North Carolina
Department of Revenue

2023

Requirements for the Approval of Substitute Tax Forms

10/13/23

Table of Contents

North Carolina Department of Revenue
Requirements for the Approval of Substitute Tax Forms

Purpose

The North Carolina Requirements for the Approval of Substitute Tax Forms states the specifications required for the approval of substitute tax forms. A substitute tax form is a computer-generated tax form produced by a software company or payroll service provider for use in lieu of a form produced by the Department. The first part of this document sets out the requirements applicable to every form. The second part of this document sets out additional requirements applicable to specific forms. A substitute tax form must meet the requirements in both parts to be approved by the Department. The Department may decline to process a tax return filed on an unapproved substitute tax form.

Annually the Department will update this document detailing changes to approved software developer tax forms and outline any additional processing requirements and/or new requirements imposed by the North Carolina General Assembly. It is the responsibility of the software developer to submit tax forms for approval based upon the latest edition of this document using an acceptable software program. Updates to this document are located on the Federal Tax Administration State Exchange System (SES) under Software Developer Resources. An email alert will be sent out when updates have been made.

Access to the State Exchange System (SES) is required to obtain the Letter of Intent (LOI) and testing resources. Complete the LOI in its entirety and submit the LOI by e-mail to allaboutforms@ncdor.gov for approval by September 1, 2023.

Approval Process

Software Developers must meet the processing form requirements and the latest legislative updates to gain approval by the Department.

All Software Developers, primary and secondary, must receive approval by the Department to develop substitute tax forms for the 2023/2024 tax year. The Department will only approve substitute tax forms developed to produce computer-generated data. Substitute tax forms filled in by manual processing techniques (i.e., hand-written or entered by typewriter) will not be accepted. Any Software Developer previously granted approval from the Department to produce substitute tax forms must resubmit tax forms for approval. All prior year approvals expire on August 1, 2023. The Department approves substitute tax forms for a period of one year or until a new edition of the published tax form is issued, whichever comes first.

No photocopies or faxes will be accepted during the final approval process. If you plan to submit multiple forms for approval in the same express mail package, separate by form type.

Submissions Requirements

When submitting live test samples do not submit continuous data (9s or Xs).

Reproduced forms may be submitted by PDF via e-mail or by express mail. If sent by e-mail, use the resource "How to Provide PDF Forms via E-mail" to ensure the correct subject line is used for each form submitted. Your header sheet should include the contact person(s), telephone number, form type and any lines or field length limitations not supported on a form. This information should be provided each time a form is submitted.

Forms submitted for review by e-mail in PDF format should only be sent to: SDFormsUpdate@ncdor.gov

Number of Test Samples

The number of test samples required for primary and secondary Developers are provided below. Copies of these forms must be originals; photocopies will not be accepted.

	Full-field	Blank	Live Test Samples
Primary Developers PDF	1	1	7
Primary Developers Express Delivery	1	1	10
Secondary Developers PDF	0	0	7
Secondary Developers Express Delivery	0	0	10
Non-scannable forms**	1	1	0

Note: All submissions require a full-field and blank form. Some down-sized forms require more than 10 live test samples. See the chart below and the Scanline Requirements and Function Codes section of the Requirements for the Approval of Substitute Tax Forms to determine the number of live test samples to submit.

NC-5 and NC-5X	Sweet 16*	Most Other Forms
16 live test samples are required for Forms NC-5 and NC-5X (1) from each month for 12 total (1) from each quarter for 4 total	16 live test samples are required for these forms: NC-5Q NC-40	7 live test samples if the form is e-mailed as a PDF/ 10 live test samples if the form is delivered by Express Mail

*Sweet 16 forms require four live data test samples from each of the four quarters for a total of 16.

**D-400 Sch AM (Non-scannable form): The test samples requirement for this form is different from other non-scannable forms. Four test samples are required: (2) current calendar year and (2) different calendar year test samples should be submitted for approval.

Approvals in Sets

If your company chooses to produce a form in any of the following sets, you must also produce all corresponding forms within the set. It is mandatory that all forms within a given set be submitted for testing/training purposes.

Corporate: Income, Adjustment and Tax Credit Set:	CD-401S and CD-425 CD-405 and CD-425
Corporate Vouchers:	CD-419 Application for Corporate Income and Franchise Tax Extension CD-V Corporate Income and CD-V Franchise CD-V Amended Corporate Income and CD-V Amended Franchise
Fiduciary:	D-407 and D-407TC
Individual Income:	D-400, D-400 Schedule A, D-400 Schedule PN, D-400 Schedule PN-1, D-400 Schedule S and D-400TC
Partnerships:	D-403 and D-403TC
Sales:	E-500 and E-536
NC-478 Series:	NC-478 Summary and NC-478 Pass-Through

Required Approval Dates

- The 2023 Letter of Intent is due by September 5, 2023

- Software Developers must submit their final draft at least 5 business days prior to the required approval date.

- Secondary Providers are required to submit forms only after their Primary Software Developer has been granted approval of their forms.

- Forms must be submitted and approved by the dates stated on the schedule of "Required Approval Dates" located on the State Exchange System (SES).

- Developers must obtain approval for form submissions within 30 business days of the Software Developer Final form being placed on the SES or within 30 business days of receiving access to the SES.

- The 2023 Approval Season has 19 forms that require reproduction by using the DOR Final instead of the Software Developer Final; see the schedule of "Required Approval Dates" located on the SES.

How to Submit Forms

- **PDF Forms** – Email to SDFormsUpdate@ncdor.gov Use the **Providing PDF Forms Via Email** presentation located on the SES SD Resources folder on how to properly submit forms at: FTA State Exchange System (kiteworks.com) Click through the document to get the detailed instructions for submissions with the correct naming scheme for the e-mail's subject line. For record keeping purposes, forms with incorrect naming schemes may be returned to the Software Provider.
- **Express Delivery** – NOTE: forms sent by regular US mail not permitted. To expedite the delivery of forms, NCDOR requires sample forms to be sent by express mail service (UPS, FED EX, etc.) to the address below:

> **North Carolina Department of Revenue**
> **Paper Software Provider Validation and Support Unit / Cassandra Evans**
> **ATTN: Forms Approval**
> **501 N. Wilmington Street**
> **Raleigh, NC 27604-8001**

Hard Coded Form Requirements

It is mandatory to hard code the tax year at the top of the form as shown on the published tax form. Forms that have not been hard coded will not be accepted for approval. Below is the list of forms that must be submitted with the hard coded tax year.

Hard Coded Forms
Forms that must be hard coded with the current tax year.
D-400
D-403
D-407
CD-401S
CD-405
NC-478 Summary

Software Developer Identification Number

A unique two-digit software developer ID number will be assigned to each primary developer; and each secondary developer will be assigned an alphabet. The Software Developers' identification number must be placed in the top left-hand corner or as indicated on every page of the tax form. The primary Software Developers' identification number must be placed in the proper position within the barcode. **Software Developers must not produce the State's logo or outline.**

Software Developers producing a blank form and defining the positioning of variable data to sell to other companies who will add the variable data must adhere to the following conditions:

- All companies that purchase blank forms from a Primary Software Developer must be informed of the approval process and agree to submit their form with variable data to the Department for approval.

- All companies that purchase blank forms from a Primary Software Developer must print its Software Developer Identification Number (SD ID#) in parenthesis after the form number on each page of the substitute tax form.

- The Primary Software Developer must use their SD ID# in the barcode.

- The Primary Software Developer must provide the Department with a complete list of companies purchasing the blank form.

Full-size Forms

Scan band Requirements
- 12-pt Courier Font

- All text and line geometry must be reproduced

- The percentage should be seven consecutive numbers within the scan band on forms CD-401S and CD-405. The percentage should not have decimals in the scanband. **Ex. 93.26% should be 093.2600 on the form and 0932600 in the scanband.**

Name and Address Fields
- Name and address must begin at the left
- Do not include punctuation or hyphens in postal abbreviations
- Capitalize all alpha data in variable fields
- Non-applicable fields must be left blank
- Program the first 4 characters of the name and address as shown on the SD templates.
- Zip code should have 5 zeros entered for foreign addresses

T/P Last Name	First 4	Address Characters
Ex. 1: Mark Cox, 103 Bland Street	COX	103
Ex. 2: Ella Max-Jones, PO Box 12	MAX	PO B
Ex. 3: Jo O'Conner, Rural Route 3	O'CO	RR 3
Ex. 4: Ann Bell, 10 North Pass Rd	BELL	10 N

Guidelines for Creating Documents
If you are a new Developer, use the SD Final form, specifications and grid layouts to reproduce your forms. If you are a returning Developer, use the previous year's approved trained version to reproduce unchanged forms.

- Barcodes for the updated forms should match the SD Final.
- The scanline and barcode placement should be in the same alignment as the prior year's approved trained version for unchanged forms or the SD Final for updated forms.
- Barcodes for the unchanged forms should match the approved trained version.
- Data placement should match data on the SD Final for updated forms; match the data of the approved trained version for unchanged forms.
- Line geometry should match the SD Final for updated forms; match the line geometry of the approved trained version for unchanged forms.
- Down-sized documents should have the correct scanline information and check digits.
- Program all Y/N demographic questions to default with an "N" response.
- All data captured fields must be accounted for among all (7 to 10) live test samples.

Down-Sized Forms

Down-Size Tax Forms
Down-size tax forms must be printed on the bottom of the page to ensure that three sides of the paper have straight edges. Only one down-size tax form must be printed per page. Software Developers must include instructions for the taxpayer to cut the top of the tax form properly. Software Developers must clearly mark the cut line on the page to ensure that the substitute tax form is cut to size.

Down-Size/Binding Forms
When mailing in forms do not cut the down-size forms prior to submitting them for approval. Do not bind forms when you submit them for approval. We ask that you use a color sheet to separate the forms.

Scan line Requirements
- o   The 27 digit scan line must be 12-pt Courier font.
- o   The scan line must be placed .5" from the bottom left hand corner of the substitute form.
- o   The scan line must be printed in an absolute row and margin position.
- o   Forms will not be approved with deviations from the scan line requirements.

Producing the Scan line

The scan line must be written exactly as follows. The 9's represent the variable data and the X's represent the check digit. The 0's will be entered as zero. Note: When submitting live test samples do not submit continuous data (9s or Xs).
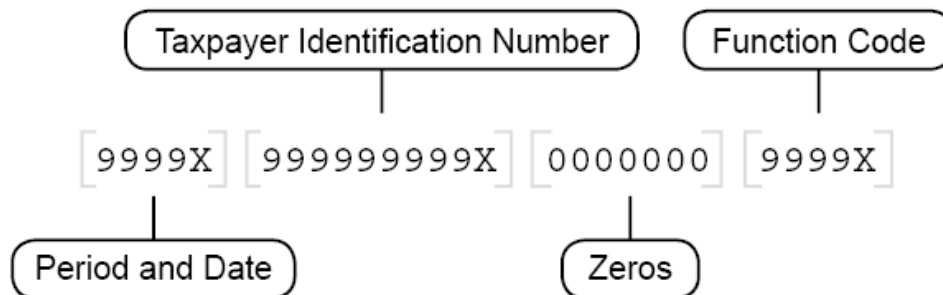
Field One: Period and Date
Generally, the first two digits represent either the month or quarter of the filing period or due date. The third and fourth numbers represent the last two digits of the year. The fifth number is a check digit.

Refer to the Scanline Requirements and Function Codes section of this document to determine the correct period and check digit for each tax form and filing frequency.

Field Two: Taxpayer Identification Number
The Taxpayer Identification Number changes with tax type. On Corporate Estimated Tax forms, use the taxpayer's Federal Employer Identification Number to produce the series of numbers in this field. Individual Estimated Income Tax forms, use the taxpayer's Social Security Number to produce the series of numbers in this field. Sales and Use Tax and Withholding forms reproduce the Account ID number in this field. The tenth digit is a check digit.

Note: D-400V, D-400V Amended, D-410 and NC-40 forms filed as married filing joint, use the Social Security Number of the person who is listed first on the return, not the Social Security Number of the person who is listed as second taxpayer.

Field Three: Zeroes
This field must contain seven zeroes.

Field Four: Function Code
The function code is a number assigned by the Department for use in accounting for tax revenue. Refer to Table Six in the Scanline Requirements and Function Codes section of section of this document to determine the correct function code and check digit for each tax form.

Calculating the Check Digit

The scan line uses Modulus 11 to compute the check digits. There are five steps to calculating a Modulus 11 check digits.

Step One:
- o   Identify numbers used in fields in the scan line
- o   Identify code numbers
- o   Multiply each field by code numbers

Included below are the steps to properly calculate the check digit. To identify code numbers, use the digits from 2 through 7 sequentially from a right to left pattern as follows:

Taxpayer ID Field: 1st digit: Multiply by 4
                            2nd digit: Multiply by 3
                            3rd digit: Multiply by 2
                            4th digit: Multiply by 7
                            5th digit: Multiply by 6
                            6th digit: Multiply by 5
                            7th digit: Multiply by 4
                            8th digit: Multiply by 3
                            9th digit: Multiply by 2

Step Two: Add the results from Step One.

Step Three: Divide the result from Step Two by 11 using basic math. Calculate the remainder.
   Ex. 23/11=2 with a remainder of 1.

Step Four: Subtract the remainder from 11 in each field. If no remainder from Step Three results, use zero as the remainder and subtract zero from 11.

Step Five: Use the result of Step Four for each field as the check digit for that field. If the result from Step Four is two digits, use the last digit of the two-digit number as the check digit.

Use the Social Security Number of the primary person who is listed first on the return, NOT the second taxpayer. Therefore, this scan line should read, 1202X 123456789X 0000000 0630X, with X representing the check digit.

To calculate the check digit in Field Two, follow these steps:

1) Multiply sets of field numbers by code numbers.
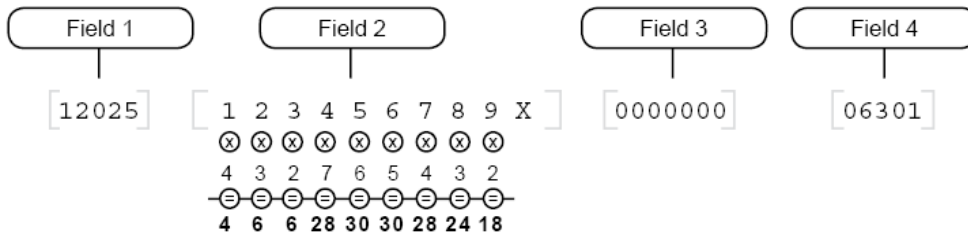
2) Add totals for Field Two.

Field 2: 4+6+6+28+30+30+28+24+18=**174**

3) Divide total for Field Two by 11.1/

Field 2: 174/11=15 plus a remainder of **9**

4) Subtract the remainder for Field Two from 11.

Field 2: 11-9=**2**

5) Use the last digit from Step 4 for each field as the check digit for that field.
The second set should read **1234567892**.

Scan line: **12025 1234567892 0000000 06301**

ID Number Scenarios

We ask the Developer to use nine-digit account identification number or Social Security Number to verify the check digit in the scan line is calculating properly. The account identification number / Social Security Number must be varied on all of the examples.

Variable Data Requirements

- o Do not use punctuation in the address field except for a dash to separate 9-digit zip codes.
- o Do not use periods after abbreviations.
- o Do not use a comma between the city and state.
- o Pages that contain a barcode must match the published version verbatim including reference marks and abbreviations.
- o Capitalize the name and address; the entered data must be legible.
- o Program all Y/N demographic questions to default with an "N" response.
- o Print the name and address in a 12-point Courier font.
- o The name and address must be left justified.
- o The start of the address field must be .5" away from the left edge of the paper.
- o All variable data fields (line numbers) must be in the same location as on the published form.

Monetary Fields Requirements
- o Do not print commas to separate numbers within amount fields. Print amount fields continuously. For example, $1,234,567.00 should be written: 1234567.00.
- o Submit one test sample exceeding $999.00 in the tax amount field.
- o Print dollar signs ($) in a 12-point Arial font only on Tax Due lines on substitute tax forms.
- o Monetary fields must not be left blank, including zero payments and fields not applicable to the taxpayer. Enter 0 on scan band forms and 0.00 on forms without scan bands where .00 is printed on published tax forms.
- o All dollar amount fields must be right justified.
- o Leading zeroes are not allowed. For example, if $20.00 is entered into an 8-character field, it should not read: 00020.00 It should read: 20.00
- o The field length must be the same amount of whole numbers as the published tax form.

Taxpayer Information Fields Requirements
- o Print Social Security Numbers and Federal Identification Numbers without dashes if the fields are separated. For example, Social Security Numbers should be written: 900456789; Federal Identification Numbers should be written: 999456789.

  Note: Certain SD templates of unchanged forms show invalid prefixes of "123". For submission purposes, use prefixes of 999, 900, 000 or 666 for sample Social Security Numbers or Federal Identification Numbers on full field and test samples.

- o Account IDs do not contain any spaces and should be written: 123456789.
- o Print the year using two digits. Print the month and day as two-digit numbers.
- o All dates, including Due Dates, Date Quarter End dates and Compensation Paid dates, must use a space to separate the day, month and year. Do not use slashes or dashes to separate dates. For example, June 9, 2024 should be written: 06 09 24.

Text Requirements on Tax Forms
Instructional text is required to be available on all forms unless the software provides a link to the Department website. However, if the form changes instructional text needs to be provided for verification of the latest version.

<u>Barcode Requirements</u>

The Department uses an alphanumeric Code 39 (3 of 9) barcode configuration. The barcode must be centered in the location of the barcode on each page of the Department's published tax form. The barcode must be positioned so it reads from left to right when printed horizontally, top to bottom when printed vertically on the left edge of the form and top to bottom when printed vertically on the right edge of the form.

The barcode contains 10 characters and uses the following format:
- 3 Digits: NCDOR Form Reference Number
- 2 Digits: Page Number (Starting at 01)
- 2 Digits: Software Developer ID Number (Assigned by Department)
- 1 Digits: Remaining 0 unless SD's change the approved form before the Department issues a new edition to its published tax form.
- 2 Digits: Edition Number

The Department requires the barcode be placed in a specific location on the front side of all down-size tax forms processed with a scan line. The location of barcodes will differ slightly between substitute tax forms and the Department's published tax form because the size of the barcode used by the Department is smaller than the size of the barcode developed by Software Developers. On down-size tax forms, the right side of the barcode on substitute tax forms must be placed 2" from the right side of the tax form. The bottom of the barcode on down-size substitute tax forms must be located .5" from the bottom of the tax form. On full-size tax forms, place the barcode where it appears on the published tax form.

The numeric value of the barcode must be printed near the barcode, generally on the side of the edge of the tax form. Follow the format used in the published tax form to place the numeric value properly on the form except for the following conditions. On down-sized tax forms processed with a scan line, print the barcode number above the barcode. On full-size returns where the barcode is printed vertically, stack the barcode numbers beside the barcode on the side facing the edge of the document. This number must not interfere with the height of the barcode.

Each vendor must produce a barcode to fit the following specifications:
- The top and bottom of the barcode must be protected by a minimum of .25" clearance (white space). **The sides of the barcode must be protected by a minimum of .5" clearance.**
- The barcode must measure more than 2 5/8" but less than 2 3/4" in length. This does not include clearance space.
- The barcode must contain the exact numerical listing for each substitute tax form.
- The narrow-element bar must be the same width as the narrow-element space.
- The wide-element bar must be the same width as the wide-element space.
- The minimum wide-to-narrow ratio is 3:1.

Signature Area

All taxpayer signatures must be originals and affixed after the form is printed on all published tax forms that include signature lines. The signature affirmation has been updated for certain updated forms for the 2023 Approval Season. For all other forms, the statement under the signature line must read, **"I certify that, to the best of my knowledge, this return is accurate and complete."**

Legibility

The Department reserves the right to reject any substitute tax form with poor legibility. The ink and printing method used must ensure no part of a form develops "smears" or other printing defects lessening print quality.

If a published tax form contains information written in white ink surrounded by black ink, the vendor must reverse the ink color. Print the information in black ink. Do not produce shading on substitute tax forms.

Ink

Black, Non-Magnetic and Non-Reflective ink/toner must be used on all substitute forms.

Dropout Ink

Dropout ink color will not be accepted. The information printed with dropout ink is used to guide the taxpayer through manual preparation. Do not duplicate the amount boxes or text printed by the Department in dropout ink unless otherwise specified. All verbiage on substitute tax forms must use the black font color.

PDF

All verbiage on substitute tax forms must use the black font color.

Note: Do not reproduce the dropout circles used to designate negative numbers. Instead, print a negative sign (-) directly to the left of the amount.

Graphics

The outline of the geographic boundaries of The State of North Carolina, which surround the Form Number in the upper left-hand corner or bottom right-hand corner of a published tax form must not be reproduced.

Setting Requirements

Font

Software Developers must print variable taxpayer data, including the scan line, in capital letters using a 12-point Courier font (10 cpi). For newly developed forms, Courier New font can be accepted. Italics and underlining will not be accepted. No other fonts will be approved. The taxpayer's name and address must be printed in 6 or 8 lines per inch. Variable taxpayer data includes, but is not limited to, the Taxpayer's Name and Address, Filing Date, Due Date, Date Compensation Paid, Account Identification number, Social Security Number, Federal Identification Number and all dollar fields. This data must be printed as described in the Variable Data Requirements.

Margin Requirements

Margins on substitute forms must be equal to or greater than the margins on the published tax form with one exception. If a published tax form contains .125" or .25" margin, the substitute tax form must increase its margin to .5" on the bottom and sides of all tax forms. The top margin must be at least .25". Substitute tax forms submitted with margins less than .5" on the bottom and sides and .25" on the top will not be approved.

Row and Column Positioning

Line numbers are based on 66 lines per 11" high paper. Position numbers are based on 85 positions per 8 1/2" wide paper.

Grid Layouts

Grid layouts are created for the purpose of updating the forms specifications. They are also used as a support along with specifications to assist Software Developers with the reproduction of substitute tax forms. The layouts are formatted on 6 x 10 grids. All grids should be printed on 8 1/2" x 11" paper. When printing, make sure the **"shrink to fit"** option is **not** selected and page scaling is set to "**none**".

NOTE: If you are a returning software provider from the 2022 forms approval year, forms that did not change use the last approved version. If you are a new software provider, use the SD Final, specifications and grid layouts to reproduce your forms.

Line Geometry

Curved lines used in line geometry on substitute tax forms will not be accepted. Designs block lines instead of curved lines where applicable.

Form Size

Height:
For full-page tax forms, standard 8 1/2" x 11" paper must be used. Paper height will vary on down-size tax forms.

Width:
All substitute tax forms must measure 8 1/2" in width.

Paper Specifications
Software developers must inform their customers of the Department's paper requirements.

Paper Quality
Use white, unlined bond paper.

Paper Weight
Published tax forms are to be printed on 20-pound bond paper.

Printer Specifications
The Department requests all substitute tax forms be printed with laser printers using single sheet fed paper. Documents printed on a pin-feed printer are not acceptable. Exact print settings used to produce the sample forms should be used in printing forms submitted in production.

Page Orientation
Use portrait orientation in printing substitute tax forms unless otherwise instructed.

Variable Date Requirements
Developers must use variable dates for test samples. Only the period beginning, period ending and due dates listed on the "Period Ending Chart" located on the SES should be entered on test samples. North Carolina tax law accommodates for dates that are on holidays and weekends.

Software Developer Responsibility

The Department primarily approves forms based upon the form's legibility, the accuracy and quality of the barcode and scan line, the precision of line numbers and required information and margins.

It is the responsibility of the software developer to ensure the accuracy of calculations performed by software programs**.**

The Department reserves the right to issue revisions to its published tax forms at any time and as frequently as it finds necessary. It is the sole responsibility of the software developer to keep apprised of new editions to tax forms published by the Department.

It is the responsibility of the Software Developer to submit substitute tax forms for approval based upon the requirements listed in the latest edition of this document, for all tax forms developed, submitting the correct number of test samples and having the forms approved by the specified date published in the "Requirements for the Approval of Substitute Tax Forms".

The Department does not authorize software developers to place unapproved forms in their software packages. Prior to receiving approval for each North Carolina form indicated on the Tax Software Provider Registration Form, refrain from selling, releasing, licensing, or distributing tax packages to customers without placing a semitransparent watermark on each unapproved form that states "UNAPPROVED FORM: DO NOT FILE". This watermark is to be printed diagonally across the form in bold, capital letters in Arial 60pt font. Only approved current year forms should not have this watermark. Software developers understand that this watermark will enable the Department to readily identify these forms and to reject them.

Software Developers are expected to submit substitute tax forms and have the approval within 30 business days of the posted or SES access date. All forms should be approved in 3 or fewer attempts.

Software Developers will notify NCDOR of any changes to approved forms or forms generated from a different operating system. When the updated form does not pass validation testing, a new barcode must be assigned to the amended form for processing in NCDOR systems.

Software Developers must review public website forms independently of the forms approval process. Any developer selecting to support public website forms will take on the legal responsibility for any misstatements solely as they will not be reviewed by the Department.

The Software Developer must inform its customers of the Department's requirements as listed in this document. It is the software developer's responsibility to instruct customers on using the correct paper weight size, font, font size, ink and printer as required by the Department.

In printing the forms instruct your customers to set the Page scaling to **"none"** and do not submit forms printed **"Shrink to Fit"**

Software Developers must place approved tax forms in their software by NCDOR. Failure to comply will result in tax forms being rejected and returned to the taxpayer. Continuous errors year after year may result in NCDOR delaying the approval process and/or rescinding approved forms when needed.

Software Developers must notify the Department and customers of any errors found with approved forms/form calculations within 3 business days of identifying the issue. Developers have 10 business days from the date of contact to correct an identified error, obtain form approval for corrected updates and notify NCDOR when the updates have been released.

Provide a list of unaffiliated websites that link to your portal for electronic or traditional paper filing of NC tax returns.

NCDOR has the discretion to request a copy of your entity's software or URL if deemed necessary. A copy must be submitted within 5 business days from the date of the request.
- o The software will be used for researching computation errors or other variable data errors based on taxpayer inquiries.
- o Under no circumstances will the software be used by NCDOR to prepare or submit tax returns for processing. NCDOR has put reasonable security measures in place in an effort to prohibit unauthorized access and improper or illegal usage of your software product by NCDOR employees.

Software Developers who have questions on NC tax laws are asked to allow up to 5 business days for a response.

Terminology

Blank: Blank forms do not contain any variable data. Include the hardcoded year on every blank form. Every form submission requires a blank form.

Calendar Year: A 12-month period beginning January 1 and ending December 31.

Check Digit: A check digit is a form of redundancy check used for error detection on identification numbers. The number is computed by an algorithm from the other digits in the input sequence. Down-sized forms must have the correct scanline information and check digits.

Department: The North Carolina Department of Revenue.

Down-sized Form: A form printed on the bottom of the page to ensure that the other three sides of the paper have straight edges. Instructions are included at the top. Only one down-sized tax form can be printed per page. The cut line is clearly marked on the page to ensure that the substitute tax form is cut to proper size.

FTA: The Federation of Tax Administrators, FTA, is an organization formed to improve the quality of state tax administration by providing services to state tax authorities and administrators.

Fiscal Year: A fiscal year is a period of time lasting one year but not starting at the beginning of the calendar year.

Font: A font is a particular size, weight and style of a typeface.

Form Number: A sequence of letters and numbers representing the identifying number of each published tax form. Generally the form number is located in the top left-hand corner or bottom right-hand corner of every page of the tax form.

Full Field: Full-field data or "dead" data has a character in every variable position on the form. For example, if an amount field is 8 characters, the field will be submitted with 8 characters. The full-field example will not calculate. When submitting live test samples do not submit continuous data (9s or Xs). Every form submission requires a full field.

Function Codes: A series of numbers used by the Department to classify receipts from different tax schedules.

Grid layout (SD Grid): A version of the SD Final form created for the purpose of updating the forms specifications and reproducing developer forms.

Hard Coded: Fixed or static data entered on a substitute tax form and embedded in the software program such that the form cannot be altered without modifying the substitute tax form/program.

Letter of Intent: A document outlining the agreement between the Department and a Developer/Software Provider to reproduce substitute tax forms and/or software programming provided technical specifications are followed for each substitute tax form. The agreement between the two parties is binding and can be revoked if the requirements for reproduction are not met.

Line Geometry: Line Geometry is the positioning of vertical and horizontal lines on substitute tax forms. Data Capture uses the barcode as the primary source in identifying tax forms. In cases where the form cannot be recognized by the barcode, line geometry is then used to identify the tax forms.

NACTP: The National Association of Computerized Tax Processors or NACTP is a nonprofit association that promotes and standardizes the best practices for reproducing substitute tax forms.

Non-Personalized Tax Form: A generic type of published tax form produced by the Department not containing any pre-printed taxpayer information.

Non-Scannable: For the purposes of NCDOR, a non-scannable form is a form without a barcode.

PDF (Portable Document Format): An openly published file format used to represent a document independent of the application software, hardware and operating system used for creation. PDF files provide a way to distribute documents across diverse hardware and software platforms.

Payroll Service Provider: A company that provides a service of signing and filing withholding tax returns on behalf of the employer.

Personalized Tax Form: A standardized published tax form produced by the Department containing pre-printed taxpayer information.

Primary Developer: A developer is assigned a unique two-digit SD ID#. The SD ID# must be placed in the top left-hand corner on every page of a tax form and in the proper position within the barcode.

Published Tax Form: A tax form approved by the Department for distribution to taxpayers.

Release Date: The date the final form is posted to SES for Developers to reproduce forms. This date is used to mark the beginning timeline for the forms required approval date.

Reproduced Tax Form: A version of a published tax form created by a Developer other than the Department.

Revision Date: The date the latest version of the Department's tax form was approved for taxpayer use. Software Developer versions publish an extended edition date that includes the day and month of release.

Scanline: A row of four fields populated on down-sized documents. The scanline provides key information to the Department during the scanning process.

Scannable: For the purposes of NCDOR, a scannable form is a form with a barcode. A scannable form could either be a down-sized or a full sized page document.

Secondary Developer: A company that purchases blank forms from a Primary Software Developer is assigned an alphabet. The Software Developers' alphabet must be placed in the top left-hand corner and on every page of a tax form. The primary SD ID# is placed within the barcode.

SES: SES stands for State Exchange System of the Federation of Tax Administrators (FTA). The SES is a repository used to securely store and distribute all resources and related documents to reproduce North Carolina substitute tax forms.

Software Developer: A company that develops or distributes computer-generated tax forms to customers or payroll services.

Software Developer Identification Number (SD ID#): A unique two-digit number assigned by the Department to each Software Developer approved to produce substitute tax forms.

Software Program: A computer system application that has been either designed or purchased for the purpose of developing and programming substitute tax forms. Microsoft Excel is not an acceptable software program.

Substitute Tax Form: A computer-generated tax form produced by a Software Developer for purposes of use in lieu of an NCDOR published tax form.

Test Samples: Test Samples are defined as having all characteristics of a taxpayer-filed return including calculations.

Training: The process of activating substitute tax forms in the Department's operating system.

Tax Form: A form prepared for use by a taxpayer to submit tax information.

Unauthorized Form: A form that has not been approved and/or authorized to be processed through NCDOR's operating system. All substitute tax forms require annual review and approval.

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North Carolina
Department of Revenue

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2023

Scanline Requirements
and
Function Codes

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North Carolina Department of Revenue
Requirements for the Approval of Substitute Tax Forms

When producing the scanline for down-sized forms:

Field One: Period and Date

Generally, the first two digits represent either the month or quarter of the filing period or due date. The third and fourth numbers represent the last two digits of the year. The fifth number is a check digit.

Refer to the charts to follow to determine the correct period and check digit for each tax form and filing frequency.

Field Two: Taxpayer Identification Number

The Taxpayer Identification Number changes with tax type. On Corporate Estimated Tax forms, use the taxpayer's Federal Employer Identification Number to produce the series of numbers in this field. Individual Estimated Income Tax forms, use the taxpayer's Social Security Number to produce the series of numbers in this field. Sales and Use Tax and Withholding forms reproduce the Account ID number in this field. The tenth digit is a check digit.

Note: NC-40, D-410, D-400 and D-400V Amended forms filed as married filing joint, use the Social Security Number of the person who is listed first on the return, not the Social Security Number of the person who is listed as second taxpayer.

Field Three: Zeroes

Field Three contains seven zeroes.

Field Four: Function Codes

Refer to the charts to follow to determine the correct function code and check digit for each tax form and filing frequency. Also see Table Six on page 26.

Requirements for the Approval of Specific Substitute Tax Forms

Monthly Specifications This section contains scan line information for specific tax forms.

Field One: Period and Date

NOTE: The first two digits in the first field differ depending upon the filing frequency and tax type.

MONTHLY

Field Four: Function Codes

NC-5   06106
NC-5X 76104

Table One:	Period Ending	Due Date	Scan Line Date with Check Digit (2024 Forms)
	NC-5 Monthly, NC-5X Monthly		
	01-31-24	02-15-24	01244
	02-29-24	03-15-24	02241
	03-31-24	04-15-24	03247
	04-30-24	05-15-24	04243
	05-31-24	06-15-24	05240
	06-30-24	07-15-24	06246
	07-31-24	08-15-24	07242
	08-31-24	09-15-24	08249
	09-30-24	10-15-24	09245
	10-31-24	11-15-24	10243
	11-30-24	12-15-24	11240
	12-31-24	01-31-25	12246

Note: Number of test samples required (18)

(12) One live test sample for each month of the year
(4) One live test sample for each quarter of the year
(1) One full field
(1) One blank

Quarterly Specifications: Use the month identifiers to specify quarterly filers on the **NC-5** and **NC-5X Quarterly** forms.

Field Four: Function Codes

NC-5   06157
NC-5X   76155

Table Two:	Period Ending	Due Date	Scan Line Date with Check Digit (2024 Forms)
	NC-5 Quarterly, NC-5X Quarterly		
	03-31-24	04-30-24	03247
	06-30-24	07-31-24	06246
	09-30-24	10-31-24	09245
	12-31-24	01-31-25	12246

The **CD-419, CD-V and CD-V Amended** use the MMYY from the **Ending Tax Year** followed by the check digit.

Field Four: Function Codes

CD-419 Corporate Income	06530
CD-419 Franchise	05037
CD-V Corporate Income	06505
CD-V Franchise	05002
CD-V Amended Corporate Income	06513
CD-V Amended Franchise	05011

Table Three:	**Ending Tax Year**	**Scan Line Date with Check Digit (2023 Forms)**

CD-419, CD-V & CD-V Amended

01-01-23 - 12-31-23 (Calendar Year)	12238
02-01-23 - 01-31-24 (Fiscal Year)	01244
03-01-23 - 02-28-24 (Fiscal Year)	02241
04-01-23 - 03-31-24 (Fiscal Year)	03247
05-01-23 - 04-30-24 (Fiscal Year)	04243
06-01-23 - 05-31-24 (Fiscal Year)	05240
07-01-23 - 06-30-24 (Fiscal Year)	06246
08-01-23 - 07-31-24 (Fiscal Year)	07242
09-01-23 - 08-31-24 (Fiscal Year)	08249
10-01-23 - 09-30-24 (Fiscal Year)	09245
11-01-23 - 10-31-24 (Fiscal Year)	10243
12-01-23 - 11-30-24 (Fiscal Year)	11240
05-01-23 - 12-31-23 (Short Year)	12238

Note: Number of test samples required (15)

(12) One live test sample for each month of the year
(1) One short year
(1) One full field
(1) One blank

The **CD-429** uses the year-end date to specify the quarterly payment. Use the month identifiers in the following table to specify the fiscal year end date.

Field Four: Function Code

CD-429   06602

Table Four:	Ending Tax Year	Scan Line Date with Check Digit (2024 Forms)
	CD-429	
	01-01-24 - 12-31-24 (Calendar Year)	12246
	02-01-24 - 01-31-25 (Fiscal Year)	01252
	03-01-24 - 02-28-25 (Fiscal Year)	02259
	04-01-24 - 03-31-25 (Fiscal Year)	03255
	05-01-24 - 04-30-25 (Fiscal Year)	04251
	06-01-24 - 05-31-25 (Fiscal Year)	05258
	07-01-24 - 06-30-25 (Fiscal Year)	06254
	08-01-24 - 07-31-25 (Fiscal Year)	07251
	09-01-24 - 08-31-25 (Fiscal Year)	08257
	10-01-24 - 09-30-25 (Fiscal Year)	09253
	11-01-24 - 10-31-25 (Fiscal Year)	10251
	12-01-24 - 11-30-25 (Fiscal Year)	11258
	05-01-24 - 12-31-24 (Short Year)	12246

Note: Number of test samples required (15)

(12) One live test sample for each month of the year
(1) One short year
(1) One full field
(1) One blank

Individual Estimated Income Taxes use the due date to specify quarterly filers on the **NC-40** form. Four (4) examples must be provided for each quarter *with changes in the account numbers*.

Field Four: Function Code

NC-40   06301

Table Five:	Payment Due Date	Scan Line Date with Check Digit (2024 Forms)
	NC-40	
	04-15-23	12246
	06-15-23	12246
	09-15-23	12246
	01-15-24	12246

Note: Number of test samples required (18)

(16) Four live test samples for each of the four quarters of the year
(1) One full field
(1) One blank

YEARLY

Withholding and Individual Income Tax Returns use the YYYY format for the year to specify the period followed by the check digit.

Tax Year 2023
The period and check digit in the scan line must read 20231 for:

- **D-400V**
- **D-400V-Amended**
- **D-410**
- **D-410P**

Tax Year 2024
The period and check digit in the scan line must read 20249:

- **NC-5P**
- **NC-5PX**

Table Six:

Tax Type	Form Number	Function Code with Check Digits	
Corporate Income Extension	CD-419	653	06530
Franchise Extension	CD-419	503	05037
Corporate Estimated	CD-429	660	06602
Corporate Income Payment Voucher	CD-V	650	06505
Franchise Payment Voucher	CD-V	500	05002
Amd Corporate Income Voucher	CD-V Amended	651	06513
Amd Franchise Payment Voucher	CD-V Amended	501	05011
Individual Payment Voucher	D-400V	640	06408
Amd Individual Payment Voucher	D-400V Amended	644	06441
Individual Extension	D-410	649	06491
Individual Estimated	NC-40	630	06301
Partnership Extension	D-410P	645	06459
Estate and Trust Extension	D-410P	651	76511
WH Return	NC-5 Monthly	610	06106
WH Return	NC-5 Quarterly	615	06157
Amended WH Return	NC-5X Quarterly	615	76155
Amended WH Return	NC-5X Monthly	610	76104
WH Payment Voucher	NC-5P	605	06050
Amended WH Payment Voucher	NC-5PX	605	76058
Privilege	B-202R	210	52108
NC Endowment Fund Individual	NC-EDU	920	19208
NC Endowment Fund Corporate	NC-EDU	922	19224
NC Endowment Fund Estates	NC-EDU	921	19216
NC Endowment Fund Partnerships	NC-EDU	923	19232