

eMichigan Web Application Development

Department of Technology, Management and Budget
State of Michigan

State of Michigan Look and Feel Standards for Web Applications and Sites

**MICHIGAN.GOV BRAND ELEMENTS, POLICIES AND
INFORMATION ARCHITECTURE**

Version 7.0
October 2015



INTRODUCTION	4
RESPONSIVE VS. NON-RESPONSIVE DESIGN.....	6
PAGE LAYOUT	7
Templates.....	7
Page Mechanics	7
Required Core Branding Elements	9
Branding Bar	10
Favicon	13
Banner Header (Banner Area)	13
Primary Display Area	15
Body Area Only Template.....	17
Main Navigation	19
Right Sidebar	27
Footer Area.....	29
USABILITY AND FORMATTING	32
Readability.....	32
Visual Consistency	32
Body	32
Fonts	32
Acceptable Font Families.....	32
Font styling	32
Link Treatment.....	33
New Browser Windows.....	33
Link Clickability Cues.....	33
New Links	33
Text Links:	33
Link Names	34
Embedded Links	34
Link Length	34
Button Treatment	34
Multiple Rows	37
Tables	37
Column Sorting Clues	37
Labels	37
Required Fields	37
Label Placement	38
Required Data Format Example Placement	38
ADA Label Coding	38
Input Box Sizes	38

Data Entry Field Display	39
HTML5 Input Types	39
Long Data Items	39
Field Value Alignment	39
Drop-Down Defaults	39
Currency	40
Social Security Number (SSN)	40
Phone Number	40
Calendar Widget	40
Date Fields	40
Time	40
Zip Code	41
Error messages	41
Content	41
Placement	42
Highlighting	42
Validation	42
Error Trapping	42
Text Fields	42
Email Address Fields	42
Client/Server Validation	42
Re-authentication	43
Cancellation and Recovery	43
APPLICATION SECURITY	44
Passwords	44
Lock-Out	44
Invalid Sign In Message(s)	44
Application Entry/Reentry	44
Secured Socket Layer (SSL)	45
STATE OF MICHIGAN INTERNET CORE POLICIES	46
Additional Policies	47
Logos and Branding of 3rd Party Applications	47
Browser Minimum Requirements	49
ACCESSIBILITY AND ADA COMPLIANCE	52
Overview Section 508	52
Various Disabilities to Consider	53
ADA DESIGN Elements	54
Form Validation	54
Common ADA Concerns	55

Font Standards56
Accessible PDF Documents58
ADA Compliance Testing Tools.....58
CHECKLIST FOR APPLICATIONS AND WEBSITES 59
REVISION TABLE 60

INTRODUCTION

About this Document

Note to all Project Managers and Web Development Teams:

This document communicates important architecture design and development standards to IT project managers and web design teams. It details the standards and requirements for web sites and applications produced and maintained for the purpose of conducting official State of Michigan business.

Project Planning Expectations:

Design:

1. Submit Functional Design to emichigan@michigan.gov to begin review process in order to ensure adherence to standards.
2. Educate development staff on the following Look and Feel Standards, as well as ADA compliance requirements to be included in application development. eMichigan resource can answer questions as necessary.
3. Development Staff reviews <http://www.michigan.gov/dtmb-3533> checklist to verify application will comply.

Construction:

1. Project Manager includes Touch Points with eMichigan resource to ensure User Interface Presentation Layer adheres to standards.
2. Project Manager and Development Staff completes and submits initial application review form – <http://www.michigan.gov/dtmb-3533>

Testing:

1. Project Manager completes and submits application review form – <http://www.michigan.gov/dtmb-3533> to request sign-off from eMichigan resource. The expectation is the majority of issues will have been identified and resolved and there is no impact to the project Go-Live date.

To schedule a review meeting, complete and submit an [Application Review form, DTMB-3533](#)

Copyright Information

All aspects of the Michigan.gov brand, either printed or electronic, are under the express control of the Department of Technology, Management & Budget/eMichigan Web Development. Attempts to modify or recreate the Michigan.gov brand image or graphic elements represented within this document are prohibited.

Requests for any Michigan.gov brand element should be made to eMichigan Web Development:

eMichigan, Center for Shared Solutions
Department of Technology, Management & Budget
Romney Building – 9th Floor
111 S. Capitol Avenue
Lansing, MI 48933

eMichigan@michigan.gov

This document may be revised as needed to accommodate new standards or revise and edit existing standards.

Copyright 2015 State of Michigan

Because many of the pages in this document include embedded screen captures, page breaks have intentionally been added so that images and related textual information are kept contiguous.

RESPONSIVE VS. NON-RESPONSIVE DESIGN

Responsive Web Design (RWD) is a development practice that builds web sites that scale to whichever device a user is viewing it on. It has grown extremely popular with the proliferation of mobile devices used to browse the Internet such as smartphones and tablets.

No matter the circumstance, users should be able to access their information on the Web quickly and easily. Additional consideration should be given to on-the-go mobile users. When viewing a site on a mobile device, it is imperative the design minimizes the decision tree and overall interface clutter.

To provide the best user experience, it may be necessary to architect a web site to reflow and respond to the size of the device. When planning for responsive web, design for mobile first. Designing mobile first includes authoring the CSS to be written for the devices and making modifications for desktop. It also means ensuring the content is minimal, organized, and easy to read, especially when compressed to a mobile device. Well-crafted, simple and semantic Document Object Model (DOM) structuring will provide the flexibility needed to easily reflow and alter the layout when needed.

While responsive design can promote usability and accessibility, it may not always be the correct solution for every web site.

Some conditions which might require a non-responsive design are:

- An abundance of functionality that cannot be streamlined
- Complicated user interfaces
- Large data tables

The following pages outline standards for responsive and non-responsive web design standards at the State of Michigan. Non-responsive sites are required to follow the same guidelines outlined at the desktop level but will not require the responsive components.

PAGE LAYOUT

TEMPLATES

Due to the complexity of responsive design layouts, templates have been created to ensure consistent management of core branding elements, assist in code maintainability, and overcome the challenges of responsive design. It is strongly encouraged that development teams utilize the responsive design templates for web site development. Templates can be viewed and downloaded from: www.michigan.gov/csstemplates.

Built on common web frameworks and technologies:



[HTML5](#)



[CSS3](#)



[Bootstrap](#)



[jQuery](#)

PAGE MECHANICS

The following core branding elements, and the rules associated with their usage, must be included on all public-facing sites and applications:

- Branding bar
- Banner header
- Primary display area
- Footer

Additional features such as main navigation and right sidebar are allowed to provide effective and efficient information architecture while maintaining brand consistency and aesthetics.

The maximum width of a parent container and the core branding elements within should not exceed 1170px when on desktop. Smaller mobile devices may require the page container, the core branding elements, and other page elements to become responsive for a better user experience.

Vertical and Horizontal Scroll Bars

Applications should manage to include as much information “Above the Fold” and limit vertical scrolling when possible. This offers the user ease of access to

information without scrolling. Critical features such as login and core navigation should never appear “Below the Fold”.

“Below the Fold” refers to that area at the bottom of the browser screen that limits what can be displayed to the user.

Applications should avoid horizontal scroll bars, especially when on a mobile device. Horizontal scrolling causes many usability conflicts and is considered a poor application of information architecture. Users will often miss details or valuable information if displayed off the screen and will constantly be required to move the screen to see all of the information. The net result is users tend to avoid sites that require too much scrolling.

Body Gutter

The body area should also contain built-in margin accommodations at the far left and right of the display area. A gutter ranging from 10-20 pixels is recommended.

Title Field

The information entered in the browser title field for each application should be concise, yet contain helpful information that aids in navigation and searching. Relevant pieces of information include:

- 1) The abbreviation of the department in question.
- 2) The name of the application. (Acronyms are acceptable.)
- 3) A unique name for each screen.

Example: MDOT – MiDrive – Camera Viewer – Windows Internet Explorer

REQUIRED CORE BRANDING ELEMENTS

All application designs must incorporate these core elements for a common, consistent presentation layer: Branding Bar, Banner Header, Primary Display Area, and Footer.

Body Only Example Displaying Core Branding Elements

Branding Bar Home About Contact Login MI.gov

Banner Header AGENCY BRAND **Web Site Title**
PARENT AGENCY TAGLINE

Primary Display Area

Example Form

ORGANIZATION:

FULL NAME:

EMAIL:

Submit

Footer MI.gov [ApplicationName] Home Contact Policies
Copyright [Current Year] State of Michigan

BRANDING BAR

The branding bar is a key element to all online service sites representing the State of Michigan. The goal is to present the user an official State of Michigan unified, brand appearance that carries across to all agency sites. The same brand is duplicated at the agency application level so the user experience is as seamless as possible.

To maintain brand appearance, 20%-30% of the branding bar's left-side must remain uncluttered and empty. Color requirements include white font and graphics overlaying the branded background color which is a very dark gray; we encourage hexadecimal #505060, R: 80, G: 80, B: 96. The colors may be inverted but not substituted.

The branding bar includes right-aligned embedded links, some of which are required. The branding bar serves as the primary space for the following three (3) required utility links:

- A link to the application introductory screen or site home page
- A contact link to give users an access to contact information regarding the application or specific site information such as contact email, mail or fax information.
- A link back to the Michigan.gov portal site represented by the MI.gov brand logo

In circumstances where login is needed, it is required to appear with the branding bar utility links.

MI.gov Brand Logo

The MI.gov brand logo on the far right of the branding bar will **always link** to the Michigan.gov portal home page at www.michigan.gov. As a legal entity within the State of Michigan, hover text (title attribute) must read "An Official State of Michigan Web Site" or, in the case of domains ending in Michigan.gov, "Michigan's Official Web Site". This standard applies to all applications or sites hosted within the State's CMA, on agency internal servers, state clustered server systems or third-party external hosting arrangements.

Preserving the highest image quality, integrity, brand display and alignment is critical to the public's perception that they are using an official State of Michigan web site to conduct official state business.

Consistency with Parent Site

Applications built for specific agencies should match the look and feel of the agency site; branding bar, banner header, main navigation, right sidebar, and footer.

An application being built for the Department of Treasury should adopt the look and feel already in use at the agency site www.michigan.gov/treasury. Movement from a link on the site to the application should be apparently seamless as to look and feel.

The agency site is to be considered the "parent" of all third party applications. Agency sites will provide navigation for user access to the application and the application will provide navigation to the parent agency site.

Design Elements for Branding Bar

For ALL instances the branding bar is 44px high, background extends the page width, and content is restricted to parent container dimensions.



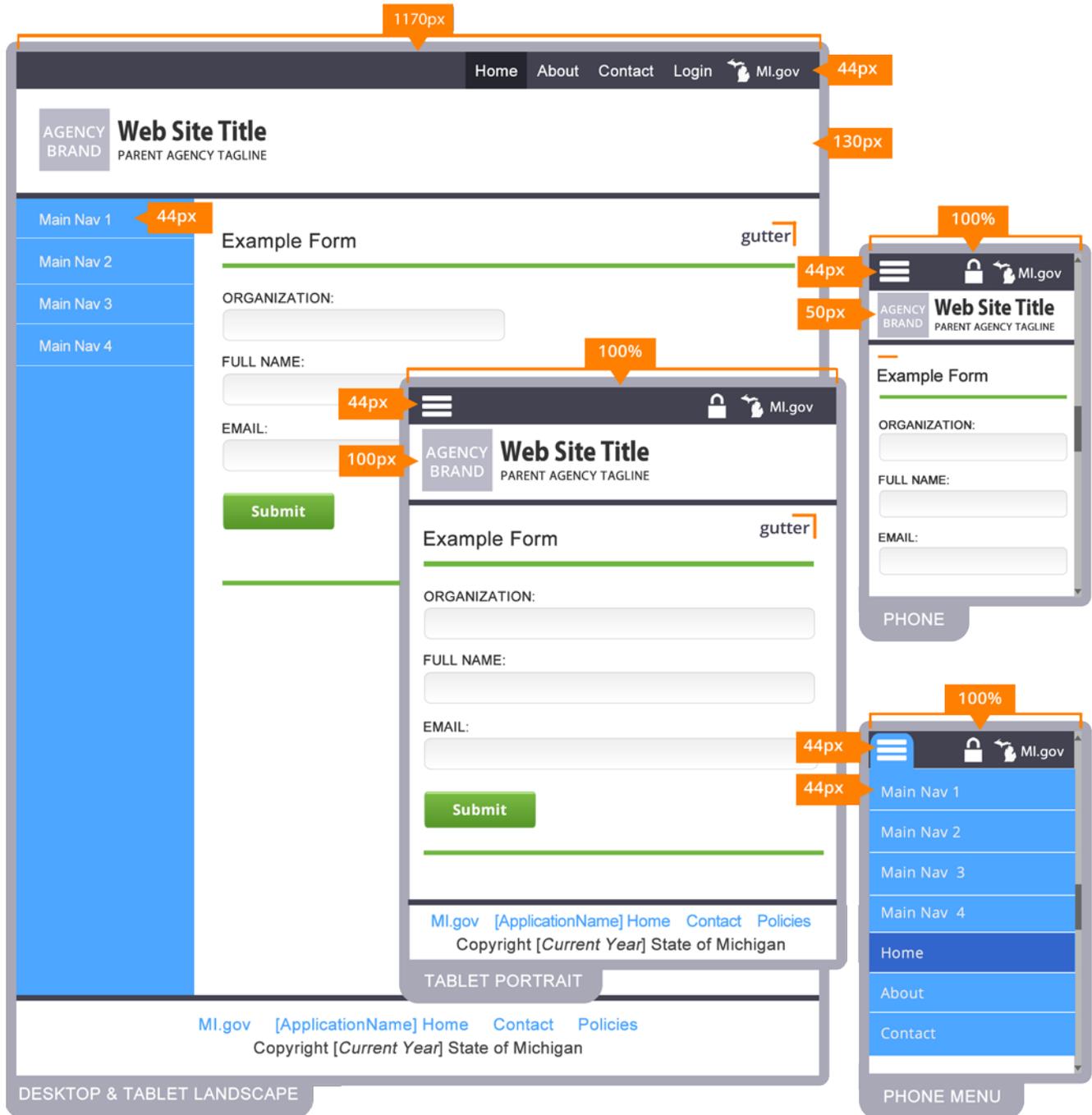
Phone & Tablet Portrait

- A dropdown menu system is required to access responsive branding bar utility links.
- The required height of the menu system links is 44px.
- MI.gov and login/logout is never nested in the menu system.

See Image on Next Page

Responsive Branding Bar

Sample: Vertical Main



FAVICON

The favicon is not required, however, if used must be the standard State of Michigan favicon found at www.michigan.gov/favicon.ico

BANNER HEADER (BANNER AREA)

The banner header contains a unique logo, web site title and tagline. The web site title can be the Agency name, name of a Board or Commission, program title, marketing project, or the application name. If agency name, board or commission name or application name is used, the parent agency tagline must be displayed on a separate line just below the application or web site title.

Using the agency tagline clearly communicates to the user which department is responsible for the site/application, regardless of internal acronyms or program names. It promotes the agency's legal authority to provide the service or transaction.

Web Application Naming Standard

For the purpose of content consistency the following naming conventions must be followed.

Application or site names beginning with the letters 'M' and 'I' or with the letter 'E' must do so with consistent formatting. Hyphens, spaces and non-acronym uppercasing are not allowed immediately following the 'Mi' or 'e'.

- When using the letters 'Mi', the letter 'M' must be capitalized, followed by a lowercase 'i', followed by a capitalized first letter of the application name.
- When using the letter 'e', the letter 'e' must be in lowercase followed by a capitalized first letter of the application name.
- Proper letter casing must be used unless a defined acronym is being appended; e.g. MiOSHA, Michigan Occupational Safety and Health Administration.

Correct Examples: MiSite, eSite, MiDrive and eMichigan

In cases where an application name includes multiple words, minimization will be recommended; i.e. 'MiSite Name' would be 'MiSite' or 'e Site Name' would be 'eSite'.

Marketing Banner Header

To accommodate brand identities that are composed of two or more agencies, boards or commissions, or sites of a marketing nature, the Michigan.gov branding system has created a Marketing Branding scheme.

This standard applies to all applications built with e-Commerce software tools and technology established by DTMB. These include e-stores and other applications that utilize e-commerce systems to process payments and fees. The look and feel is treated as much as possible as a unified presentation offered by many different sources but with one goal in mind – fast and efficient online customer service.

The Marketing Brand incorporates the standard features of a banner header. However, it includes a marketing or application logo in place of a single parent agency brand. All other requirements for branding bar, body area and footer remain in effect. Contact eMichigan for exceptions or modifications.

Obtaining Final Artwork from eMichigan Web Development

Alteration of the banner header by other development teams or third-party groups is prohibited. Only authorized banner header art must be used on any application or web site produced by or for the State of Michigan. To obtain banner art, contact eMichigan.

eMichigan Web Development
111 S. Capitol Avenue, Lansing, Michigan 48933
email: emichigan@michigan.gov

Banner Header Link

The banner header element will link to the application or site home. Application/Marketing sites must include a link in the branding bar global or main navigation back to the parent agency web site.

Banner Header Font, Style, and Size

Font is Myriad Pro. Web site title max-size is 30 pixels and tagline max-size is 18px.

Banner Header Sizes

Standard banner sizing applies to all web display pages, web delivery or online service for the State of Michigan. Agency banner header is to appear at full height on all pages of the site.

Additional Banner Header Sizes

If the application display area needs to be maximized when on desktop, smaller versions of the banner header may be used. The smaller version is equally sized and proportioned and 100% width of the parent container but may differ in height dimensions. The key elements of the banner components, must remain clear and consistent – even as the header reduces in size

Design Elements

- The banner header will always be 100% width of the parent container.
- The logo, web site title, and image tagline must be embedded into the image and NOT individual DOM elements.

Desktop and Tablet Landscape

- Standard height: 130px
- Additional size: 100px

Tablet Portrait

- Minimum height scale: 100px

Phone

- Minimum height scale: 50px
- No background image or gradients allowed
- Only solid filled agency color may be used



PRIMARY DISPLAY AREA

The primary application display area includes the primary user interface and functionality. Elements include a combination of navigation, main body, and right sidebar.

- Main navigation may be located horizontally under the banner header area or vertically in the left sidebar but cannot exist concurrently unless on a child page.
- The main body area is required.
- The right sidebar is optional.

Development teams should follow the recommended dimensional layouts to achieve the level of consistency, user experience and service expected from official State of Michigan sites and applications.

Distinctions must be made on several levels when selecting the proper layout for the application. Much of this requires a detailed design document that identifies the user process to complete the transaction or submit required application information. In addition, there may be supporting transaction material or links provided for the user to complete the service.

These factors will help determine which of the three dimensional layouts should be used:

1. Will the site have a single, dedicated process flow where the user will be guided through a set of screens, from beginning to end, resulting in a final submission page?
 - a. If YES, then the Body Area Only Template will best accommodate the design.
2. Will the site contain distinct, multiple sections with different results or inputs for each section?
 - a. If YES, then incorporating main navigation will best accommodate your design; horizontal or vertical depending on content and real-estate.
3. Will the site include distinct separate sections, supporting or related content, links to outside sites, or include help files?
 - a. If YES, then incorporating the right sidebar will best accommodate the design.

Body Area Only Template

In cases where the application requires no navigation and will utilize the entire body area for functionality and user introduction information, the Body Area Only template can best accommodate this design.

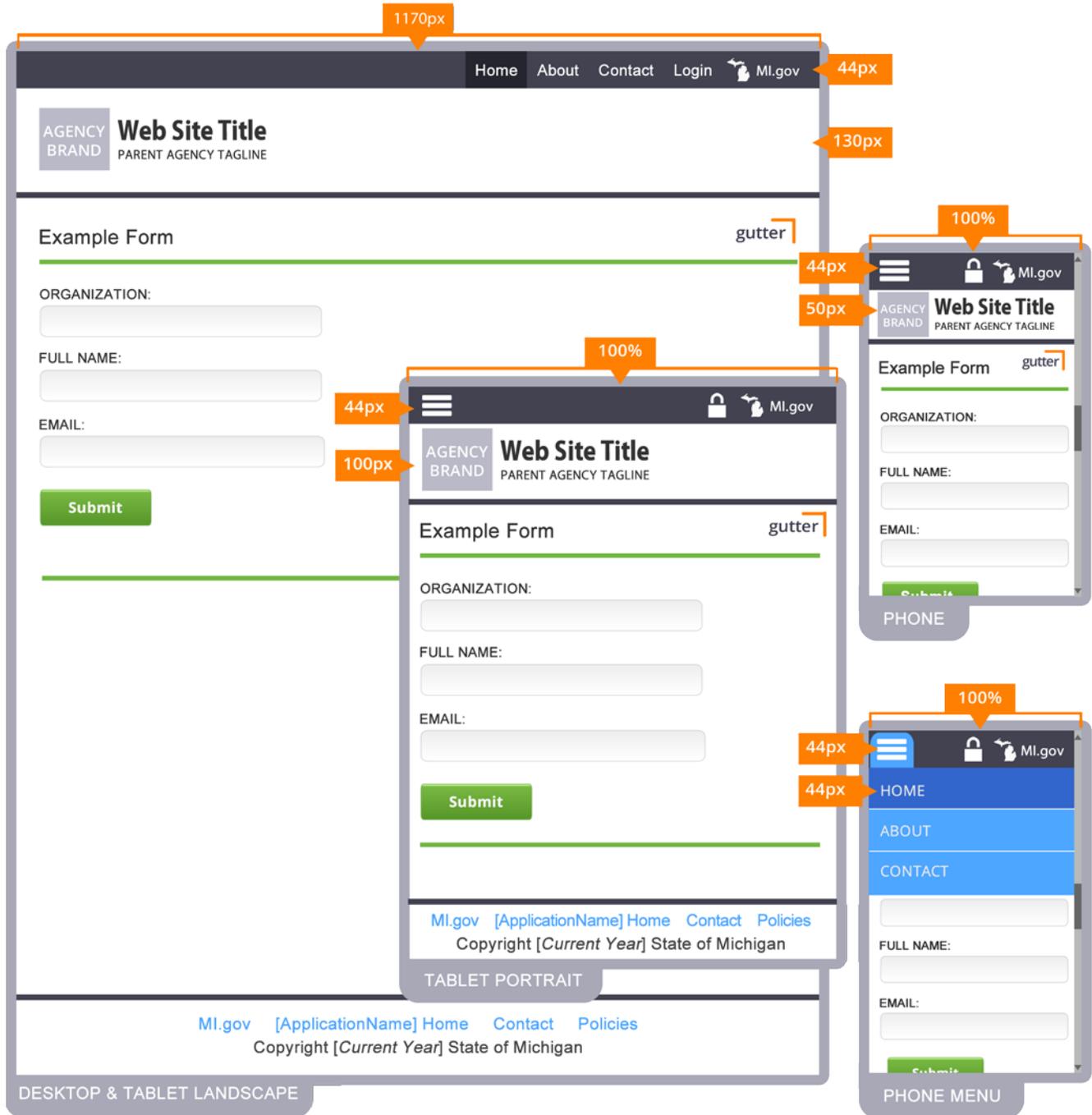
An example scenario would include a single page application or home screen.

Design Elements for Body Area

Body area will always be 100% width of the parent container.

See Image on Next Page

Body Area Only Template



Main Navigation

Main navigation is optional and can be displayed horizontally or vertically within the primary display area. ***Horizontal and vertical main navigation cannot be used together.***

Horizontal Main Navigation

Choosing to use horizontal main navigation will depend on content and real-estate. Smaller menus will best accommodate this design. At no time should a navigation element wrap breaking the design.

An example scenario would include multiple navigation elements (5 or less) and/or navigation elements with short text.

Design Elements for Horizontal Main Nav



Desktop and Tablet Landscape

- 100% width of parent container
- 60 pixels height for each navigation element and wrapping container
- Always appears beneath the banner header

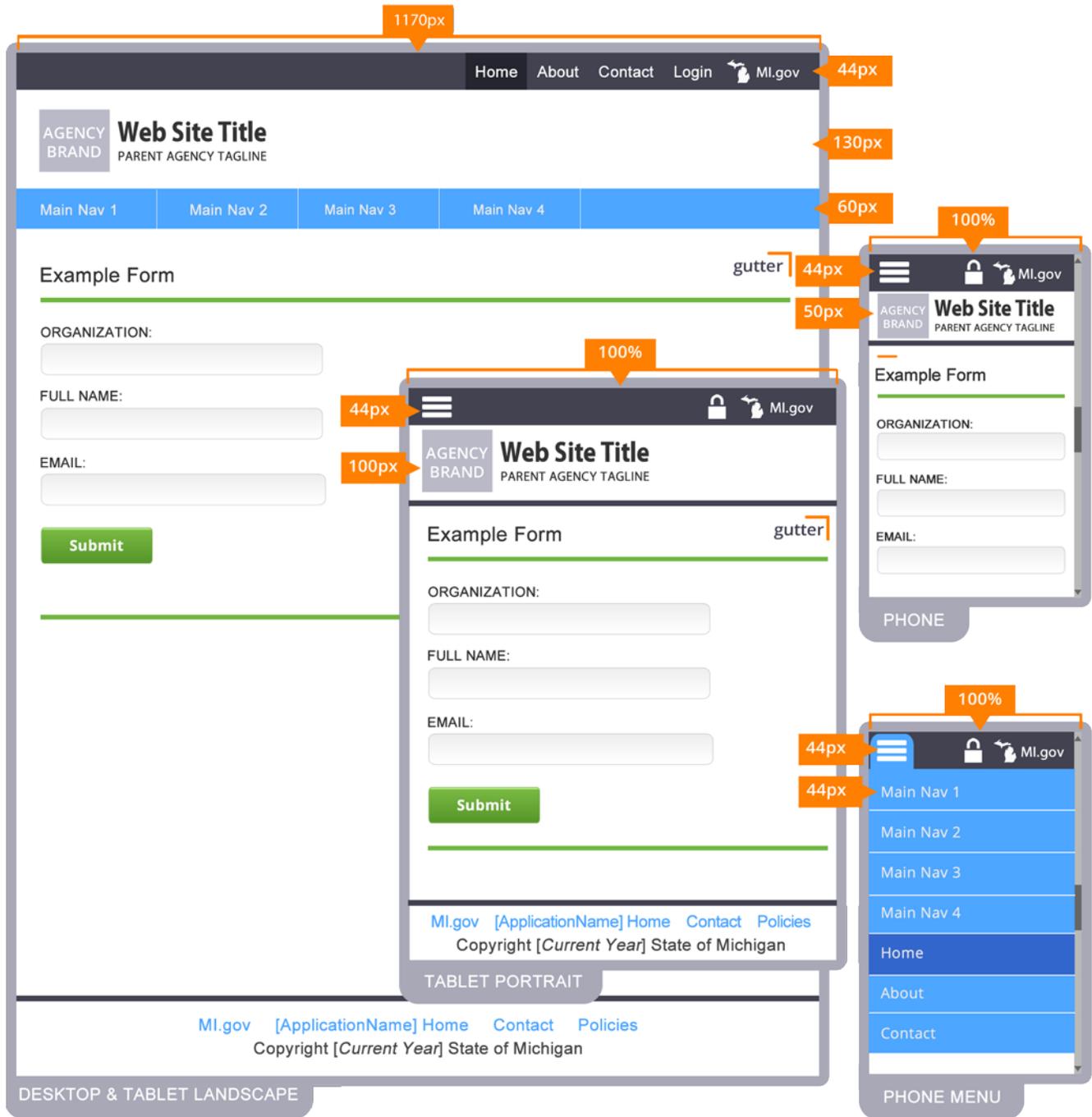


Phone & Tablet Portrait

- Hidden
- Accessed through branding bar's dropdown menu system
- 100% width of parent container
- 44px height for each navigation element

See Image on Next Page

Horizontal Main Navigation



Horizontal Main with Left Child Navigation

There may be scenarios in which the main navigation categories will require child navigation. Child navigation only exists after navigating away from the homepage.

An example scenario would include a multiple page application with nested navigation.

Design Elements for Horizontal Main with Left Child Navigation

For ALL instances child navigation elements are 44px high.

Desktop and Tablet Landscape

- Always appears in the left column of the primary display area
- Left Child Navigation should not exceed 250px or 25% of primary display area

Phone and Tablet Portrait

- Hidden
- Accessed through branding bar's dropdown menu system
- 100% width of parent container
- Nested under main navigation parent element in accordion
- Accordion parent should hold active state for the current page

See Image on Next Page

Horizontal Main with Left Child Navigation



Vertical Main Navigation

Choosing to use vertical main navigation will allow for greater flexibility with less real-estate concerns as using horizontal main nav.

An example scenario would include a multi-page app with many menu items or lengthy text that cannot fit horizontally.

Design Elements for Vertical Main Navigation

For ALL instances child navigation elements are 44px high.

Desktop and Tablet Landscape

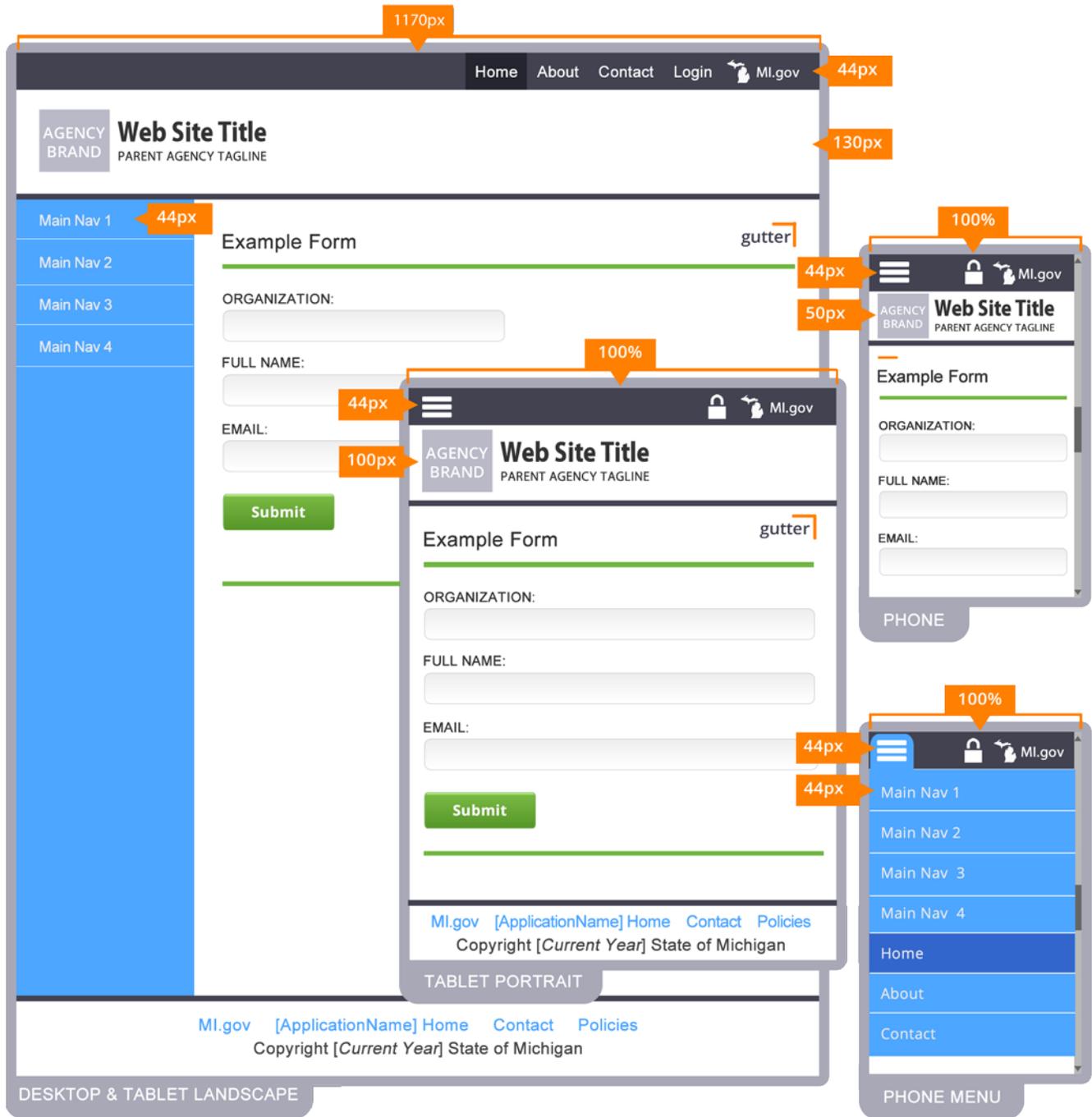
- Always appears in the left column of the primary display area
- Vertical Main Navigation should not exceed 250px or 25% of primary display area

Phone and Tablet Portrait

- Hidden
- Accessed through branding bar's dropdown menu system
- 100% width of parent container
- 44px height for each navigation element

See Image on Next Page

Vertical Main Navigation



Vertical Main with Child Navigation

There may be scenarios in which the main navigation categories will require child navigation. Child navigation only exists after navigating away from the homepage and will always reside nested within vertical main navigation.

Design Elements for Vertical Main with Child Navigation

For ALL instances main and child navigation elements are 44px high.

Desktop and Tablet Landscape

- Always appears in the left column of the primary display area
- Optionally presented in an accordion

Phone and Tablet Portrait

- Hidden
- Accessed through branding bar's dropdown menu system
- 100% width of parent container
- Nested under main navigation parent element in accordion
- Accordion should hold active state for the current page
- 44px height for each navigation element

See Image on Next Page

Vertical Main with Child Navigation



Right Sidebar

If a design requires an isolated section for supporting or related content, using the optional right sidebar will best accommodate this design. This section can be used for links outside of the site that related to the body content or for help files and tips. Right sidebar can exist in body area only, with vertical main navigation, or horizontal main navigation.

Design Elements for Right Sidebar



Desktop and Tablet Landscape

- Right Sidebar should not exceed 250px or 25% of primary display area

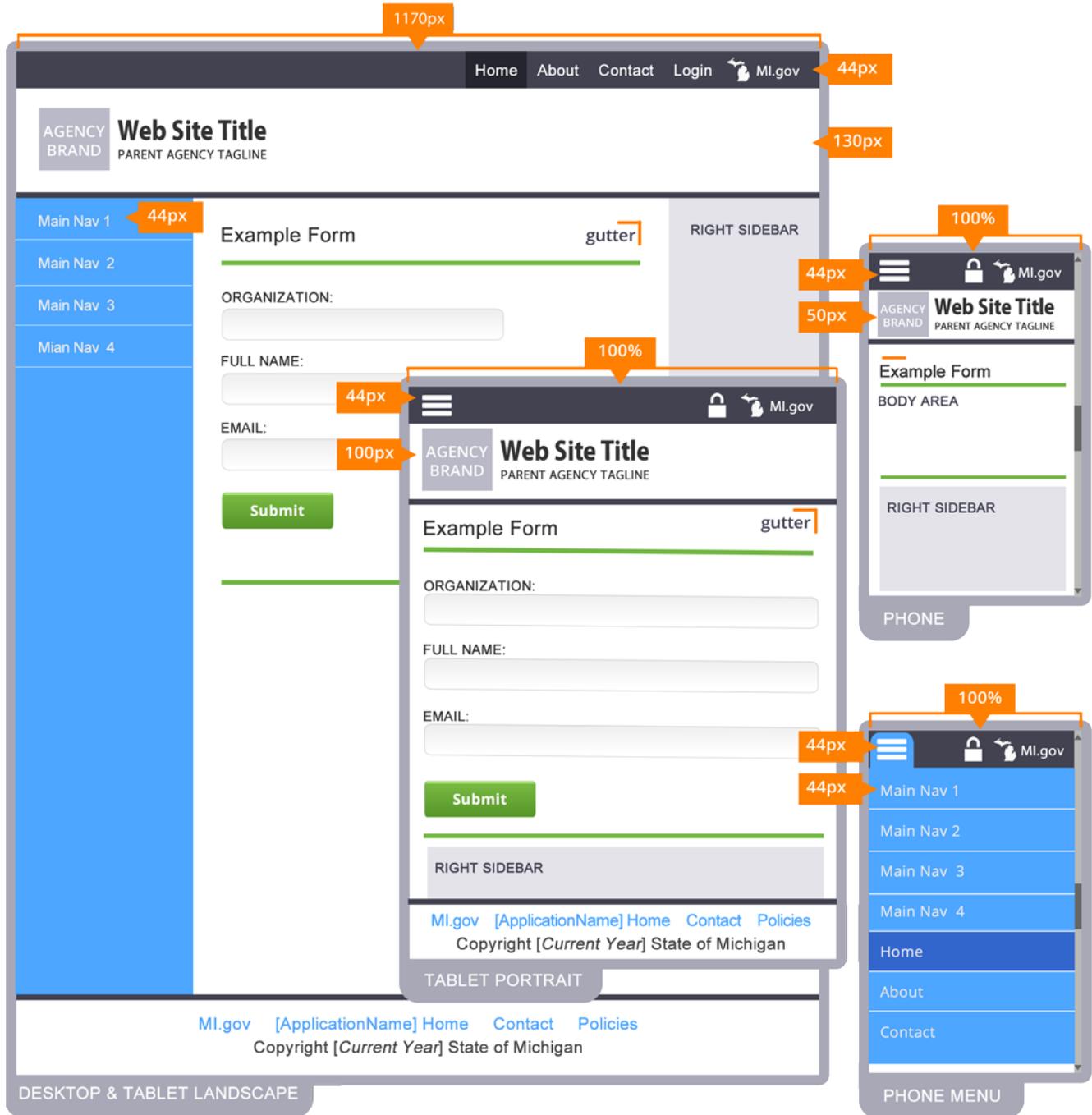


Phone and Tablet Portrait

- Right Sidebar reflows beneath body area

See Image on Next Page

Vertical Main Navigation with Right Sidebar



FOOTER AREA

The footer area contains the State of Michigan Policy link and branding bar utility links; MI.gov Home, Application Home, Contact, and Policies. This provides users with easy access to all utility branding bar links even after scrolling to the bottom of a page. It also provides the state with a typical uniform location for posting the Policy link.

The State of Michigan Policy link and MI.gov must always point to the originating Michigan.gov URL to maintain absolute version control of official State of Michigan online service policies. These policies (source code) should never be copied, altered or placed directly into the originating application.

Design Elements for Footer Area

For ALL instances the footer must appear beneath the primary application display area and content must be center-aligned. *When minimal body content is present, the footer must remain at the bottom of the screen.*



Desktop, Tablet Landscape and Tablet Portrait

- Links appear inline
- Copyright ending with current year



Phone and Tablet Portrait

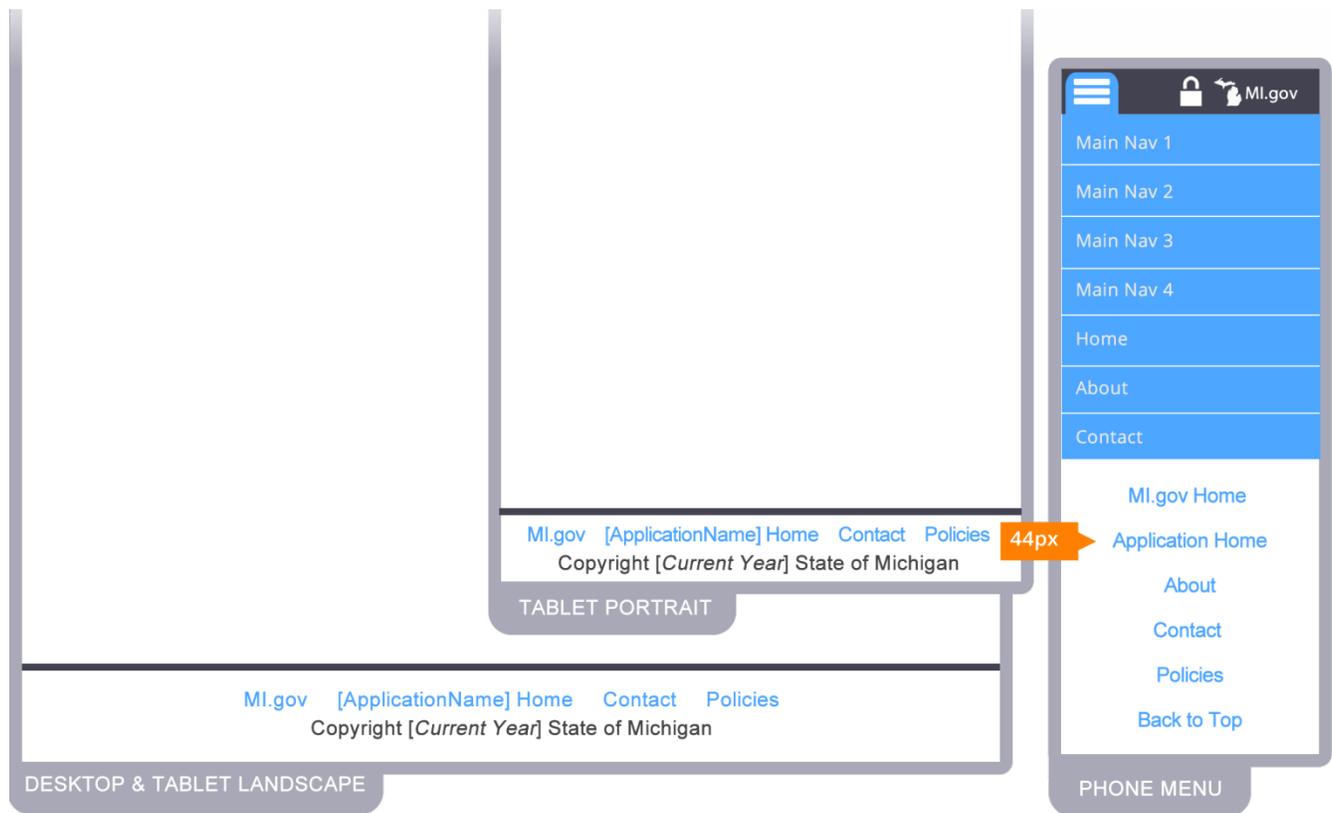
- Back to Top Link



Phone

- Links are block elements and 44px high
- Copyright hidden

Footer Area



Required Site Specific Footer Links - Line One (1)

	Link URL points to:
Michigan.gov Home	Link text: MI.gov URL: http://www.michigan.gov/
[ApplicationName] Home	Link text: [ApplicationName] Home Home page URL – this link allows the user to return to the opening page of the site from any site page.
Contact	Link text: Contact Points to a contact information page within the application and should contain information to assist users with questions or problems with the application process, online service or site problems. Contacts may also point to pages on other sites, such as the parent agency Contact page.
Policies	Link Text: Policies URL: http://www.michigan.gov/policies This link provides access to all required state policies.; Privacy, Accessibility, Link, and Security

Optional Site Specific Footer Links - Line Two (2)

	Link URL points to:
Other utility links such as FAQ, Site Map etc. NOTE: These are suggested links. If none exist for the application, then none should be listed. However, any valid utility link should go in this area.	OPTIONAL: Points to their respective pages within the application.

Copyright notice - Line Three (3)

	Link URL points to:
Copyright [current year] State of Michigan	Serves to establish our copyright to any material or content created for Michigan.gov

USABILITY AND FORMATTING

READABILITY

- Provide short, concise, descriptive instructions, titles and headings removing unnecessary words.
- Chunk information into bulleted lists and numbered steps.
- Create step or task oriented directions (Step 1 of 5, Step 2 of 5, etc...).
- Write short paragraphs—not more than six sentences.
- State the most important point on the Web page within the first two lines.

Visual Consistency

- Place the same or similar elements (widgets, error messages, etc...) in a uniform location throughout the application.
- Be consistent in the use of colors, fonts and backgrounds as well as and the locations and size of labels, text and icons.
- Use consistent terms when referring to the same item in field names, error messages, help text, reports, etc. Example: User ID, user name.

BODY

- Use white as the background for the body of the application.

FONTS

Acceptable Font Families

- Verdana
- Arial

Font styling

- Use non-bold black text for the font weight and color.
- Ensure that the format of common items such as headings, subheadings, labels and body text are consistent throughout the application.
- Use proper sentence casing; do not use all-caps fonts or text.

LINK TREATMENT

New Browser Windows

- A new browser window should be opened for:
 - Help links
 - Supporting Information links
 - Links to non-web documents (e.g., PDF, Word, Excel, PowerPoint, etc.)
 - Whenever the look-and-feel of the navigation changes. (Destinations having the same header and navigation menus should open in the same window.)

Link Clickability Cues

- Text that is not navigable must not be blue or underlined. This ensures that items that are not clickable or tapped do not have characteristics that suggest they are.
- Provide sufficient cues to clearly indicate that an item is navigable using underline or reverse color when in focus.
- Make sure banners are not shaded to look like buttons.
- Be consistent in using underlining, bullets, arrows, and other symbols to indicate navigation.

New Links

- Avoid using any kind of "New" starburst graphic when adding new content. Instead, use a "spotlight" area to direct attention to recent content.
- Place new content above-the-fold whenever possible.
- Flashing, blinking, or moving graphics are annoying—avoid using them. Users equate them with advertising and tend to ignore them.

Text Links:

- Use text links rather than image links.
- Should be readable by text-only browsers, mobile devices, and assistive technology software such as a JAWS reader.
- More easily recognized as navigable.
- Usually download faster.
- Preferred by users.

- More readily identified as links by users.

Link Names

- Make link text consistent with the title or headings on the destination (i.e., target) page.
- Closely matched links and destination targets help provide the necessary feedback to users that they have reached the intended page.
- Do not confuse users by using the same or similar text for links with different destinations.

Embedded Links

- Ensure that embedded links (in the code) are descriptive.
- Link text should accurately and succinctly describe the link's destination. Example: "Read More About Michigan Application Standards"
- Be sure the clickable or tappable text never just says "click here." This text (whatever is contained in the "<A href..." tag) is read by assistive technology software. Hearing only "click here" frustrates vision impaired users by giving them no clue about where the link goes or why it should be clicked.

Link Length

- Make text links long enough to be understood, but short enough to minimize wrapping. Links should not wrap to more than one line.
- Single-word links may lack needed description but additional words increase reading time. Create text links comprised of short words or phrases rather than entire sentences.

BUTTON TREATMENT

- The label of a button or link must indicate the action that will be applied when clicked.
- Effective use of short phrases leaves no doubt in the user's mind as to what will happen when the button is clicked. Common button labels include those in the following table.

Common Button Labels

Label	Definition
Create	Produces a new form or record for a particular entity, usually allowing the user to enter

Label	Definition
	information in the new instance.
Add	Similar to Create. Produces a new form or record for a particular entity, usually allowing the user to enter information in the new instance. Implies that the new information will be appended to existing records of the same type.
Approve	Indicates confirmation, endorsement, and/or support of the information being displayed.
Cancel	Permits users to leave the form or dialog without making changes or taking actions. Navigation required, returns to the original location from which the form or dialog was called.
Clear	Removes all values displayed on the form, returning fields to empty, null or default values. No navigation required.
Continue or Next	Navigation required, proceeds to the next step in a process or the next page or screen. Implies at least temporary acceptance/ submission of data entered in the current form or screen.
Details	Drills down to display or allow editing of more specific attributes or components of a higher-level entity.
Edit	Opens an existing form or field in a mode that allows data to be added or altered.
Label	Definition
Go	The meaning of Go as a button label is becoming increasingly ambiguous. It indicates an action that implies movement, often related to navigation. However, some have begun using this label in a broader sense as a general “execute” command, for example to launch a search after criteria are input.
Home	Returns the user to the main, welcome or parent screen of the site or application.
Preview or Print Preview	Provides users with a capsule view of their changes or actions, often in what-you-see-is-what-you-get, or WYSIWIG, format, prior to printing or submitting.
Previous or Back	Returns to the last step in a process or the preceding page or screen.

Label	Definition
Reset	Returns form fields to previously saved values. No navigation required. Should also remove any previously received error/success messages.
Save	Should only be used when the user can save data and does not trigger anything else to happen. Save should be used when a user can come back to a transaction to update it. Stores all (changed) field values to the database for later retrieval. No navigation required, stays on current screen.
Search	Launches a query to find and return records based on the criteria entered by the user.
Label	Definition
Submit	Navigation required. Should be used when triggering other actions to take place, and when the transaction should be put in a state that is not updateable by the user entering the data. Commits form data for processing, approval, or storage. Passes data from a Web page to a back-end process or server.
Email	Opens the default email client or sends a message to a pre-defined recipient.

Wait Time

- If users can't see results within 4 seconds, provide a visual indication of activity.
- Use approved/accepted animations for the visual indicators.
- The following table provides feedback method guidelines for various wait times.

Wait Time Feedback Methods

Wait Time	Use
Less than 3 seconds	Hourglass to indicate activity
5 to 60 seconds	Standard status indicator that shows progress toward completion (e.g. progress bar)

Over 1 minute	<ul style="list-style-type: none"> ▪ Warning to user of expected duration (with opt-out choice) ▪ Progress indicator ▪ Audible beep on completion (to allow alternate activities while waiting)
---------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

MULTIPLE ROWS

- When displaying multiple rows of output, row background should alternate between light gray and white to distinguish between the rows.

TABLES

- Columns or rows must have headings, and visually distinct from the table body.
- Heading information should be retained when users scroll data tables.
- Responsive tables should be built with the correct DOM elements to allow scaling and displaying labels for values on the device.

Column Sorting Clues

- Titles of sortable columns must be underlined to provide a visual hint that it is clickable.
- The default or current sort order must be designated by a sort triangle (▲ or ▼) after the column header.

LABELS

- Labels must have a colon after the label so users can visually distinguish between the label and the input field or displayed data.
- Capitalize first characters (title case).
Example: Control Section:

Required Fields

- Required-entry fields must have a red asterisk (hex #a94442) with a space after the asterisk before the field label. Example: * First Name:
- A key of “* = Required” (all red text) is located at the top of the form as well as at the bottom if scrolling is necessary for completion.
- The “* = Required” key must be red (hex # a94442), be bolded, and match the color of the asterisks.

Label Placement

- Labels should include adequate space between the label and input field so users are quickly able to recognize the label as describing the correct field.

Required Data Format Example Placement

- Place formatting examples in parenthesis following the label.
Examples: Date (MMDDYYYY) or Amount (999999.99)

ADA Label Coding

- Include the underlying code for input field labels to enable proper interpretation by assistive technology devices such as JAWS (Job Access With Speech) readers. See ADA Section for coding requirements.

INPUT BOX SIZES

- Match input box sizes with dimensions of the requested data.
- A user should not have to scroll to the right or left to see data that is being displayed inside a particular field.
- Automatically place the cursor in the first data entry field, provide labels for each field and provide auto-tabbing functionality.
- At least 35-40 characters long is required for entering search terms.

DATA ENTRY FIELD DISPLAY

HTML5 Input Types

- Create better input control and validation on the mobile device
- Types include:
 - color
 - date
 - datetime
 - datetime-local
 - email
 - month
 - number
 - range
 - search
 - tel
 - time
 - url
 - week
- Example:
 - `<input type="tel" id="telephone" />`

Long Data Items

- Partition long data items into shorter sections for both entry and display.
- Partition long data items to reduce entry errors. For example, it is easier to enter and verify a ten-digit telephone number when entered as three groups, NNN-NNN-NNNN. Similarly, ZIP+4 codes and Social Security numbers are best partitioned.
- If fields are broken into shorter input boxes, the system should auto tab to the next field.
- Units should be included (minutes, ounces, centimeters, etc...).

Field Value Alignment

- Alphanumeric fields should be left justified.
- Numeric fields should be right justified.
- Note: The only exception to the above is for values displayed in a results table where space is an issue. In some cases, right justification can be visually displeasing.

Drop-Down Defaults

- Drop-down default value is: `<Select 'label name'>` providing clear user instruction. Do not include dashes in the `<Select 'label name'>`
- Do not limit the number of viewable list box options.

- Ensure drop-down values are displayed entirely without being cut off.

Currency

- Right-justify displayed currency fields.
- Format displayed currency fields as \$_, __. __ with "\$" as part of the label.
- Currency should be input as one field long enough to cover the maximum number length plus the decimal point.
- After inputting, currency should be re-displayed as described above (\$_, __. __).

Social Security Number (SSN)

- Social Security Number should be input and displayed as three fields with static characters ("–") provided.
- Pages that capture SSN should use HTTPS to help prevent data "sniffing." Partition data items to aid in detecting entry errors. Example: NNN-NN-NNNN

Phone Number

- Phone Numbers should be input and displayed as three fields (or four if extensions are needed) with static characters ("–" or "x") provided.
- Do not include "1" before area codes or 800 numbers.
- For static text display, do not surround the area code with parenthesis. Use dashes instead. Example: 517-555-1212 x 1234

Calendar Widget

- Use the standard calendar widget if Java or alternatively the jQuery calendar plugin for other web based solutions. If responsive... The calendar must close when the user tabs or clicks outside of the date field.
- The calendar must allow date entry either by clicking to select or by typing the date directly, at the user's option.

Date Fields

- Calendar dates should be displayed as mm/dd/yyyy.
- Calendar dates should be input as "mm/dd/yyyy" in one field; or with dropdown menus for month, day and year.

Time

- Labels and displays should say AM, PM (uppercase, without periods).
- Avoid making users enter the AM or PM into the input field with the time. Instead, provide radio buttons or a drop-down.
- Avoid using military time unless it is a business requirement.
- The 12-hour clock is suitable for U.S. civilians

Zip Code

- Extended U.S. postal code digits ("plus four") should be input/displayed in a separate box.

ERROR MESSAGES

Content

- Use standard images in front of error and informational messages.
- Error messages should be standardized within the application and be table-driven.
- Keep error messages short but include the specific field and the data issue that need correcting (except for the Sign In and Password error messages).
- Phrase messages in users' terms. Do not use words or symbols such as 'null', '>' or '<'.
- Messages containing programming codes should be meaningful and restricted to (code execution) errors that will be referred to support staff.

Placement

- Place directly on the form page itself.
- Place either at the top (and bottom where needed) of the form.
- Set "Focus" on error message so assistive technology devices such as JAWS will read correctly.
- Error messages placed on top of the action buttons (e.g. Submit, Enter, Save) that launched the error are very effective.

Highlighting

- Color changes can highlight errors, but should not be the only indication (per ADA rules).

VALIDATION

Error Trapping

- Always trap for errors, validate entries, and respond with appropriate measures.
- Anticipate mistakes and supply the exact corrections needed, when possible. (For example, Google asks "Did you mean: _____?") Otherwise, provide detailed instructions for revision, or clarification of response expectations.
- Properly validate all numeric, alphanumeric and date fields.
- Remove error messages from screens when pages are reset.

Text Fields

- Standardize free-form text fields (normally used for 'Comments').
- Character limit must be shown at the bottom right of the field, in addition to one or both of the following:
 - o Display the number of characters the user has typed Example: 250/3000 max.
- Stop the user from typing when they have reached the maximum characters.

Email Address Fields

- Check for an @ symbol and verify there are 2-4 characters after the "." (dot).
- Require users to enter the email address twice and compare entries to validate.

Client/Server Validation

- Avoid re-loading pages by performing validation on the client side wherever possible.

Re-authentication

- When an authenticated session expires, the user can continue the activity without loss of data after re-authenticating.

Cancellation and Recovery

- Provide work cancellation and error recovery options.
- Allow cancellation on errors.
- Use “Cancel” button to stop and undo work so far.
- Try to minimize work for the user.
- Evaluate whether it makes sense to blank out a value in an input field when validating data input.

For additional information on making your application useable, consider working with the User Experience Team. For additional information, contact: usability@michigan.gov

APPLICATION SECURITY

- Sites that require basic and elevated levels of security must adhere to Enterprise IT Policies, Standards and Procedures:
http://michigan.gov/dtmb/0,4568,7-150-56355_56579_56755---,00.html
and contact Michigan Cyber Security (MCS) in the design process as early as possible, for a Security Review.

MCS Contact Information:

Rock Rakowski

517-373-8059

Rakowskij@michigan.gov

PASSWORDS

- Ensure the application adheres to the State Password Policy.
- Passwords must be stored encrypted.
- At least every 90 days, require an end user to change their password.
- The password change process should prevent alternating between only 2 passwords.
- The same password should not be re-used for 3 iterations of changed passwords.

LOCK-OUT

- If a user makes three attempts to sign in during the same session using the same username (bad passwords) the account must be locked.
- In that case, a message tells the user that their account is locked and they must contact the administrator to unlock.

INVALID SIGN IN MESSAGE(S)

- The message for an invalid user-ID should be the same as for an invalid password.
- This message should give no indication which item (user-ID or password) was incorrect.

APPLICATION ENTRY/REENTRY

- Application entry/reentry should always require new sign-in.
- Don't allow users to click the back button to leave the application and then click forward to reenter the system without logging back in.
- The standard time-out is preferred to be 10-15 minutes, but no more than 30 minutes, depending on the system's data and use. Most applications use a 20 minute period.

SECURED SOCKET LAYER (SSL)

- SSL should be used for all password-protected Internet applications or Intranet applications with non-public or restricted data.
- SSL is the currently accepted procedure for securing all logins and data transmissions that involve sensitive data, e.g., financial transactions.

STATE OF MICHIGAN INTERNET CORE POLICIES

Link to State of Michigan Policies: <http://www.michigan.gov/policies>

There are a number of policy elements that are included in the Michigan.gov brand. These are standard and required across all page displays. They are accessed from the policy link within the footer and link to an existing page published on the Michigan.gov portal.

The Department of Technology, Management & Budget may occasionally update the policy language to ensure the state continues to follow new and updated state and federal law. Requiring applications to include the footer policy link to this centralized policy language provides uniformity as well as ease of maintenance. The state can manage and maintain the policy language from a central location, relieving specific sites from updating their pages individually. It also presents uniform conditions to be met by all applications, regardless of their final host URL or location within the State of Michigan infrastructure.

By linking to the policies page, applications are subject to compliance. Applications that deviate from these standards should be modified to correct any discrepancies. It is critical that agencies consider the implications of these policies as early in the design process as possible.

The policies page encompasses these four key topics:

Privacy:

- Defines how data is collected and used from users visiting official State of Michigan sites
- Form transactions that require personally identifiable information such as name, address, email or phone number
- Critical identification such as social security number, driver's license number, credit card number, banking ID or account numbers, Date of Birth
- Monitoring of web access based on an individual users
- Collection and storage of email addresses for contact at a later time

Accessibility:

- Compliance with Section 508 of the Rehabilitation Act: Electronic and Information Technology Accessibility Standards.

Linking:

- Suitability of information linked to from your site
- Opening new windows when leaving state sites
- Policies for advertising and exposure to potentially offensive material

Security:

- Disclosure of personally identifiable information
- Unauthorized access to state data – penalty of law
- Hacking or attempts to maliciously alter data or systems
- Insure integrity of data transmissions between e-government applications

ADDITIONAL POLICIES

Logos and Branding of 3rd Party Applications

Agencies contracting with outside vendors to build applications for the State of Michigan are prohibited from including the vendor’s logo or brand image on the site, or from providing links to the vendor’s commercial web site.

There may be rare circumstances where the State will accommodate branding solutions for third-party commercial off the shelf software. The State will evaluate these circumstances on a case-by-case basis. The State retains absolute authority in making a decision on branding accommodations and exceptions. All determinations made by the State are final. Please contact eMichigan Web Development for a more detailed analysis and potential solution.

Branding exceptions only apply to branding elements. There are no exceptions for not meeting the State of Michigan Accessibility and ADA compliance requirements.

Sites that wish to link to any official State of Michigan site may do so but must observe the policy restrictions. Please read and observe the policy language for compliance.

Michigan.gov Domain Name URLs (Marketing URLs)

Agencies are not to purchase .com, .org, .gov domain names for state applications or websites. The Department of Technology, Management & Budget has ownership of the Michigan.gov domain and makes it available to agency applications, even if not part of the Michigan.gov technology platform.

A Michigan.gov standard URL can be created to redirect users to applications hosted on state servers or outside systems. Example, applications including domain address URL’s such as <www.state.mi.us/agency/appName>.

These URLs are intended to make it easier for applications to be advertised and marketed to constituents, through point of sale, radio, print, and TV advertising or official state government press releases.

URLs can include names or familiar acronyms that quickly and easily direct users to the site. This free service is provided by the eMichigan Web Development Team and can be put into production within 1-3 days. Contact the eMichigan Web Development office to receive more information at eMichigan@michigan.gov

Examples:

MI.GOV Redirect URL	Final Destination URL
www.michigan.gov/dnrestore	http://media.state.mi.us/MichiganeStore/public/Home.aspx
http://www.michigan.gov/agcharitysearch/	http://www.ag.state.mi.us/CharitableTrust/
www.michigan.gov/healthwatch	https://sso.state.mi.us/prod-bsltpublic/blankslatepublic/

Copyright

All content displayed or information transacted through the use of electronic means by way of a web site, application or e-commerce site are the property of and copyright protected by the State of Michigan under the federal laws and U.S. Copyright Law and Related Laws Contained in the United States Code.

Refer to the following web site for detailed information regarding Copyright:

<http://www.copyright.gov/>

The State of Michigan policy on copyright protection insures that information is not captured and reused by third parties that portray themselves as an official State of Michigan agent. The information contained within any official State of Michigan web site is published for the users own personal use.

BROWSER MINIMUM REQUIREMENTS

Browser Compatibility

Development Teams must accommodate the latest browser versions as well as some pre-existing browsers. To ensure that users with older browsers are still able to access online services, applications must, at a **minimum**, display and function correctly in standards-compliant browsers and the state standard browser without the use of special plugins or extensions. In general, the rules currently used to base the minimum browser requirements include:

- No more than 3 years old (or)
- Over 2% of site traffic, measured using Sessions or Visitors (or)
- The current browser identified and approved as the State of Michigan standard

Based on the second Quarter of 2015, the current recommendation is:

Browser:	Issued:
Microsoft Internet Explorer 8.x	Mar, 2009 (State minimum requirement)
Android 4.x	Oct, 2011 (For websites & web apps that will be accessed by mobile devices)
Firefox 31.x	Jul, 2014
Chrome 36.x	Jul, 2014
Safari 6.x	Jul, 2012

Common Browsers Accessing Michigan.gov

The state receives high-volume traffic from a variety of ISP's (Internet Service Providers) as well as a full range of browser versions, from desktop and mobile devices. For the second quarter of 2015, roughly 37% of the traffic is from mobile devices. The following table lists the most common browser versions accessing the Michigan.gov domain that meet the criteria of at least 2% of overall site traffic.

Browser	Browser Version	Sessions Apr – Jun 2015	% of Parent Group Sessions
Total		22,372,815	100.00%
CHROME	-	7,823,144	34.97%
CHROME	42.0.2311.1	963,648	12.32%
CHROME	41.0.2272.1	912,250	11.66%
CHROME	43.0.2357.1	806,819	10.31%
CHROME	43.0.2357.8	642,115	8.21%
CHROME	42.0.2311.9	640,759	8.19%
INTERNET EXPLORER	-	7,251,259	32.41%
INTERNET EXPLORER	11.0	3,975,820	54.83%
INTERNET EXPLORER	9.0	1,236,927	17.06%
INTERNET EXPLORER	8.0	919,563	12.68%
INTERNET EXPLORER	10.0	833,666	11.50%
SAFARI	-	4,489,750	20.07%
SAFARI	8.0	2,622,936	58.42%
SAFARI	7.0	547,999	12.21%
SAFARI	6.0	443,984	9.89%
FIREFOX	-	1,659,468	7.42%
FIREFOX	37.0	670,129	40.38%
FIREFOX	38.0	611,402	36.84%
FIREFOX	36.0	148,149	8.93%
ANDROID	-	971,042	4.34%
ANDROID	4.0	746,345	76.86%
ANDROID	UNAVAILABLE	185,089	19.06%
AMAZON SILK	-	98,369	0.44%
OTHER	-	24,039	0.11%
OPERA	-	21,366	0.10%

Mobile Devices Accessing Michigan.gov

As mentioned in the previous section, roughly 37% of the traffic from April to June of 2015 is from mobile devices. The following tables show the current breakdown of devices and mobile browsers accessing Michigan.gov. When testing in a mobile environment the current philosophy is to test using both iOS devices and Android devices. The tests should be done using the default browser. Apple iOS testing should be done on both the current OS and the previous OS. Android testing should be done on OS versions that have more than 10% of the Android market share.

Mobile Device Type	Sessions Apr – Jun 2015	% of Parent Group Sessions
Total	8,356,865	100.00%
MOBILE PHONE	6,836,295	81.80%
TABLET	1,457,491	17.44%
MEDIA PLAYER	26,625	0.32%
OTHER	23,671	0.28%
EREADER	11,569	0.14%
GAMES CONSOLE	1,214	0.01%

Mobile Browsers	Sessions Apr – Jun 2015	% of Parent Group Sessions
Total	8,336,039	100.00%
SAFARI	3,764,792	45.16%
CHROME	3,339,184	40.06%
ANDROID	971,042	11.65%
AMAZON SILK	98,369	1.18%
INTERNET EXPLORER	90,442	1.08%

ACCESSIBILITY AND ADA COMPLIANCE

OVERVIEW SECTION 508

The State of Michigan has adopted compliance with Federal laws and policies relating to Section 508 of the Rehabilitation Act: Electronic and Information Technology Accessibility Standards and conformance level AA of the World Wide Web Consortium (W3C) Web Content Accessibility Guidelines 2.0. Users who wish to view these specifications can do so at: [Web Content Accessibility Guidelines 2.0](#).

Section 508 of the Rehabilitation Act requires access to electronic and information technology procured by Federal agencies. The Access Board developed accessibility standards for the various technologies covered by the law. These standards have been folded into the Federal government's procurement regulations.

On August 7, 1998, the Rehabilitation Act Amendments of 1998, which cover access to federally funded programs and services, were signed into law. The law strengthens Section 508 of the Rehabilitation Act and requires access to electronic and information technology provided by the Federal government.

The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology. Federal agencies must ensure that this technology is accessible to employees and members of the public with disabilities to the extent it does not pose an "undue burden."

Section 508 speaks to various means for disseminating information, including computers, software, and electronic office equipment. It applies to, but is not solely focused on, Federal pages on the Internet or the World Wide Web. It does not apply to web pages of private industry. Refer to: <http://www.section508.gov>

Additional information found at:

- <http://webaim.org/articles/>
- <http://www.w3.org/WAI>

Michigan.gov Content Management Application

The Michigan.gov Content Management Application (CMA) and the corresponding Display (CDA) have built-in ADA compliance features that reduce the number of ADA compliance errors. By default, the display system was designed to comply with Section 508 Checkpoints. Site Administrators should, however, be well versed in the ADA standards and understand how to spot potential content that is not compliant. Monthly compliance reports run on all Michigan.gov websites to ensure ongoing compliance.

VARIOUS DISABILITIES TO CONSIDER

In order to build an accessible website, you need to include everyone regardless of their disability. Below is a list of the different types of disabilities that some web users have and some of the tools they use to view the web with:

Visual

- Blindness
- Assistive technologies that “read” text elements in a page
- Use Keyboard to navigate
- Use Tab key to get from link to link
- Low Vision
- Use software to enlarge the screen
- Color Blindness
- Approximately 10% of men and 0.5% of women have some color blindness

Hearing

- Hard of Hearing/Deaf
- Cannot hear audio content
- Don’t assume they know sign language

Mobility / Motor Impairments

- May use assistive technologies like:
 - Raised spaces in between keys
 - Puff and Sip switch
 - Head switch
 - Head wand
 - Voice recognition
 - Iris recognition
 - Mouth stick and
 - Trackball

Cognitive

- Confused by complex visual layouts
- Difficulty understanding lengthy text
- Problems that affect ability to process visual information
- Seizure Disorder
- Stimulated by quick movements such as animations, causing seizures

ADA DESIGN ELEMENTS

The following ADA elements are required and make applications accessible and are easy to code:

- **Skip Navigation Links** - allows a user to quickly skip past the navigation and jump to the main body of the content. See: <http://webaim.org/techniques/skipnav/>
- **Form Labels** – Add the correct “behind the scenes” coding to all form controls. (Text input, Textarea, Radio buttons, Select menus, button etc) See: <http://webaim.org/techniques/forms/controls>
- **Tables** – Large tables that include multiple columns or rows require proper mark up. See: <http://webaim.org/techniques/tables/data>
- **ARIA** - ARIA landmark roles identify significant page areas, giving them meaning and making them more keyboard navigable. There are several landmark roles available, but simply adding the following 5, can greatly enhance the accessibility of your page:
 - Main
 - Navigation
 - Search (If applicable)
 - Banner
 - Contentinfo (Footer)

To include the landmark roles, simply add a “Span” or “Div” tag and a “Role” attribute.

Example: `<div role="Banner"> banner html code here </div>`

For additional information, see: <http://webaim.org/techniques/aria/>

FORM VALIDATION

Form validation methods include error messages, alert dialog boxes and server side script.

An alert dialog box is read by a screen reader, alerting the user a field has not been completed correctly. It then returns the user to the form when the dialog box is closed. If only an error message is displayed on the form, the screen reader may

not read the error message and the user will never be aware of why the form will not submit.

Server side scripting can be used as well as a precaution for those users that have disabled JavaScript. After the server side script validates the information from the form it then displays the feedback on another page.

COMMON ADA CONCERNS

No document can describe every situation, but some of the common issues identified are shown in the Checklist at the end of this document. Ensuring that applications address the following will satisfy many of the common ADA issues.

FONT STANDARDS

- The State default font family standard is Arial
CSS rule: font-family: Arial, Helvetica, Verdana, sans-serif;
- Text should be left-aligned. Center-aligned text must be avoided.
- Font styles such as but not limited to: **comic sans**, *calligraphy*, *scripts*, *brushes*, **BLOCK**, or **over-styled** typefaces must be avoided and are not business appropriate for official State of Michigan business.
- Blinking and moving text are an accessibility problem for people with photosensitive epilepsy and visual impairments and must be avoided.
- Font colors should adopt the look and feel of the parent agency site and must provide optimum contrast against the background color. Body text default colors, unless otherwise specified within the application style or server side includes, should be black (#000000) text on a white background.

Relative Font Size

Different browsers may not display font size consistently. If you want your site to be usable and accessible you will want to allow users to resize text.

The base font-size for the site should be set up in the body element in the site style sheet. The default browser base font is 16 pixels. Most developers see this as too large. Designers use the body element in the CSS to set the initial size of the text.

Using CSS, take the default browser text size of 16pt and work with this to control the size of typography. First the body tag is used to reduce the default size to 62.5% of 16px , 10 px

```
body {font-size:87.25%} /*This sets the base font to 14px (14 x .8725)*/
```

This results in a default size of 10pt, which makes creating new rules and managing CSS rules easy. Notice in the example below how sizes are computed using the em measurement to become larger or smaller than the base font size. An em is a sliding measurement of the width of a font.

```
p {font-size:1em} /* This keeps the font at 10pt */
```

```
H1 {font-size:2em} /* displayed at 24px */
```

```
H2 {font-size:1.5em} /* displayed at 18px */
```

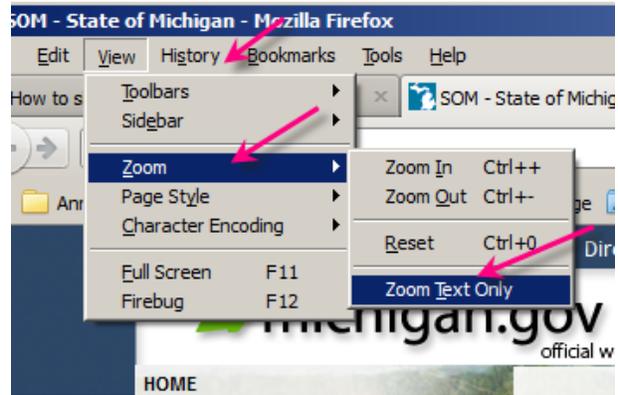
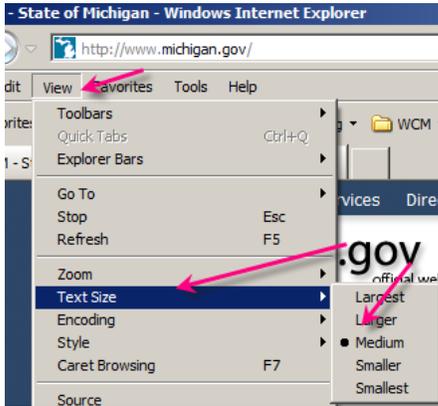
```
H3 {font-size:1.25em} /* displayed at 15px */
```

```
H4 {font-size:1em} /* displayed at 12px */
```

`.small {font-size: 0.8em} /* This decreases the font to 8pt */`

When using [CSS](#) it is recommended that font size be set using either the ems or percentage.

Below are examples of font size selection capabilities as seen in Microsoft's Internet Explorer and Firefox browser platforms – use of relative font sizes embedded within the HTML satisfies one of the state's ADA requirements.



Internet Explorer: View > Text Size. Then select from Largest to Smallest.

Firefox: View > Zoom > Zoom Text Only. Then use plus and minus keys for text size.



This is normal font display for this site.



This is using the View>Text Size feature in IE with the text size set to largest. Notice the words in the artwork do not change size.

ACCESSIBLE PDF DOCUMENTS

Ensure that all documents are accessible. The best way to create an accessible pdf is to convert from the original document. Ensure all meta data is complete prior to converting.

If a signature is required and scanning is necessary, the document must be converted back to text using the OCR tool.

- <http://www.webaim.org/techniques/acrobat/>
- <http://www.w3.org/WAI/GL/WCAG20-TECHS/pdf.html>

ADA COMPLIANCE TESTING TOOLS

Many sites offer tools to help verify compliance prior to submitting for the State of Michigan review. It is important to remember that automated sites do not result in a blanket solution to compliance. There is no tool that can perform a complete automatic assessment.

- Easy Checks – A First Review of Web Accessibility: <http://www.w3.org/WAI/eval/preliminary>
- WAVE – Web Accessibility Evaluation: <http://wave.webaim.org/toolbar/>
- Total Validator - Accessibility validator: <http://www.totalvalidator.com/>
- Color Contrast Checker:
<http://webaim.org/resources/contrastchecker/>
ContrastChecker.com/
- Web Accessibility Initiative: <http://www.w3.org/WAI/eval/preliminary.html>
- JAWS Screen Reader - trial version: <http://www.freedomscientific.com/downloads/demo/FS-demo-downloads.asp>
- AI Inspector Sidebar: addons.mozilla.org/en-US/firefox/addon/ainspector-sidebar/

CHECKLIST FOR APPLICATIONS AND WEBSITES

The checklist has been moved to the review form at:

<http://www.michigan.gov/dtmb-3533>

REVISION TABLE

Date	Description
9-22-2011	Revision table added to the end of the document to include all future updates.
2-19-2013	<ol style="list-style-type: none"> 1. Added: <ul style="list-style-type: none"> - Date and Version on first page - Responsive Design - Phone Number format 2. Changed OES to MCS 3. Updated: <ul style="list-style-type: none"> - Vendor logo text - Testing Tool sites - Browser Statistics
4-1-2013	Added Checklist
4-10-2013	Added link to Application Review Form, DTMB-3533
9-24-2013	Updated: <ul style="list-style-type: none"> - Browser Statistics - Language in Browser Compatibility - Language in Screen Resolution
5-1-2014	Updated: <ul style="list-style-type: none"> - Browser Statistics - Footer Date
7-7-2014	Added FavIcons
11-18-2014	Updated: <ul style="list-style-type: none"> - Banner Header Sizes
1-20-2015	Updated: <ul style="list-style-type: none"> - Footer link wording
4-17-2015	Updated: <ul style="list-style-type: none"> - New Web Application Naming Standard

	<ul style="list-style-type: none">- Modified Phone Number header
5-1-2015	<ul style="list-style-type: none">- Changed max container width to 1170px- Changed Design Element parameters
8-10-2015	<ul style="list-style-type: none">- Added Templates- Added WCAG 2.0- Add AInspector ADA Testing Tool- Update the "Required" Label font color from bright red to #a94442- Updated browser statistics- Moved Checklist to http://www.michigan.gov/dtmb-3533
10-5-2015	<ul style="list-style-type: none">- Updated the Web Application Naming Standards