



## Appendix C – Website Review

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Prepared by



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**Subject: Town of Apex – Draft Report on Evaluation of Town Website**

Dear Mr. Purvis,

As proposed by Task III under the ADA Self-Evaluation and Transition Plan project for the Town of Apex, Tindale Oliver has reviewed the Town's website and online information services including the Geographic Information System (GIS) viewer, Assessors information, and online permitting for ADA compliance. The website has been developed to specifically comply with website accessibility standards of Section 508 of the Rehabilitation Act of 1973. The following information provides recommendations and determinations concerning all web pages, online documents, and web-based applications that are currently employed by the Town. The suggested actions have been determined to meet the minimum ADA requirements and to achieve full compliance with the law.

All information accessible by the public shall be maintained to a standard that allows persons with disabilities equal informational access. Web accessibility depends not only on the accessibility of the content but also on the accessibility features of Web browsers and other user agents. Authoring tools and content developers play the greatest role in Web accessibility. The Web Content Accessibility Guidelines (WCAG) 2.0 and 2.1 created by the World Wide Web Consortium (W3C) in addition to Section 508 of the Rehabilitation Act of 1973, are used as the standards to create an accessible webpage. These standards should be followed at each destination provided on the Town of Apex website. To determine the overall accessibility of the website, a web accessibility evaluation tool called Wave was used to support our efforts. Our review of the Town's website as published or posted for public review included a discussion with Mr. Shawn Purvis, Assistant Town Manager, to discuss the review of the website, associated webpages, and additional web applications.

## Background

Chapter XI of Title 36 of the CFR, Part-1194 Electronic and Information Technology Accessibility Standards, Subpart B-Technical Standards final rule was issued under the authority of Section 508 of the Rehabilitation Act Amendments of 1998 which establishes civil rights protections for individuals with disabilities. Section 508 standards include technical specifications and performance-based requirements which focus on the functional capabilities covered by specific technologies. The standards in Part 1194.22-Web-based Intranet and Internet Information and Applications include regulations relevant to the accessibility of World Wide Web sites.

Under the authority of Section 508 of the Rehabilitation Act, the U.S. Architectural and Transportation Barriers Compliance Board (Access Board) enacted regulations setting forth accessibility standards for federal agencies' electronic and information technology, including web pages. Effective February 20, 2001, organizations that have funds provided by the U.S. Government must comply with Section 508 regulations.

The Section 508 standards provide technical requirements as well as functional performance criteria. Section 508 accessibility requires that when Federal agencies develop, procure, maintain, or use electronic and information technology, Federal employees with disabilities must be provided access to and use of information and data that is comparable to the access and use by Federal employees who are not individuals with disabilities, unless an undue burden would be imposed on the agency. Section 508 also requires that individuals with disabilities, who are members of the public seeking information or services from a Federal agency, must be provided access to and use of information and data that is comparable to that provided to the public who are not individuals with disabilities, unless an undue burden would be imposed on the agency.

The U.S. Department of Justice issued a civil rights policy ruling in 2000 regarding the Americans with Disabilities Act's (ADA) applicability to websites and other electronic communications. The Justice Department ruling stated that places of public accommodation and governments "that use the Internet for communications regarding their programs, goods, or services must be prepared to offer those communications through accessible means as well". Thus, organizations must offer access to its information through means other than merely its site content, if not accessible via screen access programs.

## Evaluation Results and Recommendations

The Town of Apex tasked Tindale Oliver with the evaluation of its website and online information services. Each hyperlink coded into the site pages was followed and the resulting pages were evaluated and then the links on the resulting page were followed and evaluated. Full browsing of the sites included an evaluation of the functional elements and the source code available for each page. The Town should be mindful, that although its website may appear harmless, it may result in denying individuals with disabilities the full participation of its programs, activities, or services and should be systematically reviewed over time to ensure changed environments or processes have not affected policies or procedures.

WCAG organizes accessibility requirements under four principles: Perceivable, Operable, Understandable, and Robust.

- **Perceivable** - Information and user interface components must be presentable to users in ways they can perceive.
  - This means that users must be able to perceive the information being presented (it can't be invisible to all their senses).
- **Operable** - User interface components and navigation must be operable.

- This means that users must be able to operate the interface (the interface cannot require interaction that a user cannot perform).
- **Understandable** - Information and the operation of the user interface must be understandable.
  - This means that users must be able to understand the information as well as the operation of the user interface (the content or operation cannot be beyond their understanding).
- **Robust** - Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies.
  - This means that users must be able to access the content as technologies advance (as technologies and user agents evolve, the content should remain accessible).

Areas that need careful examination include the following:

## Perceivable

**Requirement 1 (WCAG 2.1 Guideline 1.1 Text Alternatives):** Alternative text (tags) shall be present to the user for all non-text content including tables, graphs, and images. The purpose of the alternative text is to tell website viewers the contents of an image in a descriptive and understandable manner. The text must contain both the content and the function of the image being described to allow for a complete understanding for the user. Additionally, alternative text enables search engines to display images based on written descriptions and to display search results with the greatest accuracy. It is important that alternative text to be placed on every image within the webpage because computers and screen readers cannot analyze images to provide information to the user. When images are not pertinent to the user, they shall be artifacted so the screen reader does not recognize them as images that must be described to the user.

**Finding:** Overall, there are not many images on the Town's website that require alternative text because they are used as decorative images, not requiring a description. These images are not pertinent to the information being provided to the user. However, maps such as the Greenways Maps, Master Plan, and the printable Greenways Map within the Parks and Recreation Department webpage does require alternative text as it is portraying information to the audience. Alternative text can be added to these maps by using Adobe Acrobat applications. Images within PDF documents shall also have alternative text that can be read by a screen reader. All charts, graphs, and other visuals that are used to portray pertinent information such as those displayed in the FY19-20 Budget Snapshot shall have alternative text or be offered in an alternate format. It is advised that contact information can be provided on the webpages as a means of allowing a user to request an alternate format. More information on adding alternative text to PDF documents can be found [here](#).

**Requirement 2 (WCAG 2.1 Guideline 1.2.2 and 1.2.4 Captions, 1.4.2 Audio Control):** Captions shall be provided for all live audio content included on the webpage. If the audio is prerecorded, audio

descriptions must be provided. This is to ensure that persons with disabilities who are unable to read can partake in the media in the same capacity as those without disabilities. If any audio on a Web page plays automatically for more than 3 seconds, either a mechanism is available to pause or stop the audio, or a mechanism is available to control audio volume independently from the overall system volume level.

**Finding:** Videos provided on the website are linked or embedded from YouTube, which inherently provides closed captioning and audio controls. If the Town provides videos that are not uploaded to a streaming service such as YouTube or Vimeo, ensure that the videos offer captioning services. The audio clips on the website that have been uploaded for meetings from 2015 to early 2017 do not have captions or a transcript rendering them inaccessible. It is recommended that the audio clips be removed from the website or be offered with an accompanying transcript compatible with screen reading software. Additionally, when meetings or events are livestreamed, captioning must be made available or an interpreter must be provided and located within the frame for those with no or low hearing capabilities.

**Requirement 3 (WCAG 2.1 Guideline 1.4.6 Contrast, 3.1.2 Language of Parts, 3.1.3 Unusual Words):** Web pages that contain text shall use colors that are high contrast for users to effectively read and interpret. The visual presentation of text and images of text shall have a contrast ratio of at least 4.5:1. Enhanced contrast shall be permitted up to 7:1. All provided text on web pages shall be in a consistent language and programmatically determined. The language of each passage or phrase in the content may be programmatically determined except for proper names, technical terms, and words or phrases that have become part of the vernacular of the immediately surrounding text. Color should not be used as the only visual means of conveying information; other forms of perception are required.

**Finding:** Most of the website and associated web pages have text that is high contrast and easily understandable. Ensure that the text on the website and associated web pages is high contrast throughout with dark text on a light background and vice versa. Areas in which the text is not high contrast are all the links to PDF documents and other websites, the navigation pane provided above page content that allows users to go back to previous pages, the webpage introducing the [Town Council](#), and the [“Our Community”](#) webpage that displays links directing visitors to other various webpages. For text to be high contrast, the text should be dark on a light background or vice versa. The language used is consistent throughout and is without the use of technical jargon making it easy for a user to understand the content being presented. A good tool to check color contrast when developing webpages can be found [here](#).

**Requirement 4 (WCAG 2.1 Guideline 1.2.1 Audio-only and Video-only (Prerecorded)):** For pre-recorded audio-only and pre-recorded video-only, an alternative for time-based media must be provided that presents equivalent information. For pre-recorded video only, an audio track must be if presents equivalent information.

**Finding:** For the pre-recorded audio-only recordings of Town Council meetings, an alternative is not provided that presents equivalent information. The pre-recorded videos are placed on YouTube and can provide captioning along with an accompanying audio track. If an alternative or captioning cannot be provided on the audio clips, ensure that there is contact information listed on the webpage to obtain an alternative format, if needed.

**Requirement 5 (WCAG 2.1 Guideline 1.4.6 Contrast, 1.1 Text Alternatives, 2.5.3 Label in Name):**

Web pages that contain text shall use colors that are high contrast for users to effectively read and interpret. Form inputs shall have associated text labels. If a form control does not have a properly associated text label, the function or purpose of that form control may not be presented to screen reader users. Alternative text (tags) shall be present to the user for all non-text content including tables, graphs, and images. For user interface components with labels that include text or images of text, the name contains the text that is presented visually.

**Finding:** The [BusiNApex blog](#) is hosted by Word Press which presents a variety of inaccessible features. There are contrast, link, and form label errors throughout the blog. The navigation pane on the left-hand side of the home page and the gray text on the white background throughout the blog entries are the major contributing contrast errors. The “Launch Apex” graphic from April 2019 does not have alternative text. It is important for the Town to take care when posting on the [BusiNApex blog](#) and ensure that all the images have associated text descriptions. Due to the number of errors within the blog, contact information should be provided for web users wanting to request an alternate format.

**Requirement 6 (WCAG 2.1 Guideline 1.4.4 Resize text):** Text can be resized without assistive technology up to 200 percent without loss of content or functionality.

**Finding:** The text throughout the website can be resized up to 200 percent without losing content. When the [BusiNApex blog](#) text was resized to 200 percent, the website layout changed making the consistency of the keyboard interface different from the other webpages as the menu on the left-hand side relocated to the bottom of the page. When adding webpages, ensure that the developer is using relative font sizes to ensure the text can scale. Additional guidance can be found [here](#).

## Operable

**Requirement 7 (WCAG 2.1 Guideline 2.1.1 Keyboard, 2.1.2 No Keyboard Trap, 3.2.3 Consistent Navigation):** All functionality of the content shall be available through a keyboard interface without requiring specific individual keystrokes permitting users with no or low vision to successfully navigate a webpage. This interface allows users to provide keystroke inputs. The keyboard shall be used to provide additional functionality, not forbid or discourage mouse input or other input methods. Navigational mechanisms that are repeated across multiple web pages within a website shall occur in the same relative order each time they are repeated. The layout of each web page should be

consistent containing elements that the user can rely upon for navigation throughout the website such as a footer, search box, and navigational menu). If keyboard focus can be moved to a component of the page using a keyboard interface, then focus can be moved away from that component using only a keyboard interface, and, if it requires more than unmodified arrow or tab keys or other standard exit methods, the user is advised of the method for moving focus away. This should not discourage providing mouse input or other input methods in addition to keyboard operation.

**Finding:** The website is fully navigable using the keyboard interface and is consistent throughout the website and associated webpage including the [economic development website](#), [LaunchApex](#), and [Peak Connect](#). The footer, search box, and left-hand side navigational menu is informative and consistent along all pages however, there is not a navigational footer on the [BusiNApex blog](#). The Town should continue to ensure that web content appears and operates in predictable ways as webpages are added or edited. This helps users to quickly learn the functionality and navigation provided within the web page allowing them to better navigate the website. At no point during this website review did using the keyboard interface result in a keyboard trap. The Town Organizational Chart is not navigable using the keyboard interface and should be modified in such a way that allows the user to either scroll through the chart with the up and down arrow keys or Tab through it.

**Requirement 8 (WCAG 2.1 Guideline 2.4.10 Section Headings, 2.4.3 Focus Order):** Section headings shall be used to organize the content in a way that makes sense for the user. The headings shall identify the information included in the section and be marked such that they can be programmatically identified. Utilizing appropriate headings allows assistive technologies such as screen readers to notify the user of what is included in that section. Screen reader users may depend on the section headings to determine what portion of the website is applicable to them.

**Finding:** The headings throughout the website and associated web pages are organized and clearly identify the information included in each section. The screen reading software employed in our review recognized the appropriate headings and read information in the proper sequence as an individual without disabilities would understand it. [Peak Connect](#) and the [economic development website](#) also contain sufficient headings and are well-organized. One portion of the website that does not contain headings is the [Town Organizational Chart](#) in which the graphics are not identified before the screen reader begins.

**Requirement 9 (WCAG 2.1 Guideline 2.1.1 Keyboard):** Where forms, flyers, surveys, and other interactive elements are provided, they shall be navigable via keyboard by using the tab key to move between questions and answers. Fillable forms shall be identified to the user. If a form is provided as a PDF, ensure it is an accessible fillable PDF complying with Section 508 and WCAG 2.1. Without properly labeled forms, it can become confusing and unclear to the user.

**Finding:** Forms located on the Town's webpages are navigable via keyboard and are appropriately labeled with alternative text for clear understanding. Fillable forms on the

Town's website include those contained under the [Report Concerns/Kudos](#) webpage and the [Bank Draft Authorization Form](#). The keyboard navigation is consistent and moves appropriately from one field to another within the forms. All of which are supported by Cognito Forms. Other interactive elements include the Town's [Lexis Nexis Community Crime Map](#), [Interactive Development Map](#), and "[Where is Apex?](#)" [Economic Development Map](#), which will be addressed later in this document.

**Requirement 10 (WCAG 2.1 Guideline 2.1.1 Keyboard):** All functionality of the content is operable through a keyboard interface without requiring specific timings for individual keystrokes, except where the underlying function requires input that depends on the path of the user's movement and not just the endpoints.

**Finding:** The Town of Apex [Utility Account Access](#) webpage is navigable via keyboard and has high contrast text. The headings are understandable and appropriately describe the information located within the drop-down menus. All the applications that a citizen would use to pay for their utilities or turn off/on their utilities require a username. Ensure that the applications are navigable via keyboard and other assistive technologies. Alternative text shall be provided for pertinent images. It is suggested that either the ADA Coordinator's or an IT department representative's contact information be provided on the Utility Account Access home page in case of accessibility issues before or during the payment process. Alternate formats of the applications shall be made available when requested.

**Requirement 11 (WCAG 2.1 Guideline 2.4.2 Page Titled):** Titles identify the current location without requiring users to read or interpret page content. When titles appear in site maps or lists of search results, users can more quickly identify the content they need. User agents make the title of the page easily available to the user for identifying the page. All webpages shall have a title that describes its topic or purpose.

**Finding:** Webpages throughout the various websites ([economic development](#), [Peak Connect](#), [LaunchApex](#), and [BusiNApex](#)) all have appropriate titles that identify the current location on the website. The titles and sub-headings are high contrast on all the websites except for the BusiNApex blog where contrast errors were found making the webpage noncompliant for this requirement.

## Understandable

**Requirement 12 (WCAG 2.1 Guideline 3.1.5 Reading Level):** When text requires reading ability more advanced than the lower secondary education level after removal of proper names and titles, supplemental content, or a version that does not require reading ability more advanced than the lower secondary education level, is available. Content should be written as clearly and simply as possible. The intent of this guideline is to ensure that additional content is available to aid the

understanding of difficult or complex text and to establish a testable measure indicating when such additional content is required.

**Finding:** After review of the website and all associated web pages, it was found that the content was written clearly and as simply as possible. There is no complex text that would require additional modifications on the part of the Town.

## Robust

**Requirement 13 (WCAG 2.1 Guideline 4.1 Compatible):** Webpages shall be compatible with screen reading software and other assistive technologies to provide access to the largest audience possible. Assistive technologies include but are not limited to special-purpose computers, mounting systems, curricular software, and positioning devices.

**Finding:** After review of the website using NVDA screen reading software, it was found that the website and associated web pages are compatible with screen reading software. The accessibility web page offers assistance for those who use assistive technology and offers the ADA Coordinator's contact information.

**Requirement 14 (WCAG 2.1 Guideline 4.1 Compatible):** The Town's [Lexis Nexis Community Crime Map](#) and [Interactive Development Map](#) contains a large amount of data and information. All the maps that are for public use must have the ability to be provided in an alternate format. It is crucial that this information be made accessible for individuals who are seeking it. As it stands, the Town's [Lexis Nexis Community Crime Map](#) and Interactive Development Map is inaccessible and would require a large amount of time to resolve.

**Finding:** Once appointed, ensure that the Town's ADA Coordinator or another responsible party is designated on the webpage for persons who would like to request a map in an alternate format. All the maps should have the option of being provided in an alternate format upon request. To assist with this effort, Esri publishes Voluntary Product Accessibility Templates (VPATs) that are designed to provide users with a breakdown of product compliance areas. VPATs are updated with each product release providing the most up-to-date and most compliant product possible to citizens. It is highly recommended that the tables used to create the maps be constructed in an accessible format as a way of communicating the data to the user. This could reduce the amount of time required to create accessible maps. For an overview of the options and tools for making maps accessible, visit <http://web-accessibility.carnegiemuseums.org/content/maps/>.

The Town of Apex must take action to remediate all the barriers to accessibility on its website and all associated webpages and documents. Moving forward, the Town shall consider the development of their website, authoring tools, evaluation tools, assistive technologies, and user agents to achieve the utmost accessibility possible. Continued consideration of developments related to the harmonization

of Section 508 with WCAG 2.0 and 2.1 is critical. The site developer utilizing commonly available software such as A-Prompt Project, The Wave, and Watchfire Bobby can obtain detailed information concerning these deficiencies and remedial suggestions. It is important that the website becomes accessible because it serves as the hub of information for community residents regarding the Town's programs, policies, services, and activities. The community should remain engaged and informed of this process to ensure that the needs of the community members are met. To do so, the Town shall provide information on a continuing basis and whenever necessary. The Town should take care to revise webpages to reflect the ongoing needs of the community by providing a forum for citizen participation.

## Resources

### Guidelines

Section 508 Standards <http://www.access-board.gov/sec508/standards.htm>

World Wide Web Consortium, Web Accessibility Initiative <http://www.w3.org/WAI/>

### Groups

Web Accessibility in Mind (WebAIM) [www.webaim.org](http://www.webaim.org)

Assistive Technology Industry Association <http://www.atia.org>

### Captioning and Transcripts and Video Remote Interpreting

Captions and Transcription Services [http://www.uiaccess.com/transcripts/transcript\\_services.html](http://www.uiaccess.com/transcripts/transcript_services.html)

Open Source Subtitling Tool <http://www.universalsubtitles.org/en/>

Purple Video Remote Interpreting <http://www.purple.us/>

### Audio Description of Visual Information

WebAIM <http://webaim.org/techniques/word/>

University of Wisconsin at Madison <http://www.doit.wisc.edu/accessibility/online-course/index.htm>

Multi-media Access Generator (MAGpie) [http://ncam.wgbh.org/invent\\_build/web\\_multimedia/tools---guidelines/magpie](http://ncam.wgbh.org/invent_build/web_multimedia/tools---guidelines/magpie)

Audio Description <http://www.astc.org/resource/access/medad.htm>

Guidelines for Visual Descriptions <http://www.csun.edu/cod/conf/2001/proceedings/0031alonzo.htm>

### Tools

WAVE Accessibility Evaluator <http://wave.webaim.org/>

Open Source Screen Reader <http://www.nvda-project.org/>

JAWS Screen Reader <http://www.freedomscientific.com/products/fs/jaws-product-page.asp>

Lynx Viewer (View Website in Text Only Format) <http://www.delorie.com/web/lynxview.html>

### Applications

JW Media Player <http://www.washington.edu/accessit/articles?1251>

YouTube with an "Accessible Skin" <http://icant.co.uk/easy-youtube/docs/index.html>

### Software and Service Providers

Net Centric Technologies (PDF Conversions) [www.CommonLook.com](http://www.CommonLook.com)