

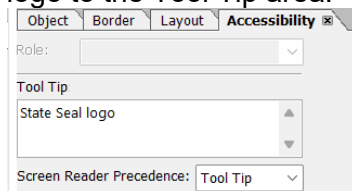
MAKING NORTH DAKOTA PDF FORMS ACCESSIBLE IN DESIGNER

STEP 1: ADOBE FORMS DESIGNER

Accessibility requirements (i.e. tags, language, title, etc.) must be fixed directly in Adobe AEM Forms Designer. Due to the underlying methods used to create the PDF, accessibility options can't be changed (greyed out) in Adobe Acrobat Pro.

1. CREATE/DESIGN FORM

- **Images/Logo:** Add alternative text to describe (i.e. State Seal, Agency logo)
 - a. Select the logo on Master Page 1 and click on Accessibility tab.
 - b. Set Screen Reader Precedence=Tool Tip and add the name or description of the logo to the Tool Tip area.



- **Title Block:**
 - a. Add Title Block (requirements and example in [“Forms Design Accessibility standards”](#) (Form Title=14pt, bold, all caps, Agency Name=12pt, not bold, all caps, SFN/Date=11pt)
NOTE: Top borders for Logo and Title block need to be at the same height to ensure correct reading order.
 - b. Select Title Block, from Accessibility tab, set Role=Header

- **Labels/Captions:**
 Select a form field and click on Accessibility tab. Set Screen Reader Precedence as appropriate. Suggest always adding a “Tool Tip” (defaults to Custom Text) and adding description to Tool Tip box at the top. Warning may say “Field has no assist text”.

- a. Layout fields:
 - Font type/sizes for fields=Arial, 12pt label/caption and 12 or 14 fillable field (value), as a suggestion
 - Add fields to form identifying each field with Accessibility Role (header, caption, etc.) or Tool Tip (tags field to describe)

TIP/HINT (for most fields): Copy and paste field label from “caption” to “binding” name (builds hierarchy, which is important for Reading Order), both under Object tab. Then paste to Accessibility tab as a “Tool Tip” for the Screen Reader Precedence and include action prior to label (e.g. Enter Name).

- **Checkbox Fields**

For checkbox fields that require additional input from user, create a separate field for each response.

Do you have a favorite color?	If yes, provide color
<input type="checkbox"/> No <input type="checkbox"/> Yes	

- **Radio Buttons:**

- Select radio button group from hierarchy and click on Accessibility tab.
- Set Screen Reader Precedence to “Tool Tip” and add description to the Tool Tip area.

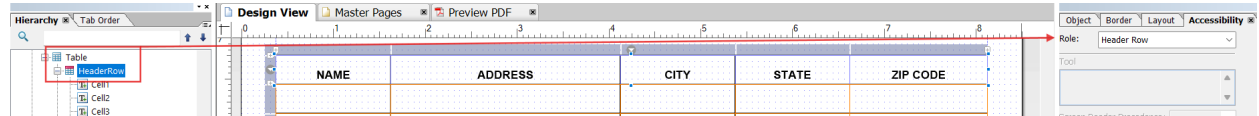
NOTE: Each answer should be keyboard accessible rather than requiring the mouse to select (test using arrow keys, not tab key, under Preview PDF).

- **Buttons:**

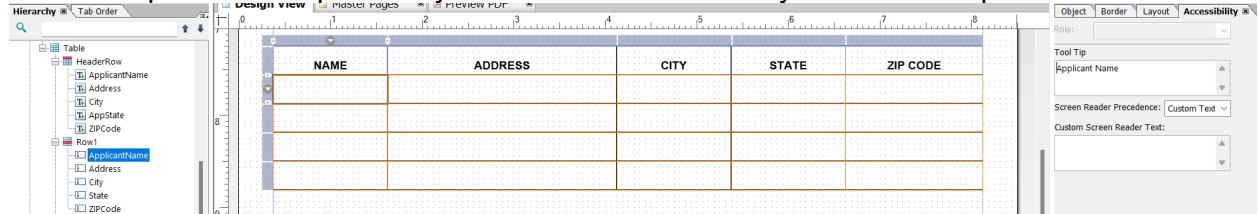
- Select the button and click on Accessibility tab.
- Set Screen Reader Precedence to “Tool Tip” and add the description to the Tool Tip area.

- **Tables:**

- Select header row (top) in hierarchy and click on Accessibility tab. Set Role as Header Row.



- Add descriptive “Tool Tip” to entry fields in a table since they won’t have captions.



HINT: Select entire column to create field type (i.e. Text Field, then add description to both Binding Name and Accessibility tab and set screen presence to Tool Tip. Then select all fillable areas (mouse-click upper left, hold down shift, click lower right to select) and add a space in the Captions field or accept warning that there’s no caption for these fields.

- **Links:**

Right-mouse click to create URL or email links.

- Use descriptive hyperlink text. Avoid using “click here”.

Be descriptive when using hyperlinks (don’t use shortened/tinyurl or “click here”):

Click link to send completed form to: name@nd.gov

Website link (use descriptive url): Instead of: <https://www.ndit.nd.gov/it-services/statewide-shared-platforms/records-management>,

Use [North Dakota Records Management website](https://www.ndit.nd.gov/it-services/statewide-shared-platforms/records-management)

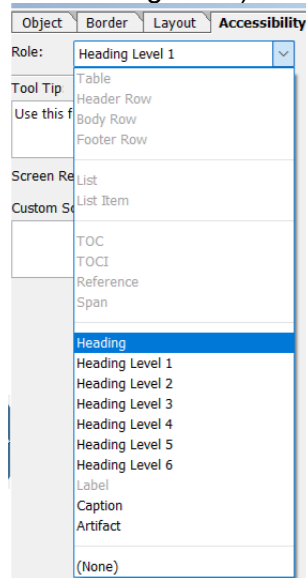
<https://www.ndit.nd.gov/it-services/statewide-shared-platforms/records-management>
Click to follow link

2. DEFINE READING ORDER FOR ACCESSIBILITY

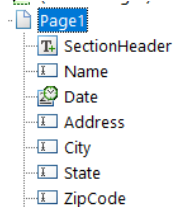
Set the hierarchy structure as you build the form (order in Hierarchy panel/folder – top to bottom):

- **Title Block**: Use Role=Header
- **Section Dividers/Headers**: Use Role=Header 1 (keep consistent, e.g. all bold, upper case, same font size, as an example – similar to MS Word’s Style options: H1, H2, H3)
- **Field Names**: Select field and set Binding Name under Object folder – builds hierarchy, and add to Accessibility tab (set screen precedence: Tool Tip and describe)

NOTE: For “Text-Only” fields: From hierarchy, right-mouse click to Rename and Select the dropdown next to “Role” to specify as a heading, caption, or none (“Artifact” removes object from reading order). Below are a couple of examples:



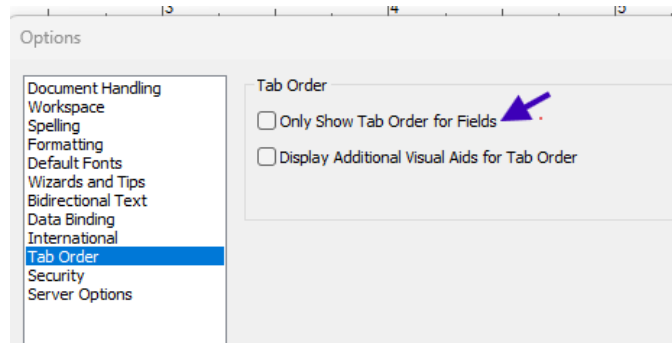
NOTE: Ensure the **hierarchy order** follows the layout of the fields on the form (name, address, city, state, zip)



- Click and drag fields with mouse to move up/down in hierarchy to change order.

3. VERIFY TAB ORDER

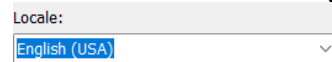
- Ensure correct AEM Designer settings:
Under Tools > Options > Tab Order, ensure “Only show tab order for fields” is unchecked.



- b. Under Tab Order, use “Automatic” to reset, or “Custom” to manually set field order used when clicking tab key to complete form.
- c. Click field on form, then click number to activate and renumber in tab order panel or click/drag numbers up/down with mouse.

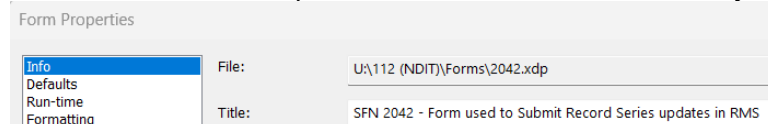
4. **SET LANGUAGE**

- a. Select Page 1 in the Hierarchy (upper-most object in hierarchy, which is typically “Page 1”).
- b. From Object tab, Subform, find “Locale” and set to English (USA) –
*see note under Adobe Acrobat Pro (section, item 3.c. language must be set in Adobe AEM Forms Designer, not Acrobat)



5. **ADD DOCUMENT TITLE**

Select File - Form Properties - Info and add Title and any other helpful information



6. **RUN ACCESSIBILITY CHECKER**

Found under Tools | Macros (allow access)

- a. Select Tools - Macros - Accessibility Check. Ignore the macro warning message.
- b. Leave all boxes checked and click Ok.
- c. A PDF report of failures and warnings will be displayed
- d. **Interpret Warnings for each field identified:** (e.g. Add caption, image has no alternate text, etc.) and fix, as appropriate.

Example:

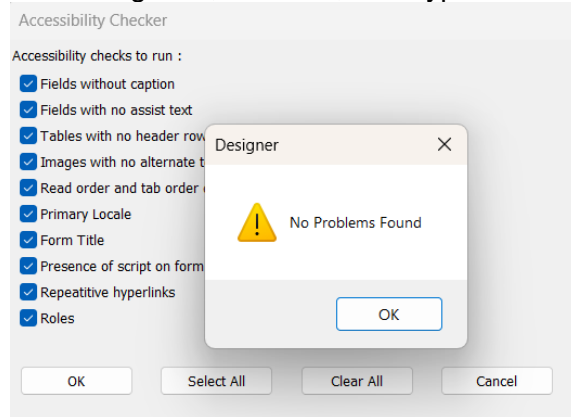
Accessibility Warnings

Object	Warning
SFN	Document title is not provided.
SFN.pageSet.MasterPage1.Seal	Image has no alternate text specified.
SFN.pageSet.MasterPage2.CurrentPage	Field has no assist text.
SFN	Script(s) is(are) present on the form. You should check for accessibility violations.
SFN.pageSet.MasterPage2.PageCount	Field has no assist text.

NOTE: Scripts may show as warnings, but if they don't change the focus of the screen reader when they run, the script should be fine.

7. **SAVE FORM:**

Once Remediation is completed (warning(s) accepted or no problems found), Save the form using: File, Save As, File Type=**Static pdf**



NOTE: Do not make pdf reader-extended in Adobe Acrobat Pro until report has been accepted and attached to the form.

STEP 2: CHECK ACCESSIBILITY IN ADOBE ACROBAT PRO

The following tools can be used to check the accessibility of a form:

- Accessibility Checker in Adobe Acrobat Pro
- Screen reader software (e.g. Jaws, NVDA)

NOTE: The above tools are not considered remediation tools to fix problems. The state will be searching for alternate solutions. In the meantime, remediate forms in the preferred tool for creating the form (i.e. Designer), then in Adobe Acrobat Pro.

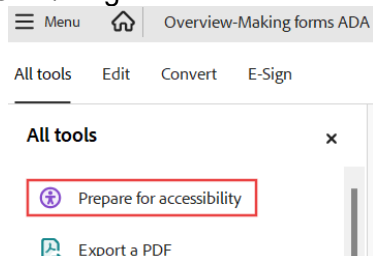
Final report should be approved by designated internal resource(s), (i.e. legal, communications, civil service office).

1. **CHECK ACCESSIBILITY:**

In Adobe Acrobat Pro, select All Tools – Prepare for Accessibility and Start Checking.

- From “All Tools”, click Prepare for Accessibility (may need to select “View More” options)

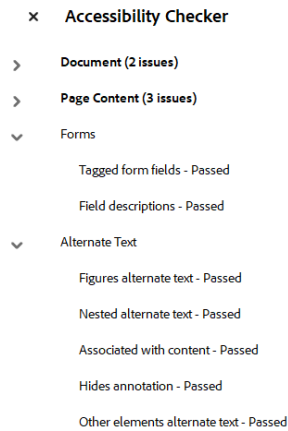
Note: Click/drag with mouse to move up within the list of options, if preferred.



- Select Check for Accessibility. Keep all options checked and click “Start Checking” button.

NOTE: At this point do not select “Create Accessibility report” under Report Options. Wait until the form is approved and remaining items accepted as fixed or remediated.

- A list of items passed/failed will be displayed:

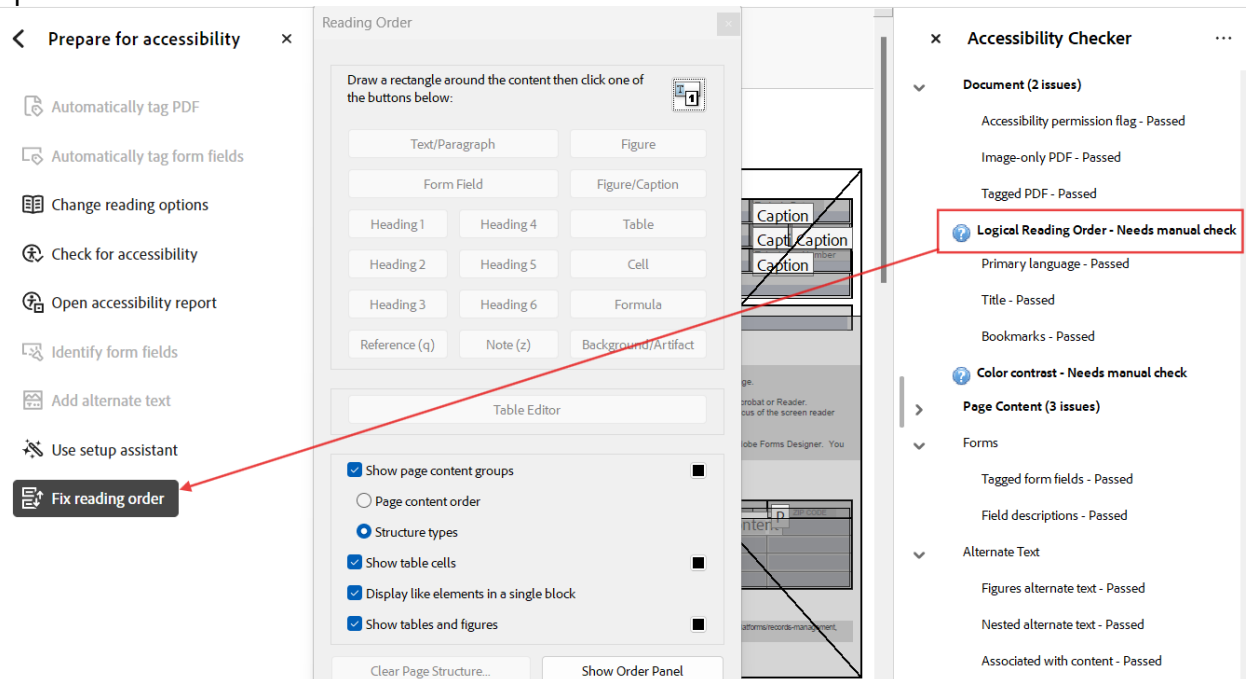



- c. Warnings displayed will need to be fixed in Adobe Designer (e.g. reading order, field tags, alternative text, color contrast, scripts), as determined by internal staff.
- If an item shows as “Needs Manual fix”, a decision needs to be made as to whether remediation is necessary or if acceptable to the agency as is (i.e. scripts may appear on every form if using the “Page # of #” as a multi-page header, as it is considered a script).

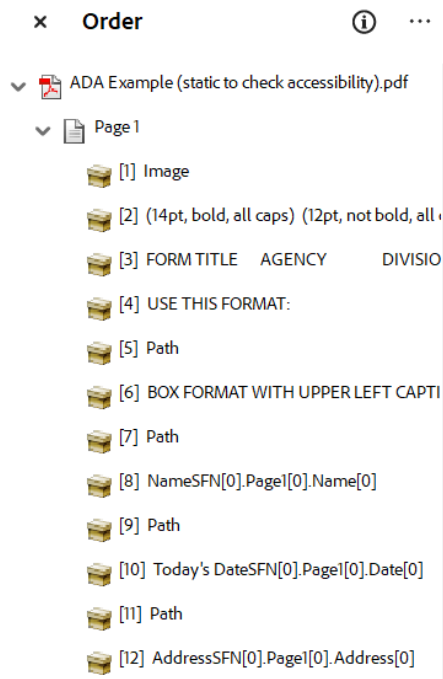
2. VERIFY READING ORDER

If the warning panel shows “Fix Logical Reader Order”, then check the following:

- Under Prepare for Accessibility, select the “Fix Reading Order” button to display the options to fix the field order:

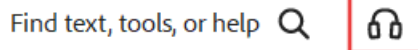


- Click the “Show Order Panel” button (lower right side of Reading Order window, or icon: ) to display and fix reading order:



3. TEST AUDIO (optional)

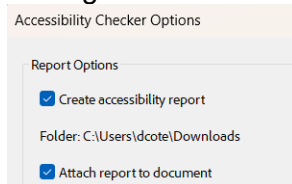
Click the Audio button to test



4. GENERATE REPORT

Select Check for Accessibility, Report Options and Start Checking (from #1. b. above) to determine if final report is acceptable to internal agency staff (i.e. legal, communications, civil service office)

a. Settings to Create and Attach Report to Document:



b. Icon also available to View Accessibility Report within Acrobat



Accessibility Report

Filename: ADA Compliant Forms-Example.pdf

Report created by: [Enter personal and organization information through the Preferences > Identity dialog.]

Organization: WARNING: Since the PDF file contains Adobe XML form fields, you must use Adobe Designer to repair errors.

Summary

The checker found no problems in this document.

- Needs manual check: 5
- Passed manually: 0
- Failed manually: 0
- Skipped: 1
- Passed: 26
- Failed: 0

Detailed Report

Document

Rule Name	Status	Description
Accessibility permission flag	Passed	Accessibility permission flag must be set
Image-only PDF	Passed	Document is not image-only PDF
Tagged PDF	Passed	Document is tagged PDF
Logical Reading Order	Needs manual check	Document structure provides a logical reading order
Primary language	Passed	Text language is specified
Title	Passed	Document title is showing in title bar
Bookmarks	Passed	Bookmarks are present in large documents
Color contrast	Needs manual check	Document has appropriate color contrast

Page Content

Rule Name	Status	Description
Tagged content	Passed	All page content is tagged
Tagged annotations	Passed	All annotations are tagged
Tab order	Passed	Tab order is consistent with structure order
Character encoding	Passed	Reliable character encoding is provided
Tagged multimedia	Passed	All multimedia objects are tagged
Screen flicker	Needs manual check	Page will not cause screen flicker
Scripts	Needs manual check	No inaccessible scripts

Example:

STEP 3: COMPLETE FORM UPDATES

Make form reader-extended in Acrobat Adobe Pro, test in Adobe Reader (if available) and save to website.

CHECKLIST FOR MAKING PDF FORMS ACCESSIBLE

STEP 1: ADOBE FORMS DESIGNER

Create/Design Form

- ☐ Images/Logo: Add alternative text (Accessibility tab → Screen Reader Precedence = Tool Tip)
- ☐ Title Block: Follow ND standards; Set Role = Header
- ☐ Labels/Captions:
 - Add Tool Tip for each field (under Accessibility tab → Screen Reader Precedence)
 - Layout Fields: Font Arial, 12pt caption, 12–14pt fillable field; Assign Accessibility Role or Tool Tip
 - Tip: Copy caption → Binding Name → Tool Tip with action preceding description (e.g. Enter Name). Both the caption and tool tip will be read aloud by the screen reader.
- ☐ Checkbox Fields: Create separate Text field with box format, if additional response is required
- ☐ Radio Button: Add Tool Tip. Verify functionality using arrow keys, not tab key.
- ☐ Buttons: Add Tool Tip description
- ☐ Tables: Set header row Role = Header Row; Add Tool Tips for entry fields
- ☐ Links: Use descriptive text (avoid 'click here')

Define Reading Order

- ☐ Organize hierarchy top-to-bottom (click/drag objects to move up/down); Assign/verify roles and/or screen precedence; Verify hierarchy matches form layout

Verify Tab Order

- ☐ Set Automatic or Custom; Renumber fields or drag numbers in Tab Order panel

Set Language

- ☐ Page 1 → Locale = English (USA)

Add Document Title

- ☐ File → Form Properties → Info = Add title

Run Accessibility Checker

- ☐ Tools → Macros → Accessibility Check; Fix warnings in Adobe Designer or agency staff determine if acceptable

Save Form

- ☐ Save As Static PDF; Do NOT make reader-extended in Adobe Acrobat Pro until report is accepted

STEP 2: CHECK ACCESSIBILITY IN ADOBE ACROBAT PRO

Check Accessibility

- ☐ All Tools → Prepare for Accessibility → Select Check for Accessibility → Start Checking
- ☐ Review items passed/failed
- ☐ Fix warnings, as appropriate. If flagged as 'Needs Manual Fix' an internal agency decision will need to be made.

Verify Reading Order

- ☐ If indicates “Fix Logical Reading Order”, may need to Show Order Panel to see where order is off. Will need to be fixed in Adobe Forms Designer.

Test Audio (optional)

- ☐ Click the Audio button to test

Generate Final Accessibility Report

- ☐ Select Check for Accessibility, Report Options and Start Checking
- ☐ Determine if final report is acceptable to internal agency staff (i.e. legal, communications, civil service office)

STEP 3: COMPLETE FORM UPDATES

- ☐ Make form reader-extended in Acrobat
- ☐ Test in Reader
- ☐ Save and publish to website

ADDITIONAL RESOURCES:

1. ND Forms Design Accessibility standards:
<https://www.ndit.nd.gov/sites/www/files/documents/operations-section/records-management/ada-form-standards.pdf>
2. Create and verify PDF accessibility (Adobe Acrobat Pro)
<https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html?trackingid=KACNN#PrimeLang>
3. [ND Training Hub](#)
4. Digital Accessibility Teams Channel: [Digital Accessibility | -Tm-SoND-TeamND | Microsoft Teams](#)