

# NCOA<sup>Link</sup>® Layout 500

Field Name	Begin	End	Length	Description
<b>Original Input Data (Positions 1 - 200)</b>				
Client input data	1	200	200	Original input data padded to 200 characters. For lists with a record length greater than 200 characters, the original input data will be padded to the next higher multiple of 100. All subsequent fields will be moved accordingly.
<b>Standardized Data (Positions 201 - 360)</b>				
std_zip	201	205	5	USPS® 5-digit ZIP Code™
std_zip4	206	209	4	ZIP + 4® or blank if ZIP + 4 not found
std_dlvpt	210	211	2	Delivery point
std_chkdgt	212	212	1	Legacy check digit
std_state	213	214	2	State
std_city	215	242	28	City name
std_city13	243	255	13	13-character city name as provided by USPS
std_deladr	256	303	48	Delivery address
std_secadr	304	333	30	Secondary address
std_crrt	334	337	4	Carrier route code
std_lotno	338	341	4	Line of Travel (LOT) number for carrier route mailings
std_lotord	342	342	1	LOT ascending or descending sort flag
std_zipflg	343	343	1	ZIP Code change flag: 1 = ZIP Code not changed, address is in a valid range for input ZIP Code 2 = ZIP Code changed, address is in a valid range for new ZIP Code Blank = ZIP Code could not be validated
ndi_aptind	344	344	1	National Deliverability Index (NDI) scoring for apartment addresses 1 = Apartment address without apartment number 2 = Apartment address with apartment number (Affirmed) Blank = Not an apartment address
ndi_rrind	345	345	1	National Deliverability Index (NDI) scoring for RR/HC addresses 1 = RR/HC address without Box number 2 = RR/HC address with Box number (Affirmed) Blank = Not a RR/HC address
std_zipcls	346	346	1	Describes the type of ZIP Code that a five digit code serves (e.g., a single educational institution, only post office boxes, or a single address that has unusually high mail volume or many different addresses). Blank = A standard ZIP Code with many addresses assigned to it M = Military U = Unique ZIP Code (assigned to a single organization)
std_facod	347	347	1	Facility type code for facility serving ZIP Code area
std_z4ews	348	348	1	EWS flag Y = Matched to EWS file N = Not an EWS match  EWS consists of records containing partial address information limited to the street name, pre- and post-directionals and a ZIP Code. For an address record to be EWS eligible, it must be an address not present on the most recent monthly production ZIP + 4 file.
std_gender	349	349	1	Gender Code B = Both C = Company F = Female M = Male U = Unknown/undetermined Blank = No input name
reserved1	350	360	11	Status/error codes (See Appendix A for status codes and Appendix B for error codes)
<b>Change of Address Data (Positions 361 - 465)</b>				
coa_movtyp	361	361	1	Type of match made to NCOA <sup>Link</sup> database B = Business F = Family I = Individual P = Proprietary change-of-address (if optional service requested) R = LACS <sup>Link</sup> S = Suite <sup>Link</sup>
coa_dlvcd	362	362	1	USPS NCOA <sup>Link</sup> Delivery Code New Address is provided only for records with code "M", "S", "T" or "L" M = Forwardable move S = Forwardable move, secondary address cannot be confirmed K = Moved, left no forwarding address G = PO Box <sup>TM</sup> closed F = Moved to a foreign address P = Temporary move, or moved and new primary address can not be confirmed or converted to a deliverable address; no forwarding address provided L = LACS <sup>Link</sup> conversion T = Suite <sup>Link</sup> match
reserved4	363	366	4	Date NCOA <sup>Link</sup> move became effective (YYMM format). Filled with date processed for LACS <sup>Link</sup> and Suite <sup>Link</sup> matches.
coa_deladr	367	414	48	Delivery address
coa_city	415	427	13	City name
coa_state	428	429	2	State
coa_zip	430	434	5	ZIP Code

Field Name	Begin	End	Length	Description
coa_zip4	435	438	4	ZIP + 4
coa_dlvpt	439	440	2	Delivery point
coa_chkdgt	441	441	1	Legacy check digit
coa_crrt	442	445	4	Carrier route code
coa_lotno	446	449	4	Line of Travel (LOT) number for carrier route mailings
coa_lotord	450	450	1	LOT ascending or descending sort flag
lac_rectyp	451	452	2	LACS <sup>Link</sup> record types for LACS <sup>Link</sup> matches. Identifies the type of address conversion as found on the LACS <sup>Link</sup> file. LACS <sup>Link</sup> processing is provided with all NCOA <sup>Link</sup> processing. 00 = Unknown 05 = RR/HC with Box to Street Type 07 = Street Type to Street Type
coa_movdat	453	458	6	Date NCOA <sup>Link</sup> move became effective (YYYYMM format). Filled with date processed for LACS <sup>Link</sup> and Suite <sup>Link</sup> matches.
coa_ftnts	459	460	2	NCOA <sup>Link</sup> footnotes defined by USPS A = NCOA <sup>Link</sup> match: name match with no footnotes A1 = NCOA <sup>Link</sup> match: middle name/initial not present A2 = NCOA <sup>Link</sup> match: matched full middle name to initial A3 = NCOA <sup>Link</sup> match: matched full first name to initial A4 = NCOA <sup>Link</sup> match: family move, first/middle name different
opt_flags	461	465	5	Suite <sup>Link</sup> and optional services flags. A = Advanced Address Correction U = Apartment/unit number corrected or appended B or P = Proprietary change of address S = Suite <sup>Link</sup> match
<b>Nixie Elimination Footnotes (Positions 466 - 492)</b>				
nes_ftnts	466	492	27	Each position will contain the appropriate letter or a blank. NES is provided with NCOA <sup>Link</sup> Full Service (48 months). Call Lorton Data for a complete listing.
<b>DPV and NCOA<sup>Link</sup> Footnotes (Positions 493 - 500)</b>				
dpv_flag	493	493	1	Indicates whether or not a record matched to the DPV™ database Y = Delivery point validated; primary number valid and secondary number (when present) valid D = Valid primary number; input missing secondary number (primary for RR) S = Valid primary number; secondary number (primary for RR) present and not confirmed, or a single trailing alpha on a primary number was dropped to make a DPV match N = No delivery point validation Blank = Record not presented for DPV match (not ZIP + 4 coded)
dpv_cmra	494	494	1	Indicates whether or not the address is a Commercial Mail Receiving Agency (CMRA) Y = Address is a CMRA N = Address is not a CMRA Blank = Record not presented for CMRA match (not ZIP + 4 coded)
dpv_ftnts	495	498	4	DPV footnotes: AA = Input address ZIP + 4 match A1 = Input address ZIP + 4 not matched BB = Input address DPV matched (all components) CC = Input address DPV primary number match, secondary number not DPV matched, secondary number not required C1 = Input address primary number DPV matched, secondary number not DPV matched, secondary number required F1 = Input address matches a military address G1 = Input address matches a general delivery address IA = Informed address identified M1 = Input address primary number missing M3 = Input address primary number invalid N1 = Input address DPV primary number matched, secondary number missing, secondary number required PB = Identified PO Box Street Address P1 = Input address missing PO, RR, or HC Box number P3 = Input address PO, RR, or HC Box number invalid RR = Input address DPV matched to CMRA R1 = Input address DPV matched to CMRA but PMB number not present R7 = Address assigned to phantom route R777 or R779 TA = Input address primary number DPV matched by dropping trailing alpha U1 = Input address matches a unique address
coa_rtncd	499	500	2	USPS NCOA <sup>Link</sup> Return Codes (See Appendix B)

**Suppression Flags (Positions 501 - 510) Filled only when suppression services are requested.**

supp_flags	501	510	10	Suppression & duplicate identification flags
				A = Deceased
				B = DMA Do not mail
				C = Prison
				D = Duplicate record
				E = Keep record
				F = Non duplicate

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## Appendix A

### Status Codes

A status code tells you how an address was corrected or standardized. The code contains six characters, and each character tells you something about how the record was changed.

Value	What Changed
1st Character	
S	Nothing was truncated
A	The address line was truncated to fit in your field
B	The address line and city name were truncated to fit in your fields
C	The city name was truncated to fit in your field
2nd Character	
0	No significant change to the city, state, ZIP <sup>TM</sup> , or ZIP + 4
1	ZIP
2	City
3	City and ZIP
4	State
5	State and ZIP
6	City and state
7	City, state, and ZIP
8	ZIP + 4
9	ZIP and ZIP + 4
A	City and ZIP + 4
B	City, ZIP, and ZIP + 4
C	State and ZIP + 4
D	State, ZIP, and ZIP + 4
E	City, state, and ZIP + 4
F	City, state, ZIP and ZIP + 4
3rd Character	
0	No significant change to the predirectional, primary (street) name, postdirectional, or suffix
1	Suffix
2	Predirectional
3	Predirectional and suffix
4	Postdirectional
5	Suffix and postdirectional
6	Predirectional and postdirectional
7	Predirectional, suffix, and postdirectional
8	Primary name
9	Primary name and suffix
A	Predirectional and primary name
B	Predirectional, primary name, and suffix
C	Primary name and postdirectional
D	Primary name, suffix, and postdirectional
E	Predirectional, primary name, and postdirectional
F	Predirectional, primary name, postdirectional, and suffix
4th Character	
0	No change in county, carrier route, DP2 and/or DPC, or unit designator
1	Unit designator
2	DP2 and/or DPC
3	DP2 and/or DPC and unit designator
4	Carrier route
5	Carrier route and unit designator
6	Carrier route, and DP2, and/or DPC
7	Carrier route, and DP2 and/or DPC, and unit designator
8	County number
9	County number and unit designator
A	County number, and DP2, and/or DPC
B	County number, DP2 and/or DPC, and unit designator
C	County number and carrier route
D	County number, carrier route, and unit designator
E	County number, carrier route, and DP2, and/or DPC
F	County number, carrier route, and DP2 and/or DPC, and unit designator
5th Character	
0	No change to the LOT (line of travel), LOT Order (line of travel order), or Urb (Urbanization code)
1	LOT
2	LOT Order
3	LOT and LOT Order
4	Urb
5	Urb and LOT
6	Urb and LOT Order
7	Urb, LOT, and LOT Order
6th Character	
n/a	This character is reserved for future expansion of the status code. It will always be zero.

## Appendix B

### Error Codes

Code	Description
E101	The data contains either 1) no last-line data at all, 2) only a city name, or 3) only a state. There is not enough last-line data to justify going any further with the assignment process.
E194	Failure to match to Unique ZIP Code. ZIP Code, directional, street suffix, or primary number may be missing or invalid.
E212	The input data does not include a recognizable city name, so look-up in the City directory is impossible. The input data includes a ZIP Code, but no match for it can be found in the ZCF directory. This error does not indicate whether or not the state data is valid.
E213	The input data includes a valid state and something that might be a city name, but no match for them can be found in the City directory. The input data does not include a ZIP Code, so no look-up in the ZCF directory is possible.
E214	The input data includes something that might be a city name, and something that might be a ZIP Code. However, both of them are invalid, because no match for either of them can be found in the City and ZCF directories.
E216	The input data may or may not include a ZIP Code. If a ZIP is input, no match for it can be found in the ZCF directory. When looking up the input city and state in the city directory, the software finds two or more matching cities in the state. Because the input ZIP is invalid or missing, the software cannot break the tie between possible city matches, nor determine which ZIP to assign.
E302	Nothing in the input record is recognized as a primary address line.
E412	No match for the input street name can be found in the ZIP+4 directory. Perhaps the street name is misspelled or incorrectly abbreviated. If the input address line contains extraneous data that might be interpreted as a part of the street name, this also can result in E412.
E413	The ZIP+4 directory contains two or more street names that resemble the input street name. However, the resemblance between potential matches is so close that one cannot be chosen.
E420	Nothing in the input address line is recognized as a primary range (house number). This may mean that the primary range truly is missing, or that it cannot be recognized.
E421	According to the ZIP+4 directory, the input primary range (house number) is invalid. That is, it does not fall within any of the ranges listed for that street, route, or building.
E422	The ZIP+4 directory indicates that a predirectional is required to choose between possible matches. However, either the input data does not include a predirectional, or the input predirectional is invalid (not among those listed for the street).
E423	The ZIP+4 directory indicates that a suffix is required to choose between possible matches. However, either the input data does not include a suffix, or the input suffix is invalid (not among those listed for the street).
E425	The ZIP+4 directory indicates that both a suffix and a directional are required to choose between possible matches. However, either the input data does not include a suffix and directional, or the input suffix and directional are invalid (not among those listed for the street).
E427	The ZIP+4 directory indicates that a postdirectional is required to choose between possible matches. However, either the input data does not include a postdirectional, or the input postdirectional is invalid (not among those listed for the street).
E428	The input ZIP is missing or invalid. The City directory shows that the input city/state covers two or more ZIP Codes. The ZIP+4 directory has matches for the address line in at least two of those ZIP Codes. The software can't use the invalid input ZIP to break the tie on the address line, nor use the address line to choose a valid ZIP.
E429	The input city name is missing or invalid. The ZCF directory shows that the input ZIP applies to two or more city names. The ZIP+4 directory has matches for the address line in at least two of those cities. The software can't use the input city to break the tie on the address line, nor use the address line to choose a city name.
E430	The ZIP+4 directory contains two or more address lines that resemble the input address line. However, the similarity between potential matches is so close that one cannot be chosen over another.
E431	The ZIP+4 directory contains two or more address lines that resemble the input address line. To break the tie, the Puerto Rican urbanization is needed. However, either the input address does not include an urbanization, or the input urbanization is incorrect.
E439	Exact match made in EWS directory.
E500	E500 is a catch-all error code assigned when no more specific code can be assigned. Usually it indicates that no potential match meets the minimum confidence level, or that there is an unresolved tie between two or more potential matches.
E501	The address is foreign—that is, not within the domestic U.S., territories, or possessions.
E502	All of the fields used in address look-up are blank. There may be data in non-address fields.
E503	The input address lies outside the area covered by the ZIP+4 directory. This error usually occurs when a state or regional ZIP+4 directory is being used, or a custom directory created through the Extract utility. E503 should not occur when using the National directory (zip4us.dir). If it does, it may mean that you have found a conflict between the City and ZCF directories and the National directory. You should report it to your Address Management Systems Office by sending them an e-mail (amssupport.ncsc@usps.gov).
E504	The address line matches at least two ZIP+4 records. The ranges of those ZIP+4 records overlap, and the software cannot break the tie. E504 indicates a flaw in the ZIP+4 database. You should report it to your Address Management Systems Office by sending them an e-mail (amssupport.ncsc@usps.gov).
E505	The record matches an undeliverable default record. If further information were provided, such as secondary address data or firm name, the address would have been assigned.
E600	According to the USPS, no delivery to this address is possible. The address is listed in the ZIP+4 directory, but the record is tagged as undeliverable by the USPS. Most often, it might be a cemetery, parking ramp, or condemned building. E600 is unusual because it indicates a successful match to the ZIP+4 directory. All other error codes mean that there was no match. Undeliverable addresses are tagged as "errors" for the convenience of users who suppress mailing to "bad" addresses—unassigned and undeliverable records.
E601	Not a valid delivery point. ZIP+4 removed.
Note:	Some addresses that are valid may be marked incorrectly as undeliverable. This is caused by an error in the USPS data. If you find such an address, you should report it to your Address Management Systems Office by sending them an e-mail (amssupport.ncsc@usps.gov).

## Appendix C

### NCOA<sup>Link</sup> Return Codes

A = COA match The input record matched to a business, individual or family type master file record. A new address could be returned.
00 = No match The input record could not be matched to a master file record. A new address could not be returned.
01 = Found COA: Foreign move The input record matched to a business, individual or family type master file record but the new address was outside USPS delivery area.
02 = Found COA: Moved left no address (MLNA) The input record matched to a business, individual or family type master file record and the new address was not provided to USPS.
03 = Found COA: Box closed no order (BCNO) The input record matched to a business, individual or family type master file record which contains an old address of PO Box that has been closed without a forwarding address provided.
04 = Cannot match COA: Street address with secondary In the Standard mode utilizing Family matching logic, the input record matched to a family record type on the master file with an old address that contained secondary information which obtained a ZIP + 4 street level match. The input record does not contain secondary information. This address match situation requires individual name matching logic to obtain a match and individual names do not match.
05 = Found COA: New 11-digit DPBC is ambiguous The input record matched to a business, individual or family type master file record. The new address on the master file record could not be converted to a deliverable address because the DPBC represents more than one delivery point.
06 = Cannot match COA: Conflicting directions: Middle name related There is more than one COA (individual or family type) record for the match algorithm and the middle names or initials on the COAs are different. Therefore, a single match result could not be determined.
07 = Cannot match COA: Conflicting directions: Gender related There is more than one COA (individual or family type) record for the match algorithm and the genders of the names on the COAs are different. Therefore, a single match result could not be determined.
08 = Cannot match COA: Other conflicting instructions The input record matched to two master file (business, individual or family type) records. The two records in the master file were compared and due to differences in the new addresses, a match could not be made.
09 = Cannot match COA: High-rise default The input record matched to a family record on the master file from a high-rise address ZIP + 4 coded to the building default. This address match situation requires individual name matching logic to obtain a match and individual names do not match.
10 = Cannot match COA: Rural default The input record matched to a family record on the master file from a Rural Route or Highway Contract Route address ZIP + 4 coded to the route default. This address situation requires individual name matching logic to obtain a match and individual names do not match.
11 = Cannot match COA: Individual match: Insufficient COA name for match There is a master file (individual or family type) record with the same surname and address but there is insufficient name information on the master file record to produce a match using individual matching logic.
12 = Cannot match COA: Middle name test failed The input record matched to an individual or family record on the master file with the same address and surname. However, a match cannot be made because the input name contains a conflict with the middle name or initials on the master file record.
13 = Cannot match COA: Gender test failed The input record matched to a master file (individual or family type) record. A match cannot be made because the gender of the name on the input record conflicts with the gender of the name on the master file record.
14 = Found COA: New address would not convert at run time The input record matched to a master file (business, individual or family type) record. The new address could not be converted to a deliverable address.
15 = Cannot match COA: Individual name insufficient There is a master file record with the same address and surname. A match cannot be made because the input record does not contain a first name or contains initials only.
16 = Cannot match COA: Secondary number discrepancy. The input record matched to a street level individual or family type record. However, a match is prohibited based on 1 of the following reasons: 1) There is conflicting secondary information on the input and master file record; 2) the input record contained secondary information and matched to a family record that does not contain secondary information. In item 2, this address match situation requires individual name matching logic to obtain a COA match and individual names do not match.
17 = Cannot match COA: Other insufficient name The input record matched to an individual or family master file record. The input name is different or not sufficient enough to produce a match.
18 = Cannot match COA: General delivery The input record matched to a family record on the master file from a General Delivery address. This address situation requires individual name matching logic to obtain a match and individual names do not match.
19 = Found COA: New Address not ZIP + 4 coded. New address primary number not DPV confirmable or Temporary Change Of Address. There is a change of address on file but the new address cannot be ZIP + 4 coded and therefore there is no 11-digit DPBC to store or return, the new address primary number cannot be confirmed on DPV or the new address is temporary
20 = Cannot match COA: Conflicting directions after re-chaining Multiple master file records were potential matches for the input record. The master file records contained different new addresses and a single match result could not be determined.
66 = Daily delete The input record matched to a business, individual or family type match that is present in the daily delete file. No change is returned. Records in the daily delete file are pending deletion. Reasons include the following: move was filed as family when it should have been individual, move filed that should not have been, mistakes in data provided to the USPS.
91 = COA Match: Secondary number dropped from COA The input record matched to a master file record. The master file record had a secondary number and the input address did not. The record is a ZIP + 4 street level match.
92 = COA Match: Secondary number dropped from input address The input record matched to a master file record, but the input address had a secondary number and the master file record did not. The record is a ZIP + 4 street level match.