AEC

and

AEC II®

User Guide

AEC and AEC II User Guide

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The Importance Of Accurate Addresses In Your List

Cost-effective, consistent, and timely delivery of every mailpiece depends on its address. An accurate address contains only elements that are complete and correct. When you send mailpieces with accurate addresses, you are supporting the mutual goal of the United States Postal Service and mailers to achieve the lowest combined cost for providing and receiving mail service. You also ensure that your mail is compatible with the USPS automation process putting it on the fast track for delivery.

When a mailpiece is missing address elements or contains incorrect address elements, it requires additional handling, including manual processing. This can delay delivery or even make delivery impossible.

USPS has determined up to 23% of all mail contains addressing errors. Common errors:

Addressee moved	*2.4%*
Directional / Suffix missing	*6.0%*
Street name / Number incorrect / invalid	*5.9%*
ZIP Code / City incorrect	*4.8%*
Apt number, Rural Box number missing	*4.5%*
	23.6%

Address Element Correction (AEC) is a quality process developed by the USPS with industry support. AEC focuses on inaccurate addresses; specifically those deliverable addresses that do not DPV confirm using commercially available, CASS Certified address-matching software. If an address is missing an element, CASS Certified address-matching software may lack sufficient information to determine the correct or most accurate match to ZIP + 4 product and, therefore, may not provide a ZIP + 4 code. After an address goes through this process and is not resolved, it becomes a candidate for AEC.

By correcting or providing missing elements, AEC turns problem addresses into accurate addresses or identifies them as potentially undeliverable. The result is a complete and standardized address that can be matched to a 5-digit ZIP Code and ZIP + 4 code. This greatly improves your efforts to have the mail reach your customers in a timely and consistent manner by allowing the corrected addresses to take full advantage of USPS automation.

NOTE: Please comply with Electronic File Requirements on Page 7. Files that are not named in accordance with these requirements will not be accepted.

AEC Overview

First, AEC separates each line of the address block into logical elements. Then, it determines if there is a complete address on a line or if the address is split between lines and processes the lines accordingly. Next, AEC determines whether the city, state, and 5-digit ZIP Code are valid and corrects them if they are not. It then uses specialized, USPS-controlled address element programs to perform a series of evaluations and comparisons.

Unambiguous addresses are supplied with missing or corrected address elements, and these addresses are standardized and ZIP + 4 coded, resulting in USPS automation-compatible records.

AEC II Overview

AEC II uses a program developed by the USPS to correct Change-of-Address orders submitted by customers. This program, known as eUARS (electronic Unresolved Address Resolution System) provides an electronic process for correcting address records. Records are transmitted to local delivery units to be resolved based on Delivery Force Knowledge. In a user-friendly interface, Delivery Unit personnel correct or identify undeliverable records.

Unresolved AEC records are first matched against the encrypted secure hash algorithm AEC II Historical File. Records remaining unresolved after passing through the Historical File are separated into ZIP Code(s) and estimated turn-around times are calculated for resolution by Delivery Force Knowledge. Customers are notified via email of the estimated turn-around time for continued AEC II processing for each ZIP Code(s) where records are presented. If there are no records in one or more of the AEC Hold Queue(s) for the ZIP Code(s) submitted, AEC II processing begins immediately, and the AEC II order cannot be canceled. If records are in the AEC II Hold Queue(s) for all the ZIP Code(s) submitted, customers may elect to continue AEC II processing based on the estimated turn around time or cancel their entire order. Orders in the AEC II Hold Queue are cancelled if processing instructions are not received from customers within one (1) week of notification of the estimated turn around time for their order.

Customers may select a processing window of 30, 60 or 90-days for their file. All records not resolved through the AEC II process, within the customer selected processing window, will be permanently deleted when processing is completed. The processing window begins when customer records are released into the eUARS program for resolution through Delivery Force Knowledge. Customers will receive weekly updates (files) of resolved AEC II records until processing window expires.

- The USPS reserves the right to apply Delivery Force Knowledge to multiple address corrections/submissions reflecting identical name and address to eliminate and/or reduce redundancy and workload.
- All customer provided names and addresses will be retained in clear text only during processing by the USPS.
- Resolution of records includes confirmation of:
  - **Code P — Street Address Invalid:** Address submitted is a street address and the submitted ZIP Code represents a PO Box only ZIP Code (Code P)
  - **Code 1** — **Address Resolved to a Highrise**: Address resolved to primary number secondary address is missing or invalid.
  - **Code 2 — Invalid Format:** Address has not been resolved due to an invalid format. The presented address does not have a primary number or does not contain a street name.
  - **Code 3 — Address Corrected:** The record submitted has been corrected and delivery point confirmed.
  - **Code 4 — Historical File Match:** The record submitted has been corrected to one that was previously submitted and retained in the historical file.
  - **Code 5 — PO Box Delivery Exclusion:** The record submitted has been corrected or is a valid address but this customer does not receive their mail at the address presented. The USPS is only permitted to correct addresses presented and is not permitted to provide new address information to mailers. This includes valid street addresses where mail is delivered to a PO Box or a valid PO Box address where mail is delivered to the street address.
  - **Code 6 — Address Uncorrectable (Not Recognized - Does Not Exist):** The record submitted can not be corrected to match any existing delivery point using Delivery Force Knowledge.
  - **Code 7 — Correct as Shown:** Delivery point matches an existing delivery point and has delivery point confirmed.
  - **Code 8 — Unique Occurrence:** The address presented exists or has been corrected within a valid AMS ZIP+4 range identified as deliverable. However, the final delivery for this address is not through the US Postal Service. This may be a college dormitory room number type address or other similar scenario.
  - **Code 9 — Unique ZIP Code:** The ZIP Code for the address presented has been corrected to a Unique ZIP Code.

- **Code 0 — Invalid ZIP Code:** Record submitted contained a ZIP Code that was invalid. Address could not be resolved.
- **Code H — Corrected To Highrise Default:** Address DPV confirmed to primary number secondary information may be invalid or missing.
- **Code M — APO/FPO Military Post Office:** The address presented is a Military Post Office APO/FPO. (Code M)
- **Code U — Unique Occurrence:** The address presented has been resolved to a unique occurrence. (Code U)
- **Code D — Mail Dropped:** Final distribution to end recipient not provided through the USPS: Secondary information may or may not be necessary. (Code D)

AEC II Candidate Records

Records that have an AEC Resolution Flag of 'N' and AEC DPV Confirmation Codes of P1, P2, or P3 will be submitted to AEC II for resolution. A list of all resolution flags and confirmation codes with descriptions are located on page 15.

AEC vs. CASS

What can AEC do for addresses that commercially-available CASS Certified software doesn't do?

- Expands certain initials to the full spelling of the words and standard and non-standard abbreviations to their full spelling
- Contracts a full spelling to abbreviations or initials (if necessary)
- Corrects misspellings, fractional primary number variations (e.g., 123 12 becomes 123 1/2), and road designator spellings (e.g., HGY becomes HIGHWAY)
- Connects two components to form one or separates one component into two (when necessary)
- Converts digits to alphabetic characters (e.g., 21 becomes twenty-one) or vice versa (e.g., twenty-one becomes 21), addresses to locatable addresses (e.g., Locatable Address Conversion (LACS), and state names to abbreviations or names (e.g., VA becomes Virginia or Virginia becomes VA)
- Standardizes school and firm name component spellings and overseas military addresses
- Compresses or expands coordinate-type addresses (e.g., W 300 S 125 to W300S125)
- Determines and codes unique ZIP Codes
- Provides the correct city/state name when the names given do not match the ZIP Code or provides the correct ZIP Code when the one given does not match the city/state name
- Properly processes comma- and period-delimited data within fields

AEC programs use the ZIP + 4 and DPV products, which are updated weekly to resolve addresses by using Computer Logic Resolution (CLR). CLR is a computer-based program that uses a variety of USPS programs and products to perform a series of evaluations and comparisons in an attempt to correct insufficient addresses. When address analysis yields an unambiguous address, the missing elements are provided and/or the incorrect address elements are corrected. The address is then standardized and ZIP + 4 coded. Those addresses that cannot be resolved are flagged as potentially undeliverable.

AEC focuses on the following addressing issues:

- Incomplete address
- Incorrect street name
- Missing or incorrect directional
- Missing or incorrect suffix
- Incorrect city name
- Incomplete building name
- Rural-style addresses conversion to city-style addresses

AEC does not:

- Process foreign addresses
- Produce missing secondary information
- Handle driving directions (i.e. 5 miles south of mile marker 11)

AEC II vs. AEC

What can AEC II offer mailers that the AEC process can not?

- The opportunity for human recognition of errors known about specific “bad” addresses.
- The ability for Delivery Unit recognition of resident names associated with deliveries on each route.
- The ability to identify the correct address in the case of multiple responses when provided with resident names.

AEC / AEC II Fees and Payment

All AEC and AEC II are prepaid services. Files received without payment will not be processed.

AEC fees are based on the total number of records submitted. AEC processing fees are calculated per one thousand records and prorated for increments less than a complete thousand. A minimum fee for one thousand records is charged for all files containing less than one thousand records.

- AEC and AEC II cannot process packed data or foreign addresses.
- A separate processing request and fee are required for each file submitted on CD-ROM, DVD, or by electronic transmission *(ftp only)*.
- AEC provides a carrier return and line feed after each record for CDs and electronic files.
- Submit only records with fixed length fields. Do no submit records with comma-delimited fields.

AEC II processing fees are calculated on the number of resolved records returned to the customer. A minimum fee for one hundred records is charged for all files submitted. This minimum AEC II fee is in addition to the fees for AEC processing. Each resolved record over the first 100 resolved records will be charged the current established fee. AEC customers agree to make their initial payment and all subsequent payments through either a US Postal Service CAPS account or valid credit card. All fees for AEC II resolved records must be prepaid before updated address information is returned to the customer.

- Customers must submit a $25.00 minimum payment to initiate AEC II processing, in addition to the standard AEC processing fee $15.00 per thousand records submitted, and agree to make this initial payment and all subsequent payments through either a US Postal Service CAPS account or valid credit card.
- Customers electing to use AEC II will receive all records resolved electronically.
- The initial $25.00 fee includes resolution of up to the first 100 records resolved through Delivery Force Knowledge.
- After the first 100 records, each resolved record is charged $0.25 each.
- All fees for AEC II resolved records must be pre-paid before updated address information is returned to the customer.
- ZIP Codes are required on all records submitted for resolution by the AEC II program.
- Customers may select a processing window of 30, 60, or 90 days for their file.
- Pricing for AEC II does not include the required minimum AEC processing fee of $15 for the first 1,000 records, and 1.5¢ for each additional record.

AEC II also processes other types of records at no additional charge: **Historical File Match** – The record submitted has been corrected to a record previously submitted and retained in the historical file. **PO Box Delivery Exclusion** – The record submitted was corrected to a valid mailing address (PO BOX) and the customer does not receive mail at the address presented.

Customers electing to cancel AEC II processing of their file receive only corrections provided through the AEC process, and will not receive corrections made through the AEC II Historical File. Records will be charged at the standard AEC rate per record submitted.

Requesting AEC/AEC II Processing

1. Submit only original, non-foreign, deliverable addresses that do not DPV confirm using any commercially available CASS Certified address-matching software program.
2. Do not submit packed or software-compressed data or records with comma-delimited fields. AEC can process comma and period-delimited data within fields but cannot process records with delimited fields.
3. Submit payment and a completed request form to the NCSC. A completed request form and payment in the form of a credit card or USPS CAPS account number must be faxed to 901-681-4409 before electronic files can be processed.
   - The request form and payment can be submitted in one of two ways:
     1. The "AEC/AEC II Processing Request" form accompanies each file submitted for processing. Payment is accepted by credit card or USPS CAPS account.
     2. The "AEC/AEC II Processing Request *for Vendors*" form is submitted once and is applicable for each file submitted thereafter. Vendors are required to have a USPS CAPS account and to include a header record (see page 10) as the first record in their file. The Vendor's CAPS account will be charged according to the values provided in the header record for each file submitted.
   - The Centralized Account Processing System (CAPS) allows Mailers to conduct business with CAPS Service Center Representatives electronically. To obtain a USPS CAPS account visit www.usps.caps.gov or call 650-377-1334.
4. Submit addresses on CD-ROM or via electronic transmission.

All AEC and AEC II are treated equally and processed on a first-in, first-out basis. Electronic transmission generally allows faster processing since it eliminates the mail in process. Additional processing time is needed for files submitted on CD.

Note: No files will be processed until form and payment are received by the NCSC.

AEC Confidence Option

AEC confidence option included in AEC/AEC II file processing can assist in minimizing the analysis of AEC returned corrections. This option is used to return **only** the AEC corrections where the AEC enhanced computer logic indicates a high confidence in the returned correction. These records usually result in a DPV confirmation code of SS, P1, P2, or P4 and should Delivery Point Validate at a primary address level (this is dependent on the CASS software you use and the frequency of its USPS data source). All records that do not have the highest level of confidence (usually resulting in an AEC return code 'SS' or 'P4') as determined through our logic will be sent through AEC II for resolution based on Delivery Force Knowledge.

SS – Exact Match
P1 – Secondary Address Invalid
P2 – Secondary Address Missing
P4 – Mail is dropped; final distribution to end recipient not provided through the USPS; Secondary information may or may not be necessary.

Electronic File Requirements

Records within electronically submitted file(s) must be separated by carriage return/line feed, and the file name must be written on your AEC Processing Request. The file can not be a dbase, Access or Excel file. The file must be a flat non-indexed, text file. The file's name must:

1. Begin with the three letters assigned by AEC following initial AEC registration for the service, (see Electronic Transmission Procedures)
2. Be followed by four numbers, reflecting the date the file was submitted, (mmdd), and
3. End with the file extension .TXT.

For example, if your three AEC assigned characters are YYY and the 4 characters you chose were 0925, then YYY0925.TXT would be a valid file name.

Files must be compressed with the PKZip compression utility and must include the .ZIP file extension. The first seven characters of the zipped file name must be the same as the first seven characters of the text file name, e.g., if your text file name is YYY0925.TXT, the Zip file name must be YYY0925.ZIP. When we post your AEC processed file, the file name will be the same as the Zip file name with the addition of an "R" before the extension, e.g., YYY0925R.ZIP. When we post your AECII processed file, the file name will be the same as the ZIP file name, with the addition of "AEC_II" at the beginning of the file and an "R" before the extension, e.g., AECII_YYY0925R.ZIP. For multiple file submission on the same day, you may include an alpha character behind the day (dd). **(i.e. YYY0925a.txt, YYY0925b.txt etc.)**

CD File Requirements

Address files submit on CD media must be written in ASCII text format (fixed length, non comma-delimited). Additional processing time is needed for files submitted on CD.

Electronic Transmission Procedures

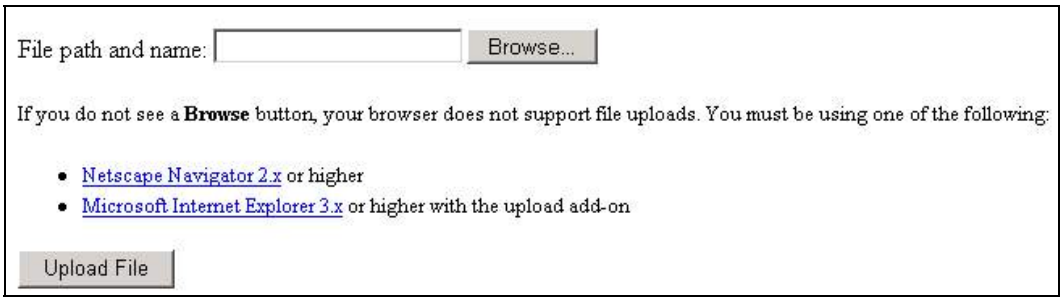
If you do not have an AEC web access account with us, visit http://www.usps.com/forms/_pdf/ps5115.pdf to obtain an AEC Web Access Request Form. Complete the form in its entirety and then use the mailing address or fax number provided at the bottom of the form to submit your request. Upon receipt of your request, a representative from the AEC Department will contact you via phone with your new user ID and password.

1. UPLOAD - Web Instructions

a. Access https://ribbs.usps.gov/files/aec/customers/(your user ID) <enter>

b. Enter your user name <tab>
c. Enter your password <enter> or <OK>

d. Select upload.cfm

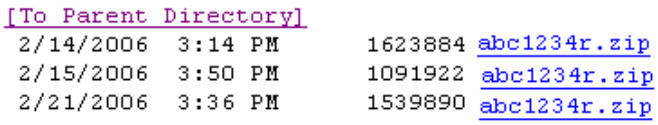


e. Enter the path and filename or click browse to find the correct file
f. Select the file, Click *open*, and then click upload file.

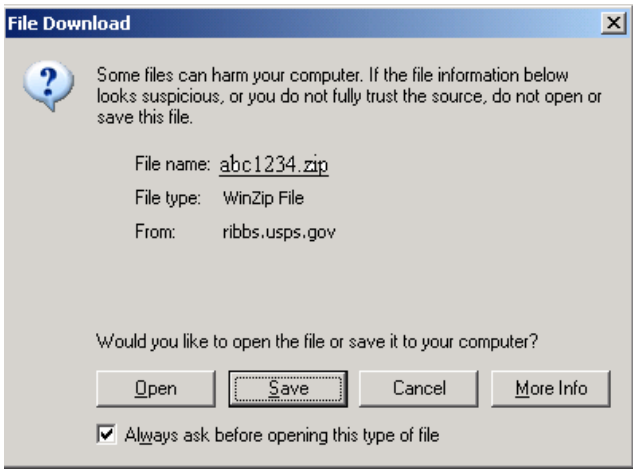
2. DOWNLOAD - Web Instructions

a. Access https://ribbs.usps.gov/files/aec/customers/(your user ID) <enter>

b. Enter you user name <tab>
c. Enter you password <enter>



d. Select the zipped file to be downloaded, and double click on the filename



e. Click the Save button
f. Select the directory to save your file to and click Save.
g. Download is complete

AEC Header Record Layout

The "AEC/AEC II Processing Request for Vendors" form is submitted once and is applicable for each file submitted thereafter. Vendors are required to have a USPS CAPS account and to include a header record as the first record in their file. The CAPS account will be charged according to the values provided in the Header Record for each file submitted.

FIELD NAME	Start position	End position	Length	Required fields
RECORD TYPE	1	5	5	HDR99
CUST USER ID	6	13	8	RIBBS Assigned User ID
RECS SUBMITTED	14	20	7	Total count of records submitted. Must be right justified with leading zeroes.
AEC ONLY	21	21	1	Y-Yes or N-No
AEC II	22	22	1	Y-Yes or N-No
AEC CONFIDENCE	23	23	1	Y-Yes or N-No
AEC/AEC II COMBINED	24	24	1	Y-Yes or N-NO: *(Yes- requested AEC and AEC II or at least one record in the file.)*
AEC II CYCLE	25	26	2	Days in Cycle = 30, 60, or 90
AEC INPUT FILE NAME	27	38	12	Name of file uploaded to RIBBS
FILLER	39	293	255	Spaces
TOTAL RECORD LENGTH 293 BYTES				

Field Definitions

Record Type — Indicates that the record has a header, which must have a required value of 'HDR99'.

Customer User ID — An 8-character field which contains a combination of numbers and letters that identify the customer *(Issued by AEC Customer Support)*.
Note: This field cannot be blank or contain leading spaces and must be left justified.

Recs Submitted — Total count of records submitted.
Note: Values must be numeric, right justified, with leading zeroes; but, this field cannot contain all zeroes. (Ex. 21,500 records = 0021500)
Note: The difference between the value in 'Recs Submitted' and the actual number of records in the file cannot be less than or greater 15%. If so, the file will be processed manually and the vendor will be contacted by phone.

AEC Only — Indicates the users option to have only AEC processing.
Note: All AEC Flags must contain a 'Y' or 'N' (no other values will be accepted)
Note: AEC Only flag and AECII flag cannot both = 'N'

AEC II — Indicates the user opted to have all records sent through AEC II for resolution based on Delivery Force Knowledge that do not have a DPV Confirmation code of 'SS' (Exact Match) or 'P4' (Mail is dropped; final distribution to end recipient not provided through the USPS; Secondary information may or may not be necessary).
Note: All AEC Flags must contain a 'Y' or 'N' (no other values will be accepted)
Note: AEC Only flag and AECII flag cannot both = 'N'

AEC Confidence — Indicates the user opted to return **only** AEC corrections where the AEC enhanced computer logic indicates a high confidence in the returned correction. These records usually result in a DPV confirmation code of SS, P1, P2, or P4 should Delivery Point Validate at a primary address level (this is dependent on the CASS software you use and the frequency of it's USPS data source). All records that do not have the highest level of confidence (usually resulting in an AEC return code 'SS' or 'P4') as determined through our logic will be sent through AEC II for resolution based on Delivery Force Knowledge.

SS – Exact Match

P1 – Secondary Address Invalid

P2 – Secondary Address Missing

P4 – Mail is dropped; final distribution to end recipient not provided through the USPS; Secondary information may or may not be necessary.

Note: All AEC Flags must contain a 'Y' or 'N' (no other values will be accepted)

AEC/AEC II Combined — Indicates user opted to have AEC and AEC II processing combined within the same file. In the detail record, must indicate 'AEC1' for AEC processing and 'AEC2' for AEC II processing in the first 4 bytes of the cust_key.

AEC II Cycle Indicator — Indicates the amount of cycle attempts to correct a record before returning a file. User may opt for 30, 60, or 90-day cycles.
Note: Values must be numeric when AECII flag equals 'Y' (Has to equal 30, 60 or 90)

AEC Input File Name — Name of the file that is uploaded to RIBBS by customer for AEC processing.
Note: The values in this field cannot be blank and **MUST** be the exact name of the file uploaded to RIBBS.

Filler — Filler space is used as a placeholder for future fields.

AEC Input File Layout

Field Name	Start Position	End Position	Length	Required Fields	Field Type
NAME	1	42	42	Required or "Occupant"	A/N
COMPANY NAME	43	108	66	*	A/N
ADDRESS LINE	109	174	66	Required	A/N
CITY	175	202	28	Required	A/N
STATE	203	204	2	Required	A/N
ZIP5	205	209	5	Required	NUMERIC
ZIP4	210	213	4	*	NUMERIC
URBANIZATION	214	241	28	*	A/N
KEY	242	291	50	Required	A/N
CR/LF	292	293	2	Required	

***Note:**

All optional fields should be left blank if no data exists.

TOTAL RECORD LENGTH 293 BYTES

Field Definitions

Name:	Individual customer name (if available), “Occupant” or blank.
Company Name:	Company name (if available) or blank.
Address Line:	Address information (directional, primary number, street name, suffix, secondary information).
Urbanization:	Applies to Puerto Rican-style addresses only.
Key:	A customer supplied identification code or record id.

Example

Field Name	*Sample Address Information*	Length	Required Fields	Field Type
NAME	***John Q Public***	42	Required or "Occupant"	A/N
COMPANY NAME	***Private Investigations Inc***	66	*	A/N
ADDRESS LINE	***233 W 110th ST N***	66	Required	A/N
CITY	***Birmingville***	28	Required	A/N
STATE	***MN***	2	Required	A/N
ZIP5	***55501***	5	Required	NUMERIC
ZIP4	***4632***	4	*	NUMERIC
URBANIZATION		28	*	A/N
KEY	***PUBLICJQD5***	50	Required	A/N
CR/LF		2	Required	

AEC Processing Results

After processing your addresses through AEC, the National Customer Support Center will return the original address file in the same medium that you provided. A summary data report that lists the number of addresses processed and elements corrected and a diagnostic report that lists information about the content of your original mailing file will be included with the return address file.

The returned address file will contain:

1. The standardized delivery address and other data if resolved; if unresolved the data fields will be blank.
   - Delivery addresses returned are parsed into individual address elements; however, addresses with military, unique, or general delivery ZIP Codes will not be parsed because AEC does not produce or return standardized addresses for addresses having these types of ZIP Codes.
   - For rural routes, the term “RR #” will appear in the Street Name field, the word “Box” will appear in the Suffix field, and the box number will appear in the Primary Name field.
   - For PO box addresses, the words “PO Box” will appear in the Street Name field, and the box number will be listed in the Primary Number field.
   - Elements for all other addresses will be entered into the field reflected in Returned Record table.
2. The original, unaltered record as submitted.

NOTE: All returned files will be compressed.

AEC II Processing Results

Customers will be provided with access to a secured customer folder on the USPS RIBBS website. Resolved records will be placed in the customer folder weekly. All fees for AEC II resolved records must be pre-paid before updated address information is returned to the customer.

File Retention

Customers may access and download their resolved records at their convenience. Files will remain in the customer folder for 60 days.

AEC and AEC II Elements Returned

In AEC, when an address is resolved, the following is returned in positions 1 through 336:

AEC Assigned Customer Number (byte 1)

AEC Assigned Sequence Number (byte 6)

Resolution Flag (byte 13)

Standardized Firm Name if the match is made using the firm name in the address (byte 14)

Standardized Delivery Address (byte 54)

Standardized City spelling (byte 104)

Standardized State two-character abbreviation (byte 132)

9-digit ZIP Code (byte 134)

Delivery Point Code (DPC) (byte 143)

Check Digit for 9-Digit ZIP Code and the Delivery Point Code (byte 145)

Carrier Route ID (byte 146)

Record Type Code (byte 150)

Puerto Rican Urbanization Name if the address is Puerto Rican and ZIP+4 product contains an urbanization name (byte 151)

Standardized Address DPV Confirmation Code (byte 193)

Customer Original Data (unaltered) (byte 451)

If resolved:

Parsed Standardized Address if Resolved records will be parsed into specific components, i.e., pre-directional, street name, suffix, post-directional, secondary unit designator, and secondary number (if applicable), beginning in byte 337 through 444.

How Code Resolution Flag describes which specific elements were changed in the input delivery address to make a match to ZIP+4 product (byte 445)

If unresolved:

When an address cannot be resolved, it is parsed and returned in a nine-item table beginning in byte 337 thru 444. Each item contains the following:

- The first ten characters of each unresolved component. If the component is longer than ten characters, the rightmost characters are lost
- A code identifying what the component was interpreted as and whether or not it matched ZIP+4 product (see Unresolved Return Codes)
- A code that offers an opinion as to why the address could not be matched to ZIP+4 product is also returned.

File Format of Returned Records

Field Ref No.	Field Contents	Logical Length	Relative Position From/Thru	Content Notes
1	AEC Assigned Customer Number	5	01-05	
2	AEC Assigned Sequence Number	7	06-12	
3	Resolution Flag	1	13-13	*See Resolution Flags*
4	Standardized Firm Name	40	14-53	
5	Standardized Delivery Address	50	54-103	
6	Standardized City	28	104-131	
7	Standardized State	2	132-133	
8	9-digit ZIP Code	9	134-142	
9	Delivery Point Code (DPC)	2	143-144	
10	Check-digit for 9-digit ZIP Code and DPC	1	145-145	
11	Carrier Route ID	4	146-149	
12	Record Type Code	1	150-150	*See Record Type Codes*
13	Puerto Rican Urbanization Name	28	151-178	
14	Filler	14	179-192	
15	Standardized Address DPV Confirmation Code	2	193-194	*See DPV Confirmation Codes*
16	Filler	142	195-336	
17	Parsed Address Information*	108	337-444	*See Below*
18	How Code Resolution Flag	2	445-446	*See How Codes*
19	Filler	4	447-450	
20	Customer Original Data (Name)	42	451-492	
21	Customer Original Data (Company)	66	493-558	
22	Customer Original Data (Address Line)	66	559-624	
23	Customer Original Data (City)	28	625-652	
24	Customer Original Data (State)	2	653-654	
25	Customer Original Data (ZIP)	5	655-659	
26	Customer Original Data (+4)	4	660-663	
27	Customer Original Data (Urbanization)	28	664-691	
28	Customer Original Data (Key Code)	50	692-741	
29	Filler	159	742-900	
*** These 108 bytes will contain the Parsed Standardized Address if Resolved.**				
	IF RESOLVED	***108***		
	Primary Number	10	337-346	
	Pre-directional	2	347-348	
	Street Name	28	349-376	
	Suffix	4	377-380	
	Post-directional	2	381-382	
	Secondary Designator	4	383-386	
	Secondary Number	8	387-394	
	Filler	50	395-444	

AEC / AEC II Resolution Flags

Code	***Description***	
Y	Address DPV confirmed at the primary address level	(AEC)
N	Address has not been resolved to a specific delivery point	(AEC)
P	Street Address Invalid - PO Box Only ZIP Code	(AEC)
1	Address resolved to a highrise or rural route default	(AEC)
2	Address has not been resolved due to an invalid format*	(AEC II)
3	Address corrected	(AEC II)
4	Historical file match*	(AEC II)
5	PO Box delivery exclusion*	(AEC II)
6	Address uncorrectable (not recognized)	(AEC II)
7	Correct as shown*	(AEC II)
8	Unique Occurrence	(AEC II)
9	Unique ZIP Code	(AEC II)
0	Invalid ZIP Code*	(AEC II)
H	Corrected to highrise default*	(AEC II)
M	APO/FPO Military Post Office*	(AEC II)
U	Unique Occurrence – correct as presented*	(AEC II)
D	Mail is dropped; final distribution to end recipient not provided through the USPS; Secondary information may or may not be necessary.	(AEC II)

Resolution flag description (Byte 13 in Return Rec.).

**** No charge for this return code.***

AEC Record Type Codes

Code	***Record Type***
F	Firm
G	General
H	Highrise
>	Highrise Default
M	Military
P	PO Box
R	Rural/Highway Contract Route
S	Street
U	Unique
L	LACS
<	Rural/Highway Contract Route Defaults

AEC DPV Confirmation Codes

Code	***DPV Confirmation***
SS	Exact Match
P1	Secondary Address Invalid ***(will flow to AEC II if applicable)***
P2	Secondary Address Missing ***(will flow to AEC II if applicable)***
P3	Invalid Primary Number ***(will flow to AEC II if applicable)***
P4	Mail is dropped; final distribution to end recipient not provided through the USPS; Secondary information may or may not be necessary.

AEC Return Codes

The following unresolved return codes represent a fairly accurate analysis of the individual address elements. The codes listed below are in the following positions of the unresolved components:

#1 - Byte 347 for one byte
#2 - Byte 358 for one byte
#3 - Byte 369 for one byte
#4 - Byte 380 for one byte
#5 - Byte 391 for one byte
#6 - Byte 402 for one byte
#7 - Byte 413 for one byte
#8 - Byte 424 for one byte
#9 - Byte 435 for one byte

Code ***Description***

A This component, which was interpreted as part of the street name, matched to one of the following in ZIP+4 product:

1. Exact match to a street name component.
2. Abbreviation match type 1 (e.g., JACK to JACKSON)
3. Abbreviation match type 2 (e.g., LNCLN to LINCOLN)
4. Spelling correction (e.g., CARLINGTON to ARLINGTON)
5. Matched to two words (e.g., KNOLLCREST to KNOLL CREST)
6. This component plus the adjacent component matched to one component in ZIP+4 product (e.g., KNOLL CREST to KNOLLCREST)
7. Matched to a suffix in ZIP+4 product (e.g., SQUARE to SQ)
8. Matched to a directional in ZIP+4 product (e.g., SOUTHWEST to SW)

B This component, interpreted as a pre-directional, matched to one of the following in ZIP + 4 Product (there must also be a street name match):

1. Pre-directional to pre-directional (e.g., N MAIN ST to N MAIN ST)
2. Pre-directional to post-directional (e.g., N MAIN ST to MAIN ST N)
3. Pre-directional to street name (e.g., NORTH HAMPTON ST TO NORTHHAMPTON ST or N HAMPTON ST to NORTHHAMPTON ST)

C This component, interpreted as a post-directional, matched to one of the following in ZIP + 4 Product (there must also be a street name match):

1. Post-directional to post-directional (e.g., MAIN ST N to MAIN ST N)
2. Post-directional to pre-directional (e.g., MAIN ST N to N MAIN ST)
3. Post-directional to street name (e.g., BAY NORTH to BAYNORTH or BAY N to BAYNORTH)

D This component, interpreted as a suffix, matched to one of the following in ZIP+4 Product (there must also be a street name match):

1. Suffix to suffix (e.g., MAIN ST to MAIN ST)
2. Suffix to street name (e.g., HERO BLVD to HERO BOULEVARD)

E This component, interpreted as a road number, matched to a road number in ZIP+4 Product (e.g., 123 RT 75 to 123 US HIGHWAY 75)

F This component was interpreted as a part of a PO box address.

1 This component was interpreted as the PO box number in a PO box address.

G This component was interpreted as the box number in a highway contract (HC), rural oute (RR), or military address.

H This component was interpreted as the box element of an HC, RR, or military address.

I This component was interpreted as the HC, RR, PSC, CMR, or unit element of an HC, RR, or military address.

J This component was interpreted as the route number in an HC, RR, or military address.

K This component immediately follows what was interpreted as the primary number and contains digits. Possible fragmented primary number or misplaced secondary number.

L This component, which was interpreted as part of the street name, did not match any component in any ZIP+4 record to which a match was attempted.

M This component, which was interpreted as a suffix, did not match any component of any ZIP+4 record to which a match was attempted.

N This component, which was interpreted as a pre-directional, did not match any component of any ZIP+4 record to which a match was attempted.

O This component, which was interpreted as a post-directional, did not match any component of any ZIP+4 record to which a match was attempted.

P This component, which was interpreted as a road designator, did not match any component of any ZIP+4 record to which a match was attempted.

Q This component, which was interpreted as a secondary designator, did not match any component of any ZIP+4 record to which a match was attempted.

R This component, which was interpreted as a secondary number, did not match any component of any ZIP+4 record to which a match was attempted.

S This component, which was interpreted as the primary number, did not match any range of numbers in any ZIP+4 record to which a match was attempted.

T This component, which was interpreted as a PO box number, did not match any PO box number range in any ZIP+4 record to which a match was attempted.

U This component, which was interpreted as a road number, did not match any component of any ZIP+4 record to which a match was attempted.

V This component, which was interpreted as a Puerto Rican urbanization code, did not match any urbanization code of any ZIP+4 record to which a match was attempted.

W This component was interpreted as part of a firm name.

X This component was interpreted as part of a school name.

Y This component was interpreted as part of a building name.

Z This component could not be defined.

AEC Opinion Codes

These codes offer the most accurate indication as to why the address did not match ZIP+4 product (byte 439 for two bytes).

Code	***Description***
PA	The post office matching the 5-digit ZIP Code only has PO Box and General Delivery.
PB	Matching the address to ZIP+4 product produced a multiple response that could not be resolved.
PC	The address matched to the ZIP+4 product but appears in more than one urbanization code. We could not determine the correct address based on the address given.
PD	The address matched to the ZIP+4 product but is a non-delivery point. The 4-digit add-on returns "ND."
PE	Some parts of the address matched some parts of one or more addresses in the ZIP+4 Product but none of the ZIP+4 addresses coded using what was interpreted as the primary number.
PF	No element of the street name matched any street name in the ZIP+4 product.
PG	All components of the input address matched exact components in the ZIP+4 product except what was interpreted as the primary number.
PH	The PO Box address given does not match any in the ZIP+4 product.
PI	The rural route or military address given does not match any in the ZIP+4 product.
PJ	The address contains no digits.
PK	The city/state/ZIP Code is invalid.
PL	No opinion could be formed from the data in the address.
PM	Address does not match the ZIP+4 file and has been identified as a foreign address.

AEC How Codes

These codes provide a fairly accurate description of what was done to the address to enable a match to ZIP+4 product. The address is parsed into individual components before a match to ZIP+4 product is attempted, and identification of the individual components is attempted. The address is then submitted unaltered to the USPS CASS Certified address-matching engine. If it does not match, the actions described in the codes below produced a match to ZIP+4 product (byte 445 for two bytes).

Code	***Description***
A	No changes were made to the address to produce a match to ZIP+4 product, because our files were more current than those of the CASS Certified address-matching engine through which you passed the addresses before sending them to AEC, or a problem exists with the CASS Certified address-matching engine through which the addresses were passed.
D	Compressed dash (–) from a Puerto Rican primary number.
E	Inserted dash (–) in a Puerto Rican primary number.
F	Fabricated the primary number in a Puerto Rican address from fragments found.
G	Removed directional from Puerto Rican primary number

H Added secondary designator and secondary number from an address line other than the delivery address line.

I Remove dash (-) from Puerto Rican PO box or rural route address.

J Removed undefined data to the left of the Puerto Rican address.

K Compressed a coordinate-type address (W 300 S 125 to W300S125).

L Reversed a coordinate-type address (W300S125 to S125W300).

M Expanded a coordinate-type address (W300S125 to W 300 S 125).

N Converted an Illinois-type address (0W125 to 0W125).

O Converted an abbreviation to a full spelling.

P Joined secondary address to delivery address to form the address matched to ZIP+4 Product.

Q Joined delivery address to secondary address to form the address matched to ZIP+4 Product.

R Converted alphabetic to numeric look-alikes in the primary number (e.g., b to 8, o to zero, etc.)

S Combined adjacent numbers to form the primary number.

T Removed “#” symbol attached to the left of primary number.

U Converted primary number fractions (e.g., 12312 to 123 1/2, 1231 2 to 123 1/2, 123 12 to 123 1/2).

V Moved secondary number to the right of address (e.g., 123 45 MAIN ST to 123 MAIN ST # 45).

W Converted joined alpha/numeric to numeric/alpha (e.g., M123 to 123M).

X Removed ordinal abbreviation (i.e., “st” “nd” “rd” “th”) from primary number (e.g., 123rd MAIN ST to 123 MAIN ST).

Y Separated possible secondary number from primary number (e.g., 1234 to 123 4).

Z Separated primary number and street name (e.g., 123MAIN to 123 MAIN).

0 Converted numbers separated by a dash (–) (e.g., 123-456 to 123 456).

1 Combined primary number and adjacent single alpha character (e.g., 123 A to 123A).

2 Separated pre-directional from street name (e.g., SMAIN to S MAIN).

3 Rearranged misplaced components (e.g., MAIN 123 ST to 123 MAIN ST).

4 Separated numeric street name from primary number (e.g., 123-7 MILE RD to 123 7 MILE RD).

5 Connected single alpha character immediately preceding what was interpreted as the street name (e.g., A SPEN to ASPEN).

6 Separated single alpha character from what was interpreted as the street name (e.g., JMAIN to J MAIN).

7 Connected apparent primary number and the single number immediately to its right (e.g., 123 4 to 1234).

8 Separated and attached to the primary number a single number from the apparent street name (e.g., 123 4MAIN to 1234 MAIN).

9 Combined possible secondary number with apparent primary number to form the primary number (e.g., 123 MAIN ST 45 to 45-123 MAIN ST).

CA Combined possible primary number with apparent secondary number to form the primary number (e.g., 123 MAIN ST 45 to 123-45 MAIN ST).

CB Separated pre-directional “S” from the primary number (e.g., 123S to 123 S) or separated “5” from the primary number and convert it to its alpha look alike “S” (e.g., 1235 to 123 S).

CC Reversed the apparent primary and secondary numbers (e.g., 123 MAIN ST 45 to 45 MAIN ST 123).

CD Separated the possible secondary number from the address and moved it to the right of the address (e.g., 123A MAIN ST to 123 MAIN ST A).

CE Removed alpha character from the right of the primary address (e.g., 123A MAIN ST to 123 MAIN ST).

CF Converted alpha/numeric look-alikes in the primary number (e.g., IZSGB to 12568).

CG Separated alpha character from primary number

CH Converted numeric/alpha look-alikes in street name (e.g., 12568 to IZSGB).

CI Inserted a dash between numeric and alpha

CJ Converted last digit of apparent primary number to its alphabetic equivalent (1236 FLAGS ST to 123 SIX FLAGS ST).

CK Removed alpha from the box number in PO box or rural route addresses (e.g., PO BOX 123CLYDE to PO BOX 123).

CL Standardized a rural route address (e.g., RT1 BOX 123 to RR 1 BOX 123 or 123 MAIN ST RR 1 BOX 123 to RR 1 BOX 123).

CM Separate RR from Route number

CN Expanded the PO box number to 5-digits using the last two digits of the 5-digit ZIP Code with zeros as filler (e.g., PO BOX 1 to PO BOX 85001 where the ZIP Code is 12385).

CO Rearrange Primary Number

CP Expanded the PO box number to six digits using the last two digits of the 5-digit ZIP Code and zeros as filler (e.g., PO BOX 1 to PO BOX 850001 where the ZIP Code is 12385).

CQ Rearranged a PO box address (e.g., 12 PO BOX to PO BOX 12).

CR Converted addresses like HWY 45 & 37 to HWY 45/37, HWY 45.37 to HWY 45/37, HWY 45.37 to HWY 45-37, etc.

CS In an address containing a road designator and road number (such as Highway, County Road, etc.) tried different highway designators. If only one matched ZIP+4 product, resolved it (e.g., 123 HWY 61 to 123 HIGHWAY 61; 123 HWY 61 to 123 US HIGHWAY 61; 123 HWY 61 to 123 COUNTY ROAD 61; 123 HWY 61 to 123 STATE ROUTE 61).

CT If an address contained an apparent primary number as the first component of the address and the last two components were both numeric, combined the longer of the two with the primary number (e.g., 123 HWY 61 567 to 123 567 HWY 61).

CU Convert TH to Township Highway

CV Convert TR to Township Road

CW Standardize street name

AA Corrected misspellings of “highway” (e.g., HGY to HWY, HIGHWAY).

AB Corrected misspelling of “county”

AC For Texas addresses, changed FM to FARM MARKET.

AD Converted abbreviations RR, RD, RT in a highway address to HIGHWAY.

AE Converted abbreviations RR, RD, RT in a highway address to COUNTY.

AF Separated US designator from the highway number (e.g., US12 to US 12).

AG Rearranged misplaced highway designator and highway number (123 HIGHWAY to HIGHWAY 123).

AH Corrected school abbreviations to full spellings (e.g., SCH to SCHOOL, UNIVER to UNIVERSITY, etc.).

AI Remove word to the right of Univ

AJ Remove word to the right of Secondary Address

AK Removed secondary address on a school-name only address (e.g., NEW YORK UNIVERSITY, PROFESSOR CLYDE BARROW to NEW YORK UNIVERSITY).

AL On an indicated multiple response in which the number of responses was only one, resolved the address.

AM Removed the delivery address when a school name is in the Secondary Address field (same as AK above in reverse).

AN Separated suffix and secondary designator (e.g., BLVDSTE 12 to BLVD STE 12).

AO Combined two adjacent street name elements into one name (e.g., VALLEY VIEW to VALLEYVIEW).

AP Separated post-directional from last street name element (e.g., MAINSOUTH to MAIN S or MAIN SOUTH).

AQ Removed dashes (-) , slashes (/) , and periods (.) from the address.

AR The delivery address line had a suffix, and an unsuccessful attempt has been made to match the address on that line to ZIP+4 product. The secondary address also contained a suffix, and the attempt to match to ZIP+4 product using only the secondary address resolved it.

AS An unsuccessful attempt to match to ZIP+4 product with an address line containing a pound sign (#) had been made by removing the pound sign.

AT Moved an embedded suffix to the right address (123 ST MAIN to 123 MAIN ST).

AU Connected the apparent last piece of the street name and the apparent post-directional (e.g., 123 DUE SOUTH to 123 DUESOUTH).

AV Separated suffix from the last piece of the street name (e.g., 123 MAINST to 123 MAIN ST).

AW Converted a directional abbreviation to its full spelling (e.g., 123 W BEND to 123 WESTBEND).

AX Corrected non-standard abbreviations to their correct full spellings (e.g., CTH to COUNTY ROAD, COUNTY ROUTE, etc.).

AY Separated a pre-directional from the first element of a street name (e.g., NORTHHAMPTON to N HAMPTON).

AZ Converted divided numbers to equivalents (e.g., HWY 22.5 to 22/5, 22-5 etc.).

BA Converted FM to Highway for Texas address

BB Converted CR to FM for Texas address

BC Rearranged address components (e.g., 123 RED ST BUD to 123 RED BUD ST).

BD Converted US to United States.

BE Added HIGHWAY after US in an address in which it was not present.

BF Separated secondary unit designator from the secondary number (e.g., APT12 to APT 12).

BG Converted firm name abbreviations to the full spellings.

BH The address produced a multiple response and was resolved using DPV confirmation (or the urbanization code in Puerto Rican address).

BI Standardized a PO box address (e.g., POBOX 123 to PO BOX 123, PO BX 123 to PO BOX 123, etc.).

BJ Removed elements to the right of the suffix because the elements were not a secondary designator or secondary number (e.g., 6060 PRIMACY PKWY LAKECREST CENTER).

BK Removed elements to the left of the primary number (C/O ACLU 123 MAIN ST to 123 MAIN ST).

BM Used only the first number in an apparent range of numbers because it appears to be the primary number (e.g., 25-27 MAIN ST to 25 MAIN ST).

BN Corrected the street name spellings (e.g., DARLINGTON to ARLINGTON).

BO Swapped delivery and secondary address positions (e.g., HUDSUCKER INDUSTRIES 123 MAIN ST to 123 MAIN ST, HUDSUCKER INDUSTRIES).

BP The input city/state was invalid for the 5-digit ZIP Code. Corrected city/state and address resolved.

BQ Combined multiple single alpha characters (probable initials) immediately following the primary number (e.g., 123 J F K PKWY to 123 JFK PKWY).

BR The input 5-digit ZIP Code was a unique ZIP Code. The information in the Delivery Address field was returned unaltered as the resolved address.

BS The address was a non-domestic military address (e.g., APO to FPO).

BT The post office represented by the input 5-digit ZIP Code only has general delivery.

BU Removed undefined alphabetic characters attached to the left of the apparent primary number (e.g., XYZ123 MAIN ST to 123 MAIN ST).

BV Where the apparent primary number was numeric/alpha, used the numeric as the primary number and the entire apparent primary number as the secondary number (e.g., 15A3 SPA CREEK LANDING to 15 SPA CREEK LANDING 15A3).

BW Split one word into two words

BX What was interpreted as the delivery address was parsed and EACH element of the street name was matched to a special file containing the parsed street names in ZIP+4 Product. This facilitated location of street names in which parts of the name, pre-directional, suffix, or post-directional had been omitted from the input address.

BY The correct address was found using the process in BX. It was then determined that the address has been LACS converted. The converted address was returned as the resolved address.

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