

APPENDIX 13 Import XML Invoice

Consultants: Import an Invoice

CARS allows you to import invoice information using an Extensible Markup Language (XML) document. XML imports emulate the process of entering invoice manually, but data entry is automated. Complete XML documents used to import data into CARS may be generated, for example, from your firm's financial software using a custom routine. You can also export invoice data to Microsoft Excel® or Access®, adjust the data as needed, and then generate the XML invoice using Visual Basic for Applications (VBA) or another programming language to generate a complete CARS XML invoice. Partial invoice data can be generated automatically and then blocks of elements can be copied and pasted into an existing XML document. See [Appendix 14](#) on page **Error! Bookmark not defined.** for detailed guidance on generating XML blocks from Excel; see *Consultants: Import Actual Cost or Specific Rate Invoice with Empty Cost Blocks* on page 205 for details about how to structure an invoice when there are no costs of a particular type on the invoice.

The XML document creation process will vary for every consultant. Currently, the invoice data must be imported for each contract separately; there is no batch process. XML invoices may be uploaded for both prime consultants and subcontractors.

Note: XML imports may currently be used for DT1510 Consultant Contract Invoices only. Do not use for DT1511 Journal Vouchers.

Many resources for XML information are available on the [CARS page](http://www.dot.wisconsin.gov/business/engrserv/cars.htm) (<http://www.dot.wisconsin.gov/business/engrserv/cars.htm>).

XML Invoice Structure

XML documents must strictly adhere to the requirements as defined in a **schema**. The CARS schema specifies the content, structure, and some format requirements for XML documents used to import invoices, which ensures that the data is imported correctly into CARS. A graphic representation of the CARS schema is shown in Figure 3 on page 192. The schema itself is available on the [CARS page](http://www.dot.wisconsin.gov/business/engrserv/cars.htm) (<http://www.dot.wisconsin.gov/business/engrserv/cars.htm>).

Documents meeting the CARS schema requirements are **valid**. If an XML invoice document is not valid, CARS will either import only part of the invoice data or fail to create the invoice. Invoices that partially or fully fail to import generate error messages. The CARS schema allows elements only; comments cannot be included in the invoice.

Line spaces (returns) are not considered in XML document processing. However, they are useful to organize code blocks and improve readability.

The XML document consists of the XML declaration in the first line of code and the content **elements**. As for most markup languages, each element is delimited by start and end **tags** that identify it as a specific entry. Some elements contain other elements. Elements that contain other elements are **parent elements**, and the elements they contain are **child elements**. Tags where data is not provided and not required must be present in the document, but they can contain no data; these are called **empty elements**. The table beginning on page 193 lists the CARS schema elements and some basic details about each element.

CARS XML invoices always consist of a header block, an invoice information block, and the invoice details. Each invoice contains one header block, one information block, and one invoice details block. The header and information blocks contain the same types of elements for each invoice, but the invoice details vary because this block contains the cost line items. The cost line items in an invoice are determined by the cost basis in the contract terms. XML invoices often have only one cost line item block, but it is possible to have more than one. Cost line item blocks can be as simple as a lump sum block, which has seven elements in a single block, or as complex as an actual cost block, which has 39 lines in four blocks with sub-blocks that can repeat. For line items that have sub-blocks, the invoice must contain each sub-block in order to be valid. Figure 4 on page 201 describes the code blocks in an XML invoice.

A sample valid XML lump sum invoice based on the CARS schema and showing examples of the elements is shown in Figure 5 on page 202.



Four-Part Line Item Keys

Four critical values for each cost line item in the XML invoice must exactly match values in the contract, including capitalization and spaces. (Exception: DBEKey elements are flags, and flags are not case sensitive.) These values that are found in the **Cost Information** section of each contract comprise the four-part key combination used to identify the line item. The four values and the corresponding XML tags are shown in the image below.

▼ **Cost Information**

One item found. 1

<DBEKey> <functionKey> <overheadRateTypeKey> <paymentTypeKey>



DBE	Function	Overhead Rate Type	Basis of Payment	Overhead Cost	Direct Expense	Fixed Fee	Additional Cost	Hours	Direct Labor Cost		
Yes	Traffic Analysis Services	Home Office	Lump Sum	\$0.00	\$0.00	\$0.00	\$0.00	0.0	\$0.00		

Special Characters in XML

Some characters that are used in XML code require special notation if you need to use them in your data. If you must use special characters such as ampersands (&), the less-than sign (<) or the greater-than sign (>), use numeric character references or one of the predefined entities.

Note: An apostrophe (') and quotation marks may be used in most fields without special notation in CARS XML files.

<u>Character</u>	<u>XML Predefined Entity</u> (the semicolon is required)	<u>Unicode Numeric Reference</u>	<u>Unicode Decimal Reference</u>
ampersand (&)	&	\u0026	&
less-than sign (<)	<	\u003C	<
greater-than sign (>)	>	\u003E	>
apostrophe (')	'	\u0027	'
quotation marks (" ")	"	\u0022	"

Note: Text data exported from financial systems into CDATA sections do not require special notation as long as the CDATA remains intact in the XML.

Partial Invoice Imported as XML

It is possible to import part of an invoice as XML. You can use an “empty” invoice as a basis, copy in details from an XML or Excel export, import the invoice, and manually complete it in CARS. See *Consultants: Import Incomplete Invoice* on page 205 for more information, and see Appendix 14: *Using Spreadsheet Data to Create CARS XML Invoices* on page **Error! Bookmark not defined.** for details.

Note: Code samples shown in this appendix are displayed in *Notepad++*, a free XML editor available from <http://notepad-plus-plus.org/>



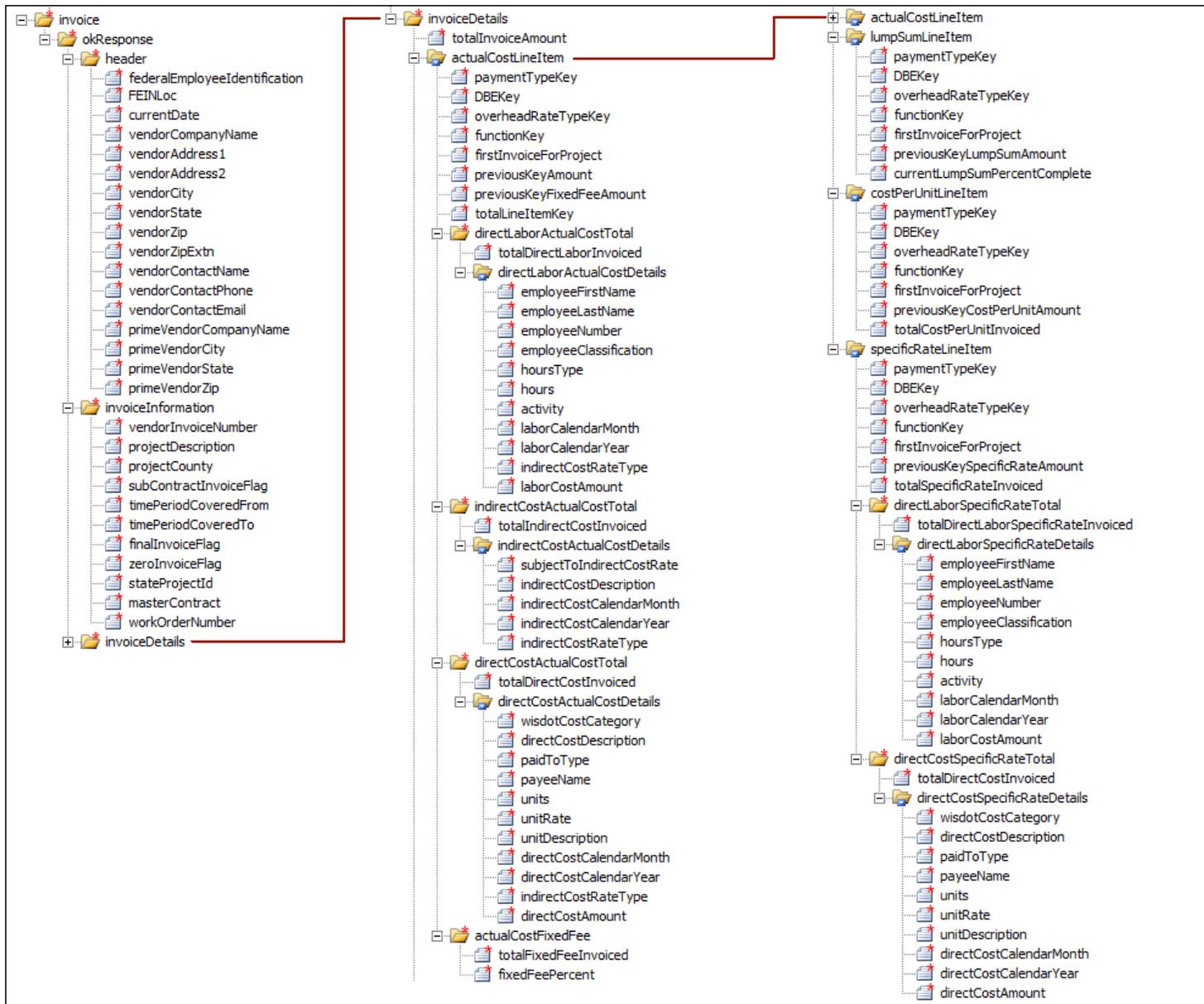


Figure 3 - Graphic Representation of the CARS Schema



CARS XML Element Descriptions

<u>XML Element Name</u>	<u>Required</u>	<u>Format Requirements</u>	<u>Notes</u>
header			
federalEmployeeIdentification	Yes, always	9 digits	Firm's FEIN (Federal Employer ID Number) Critical for matching consultant to project
FEINLoc	Yes, always	1 digit, usually 0	Location code; used when a consultant has more than one location.
currentDate	Yes, always	YYYYMMDD	
vendorCompanyName		50 character limit	
vendorAddress1			Information only: for consultant records
vendorAddress2			Information only: for consultant records
vendorCity			Information only: for consultant records
vendorState			Information only: for consultant records
vendorZip			Information only: for consultant records
vendorZipExtn			Information only: for consultant records
vendorContactName	Yes, always	60 character limit	
vendorContactPhone	Yes, always	999-999-9999	
vendorContactEmail	Yes, always	100 character limit	
primeVendorCompanyName			Information only: for consultant records
primeVendorCity			Information only: for consultant records
primeVendorState			Information only: for consultant records
primeVendorZip			Information only: for consultant records
End header			
invoiceInformation			
vendorInvoiceNumber	Yes, always	20 character limit	
projectDescription			Information only: for consultant records
projectCounty			Information only: for consultant records
subContractInvoiceFlag		1 character	Must be "Y" for subcontract invoices. May be "N" or empty for primes. Not case sensitive.
timePeriodCoveredFrom	Yes, always	YYYYMMDD	
timePeriodCoveredTo	Yes, always	YYYYMMDD	
finalInvoiceFlag	Yes, always	Y/N	Not case sensitive.
zeroInvoiceFlag	Yes, always	Y/N	Not case sensitive.
stateProjectID	Yes, always	9999-99-99	hyphens are required



XML Element Name	Required	Format Requirements	Notes
masterContract	Only for work orders	M99999999	"M" is required, and use no hyphens Required for work order invoices Must be empty for regular contracts
workOrderNumber	Only for work orders		Required for work order invoices Must be empty for regular contracts
END invoiceInformation			
invoiceDetails			
totalInvoiceAmount			
actualCostLineItem			
paymentTypeKey	Yes, for actual cost invoice	"Actual Cost"	Component of 4-part key
DBEKey	Yes, for actual cost invoice	Y/N	Component of 4-part key, must exactly match contract cost information. Not case sensitive.
overheadRateTypeKey	Yes, for actual cost invoice		Component of 4-part key, must exactly match contract cost information.
functionKey	Yes, for actual cost invoice		Component of 4-part key, must exactly match contract cost information
firstInvoiceForProject	Yes, for actual cost invoice	Y/N	"Y" when the invoice is the first one for the project in CARS; otherwise, "N". Not case sensitive.
previousKeyAmount		up to 2 decimal places only	Use only for the first invoice entered in CARS and only when invoices have been paid outside CARS (on paper).
previousKeyFixedFeeAmount		up to 2 decimal places only	Use only for the first invoice entered in CARS and only when invoices have been paid outside CARS (on paper).
totalLineItemKey		up to 2 decimal places only	Information only. Total for actual cost items on this invoice. CARS calculates this total using all actual cost amounts.
directLaborActualCostTotal			
totalDirectLaborInvoiced		up to 2 decimal places only	Information only. CARS calculates this total using actual cost direct labor amounts.
directLaborActualCostDetails			
employeeFirstName	Yes, for actual cost invoice		Minimum of one character
employeeLastName	Yes, for actual cost invoice		Minimum of one character
employeeNumber			



XML Element Name	Required	Format Requirements	Notes
employeeClassification	Yes, for actual cost invoice		
hoursType	Yes, for actual cost invoice		Typically "Hours Worked" The option "Premium Pay" is permitted on a contract-by-contract basis, and only rarely.
hours	Yes, for actual cost invoice	up to 2 decimal places only	
activity	Yes, for actual cost invoice		1 to 4 digit activity code as defined in CARS and FDM 8-10 attachment 1.3 . See the CARS page for complete Code and type lists.
laborCalendarMonth	Yes, for actual cost invoice	MM	Combined with year and indirectCostRateType, this value determines the overhead rate applied to the laborCostAmount.
laborCalendarYear	Yes, for actual cost invoice	YYYY	Combined with month and indirectCostRateType, this value determines the overhead rate applied to the laborCostAmount.
indirectCostRateType	Yes, for actual cost invoice		Combined with month and year, this value determines the overhead rate applied to the laborCostAmount. See the CARS page for complete Code and type lists.
laborCostAmount	Yes, for actual cost invoice	up to 2 decimal places only	
END laborCostDetails			
END directLaborActualCostTotal			
indirectCostActualCostTotal			Use this block only when your firm is allowed to apply overhead to actual costs. This situation is rare.
totalIndirectCostInvoiced		up to 2 decimal places only	Information only. CARS calculates this total using actual cost indirect cost amounts.
indirectCostActualCostDetails			
subjectToIndirectCostsRate	Yes, for actual cost invoice	up to 2 decimal places only	
indirectCostDescription	Yes, for actual cost invoice		
indirectCostCalendarMonth	Yes, for actual cost invoice	MM	Combined with year and indirectCostRateType, this value determines the overhead rate applied to the subjectToIndirectCostsRate.



XML Element Name	Required	Format Requirements	Notes
indirectCostCalendarYear	Yes, for actual cost invoice	YYYY	Combined with month and indirectCostRateType, this value determines the overhead rate applied to the subjectToIndirectCostsRate.
indirectCostRateType	Yes, for actual cost invoice		Combined with month and year, this value determines the overhead rate applied to the subjectToIndirectCostsRate. See the CARS page for complete Code and type lists.
END indirectCostDetails			
END indirectCostTotal			
directCostActualCostTotal			
totalDirectCostInvoiced		up to 2 decimal places only	Information only. CARS calculates this total using actual cost direct cost amounts.
directCostActualCostDetails			
wisdotCostCategory	Yes, for actual cost invoice		Cost category as defined in CARS. See the CARS page for complete Code and type lists.
directCostDescription	Yes, for actual cost invoice		
paidToType	Yes, for actual cost invoice	“Internal Allocation” or “Payment”	
payeeName	Yes, for actual cost invoice		
units	Yes, for actual cost invoice		
unitRate		up to 4 decimal places only	required when <i>units</i> is not empty
unitDescription		20 character limit	required when <i>units</i> is not empty
directCostCalendarMonth	Yes, for actual cost invoice	MM	Combined with year and indirectCostRateType, this value determines the overhead rate applied to the directCostAmount. See the CARS page for complete Code and type lists.
directCostCalendarYear	Yes, for actual cost invoice	YYYY	Combined with month and indirectCostRateType, this value determines the overhead rate applied to the directCostAmount. See the CARS page for complete Code and type lists.



XML Element Name	Required	Format Requirements	Notes
indirectCostRateType			Enter an indirect rate type only when your firm is allowed to apply overhead to direct costs. This situation is rare. Combined with month and year, this value determines the overhead rate applied to the directCostAmount. See the CARS page for complete Code and type lists.
directCostAmount	Yes, for actual cost invoice	up to 2 decimal places only	
END directCostActualCostDetails			
END directCostActualCostTotal			
actualCostFixedFee			
totalFixedFeeInvoiced		2 decimal places only	Information only. CARS calculates this total using the fixed fee percent.
fixedFeePercent	Yes, for actual cost invoice	up to 4 decimal places	
END actualCostFixed Fee			
END actualCostLineItem			
costPerUnitLineItem			
paymentTypeKey	Yes, for cost per unit invoice	"Cost Per Unit"	Component of 4-part key
DBEKey	Yes, for cost per unit invoice		Component of 4-part key, must exactly match contract cost information
overheadRateTypeKey	Yes, for cost per unit invoice		Component of 4-part key, must exactly match contract cost information
functionKey	Yes, for cost per unit invoice		Component of 4-part key, must exactly match contract cost information
firstInvoiceForProject	Yes, for cost per unit invoice	Y/N	"Y" when the invoice is the first one for the project in CARS; otherwise, "N". Not case sensitive.
previousKeyCostPerUnitAmount		2 decimal places only	Use only for the first invoice entered in CARS and only when invoices have been paid outside CARS.
totalCostPerUnitInvoiced	Yes, for cost per unit invoice	2 decimal places only	
END costPerUnitLineItem			



<u>XML Element Name</u>	<u>Required</u>	<u>Format Requirements</u>	<u>Notes</u>
lumpSumLineItem			
paymentTypeKey	Yes, for lump sum invoice	"Lump Sum"	Component of 4-part key
DBEKey	Yes, for lump sum invoice		Component of 4-part key, must exactly match contract cost information
overheadRateTypeKey	Yes, for lump sum invoice		Component of 4-part key, must exactly match contract cost information
functionKey	Yes, for lump sum invoice		Component of 4-part key, must exactly match contract cost information
firstInvoiceForProject	Yes, for lump sum invoice	Y/N	"Y" when the invoice is the first one for the project in CARS; otherwise, "N". Not case sensitive.
previousKeyLumpSumAmount		2 decimal places only	Use only for the first invoice entered in CARS and only when invoices have been paid outside CARS.
currentLumpSumPercentComplete	Yes, for lump sum invoice	up to 6 decimal places only	Cumulative percent complete of the contract work. See pages Error! Bookmark not defined. and Error! Bookmark not defined. for more information about fixed fees.
END lumpSumLineItem			
specificRateLineItem			
paymentTypeKey	Yes, for specific rate invoice	"Specific Rate"	Component of 4-part key
DBEKey	Yes, for specific rate invoice		Component of 4-part key, must exactly match contract cost information
overheadRateTypeKey	Yes, for specific rate invoice		Component of 4-part key, must exactly match contract cost information
functionKey	Yes, for specific rate invoice		Component of 4-part key, must exactly match contract cost information
firstInvoiceForProject	Yes, for specific rate invoice	Y/N	"Y" when the invoice is the first one for the project in CARS; otherwise, "N". Not case sensitive.
previousKeySpecificRateAmount		up to 2 decimal places only	Use only for the first invoice entered in CARS and only when invoices have been paid outside CARS.
totalSpecificRateInvoiced			
directLaborSpecificRateTotal			



XML Element Name	Required	Format Requirements	Notes
totalDirectLaborSpecialRateInvoiced			Information only. CARS calculates this total using specific rate direct labor amounts.
directLaborSpecificRateDetails			
employeeFirstName	Yes, for specific rate invoice		Minimum of one character
employeeLastName	Yes, for specific rate invoice		Minimum of one character
employeeNumber			
employeeClassification	Yes, for specific rate invoice		
hoursType	Yes, for specific rate invoice		Typically "Hours Worked" The option "Premium Pay" is permitted on a contract-by-contract basis, and only rarely.
hours	Yes, for specific rate invoice		
activity	Yes, for specific rate invoice		1 to 4 digit activity code as defined in CARS and FDM 8-10 attachment 1.3 . See the CARS page for complete Code and type lists.
laborCalendarMonth	Yes, for specific rate invoice	MM	
laborCalendarYear	Yes, for specific rate invoice	YYYY	
laborCostAmount	Yes, for specific rate invoice	up to 2 decimal places only	
END directLaborSpecificRateDetails			
END directLaborSpecificRateTotal			
directCostSpecificRateTotal			
totalDirectCostInvoiced		up to 2 decimal places only	Information only. CARS calculates this total using specific rate direct cost amounts.
directCostSpecificRateDetails			
wisdotCostCategory	Yes, for specific rate invoice		Cost category as defined in CARS. See the CARS page for complete Code and type lists.
directCostDescription	Yes, for specific rate invoice		



<u>XML Element Name</u>	<u>Required</u>	<u>Format Requirements</u>	<u>Notes</u>
paidToType	Yes, for specific rate invoice	“Internal Allocation” or “Payment”	
payeeName	Yes, for specific rate invoice		
units	Yes, for specific rate invoice		
unitRate		up to 2 decimal places only	required when <i>units</i> is not empty
unitDescription		20 character limit	required when <i>units</i> is not empty
directCostCalendarMonth	Yes, for specific rate invoice	MM	
directCostCalendarYear	Yes, for specific rate invoice	YYYY	
directCostAmount	Yes, for specific rate invoice	up to 2 decimal places only	
END directCostSpecificRateDetails			
END directCostSpecificRateTotal			
END specificRateLineItem			
END invoiceDetails			



CARS XML Invoice Code Blocks

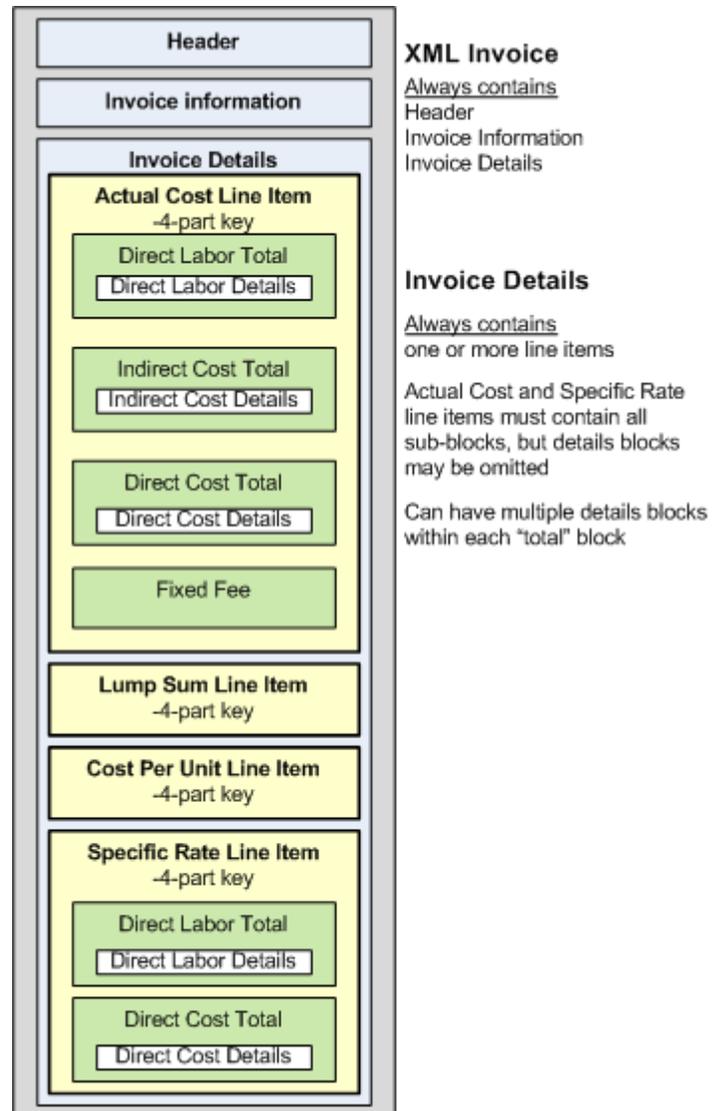


Figure 4 - Code Blocks in XML Invoices



Sample Valid XML Invoice

```

1 <?xml version="1.0" encoding="UTF-8"?>
2 <invoice xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" >
3 <okResponse>
4 <header>
5 <federalEmployeeIdentification>99999999</federalEmployeeIdentification>
6 <FEINLoc>0</FEINLoc>
7 <currentDate>20150421</currentDate>
8 <vendorCompanyName>Osage & Co.</vendorCompanyName>
9 <vendorAddress1/>
10 <vendorAddress2/>
11 <vendorCity/>
12 <vendorState/>
13 <vendorZip></vendorZip>
14 <vendorZipExtn></vendorZipExtn>
15 <vendorContactName>Max Brewer</vendorContactName>
16 <vendorContactPhone>444-444-4444</vendorContactPhone>
17 <vendorContactEmail>max@osage.ccm</vendorContactEmail>
18 </header>
19 <primeVendorCompanyName></primeVendorCompanyName>
20 <primeVendorCity></primeVendorCity>
21 <primeVendorState></primeVendorState>
22 <primeVendorZip></primeVendorZip>
23 </header>
24 <invoiceInformation>
25 <vendorInvoiceNumber>00981001 04-15</vendorInvoiceNumber>
26 <projectDescription></projectDescription>
27 <projectCounty>Various</projectCounty>
28 <subContractInvoiceFlag></subContractInvoiceFlag>
29 <timePeriodCoveredFrom>20150301</timePeriodCoveredFrom>
30 <timePeriodCoveredTo>20150331</timePeriodCoveredTo>
31 <finalInvoiceFlag>Y</finalInvoiceFlag>
32 <zeroInvoiceFlag>N</zeroInvoiceFlag>
33 <stateProjectId>0098-10-04</stateProjectId>
34 <masterContract></masterContract>
35 <workOrderNumber></workOrderNumber>
36 </invoiceInformation>
37
38

```

Annotations in the image:

- Line 1: XML Declaration
- Line 2: Start Tag for Invoice
- Line 3: Start Tag of Parent Element
- Line 4: XML Predefined Code for ampersand (&) character
- Line 8: Empty Elements
- Line 13: Empty Elements
- Line 18: Start Tag
- Line 19: Data
- Line 23: End Tag
- Line 24: Empty lines and spacing outside elements are ignored during translation, but are useful for readability
- Line 25: End Tag of Parent Element

Child Elements: 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38

Figure 5 - Sample Valid XML Document



Consultants: Import Invoice

1. Open the contract or subcontract record for which you are entering an invoice in CARS. See *Search Tool* on page **Error! Bookmark not defined.** for information on locating prime contract records.
2. Click **Import Invoice**; subconsultants click **Import Sub Invoice**. CARS opens the **Import Invoice** section.
3. Click **Browse**. CARS opens the **Choose File to Upload** dialog box.
4. Browse to the XML file for upload and select it.
5. Click **Open**. CARS displays the path to the file in the **Browse** field.

TOMBANE - Tom Bane processing on behalf of Osage

Project, Contract or Master Contract: Search

View Contract 2

Create Invoice Import Invoice Print Page Go to Bottom

Contract Information

Project ID: 0687-11-30	Contract Number: 1400008002	Associated Projects Nothing found to display.
Contract Type: Regular	Purchase Order Number:	
Phases: 0	Contract Function: Traffic Analysis Services	

TOMBANE - Tom Bane processing on behalf of Osage

Project, Contract or Master Contract: Search

View Contract

Create Invoice Import Invoice Print Page Go to Bottom

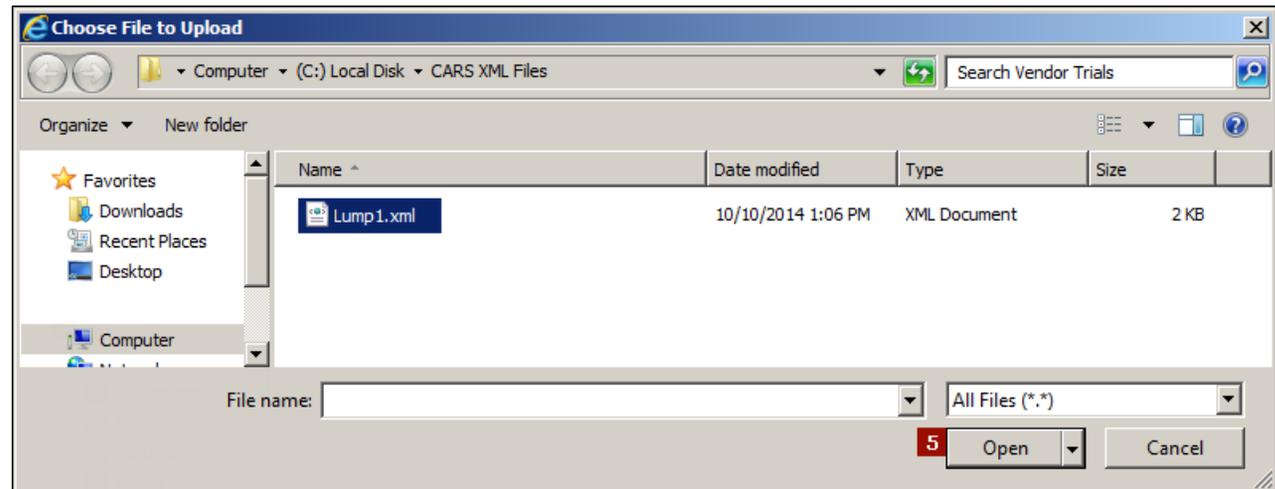
Import Invoice

* Indicates required field

3 Browse...

Upload

Contract Information



Consultants: Import Invoice - continued

6. Click **Upload**. CARS attempts to import the invoice.
 - a. If the import is successful, CARS opens the new invoice, which is in “Draft” status.
 - b. If there is an error and CARS cannot import the invoice, CARS displays an error message.
 - c. If CARS was able to partially import the invoice, you will see an error message along with the **Show Invoice** button. You can delete the invoice, adjust the XML document and try to import again, or manually edit the invoice directly in CARS as described in *Invoicing*, beginning on page **Error! Bookmark not defined.**

Note: You must delete an existing draft invoice before you can import another one. Only one invoice in “Draft” status is allowed per contract.

7. Upload supporting documentation and submit the invoice as for manually entered invoices. See *Upload Supporting Documents* on page **Error! Bookmark not defined.** and *Consultants: Submit Invoices* on page **Error! Bookmark not defined.** for details.

TOMBANE - Tom Bane processing on behalf of Osage Project, Contract or Master Contract: Search

View Contract

Create Invoice Import Invoice Print Page [Go to Bottom](#)

Import Invoice

* Indicates required field

Sum Export Lump1.xml

6 Upload

Contract Information

TOMBANE - Tom Bane processing on behalf of Osage **b** Project, Contract or Master Contract: Search

View Errors

Print Page [Back to View Contract](#)

Upload Error List

--- Draft status already exists for Consultant Invoice Number Lump1

TOMBANE - Tom Bane processing on behalf of Osage **c** Project, Contract or Master Contract: Search

View Errors

Print Page [Back to View Contract](#)

Upload Error List

Consultant Invoice Number :11-25 Aug 2014

--- Not found a record with 4 part key combination in the ContractCost table for LumpSum Line Items.



Consultants: Import Actual Cost or Specific Rate Invoice with Empty Cost Blocks

There will be times when you won't have costs of a given type to report for a time period or for a contract. For example, not all actual cost contracts or specific rate contracts have direct costs every month. The XML invoice still must contain each major cost type element and any top-level elements. The details blocks may be omitted as shown below.

Note: Using empty blocks does not apply lump sum and cost per unit invoices because these invoice types do not contain details blocks.

<u>Actual Cost Direct Labor</u>
<pre><directLaborActualCostTotal> <totalDirectLaborInvoiced></totalDirectLaborInvoiced> </directLaborActualCostTotal></pre>
<u>Actual Cost Indirect Cost</u>
<pre><indirectCostActualCostTotal> <totalIndirectCostInvoiced></totalIndirectCostInvoiced> </indirectCostActualCostTotal></pre>
<u>Actual Cost Direct Costs</u>
<pre><directCostActualCostTotal> <totalDirectCostInvoiced></totalDirectCostInvoiced> </directCostActualCostTotal></pre>
<u>Specific Rate Direct Labor</u>
<pre><directLaborSpecificRateTotal> <totalDirectLaborSpecificRateInvoiced></totalDirectLaborSpecificRateInvoiced> </directLaborSpecificRateTotal></pre>
<u>Specific Rate Direct Cost</u>
<pre><directCostSpecificRateTotal> <totalDirectCostInvoiced></totalDirectCostInvoiced> </directCostSpecificRateTotal></pre>



Consultants: Common Invoice Import Errors

See *Search for Invoices* on page **Error! Bookmark not defined.** and *Delete Invoices* on page **Error! Bookmark not defined.** for instructions for these processes.

When there is an error in a cost block, CARS still imports the errors that do not contain errors.

Draft status already exists

1. A draft status invoice already exists. Search for the invoice and either delete it or edit it manually. Only one invoice in draft status is allowed per contract. Alternatively, you may simply need to submit the existing invoice.

Not found a record with 4 part key

2. No match for the four-part key line item. Click **Show Invoice** to open the invoice and manually edit it to match all four key cost field values to match the values in the contract. You can also delete the invoice, edit the XML, and import again. See *Four-Part Line Item Keys* on page 191 for more information.

No Contract exists

3. Project, master contract or work order number mismatch for the vendor FEIN. Verify that the data for the following tags match the contract information:
 - <stateProjectId>
 - <masterContract>
 - <workOrderNumber>

The screenshot shows a web interface titled "View Errors". At the top right, there are two buttons: "Print Page" (with a printer icon) and "Back to View Contract" (with a left-pointing arrow icon). Below these buttons is a dropdown menu labeled "Upload Error List". Underneath the dropdown, the text reads: "-- Draft status already exists for Consultant Invoice Number 1".

Import Error 1

The screenshot shows a web interface titled "View Errors". At the top right, there are two buttons: "Print Page" (with a printer icon) and "Back to View Contract" (with a left-pointing arrow icon). Below these buttons is a dropdown menu labeled "Upload Error List". Underneath the dropdown, the text reads: "Consultant Invoice Number : 1" followed by a "Show Invoice" button. Below this, the text reads: "-- Not found a record with 4 part key combination in the ContractCost table for LumpSum Line Items."

Import Error 2

The screenshot shows a web interface titled "View Errors". At the top right, there are two buttons: "Print Page" (with a printer icon) and "Back to View Contract" (with a left-pointing arrow icon). Below these buttons is a dropdown menu labeled "Upload Error List". Underneath the dropdown, the text reads: "-- No Contract exists for Vendor 5781".

Import Error 3



Consultants: Common Invoice Import Errors - continued

Indirect Cost Rate Type not found

4. The indirect cost rate type may be:
 - Not entered correctly in the XML code. Check the code and correct
 - Not valid for this contract. Check the cost rate types that are valid for this contract. Contact the [CARS Administrator](#) if the rate type is needed.
 - Expired. Contact the [CARS Administrator](#) if the rate type is needed.

Data Needed

5. CARS checks direct labor, indirect cost, and direct cost blocks in actual cost and specific rate XML invoices for completeness. If information is missing for one or more required elements, CARS creates a list of missing data.

View Errors [Print Page](#) [Back to View Workorder](#)

▼ [Upload Error List](#)

Consultant Invoice Number : 04 [Show Invoice](#)

--- Indirect Cost Rate Type value not found in XML for Indirect Actual Cost.

Import Error 4

▼ [Upload Error List](#)

Consultant Invoice Number :PSpecRate-U1 [Show Invoice](#)

--- WisDOT CostCategory , Cost Description , Paid Type , Month , Year , Direct Cost needed. Please fill the Direct Cost (incomplete block) - Specific Rate Cost Line Item.

▼ [Upload Error List](#)

Consultant Invoice Number :PActCost-U4 [Show Invoice](#)

--- Classification needed. Please fill the Direct Labor (incomplete block) - Actual Cost Line Item.

▼ [Upload Error List](#)

Consultant Invoice Number :-[] [Show Invoice](#)

--- Activity needed. Please fill the Direct Labor (incomplete block) - Actual Cost Line Item.

▼ [Upload Error List](#)

Consultant Invoice Number :-D [Show Invoice](#)

--- Subject InDirect Cost Rate needed. Please fill the InDirect Cost (incomplete block) - Actual Cost Line Item.

▼ [Upload Error List](#)

Consultant Invoice Number :-) [Show Invoice](#)

--- PayeeName needed. Please fill the Direct Cost (incomplete block) - Actual Cost Line Item.

Import Error 5



Consultants: Common Invoice Import Errors - continued

Date Errors

- CARS checks the month and year values entered in direct labor, indirect cost, and direct cost blocks in actual cost and specific rate XML invoices. If a date is not entered correctly, CARS lists the error.

▼ [Upload Error List](#)

Consultant Invoice Number :-/ [Show Invoice](#)

--- Invalid Calendar Month for Direct Labor Actual Cost Line Item , Month as 5

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Consultant Invoice Number :-) [Show Invoice](#)

--- Invalid Calendar Year for Direct Labor Actual Cost Line Item , Year as 215

Import Error 6

Rate Type Mismatch Errors

- CARS checks the indirect cost rate types for cost line details entered in direct labor, indirect cost, and direct cost blocks in actual cost and specific rate XML invoices. If the rate type does not match a valid type in CARS, CARS lists the error. This check validates the rate type name and reports values that are not valid for CARS as a whole.

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Consultant Invoice Number :-{0} [Show Invoice](#)

--- Indirect Cost Rate Type value in XML is not matching in Look up table for Direct Labor Actual Cost for Employee Last Name as User with Indirect Cost Rate Type as Home Ofc

Import Error 7

Rate Type Not Allowed

- CARS checks the direct and indirect cost rate types for cost line details entered in direct labor, indirect cost, and direct cost blocks in actual cost and specific rate XML invoices. If the rate type is not permitted for the consultant firm, CARS lists the error.

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Consultant Invoice Number :661921-2-6 [Show Invoice](#)

--- Indirect Cost Rate Type for Direct Labor Actual Cost is not found in Indirect Cost Rate Type table for Employee Last Name as SANDERS with Indirect Cost Rate Type as Company Wide
--- Indirect Cost Rate Type for InDirect Actual Cost is not found in Indirect Cost Rate Type table, Description as redwith Indirect Cost Rate Type as Company Wide
--- Direct Cost Category Type ID is not found in Direct Cost Type table for Actual Cost, Cost Category as Meals

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Consultant Invoice Number :PSpecRate-U1 [Show Invoice](#)

--- Direct Cost Rate Type ID is not found in Direct Cost Type table for Specific Rate Cost Line Item , WisDOT Cost Category as Meals

Import Error 8



Consultants: Common Invoice Code Errors

Errors that are due to XML code mistakes specify the location of the error by line number. Some XML editors, including *Notepad++*, show the code with line numbers.

Not facet-valid

1. Date format incorrect or date is invalid. Delete the draft invoice and correct the XML date format so that the pattern is "YYYYMMDD."

Note: In this case, the first error causes the second error because the time period start and end dates are required values.

No child element is expected

2. An end tag is missing for a block. Check the XML code and insert the appropriate tag.

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--- cvc-pattern-valid: Value '20140632' is not facet-valid with respect to pattern '((19|20)d\d)(0[1-9]|1[012])|(0[1-9]|1[0-9])2[0-9]{3}[01])' for type 'DateFormatToYYYYmmdd': Line Number : 25
 --- cvc-type.3.1.3: The value '20140632' of element 'timePeriodCoveredTo' is not valid.: Line Number : 25

```

20 <invoiceInformation>
21   <vendorInvoiceNumber>blank</vendorInvoiceNumber>
22   <projectDescription>blank</projectDescription>
23   <projectCounty>Dane</projectCounty>
24   <subContractInvoiceFlag>N</subContractInvoiceFlag>
25   <timePeriodCoveredFrom>06012014</timePeriodCoveredFrom>
26   <timePeriodCoveredTo>20140630</timePeriodCoveredTo>
27   <finalInvoiceFlag>N</finalInvoiceFlag>
    
```

XML Code Error 1

▼ Upload Error List

--- cvc-complex-type.2.4.d: Invalid content was found starting with element 'invoiceDetails'. No child element is expected at this point.: Line Number : 32
 --- unexpected element (uri="", local="invoiceDetails"). Expected elements are <{}workOrderNumber>,<{}subContractInvoiceFlag>,<{}timePeriodCoveredTo>,<{}finalInvoiceFlag>,<{}masterContract>,<{}stateProjectId>,<{}projectCounty>,<{}projectDescription>,<{}vendorInvoiceNumber>,<{}timePeriodCoveredFrom>,<{}zeroInvoiceFlag>: Line Number : 32
 --- The element type "invoiceInformation" must be terminated by the matching end-tag "<{}invoiceInformation{}": Line Number : 44

```

19 <invoiceInformation>
20   <vendorInvoiceNumber>Osage-02</vendorInvoiceNumber>
21   <projectDescription>Design Services</projectDescription>
22   <projectCounty>Marathon</projectCounty>
23   <subContractInvoiceFlag/>
24   <timePeriodCoveredFrom>20140601</timePeriodCoveredFrom>
25   <timePeriodCoveredTo>20140630</timePeriodCoveredTo>
26   <finalInvoiceFlag>N</finalInvoiceFlag>
27   <zeroInvoiceFlag>Y</zeroInvoiceFlag>
28   <stateProjectId>0687-22-55</stateProjectId>
29   <masterContract></masterContract>
30   <workOrderNumber></workOrderNumber>
31   </invoiceInformation> is missing
32 <invoiceDetails>
33   <totalInvoiceAmount>238193.20</totalInvoiceAmount>
34   <lumpSumLineItem>
35     <paymentTypeKey>Lump Sum</paymentTypeKey>
36     <DBEKey>N</DBEKey>
37     <overheadRateTypeKey>Home Office</overheadRateTypeKey>
38     <functionKey>Design Services</functionKey>
39     <firstInvoiceForProject>Y</firstInvoiceForProject>
40     <previousKeyLumpSumAmount>0</previousKeyLumpSumAmount>
41     <currentLumpSumPercentComplete>35</currentLumpSumPercentComplete>
42   </lumpSumLineItem>
43 </invoiceDetails>
    
```

XML Code Error 2



Consultants: Common Invoice Code Errors

Invalid content was found

3. A start tag is missing. Check the XML code and insert the appropriate tag.

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--- cvc-complex-type.2.4.a: **Invalid content was found** starting with element 'totalInvoiceAmount'. One of '{invoiceDetails}' is expected.: Line Number : 33
--- unexpected element (uri:"", local:"totalInvoiceAmount"). Expected elements are <{}header>,<{}invoiceDetails>,<{}invoiceInformation>: Line Number : 33
--- unexpected element (uri:"", local:"lumpSumLineItem"). Expected elements are <{}header>,<{}invoiceDetails>,<{}invoiceInformation>: Line Number : 34
--- The element type "okResponse" must be terminated by the matching end-tag "<{}okResponse>".: Line Number : 43

```
19 </invoiceInformation>
20   <vendorInvoiceNumber>Osage-02</vendorInvoiceNumber>
21   <projectDescription>Design Services</projectDescription>
22   <projectCounty>Marathon</projectCounty>
23   <subContractInvoiceFlag/>
24   <timePeriodCoveredFrom>20140601</timePeriodCoveredFrom>
25   <timePeriodCoveredTo>20140630</timePeriodCoveredTo>
26   <finalInvoiceFlag>N</finalInvoiceFlag>
27   <zeroInvoiceFlag>Y</zeroInvoiceFlag>
28   <stateProjectId>0687-22-55</stateProjectId>
29   <masterContract/>
30   <workOrderNumber/>
31 </invoiceInformation>
32   <totalInvoiceAmount>238193.20</totalInvoiceAmount>
33   <lumpSumLineItem>
34     <paymentTypeKey>Lump Sum</paymentTypeKey>
35     <DBEKey>N</DBEKey>
36     <overheadRateTypeKey>Home Office</overheadRateTypeKey>
37     <functionKey>Design Services</functionKey>
38     <firstInvoiceForProject>Y</firstInvoiceForProject>
39     <previousKeyLumpSumAmount>0</previousKeyLumpSumAmount>
40     <currentLumpSumPercentComplete>35</currentLumpSumPercentComplete>
41   </lumpSumLineItem>
42 </invoiceDetails>
43 </invoiceDetails>
```

XML Code Error 3



Consultants: Non-specific Import Errors

Non-specific error

The “generic” error occurs when CARS cannot match the error to a more specific error code. The generic error occurs when the following conditions were produced in the XML invoice:

- The FEIN does not match the prime consultant
- Comments or other non-element data are in the XML invoice

Error(s):

- An error has occurred and your request cannot be processed.

Please contact the help desk.

XML Import Non-Specific Error

