Using Accessible Digital Formats to Provide Campus Orientation to Blind and Visually Impaired Students.

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**Introduction**

A university/college campus can be a single building and parking lot (satellite) to a complex of buildings, parking lots, stadiums/recreational areas, open space that cover multiple blocks. Effective way finding is accomplished in the understanding of the global campus parts and local (building interior design) and the connectedness of the parts. Because most campuses are built over decades (and centuries in some cases) they are not inherently designed with way finding as a part of the design.

All members of the campus community have access to the traditional way finding tools. Before they come to campus, they have access to a variety of campus maps and in some instances a virtual tour of the campus and individual facilities. Some online maps are interactive by clicking the building name, information and a picture of the building come up on the screen.

There are campus maps – a general campus map – all buildings and facilities or specialty maps that show specific buildings or areas, parking, etc. Streets have signs, pedestrian crosswalks, and particular areas have maps or kiosks with maps about buildings in the areas. Building may have a post and banner sign, shingle sign or a lawn sign. During special events temporary directional ‘sandwich signs.’

Inside the building there may be a map/kiosk with a building directory or an Information Desk (Unions/Student Center, main Administration Building). Doors have numbers and in some cases function e.g. restrooms, vending. Elevators, exit stairs have indicators.

All of this information is readily available to assist in independent way finding and movement except for blind/visually-impaired members of the campus community that includes faculty, staff as well as students. There are problems that blind and visually impaired individuals confront with way finding on a college campus, and most other locations for that matter are the lack of maps, orientation information, and associated issues that create the problems.

**Problem**– no ‘maps’ for blind

*1.**Lack of standards for tactile maps* –

The Braille Authority of North American (BANA) 2010 publication ‘Guidelines and Standards for Tactile Graphics 2010” notes in in *Unit 8 – Orientation and Mobility* that consistency in symbols, although advantageous for some purposes may be difficult in different map-making techniques and production methods, and the experience level of the user.

“8.6.10 **Symbols for Maps**” http://www.brailleauthority.org/tg/web-manual/index.html

Although computers and braille printers can create some graphics, a majority of maps and tactile images for the blind are made via string/sticks/raised images and glue and replicated via a thermal heat process. As noted in the article, design and methodology are usually up to the mapmaker, and what information to include on the map is based on need.

*2. Braille*

The Braille code has a set standard (UEB – Unified English Braille) and was last updated by the Braille Authority of North American (BANA) in 2013. BANA has also provided specific dimension and spacing for braille. Although there are symbols to indicate capital letters and italics, in the embossed (raised dots) form, essentially braille comes in one size, which will determine what, and how much information can be put on a map. (Cite)

3.*Understanding Tactile Graphic*

BANA notes in Unit 1 – Criteria for Including a Tactile Graphic

**“**1.1 Tactile graphics, in combination with 3-dimensional models, need to be introduced early in the process of learning braille. The ability to read graphics will be required for the understanding of concepts such as diagrams, graphs, and maps, and to be able to participate in standardized testing.” http://www.brailleauthority.org/tg/web-manual/index.html

**Problem** – *lack of access to orientation information*

Blind/visually impaired students are responsible (not the college) for contacting O&M (Orientation Mobility Specialist) for campus orientation that is usually limited to critical areas – residence hall, class schedule, food service prior to classes beginning. O&M is usually contacted through the local/state agency for the blind that travel to the campus. Unless a campus has an O&M Specialist on staff they are generally not available (timely) if there is a change of schedule (Drop/Add class in the first week, or classroom or activity locations are changed, or special events e.g. first week of welcome activities, tours of libraries, museums, or changing campus environment due to planned/emergency construction.

***Orientation*** – is the understanding of where you are, which is dependent on knowing where you have come from and where you are going It requires the understanding of north, south, east and west, as well as up and down, because these constructs never change. It involves the auditory, olfactory and kinesthetic awareness.

**Word Maps**

A word map is created in an accessible format that can be accessed by a screen reader to assist in orienting a blind/visually-impaired person to specific environments and to move independently because of an understanding of the structure, its parts and characteristics. Utilizing the constructs of *Orientation* a word map describes structural and environmental information not available in traditional maps but supplements the visual referencing a sighted person would use.

Word maps are created as an accessible .pdf document in so that the information cannot be changed except, as needed e.g. change of path of travel due to planned constructions or emergency repairs. Emergency repairs/work also needs to be on the institutions homepage under ‘Daily Updates/ALERTS”

**Controlling the Environment**

Aside from the general information that campus maps and other way finding information provides, movement in selected areas – hallways, classrooms, offices, restrooms, cafeterias etc.… is successfully achieved without maps but by visually observing the environment. For examples, when a person walks into a classroom, lecture hall or auditorium for the first time, they visually scan the room, noting the instructors area, seat arrangements (fixed or movable), secondary exit, and make a determination where they want to sit. A blind/visually-impaired person has no access to any of the information, and unless a seat has been specified, finding an available seat is often difficult if others are already occupying seats. Similarly, when walking down a hallway, the sight of a water fountain or vending machine may subtly suggest or satisfy a need.

Blindness is perhaps the most existentialistic of the sensory disabilities. If you don’t perceive it, it doesn’t exist. The needs of blind/visually impaired are the same as everyone else, and without adequate information about where facilities/services are there is a dependence on others to be independent.

**Developing a Campus Word Map**

**MAKING MAPS**

**Information**

Distance - in constructing a word maps, specific distance is generally used for the conceptualization of size. Hallway widths often differ depending on the function of the area. Guest room hallways are usually about 6 feet, while a classroom building hallway would be 8 ‘ to 12’ feet to accommodate more pedestrian travel. Doors are inset about 4” or up to 4”.

Entrance

The main entrance to a building can be at grade (level) or have steps with or without a porch. If there are steps, then there will be a ramp that will terminate on a porch. The entrance may have a canopy. Main door designs differ.

Secondary entrances may be behind the building or on either side with a sidewalk leading to the door from - Adjacent building or sidewalk from parking lot, be specific.

Doors

Doors are described as hinged (single or double with a stile [center post]) or sliding, (manual or automatic – either button activated or passive sensor), or revolving. Doors also come in sets – vestibules. Note – because of fire codes, revolving doors must have a hinged door(s) on one/either side. Hinged doors on restrooms/locker rooms have automatic closures). Exit doors have a water-absorbing rug just inside the door and usually have a ‘panic bar’ opener.

As a matter of policy, many suite (departmental) doors are open during the day and should be noted. Doors that open into the hallway should be noted.

Paths of Travel (indoor)

*Floor Covering* - floor coverings come in a variety of materials, depending on the area (indoors/outdoors) and often provide an area identifier. Floors are hard – concrete, tile (vinyl or ceramic), terrazzo (polished form of concrete), or wood or carpet. In many office/administrative building, the foyer/lobby as well as elevator lobbies may be tile, but ‘meet and greet’ areas may be carpeted, and hallways leading from the foyer/lobby may be carpeted denoting a different functional area.

*Hallways*

Hallways are the routes to almost all activities. In classroom/administrative buildings hallways traditionally have a north/south or east/west orientation and unlike hotels where in north/south hallways, even numbers are on the west side and odd numbers on the east - the numbering assignment often is what it is. Therefore the room numbering configuration needs to be noted, and when there is an interruption because of a stairwell (up/down or emergency), elevator, restroom or whatever, those rooms/functions need to be identified. These can be described later in the text.

*Rooms*

All rooms can be ‘described, however a systematic approach needs to be applied. From the perspective of the door and using compass directions (having a compass [free app] on your phone is helpful tool), describe the room – clockwise/counter-clockwise – doesn’t matter, but identifying the features of the room. E.g. A classroom, from the door, standing on the west side of the room, on the left wall is the instructors station, the opposite wall (east) has windows, to the right (south) is the back of the classroom. The desks, facing the instructor’s area are moveable and have tablets. There are five rows of six desks

Classrooms can have movable desks with tablets, fixed tables with movable chairs, or terraced with fixed tables, or an auditorium with fixed seats and ‘desks’ that pull up from the side. Auditoriums also have multiple entrances often on more than one level.

In classrooms, it is also important to describe the location of electrical outlets.

Laboratories need to have working surface information – gas, water, air, electrical outlets, and the location of the ‘emergency’ eyewash and shower.

Gyms/Fitness centers – layout and location of lockers, showers/toilets, and equipment positions, water fountains, towel, etc.

Residence hall room descriptions would include where electrical outlets are (critical information for all technology) as well a light switches and thermostat.

Suite (shared) bath/toilet - location of the stalls/urinals, sinks (control), shower(s) (controls) towel hooks, trash receptacle, electrical outlet (razor).

Specific areas included would be:

Common bathroom: where is it in the hallway – controlled access, sink (#) water controls, towel dispenser (if available), trash disposal, toilets (#) and accessible unit, flush mechanism, toilet paper, showers (#) water control, electrical outlets (razors).

Laundry facilities: washers (front/top loaded) controls (dials/push-button), dryer controls (dials/push-button), payment method (Coin/card swipe), Control box, sinks/water control, folding table/hooks, vending for soap/dryer sheets, payment method

*Room Identification*

All rooms have a number that often indicates a floor e.g. B: basement B001, G: ground G001, or ground is sometimes the 1st floor, or the room may have and identification, e.g. Men’s, Women’s, Electrical, Housekeeping without a number. The braille on the room identifiers needs to be correct. As noted earlier, in most cases Men and Women’s restrooms that have a pictogram indicating accessibility often have only “Men” or ‘Women” but no braille indicating accessibility. This is important information that must be included in a word map.

Additionally, many rooms will have a braille number only but the door identification plaque may have more information as to the function of the room/office or who the occupant is e.g. Professor Smith, Dean of Students, Copy Room. This information should also be included in a word map, as often times a person is directed to Professor Smith’s office and the number isn’t mentioned. Individual faculty offices may be difficult to put into a word map.

*Restrooms (Public)*

All restrooms have tiled floors. Movement in the restroom is dependent on the knowledge of the location of the stalls/urinals are, the flushing mechanism and sinks-soap dispenser-towels (manual or automatic) trash receptacle so that movement is efficient and sanitary. Older restrooms often have two doors to access the facility and some newly designed restrooms in public spaces do not have doors but an open entrance around a ‘vanity wall’ (think airports).

In the residence hall, if a common facility, where is the restroom located in the hallway, – controlled access, sink (#) water controls, towel dispenser (if available), trash disposal, toilets (#) and accessible unit, flush mechanism, toilet paper, showers (#) water control, electrical outlets (razors).

*Auxiliary Areas*

Food Service and Bookstores have unique pedestrian flow. For example – Food Service/Coffee/Snack Bars

Entrance, cashiers, food stations (salads, grille, entrees, specialties, drinks, condiments), flatware. Seating – tables, booths (salt/pepper/napkins on tables), dish return, restrooms, water fountains.

*Elevators*

Indicated the number of ‘cars’ and where the call button is located. The inside control panel needs to be described from top down, for example:

4 – 3

2 – 1

Door open – Door close

Alarm

*Stairs*

Stairs need to be identified particularly if they are designated for Emergency Exit – usually at the end of the hall. Also note that next to the emergency stairwell door is an Emergency Fire Alarm switch.

Stairs are described as

Switchback – down, then a 180-degree turn and down – between floors, or Perimeter stairs – the stairs follow all four walls of the stairwell.

Where the emergency stairs exit the building and where the sidewalk leads to is important information.

It is also note that at the stair landing if the area is designated as Safety Area with a phone to contact emergency personnel.

Escalators – usually found in auditoriums/performance halls and Student Centers. Indicate where is the beginning and terminating points? Are the escalators parallel standard for accessing only two floors or crossed/zippered – similar to switchback stairs for multiple floors.

*Streets*

Streets are described first as to the number of lanes and the direction of lanes. Intersections are described as standard – 2 streets intersecting at right angles, “T’ Intersection – one street terminating at another street at right angles. Angled – similar to a “T” but the intersection is not at right angles. The angle of the intersecting street is often described in reference to a clock, e.g. Beam Avenue intersects Weaver Street from the south from approximately the 8:00 o’clock position.

Intersection controls need to be identified. The controls are:

Signs - Two-way Stop, Four-way Stop or All Way Stop (e.g. “T” intersection)

Lights – Traffic lights and include information left turn lanes and No Turn On Red.

At Pedestrian crosswalks, indicate if ‘Walk Light’ is automatic or needs to be activated and location of ‘button”. Is there an auditory signal? What is the approximate length of time for the “Walk Light”?

*Path of Travel Outdoors*

Outside paths of travel are usually hard surfaces, concrete – smooth, pressed concrete (imprinted brick pattern), or textured (embedded stones) or brick. Off path surfaces could be crushed gravel or compacted dirt (paths by students noting the shortest distance between two points. Intersections usually have dimpled pads or etched lines providing some texture.

Sidewalks are THE connectors to all parts of campus. Sidewalks come from and to buildings, parking lots and open spaces. They enter a building at grade level (flat) or at a porch via steps and/or ramp. They intersect at specific locations providing a reference point to buildings/activities/other things on either side away from the current travel path. They cross-driveways (notice: a. the slope of the driveway towards the street and/or b. a texture difference) and at some point may become a mid-block street crossing.

Sidewalks may be directly next to a building, a small wall, or a hedgerow or in open space. They may have a grass strip between them and the curb. Sidewalks have obstacles such as: trees planted along the curb, fire hydrants, trash/recycle containers, temporary ‘sandwich’ signs or campus vehicles (utility or golf carts) that are in the path of travel.

*Landmarks*

Landmarks exist EVERYWHERE. They are ***anything*** that has an auditory, aromatic, textural, kinesthetic, thermal or sensational impact that provides a reference to place near or far.

Examples;

Auditory - airplanes, trains, automobiles, air handling units, fountains (water features), bell towers, escalators, buildings (*sound shadows),* paths between buildings, overhands (canopies), objects (trees/posts…), intersecting hallways, wide-open spaces…

Aromatic - cafeteria/coffee shops, swimming pools, mildew, trash containers (dumpsters), laboratories, gyms

Textural - carpet, bricks, asphalt, service covers, grass, dimpled curb cuts…

Kinesthetic - ups/downs – steps, sidewalk undulations, uphill/downhill, curbs (driveways), curb cuts…

Thermal - Air condition, hallways, foliage (shade from trees)

All the above information assists in answering the 3 questions about Orientation to a campus for a blind/visually-impaired person.

*Q. 1 Where are you?*

*Q. 2 where did you come from and where do you* go *from here?*

*Q. 3 what do you need to know to get there?*

***The Narrative***

Everything in a campus has a relationship to something else and the word map works from a macro to micro level. First the campus is described overall; presumably in parts then the buildings are described with ‘connections’ to other buildings/facilities included. For example

***Macro***

The University of Anywhere is located on the south side of College Town. The University has 545 acres and is bordered by State Street (two way east/west) on the north, Main Street (one way north) on the east, Alumni Drive (two way east/west) on the South and College Drive (one way south) on the west side. The University is basically divided into three parts

The north part of campus has mostly academic building (departments and classrooms)

Middle Campus has campus administration, student services (food services, campus center), and auditorium. North and middle campus is divided by Washington Avenue (2 way – east/west).

South Campus has residence hall on the north part and athletic facilities on the south part.

Middle and South Campus is divided by Woodford Drive (2 way – east/west). Washington Street and Woodford Drive both connect with Main Street on the east and College Drive on the west.

***Micro***

North Campus

(State Street – north, Main Street – east, Washington Avenue – South, College Drive – West)

On the east side of North Campus – on Main Street going from State Street (north to south) to Washington Avenue on the west side of the street are the following buildings: Clemmons, at the (southwest) corner of State and Main, Heyward Hall, Florin Hall and Morrison Hall at the (northwest) corner State and Washington. On the west side of north campus – along College Drive from State Street (north to south) to Washington Avenue on the east side of the street are the following building: Pfaltzgraff, at the (southeast) corner of State and College, Corbin and Sitton, at the (northeast) corner of College and Washington. On the south side of north campus on Washington Avenue is Twain Library, across the street from Dawson Hall on Middle Campus. Rutledge Fountain is located in the middle of north campus.

Middle Campus

(Washington Avenue – north, Main Street – east, Woodford Drive – south, College Drive – west)

On the east side of Middle Campus, on Main Street going from north (Washington Avenue) south to Woodford Avenue on the west side of the street are the following building: Wyrick Hall at the (southeast) corner of Main and Washington, Kuralt Hall and Watson at the (northwest) corner of Main and Woodford Avenue.

On the south side of Washington Street between Main (east) and College (west) is Dawson Hall.

On the west side of middle campus, going from north (Washington Street) to south (Woodford Avenue) on the east side of College Drive are the following buildings/features – Visitor/Guest Parking on the (southeast) corner of Washington and College. Shakori Auditorium and Beverly Hall on the (northeast) corner of Woodford Avenue and College Street. On the south side of Woodford Avenue between Main (east) and College (west) on the north side of the street is Kuncl Student Center, across the street from Schroeder Hall on South Campus.

The center area of Middle Campus is called “The Lawn”

South Campus

(Woodford Drive – north, Main Street – east, Alumni Drive – south, College Drive – west)

On the east side of South Campus, going from north (Woodford Avenue) to south (Alumni Drive) on the west side of Main Street is Windle Campus Health on the (northwest) corner of Woodford and Main, Hicks Hall and Bradley Hall. The Parking Deck is on the (northwest) corner of Alumni and Main. On the west side of South Campus on College Drive going north to south from Woodford to Alumni are the following buildings: Clarks Hall, Snipes Hall, Borst Hall and Bates Athletic Field located at the (northeast) corner of Alumni and College.

On the south side of Woodford Avenue between Main (east) and College is Schroeder Hall, across the street from Kuncl Student Center.

In the center of South Campus are Kessler Gymnasium and Natatorium.

Buildings are similarly described in a macro (perspective) and then micro format (details)

Dawson Hall - (Administration)

Dawson Hall - Named in honor of Raymond H. Dawson (1927 -), Professor of Political Sciences, Dean of the College of Arts and Sciences, and first Senior Vice-President of the University system. Dr. Dawson - pioneer of equal rights and access to education.

Dawson Hall is located on the north side of Middle Campus facing Washington Street. To the east of Dawson Hall is a Visitor/Guest Parking Lot. To the West of Dawson Hall is Schroeder Building (Student Services. South of Dawson Hall is ‘The Lawn’.

Dawson Hall has three floors (no basement)

First Floor – Main entrance, Reception, Registrar, Financial Aid, University Cashier

Second Floor – Human Resources, University Counsel, Vending and Break Room

Third Floor – President, Provost, Business and Finance

The basic design of the hallways in Dawson Hall is a ‘T” shape with a ‘central lobby’ on each floor and a hallway going east and west and south from the lobby. In each of the hallways are offices. Each hallway has a set of ‘fire doors’ that are held open with electro magnets that ‘release’ the doors to close automatically when the fire alarm is activated.

The main entrance (facing north) to Dawson Hall is located on the north side of the building facing Washington Street. There is a sidewalk leading to the building from Washington Street to the entrance which as a large canopy. The main entrance has two automatic sliding doors. To the right of the main entrance (doors) is a trash can. As you enter the lobby (facing south) the main reception desk is to your right (west). The lobby has a tiled floor. Directly across from the main doors is a hallway (south) that leads the elevators, restrooms and Financial Aid Office. To the left of the Reception Desk is a hallway (west) that leads to the University Cashier. To the left (east) of the lobby is a hallway that leads to the Registrar’s Office. Although the lobby is tiled, in the center of the lobby is a rug that has the University insignia.

As you enter each of the hallways the floor covering changes from tiled to carpet. All hallways are approximately 10 feet wide and have planters at the entrance to the hallway.

Reception Desk – as you enter the lobby from the main entrance – turn right (west) and walk to the Reception Desk for information regarding information about the University or offices in the building.

*West Hallway* – Cashier’s Office

Facing the Reception Desk, to the left (south) is the entrance to the west hallway. The entrance to the University Cashier Office is a set of hinged doors, and during working hours, the doors are propped open. As you enter the Cashier’s Office lobby (facing west) to your right (north) is an information desk with someone to direct you to the specific office that can address your needs, or directly in front of you are four (from right to left) cashier tellers. To the left (south) of the tellers is a door that leads to hallway (west) the various offices, most of which will be on your left (south). The hallway is approximately 8 feet wide and the office numbers go from 101 to 112. Each door is set back approximately 4 inches.

*East Hallway* – Registrar’s Office

As you enter the lobby and approach the carpet in the center – turn left (east) and walk to the East Hallway. The entrance to the Registrar’s Office is a set of hinged doors that during regular office hours are propped open. As you enter (going east) the Registrar’s Office there is a service counter across from you that has five service windows. To the right (south) is a door that leads to the various offices. Because of the records maintained in the office, visitors are escorted.

*South Hallway* – Financial Aid

Across from the main entrance is a south hallway that has elevators, restrooms and the Financial Aid Office. As you first enter the hallway there are three doors on your right (west) that are restrooms. The first door is Women’s, the second Non-Gender and the third Men’s. (See Restrooms). On the south side of the restrooms is an emergency exit door with a panic bar that accesses the emergency stairs coming from the upper floors and exits the south hallway of the building.

Across from the restrooms are the elevators. There are 2 cars with a call button between the two cars. (*See Elevator*). Past the restrooms and elevator is the Financial Aid Office that has a set of hinged doors, that during regular hours are propped open. Inside the doors (facing south) to your right (west) is a Reception Desk to assist. To the left (east) across from the Reception Desk is a service counter with two tellers. On the south side across from the main office doors is a single door that leads to individual office. Going south through the door is a hallway (approximately 8 feet wide) and offices on the right (west) are even number (120 to 132) and on the left (east) odd numbers (121-129).

*Exits*

There are 3 primary exits from the lobby. The main entrance and on the south side of the lobby on the east and west sides of the south hallway are 2 single hinged doors that exit the building. The east door goes to a sidewalk that parallels the west side of the building and leads to The Lawn. It also turns right (west) and leads to the Visitor Parking lot on the west side of Dawson hall. The west door goes to a sidewalk that parallels the west side of the building and leads to The Lawn. It also goes east past Dawson Hall and leads to the entrance to Wyrick Hall (Admissions)

**Elevator**

There are 2 cars of elevators serving the three floors with a call button in between the two cars. The inside button panel located on both sides of the door is as follows – top to bottom:

3

2

1

Close door – open door

Alarm

Service

The elevators ‘announce’ the floors.

**Restrooms**

Women’s – you enter the door (west) the floor changes from carpet to tile and there is a slight ‘echo’ because of the hard surfaces, the hallway goes to your right (north) and makes a 180-degree turn (south). On the south wall are 3 sinks. The water control is automatic. There is a manual soap dispenser at the 1 o’clock position on the sink. There are paper towel dispensers on the left and right wall on either side of the sinks with a trash disposal directly below the towel dispenser. To the right (west) are five stalls on the left (south wall). The first and last stalls are designated accessible. The flush mechanism is automatic.

Non-Gender – as you enter the door (west) the floor changes from carpet to tile and there is a slight ‘echo’ because of the hard surfaces, there are two doors (left and right) on the opposite wall.

The room on the right (north) as you enter will have a sink on the right (north) wall. The water control is automatic and a manual soap dispenser at the one o’clock position. The paper towel dispenser is on the right (west) with a trash disposal directly below the towel dispenser. To the left (east) of the sink is the toilet has an automatic flush mechanism.

The room on the left (south) as you enter will have a sink on the left (south) wall. The water control is automatic and a manual soap dispenser at the one o’clock position. The paper towel dispenser is on the left (east) with a trash disposal directly below the towel dispenser. To the right (west) of the sink is the toilet has an automatic flush mechanism.

Men’s – as you enter the door (west), the floor changes from carpet to tile and there is a slight ‘echo’ because of the hard surfaces, the hallway goes to your left (south) and makes a 180-degree turn (north). On the north wall are 3 sinks. The water control is automatic. There is a manual soap dispenser at the 1 o’clock position on the sink. There are paper towel dispensers on the left and right wall on either side of the sinks with a trash disposal directly below the towel dispenser. To the right (west) are 2 urinals (floor to approximately 48 inches and 3 stalls on the left (north wall). The last stall is designated accessible. The flush mechanism is automatic.

Water Fountains- between the Women’s Restroom and Non-Gender Restroom is a water fountain with a ‘Bottle Filler’ mechanism. The water fountain has push panels on the front of the ‘tray’ and the bottle filler, small indentation, located at the back of the ‘tray’ automatically activates when a bottle is placed in the indentation.

Trash/Recycling

Trash receptacles are located behind the ‘right’ planter as you enter each hallway, and to the right (south) of the elevators. Recycling receptacles are located in the South Hallway near the Men’s Restrooms.

There are also outdoor trash receptacles located at the right side of each primary exit door on the first floor.

**Emergency Exits**

There are 3 emergency exits. From the lobbies on the second and third floors, there is an emergency exit at a stairwell located just south of the Men’s Restroom on the west side of the South Hallway. The door has a panic bar and as you enter the stairwell, there is an area of ‘safe rescue’ that has space for several wheelchairs and companions. On the north wall is a speaker with a button to contact Emergency Services and tell them you are in Dawson Hall – central stairway on (number) floor. The stairs are switchback.

On the south side at the end of the East and West Hallway is a switchback stairwell that leads to an exit (only) at the first floor. The West Hallway exits comes to a sidewalk that leads to the Visitor’s parking Lot. The East Hallway exits comes to a sidewalk that lead to Wyrick Hall.

**Format**

The information in a word map needs to be searchable so that a building, department or facility can easily be found. Excel, utilizing alpha sorting provides the user the ability to sort building, departments or functions, as needed. Utilizing advance search the user is ability to copy information and create routes or learn about specific areas without having to read from top to bottom to find the information. This is similar to online maps that allow the visual user to ‘click’ on a building, area (recreation fields) and getting basic information.

|  |  |  |
| --- | --- | --- |
| Building | Function | Department/Office |
|  |  |  |
| Bates | Student Services | Athletic Field |
| Beverly | Academic | Music |
|  | Academic | Theatre Arts |
| Borst | Student Services | Residence Hall |
| Bradley | Student Services | Residence Hall |
| Clarks | Student Services | Residence Hall |
| Clemmons | Academic | English |
|  | Academic | Comparative Literature |
| Corbin | Academic | Computer Sciences |
| Dawson | Administration | President's Office |
|  | Administration | Cashier |
|  | Administration | Financial Aid |
|  | Administration | Human Resources |
|  | Administration | Provost |
|  | Administration | University Counsel |
| Florin | Academic | Geography |
|  | Academic | Sociology |
| Heyward | Academic | Economics |
|  | Academic | History |
|  | Academic | Political Science |
| Hicks | Student Services | Residence Hall |

The word map narrative is put into the Excel format in hyperlinks so that the expanded information can be retrieved. For example, clicking on Dawson Hall will provide the following information:

Dawson Hall - Administration

General

Main Entrance

First Floor

Second Floor

Third Floor

Elevators

Restrooms

Emergency Exits

Clicking on General Information provides the (noted earlier)

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The user can then review any part of the building as needed.

*Departmental Links*

In addition to the word map narrative about individual buildings, each academic, student services or administrative department is listed in a hyperlink to that department’s homepage so that information is readily available and accessible.

**Summary**

Word maps are designed to provide information that assists the blind/visually-impaired members of the University community for orientation and the ability travel independently. They address the basic problems of lack of information in traditional maps (paper/online) and signs in and around campus buildings that the sighted person uses. They provided needed information for the user to develop ‘routes’ to locales when there are new activities, venues change or when parts of the campus are ‘closed for construction’ and regular paths of travel are closed. Word maps are narratives created in word document format, posted in hyperlinks in Excel that can be customized as to building, department or function and are not dependent on specialize ‘technology’ like braille or raised line maps that are limited because of the medium itself.

Word maps proved blind/visually impaired users equal access to independently participating in campus life, be it as a student, faculty or staff.

**Value Added**

At the completion of a campus word map, there should be sufficient information to develop a comprehensive transition plan.

**Reference**

2010 publication ‘Guidelines and Standards for Tactile Graphics 2010” http://www.brailleauthority.org/tg/index.html, The Braille Authority of North American (BANA) http://www.brailleauthority.org