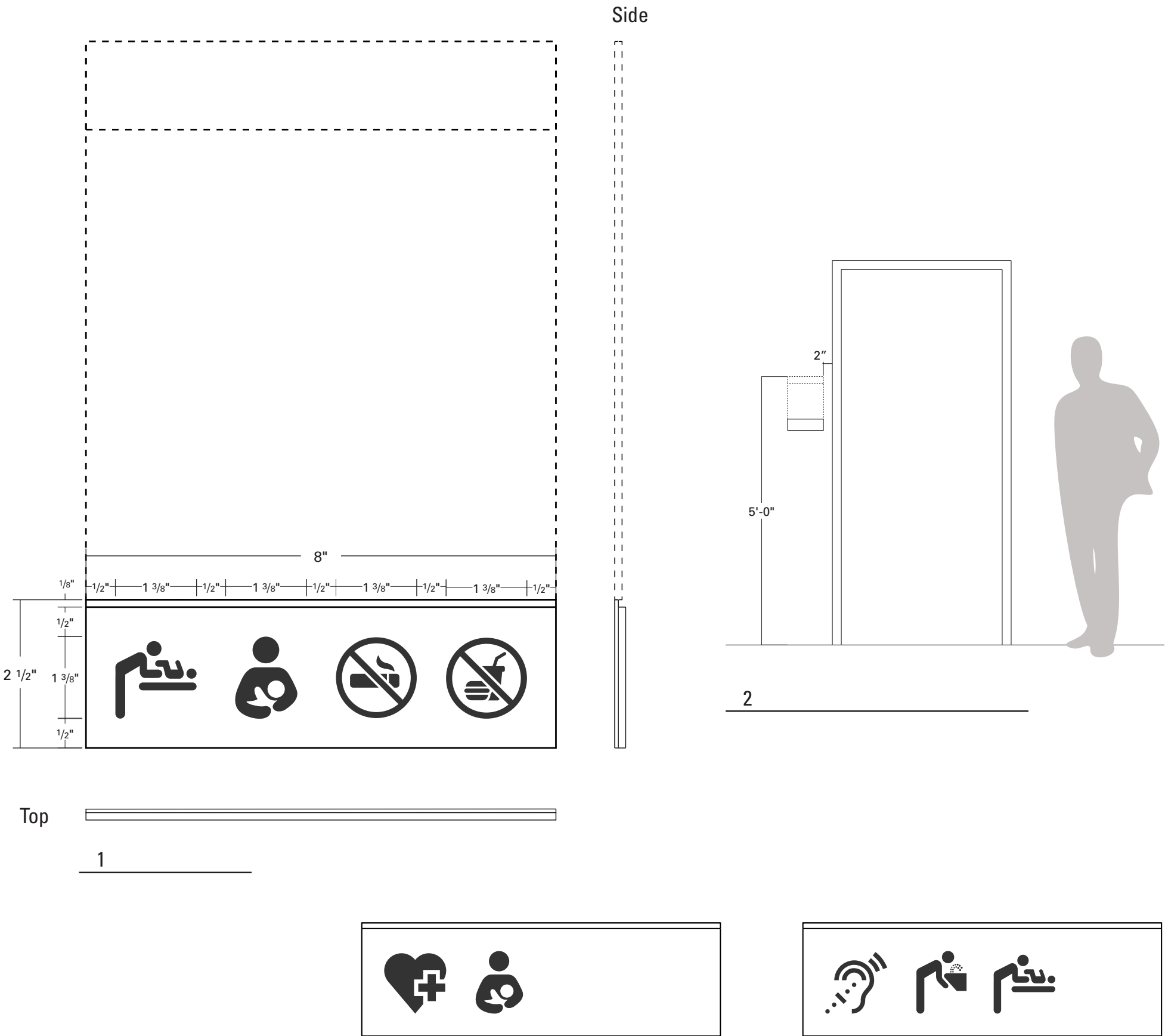
Room number: none

Braille: none

Information Copy: None

ICONS:

1.375" high appliqué, 1/32" 1-ply
ADA Alternative by Rowmark, Color Matched to HEX 333333 (90% gray) from manufacturer's standard colors



SIGN TYPE 6A:

DESCRIPTION:

Wall sign with emergency information, 2-3 lines of text

MATERIAL:

Back Plate: 8” wide x 5” high, white acrylic (0.125” clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

Raised Header: 8” wide x 1.5” high, red acrylic (0.080” 1-ply ADA Alternative by Rowmark, Color #341601), attached to face plate with sheet adhesive, attached to back plate with sheet adhesive

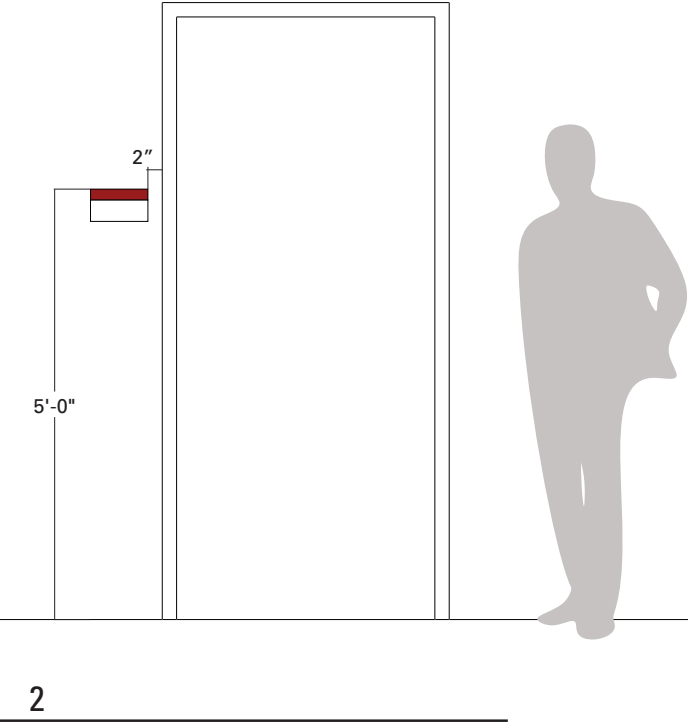
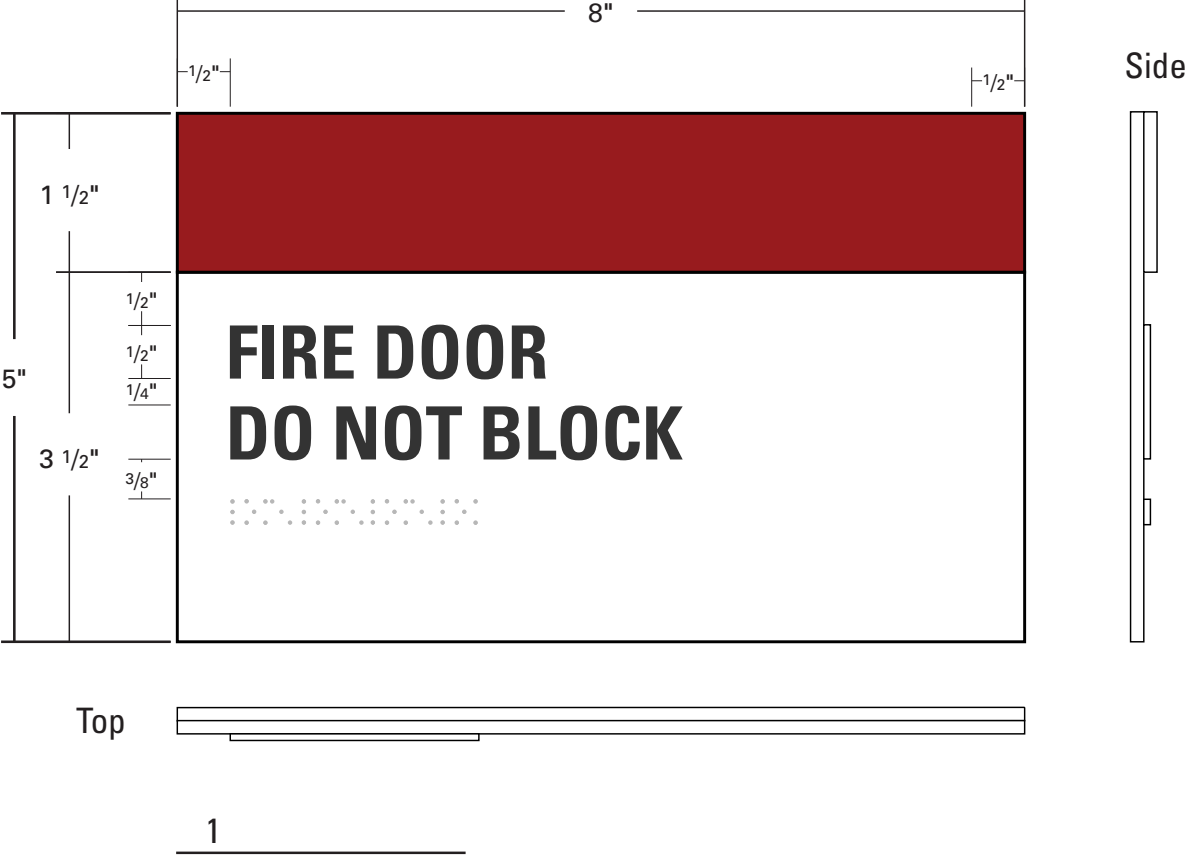
TYPOGRAPHY / GRAPHICS:

Room number: none

Braille: 1/4” height, clear finish appliqué *

Information Copy: UNIVERS 67, 1/2” cap height, raised letters appliqué, 1/32” 1-ply ADA Alternative by Rowmark, Color Matched to HEX 333333 (90% gray) from manufacturer’s standard colors

Character Limits:
18 characters per line, 54 characters in total



**NOTE: At time of publication, Accessibility Code does not require informational signs to include raised braille or raised letters. This sign type is included to provide basis of design should code requirements change in the future.*



SIGN TYPE 6B:

DESCRIPTION:

Wall sign with emergency information and secondary information, 2-3 lines of text

MATERIAL:

Back Plate: 8” wide x 5” high, white acrylic (0.125” clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

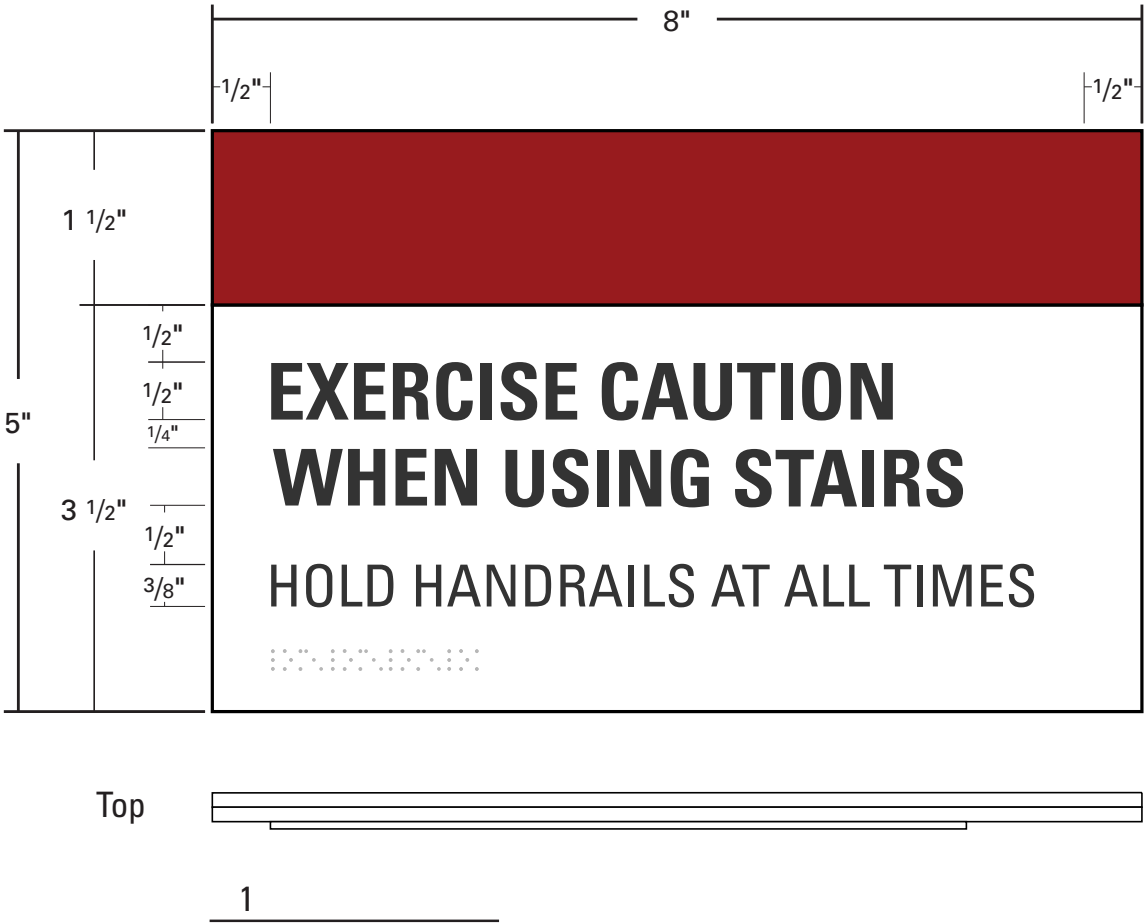
Raised Header: 8” wide x 1.5” high, red acrylic (0.080” 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plate with sheet adhesive

TYPOGRAPHY / GRAPHICS:

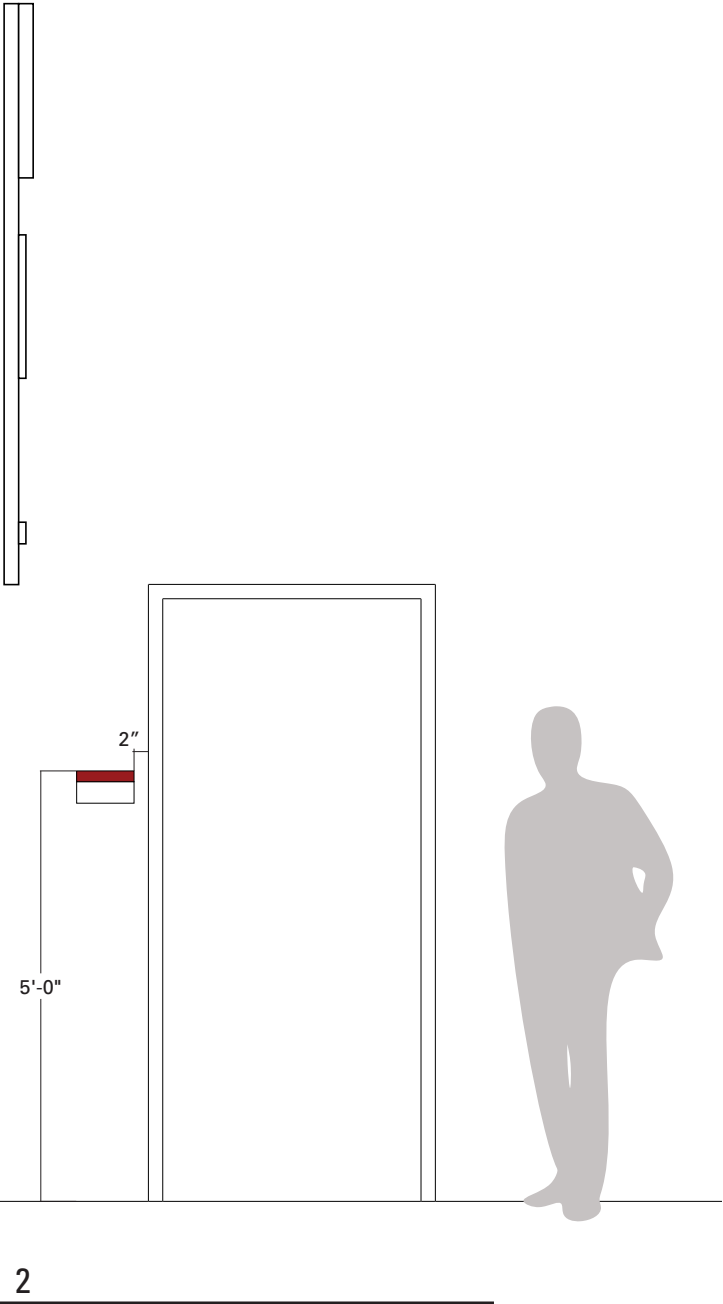
Room number: none

Braille: 1/4” height, clear finish appliqué *

Information Copy: UNIVERS 67, 1/2” and UNIVERS 57 3/8” cap height, raised letters appliqué, 1/32” 1-ply ADA Alternative by Rowmark, Color Matched to HEX 333333 (90% gray) from manufacturer’s standard colors and 5/16” cap height, gray cut vinyl applied to first surface of back plate



Side



**NOTE: At time of publication, Accessibility Code does not require informational signs to include raised braille or raised letters. This sign type is included to provide basis of design should code requirements change in the future.*

SIGN TYPE 6C:

DESCRIPTION:

Wall sign with emergency information and secondary information, 4-5 lines of text

MATERIAL:

Back Plate: 8” wide x 7” high, white acrylic (0.125” clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

Raised Header: 8” wide x1.5” high, red acrylic (0.080” 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plate with sheet adhesive

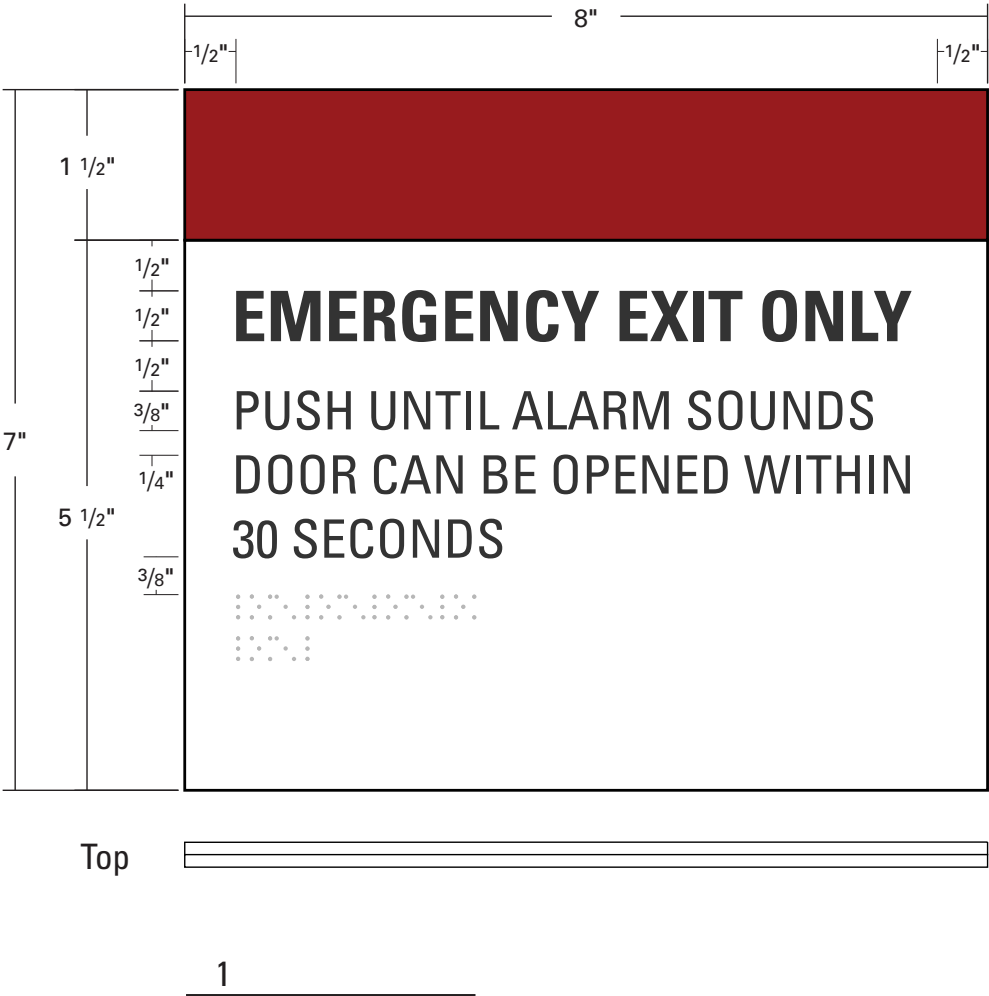
TYPOGRAPHY / GRAPHICS:

Room number: none

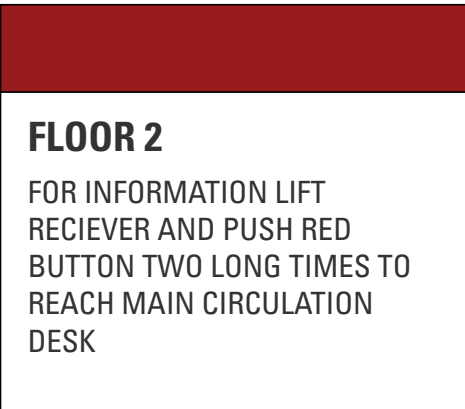
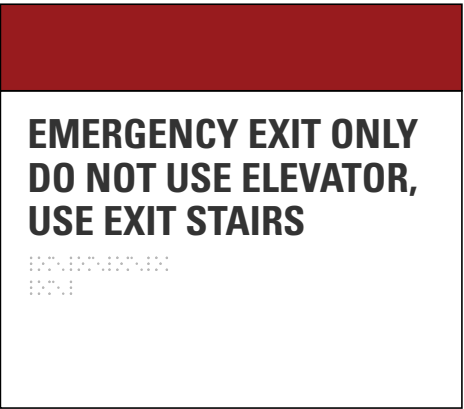
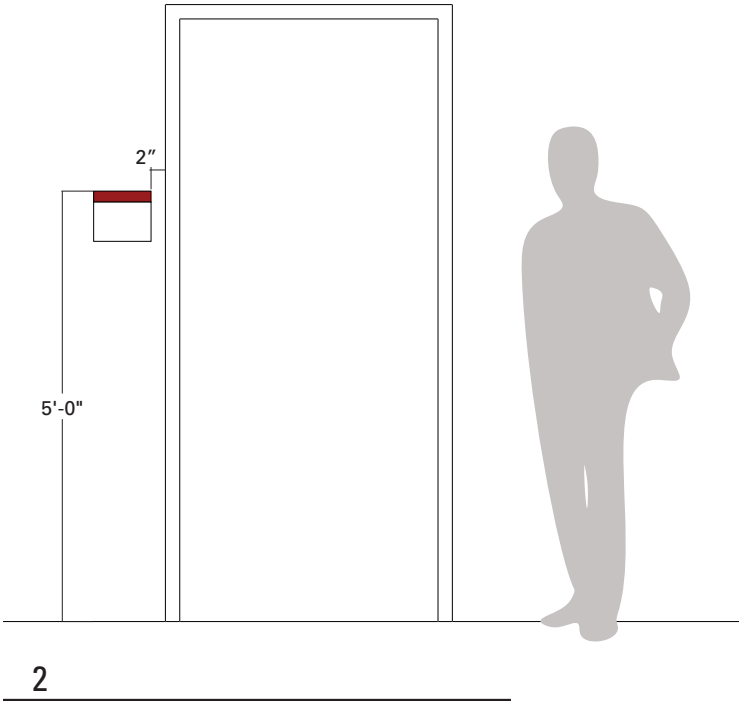
Braille: 1/4” height, clear finish appliqué

**NOTE: At time of publication, Accessibility Code does not require informational signs to include raised braille or raised letters. This sign type is included to provide basis of design should code requirements change in the future.*

Information Copy: UNIVERS 67, 1/2” and UNIVERS 57 3/8”, raised letters appliqué, 1/32” 1-ply ADA Alternative by Rowmark, Color Matched to HEX 333333 (90% gray) from manufacturer’s standard colors and 3/8” cap height, gray cut vinyl applied to first surface of back plate



Side



SIGN TYPE 7:

DESCRIPTION:

Cut vinyl on glass with information including room function, office hours, and safety restrictions

MATERIAL:

Second Surface: frosted vinyl film rectangular background, to be no shorter than 3” and no narrower than 6”

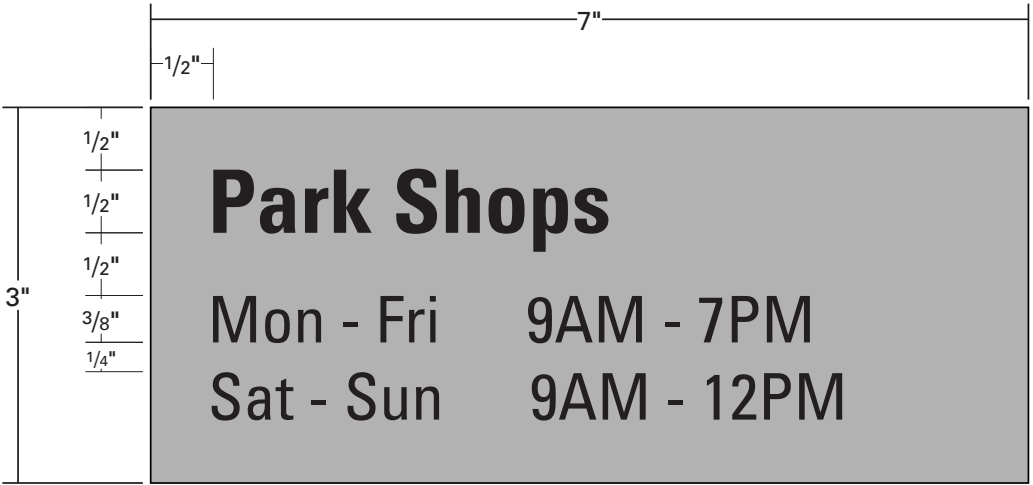
First Surface: black cut vinyl applied to first surface

TYPOGRAPHY / GRAPHICS:

Room number: none

Braille: none

Information Copy: UNIVERS 55, cap height to be between 3/8” and 1-1/2”, text should follow sign standards for typography, maintain 2” minimum margin at top, bottom, and sides



SIGN TYPE 8:
FLOOR SIGN: 5 FLOORS

DESCRIPTION:

Wall sign with list of up to 5 floors within a building and landmark locations for each floor, includes gray accent stripe to indicate current floor, to be placed next to stairs, elevator, or escalator

MATERIAL:

Back Plate: 16.5" wide, white acrylic with 4" gray accent stripe (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White and 25% gray, protective back coating), attached to wall with foam tape

Indicate height of sign and number of floors in sign schedule

Raised Header: 16.5" wide x 1.5" high, red acrylic (0.080" 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plate with sheet adhesive

TYPOGRAPHY / GRAPHICS:

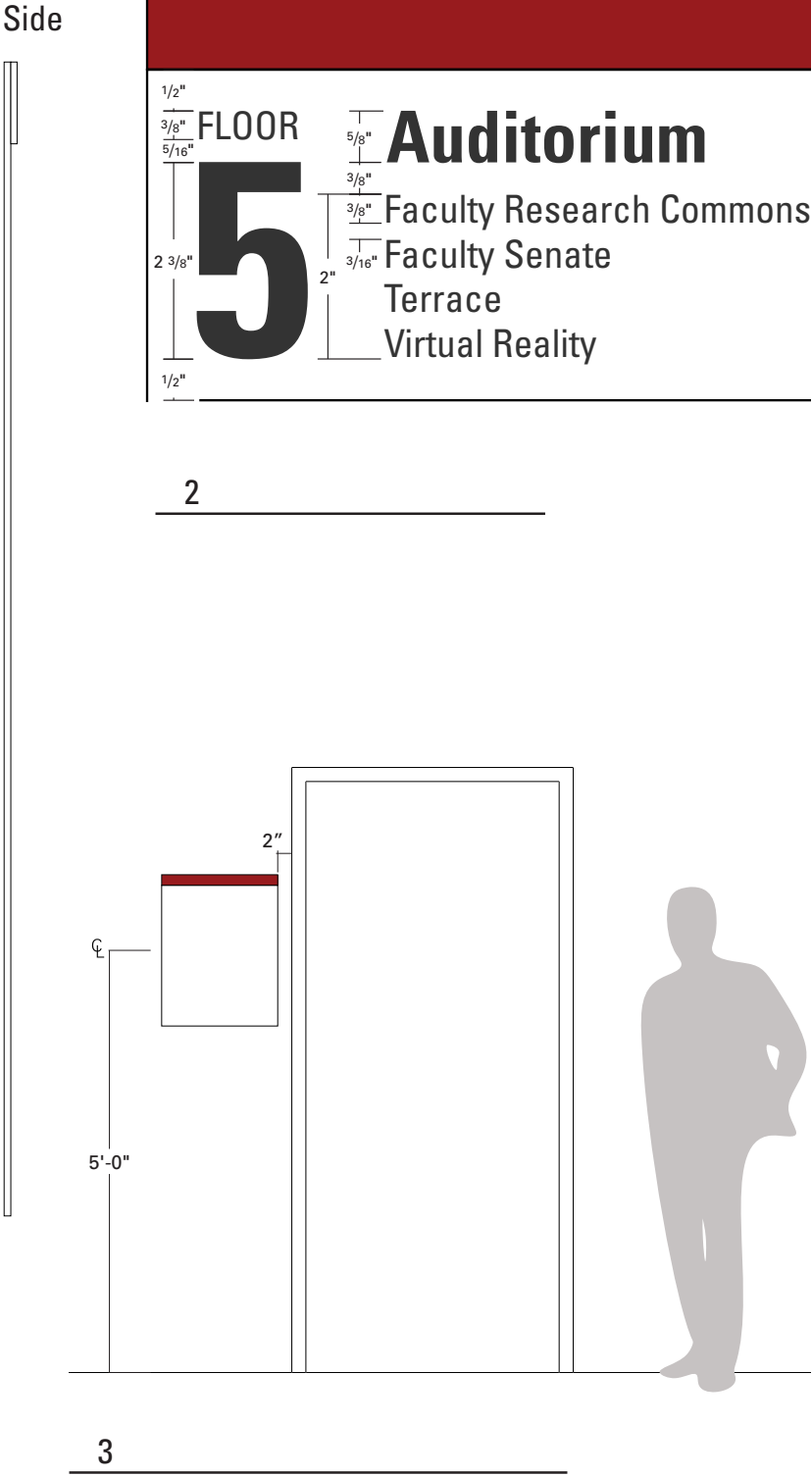
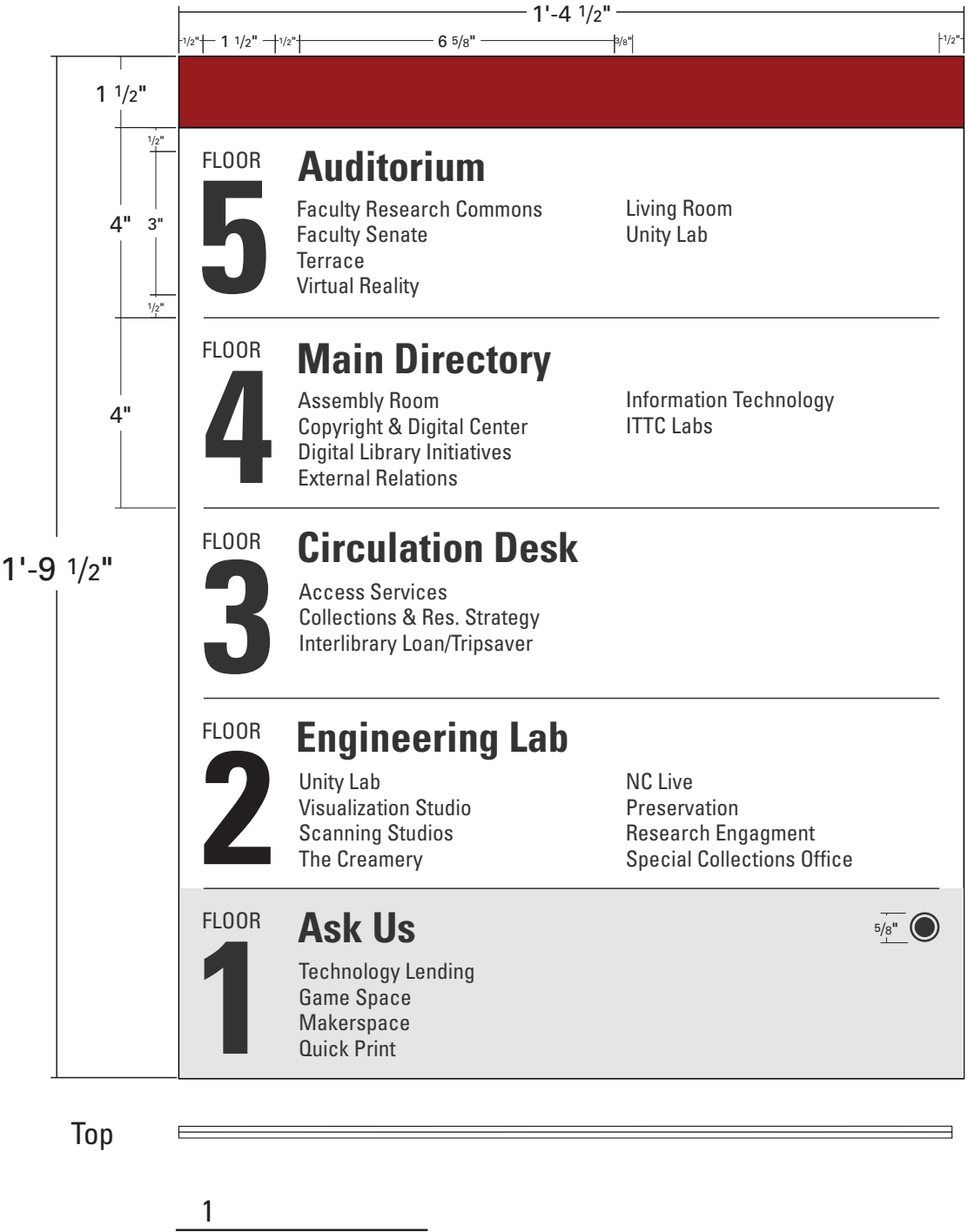
Room number: none

Braille: none

Information Copy: UNIVERS varying cap height, gray cut vinyl applied to first surface of back plate, first surface first surface gray vinyl line between floors

Character Limits:
Floor number = 2 character
Floor name = 27 characters
Landmark floor locations = 25 characters per line, Up to 8 floor landmark locations

Color: Additional colors may be used to assist with wayfinding at the discretion of the Office of the University Architect



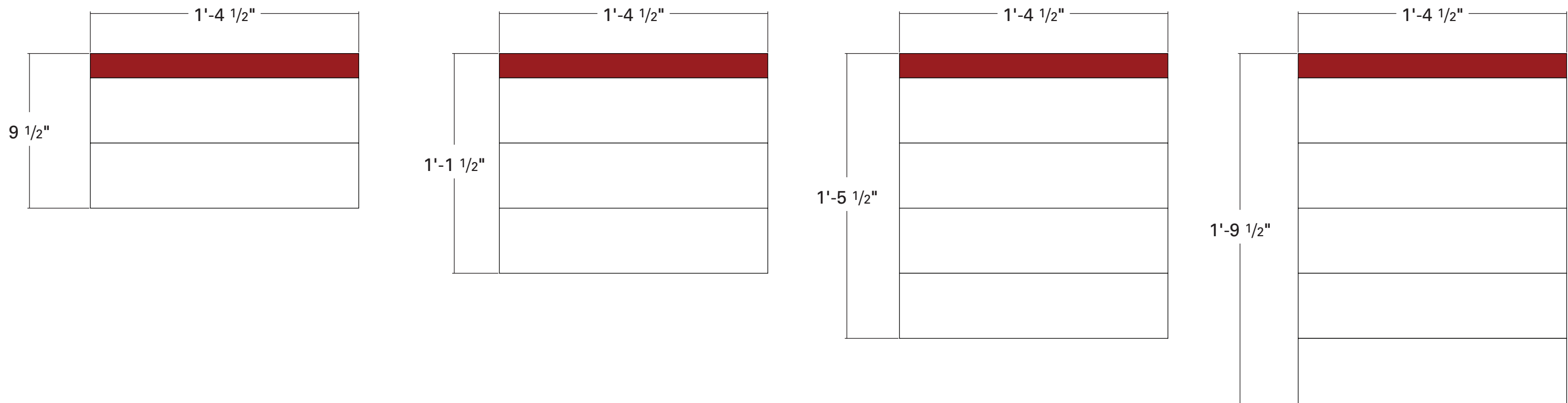
*NOTE: For buildings with more than 5 floors, it is recommended that an architect or independent specialty signage designer create a different solution for suitable larger or more complex buildings.

SIGN TYPE 8:

FLOOR SIGN: FLOOR VARIATIONS

DESCRIPTION:

Wall sign with list of up to 5 floors within a building and landmark locations for each floor, includes gray accent stripe to indicate current floor, to be placed next to stairs, elevator, or escalator. Height can vary based on number of floors.



SIGN TYPE 9:

DESCRIPTION:

Directional sign, mounted perpendicular to the wall face, with identification icon (if at location) or directional arrow (if directing to location)

MATERIAL:

Center Plate: 16" wide x 7" high, 0.125" aluminum, inserted into T-Bar and secured with mechanical fasteners

Face Plates: 14" wide x 7" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to center plate with sheet adhesive

Raised Header: 16" wide x 1.5" high, red acrylic (0.080" 1-ply ADA Alternative by Rowmark, Color #341601), attached to face plates with sheet adhesive

Hardware: T-bar (2" deep extruded clear anodized aluminum T profile), cut to 4", attached to wall with mechanical fasteners appropriate for the substrate

TYPOGRAPHY / GRAPHICS:

Room number: none

Braille: none

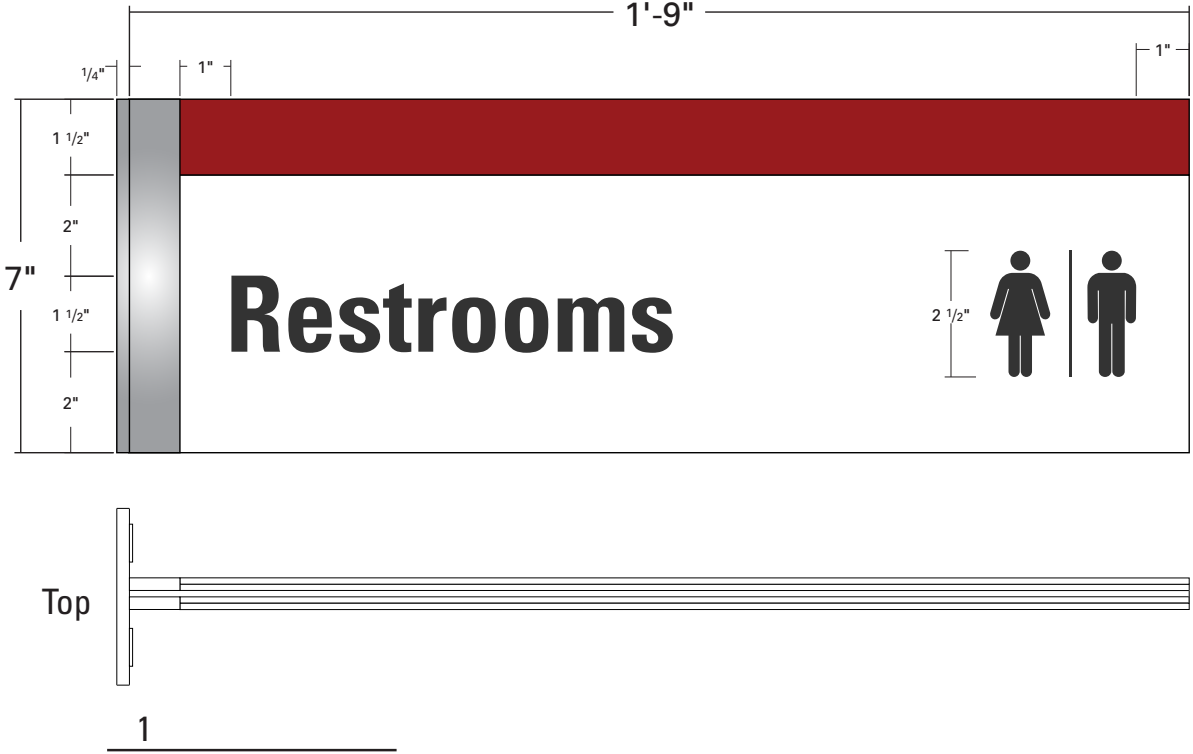
Information Copy: UNIVERS 67, 1.5" cap height gray cut vinyl applied to first surface of each back plate, copy shall be the same on both faces

Character Limits:
12 characters per line, 24 characters in total

Color: Additional colors may be used to assist with wayfinding at the discretion of the Office of the University Architect

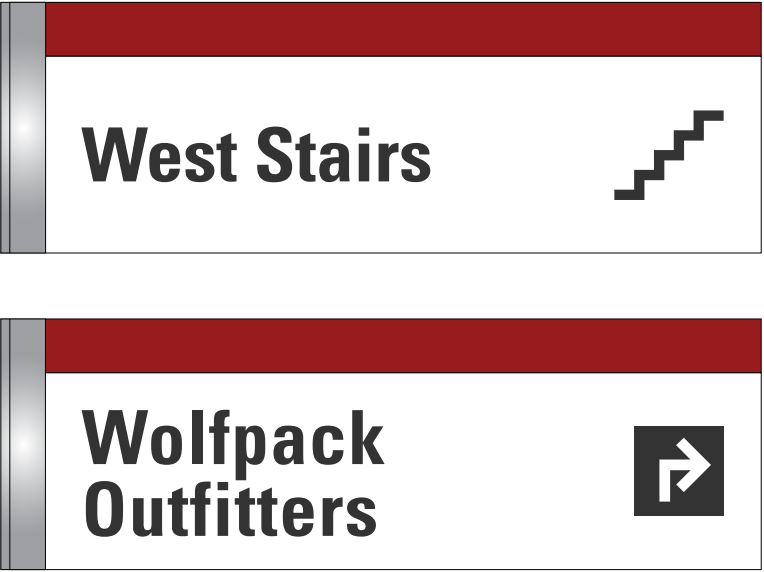
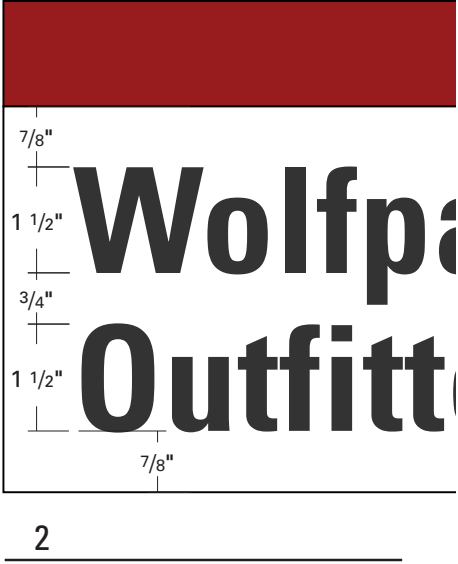
ICONS:

2" high identification icon or directional arrow, gray cut vinyl applied to first surface of back plate



Side

2-Line Example:



3

SIGN TYPE 10:

DESCRIPTION:

Wall sign with wayfinding information and directional arrows

MATERIAL:

Back Plate: 8" wide x 7" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

Raised Header: 8" wide x 1.5" high, red acrylic (0.080" 1-ply ADA Alternative by Rowmark, Color #341601), justified to wall edge and attached to back plate with sheet adhesive

TYPOGRAPHY / GRAPHICS:

Room number: none

Braille: none

Information Copy: UNIVERS 67, 1/2" and UNIVERS 57 3/8" cap height, gray cut vinyl applied to first surface of back plate, text justified to the wall edge

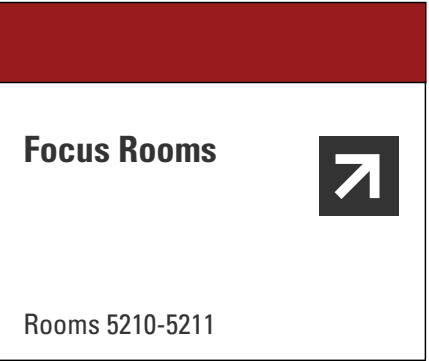
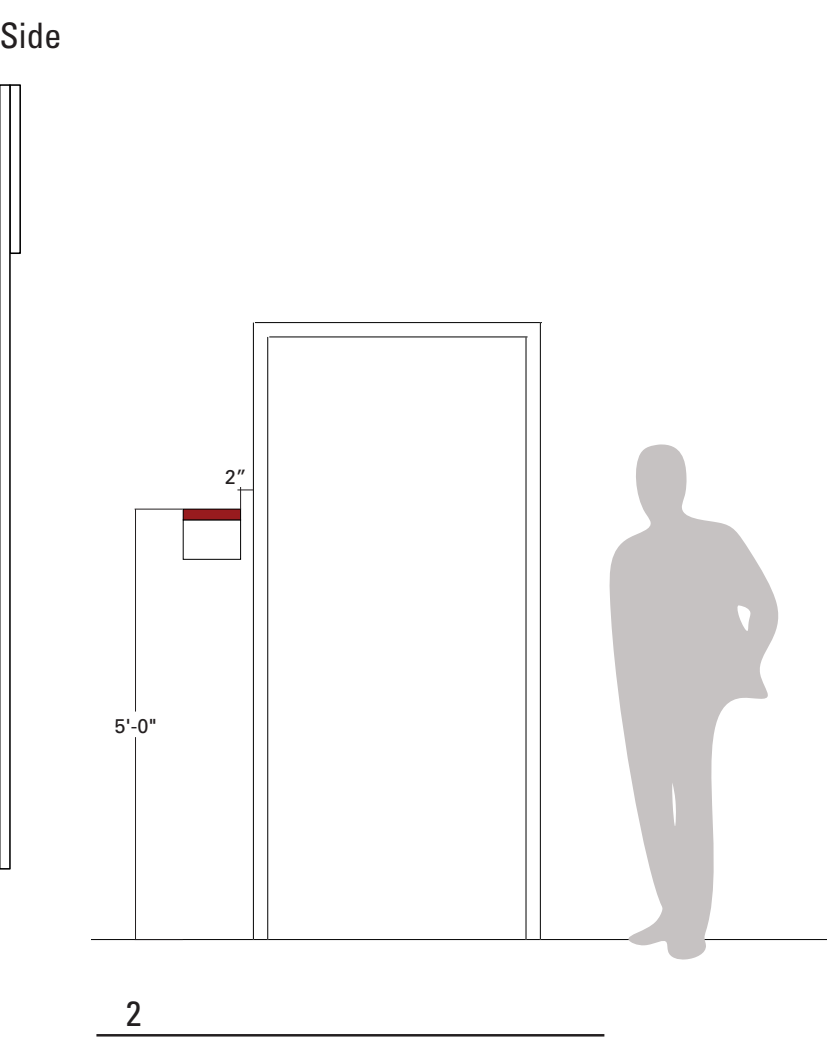
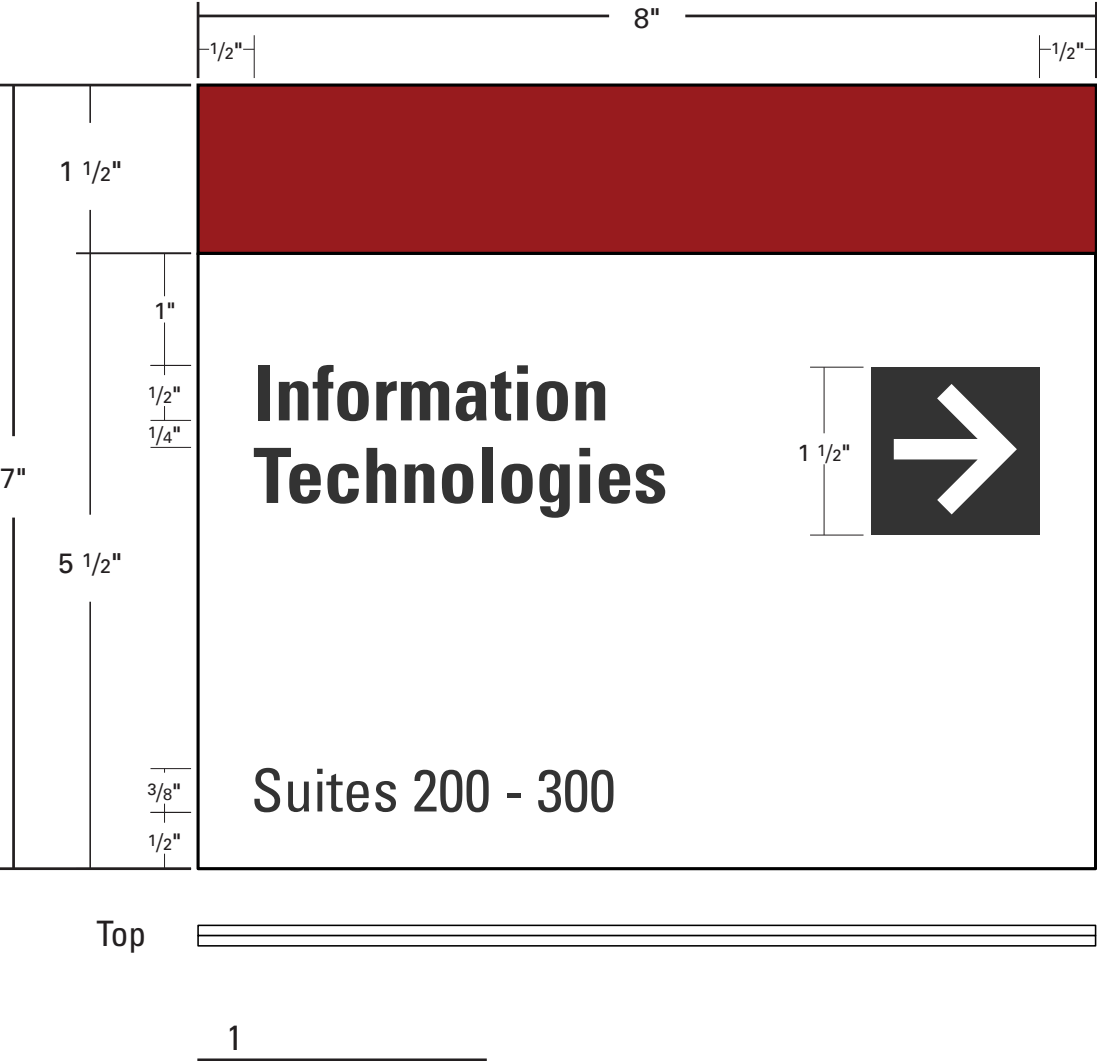
Character Limits:

Header = 13 characters per line, 52 characters in total

Sub Header = 24 per line, 48 characters in total

ICONS:

1/2" high directional arrow, gray cut vinyl applied to first surface of back plate, justified to open edge and vertically aligned with information copy



SIGN TYPE 11A:

DESCRIPTION:

Wall sign with list of up to 5 landmark locations on a single building floor, with directional arrows

MATERIAL:

Back Plate: 16.5” wide, white acrylic (0.125” clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

Indicate height of sign and number of locations in sign schedule

Raised Header: 16.5” wide x 1.5” high, red acrylic (0.080” 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plate with sheet adhesive

TYPOGRAPHY / GRAPHICS:

Room number: none

Braille: none

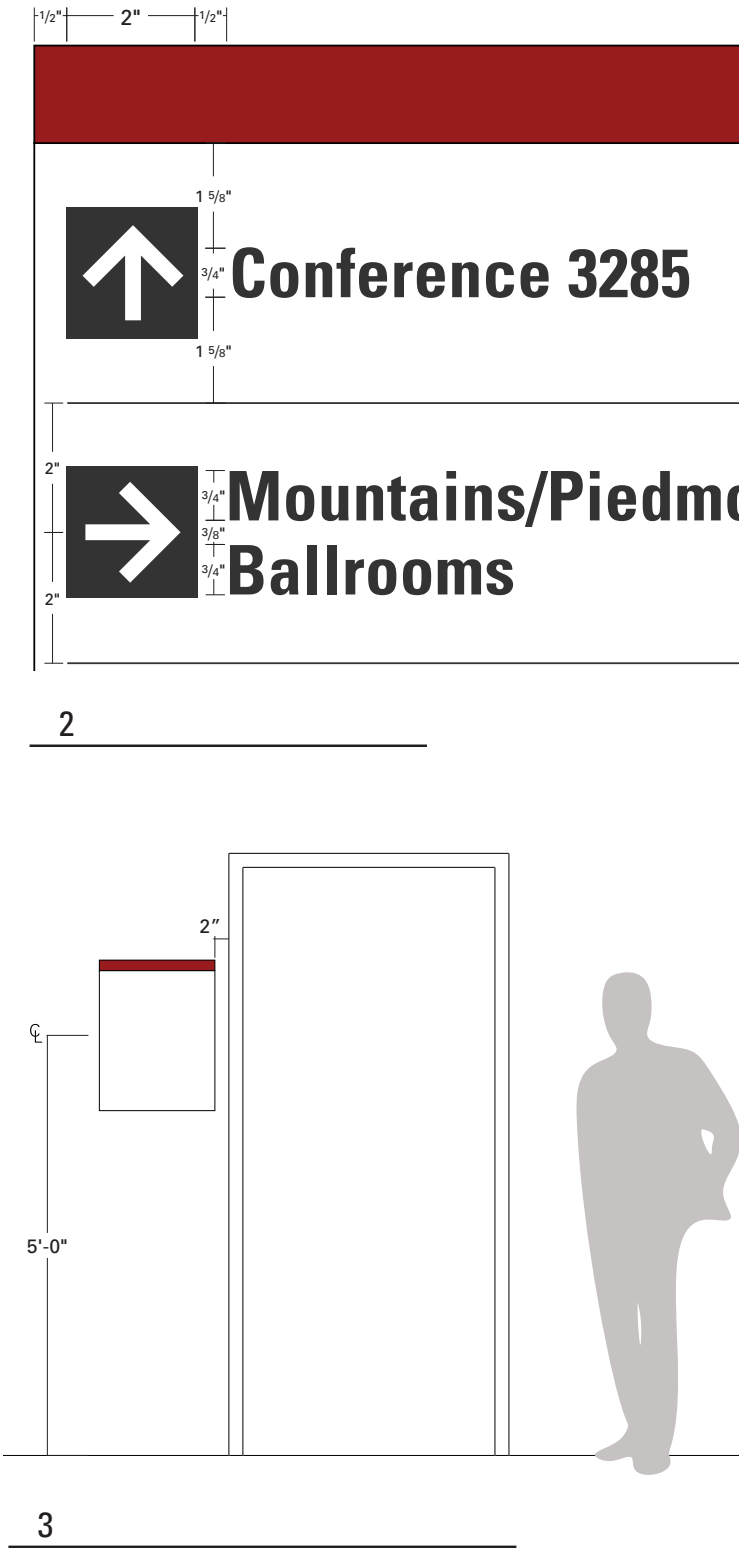
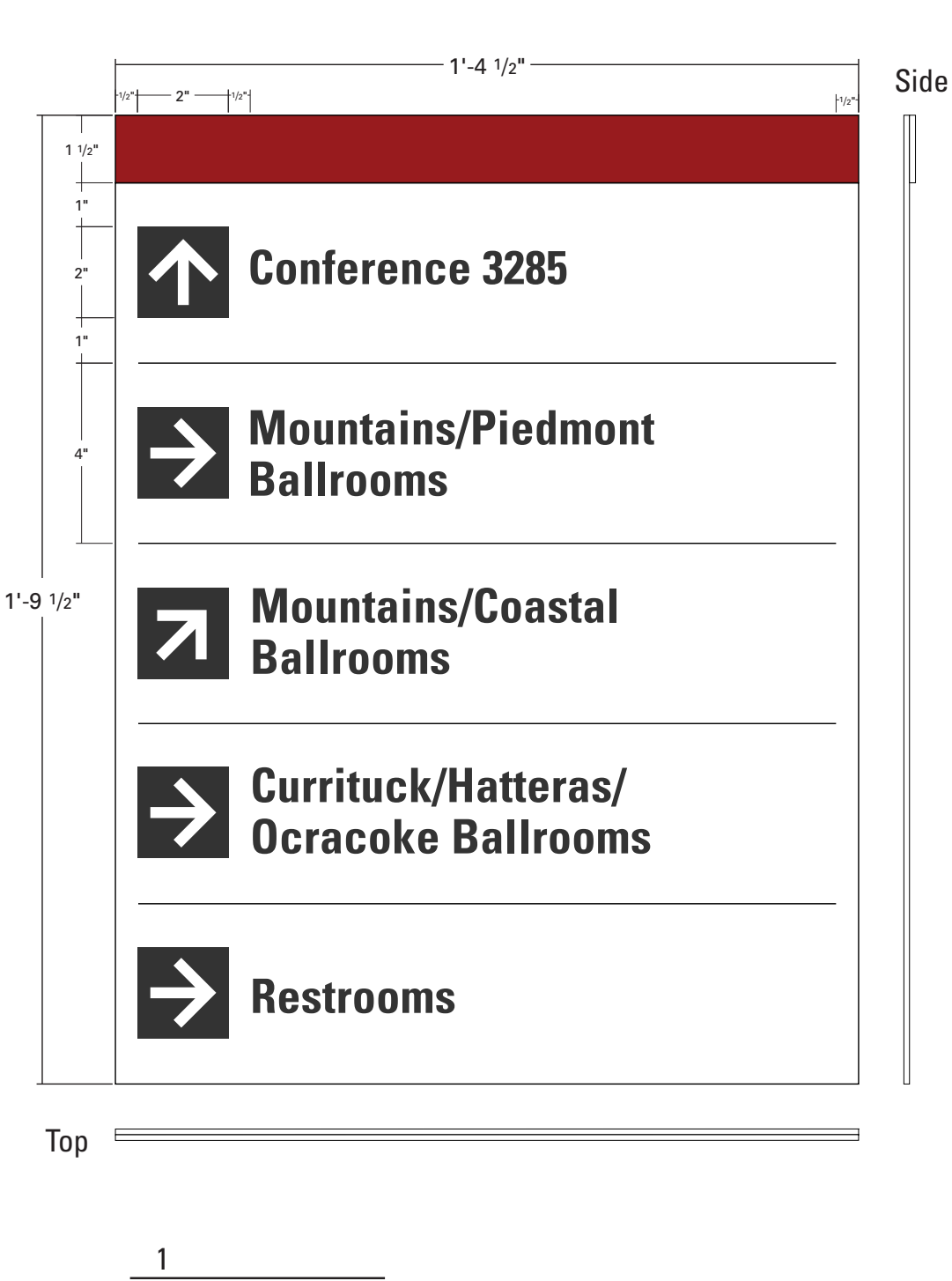
Character Limits:

22 characters per line, 44 characters in total

Information Copy: UNIVERS 67, 3/4” cap height, gray cut vinyl applied to first surface of back plate, first surface gray vinyl line between locations

ICONS:

2” high directional arrow, gray cut vinyl applied to first surface of back plate, vertically aligned with corresponding floor information copy, left justified and rotated to point toward location

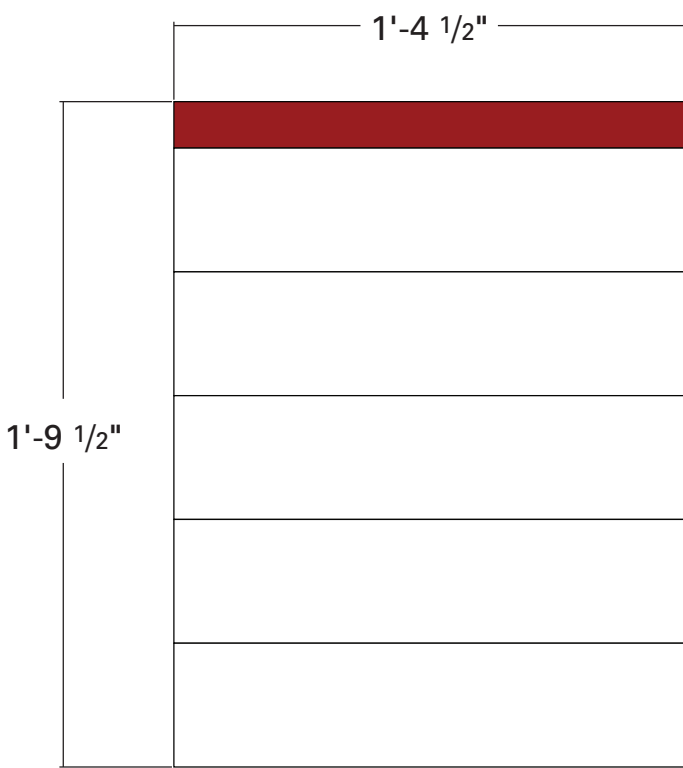
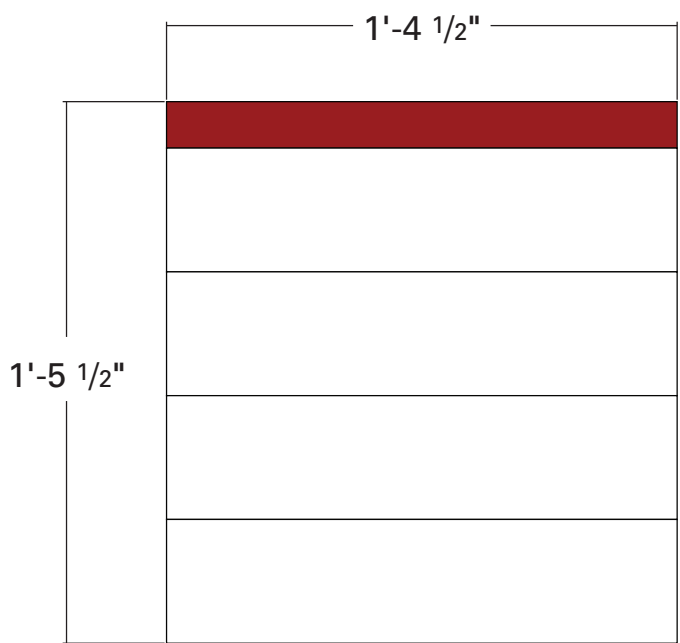
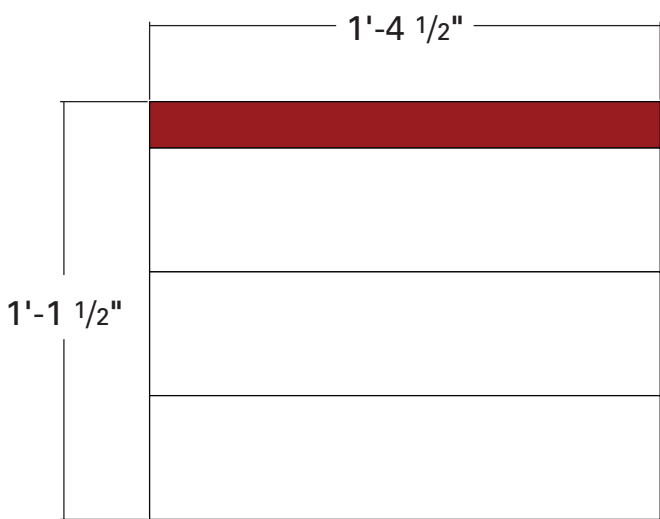
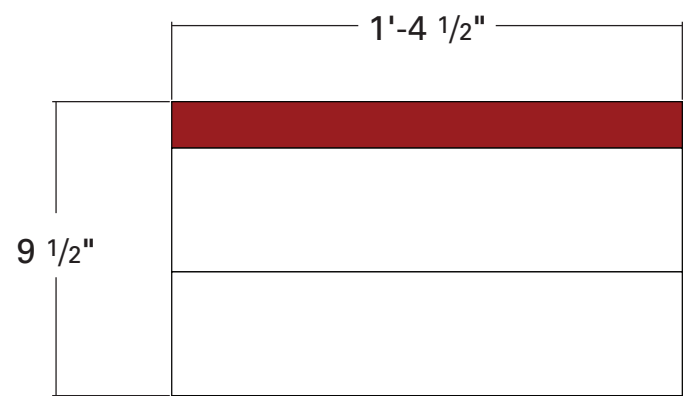


*NOTE: For buildings with more than 5 floors, it is recommended that an architect or independent specialty signage designer create a different solution for suitable larger or more complex buildings.

SIGN TYPE 11A:

DESCRIPTION:

Wall sign with list of up to 5 landmark locations on a single building floor, with directional arrows. Height can vary based on number of locations.



SIGN TYPE 11B:

CORNER INSTALLATION VARIATION

DESCRIPTION:

2-sided wall sign with landmark locations and with directional arrows, used in major building intersections. Any of the Type 11A configurations can be modified as described below.

MATERIAL:

Left panel of the sign shall be Type 11, per the standards

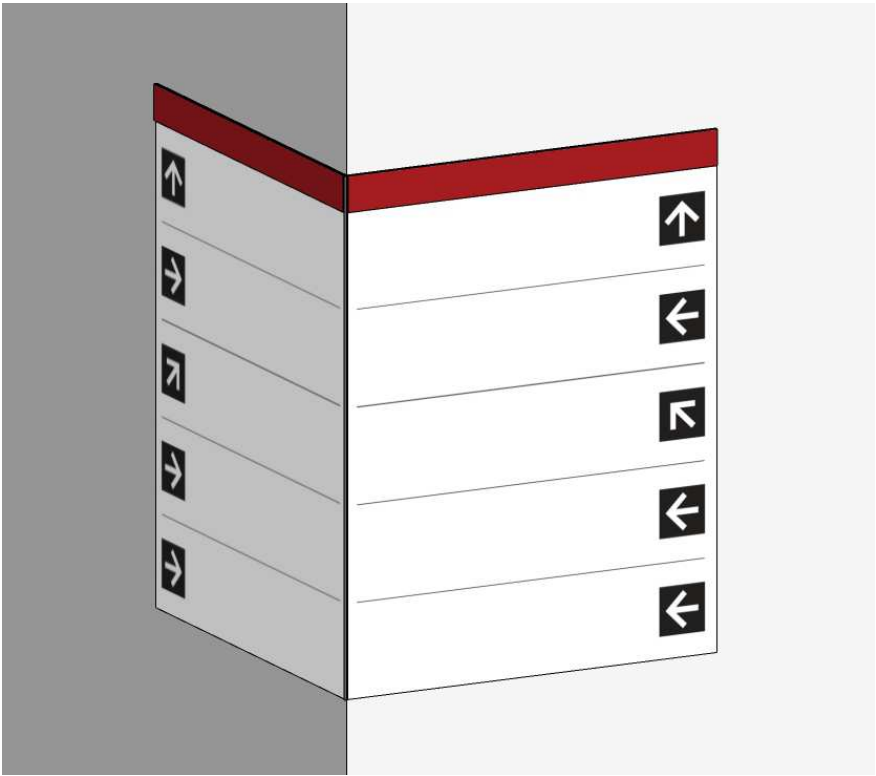
Right panel of the sign shall be reversed, with arrows and text right justified

Install with all arrows pointing away from the corner

Hardware: Provide aluminum corner transition strip (Schluter DIADEC-K, satin annodized) at sign panel joint



1



2

SIGN TYPE 12A:

OVERHEAD: WALL MOUNT

DESCRIPTION:

Wall sign, mounted over an elevator or stairwell door, with elevator or stair name

MATERIAL:

Back Plate: 28" wide x 7.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

Raised Header: 28" wide x 1.5" high, red acrylic (0.080" 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plate with sheet adhesive

TYPOGRAPHY / GRAPHICS:

Room number: none

Braille: none

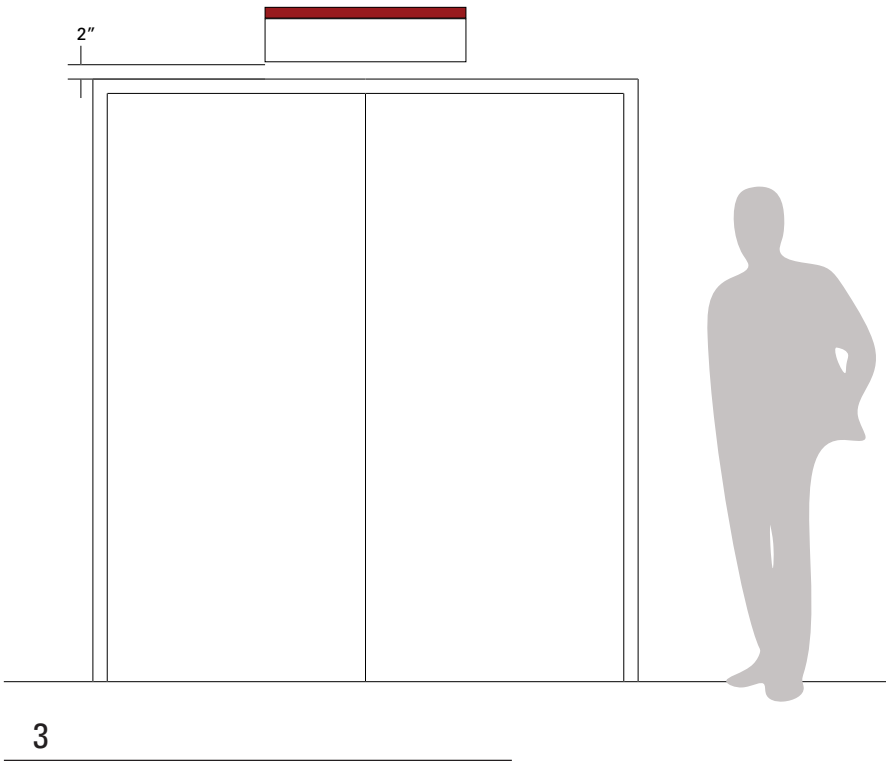
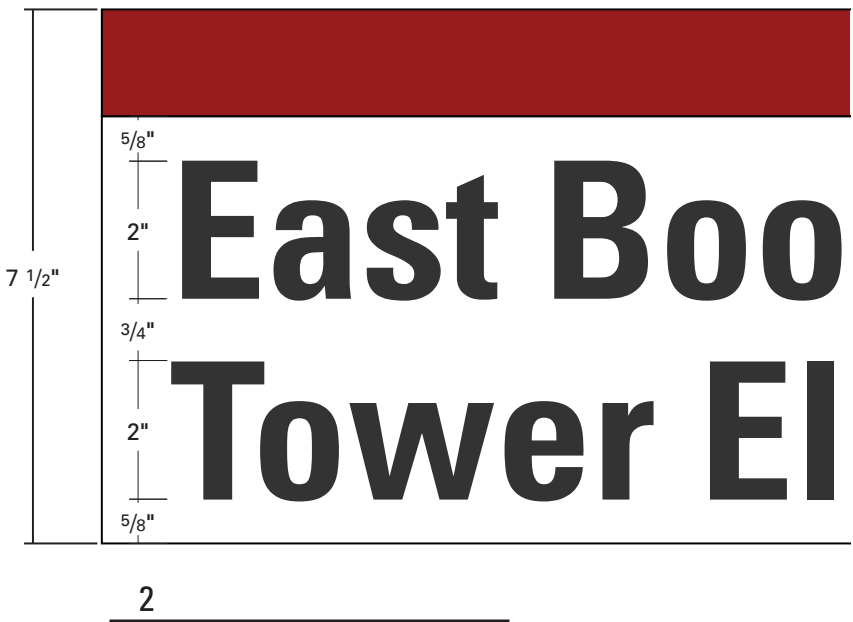
Information Copy: UNIVERS 67, 2" cap height gray cut vinyl applied to first surface of back plate

Character Limits:

18 characters per line, 36 characters in total



2-Line Example:



SIGN TYPE 12B:

OVERHEAD: WALL MOUNT

DESCRIPTION:

Wall sign, mounted over an elevator or stairwell door, with elevator or stair name

MATERIAL:

Back Plate: 28” wide x 7.5” high, white acrylic (0.125” clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

Raised Header: 28” wide x 1.5” high, red acrylic (0.080” 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plate with sheet adhesive

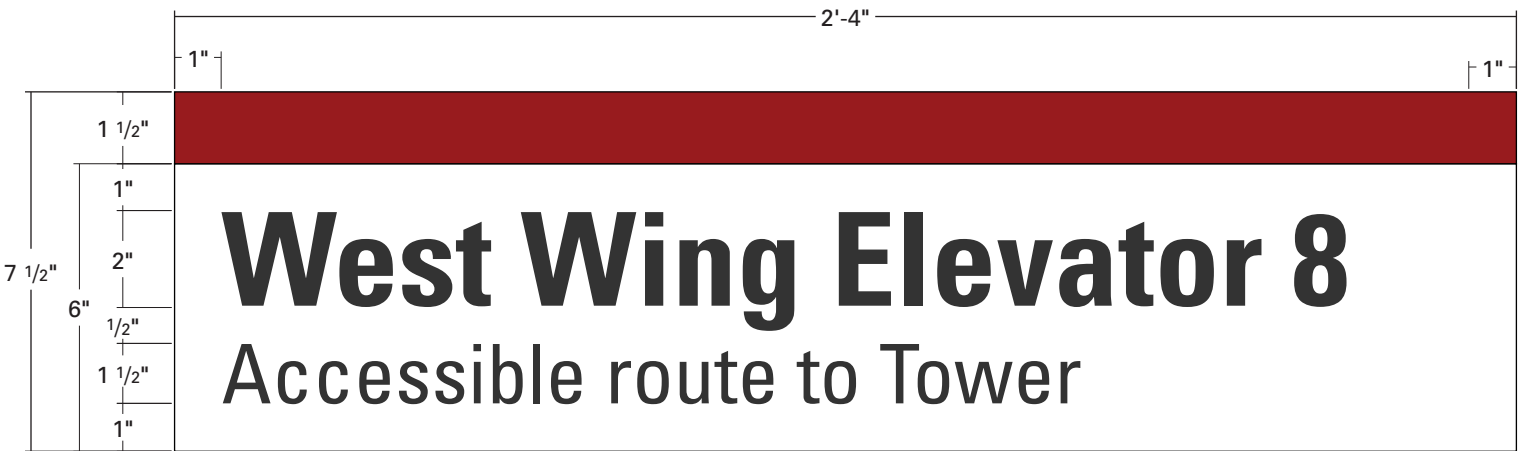
TYPOGRAPHY / GRAPHICS:

Room number: none

Braille: none

Information Copy: UNIVERS 67, 1.75” and UNIVERS 57 1.5” cap height
gray cut vinyl applied to first surface of back plate

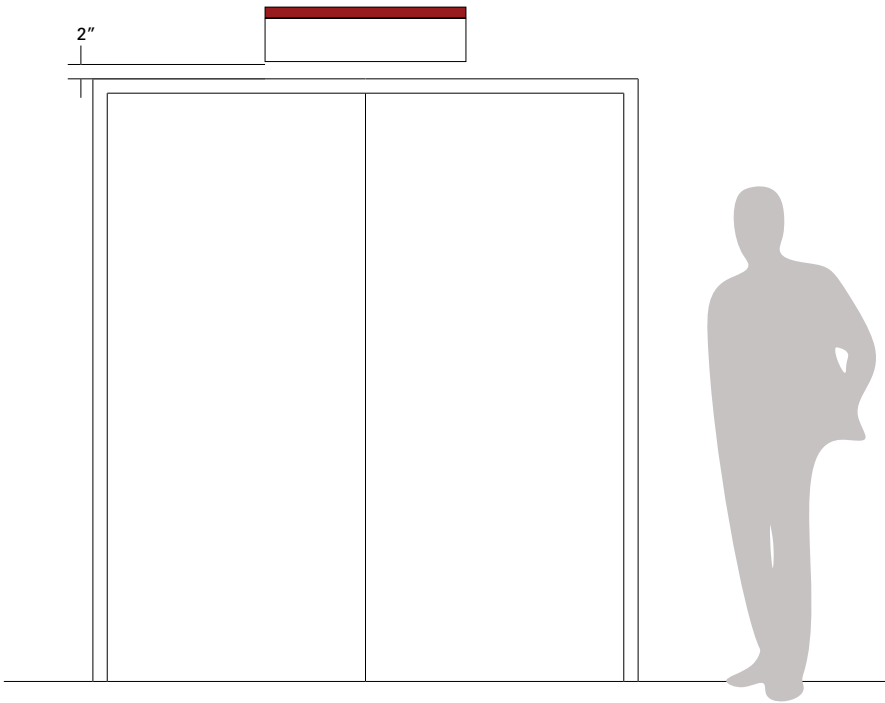
Character Limits:
Header = 17 characters in total
Sub Header = 27 characters in total



Top

1

Side



2

Central Tower Elevator
Accessible route to Tower

East Wing Elevator 6
Accessible route to Tower

SIGN TYPE 13A:

DIRECTIONAL OVERHEAD: CEILING MOUNT

DESCRIPTION:

Double-sided ceiling hung sign with 4 landmark locations (2 rows and 2 columns), with directional arrows

MATERIAL:

Back Plates: 45" wide x 13.5" high, white acrylic (0.080" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attach 2 plates back to back with sheet adhesive

Raised Headers: 45" wide x 1.5" high, red acrylic (1/8" 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plates with sheet adhesive

Hardware: Brushed aluminum direct mount (flanged bracket mounted to ceiling) or channel mount (slotted clip inserted into ceiling mounted channel) attached to ceiling with mechanical fasteners appropriate for the substrate, with aircraft suspension cables

TYPOGRAPHY / GRAPHICS:

Room number: none

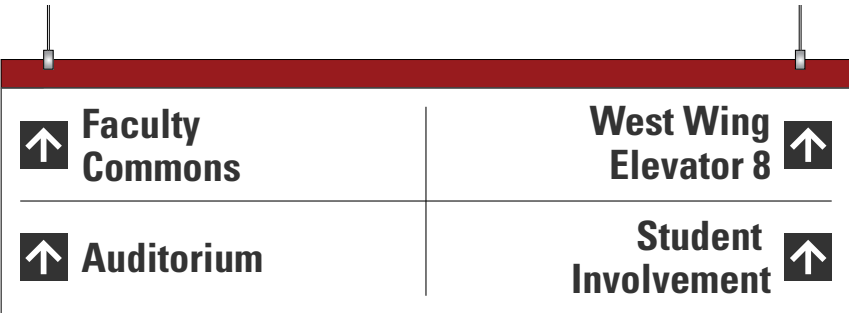
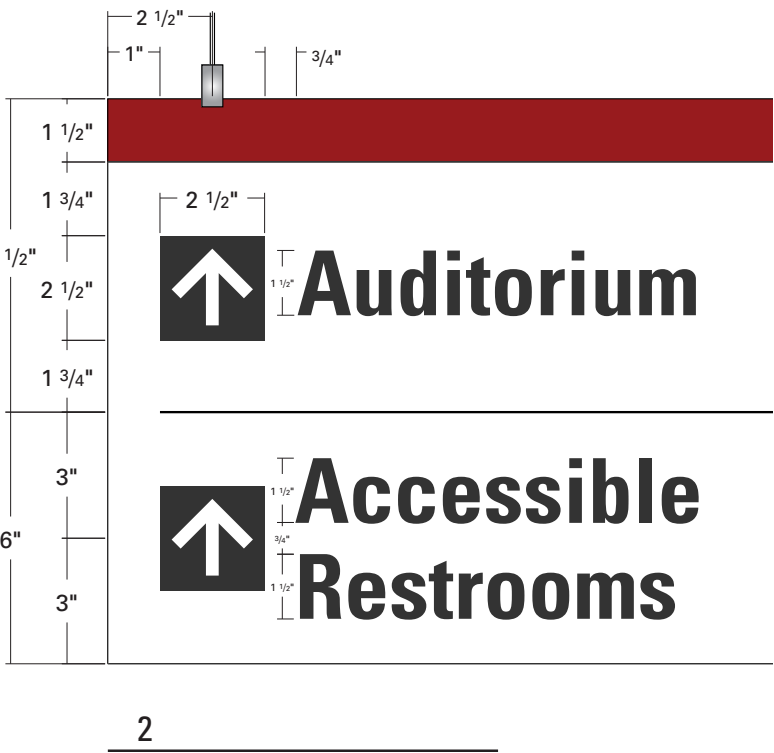
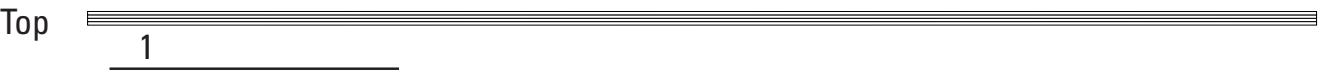
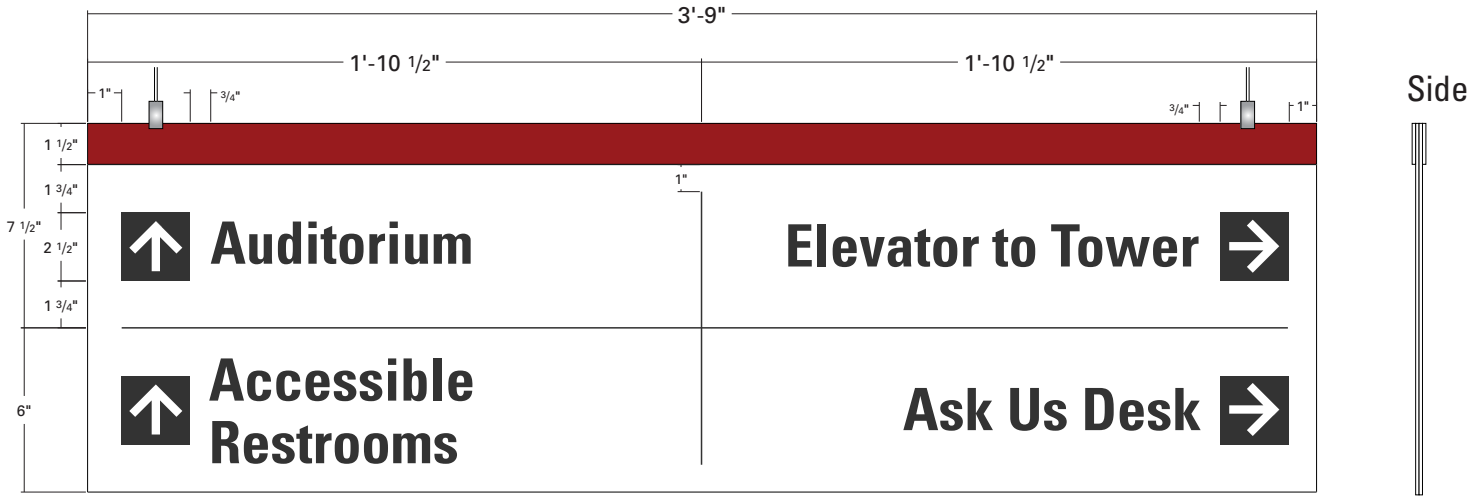
Braille: none

Information Copy: UNIVERS 67, 1.5" cap height, gray cut vinyl applied to first surface of each back plate, first surface gray vinyl line between locations, text justified to adjacent open edge (left column is justified left and right column is justified right)

Character Limits:
14 characters per line, 28 characters in total

ICONS:

2.5" high directional arrow, gray cut vinyl applied to first surface of back plate, vertically aligned with corresponding information copy, justified to adjacent open edge and rotated to point toward location (left column is justified left and right column is justified right)



SIGN TYPE 13B:

DIRECTIONAL OVERHEAD: CEILING MOUNT

DESCRIPTION:

Double-sided ceiling hung sign with 2 landmark locations (1 row and 2 columns), with directional arrows

MATERIAL:

Back Plates: 45" wide x 7.5" high, white acrylic (0.080" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attach 2 plates back to back with sheet adhesive

Raised Headers: 45" wide x 1.5" high, red acrylic (0.080" 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plates with sheet adhesive

Hardware: Brushed aluminum direct mount (flanged bracket mounted to ceiling) or channel mount (slotted clip inserted into ceiling mounted channel) attached to ceiling with mechanical fasteners appropriate for the substrate, with aircraft suspension cables

TYPOGRAPHY / GRAPHICS:

Room number: none

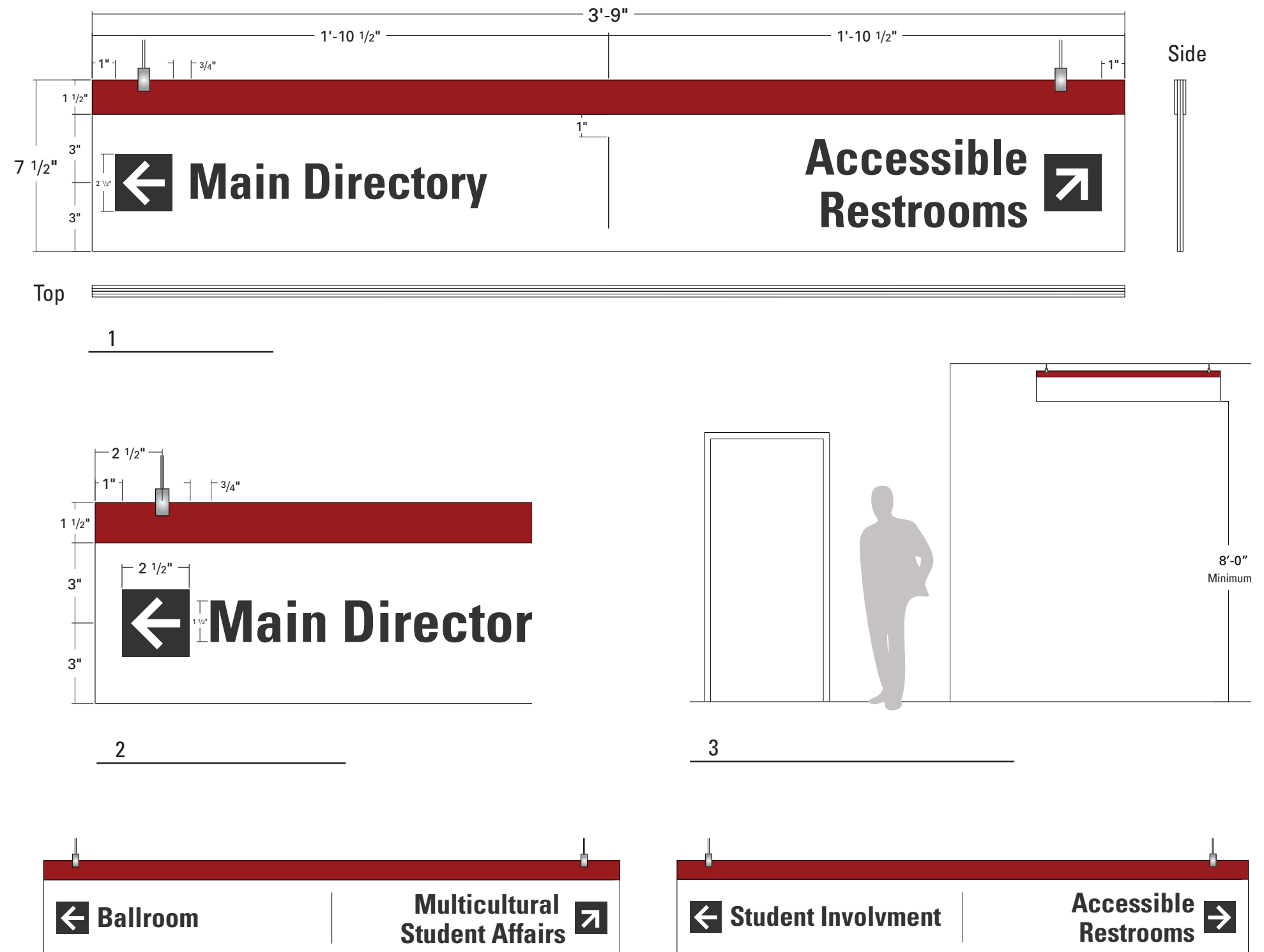
Braille: none

Information Copy: UNIVERS 67, 1.5" cap height, gray cut vinyl applied to first surface of each back plate, first surface gray vinyl line between locations, text justified to adjacent open edge (left column is justified left and right column is justified right)

Character Limits:
14 characters per line, 28
characters in total

ICONS:

2.5" high directional arrow, gray cut vinyl applied to first surface of back plate, vertically aligned with corresponding information copy, justified to adjacent open edge and rotated to point toward location (left column is justified left and right column is justified right)



SIGN TYPE 13C:

DIRECTIONAL OVERHEAD: CEILING MOUNT

DESCRIPTION:

Double-sided ceiling hung sign with 3 landmark locations (1 row and 3 columns), with directional arrows

MATERIAL:

Back Plates: 45" wide x 7.5" high, white acrylic (0.080" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attach 2 plates back to back with sheet adhesive

Raised Headers: 45" wide x 1.5" high, red acrylic (0.080" 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plates with sheet adhesive

Hardware: Brushed aluminum direct mount (flanged bracket mounted to ceiling) or channel mount (slotted clip inserted into ceiling mounted channel) attached to ceiling with mechanical fasteners appropriate for the substrate, with aircraft suspension cables

TYPOGRAPHY / GRAPHICS:

Room number: none

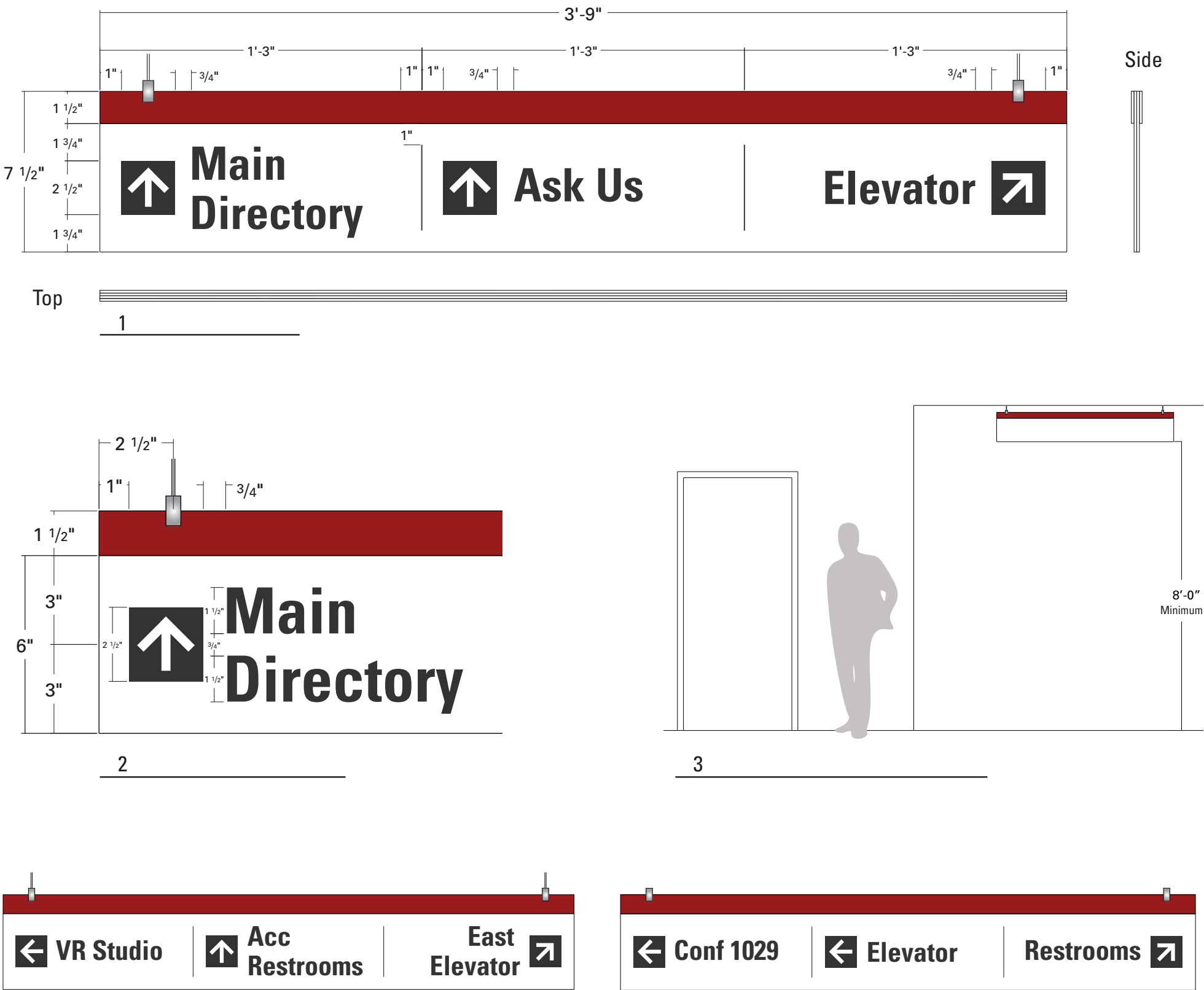
Braille: none

Information Copy: UNIVERS 67, 1.5" cap height, gray cut vinyl applied to first surface of each back plate, first surface gray vinyl line between locations, text justified to adjacent open edge (left column is justified left and right column is justified right)

Character Limits:
8 characters per line, 16 characters in total

ICONS:

2.5" high directional arrow, gray cut vinyl applied to first surface of back plate, vertically aligned with corresponding information copy, justified to adjacent open edge and rotated to point toward location (left and center column are justified left, right column is justified right)



SIGN TYPE 13D:

DIRECTIONAL OVERHEAD: CEILING MOUNT

DESCRIPTION:

Double-sided ceiling hung sign with landmark locations and with directional arrows

MATERIAL:

Back Plates: 34" wide x 13.5" high, white acrylic (0.080" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attach 2 plates back to back with sheet adhesive

Raised Headers: 34" wide x 1.5" high, red acrylic (0.080" 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plates with sheet adhesive

Hardware: Brushed aluminum direct mount (flanged bracket mounted to ceiling) or channel mount (slotted clip inserted into ceiling mounted channel) attached to ceiling with mechanical fasteners appropriate for the substrate, with aircraft suspension cables. Each plate to be mounted independently, do not add connection hardware at corners.

TYPOGRAPHY / GRAPHICS:

Room number: none

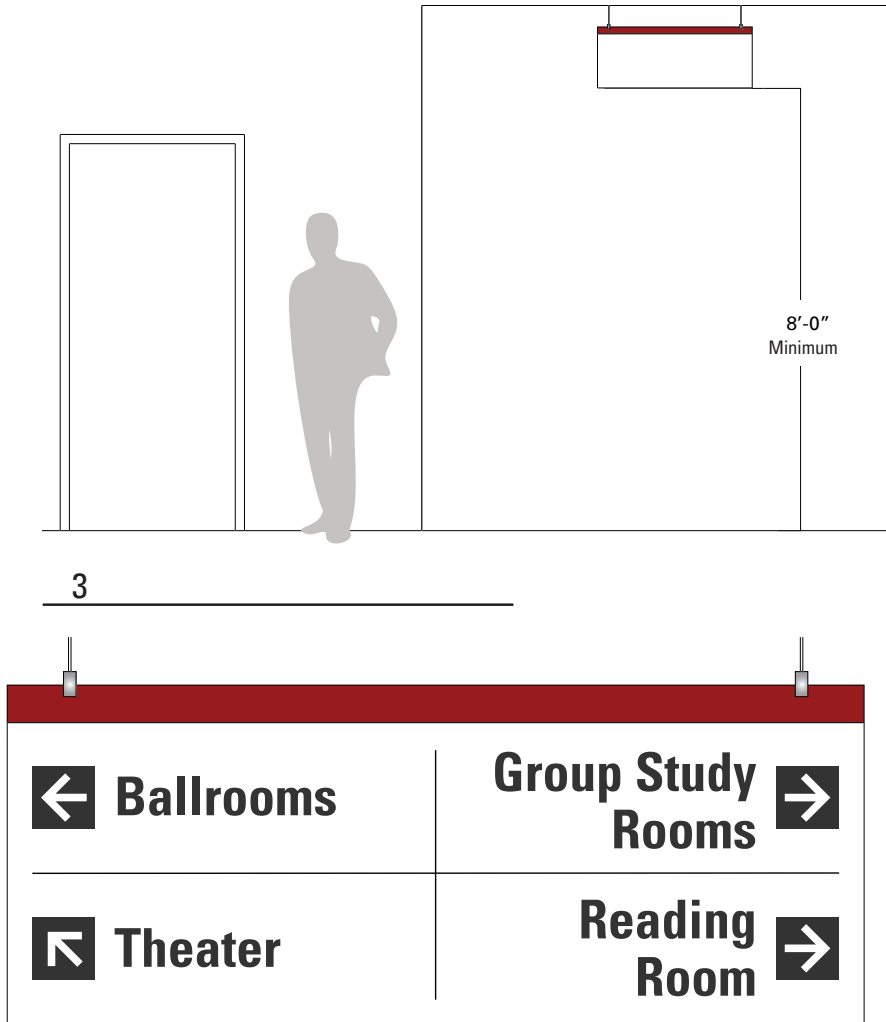
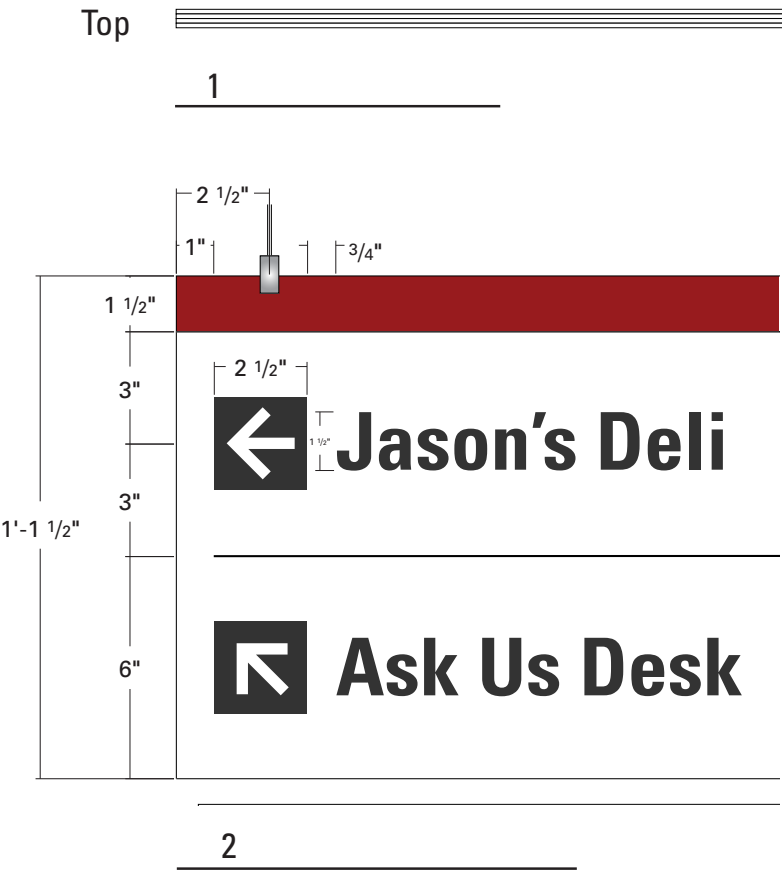
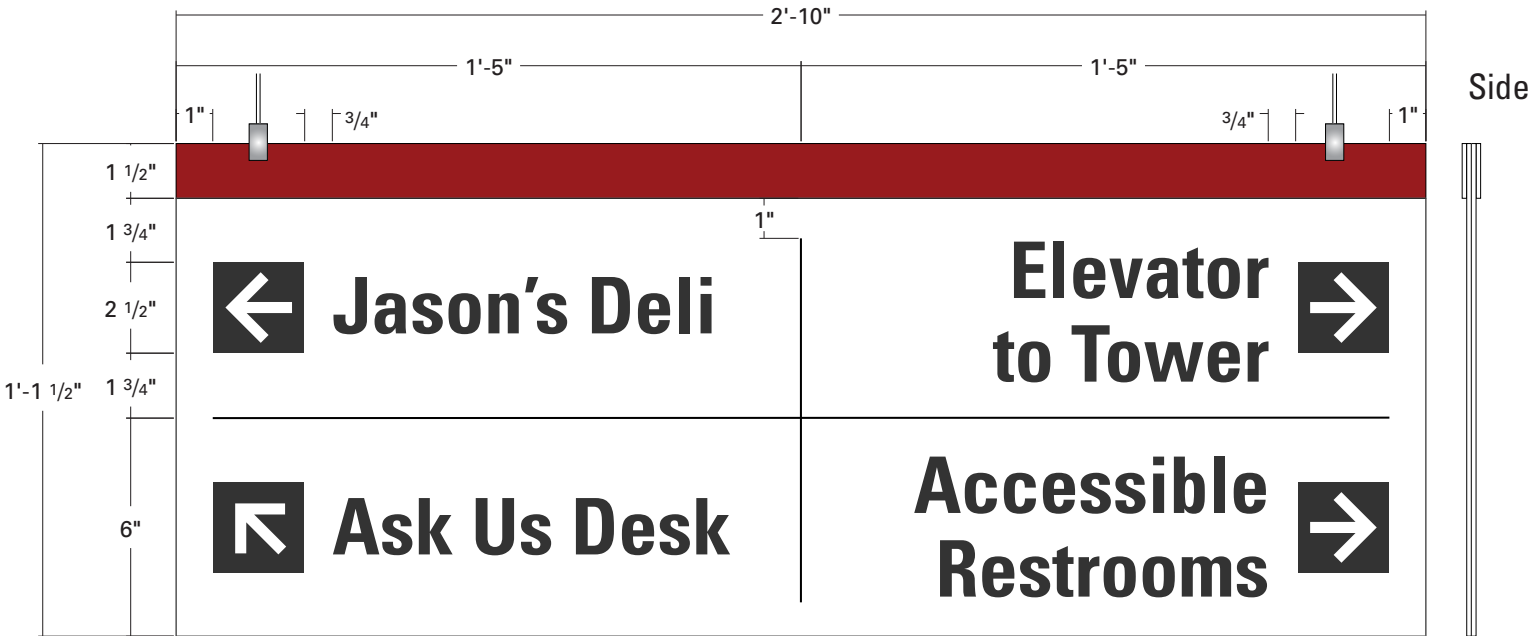
Braille: none

Information Copy: UNIVERS 67, 1.5" cap height, gray cut vinyl applied to first surface of each back plate, first surface gray vinyl line between locations, text justified to adjacent open edge (left column is justified left and right column is justified right)

Character Limits:
10 characters per line, 20 characters in total

ICONS:

2.5" high directional arrow, gray cut vinyl applied to first surface of back plate, vertically aligned with corresponding information copy, justified to adjacent open edge and rotated to point toward location (left and center column are justified left, right column is justified right)



SIGN TYPE 13E:

INSTALLATION VARIATIONS

DESCRIPTION:

3-sided or 4-sided ceiling hung sign with landmark locations and with directional arrows, used in major building intersections. Any of the Type 13 configurations can be modified as described below.

VARIATIONS:

34" square

- (4) single-sided panels arranged in a square
- Each panel is 34" wide x 13.5" high
- Hardware quantity: 8

34" triangle

- (3) single-sided panels arranged in a triangle
- Each panel is 34" wide x 13.5" high
- Hardware quantity: 6

45" square

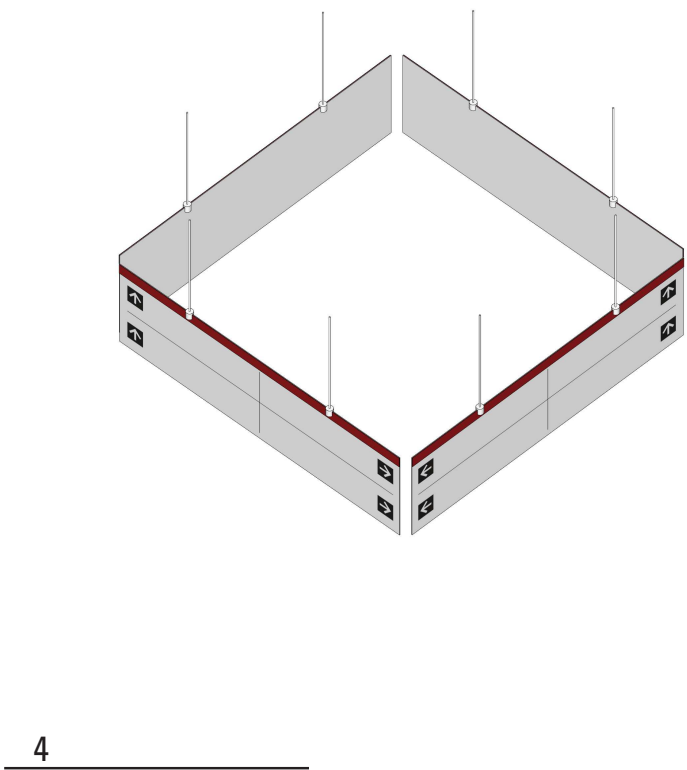
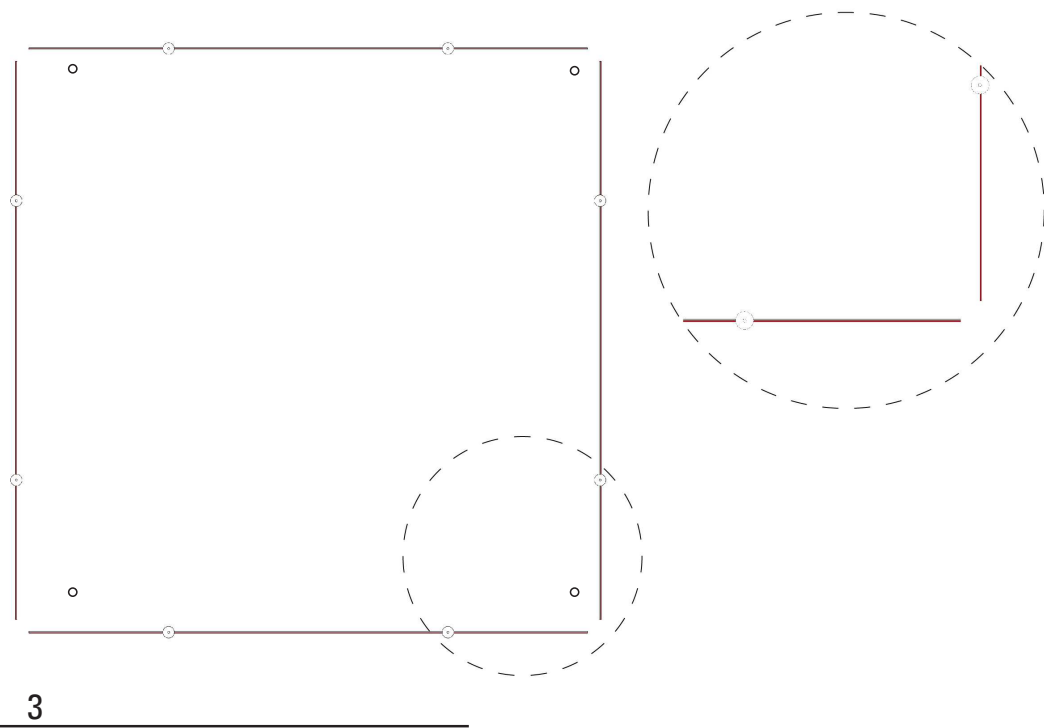
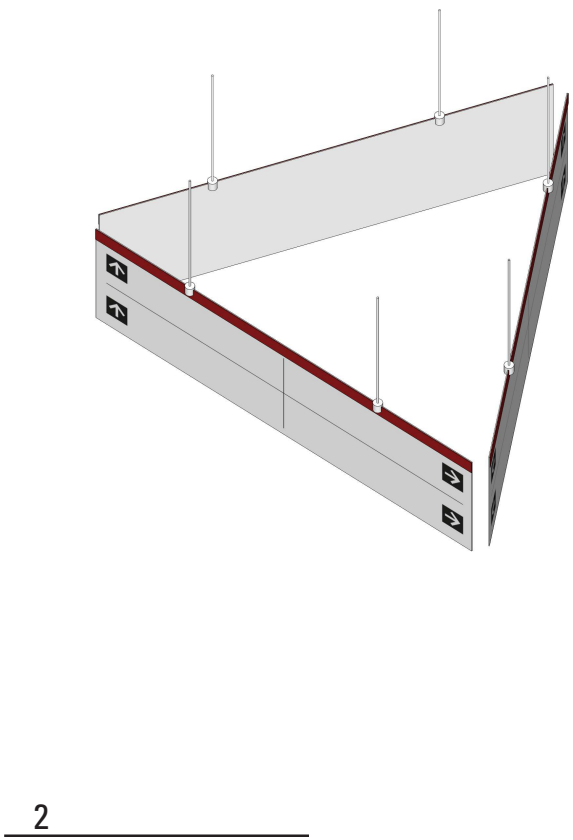
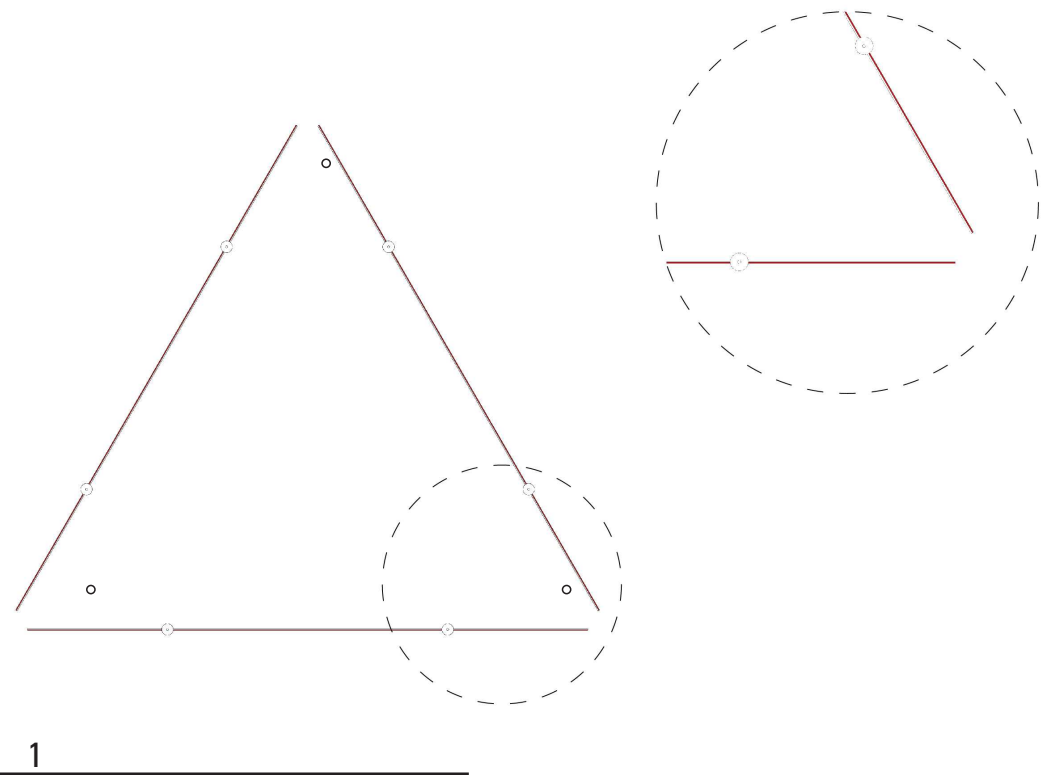
- (4) single-sided panels arranged in a square
- Each panel is 45" wide x 7.5" or 13.5" high
- Hardware quantity: 8

45" triangle

- (3) single-sided panels arranged in a triangle
- 45" wide x 7.5" or 13.5" high
- Hardware quantity: 6

Hardware: Direct mount (flanged bracket mounted to ceiling) or channel mount (slotted clip inserted into ceiling mounted channel) attached to ceiling with mechanical fasteners appropriate for the substrate, with aircraft suspension cables.

Each plate to be mounted independently, do not add connection hardware at corners.



SIGN TYPE 14A:

DESCRIPTION:

Wall sign with permanent floor number and secondary information.

MATERIAL:

Back Plate: 12" wide x 19.5" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

Raised Header: 12" wide x 1.5" high, red acrylic (0.080" 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plate with sheet adhesive

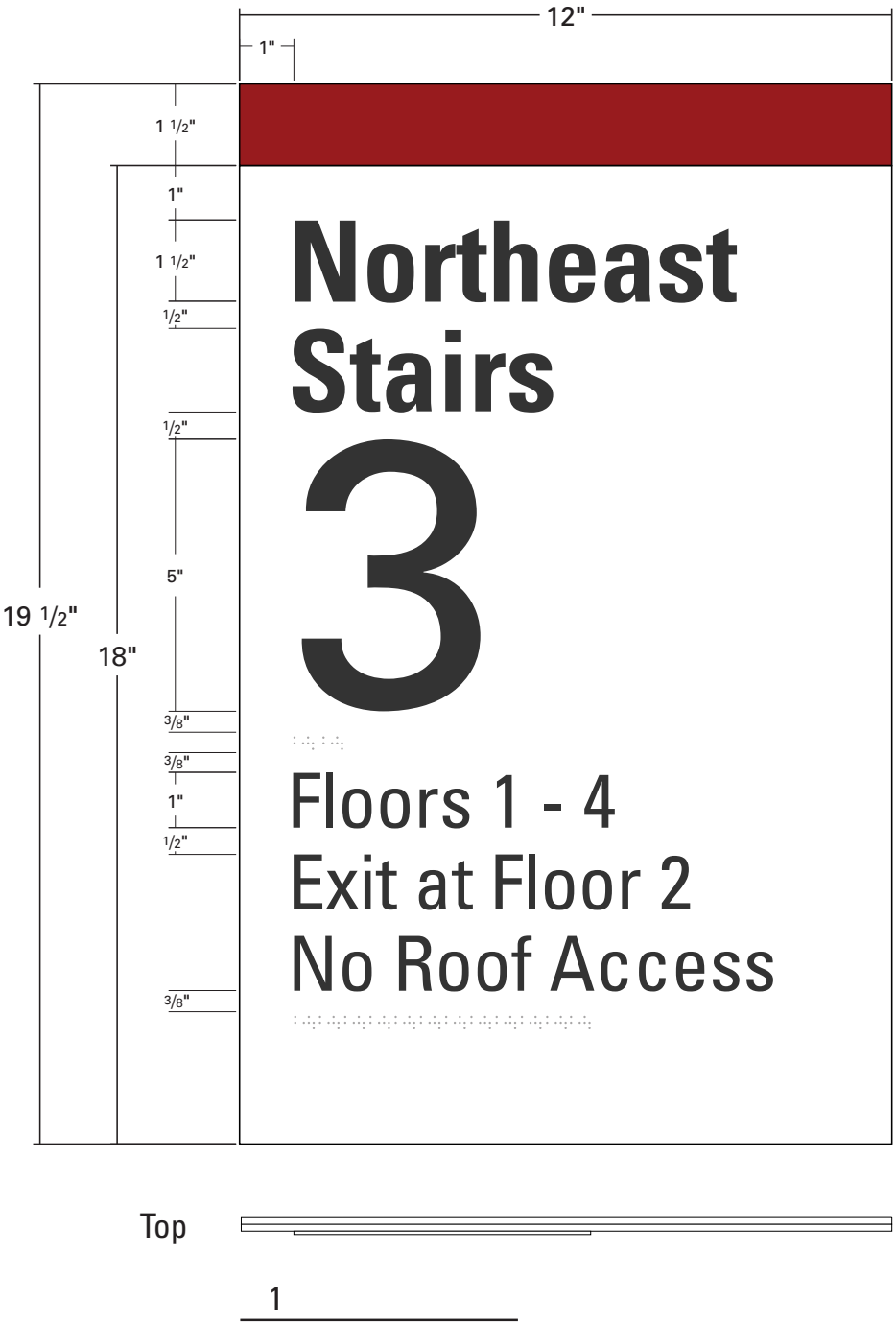
TYPOGRAPHY / GRAPHICS:

Floor number: UNIVERS 55, 5" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, Color Matched to HEX 333333 (90% gray)

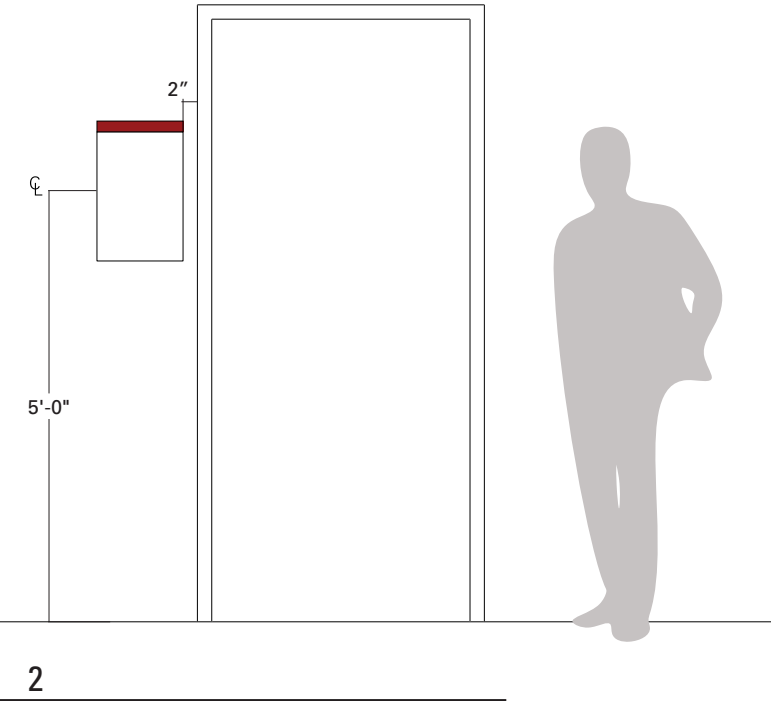
Braille: 1/4" height, clear finish appliqué

Information Copy: UNIVERS 67, 1.5" and UNIVERS 57, 1" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, Color Matched to HEX 333333 (90% gray) from manufacturer's standard colors

Character Limits:
Header = 9 characters per line, 18 characters in total
Sub-header = 12 characters per line, 48 characters in total



Side



SIGN TYPE 14B:

DESCRIPTION:

Wall sign with permanent floor number and secondary information.

MATERIAL:

Back Plate: 9" wide x 12" high, white acrylic (0.125" clear acrylic, non-glare P-99 finish, subsurface printed color matched to Wolfpack White, protective back coating), attached to wall with foam tape

Raised Header: 9" wide x 1.5" high, red acrylic (0.080" 1-ply ADA Alternative by Rowmark, Color #341601), attached to back plate with sheet adhesive

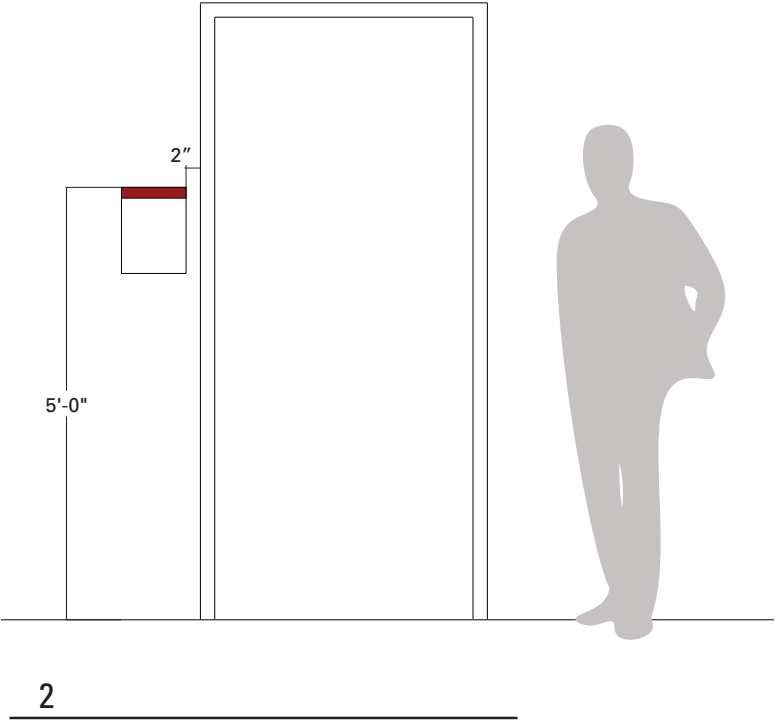
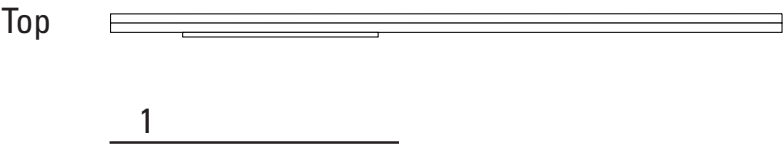
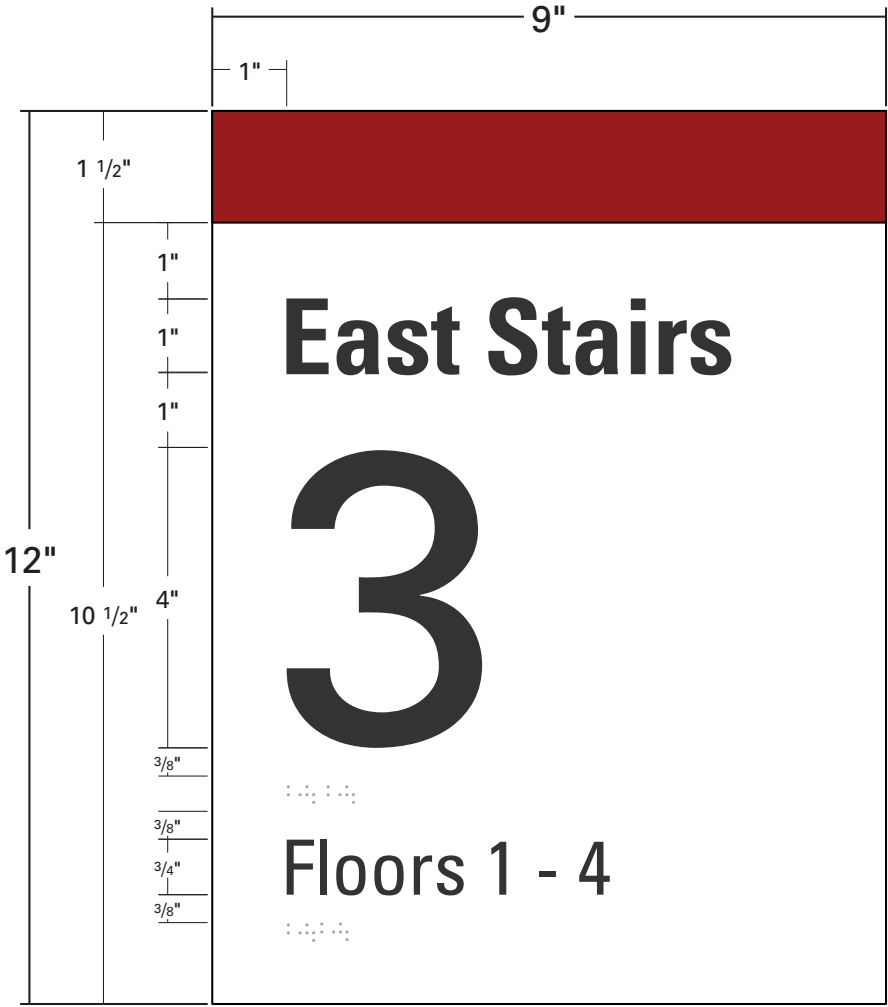
TYPOGRAPHY / GRAPHICS:

Floor number: UNIVERS 55, 4" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, Color Matched to HEX 333333 (90% gray)

Braille: 1/4" height, clear finish appliqué

Information Copy: UNIVERS 67, 1" and UNIVERS 57, 3/4" cap height, raised letters appliqué, 1/32" 1-ply ADA Alternative by Rowmark, Color Matched to HEX 333333 (90% gray) from manufacturer's standard colors

Character Limits:
Header = 9 characters per line, 18 characters in total
Sub-header = 13 characters per line, 26 characters in total



SIGN TYPE 15: BUILDING DIRECTORY

DESCRIPTION:

Wall sign with a printed insert showing a list of room numbers and room functions within a building, with college or departmental location information. Building directories shall be placed in building lobbies and primary entrance points.

MATERIAL:

Front and Back Plates: 12" wide x 24" high, clear tempered glass with polished edges.

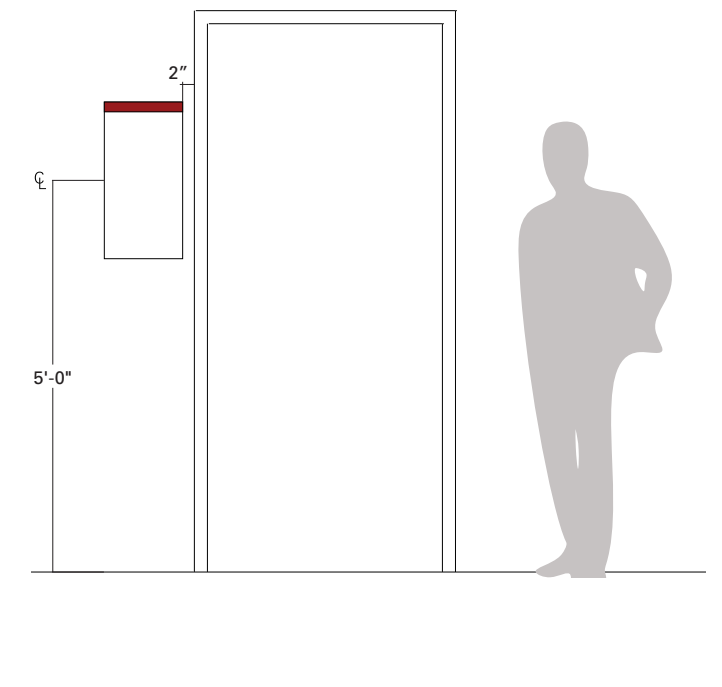
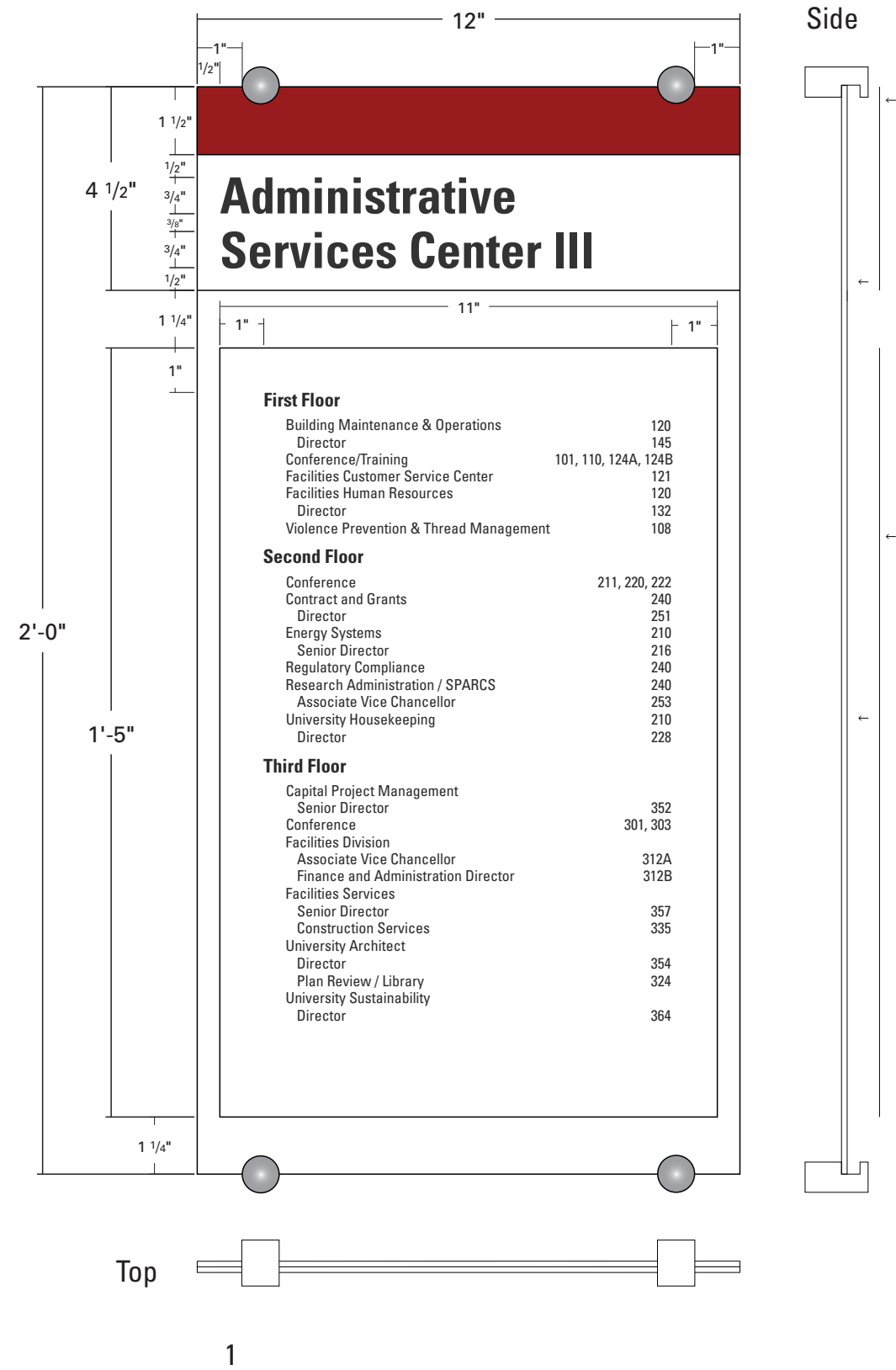
Hardware: 1/2" wide x 1" brushed aluminum offset standoffs, attached to wall with mechanical fasteners appropriate for the substrate.

TYPOGRAPHY / GRAPHICS:

Inserts: Digital files to be edited and printed as needed by the end user.
Adobe Illustrator file format.

Character Limits:

17 characters per line, 34
characters in total



NC STATE UNIVERSITY

2123

Park Shops

Mon - Fri 9AM - 10PM
Sat - Sun 6AM - 5PM

9999

Samantha Lynn Calabrese
University Program Associate

6501

MEN

3260B

WOLFPACK
OUTFITTERS

THE NC STATE STORE

Hours of Operation

Monday - Friday 8AM - 8PM
Saturday 9AM - 5PM
Sunday 12PM - 5PM

1

2

3

4

5

ROOM IDENTIFICATION

EMERGENCY EXIT ONLY
DO NOT USE ELEVATOR,
USE EXIT STAIRS

NO SMOKING

6

7

INFORMATIONAL

5 Auditorium
Living Room
6000 Lab

4 Main Directory
Information Technology
6000 Lab

3 Circulation Desk
Information Technology
6000 Lab

2 Engineering Lab
Information Technology
6000 Lab

1 Ask Us
Information Technology
6000 Lab

West Stairs

Focus Rooms
Rooms 5210-5211

Conference 4245-4251
Student Governance
Student Involvement
Multicultural Student Affairs

8

9

10

11

WAYFINDING

Central Tower Elevator
Accessible route to Tower

Ballrooms

Group Study Rooms

Theater

Reading Room

Southwest Stairs
5
Floors 1- 10
Exit at Floor 1
No Roof Access

Administrative Services Center III

12

13

14

15

WAYFINDING

Appendix: 2001 Interior Sign Manual - Updated 2019

NC STATE UNIVERSITY

Campus Signage Program

interior signage

Published: July 2001

Revised: August 2003, June 2006, December 2008,
February 2019

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NC STATE UNIVERSITY

Campus Signage Program

2.1

Revised August, 2003

GENERAL

Application of Sign Standards

The standards included in this document are guidelines to facilitate a more clear and effective means of understanding and using the campus at North Carolina State University facilities. The campus has many diverse needs and circumstances and an absolute set of standards is impractical in application. These standards represent a means of addressing the most prevalent conditions which will be encountered on campus both in retrofitting existing buildings and in new construction. The primary needs of information, direction and identification are described and recommendations are made as to the application of the standards. Realizing that many conditions will occur that do not neatly fit into the applications described herein, these standards represent an approach which can be extended to the many exceptions which are inevitable in an organization as diverse and complex as North Carolina State University.

The interior sign system shall be designed to comply with all applicable local, state and federal codes and regulations. It shall be the primary objective of the interior sign system to provide people with the necessary information to assist them to find their way to their destinations along their chosen routes through buildings. The information provided may be verbal (typographic) or nonverbal (pictographic). The interior sign system shall be designed with a wayfinding approach and it shall be congruent with the following building characteristics: layout, spatial content, form, organization and circulation. The interior sign system shall provide for uniformity throughout all buildings in campus. The interior sign system components of plaque signs such as identification, warning and simple informational signs shall be manufactured using materials and equipment owned and maintained by NC State Facilities Operations personnel. Larger wayfinding signs that include inserts and interchangeable components shall be submitted to the contractor with the requirements for colors and graphics to match standards established by internally-produced signs.

System Components

The system shall include the following three components:

Identification Signs. Identification signs identify destinations and they provide the user with information about the room use or occupants.

Regulatory Signs. Regulatory signs inform people of both prohibitions and obligations about a destination or a space. Where applicable, these signs serve as a warning to the user of both eminent and potential hazards in the space.

Wayfinding Signs. Wayfinding signs provide people with an overview of the shape of the building and the organization of rooms and they guide people along their chosen routes to their destination.

System Design Criteria

The Interior Sign System is designed to meet the following criteria:

The system should provide uniformity throughout all buildings on campus. The sign types are modular to provide consistency and to aid in the recognition of sign information. The sign types indicated in this document describe the modules and information included on each sign module.

Message design, nomenclature and application shall be standardized per the sign types in this document. Message legibility should be considered from the perspective of a variety of users: visitors, university community, vendors and service people, vision and mobility impaired people, and other users. Room numbering sign system shall comply with university room numbering system.

System Manufacture, Installation and Maintenance Criteria

The Interior Sign System manufacture, installation and maintenance comply with the following criteria:

Based on research, study and analysis of products, manufacturing equipment and operating software, the following system was recommended by Cherry Huffman Architects, PA and adopted by NCSU for identification signs and other simple plaque signs to be internally manufactured:

New Hermes 7000 Engraver

Computer with i486 DX-66 processor, 8MB RAM, 230MB Hard Drive

Microsoft Windows 3.1 & DOS 6 Operating Environment

Braille Font Conversion Program

14" Color Monitor

CD-ROM

Flexi-Sign PRO software

The primary sign materials consist of products supplied by New Hermes. They are propriety plastics designed for face engraving and raised letter applications. The face engraving material is a two ply plastic called Gravoply Decor. The background color is a dark warm gray, Slate. The lower ply that is exposed when engraved will be an off white color, New York White #2P4-224. For raised letter signs where no engraving is required a solid 1/16" plastic material in Slate #277 named Gravo-Tac will be utilized. Raised letters are adhered through the New Hermes system and will be 1/32" Gravo-Tac material in White #200-114. A red accent band occurs on all signs as an identification of the university signage system using Red Gravo-Tac #248-114.

The Flexi-Sign PRO software will generate the graphics and provide the database for the system. This program is expandable to drive fabrication machines other than the New Hermes 7000 Engraver. It is recommended that a vinyl cutter be considered for future purchase. The capacity to produce vinyl signs on campus will complement the use of engraved and raised letter signs. Using the same software to drive the vinyl cutter will assure graphic uniformity.

Larger wayfinding signs with inserts and interchangeable components shall be constructed of a variety of materials, but all colors and graphics shall comply with these identification sign.

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Revised February 4, 2019

SYSTEM COMPONENTS

System Components: Definitions and Domain

The interior sign system will be comprised of the following three components:

- Room Identification
- Regulatory
- Wayfinding
- Commemorative

Room Identification Signs

The purpose of this type of sign is to identify destinations and to provide information about destinations. Identification signs shall be uniform throughout buildings on campus. Each building must be carefully evaluated to determine specific identification sign elements appropriate for the building setting. Identification signs include the following type of signs:

Permanent Room Identification

Signs indicating permanent room identification:

- Building room numbers
- Restrooms
- Exits
- Stairs
- Mechanical, Electrical, Custodial, Elevator

Room Function Identification

Signs indicating function of room:

- Departmental offices
- Conference
- Information
- Vending
- Lounge
- Other building specific room functions

Room Occupant Identification

Signs indicating occupant of room:

- Faculty names
- Student associations

Informational sign type 12 may be used with sign type 1, 2, or 3 to list individual employee names posted outside an office.

- Office occupant names will not be posted at office suite entrances. Office suite occupant names will only be posted at individual office doors.
- Offices containing less than 4 occupants may use a sign type 12 with one line of copy for each occupant plus a title if requested.
- Offices containing more than 4 occupants may use sign type 12 for every 2 occupants not to exceed 8 names and no titles.
- Faculty and staff members with an office and laboratory office will be permitted a sign type 12 or 12A at their primary office only. No official sign type will be posted listing students by name.

Any variance shall be reviewed by the Office of the University Architect.

Informational

These signs may be either modules added to identification signs or stand-alone signs that provide information or procedures:

- Office hours
- Accessible work space
- Telephone Device for the Deaf (TDD) directional signage
- Assisted listening systems in assembly areas

Regulatory Signs

The purpose of this type of sign is to inform the user of both prohibitions and obligations about activities in a destination or space. Regulatory signs shall be uniform throughout buildings on campus. Each building must be carefully evaluated to determine specific regulatory signs elements appropriate for the building setting. Regulatory signs may be related to:

- Eating
- Smoking
- Environmental Health
- Area of Rescue Assistance
- Accessible exits directional signs
- National Electric Code
- National Fire Protection Association
- Emergency procedures

Wayfinding Signs

The purpose of wayfinding signs is to provide orientation and general information about the building setting and to guide people along a route to a destination. Wayfinding signs constitute the foundation of the interior sign system. Wayfinding signs shall be uniform throughout buildings on campus. Each building must be carefully evaluated to determine specific wayfinding elements appropriate for the building setting. Wayfinding signs may include:

Building Orientation Maps

Maps and building floor plans showing location of college and department destinations, accessible building elements, and restrooms. Larger, more complex buildings may require zoning to be color-coded to aid in wayfinding.

Building Directory

Directory of room numbers and room functions with college or departmental location information. See sign type 21 for a graphical representation of a building directory.

Directory Listings Grouped by Floor

Each room function and/or departmental listing should be grouped by floor. The floor number is necessary to clarify on which floor a room number is located. For example, room 1020 could be on floor 1 or floor 10. Clarification is also necessary since some buildings have ground, basement, and sub-basement levels.

Alphabetical Directory Listings within a floor

Within the floor listings there are two levels of information. The first level would include all departments, programs, administrative offices and public spaces found in the building (example: Classroom, Golf, Sociology, University Architect) and the room number(s) for that listing. This level of information is arranged alphabetically and left justified.

Refer to Interior Signage Manual - January 2020

The second level of information would include position titles, not individual names with location information. For example, "Director of Snowflake Design.....room 102" could be listed but not "Samatha Jones.....room 102." This level of information is arranged alphabetically and indented under the level 1 category or departmental name.

If the building has specific spaces that the public utilizes, or visitor destinations such as training rooms, conference rooms, auditoriums, snack bar, accessible bathroom, etc., those special destinations may be listed on the directory with a room number.

Directional Information

Signs indicating direction to follow to a particular destination, i.e., departmental office, elevator location, and reception/information area. This type of sign includes Wall-mounted and Overhead Signs. Directional signs include arrows in color modules. In simple buildings these modules shall be red, but in more complex buildings, the building may be zoned in up to four zones with different accent colors assigned to each zone and used in arrow modules to provide a multicuing aid to wayfinding.

Commemorative Signs

Room Donor Recognition and Commemorative Signs

All rooms at NC State have permanent room identification signage according to NC State Interior Signage Standards room identification signs. The room function on NC State's permanent room identification signage may include the donor's name (example: Progress Energy Conference Room, Ron Jones Faculty Lounge) as well as other sign requirements.

On the wall outside the commemorative room and in addition to the permanent room identification sign, the donor's name, room function (i.e., Auditorium, Conference, Classroom, etc.) may appear collectively in one field not to exceed 100 square inches (example: 4" x 25", 10" x 10", etc.). No logos are permitted. Please refer to the interior signage standards Chapter 2 System Components, page 2.2.1 for appropriate nomenclature of room functions.

All recognition signage outside the room must be mounted at the same height as the standard permanent room identification signage (61 1/4" from the floor) and preferably on the wall adjacent to the permanent room signage.

All letters naming the room function and donor (individual or corporate name) must be found within the 100 square inch field and must be one of the following materials:

Raised metal letters (brushed aluminum or brushed stainless steel finish) mounted directly into the finished wall material

Raised metal letters (brushed aluminum or brushed stainless steel finish) applied to a clear Plexiglas panel not to exceed 100 square inches mounted onto the finished wall

Vinyl cutout or silk screened letters on glass or finished wall. Vinyl or silk-screened letters may be white, black or grey matching Gravo-Tac SLATE # 277 of the standard NC State interior signage system.

The standards for room recognition inside the room are the same as the standards for outside recognition with the exception that the field for the recognition signage inside the room may be 250 square inches maximum found in one location. In addition, donor plaques of various materials such as wood, bronze, Plexiglas or any solid material may be used not to exceed 250 square inches.

Refer to Interior Signage Manual - January 2020

Donor Recognition Walls and Plaques

The background of the donor wall shall be rectangular and uniform, to be mounted on a wall as a single unit. The background may be any material; natural materials (i.e., marble, granite, metal, wood) are preferred. There is no limit to the size of the background, as it will vary according to the number of listings.

The donor listings may be mounted or engraved directly onto the donor wall background. Letters may be any material with a non-glare, semi-matte or matte finish and must be black, white or shades of gray. If the background is constructed of a natural material, the letters may also be constructed of the same material or may be the same color as that material. Typeface of donor listings shall be Univers 55 with a maximum height of 5/8" and may be raised.

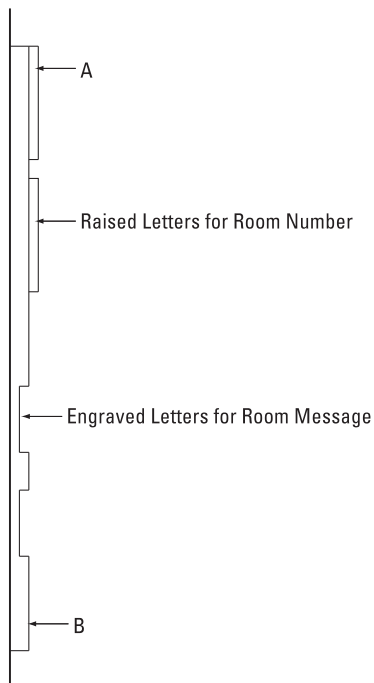
Titles and subtitles may be used to recognize the donor lists. Typeface of titles and subtitles may be any font and shall not exceed 1 1/2" in height.

Corporate logos shall not be used in donor listings.

Back lighting of the donor wall or its components is prohibited.

Standard donor recognition products that meet all of the specifications listed in this document may be used. It is recommended that an architect or independent specialty signage designer design large installations.

The Office of the University Architect shall review all plans, specifications and locations for donor recognition walls or plaques prior to fabrication or purchase.



This kit-of-parts concept is designed to minimize the number of components, and to simplify the assembly of the sign system. This will allow the use of in-house capability for simple construction, graphics layout, assembly and installation. As a result of the kit-of-part concept the University will be able to economically implement and maintain the complete signage system.

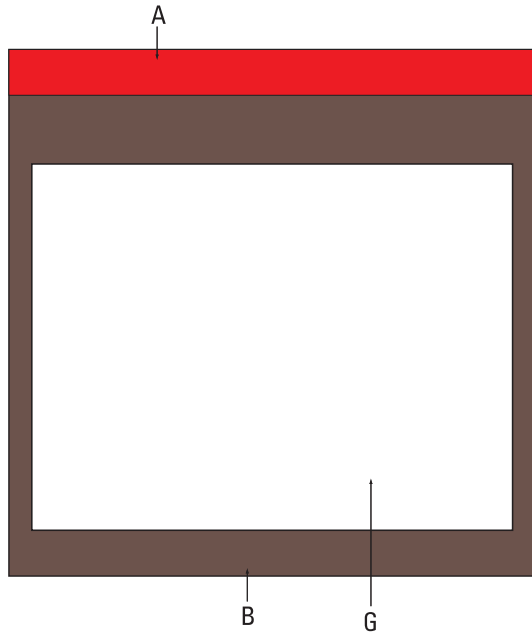
The kit-of-parts consists of these basic components:

A - RED, #248-114 Gravo-Tac 1/32" and 3/16" thick

- A1 - 3/4" high, 7" wide, 1/32" thick
- A2 - 3/4" high, 8" wide, 1/32" thick
- A3 - 3/4" high, 24" wide, 1/32" thick
- A4 - 3/4" high, 36" wide, 1/32" thick
- A5 - 1" high, 11-1/2" wide, 1/32" thick
- A6 - 1" high, 18" wide, 3/16" thick
- A7 - 1" high, 36" wide, 1/32" thick
- A8 - 1" high, 48" wide, 1/32" thick
- A9 - 3/4" high, 11-1/2" wide, 1/32" thick
- A10 - 1" high, 9" wide, 1/32" thick

B - SLATE, #277 Gravo-Tac 1/16", 1/8", and 3/16" thick

- B1 - 2" high, 7" wide, 1/16" thick
- B2 - 4" high, 7" wide, 1/16" thick
- B3 - 6" high, 7" wide, 1/16" thick
- B4 - 8" high, 7" wide, 1/16" thick
- B5 - 9" high, 7" wide, 1/16" thick
- B6 - 5" high, 11-1/2" wide, 1/16" thick
- B7 - 9" high, 11-1/2" wide, 1/16" thick
- B8 - 14" high, 11-1/2" wide, 1/8" thick
- B9 - 1/2" high, 18" wide, 3/16" thick
- B10 - 2" high, 18" wide, 1/8" thick
- B11 - 12" high, 18" wide, 1/8" thick
- B12 - 18" high, 18" wide, 1/8" thick
- B13 - 9" high, 24" wide, 1/8" thick
- B14 - 6" high, 36" wide, 1/8" thick
- B15 - 9" high, 36" wide, 1/8" thick
- B16 - 10" high, 36" wide, 1/8" thick
- B17 - 6" high, 48" wide, 1/8" thick
- B18 - 10" high, 48" wide, 1/8" thick



B19 - 9" high, 14" wide, 1/8" thick

B20 - 11-1/2" high, 11-1/2" wide, 1/8" thick

C - 1/8" Painted Aluminum, color to match Gravo-Tac #277 SLATE and #248-114 RED

C1 - 2-1/2" high, 10-1/2" wide, 1/8" thick

C2 - 2-1/2" high, 20" wide, 1/8" thick

C3 - 2-1/2" high, 29-1/2" wide, 1/8" thick

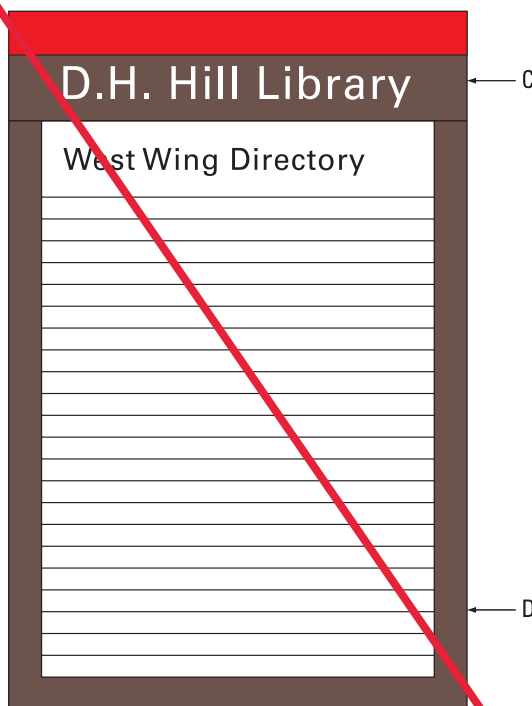
D - Painted Aluminum Frame, color to match #277 SLATE

D1 - 16" high, 10-1/2" wide

D2 - 16" high, 20" wide

D3 - 26" high, 20" wide

D4 - 26" high, 29-1/2" wide



E - 1" Expanded Polystyrene Core with Expanded PVC Facing and Reinforcement on edges, color to match Gravo-Tac #277 SLATE and #248-114 RED

E1 - 6" high, 24" wide

E2 - 10" high, 24" wide

E3 - 15" high, 48" wide

E4 - 20" high, 48" wide

F - 1/2" Clear Anodized Aluminum Mating Channel

F1 - 6" high

F2 - 10" high

G - 1/16" thick Clear Acrylic with pocket for Paper Insert

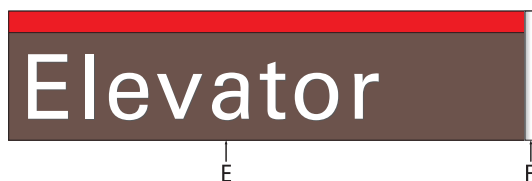
G1 - 4" high, 7" wide

G2 - 5" high, 11-1/2" wide

G3 - 14" high, 11-1/2" wide

G4 - 14" high, 9" wide

G5 - 11-1/2" wide, 11-1/2" high



H1 - 1'-0" high and 9" wide

J1 - Fiberglass bonded to aluminum framing members at every corner, bolted or weighted to the floor

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Revised August, 2003

GRAPHIC STANDARDS

Graphic Standards

All components of the interior signage shall comply with the following general guidelines:

Character Font

The type font shall be UNIVERS. Raised lettering for the visually impaired shall be upper case. Where raised lettering is not required, messages should be displayed using upper-and-lower case letters. The typeface for interior sign systems shall be Univers 55.

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

Character Height

The minimum height is measured using an upper case X.

Lettering for signage suspended or projected overhead should be three inches minimum cap-height. The intended viewing distance for this character height is over 150 feet (i.e., stadium, conference center, or arena).

Other lettering should be sized according to the viewing distance from which they are to be read. The guideline of one inch cap-height for 50 feet viewing distance is recommended.

If possible, lettering for maps should have a minimum height of 0.625 inches.

Character Proportion

Letters and numbers on signs shall have a width-to-height ratio between 3:5 and 1:1 and a stroke-width-to-height ratio between 1:5 and 1:10. Condensed, expanded, extra bold or expanded typefaces are not acceptable. Different fabrication techniques may require adjusting the weight of the characters to compensate for errors incurred in fabrication. The final sign characters must comply with the above stated proportions and should match the Univers 55 typeface.

The size of characters should be tested based upon the intended viewing distance.

Raised and Braille Characters

Raised lettering and numerals shall be raised 1/32 inch, upper case, Univers 55 and shall be accompanied with Grade 2 Braille. Raised characters shall be at least 5/8 inches height, but no higher than two inches. The standard dimensions for literary Braille are as follows:

Dot diameter	.059 in.
Inter-dot spacing	.090 in.
Horizontal separation between cells	.241 in.
Vertical separation between cells	.395 in.

Room numbers and characters that are raised shall be represented in Braille.

Finish

The characters and background of signs shall be eggshell, matte, or other non-glare finish. An eggshell finish (11 to 19 degree gloss on 60 degree glossimeter) is recommended per ADA requirements. The New Hermes products indicated in the sign designs comply with these standards.

Color and Contrast

Characters and symbols are to be a light color shown against a dark background. The New Hermes colors New York White and #277 Slate comply with the established minimum contrast of 70 percent (ADA requirement). Contrast in percent shall be determined by:

Contrast = $[(B1 - B2)/B1] \times 100$ where B1 = light reflectance value (LRV) of the lighter area and B2 = light reflectance value (LRV) of the darker area. Note that in any application both white and black are never absolute; thus, B1 never equals 100 and B2 is always greater than 0.

Nomenclature

Sign messages should be proposed by the designer and approved by NCSU, prior to fabrication and installation. Message units should use plain and consistent language to describe locations and routes. The information hierarchy is established by the sign types for identification and regulatory signs. The space between words should be equal to the space occupied by a lower case "r". In all instances, text lines should break within the message in ways that make reading sense. Sign messages should be flush left, ragged right aligned. The designer is responsible for specifying line breaks to fabricators on all signs.

With the exception of directories and specified regulatory information and other university approved exceptions, messages on individual signs should not exceed three lines of text with appropriated line spacing for optimum legibility.

Word Spacing

Spacing between words will be based on the width of a lower case "r".

ComputerScience

Line Spacing

The vertical space between lines is called leading and is measured from the baseline of one line of type to the next. Individual sign types will identify particular line spacings. The standard for type leading in the absence of other directions will be 160% of the Cap height. For example, if the cap height of the type is 5/16" then the standard vertical line spacing for additional lines of text will be 1/2" measured from baseline to baseline.

Hours of Operation
8am-5pm

Arrows

On directional signage, text should be flush left, and directional arrows should be on the left of the sign. Where several messages are involved, it is recommended to dedicate a complete blade of a sign to the directional function, arrow or plain language description.

Pictorial Symbol Signs (Pictographs)

Pictographs shall be accompanied by the equivalent verbal description placed directly below the pictograph. When pictographs are used to identify permanent room or spaces, like restrooms, verbal descriptions must be in raised letters and in braille.

The total height of the background of the pictograph shall be six inches minimum. This rule does not apply if the pictograph is used as non-essential add-on information to another sign.

Facilities and elements required to be identified as accessible by ADA, Title III Accessibility Guidelines, section 4.1, shall use the international symbol of accessibility. Pictographs required for: Volume Control Telephones, Text Telephones, and Assistive Listening Systems shall comply with this section.

Message Breaks

Messages are to be laid out on the sign panels so the words break onto the next line of type in a way that communicates most easily.

An example of an inappropriate message break which can miscommunicate is as follows:

Department of Pest
Control



Symbol of Accessibility



Drinking Fountain



Information



Fire Extinguisher



No Smoking



Stairs



Telephone



Text Telephone



Volume Control Telephone



Men's Toilet



Women's Toilet



No Food or Drink



Assistive Listening Device



Directional Arrows



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Revised August, 2003

MOUNTING LOCATIONS

Mounting Location and Hierarchy

A clear informational hierarchy shall be followed for identification and regulatory signs. The hierarchy is as follows:

- Room Number
- Department Name
- Room Function
- Room Information (i.e., office hours)
- Room Occupant
- Room Regulation

Permanent room identification will occur at every room and may include room function. An individual's name will occur at main building directories and may also be added to the door sign of their office on a separate module (Sign Type 12). If two people share a private office, both names may be on the added sign module. Where several rooms are accessed off of a common room, there should be a sign at the door or entrance to the shared space indicating room numbers within the common space. Note that individuals within the common space are not indicated.

The College in which the department resides is not to be indicated except at the administrative offices of the Dean of the College.

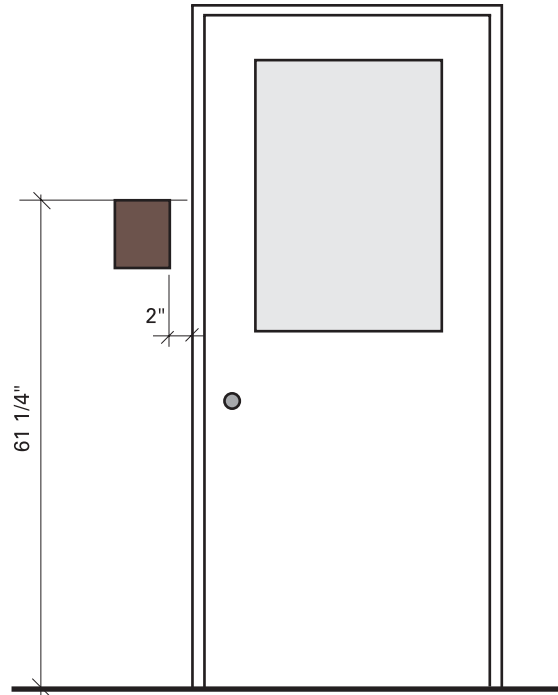
Departmental names are to be included where more than one department resides within a building or where departmental identification will aid in clarity. If a departmental sign indicates a major wayfinding destination and/or requires variable information such as Hours of Operation, a Sign Type 15 may be used.

Movable office partitions will identify the occupant per Sign Type 12. An insert panel will be produced to fit into a hanging plastic fixture which mounts to the top of the panel. The mounting fixture may be purchased through the panel manufacturer. The dimensions and profiles will vary with different manufacturers. Desk signs will be per Sign Type 12 when provided by the University, however individuals may use personal signs for desk signs.

Permanent identification signs shall be installed on the wall adjacent to the latch side of the door. Where there is no wall space to the latch side of the door, including at double leaf doors, or if there is an obstruction on the wall, signs shall be placed on the nearest adjacent wall. If no adjacent wall is available signs shall be installed on the door. Mounting height shall be 60 inches from the finish floor to the center line of the permanent room number. Mounting location for such signs shall be such that a person may approach within three inches of the signs without encountering protruding objects or standing within the swing of a door. These signs are considered the most important element of the sign system hierarchy.

Mounting location for all door signs

All wall mounted identification signs (Type 1, 2, 3, 6, 9, 10, and 15) to be mounted with top of sign 61-1/4" from the finish floor. This height will conform to ADA standards with the centerline of permanent room identification number at 60" above the floor level.

**Mounting locations for type 12 signs**

Type 12 signs are to be mounted directly under sign types 1, 2, or 3.

