Voting Information Project Specification Documentation

Release 5.1.2

Contents

1	Publishers of VIP data	3
	XML Documentation 2.1 XML Specification	5
	CSV Documentation 3.1 CSV Specification	127 127
	Best Practices 4.1 Data Best Practices	23 7

Welcome to the Voting Information Project's (VIP) *open XML* and *CSV* format specification. This data format provides an easy way to produce data that lets developers take a voter's address, compare it to street segments, and determine that voter's precinct (or precinct split). Knowing a voter's precinct allows *information disseminators* to provide voters with their official polling locations (and early voting sites), ballots (including both candidates and referenda), local election administrations, and election officials.

To see a changelog of all of the updates, please see the GitHub repository.

Contents 1

2 Contents

CHAPTER 1

Publishers of VIP data

The following projects publish VIP data for end user consumption.

• The Google Civic Information API

Voting Information Project Specification Documentation, Release 5.1.2						

CHAPTER 2

XML Documentation

2.1 XML Specification

- Getting Started
- Elements & Enumerations
 - Single-page Format
 - Elements (Separate Pages)
 - Enumerations (Separate Pages)

2.1.1 Getting Started

The actual election information specifies collections of elements, some containing links between each other. The entire set of tags must be encapsulated in a root object named VipObject. See the sample xml file and xsd file for more details.

Each top-level tag is a container for other fields, described in their own section. The only required top-level tags are the *source object* and the *election object*, each of which must be present exactly once. All other top-level tags can be repeated an unlimited number of times, or not included at all; order of top-level tags does not matter. Each top-level tag is required to have a single attribute, "id", which is required to be unique in a data file. The id attribute for the state object should be the state's FIPS number and this is strongly recommended. The id attributes are not required to remain constant for the same piece of semantic data across multiple productions of the feed (e.g. candidate Michael Smith, running for dogcatcher in Iowa, is not required to have the same candidate id attribute each time the state of Iowa publishes data).

In general, subtag data can appear a maximum of one time within each top-level tag object and in any order. Exceptions are noted below.

For the data itself, the special characters &, <, and > need to be encoded as & amp;, <, and >, respectively.

2.1.2 Elements & Enumerations

Single-page Format

XML Elements & Enumerations (Single Page)

- Elements
 - BallotMeasureContest
 - * ContestBase
 - BallotMeasureSelection
 - * BallotSelectionBase
 - BallotSelectionBase
 - BallotStyle
 - Candidate
 - CandidateContest
 - * ContestBase
 - CandidateSelection
 - * BallotSelectionBase
 - Checksum
 - ContactInformation
 - * Name and AddressLine Usage Note
 - ContestBase
 - Department
 - * VoterService
 - * ContactInformation
 - * Name and AddressLine Usage Note
 - Election
 - ElectionAdministration
 - * Department
 - · VoterService
 - · ContactInformation
 - * Name and AddressLine Usage Note
 - * ElectionNotice
 - * VoterService
 - ElectionNotice
 - ElectoralDistrict

- ExternalFile
 - * Checksum
- ExternalGeospatialFeature
 - * FeatureIdentifier
- ExternalIdentifier
- ExternalIdentifiers
- FeatureIdentifier
- Hours
 - * TimeWithZone
- HoursOpen
 - * Schedule
 - · Hours
- TimeWithZone
- HtmlColorString
- InternationalizedText
- LanguageString
- LatLng
- Locality
- Office
 - * Term
 - * ContactInformation
 - * Name and AddressLine Usage Note
- OrderedContest
- Party
 - * HtmlColorString
- PartyContest
 - * ContestBase
- PartySelection
 - * BallotSelectionBase
- Person
 - * ContactInformation
 - * Name and AddressLine Usage Note
- PollingLocation
 - * LatLng
 - * SimpleAddressType

- Precinct
 - * SpatialBoundary
 - · ExternalGeospatialFeature
 - * FeatureIdentifier
- RetentionContest
- Schedule
 - * Hours
 - · TimeWithZone
- SimpleAddressType
- Source
- SpatialBoundary
 - $*\ External Geospatial Feature$
 - · FeatureIdentifier
- State
- StreetSegment
- Term
- TimeWithZone
- VoterService
- Enumerations
 - BallotMeasureType
 - CandidatePostElectionStatus
 - CandidatePreElectionStatus
 - ChecksumAlgorithm
 - DistrictType
 - GeospatialFormat
 - IdentifierType
 - OebEnum
 - OfficeTermType
 - VoteVariation
 - VoterServiceType

Elements

BallotMeasureContest

The BallotMeasureContest provides information about a ballot measure before the voters, including summary statements on each side. Extends single-xml-contest-base.

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<BallotMeasureContest id="bmc30001">
      <BallotSelectionIds>bms30001a bms30001b/BallotSelectionIds>
2
      <BallotTitle>
3
         <Text language="en">State of the State</Text>
         <Text language="es">Estado del Estado.</Text>
      </BallotTitle>
      <ElectoralDistrictId>ed60129</ElectoralDistrictId>
      <Name>Referendum on Virginia
      <ConStatement label="bmc30001con">
9
         <Text language="en">This is no good.</Text>
10
         <Text language="es">Esto no es bueno.</Text>
11
12
      </ConStatement>
      <EffectOfAbstain label="bmc30001abs">
13
         <Text language="en">Nothing will happen.</Text>
14
         <Text language="es">Nada pasará.</Text>
15
      </EffectOfAbstain>
16
      <ProStatement label="bmc30001pro">
17
         <Text language="en">Everything will be great.</Text>
         <Text language="es">Todo va a estar bien.</Text>
      </ProStatement>
20
      <Type>referendum</Type>
21
   </BallotMeasureContest>
22
```

ContestBase

A base model for all Contest types: *BallotMeasureContest*, *CandidateContest*, *PartyContest*, and *RetentionContest* (NB: the latter because it extends *BallotMeasureContest*).

Ab-bre-via-tion Bal- 2 lot-Se-lec-tion-Ids Bal- 1 lot- t Sub- 1 Ti- t tle 4 Bal- 1 lot- t	xs:si xs:II In- ter- na- tion- al- ized- Text	Op-retional Op-tional	gle SSin- gle	An abbreviation for the contest. References a set of BallotSelections, which could be of any selection type that extends single-xml-ballot-selection-base. Subtitle of the contest as it appears on the ballot.	If the field is invalid or not present, then the implementation should ignore it. If the field is invalid or not present, then the implementation should ignore it.
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Ti- t tle t i t Bal- t lot- t	tion- al- ized- Text				is invalid or not
tle i i Bal- I lot- t	al- ized- Text				present, then the
i 7	ized- Text				implementation
Bal- <i>l</i> lot- <i>t</i>	Text				should ignore it.
Bal- lot- t	Text	- 1			
Bal- 1					
lot- t	In-	Op-	Sin-	Title of the contest as it appears on the ballot.	If the element
	ter-	tional		The of the contest as it appears on the ballot.	is invalid or not
12 1		uonal	gie		
	na-				present, then the
	tion-				implementation
1 -	al-				should ignore it.
	ized-				
	Text				
I	xs:‡I		Sin-	References an <i>ElectoralDistrict</i> element that represents the geo-	If the field is
toralD-		quire	dgle	graphical scope of the contest.	invalid, then
is-					the implementa-
tric-					tion is required
tId					to ignore the
					ContestBase
					element containing
					it.
Elec- 1	In-	Op-	Sin-	Specifies any changes to the eligible electorate for this contest	If the element
torate- t		tional		past the usual, "all registered voters" electorate. This subtag	is invalid or not
_		aonai	SIC	will most often be used for primaries and local elections. In	present, then the
-	na-			<u>*</u>	1 -
	tion-			primaries, voters may have to be registered as a specific party to	implementation
	al-			vote, or there may be special rules for which ballot a voter can	should ignore it.
	ized-			pull. In some local elections, non-citizens can vote.	
	Text				
Ex- <i>1</i>	Ex-	Op-	Sin-	Other identifiers for a contest that links to another source of in-	If the element
ter- t	ter-	tional	gle	formation.	is invalid or not
nalI- 1	nalI-				present, then the
den- d	den-				implementation
	ti-				should ignore it.
ti- <i>t</i>	fiers				
		n	Sin-	Indicates whether the selections in the contest are rotated.	If the field is
fiers f	xs·h/			materials whether the selections in the contest are found.	invalid or not
fiers f	xs:b	nonal	SIC		
fiers f Has- 2 Ro-	xs:b	tional			present, then the
fiers f Has- 2 Ro- ta-	xs:bo	uonal			1 -
fiers f Has- 2 Ro- ta-	xs:b	uonal			implementation
fiers f Has- Ro- ta- tion					implementation should ignore it.
fiers f Has- Ro- ta- tion	xs:s1	Re- nc		Name of the contest, not necessarily how it appears on the ballot	implementation should ignore it. If the field is
fiers f Has- Ro- ta- tion Name 2	xs:st	Re -no	dgle	Name of the contest, not necessarily how it appears on the ballot (NB: BallotTitle should be used for this purpose).	implementation should ignore it. If the field is invalid, then
fiers f Has- Ro- ta- tion Name 2	xs:st	Re -no	dgle		implementation should ignore it. If the field is
fiers f	xs:st	Re -no	dgle		implementation should ignore it. If the field is invalid, then
fiers f Has- Ro- ta- tion Name 2	xs:st	Re -no	dgle		implementation should ignore it. If the field is invalid, then the implementa 1

BallotMeasureSelection

Represents the possible selection (e.g. yes/no, recall/do not recall, et al) for a *BallotMeasureContest* that would appear on the ballot. BallotMeasureSelection extends single-xml-ballot-selection-base.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quired	?peats	?	
Se-	Interna-	Re-	Sin-	Selection text for	If the element is invalid or not present, the implemen-
lec-	tional-	quired	gle	a BallotMeasure-	tation is required to ignore the BallotMeasureSelection
tion	izedText			Contest	containing it.

```
<BallotMeasureSelection id="bms30001a">
2
      <Selection label="bms30001at">
         <Text language="en">Yes</Text>
         <Text language="es">Sí</Text>
      </Selection>
   </BallotMeasureSelection>
   <BallotMeasureSelection id="bms30001b">
      <Selection label="bms30001bt">
8
9
         <Text language="en">No</Text>
         <Text language="es">No</Text>
10
      </Selection>
11
   </BallotMeasureSelection>
```

BallotSelectionBase

A base model for all ballot selection types: BallotMeasureSelection, CandidateSelection, and PartySelection.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeats	\$?	
Se-	xs:i	n tOp pege	rSin-	The order in which a selection can be listed on the bal-	If the field is invalid or
quence	-	tiona	l gle	lot or in results. This is the default ordering, and can	not present, then the im-
Order				be overridden by OrderedBallotSlectionIds in Ordered-	plementation is required to
				Contest.	ignore it.

BallotSelectionBase

A base model for all ballot selection types: BallotMeasureSelection, CandidateSelection, and PartySelection.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeats	\$?	
Se-	xs:i	nt Op ge	rSin-	The order in which a selection can be listed on the bal-	If the field is invalid or
quence) -	tiona	l gle	lot or in results. This is the default ordering, and can	not present, then the im-
Order				be overridden by OrderedBallotSlectionIds in Ordered-	plementation is required to
				Contest.	ignore it.

BallotStyle

A container for the contests/measures on the ballot.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired	? peats?		
ImageUri	xs:any	7U Opī-	Sin-	Specifies a URI that returns	If the field is invalid or not present, then
		tional	gle	an image of the sample bal-	the implementation is required to ignore
				lot.	it.
Ordered-	xs:IDF	₹ £Φ′p 5-	Sin-	Reference to a set of Or-	If the field is invalid or not present, then
Con-		tional	gle	deredContest	the implementation is required to ignore
testIds					it.
PartyIds	xs:IDF	₹ £Φ′p 5-	Sin-	Reference to a set of	If the field is invalid or not present, then
		tional	gle	:ref: 'single-xml-party's.	the implementation is required to ignore
					it.

Candidate

The Candidate object represents a candidate in a contest. If a candidate is running in multiple contests, each contest **must** have its own Candidate object. Candidate objects may **not** be reused between Contests.

Tag	Data	Re-	Re-	Description	Error Handling
9	Туре		dpeat	·	3 3 3
Bal-	Interna-	Re-	Sin-	The candidate's name as it will be displayed on	If the element is invalid,
lot-	tional-	quire	dgle	the official ballot (e.g. "Ken T. Cuccinelli II").	then the implementation
Name	izedText	· 1	U	,	is required to ignore the
					Candidate element
					containing it.
Con-	single-	Op-	Sin-	Contact and physical address information for	If the element is invalid or
tact-	xml-	tional	gle	this Candidate and/or their campaign (see single-	not present, then the imple-
In-	contact-		_	xml-contact-information).	mentation is required to ig-
for-	informatio	on			nore it.
ma-					
tion					
Ex-	Exter-	Op-	Sin-	Another identifier for a candidate that links to	If the element is invalid or
ter-	nalI-	tional	gle	another source of information (e.g. a campaign	not present, then the imple-
nalI-	denti-			committee ID that links to a campaign finance	mentation is required to ig-
den-	fiers			system).	nore it.
ti-					
fiers					
File-	xs:date	Op-	Sin-	Date when the candidate filed for the contest.	If the field is invalid or not
Date		tional	gle		present, then the implemen-
					tation is required to ignore it.
IsIn-	xs:bool	.e @p r−	Sin-	Indicates whether the candidate is the incumbent	If the field is invalid or not
cum-		tional	gle	for the office associated with the contest.	present, then the implemen-
bent					tation is required to ignore it.
IsTopT	icket: bool	.eOapъ-	Sin-	Indicates whether the candidate is the top of a	If the field is invalid or not
		tional	gle	ticket that includes multiple candidates.	present, then the implemen-
					tation is required to ignore it.
Par-	xs:IDRE	FOp-	Sin-	Reference to a <i>Party</i> element with additional in-	If the field is invalid or not
tyId		tional	gle	formation about the candidate's affiliated party.	present, then the implemen-
				This is the party affiliation that is intended to be	tation is required to ignore it.
				presented as part of ballot information.	
Per-	xs:IDRE		Sin-	Reference to a <i>Person</i> element with additional	If the field is invalid or not
sonId		tional	gle	information about the candidate.	present, then the implemen-
			a.		tation is required to ignore it.
Post-	Candi-	Op-	Sin-	Final status of the candidate (e.g. winner, with-	If the field is invalid or not
Elec-	datePost-	tional	gle	drawn, etc).	present, then the implemen-
tion-	Elec-				tation is required to ignore it.
Sta-	tionSta-				
tus	tus		a.		XC.1. C.11:
Pre-	Candi-	Op-	Sin-	Registration status of the candidate (e.g. filed,	If the field is invalid or not
Elec-	datePre-	tional	gle	qualified, etc).	present, then the implemen-
tion-	Elec-				tation is required to ignore it.
Sta-	tionSta-				
tus	tus				

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</Candidate>

CandidateContest

CandidateContest extends single-xml-contest-base and represents a contest among candidates.

Num	Tag		Re-	Re-	Description	Error Han-
ber-Elected tional gle Ber-Elected Ber-Ber-Elected Ber-Ber-Elected Ber-Ber-Elected Ber-Ber-Elected Ber-Ber-Elected Ber-Ber-Ber-Elected Ber-Ber-Ber-Ber-Ber-Ber-Ber-Ber-Ber-Ber-	NT					
Elected Comparison Compari		· xs:1			· · · · · · · · · · · · · · · · · · ·	
then the implementation is required to ignore it. Of- celds Of- tional gle tional gle celds References a set of Office elements, if available, which give additional information about the offices. Note: the order of the office IDs must be in the same order as the candidates listed in BallotSelectionlds. E.g., if the various BallotSelectionlds reference CandidateSelection elements which reference the candidate for President first and Vice-President second, the OfficeIds should reference the office of President first and the office of Vice-President second. Pri- ma- tional gle ry- Par- ttylds Vote- xs: In Oper Sin- tional gle Maximum number of votes/write-ins per voter in this contest. If the field is invalid or not present, then the implementation is required to ignore it. Wote- skl- lowed Maximum number of votes/write-ins per voter in this contest. If the field is invalid or not present, then the implementation is required to ignore it.			tiona	l gle	M).	
Cofficient Cof	Electe	ed				
Cof-						
Cofficient Cof						•
Of- filtonal gle celds Signore it. References a set of Office elements, if available, which give additional information about the offices. Note: the order of the office IDs must be in the same order as the candidates listed in BallotSelection dls. E.g., if the various BallotSelectionlds reference CandidateSelection elements which reference the candidate for President first and Vice-President second, the Officelds should reference the office of President first and the office of Vice-President second. Primalitional gle Primalitional gle Primalitional gle Primalitional gle Note- Primalitional gle References Party elements, if the contest is related to a particular party. If the field is invalid or not present, then the implementation is required to ignore it. Wote- SS:: Propege Sintional gle Naximum number of votes/write-ins per voter in this contest. If the field is invalid or not present, then the implementation is required to ignore it.						
References a set of Office elements, if available, which give additional information about the offices. Note: the order of the office IDs must be information about the offices. Note: the order of the office IDs must be information about the offices. Note: the order of the office IDs must be information about the offices. Note: the order of the office IDs must be information about the offices. Note: the order of the office IDs must be information about the offices. Note: the order of the office IDs must be information about the office IDs must be information about the office IDs must be information about the office IDs must be in valid or not present, then the implementation is required to a particular party. Primal						
ficelds tional gle tional gle celds tional gle celds tional gle information about the offices. Note: the order of the office IDs must be in the same order as the candidates listed in BallotSelectionIds. E.g., if the various BallotSelectionIds reference CandidateSelection elements which reference the candidate for President first and Vice-President second, the Office of Vice-President second. Prima						
in the same order as the candidates listed in BallotSelectionIds. E.g., if the various BallotSelectionIds reference CandidateSelection elements which reference the candidate for President first and Vice-President second, the OfficeIds should reference the office of President first and the office of Vice-President second. Pri- xs: IOPF Sintional gle ry- party elements, if the contest is related to a particular party. References Party elements, if the contest is related to a particular party. If the field is invalid or not present, then the implementation is required to ignore it. Vote- xs: ropegeSintional gle lowed Maximum number of votes/write-ins per voter in this contest. If the field is invalid or not present, then the implementation is required to ignore it.	Of-	xs:	D Оф -F	S Sin-	References a set of Office elements, if available, which give additional	If the field
the various BallotSelectionIds reference CandidateSelection elements which reference the candidate for President first and Vice-President second, the Office of Vice-President second. Prideric XS: IOPEFS Sintional gle ry-Party lements tional gle ry-Partylds Vote-XS: IOPEFS Sintional gle lowed Maximum number of votes/write-ins per voter in this contest. Maximum number of votes/write-ins per voter in this contest. then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. Vote-XS: IOPEGS Sintional gle Maximum number of votes/write-ins per voter in this contest. If the field is invalid or not present, then the implementation is required to ignore it.	fi-		tional	gle	information about the offices. Note: the order of the office IDs must be	is invalid or
which reference the candidate for President first and Vice-President second, the Office of Vice-President second. Prions	ceIds				in the same order as the candidates listed in BallotSelectionIds. E.g., if	
ond, the Office Ids should reference the office of President first and the office of Vice-President second. Primational gle ry-Party lift the field is invalid or not present, then the implementation is required to ignore it. Vote-xs:inOpegeSintional gle lowed Naximum number of votes/write-ins per voter in this contest. If the field is invalid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it.					the various BallotSelectionIds reference CandidateSelection elements	then the
office of Vice-President second. Pri- xs: IOPFS Sintional gle ry- Party life to a particular party. Partylds Vote- xs: IOPFS Sintional gle limited to a particular party. Vote- xs: IOPFS Sintional gle limited to a particular party. Waximum number of votes/write-ins per voter in this contest. If the field is invalid or not present, then the implementation is required to ignore it. Vote- xs: IOPFS Sintional gle limited to a particular party. If the field is invalid or not present, then the implementation is required to ignore it.					which reference the candidate for President first and Vice-President sec-	implemen-
Pri-ma-tional gle ry-Par-tylds References Party elements, if the contest is related to a particular party. If the field is invalid or not present, then the implementation is required to ignore it.					ond, the OfficeIds should reference the office of President first and the	tation is
Primal rional gle References Party elements, if the contest is related to a particular party. References Party elements, if the contest is related to a particular party. If the field is invalid or not present, then the implementation is required to ignore it. Vote- xs: in the field is invalid or not present, then the implementation gle lowed Naximum number of votes/write-ins per voter in this contest. If the field is invalid or not present, then the implementation is required to ignore it.					office of Vice-President second.	required to
ma- ry- Par- tylds Vote- sAl- lowed Was: r@pegeSin- tional gle is invalid or not present, then the implemen- tation is required to ignore it. If the field is invalid or not present, then the implemen- tation or not present, then the implemen- tation is required to						ignore it.
ry- Par- tylds Vote- xs: in the gle implementation is required to ignore it. Vote- sAl- lowed Maximum number of votes/write-ins per voter in this contest. If the field is invalid or not present, then the implementation is required to ignore it.	Pri-	xs:	D OPPE F	S Sin-	References <i>Party</i> elements, if the contest is related to a particular party.	If the field
Partylds Vote- xs:inDegeSin- tional gle Maximum number of votes/write-ins per voter in this contest. If the field is invalid or not present, then the implementation is required to ignore it.	ma-		tiona	l gle		is invalid or
PartyIds Vote- sAl- lowed Waximum number of votes/write-ins per voter in this contest. Maximum number of votes/write-ins per voter in this contest. If the field is invalid or not present, then the implementation is required to	ry-					not present,
Vote- xs: integree Sinton Maximum number of votes/write-ins per voter in this contest. If the field is invalid or not present, then the implementation is required to						then the
Vote- xs: inthe-gesin- tional gle Maximum number of votes/write-ins per voter in this contest. If the field is invalid or not present, then the implementation is required to	tyIds					implemen-
Ignore it. Vote- xs: in the field is invalid or not present, then the implementation is required to						tation is
Vote-sAl-tional gle Maximum number of votes/write-ins per voter in this contest. If the field is invalid or not present, then the implementation is required to						required to
sAl- lowed is invalid or not present, then the implementation is required to						ignore it.
sAl- lowed is invalid or not present, then the implementation is required to	Vote-	xs:i	n Otpe g	eSin-	Maximum number of votes/write-ins per voter in this contest.	
lowed not present, then the implementation is required to	sAl-				*	is invalid or
then the implementation is required to	lowed	i				not present,
tation is required to						-
tation is required to						implemen-
required to						•
						ignore it.

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<VotesAllowed>1</VotesAllowed>
</CandidateContest>

ContestBase

A base model for all Contest types: *BallotMeasureContest*, *CandidateContest*, *PartyContest*, and *RetentionContest* (NB: the latter because it extends *BallotMeasureContest*).

Tag		Re- auire	Re-	Description s?	Error Handling
Ab- bre- via- tion		t Op -n	gSin-	An abbreviation for the contest.	If the field is invalid or not present, then the implementation should ignore it.
Bal- lot- Se- lec- tion- Ids	xs:]	tiona	1	References a set of BallotSelections, which could be of any selection type that extends single-xml-ballot-selection-base.	If the field is invalid or not present, then the implementation should ignore it.
Bal- lot- Sub- Ti- tle	In- ter- na- tion- al- ized- Text	Op- tiona	Sin- l gle	Subtitle of the contest as it appears on the ballot.	If the element is invalid or not present, then the implementation should ignore it.
Bal- lot- Ti- tle	In- ter- na- tion- al- ized- Text	Op- tiona	Sin- l gle	Title of the contest as it appears on the ballot.	If the element is invalid or not present, then the implementation should ignore it.
Electoral I istrictid		guire		References an <i>ElectoralDistrict</i> element that represents the geographical scope of the contest.	If the field is invalid, then the implementation is required to ignore the ContestBase element containing it.
Electorate Specification	- ter-	Op- tiona	Sin- l gle	Specifies any changes to the eligible electorate for this contest past the usual, "all registered voters" electorate. This subtag will most often be used for primaries and local elections. In primaries, voters may have to be registered as a specific party to vote, or there may be special rules for which ballot a voter can pull. In some local elections, non-citizens can vote.	If the element is invalid or not present, then the implementation should ignore it.
Ex- ter- nalI- den- ti- fiers	Ex- ter- nalI- den- ti- fiers	Op- tiona	Sin- l gle	Other identifiers for a contest that links to another source of information.	If the element is invalid or not present, then the implementation should ignore it.
Has- Ro- ta- tion		o ⊘ pi-e tiona		Indicates whether the selections in the contest are rotated.	If the field is invalid or not present, then the implementation should ignore it.
	xs:s	quire	dgle	Name of the contest, not necessarily how it appears on the ballot (NB: BallotTitle should be used for this purpose).	If the field is invalid, then the implementa 17 tion is required to ignore the ContestBase

CandidateSelection

CandidateSelection extends single-xml-ballot-selection-base and represents a ballot selection for a candidate contest.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dpeats	s?	
Can-	xs:I	D O pf	S Sin-	References a set of <i>Candidate</i> elements. The number of	If the field is invalid
di-		tiona	gle	candidates that can be references is unbounded in cases	or not present, then the
dateIds				where the ballot selection is for a ticket (e.g. "Presi-	implementation is re-
				dent/Vice President", "Governor/Lt Governor").	quired to ignore it.
En-	xs:I	D O pf	S Sin-	References a set of <i>Party</i> elements, which signifies one or	If the field is invalid
dorse-		tiona	gle	more endorsing parties for the candidate(s).	or not present, then the
ment-					implementation is re-
Par-					quired to ignore it.
tyIds					
IsWrite	In ⋉s:b	⊙0 pte∂	arSin-	Signifies if the particular ballot selection allows for write-	If the field is invalid
		tiona	gle	in candidates. If true, one or more write-in candidates are	or not present, then the
				allowed for this contest.	implementation is re-
					quired to ignore it.

<CandidateSelection id="cs10861">

- <CandidateIds>can10861a can10861b
- <EndorsementPartyIds>par0001</EndorsementPartyIds>
- </CandidateSelection>

BallotSelectionBase

2

3

A base model for all ballot selection types: BallotMeasureSelection, CandidateSelection, and PartySelection.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeat	s?	
Se-	xs:i	n tOp peje	rSin-	The order in which a selection can be listed on the bal-	If the field is invalid or
quence	-	tiona	l gle	lot or in results. This is the default ordering, and can	not present, then the im-
Order				be overridden by OrderedBallotSlectionIds in Ordered-	plementation is required to
				Contest.	ignore it.

Checksum

The Checksum object contains information about a cryptographic checksum, including the raw checksum value and the cryptographic hash algorithm used to compute it.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dpeats	5?	
Al-	Check-	Re-	Sin-	The cryptographic hash algorithm	If the field is invalid, then the im-
go-	sumAl-	quire	d gle	used to compute the checksum value.	plementation is required to ignore the
rithm	go-				Checksum element containing it.
	rithm				
Value	xs:str	in Re -	Sin-	The raw cryptographic checksum	If the field is invalid, then the im-
		quired gle		value encoded as a non-delimited,	plementation is required to ignore the
				lowercase hexadecimal string.	Checksum element containing it.

```
checksum>
c
```

ContactInformation

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *ElectionAdministration*, *Office*, *Person*, *Source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag	Data Type	Re-	Re- døeats	Description	Error Handling
A 1					TC .1 . C .1.1
Ad- dressL			peats		If the field is invalid or not present, then the implementation is required to ignore it.
Di- rec- tions	In- ter- na- tion- al- ized- Text	Op- tional	Sin- gle	Specifies further instructions for locating this entity.	If the element is invalid or not present, then the implementation is required to ignore it.
Email	xs:st		Re- peats	An email address for the contact.	If the field is invalid or not present, then the implementation is required to ignore it.
Fax			peats		If the field is invalid or not present, then the implementation is required to ignore it.
Hours [dep- re- cated]	In- ter- na- tion- al- ized- Text	Op- tional	Sin- gle	Contains the hours (in local time) that the location is open (NB: this element is deprecated in favor of the more structured :ref: 'single-xml-hours-open' element. It is strongly encouraged that data providers move toward contributing hours in this format).	If the element is invalid or not present, then the implementation is required to ignore it.
Hour- sOpen	xs:II Id	Ю р ғ tional	Sin- gle	References an <i>HoursOpen</i> element, which lists the hours of operation for a location.	If the field is invalid or not present, then the implementation is required to ignore it.
LatLng	g single- xml- lat- lng	Op- tional	Sin- gle	Specifies the latitude and longitude of this entity.	If the element is invalid or not present, then the implementation is required to ignore it.
Name	xs:st	tional		The name of the location or contact. See usage note.	If the field is invalid or not present, then the implementation is required to ignore it.
Phone	xs:st	l I	Re- peats	A phone number for the contact.	If the field is invalid or not present, then the implementation is required to ignore it.
Uri	xs:ar		Re- peats		If the field is invalid or not present, then the implementation is required to
20				Chapter 2.	XMA-Pacumentation

Name and AddressLine Usage Note

The Name and AddressLine fields should be chosen so that a display or mailing address can be constructed programmatically by joining the Name and AddressLine fields together. For example, for the following address:

```
Department of Elections
1 Dr. Carlton B. Goodlett Place, Room 48
San Francisco, CA 94102
```

The name could be "Department of Elections" and the first address line could be "1 Dr. Carlton B. Goodlett Place, Room 48."

However, VIP does not yet support the representation of mailing addresses whose "name" portion spans more than one line, for example:

```
California Secretary of State
Elections Division
1500 11th Street
Sacramento, CA 95814
```

For addresses like the above, we recommend choosing a name like, "California Secretary of State, Elections Division" with "1500 11th Street" as the first address line. This would result in a programmatically constructed address like the following:

```
California Secretary of State, Elections Division
1500 11th Street
Sacramento, CA 95814
```

```
contactInformation label="ci10861a">
cAddressLine>1600 Pennsylvania Ave</AddressLine>
cAddressLine>Washington, DC 20006</AddressLine>
cEmail>president@whitehouse.gov</Email>
cPhone>202-456-1111</Phone>
cPhone annotation="TDD">202-456-6213</Phone>
cUri>http://www.whitehouse.gov</Uri>
c/ContactInformation>
```

ContestBase

A base model for all Contest types: *BallotMeasureContest*, *CandidateContest*, *PartyContest*, and *RetentionContest* (NB: the latter because it extends *BallotMeasureContest*).

Tag		Re- Re		Error Handling
		quired@ea		
Ab-	xs:	t Op -ngSin	- An abbreviation for the contest.	If the field is
bre-		tional gle		invalid or not
via-				present, then the
tion				implementation
				should ignore it.
Bal-	Yc.	DOMEFS Sin	References a set of BallotSelections, which could be of any se-	If the field is
	AS			
lot-		tional gle	lection type that extends single-xml-ballot-selection-base.	
Se-				present, then the
lec-				implementation
tion-				should ignore it.
Ids				
Bal-	In-	Op- Sin	- Subtitle of the contest as it appears on the ballot.	If the element
lot-	ter-	tional gle		is invalid or not
Sub-	na-	l tronui gro		present, then the
Ti-	tion-			implementation
tle	al-			should ignore it.
	ized-			
	Text			
Bal-	In-	Op- Sin	- Title of the contest as it appears on the ballot.	If the element
lot-	ter-	tional gle		is invalid or not
Ti-	na-			present, then the
tle	tion-			implementation
tic	al-			_
				should ignore it.
	ized-			
	Text			
Elec-		DREF Sin	1	If the field is
toralI) -	quiredgle	graphical scope of the contest.	invalid, then
is-				the implementa-
tric-				tion is required
tId				to ignore the
				ContestBase
				element containing
T.	7	0 2:		it.
Elec-	In-	Op- Sin		If the element
torate		tional gle	past the usual, "all registered voters" electorate. This subtag	is invalid or not
Spec-	na-		will most often be used for primaries and local elections. In	present, then the
ifi-	tion-		primaries, voters may have to be registered as a specific party to	implementation
ca-	al-		vote, or there may be special rules for which ballot a voter can	should ignore it.
tion	ized-		pull. In some local elections, non-citizens can vote.	
	Text		1	
Ex-	Ex-	Op- Sin	Other identifiers for a contest that links to another source of in-	If the element
		1 * 1		
ter-	ter-	tional gle	formation.	is invalid or not
nalI-	nalI-			present, then the
den-	den-			implementation
ti-	ti-			should ignore it.
fiers	fiers			_
Has-	U	oOp1-eaSin	- Indicates whether the selections in the contest are rotated.	If the field is
Ro-	220.1		indicates whether the selections in the contest are rotated.	
		tional gle		
ta-				present, then the
tion				implementation
				should ignore it.
Name	xs:s	t Re -ngSin	Name of the contest, not necessarily how it appears on the ballot	If the field is
		quiredgle	(NB: BallotTitle should be used for this purpose).	invalid, then
22			Chapter 2. X	М _{Не} Docыmentation
				tion is required
				_
	l	I I		to ignore the

ContestBase

Department

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	dpeat	s?	
Contact-	single-	Op-	Sin-	Contact and physical address informa-	If the element is invalid or not
Infor-	xml-	tional	gle	tion for the election administration body	present, then the implementa-
mation	contact-			(see single-xml-contact-information).	tion is required to ignore it.
	information				
Elec-	xs:IDREF	Op-	Sin-	The individual to contact at the election	If the field is invalid or not
tionOffi-		tional	gle	administration office. The specified per-	present, then the implementa-
cialPer-				son should be the <i>election official</i> .	tion is required to ignore it.
sonId					
Vot-	single-	Op-	Re-	The types of services and appropriate	If the element is invalid or not
erSer-	xml-voter-	tional	peats	contact individual available to voters.	present, then the implementa-
vice	service				tion is required to ignore it.

VoterService

Tag	Data Type	Re-	Re-	Description	Error Handling
		quire	d?peats	?	
Contact-	single-xml-	Op-	Sin-	The contact for a particular voter	If the element is invalid or not
Informa-	contact-	tional	gle	service.	present, then the implementation is
tion	information				required to ignore it.
Descrip-	Internation-	Op-	Sin-	Long description of the services	If the element is invalid or not
tion	alizedText	tional	gle	available.	present, then the implementation is
					required to ignore it.
Elec-	xs:IDREF	Op-	Sin-	The <i>authority</i> for a particular	If the field is invalid or not present,
tionOffi-		tional	gle	voter service.	then the implementation is re-
cialPer-					quired to ignore it.
sonId					
Type	VoterSer-	Op-	Sin-	The type of <i>voter service</i> .	If the field is invalid or not present,
	viceType	tional	gle		then the implementation is re-
					quired to ignore it.
Other-	xs:string	Op-	Sin-	If Type is "other", OtherType al-	If the field is invalid or not present,
Type		tional	gle	lows for cataloging another type	then the implementation is re-
				of voter service.	quired to ignore it.

ContactInformation

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *ElectionAdministration*, *Office*, *Person*, *Source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag	Data	Re-	Re-	Description	Error Handling
	Type		dβeats		
Ad-		ı Op rg		The "location" portion of a mailing address. See usage note.	If the field is in-
dressL	ine	tional	peats		valid or not present, then the implemen- tation is required to ignore it.
Di-	In-	Op-	Sin-	Specifies further instructions for locating this entity.	If the element is in-
rec-	ter-	tional		specifies further instructions for locating this entity.	valid or not present,
tions	na- tion- al- ized- Text	tional	gie		then the implementation is required to ignore it.
Email		. 1 Ор нд	Re-	An email address for the contact.	If the field is in-
Eman	xs:st	- 1	peats	All email address for the contact.	valid or not present, then the implemen- tation is required to ignore it.
Fax	xs:st	1 Op 1-g	Re-	A fax line for the contact.	If the field is in-
			peats		valid or not present, then the implemen- tation is required to ignore it.
Hours	In-	Op-	Sin-	Contains the hours (in local time) that the location is open	If the element is in-
[dep-	ter-	tional	gle	(NB: this element is deprecated in favor of the more struc-	valid or not present,
re-	na-			tured :ref: 'single-xml-hours-open' element. It is strongly	then the implemen-
cated]	tion- al- ized- Text			encouraged that data providers move toward contributing hours in this format).	tation is required to ignore it.
Hour-	xs:II	POn-	Sin-	References an <i>HoursOpen</i> element, which lists the hours of	If the field is in-
sOpen		tional		operation for a location.	valid or not present, then the implemen- tation is required to ignore it.
LatLng	g single-	Op-	Sin-	Specifies the latitude and longitude of this entity.	If the element is in-
	xml- lat- lng	tional	gle		valid or not present, then the implemen- tation is required to ignore it.
Name	xs:st	:1Ор +g	Sin-	The name of the location or contact. See usage note.	If the field is in-
		tional			valid or not present, then the implemen- tation is required to ignore it.
Phone	xs:st	10 p 1-g	Re-	A phone number for the contact.	If the field is in-
		tional	peats		valid or not present, then the implemen- tation is required to ignore it.
Uri	xs:ar	ny Op RI	Re-	An informational URI for the contact or location.	If the field is in-
		- 1	peats		valid or not present,
			1		then the implemen-
					tation is required to
24				Chapter 2.	XMHoPqcumentation

Name and AddressLine Usage Note

The Name and AddressLine fields should be chosen so that a display or mailing address can be constructed programmatically by joining the Name and AddressLine fields together. For example, for the following address:

```
Department of Elections
1 Dr. Carlton B. Goodlett Place, Room 48
San Francisco, CA 94102
```

The name could be "Department of Elections" and the first address line could be "1 Dr. Carlton B. Goodlett Place, Room 48."

However, VIP does not yet support the representation of mailing addresses whose "name" portion spans more than one line, for example:

```
California Secretary of State
Elections Division
1500 11th Street
Sacramento, CA 95814
```

For addresses like the above, we recommend choosing a name like, "California Secretary of State, Elections Division" with "1500 11th Street" as the first address line. This would result in a programmatically constructed address like the following:

```
California Secretary of State, Elections Division
1500 11th Street
Sacramento, CA 95814
```

Election

The Election object represents an Election Day, which usually consists of many individual contests and/or referenda. A feed must contain **exactly one** Election object. All relationships in the feed (e.g., street segment to precinct to polling location) are assumed to relate only to the Election specified by this object. It is permissible, and recommended, to combine unrelated contests (e.g., a special election and a general election) that occur on the same day into one feed with one Election object.

Tag		Re-	Re- døeats	Description s?	Error Handling
Date	xs:0	da Re quire	Sin- e d gle	Specifies when the election is being held. The <i>Date</i> is considered to be in the timezone local to the state holding the election.	If the field is invalid, then the implementation is required to ignore the Election element containing it.
Election- Type	In- ter- na- tion- al- ized- Text	Op- tiona	Sin- l gle	Specifies the highest controlling authority for election (e.g., federal, state, county, city, town, etc.)	If the element is invalid or not present, then the implementation is required to ignore it.
StateId		quire	e d gle	Specifies a link to the <i>State</i> element where the election is being held.	If the field is invalid, then the implementation is required to ignore the Election element containing it.
Is- Statew		c Opl -e tiona		Indicates whether the election is statewide.	If the field is not present or in- valid, the imple- mentation is re- quired to default to "yes".
Name	In- ter- na- tion- al- ized- Text	Op- tional	Sin- l gle	The name for the election (NB : while optional, this element is highly recommended).	If the element is invalid or not present, then the implementation is required to ignore it.
Reg- is- tra- tionInf	In- ter- na-	Op- tional	Sin- l gle	Specifies information about registration for this election either as text or a URI.	If the element is invalid or not present, then the implementation is required to ignore it.
Ab- sen- tee- Bal- lot- Info	In- ter- na- tion- al- ized- Text	Op- tional	Sin- l gle	Specifies information about requesting absentee ballots either as text or a URI	If the element is invalid or not present, then the implementation is required to ignore it.
Re- sult- sUri		ar Qp UR tiona		Contains a URI where results for the election may be found	If the field is invalid or not present, then the
26				Chapter 2. XM	Li Documentation is required to
Polling	g Hø urs	Op-	Sin-	Contains the hours (in local time) that Election Day polling loca-	ignore it. If the element

```
<Election id="ele30000">
     <AbsenteeRequestDeadline>2013-10-30</AbsenteeRequestDeadline>
2
     <Date>2013-11-05</Date>
3
     <ElectionType>
       <Text language="en">General</Text>
       <Text language="es">Generales</Text>
     </ElectionType>
     <HasElectionDayRegistration>false/HasElectionDayRegistration>
     <HoursOpenId>hours0001/HoursOpenId>
9
     <IsStatewide>true</IsStatewide>
10
     <Name>
11
       <Text language="en">2013 Statewide General</Text>
12
13
     </Name>
     <RegistrationDeadline>2013-10-15/RegistrationDeadline>
14
     <ResultsUri>http://www.sbe.virginia.gov/ElectionResults.html/ResultsUri>
15
     <StateId>st51</StateId>
16
   </Election>
```

ElectionAdministration

The Election Administration represents an institution for serving a locality's (or state's) election functions.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dβeats	s?	_
Ab-	xs:a	ny Op RI	Sin-	Specifies the web address for informa-	If the field is invalid or not present, then the
sen-		tional	gle	tion on absentee voting.	implementation is required to ignore it.
teeUri					
AmIRe	g-xs:a	ny Op RI	Sin-	Specifies the web address for informa-	If the field is invalid or not present, then the
is-		tional	gle	tion on whether an individual is regis-	implementation is required to ignore it.
tere-				tered.	
dUri					
Bal-	xs:a	ո ջՕբ RI	Sin-	Specifies the web address for tracking	If the field is invalid or not present, then the
lot-		tional	gle	information for a ballot cast by mail	implementation is required to ignore it.
Trackin	gUri			·	
Bal-		ny Op RI	Sin-	Specifies the web address for tracking	If the field is invalid or not present, then the
lot-		tional		information for a provisional ballot.	implementation is required to ignore it.
Pro-				To support EAC guidelines for "Pro-	
vi-				cessing Provisional Ballots" (https:	
sion-				//www.eac.gov/research-and-data/	
al-				provisional-voting/)	
Trackin	gUri				
De-	single-	Re-	Re-	Describes the administrative body for	There must be at least one valid <i>Depart</i> -
part-	xml-		dpeats	a particular voter service.	ment in each ElectionAdministration ele-
ment	depart		1	•	ment. If no valid <i>Department</i> objects are
	1				present, the implementation is required to
					ignore the <i>ElectionAdministration</i> object
					that contains it/them.
Elec-	single-	Ор-	Sin-	A place for election administrators to	If the element is invalid or not present, then
tion-	xml-	tional	gle	post last minute and emergency notifi-	the implementation is required to ignore it.
No-	electio	n-		cations pertaining to the election.	
tice	notice				
Elec-	xs:a	ny Op RI	Sin-	Specifies web address the administra-	If the field is invalid or not present, then the
tion-		tional		tion's website.	implementation is required to ignore it.
sUri					
Reg-	xs:a	ny Op RI	Sin-	Specifies web address for information	If the field is invalid or not present, then the
istra-		tional		on registering to vote.	implementation is required to ignore it.
tionUri					
RulesU	rixs:aı	n Op RI	Sin-	Specifies a URI for the election rules	If the field is invalid or not present, then the
		tional		and laws (if any) for the jurisdiction of	implementation is required to ignore it.
				the administration.	
WhatI-	xs:aı	ny Op RI	Sin-	Specifies web address for information	If the field is invalid or not present, then the
sOn-		tional		on what is on an individual's ballot.	implementation is required to ignore it.
My-					
Bal-					
lo-					
tUri					
Where-	xs:aı	ny Op RI	Sin-	The Specifies web address for infor-	If the field is invalid or not present, then the
DoIV-	·	tional		mation on where an individual votes	implementation is required to ignore it.
0-			0	based on their address.	1
teUri				The same and additional and a same a same a same and a same a	

```
<ElectionAdministration id="ea40133">
```

(continues on next page)

28

<AbsenteeUri>http://www.sbe.virginia.gov/absenteevoting.html</AbsenteeUri>

<AmIRegisteredUri>https://www.vote.virginia.gov/</AmIRegisteredUri>

(continued from previous page)

```
<BallotTrackingUri>https://www.vote.virginia.gov//BallotTrackingUri>
      <BallotProvisionalTrackingUri>https://www.vote.virginia.gov///
   →BallotProvisionalTrackingUri>
      <Department>
        <ContactInformation label="ci60000">
          <ahddressLine>Washington Building First Floor</ahddressLine>
          <AddressLine>1100 Bank Street</AddressLine>
          <AddressLine>Richmond, VA 23219</AddressLine>
10
          <Name>State Board of Elections
11
        </ContactInformation>
12
      </Department>
13
      <ElectionNotice>
        <NoticeText>
          <Text language="en">This is an emergency notification for this election.
16
        </NoticeText>
17
        <NoticeURI>https://www.yadayada.gov</NoticeURI>
18
      </ElectionNotice>
19
      <ElectionsUri>http://www.sbe.virginia.gov/</ElectionsUri>
20
      <RegistrationUri>https://www.vote.virginia.gov//RegistrationUri>
21
      <RulesUri>http://www.sbe.virginia.gov/</RulesUri>
22
      <WhatIsOnMyBallotUri>https://www.vote.virginia.gov/</WhatIsOnMyBallotUri>
23
      <WhereDoIVoteUri>https://www.vote.virginia.gov/</WhereDoIVoteUri>
24
   </ElectionAdministration>
```

Department

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	dpeats	s?	
Contact-	single-	Op-	Sin-	Contact and physical address informa-	If the element is invalid or not
Infor-	xml-	tional	gle	tion for the election administration body	present, then the implementa-
mation	contact-			(see single-xml-contact-information).	tion is required to ignore it.
	information				
Elec-	xs:IDREF	Op-	Sin-	The individual to contact at the election	If the field is invalid or not
tionOffi-		tional	gle	administration office. The specified per-	present, then the implementa-
cialPer-				son should be the election official.	tion is required to ignore it.
sonId					
Vot-	single-	Op-	Re-	The types of services and appropriate	If the element is invalid or not
erSer-	xml-voter-	tional	peats	contact individual available to voters.	present, then the implementa-
vice	service				tion is required to ignore it.

VoterService

Tag	Data Type	Re-	Re-	Description	Error Handling
		quire	d?peats	?	_
Contact-	single-xml-	Op-	Sin-	The contact for a particular voter	If the element is invalid or not
Informa-	contact-	tional	gle	service.	present, then the implementation is
tion	information				required to ignore it.
Descrip-	Internation-	Op-	Sin-	Long description of the services	If the element is invalid or not
tion	alizedText	tional	gle	available.	present, then the implementation is
					required to ignore it.
Elec-	xs:IDREF	Op-	Sin-	The authority for a particular	If the field is invalid or not present,
tionOffi-		tional	gle	voter service.	then the implementation is re-
cialPer-					quired to ignore it.
sonId					
Type	VoterSer-	Op-	Sin-	The type of <i>voter service</i> .	If the field is invalid or not present,
	viceType	tional	gle		then the implementation is re-
					quired to ignore it.
Other-	xs:string	Op-	Sin-	If Type is "other", OtherType al-	If the field is invalid or not present,
Type		tional	gle	lows for cataloging another type	then the implementation is re-
				of voter service.	quired to ignore it.

ContactInformation

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *ElectionAdministration*, *Office*, *Person*, *Source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag	Data	Re-	Re-	Description	Error Handling
	Туре		dpeats		70 1 0 11 1
Ad- dressL		tional	l peats	The "location" portion of a mailing address. See usage note.	If the field is invalid or not present, then the implementation is required to ignore it.
Di- rec- tions	In- ter- na- tion- al- ized- Text	Op- tional	Sin-	Specifies further instructions for locating this entity.	If the element is invalid or not present, then the implementation is required to ignore it.
Email		tional	l peats	An email address for the contact.	If the field is invalid or not present, then the implementation is required to ignore it.
Fax	xs:st	tional	l peats	A fax line for the contact.	If the field is invalid or not present, then the implementation is required to ignore it.
Hours [dep- re- cated]	ter- na-	Op- tional	Sin-	Contains the hours (in local time) that the location is open (NB: this element is deprecated in favor of the more structured :ref: 'single-xml-hours-open' element. It is strongly encouraged that data providers move toward contributing hours in this format).	If the element is invalid or not present, then the implementation is required to ignore it.
Hour- sOpen		HOpp- tional	Sin- l gle	References an <i>HoursOpen</i> element, which lists the hours of operation for a location.	If the field is invalid or not present, then the implementation is required to ignore it.
LatLn	g single- xml- lat- lng	Op- tional	Sin- l gle	Specifies the latitude and longitude of this entity.	If the element is invalid or not present, then the implementation is required to ignore it.
Name	xs:st	tional		The name of the location or contact. See usage note.	If the field is invalid or not present, then the implementation is required to ignore it.
Phone	xs:st	- 1	Re- l peats	A phone number for the contact.	If the field is invalid or not present, then the implementation is required to ignore it.
Uri	xs:ar	1	Re- l peats	An informational URI for the contact or location.	If the field is invalid or not present, then the implementation is required to
2.1. XI	ML Spe	cificat	tion		ignore it.

Name and AddressLine Usage Note

The Name and AddressLine fields should be chosen so that a display or mailing address can be constructed programmatically by joining the Name and AddressLine fields together. For example, for the following address:

```
Department of Elections
1 Dr. Carlton B. Goodlett Place, Room 48
San Francisco, CA 94102
```

The name could be "Department of Elections" and the first address line could be "1 Dr. Carlton B. Goodlett Place, Room 48."

However, VIP does not yet support the representation of mailing addresses whose "name" portion spans more than one line, for example:

```
California Secretary of State
Elections Division
1500 11th Street
Sacramento, CA 95814
```

For addresses like the above, we recommend choosing a name like, "California Secretary of State, Elections Division" with "1500 11th Street" as the first address line. This would result in a programmatically constructed address like the following:

```
California Secretary of State, Elections Division
1500 11th Street
Sacramento, CA 95814
```

ElectionNotice

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d peats	?	
No-	Inter-	Re-	Sin-	The last minute or emergency noti-	If the element is invalid, then the im-
tice-	nation-	quired gle		fication text should be placed here.	plementation is required to ignore the
Text	alized-				ElectionNotice element containing it.
	Text				
No-	xs:any	∪ Юр-	Sin-	Optional URL for additional infor-	If the field is invalid or not present, then the
ticeU	ri	tional	gle	mation related to the last minute or	implementation is required to ignore it.
				emergency notification.	

VoterService

Tag	Data Type	Re-	Re-	Description	Error Handling
		quired?peats?			
Contact-	single-xml-	Op-	Sin-	The contact for a particular voter	If the element is invalid or not
Informa-	contact-	tional	gle	service.	present, then the implementation is
tion	information				required to ignore it.
Descrip-	Internation-	Op-	Sin-	Long description of the services	If the element is invalid or not
tion	alizedText	tional	gle	available.	present, then the implementation is
					required to ignore it.
Elec-	xs:IDREF	Op-	Sin-	The <i>authority</i> for a particular	If the field is invalid or not present,
tionOffi-		tional	gle	voter service.	then the implementation is re-
cialPer-					quired to ignore it.
sonId					
Type	VoterSer-	Op-	Sin-	The type of <i>voter service</i> .	If the field is invalid or not present,
	viceType	tional	gle		then the implementation is re-
					quired to ignore it.
Other-	xs:string	Op-	Sin-	If Type is "other", OtherType al-	If the field is invalid or not present,
Type		tional	gle	lows for cataloging another type	then the implementation is re-
				of voter service.	quired to ignore it.

ElectionNotice

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d peats	?	
No-	Inter-	Re-	Sin-	The last minute or emergency noti-	If the element is invalid, then the im-
tice-	nation-	quired gle		fication text should be placed here.	plementation is required to ignore the
Text	alized-				ElectionNotice element containing it.
	Text				
No-	xs:any	U KO ip-	Sin-	Optional URL for additional infor-	If the field is invalid or not present, then the
ticeU	ri	tional	gle	mation related to the last minute or	implementation is required to ignore it.
				emergency notification.	

ElectoralDistrict

The ElectoralDistrict object represents the geographic area in which contests are held. Examples of ElectoralDistrict include: "the state of Maryland", "Virginia's 5th Congressional District", or "Union School District". The geographic area that comprises a ElectoralDistrict is defined by which precincts link to the ElectoralDistrict.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	dβeats	s?	_
Ex-	Ex-	Op-	Sin-	Other identifiers that link to external datasets (e.g.	If the element is invalid or
ter-	ter-	tional	gle	OCD-IDs)	not present, then the imple-
nalI-	nalI-				mentation is required to ig-
den-	den-				nore it.
ti-	ti-				
fiers	fiers				
Name	xs:s	t Rė -n	g Sin-	Specifies the electoral area's name.	If the field is invalid or not
		quire	dgle		present, then the implemen-
					tation is required to ignore
					the ElectoralDistrict
					object containing it.
Num-	xs:i	n Op g	≘iSin-	Specifies the district number of the district (e.g. 34, in	If the field is invalid or not
ber		tional	gle	the case of the 34th State Senate District). If a number	present, then the implemen-
				is not applicable, instead of leaving the field blank,	tation is required to ignore it.
				leave this field out of the object; empty strings are not	
				valid for xs:integer fields.	
Type	Dis-	Re-	Sin-	Specifies the type of electoral area.	If the field is invalid or not
	trict-	quire	dgle		present, then the implemen-
	Туре				tation is required to ignore
					the ElectoralDistrict
					object containing it.
Oth-	xs:s	t 0p n		Allows for cataloging a new <i>DistrictType</i> option when	If the field is invalid or not
er-		tional	gle	Type is specified as "other".	present, then the implemen-
Type					tation is required to ignore it.

```
<ElectoralDistrict id="ed60129">
      <ExternalIdentifiers>
2
        <ExternalIdentifier>
          <Type>ocd-id</Type>
          <Value>ocd-division/country:us/state:va</Value>
        </ExternalIdentifier>
6
        <ExternalIdentifier>
          <Type>fips</Type>
          <Value>51</Value>
        </ExternalIdentifier>
10
      </ExternalIdentifiers>
11
      <name>Commonwealth of Virginia</name>
12
      <Type>state</Type>
   </ElectoralDistrict>
```

ExternalFile

The ExternalFile object holds a reference to a file external to the feed itself. External files are packaged along with the VIP feed into a single, archived file.

Tag	Data	Re-	Re- Description		Error Handling
	Туре	quired	l?peats	?	
FileU	rixs:anyU	RRe- Sin-		The URI of the external	If the field is invalid, then the implementation is
		quired gle		file.	required to ignore the ExternalFile element
					containing it.
Check	- single-	Re-	Sin-	The cryptographic check-	If the element is invalid, then the implementation
sum	xml-	quired	l gle	sum of the referenced ex-	is required to ignore the ExternalFile ele-
	checksum			ternal file.	ment containing it.

Checksum

The Checksum object contains information about a cryptographic checksum, including the raw checksum value and the cryptographic hash algorithm used to compute it.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d peats	3?	
Al-	Check-	Re-	Sin-	The cryptographic hash algorithm	If the field is invalid, then the im-
go-	sumAl-	quired gle		used to compute the checksum value.	plementation is required to ignore the
rithm	go-				Checksum element containing it.
	rithm				
Value	xs:str	in Re -	Sin-	The raw cryptographic checksum	If the field is invalid, then the im-
		quired gle		value encoded as a non-delimited,	plementation is required to ignore the
				lowercase hexadecimal string.	Checksum element containing it.

ExternalGeospatialFeature

The ExternalGeospatialFeature object contains a reference to a geospatial feature (one or more shapes) contained in a separate file external to the VIP feed.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeat	3?	
Ex-	xs:I) Re F	Sin-	Links to the <i>ExternalFile</i> containing the geospatial shape(s)	If the field is in-
ter-		quire	d gle	that define the feature's boundary.	valid, then the
nal-					implementation is
FileIc	1				required to ignore the
					ExternalGeospatialFeature
					element containing it.
File-	Geosp	a-Re-	Sin-	The format of the geospatial file.	If the field is in-
For-	tial-	quire	d gle		valid, then the
mat	For-				implementation is
	mat				required to ignore the
					ExternalGeospatialFeature
					element containing it.
Fea-	single-	Re-	Re-	Identifiers indicating which specific shape(s) to use from the	If the element is
tureI-	xml-	quire	d peats	geospatial file. These refer to identifiers within the refer-	invalid, then the
den-	feature	-		enced external file. This is a repeated field in the XML	implementation is
ti-	identif	ier		specification, but a scalar field in the CSV specification. If	required to ignore the
fier				more than one identifier is required with the CSV specifia-	ExternalGeospatialFeature
				tion, multiple values can be provided by delimited by space.	element containing it.

FeatureIdentifier

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quired?	peats?		
In-	xs:int	Op-	Single	The index value for the	If the field is invalid or not present, then the imple-
dex	tional			shapefile feature.	mentation is required to ignore it.

Externalldentifier

Tag	Data	Re-	Re-	Description	Error Handling
_	Туре	quire	døeats	s?	
Type	Iden-	Re-	Sin-	Specifies the type of identifier. Must be one of	If the field is invalid or not
	ti-	quire	d gle	the valid types as defined by <i>IdentifierType</i> .	present, the implementa-
	fier-				tion is required to ignore the
	Туре				ElectionIdentifier con-
					taining it.
Oth-	xs:s	t 0p n	g Sin-	Allows for cataloging an	If the field is invalid or not present,
er-		tional	l gle	ExternalIdentifier type that falls	then the implementation is required
Type				outside the options listed in IdentifierType.	to ignore it.
				Type should be set to "other" when using this	
				field.	
Value	xs:s	t Re -no	g Sin-	Specifies the identifier.	If the field is invalid or not
		quire	d gle		present, the implementa-
					tion is required to ignore the
					ElectionIdentifier con-
					taining it.

```
<ExternalIdentifiers>
      <ExternalIdentifier>
2
         <Type>ocd-id</Type>
3
         <Value>ocd-division/country:us/state:nc/county:durham</Value>
      </ExternalIdentifier>
      <ExternalIdentifier>
         <Type>FIPS</Type>
         <Value>37063</Value>
      </ExternalIdentifier>
      <ExternalIdentifier>
10
         <Type>OTHER</Type>
11
12
         <OtherType>GNIS</OtherType>
         <Value>1008550</Value>
13
      </ExternalIdentifier>
14
      <external_identifer>
15
         <Type>OTHER</Type>
16
         <OtherType>census
17
         <Value>99063</Value>
      </ExternalIdentifier>
   </ExternalIdentifiers>
```

Externalldentifiers

The ExternalIdentifiers element allows VIP data to connect with external datasets (e.g. candidates with campaign finance datasets, electoral geographies with OCD-IDs that allow for greater connectivity with additional datasets, etc...). Examples for ExternalIdentifiers can be found on the objects that support them:

- Candidate
- Any element that extends single-xml-contest-base
- ElectoralDistrict
- Locality
- Office
- Party
- Precinct
- State

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	dβeats	s?	
Ex-	Ex-	Re-	Re-	Defines the identifier and	At least one valid ExternalIdentifier must be present
ter-	ter-	quire	d peats	the type of identifier it is	for ExternalIdentifiers to be valid. If no valid
nalI-	nalI-			(see ExternalIdentifier for	ExternalIdentifier is present, the implementation is re-
den-	den-			complete information).	quired to ignore the ExternalIdentifiers ele-
ti-	ti-				ment.
fier	fier				

FeatureIdentifier

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quired?	peats?		
In-	xs:int	Op-	Single	The index value for the	If the field is invalid or not present, then the imple-
dex		tional		shapefile feature.	mentation is required to ignore it.

Hours

The open and close time for this place. All times must be fully specified, including a timezone offset from UTC.

Tag	Data Type	Re-	Re-	Description	Error Handling
		quired?	peats?		
Start-	single-xml-	Op-	Sin-	The time at which	If the element is invalid or not present, then the
Time	time-with-	tional	gle	this place opens.	implementation is required to ignore it.
	zone				
End-	single-xml-	Op-	Sin-	The time at which	If the element is invalid or not present, then the
Time	time-with-	tional	gle	this place closes.	implementation is required to ignore it.
	zone				

TimeWithZone

A string pattern restricting the value to a time with an included offset from UTC. The pattern is

```
(([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9]|(24:00:00))(z|[+-]((0[0-9]|1[0-3]):[0-5][0-9]|14=0)
```

```
<HoursOpen id="hours0001">
    <Schedule>
2
      <Hours>
        <StartTime>06:00:00-05:00
        <EndTime>12:00:00-05:00
      </Hours>
6
      <Hours>
        <StartTime>13:00:00-05:00
        <EndTime>19:00:00-05:00
      </Hours>
      <StartDate>2013-11-05
11
      <EndDate>2013-11-05</EndDate>
12
    </Schedule>
13
  </HoursOpen>
```

HoursOpen

A structured way of describing the days and hours that a place such as a *Office* or *PollingLocation* is open, or that an event such as an *Election* is happening. The range of days indicated by the *StartDate* and *EndDate* in each 'Schedule'_ element should not overlap with peer 'Schedule'_ elements. For example, it is invalid to specify a schedule from 10/01/2016 to 10/31/2016 and also specify a schedule from 10/10/2016 to 10/11/2016 within the same *HoursOpen* element.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired@eats?			
Sche	d-single-	Re-	Re-	Defines a block of	At least one valid 'Schedule' must be present for
ule	xml-	quiredpeats days and hours that		days and hours that	HoursOpen to be valid. If no valid 'Schedule'_ is present,
	schedule	a place will be open.		a place will be open.	the implementation is required to ignore the HoursOpen
					element.

Schedule

A sub-portion of the schedule. This describes a range of days, along with one or more set of open and close times for those days, as well as the options describing whether or not appointments are necessary or possible.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeat	s?	
Hours	single-	Op-	Re-	Blocks of hours in the date range in which the place	If the element is invalid or
	xml-	tional	peats	is open.	not present, then the im-
	hours				plementation is required to
					ignore it.
IsOnly-	xs:bo	о Оре а	n Sin-	If true, the place is only open during the specified	If the field is invalid or
ByAp-		tional	gle	time window with an appointment.	not present, then the im-
point-					plementation is required to
ment					ignore it.
IsOr-	xs:bo	ο Ωpe -a	n Sin-	If true, the place is open during the hours specified	If the field is invalid or
ByAp-		tional	gle	time window and may also be open with an appoint-	not present, then the im-
point-				ment.	plementation is required to
ment					ignore it.
IsSub-	xs:bo	ο Ωpe -a	n Sin-	If true, the place should be open during the specified	If the field is invalid or
ject-		tional	gle	time window, but may be subject to change. People	not present, then the im-
ToChang	ge			should contact prior to arrival to confirm hours are	plementation is required to
				still accurate.	ignore it.
Start-	xs:da	ıt @ p-	Sin-	The date at which this collection of start and end	If the field is invalid or
Date		tional	gle	times and options begin.	not present, then the im-
					plementation is required to
					ignore it.
End-	xs:da	₁t @ p-	Sin-	The date at which this collection of start and end	If the field is invalid or
Date		tional	gle	times and options end.	not present, then the im-
					plementation is required to
					ignore it.

Hours

The open and close time for this place. All times must be fully specified, including a timezone offset from UTC.

Tag	Data Type	Re-	Re-	Description	Error Handling
		quired?	peats?		
Start-	single-xml-	Op-	Sin-	The time at which	If the element is invalid or not present, then the
Time	time-with-	tional	gle	this place opens.	implementation is required to ignore it.
	zone				
End-	single-xml-	Op-	Sin-	The time at which	If the element is invalid or not present, then the
Time	time-with-	tional	gle	this place closes.	implementation is required to ignore it.
	zone				

TimeWithZone

A string pattern restricting the value to a time with an included offset from UTC. The pattern is

```
(([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9]|(24:00:00))(z|[+-]((0[0-9]|1[0-3]):[0-5][0-9]|14=0)
```

```
<HoursOpen id="hours0001">
    <Schedule>
2
      <Hours>
        <StartTime>06:00:00-05:00
4
        <EndTime>12:00:00-05:00
      </Hours>
      <Hours>
        <StartTime>13:00:00-05:00</StartTime>
        <EndTime>19:00:00-05:00
10
      <StartDate>2013-11-05
11
      <EndDate>2013-11-05</EndDate>
12
    </Schedule>
13
  </HoursOpen>
```

HtmlColorString

A restricted string pattern for a six-character hex code representing an HTML color string. The pattern is:

```
[0-9a-f]{6}
```

InternationalizedText

InternationalizedText allows for support of multiple languages for a string. InternationalizedText has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID). Examples of InternationalizedText can be seen in: * Any element that extends single-xml-contest-base * Any element that extends single-xml-ballot-selection-base * Candidate * single-xml-contact-information * Election * ElectionAdministration * Office * Party * Person * PollingLocation * Source NOTE: Internationalized Text is not currently supported for CSV submissions. "

Tag	Data	Re-	Re-	Description		Erro	or Hand	lling						
	Type	quiredøeats?												
Text	Lan-	Re-	Re-	Contains	At	least	one	valid	Text	must	be	present	for	
	guageS	<i>ti</i> quire	juired peats translations of a			Int	ernat	ional	lizedT	ext to	be val	lid.	If no	valid
				particular	Tex	t is p	resent,	the in	nplementa	ation is	requ	ired to i	gnore	
				of text.	the	Interr	natio	nalize	edText (element.				

LanguageString

LanguageString extends xs:string and can contain text from any language. LanguageString has one required attribute, language, that must contain the 2-character language code for the type of language LanguageString contains.

LatLng

The latitude and longitude of a polling location in 'WGS 84'_ format. Both latitude and longitude values are measured in decimal degrees.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d peats	?	
Lat-	xs:do	ou Re ⊩e	Sin-	The latitude of the polling location.	If the field is invalid, then the
i-		quired gle			implementation is required to
tude					ignore it.
Lon-	xs:do	ou Re ⊩e	Sin-	The longitude of the polling location.	If the field is invalid, then the
gi-		quired gle			implementation is required to
tude					ignore it.
Sourc	exs:st	1Ор +9	Sin-	The system used to perform the lookup from lo-	If the field is invalid or not
		tional gle		cation name to lat/lng. For example, this could be	present, then the implementa-
				the name of a geocoding service.	tion is required to ignore it.

Locality

The Locality object represents the jurisdiction below the *State* (e.g. county).

Tag	Data	Re-	Re-	Description	Error Handling
			døeats		S
Elec-		D O PDEF		Links to the locality's <i>ElectionAdministration</i>	If the field is invalid or not present,
tion-		tional	gle	object.	then the implementation is required to
Ad-				·	ignore it.
min-					
is-					
tra-					
tionId					
Ex-	Ex-	Op-	Sin-	Another identifier for a locality that links to	If the element is invalid or not present,
ter-	ter-	tional	gle	another dataset (e.g. OCD-ID)	then the implementation is required to
nalI-	nalI-			, 6	ignore it.
den-	den-				
ti-	ti-				
fiers	fiers				
Is-	xs:k	o ⊘p 1-e	a S in-	Determines if the locality runs mail-only	If the field is missing or invalid, the
MailO	nly	tional	gle	elections. If this is true, then all precincts	implementation is required to assume
			-	a part of the locality will also run mail-only	IsMailOnly is false.
				elections. Drop boxes may be used in ad-	
				dition to this flag using a polling location	
				record configured as a Drop Box.	
Name	xs:	t Re -n	gSin-	Specifies the name of a locality.	If the field is invalid, then the im-
		quire	dgle		plementation is required to ignore the
					Locality element containing it.
Polling	1 : #0xIg	D Оф -F	SSin-	Specifies a link to a set of the locality's	If the field is invalid or not present,
ca-		tional	gle	:ref: 'polling locations <single-xml-polling-< td=""><td>the implementation is required to ig-</td></single-xml-polling-<>	the implementation is required to ig-
tion-				location>'s. If early vote centers or ballot	nore it. However, the implementation
Ids				drop locations are locality-wide, they should	should still check to see if there are
				be specified here.	any polling locations associated with
					this locality's state.
StateI	lxs:		Sin-	References the locality's <i>State</i> .	If the field is invalid, then the im-
		quire	dgle		plementation is required to ignore the
					Locality element containing it.
Type	Dis-	Op-	Sin-	Defines the kind of locality (e.g. county,	If the field is invalid or not present,
	trict-	tional	gle	town, et al.), which is one of the various Dis-	then the implementation is required to
	Туре			trictType enumerations.	ignore it.
Oth-	xs:s	t 0p -n		Allows for defining a type of locality that falls	If the field is invalid or not present,
er-		tional	gle	outside the options listed in <i>DistrictType</i> .	then the implementation is required to
Type					ignore it.

```
<Locality id="loc70001">
     <ElectionAdministrationId>ea40001/ElectionAdministrationId>
2
     <ExternalIdentifiers>
3
       <ExternalIdentifier>
         <Type>ocd-id</Type>
         <Value>ocd-division/country:us/state:va/county:albemarle</Value>
       </ExternalIdentifier>
     </ExternalIdentifiers>
     <IsMailOnly>true</IsMailOnly>
     <Name>ALBEMARLE COUNTY</Name>
10
     <StateId>st51</StateId>
     <Type>county</Type>
12
   </Locality>
```

Office

Office represents the office associated with a contest or district (e.g. Alderman, Mayor, School Board, et al).

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	døeats	3?	
Con-	single-	Op-	Re-	Links to the single-xml-contact-	If the element is invalid or not
tactIn-	xml-	tional	peats	information element associated with	present, then the implementation is
forma-	contact-			the office.	required to ignore it.
tion	information				
De-	Interna-	Op-	Sin-	A brief description of the office and	If the element is invalid or not
scrip-	tional-	tional	gle	its purpose.	present, then the implementation is
tion	izedText				required to ignore it.
Elec-	xs:IDREF	Re-	Sin-	Links to the ElectoralDistrict ele-	If the field is invalid or not present,
toralD-		quire	d gle	ment associated with the office.	the implementation is required to ig-
istric-					nore the Office element contain-
tId					ing it.
Exter-	ExternalI-	Op-	Sin-	Other identifiers that link this office	If the element is invalid or not
nalI-	dentifiers	tional	gle	to other related datasets (e.g. cam-	present, then the implementation is
denti-				paign finance systems, OCD IDs, et	required to ignore it.
fiers				al.).	
Fil-	xs:date	Op-	Sin-	Specifies the date and time when	If the field is invalid or not present,
ingDead-		tional	gle	a candidate must have filed for the	then the implementation is required
line				contest for the office.	to ignore it.
IsParti-	xs:boole	a 0 p-	Sin-	Indicates whether the office is parti-	If the field is invalid or not present,
san		tional	gle	san.	then the implementation is required
					to ignore it.
Name	Interna-	Re-	Sin-	The name of the office.	If the field is invalid or not present,
	tional-	quire	d gle		the implementation is required to ig-
	izedText				nore the Office element contain-
					ing it.
Office-	xs:IDREF	S O p-	Sin-	Links to the <i>Person</i> element(s) that	If the field is invalid or not present,
Hold-		tional	gle	hold additional information about	then the implementation is required
erPer-				the current office holder(s).	to ignore it.
sonIds					
Term	single-	Op-	Sin-	Defines the term the office can be	If the element is invalid or not
	xml-term	tional	gle	held.	present, then the implementation is
					required to ignore it.

Term

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired	l?peats	?	
Type	Of-	Op-	Sin-	Specifies the type of office	If the field is invalid or not present, the imple-
	ficeTerm	<i>T</i> tijomal	gle	term (see OfficeTermType for	mentation is required to ignore the Office el-
				valid values).	ement containing it.
Start-	xs:dat	:еОр-	Sin-	Specifies the start date for the	If the field is invalid or not present, then the im-
Date		tional	gle	current term of the office.	plementation is required to ignore it.
End-	xs:dat	:еОр-	Sin-	Specifies the end date for the	If the field is invalid or not present, then the im-
Date		tional	gle	current term of the office.	plementation is required to ignore it.

ContactInformation

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *ElectionAdministration*, *Office*, *Person*, *Source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag	Data	Re-	Re-	Description	Error Handling
	Туре		døeats		TC 1 0 11 1
Ad- dressL		tional	peats	The "location" portion of a mailing address. See usage note.	If the field is invalid or not present, then the implementation is required to ignore it.
Di- rec- tions	In- ter- na- tion- al- ized- Text	Op- tional	Sin-	Specifies further instructions for locating this entity.	If the element is invalid or not present, then the implementation is required to ignore it.
Email	xs:st	tional	peats	An email address for the contact.	If the field is invalid or not present, then the implementation is required to ignore it.
Fax	xs:st		peats	A fax line for the contact.	If the field is invalid or not present, then the implementation is required to ignore it.
Hours [dep- re- cated]	ter- na-	Op- tional	Sin-	Contains the hours (in local time) that the location is open (NB: this element is deprecated in favor of the more structured :ref: 'single-xml-hours-open' element. It is strongly encouraged that data providers move toward contributing hours in this format).	If the element is invalid or not present, then the implementation is required to ignore it.
Hour- sOpen		HOpp- tional	Sin- gle	References an <i>HoursOpen</i> element, which lists the hours of operation for a location.	If the field is invalid or not present, then the implementation is required to ignore it.
LatLn	g single- xml- lat- lng	Op- tional	Sin- gle	Specifies the latitude and longitude of this entity.	If the element is invalid or not present, then the implementation is required to ignore it.
Name	xs:st	tional		The name of the location or contact. See usage note.	If the field is invalid or not present, then the implementation is required to ignore it.
Phone	xs:st	- 1	Re- peats	A phone number for the contact.	If the field is invalid or not present, then the implementation is required to ignore it.
Uri	xs:ar	1	Re- peats	An informational URI for the contact or location.	If the field is invalid or not present, then the implementation is required to
.1. XI	ML Spe	cificat	ion		ignore it.

Name and AddressLine Usage Note

The Name and AddressLine fields should be chosen so that a display or mailing address can be constructed programmatically by joining the Name and AddressLine fields together. For example, for the following address:

```
Department of Elections
1 Dr. Carlton B. Goodlett Place, Room 48
San Francisco, CA 94102
```

The name could be "Department of Elections" and the first address line could be "1 Dr. Carlton B. Goodlett Place, Room 48."

However, VIP does not yet support the representation of mailing addresses whose "name" portion spans more than one line, for example:

```
California Secretary of State
Elections Division
1500 11th Street
Sacramento, CA 95814
```

For addresses like the above, we recommend choosing a name like, "California Secretary of State, Elections Division" with "1500 11th Street" as the first address line. This would result in a programmatically constructed address like the following:

```
California Secretary of State, Elections Division
1500 11th Street
Sacramento, CA 95814
```

```
contactInformation label="ci10861a">
cAddressLine>1600 Pennsylvania Ave</AddressLine>
cAddressLine>Washington, DC 20006</AddressLine>
cEmail>president@whitehouse.gov</Email>
cPhone>202-456-1111</Phone>
cPhone annotation="TDD">202-456-6213</Phone>
cUri>http://www.whitehouse.gov</Uri>
c/ContactInformation>
```

OrderedContest

OrderedContest encapsulates links to the information that comprises a contest and potential ballot selections. OrderedContest elements can be collected within a *BallotStyle* to accurate depict exactly what will show up on a particular ballot in the proper order.

Tag	Data	Re-	Re-	Descr	iption	Error Handling
	Type quired@eats?					
Con-	xs:	D Re F	Sin-	Links	to	If the field is invalid or not present, the implementation is required to
testId		quire	d gle	elements		ignore the OrderedContest element containing it.
				that	extend	
				single-	xml-	
				contes	t-base.	
Or-	xs:	D O pp-F	SSin-	Links	to	If the field is invalid or not present, the implementation is required
dered-		tional	gle	elemei	nts	to ignore it. If an OrderedBallotSelectionIds element is
Bal-				that	extend	not present, the presumed order of the selection will be the order
lotS-				single-		of single-xml-ballot-selection-base-extended elements referenced by
elec-				xml-ba	allot-	the underlying single-xml-contest-base-extended elements.
tion-				selecti	on-	
Ids				base.		

Party

This element describes a political party and the metadata associated with them. These can also include "dummy" parties to indicate a type of contest (e.g., a Voter Nominated *CandidateContest* can use the **PrimaryPartyIds** field and a dummy Party object to indicate that the contest is a "Top-Two" primary).

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeat		
Ab-	xs:st	iOpp	Sin-	An abbreviation for the party name.	If the field is invalid
bre-		tional	gle		or not present, then
via-					the implementation
tion					is required to ignore
					it.
Color	single-	Op-	Sin-	The preferred display color for the party, for use in maps and	If the element is in-
	xml-	tional	gle	other displays.	valid or not present,
	html-				then the implemen-
	color-				tation is required to
	string				ignore it.
Ex-	Exter-	Op-	Sin-	Other identifiers that link this party to other related data sets	If the element is in-
ter-	nalI-	tional	gle	(e.g. a campaign finance system, etc).	valid or not present,
nalI-	denti-				then the implemen-
den-	fiers				tation is required to
ti-					ignore it.
fiers					
IsWri	te k ms:boo		Sin-	Signals if this political party is one that is officially recog-	If the field is invalid
		tional	gle	nized by a local, state, or federal organization, or is a "write-	or not present, then
				in" in jurisdictions which allow candidates to free-form enter	the implementation
				their political affiliation. If this field is not present then it is	is required to ignore
				assumed to be false.	it.
Lead-	xs:IDH		Sin-	A reference of <i>Person</i> elements which are leaders of the	If the field is invalid
er-		tional	gle	Party.	or not present, then
Per-					the implementation
son-					is required to ignore
Ids					it.
Lo-	xs:any	T - I	Sin-	Web address of a logo to use in displays.	If the field is invalid
goUri		tional	gle		or not present, then
					the implementation
					is required to ignore
					it.
Name	Inter-	Op-	Sin-	The name of the party.	If the element is in-
	na-	tional	gle		valid or not present,
	tion-				then the implemen-
	al-				tation is required to
	ized-				ignore it.
	Text				

HtmlColorString

A restricted string pattern for a six-character hex code representing an HTML color string. The pattern is:

$$[0-9a-f]{6}$$

PartyContest

An extension of single-xml-contest-base which describes a contest in which the possible ballot selections are of type *PartySelection*. These could include contests in which straight-party selections are allowed, or party-list contests (although these are more common outside of the United States).

ContestBase

A base model for all Contest types: *BallotMeasureContest*, *CandidateContest*, *PartyContest*, and *RetentionContest* (NB: the latter because it extends *BallotMeasureContest*).

Tag		Re- quire	Re-	Description s?	Error Handling
Ab- bre- via- tion	xs:s	t Op -n tional	gSin- l gle	An abbreviation for the contest.	If the field is invalid or not present, then the implementation should ignore it.
Bal- lot- Se- lec- tion- Ids	xs:	tional		References a set of BallotSelections, which could be of any selection type that extends single-xml-ballot-selection-base.	If the field is invalid or not present, then the implementation should ignore it.
Bal- lot- Sub- Ti- tle	In- ter- na- tion- al- ized- Text	Op- tional	Sin- l gle	Subtitle of the contest as it appears on the ballot.	If the element is invalid or not present, then the implementation should ignore it.
Bal- lot- Ti- tle	In- ter- na- tion- al- ized- Text	Op- tional	Sin- l gle	Title of the contest as it appears on the ballot.	If the element is invalid or not present, then the implementation should ignore it.
Elec- toralD is- tric- tId		Quire	Sin- e d gle	References an <i>ElectoralDistrict</i> element that represents the geographical scope of the contest.	If the field is invalid, then the implementation is required to ignore the ContestBase element containing it.
Electorate Specification	In- ter- na- tion- al- ized- Text	Op- tional	Sin- l gle	Specifies any changes to the eligible electorate for this contest past the usual, "all registered voters" electorate. This subtag will most often be used for primaries and local elections. In primaries, voters may have to be registered as a specific party to vote, or there may be special rules for which ballot a voter can pull. In some local elections, non-citizens can vote.	If the element is invalid or not present, then the implementation should ignore it.
Ex- ter- nalI- den- ti- fiers	Ex- ter- nalI- den- ti- fiers	Op- tional	Sin- l gle	Other identifiers for a contest that links to another source of information.	If the element is invalid or not present, then the implementation should ignore it.
Has- Ro- ta- tion	v	o ⊘p l-e tional	l	Indicates whether the selections in the contest are rotated.	If the field is invalid or not present, then the implementation should ignore it.
Name 60	xs:s	t Re- n quire	I=	Name of the contest, not necessarily how it appears on the ballot (NB: BallotTitle should be used for this purpose). Chapter 2. X	If the field is invalid, then MhcDogumentatio tion is required to ignore the

ContestBase

PartySelection

This element extends single-xml-ballot-selection-base to support contests in which the selections can be groups of one or more parties.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d?peats	?	
Par-	xs:II	r re- s	Sin-	One or more Party IDs	If one or more parties referenced are invalid or not
tyIds		quired gle which collectively represen		which collectively represent	present, the implementation is required to ignore the
				a ballot selection.	PartySelection containing it.

BallotSelectionBase

A base model for all ballot selection types: BallotMeasureSelection, CandidateSelection, and PartySelection.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeat	s?	
Se-	xs:i	n tOp pege	rSin-	The order in which a selection can be listed on the bal-	If the field is invalid or
quence	-	tiona	l gle	lot or in results. This is the default ordering, and can	not present, then the im-
Order				be overridden by OrderedBallotSlectionIds in Ordered-	plementation is required to
				Contest.	ignore it.

Person

Person defines information about a person. The person may be a candidate, election administrator, or elected official. These elements reference Person:

- Candidate
- ElectionAdministration
- Office

Tag	Data Type	Re- quire	Re- døeats	Description s?	Error Handling
Contact- In- for- ma- tion	single- xml- contact- informati	Op- tional	Re- peats	Refers to the associated single-xml-contact-information.	If the element is invalid or not present, then the implementation is required to ignore it.
Da- te- Of- Birth	xs:date	e Op- tional	Sin- gle	Represents the individual's date of birth.	If the field is invalid or not present, then the implementation is required to ignore it.
Ex- ter- nalI- den- ti- fiers	Exter- nalI- denti- fiers	Op- tional	Sin- gle	Identifiers for this person.	If the element is invalid or not present, then the implementation is required to ignore it.
First- Name	xs:str	i :Qp - tional		Represents an individual's first name.	If the field is invalid or not present, then the implementation is required to ignore it.
Full- Name	Inter- nation- alized- Text	Op- tional	Sin- gle	Specifies a person's full name (NB: this information is <i>InternationalizedText</i> because it sometimes appears on ballots in multiple languages).	If the element is invalid or not present, then the implementation is required to ignore it.
Gen- der	xs:str	i 1 Op - tional	Sin- gle	Specifies a person's gender.	If the field is invalid or not present, then the implementation is required to ignore it.
Last- Name	xs:str	tional		Represents an individual's last name.	If the field is invalid or not present, then the implementation is required to ignore it.
Mid- dle- Name	xs:str		Re- peats	Represents any number of names between an individual's first and last names (e.g. John Ronald Reuel Tolkien).	If the field is invalid or not present, then the implementation is required to ignore it.
Nick- name	xs:str	i 1 0p - tional	Sin- gle	Represents an individual's nickname.	If the field is invalid or not present, then the implementation is required to ignore it.
Par- tyId	xs:IDR	EIOp- tional	Sin- gle	Refers to the associated <i>Party</i> . This information is intended to be used by feed consumers to help them disambiguate the person's identity, but not to be presented as part of any ballot information. For that see <i>Candidate</i> PartyId .	If the field is invalid or not present, then the implementation is required to ignore it.
Pre-fix	xs:str	i i Op - tional Op-	Sin- gle	Specifies a prefix associated with a person (e.g. Dr.). Specifies a person's profession (NB : this information is	If the field is invalid or not present, then the implementation is required to ignore it. If the element is in-
fes- - <u>sion</u> 52	nation- alized- Text	tional		InternationalizedText because it sometimes appears on ballots in multiple languages). Chapter 2.	valid or not present, then the implementa- XIM ipacumentation
Suf- fix	xs:str	i Op - tional	Sin- gle	Specifies a suffix associated with a person (e.g. Jr.).	nore it. If the field is invalid or not present, then

```
<Person id="per50001">
      <ContactInformation label="ci60002">
2
        <Email>rwashburne@albemarle.org
3
        <Phone>4349724173</phone>
      </ContactInformation>
      <FirstName>RICHARD</FirstName>
      <LastName>WASHBURNE</LastName>
      <MiddleName>J.</MiddleName>
      <Nickname>JAKE</Nickname>
      <Title>
10
        <Text language="en">General Registrar Physical</Text>
11
12
      </Title>
   </Person>
```

ContactInformation

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *ElectionAdministration*, *Office*, *Person*, *Source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag	Data	Re-	Re-	Description	Error Handling
	Type		dβeats		TO 1 0 11 1 1
Ad- dressL		i Op +g tional	Re- peats	The "location" portion of a mailing address. See usage note.	If the field is invalid or not present, then the implementation is required to ignore it.
Di- rec- tions	In- ter- na- tion- al- ized- Text	Op- tional	Sin- gle	Specifies further instructions for locating this entity.	If the element is invalid or not present, then the implementation is required to ignore it.
Email	xs:st		Re- peats	An email address for the contact.	If the field is invalid or not present, then the implementation is required to ignore it.
Fax			peats		If the field is invalid or not present, then the implementation is required to ignore it.
Hours [dep- re- cated]	In- ter- na- tion- al- ized- Text	Op- tional	Sin- gle	Contains the hours (in local time) that the location is open (NB: this element is deprecated in favor of the more structured :ref: 'single-xml-hours-open' element. It is strongly encouraged that data providers move toward contributing hours in this format).	If the element is invalid or not present, then the implementation is required to ignore it.
Hour- sOpen	xs:II Id	Ю р ғ tional	Sin- gle	References an <i>HoursOpen</i> element, which lists the hours of operation for a location.	If the field is invalid or not present, then the implementation is required to ignore it.
LatLn	g single- xml- lat- lng	Op- tional	Sin- gle	Specifies the latitude and longitude of this entity.	If the element is invalid or not present, then the implementation is required to ignore it.
Name	xs:st	tional		The name of the location or contact. See usage note.	If the field is invalid or not present, then the implementation is required to ignore it.
Phone	xs:st	l I	Re- peats	A phone number for the contact.	If the field is invalid or not present, then the implementation is required to ignore it.
Uri	xs:ar		Re- peats	An informational URI for the contact or location.	If the field is invalid or not present, then the implementation is required to
54				Chapter 2.	XMI _{lo} pocumentation

Name and AddressLine Usage Note

The Name and AddressLine fields should be chosen so that a display or mailing address can be constructed programmatically by joining the Name and AddressLine fields together. For example, for the following address:

```
Department of Elections
1 Dr. Carlton B. Goodlett Place, Room 48
San Francisco, CA 94102
```

The name could be "Department of Elections" and the first address line could be "1 Dr. Carlton B. Goodlett Place, Room 48."

However, VIP does not yet support the representation of mailing addresses whose "name" portion spans more than one line, for example:

```
California Secretary of State
Elections Division
1500 11th Street
Sacramento, CA 95814
```

For addresses like the above, we recommend choosing a name like, "California Secretary of State, Elections Division" with "1500 11th Street" as the first address line. This would result in a programmatically constructed address like the following:

```
California Secretary of State, Elections Division
1500 11th Street
Sacramento, CA 95814
```

```
contactInformation label="ci10861a">
cAddressLine>1600 Pennsylvania Ave</AddressLine>
cAddressLine>Washington, DC 20006</AddressLine>
cEmail>president@whitehouse.gov</Email>
cPhone>202-456-1111</Phone>
cPhone annotation="TDD">202-456-6213</Phone>
cUri>http://www.whitehouse.gov</Uri>
c/ContactInformation>
```

PollingLocation

The PollingLocation object represents a site where voters cast or drop off ballots.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dβeats	s? ·	_
Ad-	single-	Op-	Sin-	Represents the various structured parts of an	One of AddressStructured and Ad-
dress	Stxmcl-	tional	gle	address to a polling location.	dressLine should be present for
tured	simple-				a given Polling Location. If
	address	-			none is present, the implemen-
	type				tation is required to ignore the
					PollingLocation element con-
					taining it.
Ad-	xs:st	r Op g	Re-	Represents the various parts of an address to	One of AddressStructured and Ad-
dress	Line	tional	peats	a polling location.	dressLine should be present for
					a given Polling Location. If
					none is present, the implemen-
					tation is required to ignore the
					PollingLocation element con-
			~.	~	taining it.
Di-	Inter-	Op-	Sin-	Specifies further instructions for locating the	If the element is invalid or not
rec-	na-	tional	gle	polling location.	present, then the implementation is
tions	tion-				required to ignore it.
	al-				
	ized-				
II	Text	0	C:	Contains the hours (in local time) that the	If the element is invalid or not
	s Inter-	Op-	Sin-	polling location is open (NB : this element	present, then the implementation is
[dep- re-	tion-	tional	gie	is deprecated in favor of the more structured	required to ignore it.
cated				HoursOpen element. It is strongly encour-	required to ignore it.
cateu	ized-			aged that data providers move toward con-	
	Text			tributing hours in this format).	
Hour	- xs:ID	R Đ ₱-	Sin-	Links to an <i>HoursOpen</i> element, which is a	If the field is invalid or not present,
sOpe		tional		schedule of dates and hours during which the	then the implementation is required
o o p			8	polling location is available.	to ignore it.
Is-	xs:bo	o Op ar	Sin-	Indicates if this polling location is a drop	If the field is invalid or not present,
Drop		tional		box.	then the implementation is required
Box					to ignore it.
IsEar	-xs:bo	0 0p ar	Sin-	Indicates if this polling location is an early	If the field is invalid or not present,
lyVot	-	tional	gle	vote site.	then the implementation is required
ing					to ignore it.
LatLı	ngsingle-	Op-	Sin-	Specifies the latitude and longitude of this	If the element is invalid or not
	xml-	tional	gle	polling location.	present, then the implementation is
	lat-				required to ignore it.
	lng				
Name	xs:st	- 1	Sin-	Name of the polling location.	If the field is invalid or not present,
		tional	gle		then the implementation is required
					to ignore it.
Pho-	xs:an	- 1	Sin-	Contains a link to an image of the polling lo-	If the field is invalid or not present,
toUri		tional	gle	cation.	then the implementation is required
					to ignore it.

```
<PollingLocation id="pl00000">
     <AddressLine>2775 Hydraulic Rd Charlottesville, VA 22901</AddressLine>
     <HoursOpenId>hours0002</HoursOpenId>
     <IsDropBox>true</IsDropBox>
```

2

56

(continues on next page)

(continued from previous page)

```
<IsEarlyVoting>true</IsEarlyVoting>
      <LatLng>
6
         <Latitude>38.009939</Latitude>
         <Longitude>-78.506204</Longitude>
      </LatLng>
      <name>ALBERMARLE HIGH SCHOOL</Name>
10
   </PollingLocation>
11
   <!-- Or: -->
12
   <PollingLocation id="pl00000">
13
      <AddressStructured>
14
         <Line1>2775 Hydraulic Rd</Line1>
15
         <City>CHARLOTTESVILLE</City>
         <State>VA</State>
         <Zip>22901</Zip>
18
      </AddressStructured>
19
      <HoursOpenId>hours0002/HoursOpenId>
20
      <IsDropBox>true</IsDropBox>
21
      <IsEarlyVoting>true</IsEarlyVoting>
22
      <LatLng>
23
         <Latitude>38.009939
24
         <Longitude>-78.506204</Longitude>
25
      </LatLng>
26
      <name>ALBERMARLE HIGH SCHOOL</Name>
27
   </PollingLocation>
```

LatLng

The latitude and longitude of a polling location in 'WGS 84'_ format. Both latitude and longitude values are measured in decimal degrees.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d peats	?	<u> </u>
Lat-	xs:do	ou Re ⊩e	Sin-	The latitude of the polling location.	If the field is invalid, then the
i-		quire	d gle		implementation is required to
tude					ignore it.
Lon-	xs:do	ou Re ⊩e	Sin-	The longitude of the polling location.	If the field is invalid, then the
gi-		quire	d gle		implementation is required to
tude					ignore it.
Sourc	exs:st	т Ор тд	Sin-	The system used to perform the lookup from lo-	If the field is invalid or not
		tional	gle	cation name to lat/lng. For example, this could be	present, then the implementa-
				the name of a geocoding service.	tion is required to ignore it.

SimpleAddressType

A SimpleAddressType represents a structured address.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d?peats	.?	
Line1	xs:st	r Re rg	Sin-	The address line for a structured address.	If no Line1 is provided, the
		quire	d gle	Should include the street number, street	implementation should ignore the
				name, and any prefix and suffix.	SimpleAddressType.
Line2	2 xs:st	т Ор нд	Sin-	Additional field for an address	If no Line2 is provided, the imple-
		tional	gle		mentation should ignore it.
Line3	xs:st	г Ор нд	Sin-	Additional field for an address	If no Line3 is provided, the imple-
		tional	gle		mentation should ignore it.
City	xs:st	r Re rg	Sin-	The City value of a structured address.	If City is not provided, the
		quire	d gle		implementation should ignore the
					SimpleAddressType.
State	xs:st	т Re -g	Sin-	The State value of a structured address.	If State is not provided, the
		quire	d gle		implementation should ignore the
					SimpleAddressType.
Zip	xs:st	г Ор нд	Sin-	The ZIP code of a structured address.	If Zip is not provided, the im-
		tional	gle		plementation should ignore the
					SimpleAddressType.

Precinct

The Precinct object represents a precinct, which is contained within a Locality. While the id attribute does not have to be static across feeds for one election, the combination of *Source.VipId*, *Locality.Name*, *Precinct.Ward*, *Precinct.Name*, and *Precinct.Number* should remain constant across feeds for one election (NB: not all of the fields just mentioned are required – omitting those non-required fields is fine).

Voters can be assigned to a precinct in two ways. A voter location modeled by StreetSegment is assigned to a precinct by StreetSegment.PrecinctId. Alternatively, a precinct's spatial boundary can be modeled with Precinct.SpatialBoundary. Any registered voter address contained within the spatial boundary of the precinct is assigned to that precinct.

Tag	Data	Re-	Re-	Description	Error Handling
D 1	Туре		dpeats		TC .1 C.11 .
Bal-	xs:II		Sin-	Links to the <i>BallotStyle</i> , which a person who lives in this	If the field is
lot-	r 1	tional	gle	precinct will vote.	invalid or not
Style	Id				present, then the
					implementation is
					required to ignore
771		-0	G.		it.
Elec-				Links to the :ref: single-xml-electoral-district's (e.g., congres-	If the field is
torall) -	tional	gle	sional district, state house district, school board district) to	invalid or not
is-				which the entire precinct/precinct split belongs. Highly Rec-	present, then the
tric-				ommended if candidate information is to be provided.	implementation is
tIds					required to ignore
F	F	0	C:	Other identifies for the marriant that relates to smaller detect	it. If the element
Ex-	Ex-	Op-	Sin-	Other identifier for the precinct that relates to another dataset	
ter-	ter-	tiona	gie	(e.g. OCD-ID).	is invalid or not
nalI-	nalI-				present, then the
den-	den- ti-				implementation is
ti-					required to ignore it.
fiers Is-	fiers	· · · · · ·	- Cin	Determines if the precinct runs mail-only elections.	If the field is miss-
Mail		o Ope a tional		Determines it the precinct runs man-only elections.	ing or invalid, the
Mair	Jilly	попа	gie		implementation is
					required to assume
					IsMailOnly is
					false.
Lo-	xs:II	DIDNE.	Sin-	Links to the <i>Locality</i> that comprises the precinct.	If the field is
cal-	Y2.II	quire		Elliks to the Locally that comprises the precinct.	invalid, then the
i-		quire	ugic		implementation is
tyId					required to ignore
tylu					the Precinct
					element containing
					it.
Name	xs:st	.r Re ra	Sin-	Specifies the precinct's name (or number if no name exists).	If the field is
		quire		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	invalid, then the
		1			implementation is
					required to ignore
					the Precinct
					element containing
					it.
Num	xs:st	.1 Ор ъд	Sin-	Specifies the precinct's number (e.g., 32 or 32A – alpha char-	If the field is
ber		tional		acters are legal). Should be used if the <i>Name</i> field is populated	invalid or not
				by a name and not a number.	present, then the
					implementation is
					required to ignore
					it.
Polli	ng ko :II	_		Specifies a link to the precinct's <i>PollingLocation</i> object(s).	If the field is
ca-		tional	gle		invalid or not
tion-					present, then the
Ids					implementation is
					required to ignore
			C.	TG41: G411:	it.
	noxt-s:st	_		If this field is empty, then this <i>Precinct</i> object represents a full	If the field is
Split-		tional	gle	precinct. If this field is present, then this <i>Precinct</i> object repre-	invalid or not
Name	ML Sp	acifica	tion	sents one portion of a split precinct. Each <i>Precinct</i> object that	present, then the
۲.۱. ۸	wir Sb	CIIIC	111011	represents one portion of a split precinct must have the same	implementation i59
				Name value, but different <i>PrecinctSplitName</i> values. See the	required to ignore
Contract	1	0	C:	sample_feed.xml file for examples.	it.
Spa-	single-	Op-	Sin-	Defines the spatial boundary of the precinct. All voter addresses	If the element

```
<Precinct id="pre90111">
      <BallotStyleId>bs00010/BallotStyleId>
2
      <ElectoralDistrictIds>ed60129 ed60311 ed60054/ElectoralDistrictIds>
3
      <IsMailOnly>false</IsMailOnly>
      <LocalityId>loc70001</LocalityId>
      <Name>203 - GEORGETOWN</Name>
      <Number>0203</Number>
      <PollingLocationIds>p181274</PollingLocationIds>
      <SpatialBoundary>
9
        <ExternalGeospatialFeature>
10
          <ExternalFileId>ef1</ExternalFileId>
11
          <FileFormat>shp</FileFormat>
12
          <FeatureIdentifier>
13
               <Index>3</Index>
14
           </FeatureIdentifier>
15
        </ExternalGeospatialFeature>
16
      </SpatialBoundary>
17
   </Precinct>
   <1--
     Precinct split. Name and PollingLocationIds are the same but
20
     PrecinctSplitName is present, the ElectoralDistrictIds are different,
21
    and the BallotStyleId is different.
22
23
   <Precinct id="pre90348sp0000">
24
     <BallotStyleId>bs00002/BallotStyleId>
25
     <ElectoralDistrictIds>ed60129 ed60054 ed60150/ElectoralDistrictIds>
26
     <IsMailOnly>false</IsMailOnly>
27
     <LocalityId>loc70001</LocalityId>
28
     <Name>201 - JACK JOUETT</Name>
29
     <Number>0201</Number>
30
     <PollingLocationIds>p100000 p181273 p181662</pollingLocationIds>
31
     <PrecinctSplitName>0000</precinctSplitName>
32
   </Precinct>
33
   <Precinct id="pre90348sp0001">
34
     <BallotStyleId>bs00015</BallotStyleId>
35
     <ElectoralDistrictIds>ed60129 ed60054 ed60267/ElectoralDistrictIds>
36
     <IsMailOnly>false</IsMailOnly>
37
     <LocalityId>loc70001</LocalityId>
     <Name>201 - JACK JOUETT</Name>
39
     <Number>0201</Number>
40
     <PollingLocationIds>pl00000 pl81273 pl81662</PollingLocationIds>
41
     <PrecinctSplitName>0001</precinctSplitName>
42
   </Precinct>
```

SpatialBoundary

The SpatialBoundary object defines a boundary in space. This boundary is usually defined by one or more discrete, closed polygonal shapes.

Tag	Data Type	Re-	Re-	Description	Error Handling
		quire	dßeat	\$?	
Exter-	single-xml-	Re-	Sin-	The spatial boundary de-	If the element is invalid, then the im-
nal-	external-	quire	d gle	fined by a geospatial feature	plementation is required to ignore the
Geospa-	geospatial-			that is external to the VIP	SpatialBoundary element contain-
tialFea-	feature			feed.	ing it.
ture					

```
<SpatialBoundary>

<ExternalGeospatialFeature>

<ExternalFileId>ef1</ExternalFileId>

<FileFormat>shp</FileFormat>

<FeatureIdentifier>

<Index>3</Index>

</FeatureIdentifier>

</FeatureIdentifier>

</FeatureIdentifier>

</FeatureIdentifier>
</ExternalGeospatialFeature>

</SpatialBoundary>
```

ExternalGeospatialFeature

The ExternalGeospatialFeature object contains a reference to a geospatial feature (one or more shapes) contained in a separate file external to the VIP feed.

Tag	Data	Re-	Re-	Description	Error Handling						
	Type	quire	dpeats	s?							
Ex-	xs:Il	PREF	Sin-	Links to the <i>ExternalFile</i> containing the geospatial shape(s)	If the field is in-						
ter-		quire	d gle	that define the feature's boundary.	valid, then the						
nal-					implementation is						
FileId	1				required to ignore the						
					ExternalGeospatialFeature						
					element containing it.						
File-	Geosp	a-Re-	Sin-	The format of the geospatial file.	If the field is in-						
For-	tial-	quire	d gle		valid, then the						
mat	For-				implementation is						
	mat				required to ignore the						
					ExternalGeospatialFeature						
					element containing it.						
Fea-	single-	Re-	Re-	Identifiers indicating which specific shape(s) to use from the	If the element is						
tureI-	xml-	quire	d peats	geospatial file. These refer to identifiers within the refer-	invalid, then the						
den-	feature	-		enced external file. This is a repeated field in the XML	implementation is						
ti-	identif	ier		specification, but a scalar field in the CSV specification. If	required to ignore the						
fier				more than one identifier is required with the CSV specifia-	ExternalGeospatialFeature						
				tion, multiple values can be provided by delimited by space.	element containing it.						

FeatureIdentifier

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quired?	peats?		
In-	- xs:int Op- Single		The index value for the	If the field is invalid or not present, then the imple-	
dex		tional		shapefile feature.	mentation is required to ignore it.

RetentionContest

RetentionContest extends *BallotMeasureContest* and represents a contest where a candidate is retained in a position (e.g. a judge).

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired	?peats	?	
Can-	xs:ID	r re -	Sin-	Links to the Can-	If the field is invalid or not present, the implementation
di-		quired	gle	didate being re-	is required to ignore the RetentionContest element
dateId				tained.	containing it.
Offi-	xs:ID	R O pr-	Sin-	Links to the infor-	If the field is invalid or not present, then the implementa-
ceId		tional	gle	mation about the	tion is required to ignore it.
				office.	

Schedule

A sub-portion of the schedule. This describes a range of days, along with one or more set of open and close times for those days, as well as the options describing whether or not appointments are necessary or possible.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeats	s?	
Hours	single-	Op-	Re-	Blocks of hours in the date range in which the place	If the element is invalid or
	xml-	tional	peats	is open.	not present, then the im-
	hours				plementation is required to
					ignore it.
IsOnly-	xs:bo	о О ре-а	n Sin-	If true, the place is only open during the specified	If the field is invalid or
ByAp-		tional	gle	time window with an appointment.	not present, then the im-
point-					plementation is required to
ment					ignore it.
IsOr-	xs:bo	ο Ωpe a	n Sin-	If true, the place is open during the hours specified	If the field is invalid or
ByAp-		tional	lgle	time window and may also be open with an appoint-	not present, then the im-
point-				ment.	plementation is required to
ment					ignore it.
IsSub-	xs:bo	o Ope a	n Sin-	If true, the place should be open during the specified	If the field is invalid or
ject-		tional	gle	time window, but may be subject to change. People	not present, then the im-
ToChang	e			should contact prior to arrival to confirm hours are	plementation is required to
				still accurate.	ignore it.
Start-	xs:da	at@p-	Sin-	The date at which this collection of start and end	If the field is invalid or
Date		tional	lgle	times and options begin.	not present, then the im-
					plementation is required to
					ignore it.
End-	xs:da	at @ p-	Sin-	The date at which this collection of start and end	If the field is invalid or
Date		tional	gle	times and options end.	not present, then the im-
					plementation is required to
					ignore it.

Hours

The open and close time for this place. All times must be fully specified, including a timezone offset from UTC.

Tag	Data Type	Re-	Re-	Description	Error Handling
		quired?	peats?		
Start-	single-xml-	Op-	Sin-	The time at which	If the element is invalid or not present, then the
Time	time-with-	tional	gle	this place opens.	implementation is required to ignore it.
	zone				
End-	single-xml-	Op-	Sin-	The time at which	If the element is invalid or not present, then the
Time	time-with-	tional	gle	this place closes.	implementation is required to ignore it.
	zone				

TimeWithZone

A string pattern restricting the value to a time with an included offset from UTC. The pattern is

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SimpleAddressType

A SimpleAddressType represents a structured address.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d?peats	?	
Line1	xs:st	n Re ng Sin-		The address line for a structured address.	If no Line1 is provided, the
		quire	d gle	Should include the street number, street	implementation should ignore the
				name, and any prefix and suffix.	SimpleAddressType.
Line2	2 xs:st	т Ор нд	Sin-	Additional field for an address	If no Line2 is provided, the imple-
		tional	gle		mentation should ignore it.
Line3	xs:st	т Ор нд	Sin-	Additional field for an address	If no Line3 is provided, the imple-
		tional	gle		mentation should ignore it.
City	xs:st	r Re rg	Sin-	The City value of a structured address.	If City is not provided, the
		quired gle			implementation should ignore the
					SimpleAddressType.
State	xs:st	r Re rg	Sin-	The State value of a structured address.	If State is not provided, the
		quired gle			implementation should ignore the
					SimpleAddressType.
Zip	xs:st	т Ор нд	Sin-	The ZIP code of a structured address.	If Zip is not provided, the im-
		tional	gle		plementation should ignore the
					SimpleAddressType.

Source

The Source object represents the organization that is publishing the information. This object is the only required object in the feed file, and only one source object is allowed to be present.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dpeats	s?	
Name	xs:strin	-	Sin-	Specifies the name of the organization	If the field is invalid, then the
		quire	dgle	that is providing the information.	implementation is required to ig-
					nore the Source element con-
					taining it.
VipId	xs:strin	-	Sin-	Specifies the ID of the organization. VIP	If the field is invalid, then the
		quire	dgle	uses FIPS codes for this ID.	implementation is required to ig-
					nore the Source element con-
					taining it.
Date-	xs:dateT		Sin-	Specifies the date and time of the feed	If the field is invalid, then the
Time		quire	dgle	production. The date/time is considered	implementation is required to ig-
				to be in the timezone local to the organi-	nore the Source element con-
				zation.	taining it.
De-	Interna-	Op-	Sin-	Specifies both the nature of the organi-	If the element is invalid or not
scrip-	tional-	tional	gle	zation providing the data and what data	present, then the implementation
tion	izedText			is in the feed.	is required to ignore it.
Orga-	xs:strin		Sin-	Specifies a URI to the home page of the	If the field is invalid or not
niza-		tional	gle	organization publishing the data.	present, then the implementation
tionUri					is required to ignore it.
Feed-	single-	Op-	Sin-	Reference to the <i>Person</i> who will re-	If the element is invalid or not
Con-	xml-	tional	gle	spond to inquiries about the information	present, then the implementation
tactIn-	contact-			contained within the file.	is required to ignore it.
forma-	information				
tion					
TouUri	xs:anyUR		Sin-	Specifies the website where the Terms of	If the field is invalid or not
		tional	gle	Use for the information in this file can be	present, then the implementation
				found.	is required to ignore it.
Version	xs:strin	_	Sin-	Specifies the version of the data	If the field is invalid, then the
		quire	dgle		implementation is required to ig-
					nore the Source element con-
					taining it.

SpatialBoundary

The SpatialBoundary object defines a boundary in space. This boundary is usually defined by one or more discrete, closed polygonal shapes.

Tag	Data Type	Re-	Re-	Description	Error Handling
		quire	dßeat	\$?	
Exter-	single-xml-	Re-	Sin-	The spatial boundary de-	If the element is invalid, then the im-
nal-	external-	quire	d gle	fined by a geospatial feature	plementation is required to ignore the
Geospa-	geospatial-			that is external to the VIP	SpatialBoundary element contain-
tialFea-	feature			feed.	ing it.
ture					

```
<SpatialBoundary>

<ExternalGeospatialFeature>

<ExternalFileId>ef1</ExternalFileId>

<FileFormat>shp</FileFormat>

<FeatureIdentifier>

<Index>3</Index>

</FeatureIdentifier>

</FeatureIdentifier>

</FeatureIdentifier>

</FeatureIdentifier>
</ExternalGeospatialFeature>

</SpatialBoundary>
```

ExternalGeospatialFeature

The ExternalGeospatialFeature object contains a reference to a geospatial feature (one or more shapes) contained in a separate file external to the VIP feed.

Tag	Data	Re-	Re-	Description	Error Handling				
	Type	quired@eats?							
Ex-	xs:Il	PREF	Sin-	Links to the <i>ExternalFile</i> containing the geospatial shape(s)	If the field is in-				
ter-		quire	d gle	that define the feature's boundary.	valid, then the				
nal-					implementation is				
FileId	1				required to ignore the				
					ExternalGeospatialFeature				
					element containing it.				
File-	Geosp	a-Re-	Sin-	The format of the geospatial file.	If the field is in-				
For-	tial-	quire	d gle		valid, then the				
mat	For-				implementation is				
	mat				required to ignore the				
					ExternalGeospatialFeature				
					element containing it.				
Fea-	single-	Re-	Re-	Identifiers indicating which specific shape(s) to use from the	If the element is				
tureI-	xml-	quire	d peats	geospatial file. These refer to identifiers within the refer-	invalid, then the				
den-	feature	-		enced external file. This is a repeated field in the XML	implementation is				
ti-	identif	ier		specification, but a scalar field in the CSV specification. If	required to ignore the				
fier				more than one identifier is required with the CSV specifia-	ExternalGeospatialFeature				
				tion, multiple values can be provided by delimited by space.	element containing it.				

FeatureIdentifier

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quired?	peats?		
In-	xs:int	Op-	Single	The index value for the	If the field is invalid or not present, then the imple-
dex		tional		shapefile feature.	mentation is required to ignore it.

State

The State object includes state-wide election information. The ID attribute is recommended to be the state's FIPS code, along with the prefix "st".

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	l 1	døeats	·	
Elec-	xs:I		Sin-	Links to the state's election administration object.	If the field is invalid or
tion-		tional	gle	•	not present, then the im-
Ad-					plementation is required
min-					to ignore it.
istra-					
tionId					
Exter-	Ex-	Op-	Sin-	Other identifier for the state that relates to another	If the element is in-
nalI-	ter-	tional	gle	dataset (e.g. OCD-ID).	valid or not present, then
denti-	nalI-				the implementation is
fiers	den-				required to ignore it.
	ti-				
	fiers				
Name	xs:s	t Re ng		Specifiers the name of a state, such as Alabama.	If the field is invalid,
		quire	dgle		then the implementation
					is required to ignore
					the State element con-
					taining it.
Pollingl	Loxs:I			Specifies a link to the state's <i>polling locations</i> . If early	If the field is invalid or
ca-		tional	gle	vote centers or ballot drop locations are state-wide (e.g.,	not present, then the im-
tion-				anyone in the state can use them), they can be specified	plementation is required
Ids				here, but you are encouraged to only use the <i>Precinct</i>	to ignore it.
				element.	

StreetSegment

A Street Segment objection represents a portion of a street and the links to the precinct that this geography (i.e., segment) is contained within. The start address house number must be less than the end address house number unless the segment consists of only one address, in which case these values are equal.

Tag	Data		Re-	Description	Error Handling
			døeats		70 1 0 11 1 11
Ad-		t Op -n	-	Specifies the (inter-)cardinal direction of the	If the field is invalid or not present,
dress	-	tiona	l gle	entire address. An example is "NE" for the	then the implementation is required to
Di-				address "100 E Capitol St NE."	ignore it.
rec-					
tion		.	<u> </u>		X
City	xs:s	t Re- n	-	The city specifies the city or town of the ad-	If the field is invalid, then the im-
		quire	agie	dress.	plementation is required to ignore the
					StreetSegment element contain-
T		0.7		0 10 10 1	ing it.
In-	1 1	⊘ p-e		Specifies if the segment covers every address	If the field is invalid or not present,
clude	-	tiona	l gle	on this street. If this is <i>true</i> , then the values	then the implementation is required to
sAl-				of StartHouseNumber and EndHouseNum-	ignore it.
lAd-				ber should be ignored. The value of OddE-	
dress	I I		~.	venBoth must be both.	
In-		⊘ p <u>i</u> -e		Specifies if the segment covers every street in	If the field is invalid or not present,
clude	-	tiona	l gle	this city. If this is <i>true</i> , then the values of	then the implementation is required to
sAll-				OddEvenBoth, StartHouseNumber, End-	ignore it.
Stree	ts			HouseNumber, StreetName, and Zip should	
				be ignored.	
Odd-	OebE	-	Sin-	Specifies whether the odd side of the street	If the field is not present or invalid, the
E-	num	tiona	l gle	(in terms of house numbers), the even side, or	implementation is required to ignore
ven-				both are in included in the street segment.	the StreetSegment containing it.
Both					
	nœs:I			References the <i>Precinct</i> that contains the en-	If the field is invalid, then the im-
tId		quire	d gle	tire street segment. If a precinct has a single-	plementation is required to ignore the
				xml-spatial-boundary which also contains the	StreetSegment element contain-
				entire street segment, then the precinct assign-	ing it.
				ment from the segment will be preferred over	
				the assignment defined by the spatial bound-	
				ary.	
Start-	xs:i	n Odpe g	e S in-	The house number at which the street seg-	Unless IncludesAllAddresses or In-
Hous	e-	tional	l gle	ment starts. This value is necessary for the	cludesAllStreets are true, if the field
Num-				street segment to make any sense. Unless In-	is not present or invalid, the imple-
ber				cludesAllAddresses or IncludesAllStreets	mentation is required to ignore the
				are true, this value must be less than or equal	StreetSegment element containing it.
				to EndHouseNumber. If IncludesAllAd-	If the StartHouseNumber is greater
				dresses or IncludesAllStreets are true, this	than the EndHouseNumber, the im-
				value is ignored.	plementation should ignore the ele-
					ment containing them.
End-	xs:i	n Otpe g	e Sin-	The house number at which the street seg-	Unless IncludesAllAddresses or In-
Hous	1 1	tiona		ment ends. This value is necessary for the	cludesAllStreets are true, if the field is
Num-				street segment to make any sense. Un-	not present or invalid, the implemen-
ber				less IncludesAllAddresses or IncludesAll-	tation is required to ignore the Street-
				Streets are true, it must be greater than or	Segment element containing it. If the
				equal to StartHouseNumber . If IncludesAl -	EndHouseNumber is less than the
				lAddresses or Includes All Streets are true,	StartHouseNumber, the implementa-
				this value is ignored.	tion should ignore the element con-
					taining it.
Hous	e-xs:s	t Qn -n	a Sin-	Part of a street address. It may contain let-	If the field is invalid or not present,
Num-	1 1	tional	-	ters or slashes (e.g., 'B' in 'B22 Main St').	then the implementation is required to
ber-				If this value is present then StartHouseNum -	ignore it.
Pre-				ber must be equal to EndHouseNumber.	
–fix				This field cannot be used if IncludesAllAd-	
68				dresses or IncludesAllStreets are true.	Chapter 2. XML Documentation
Hous	e-xs:s	t Qp -n	g Sin-	Part of a street address. It may contain let-	If the field is invalid or not present,
Num-		tiona	gle	ters or slashes (e.g., 1/2 in '22 1/2 Main	then the implementation is required to
ber-				St'). If this value is present then StartHouse-	ignore it.

```
<StreetSegment id="ss999999">
      <City>Charlottesville</City>
2
      <IncludesAllAddresses>true</IncludesAllAddresses>
      <OddEvenBoth>both</OddEvenBoth>
      <Pre><PrecinctId>pre99999</PrecinctId>
      <State>VA</State>
      <StreetName>CHAPEL HILL</StreetName>
      <StreetSuffix>RD</StreetSuffix>
      <Zip>22901</Zip>
   </StreetSegment>
10
   <StreetSegment id="ss309904">
11
      <City>GREENWOOD</City>
12
      <OddEvenBoth>both</OddEvenBoth>
13
      <Pre><PrecinctId>pre92145</PrecinctId>
14
      <StartHouseNumber>1</StartHouseNumber>
15
      <EndHouseNumber>201</EndHouseNumber>
16
      <State>VA</State>
17
      <StreetName>MISTY MOUNTAIN</StreetName>
      <StreetSuffix>RD</StreetSuffix>
      <Zip>22943</Zip>
20
   </StreetSegment>
21
   <StreetSegment id = "ss1"
22
      <City>GREENWOOD</City>
23
      <OddEvenBoth>both</OddEvenBoth>
24
      <Pre><PrecinctId>pre92145</PrecinctId>
      <StartHouseNumber>1</StartHouseNumber>
26
      <EndHouseNumber>1</EndHouseNumber>
27
      <HouseNumberPrefix>B</HouseNumberPrefix>
28
      <HouseNumberSuffix>1/2</HouseNumberSuffix>
29
      <State>VA</State>
30
      <StreetName>MISTY MOUNTAIN</StreetName>
      <StreetSuffix>RD</StreetSuffix>
32
      <Zip>22943</Zip>
33
   </StreetSegment>
```

Term

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired	l?peats	?	
Type	Of-	Op-	Sin-	Specifies the type of office	If the field is invalid or not present, the imple-
	ficeTerm	<i>T</i> tijomal	gle	term (see OfficeTermType for	mentation is required to ignore the Office el-
				valid values).	ement containing it.
Start-	xs:dat	eOp-	Sin-	Specifies the start date for the	If the field is invalid or not present, then the im-
Date		tional	gle	current term of the office.	plementation is required to ignore it.
End-	xs:dat	:еОр-	Sin-	Specifies the end date for the	If the field is invalid or not present, then the im-
Date		tional	gle	current term of the office.	plementation is required to ignore it.

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TimeWithZone

A string pattern restricting the value to a time with an included offset from UTC. The pattern is

```
<HoursOpen id="hours0001">
    <Schedule>
2
     <Hours>
       <StartTime>06:00:00-05:00
       <EndTime>12:00:00-05:00
     </Hours>
6
     <Hours>
       <StartTime>13:00:00-05:00
       <EndTime>19:00:00-05:00
     </Hours>
10
     <StartDate>2013-11-05
     <EndDate>2013-11-05
12
    </Schedule>
13
  </HoursOpen>
```

VoterService

Tag	Data Type	Re-	Re-	Description	Error Handling
		quire	d?peats	?	
Contact-	single-xml-	Op-	Sin-	The contact for a particular voter	If the element is invalid or not
Informa-	contact-	tional	gle	service.	present, then the implementation is
tion	information				required to ignore it.
Descrip-	Internation-	Op-	Sin-	Long description of the services	If the element is invalid or not
tion	alizedText	tional	gle	available.	present, then the implementation is
					required to ignore it.
Elec-	xs:IDREF	Op-	Sin-	The <i>authority</i> for a particular	If the field is invalid or not present,
tionOffi-		tional	gle	voter service.	then the implementation is re-
cialPer-					quired to ignore it.
sonId					
Type	VoterSer-	Op-	Sin-	The type of <i>voter service</i> .	If the field is invalid or not present,
	viceType	tional	gle		then the implementation is re-
					quired to ignore it.
Other-	xs:string	Op-	Sin-	If Type is "other", OtherType al-	If the field is invalid or not present,
Type		tional	gle	lows for cataloging another type	then the implementation is re-
				of voter service.	quired to ignore it.

Enumerations

BallotMeasureType

A list of the various types of ballot measures. States may have different legal definitions of each type; Wikipedia has more details about each type. These values are to help states with multiple types of non-candidate-based contests distinguish between each type; as such, the definitions in this table are simple guidelines. Ultimately it is up to the state or local election official to choose the value which best describes the ballot measure(s) in their jurisdiction.

Tag	Description
ballot-	A catch-all for generic types of non-candidate-based contests.
measure	
initiative	These are usually citizen-driven measures to be placed on the ballot. These could include both statu-
	tory changes and constitutional amendments.
referen-	These could include measures to repeal existing acts of legislation, legislative referrals, and
dum	legislatively-referred state constitutional amendments.
other	Anything that does not fall into the above categories.

CandidatePostElectionStatus

Tag	Description
advanced-to-runoff	For contests in which the top N candidates advance to the next round.
projected-winner	A candidate is expected to win, but official results are not yet complete.
winner	The candidate has officially won.
withdrawn	The candidate has withdrawn from the contest.

CandidatePreElectionStatus

Tag	Description
filed	The candidate has filed for office but not yet been qualified.
qualified	The candidate has qualified for the contest.
withdrawn	The candidate has withdrawn from the contest (but may still be on the ballot).
write-in	

ChecksumAlgorithm

Tag	Description
sha-256	256-bit cryptographic hash algorithm of the SHA-2 family
sha-512	512-bit cryptographic hash algorithm of the SHA-2 family

DistrictType

Enumeration describing the set of possible jurisdiction and district types. Please use the enumeration value which most accurately reflects the type of district or jurisdiction in your state or county. For example, "town" and "township" may mean different things – or not be defined at all – in your state, so please use the definition which best matches your local meaning.

Tag	Description
borough	A borough
city	A city.
city-council	A specific seat/jurisdiction for a city, town, or village council.
congressional	A United States congressional district.
county	A county.
county-council	A county council district, either in its entirety or for a specific seat.
judicial	A judicial district.
municipality	A civil division which is not a town, city, village, or county.
national	The United States.
school	A school district.
special	A special-purpose district that exist separate from general-purpose districts.
state	A state, district, commonwealth, or U.S. territory.
state-house	The lower house of a state legislature.
state-senate	The upper house of a state legislature.
town	A town.
township	A township, which may be different than a town. See the Wikipedia article.
utility	A non-water public or municipal utility district.
village	A village district.
ward	A ward.
water	A water district.
other	Any district not described above. Use the <i>OtherType</i> field to describe it.

GeospatialFormat

Geospatial file formats that are supported by the VIP specification.

Tag	Description
shp	ESRI Shapefile (reference)

IdentifierType

Tag	Description
fips	Federal Information Processing Standards codes for states, counties, and cities.
local-level	An identifier generated or used by local governments or organizations.
national-level	An identifier generated or used by national organizations.
ocd-id	An Open Civic Data Division Identifier.
state-level	An identifier generated or used by state governments or organizations.
other	Any identifier which doesn't fall into any of the above categories.

OebEnum

Tag	Description
both	Both even and odd addresses within the range.
even	Only even-numbered addresses within the range.
odd	Only odd-numbered addresses within the range.

OfficeTermType

Tag	Description
full-term	This election is for an office for which the existing term has been completed.
unexpired-term	This election is for an office for which the original term is not yet complete.

VoteVariation

Note that the descriptions below describe what the enumeration names stand for in the context of the VIP spec, rather than provide general definitions of the election terms that the names correspond to. For example, even though there are majority voting methods that are not "1-of-m" (e.g. ranked choice voting), we constrain "majority" to 1-of-m. We do this to eliminate any source of ambiguity when a single enumeration value needs to be assigned to a contest.

Tag	Description
1-of-m	A method where each voter can select up to one option.
ap-	Approval voting, where each voter can select as many options as desired.
proval	
borda	Borda count, where each voter can rank the options, and the rankings are assigned point values.
cumu-	Cumulative voting, where each voter can distribute their vote to up to N options.
lative	
major-	A 1-of-m method where the winner needs more than 50% of the vote to be elected.
ity	
n-of-m	A method where each voter can select up to N options.
plural-	A 1-of-m method where the option with the most votes is elected, regardless of whether the option has
ity	more than 50% of the vote.
propor-	A proportional representation method (other than STV), which is any system that elects winners in
tional	proportion to the total vote.
range	Range voting, where each voter can select a score for each option.
rcv	Ranked choice voting (RCV), where each voter can rank the options, and the ballots are counted in
	rounds. Also known as instant-runoff voting (IRV) and the single transferable vote (STV).
super-	A 1-of-m method where the winner needs more than some predetermined fraction of the vote to be
majority	elected, where the fraction is more than 50% (e.g. three-fifths or two-thirds).
other	Used when the vote variation type is not included in this enumeration.

VoterServiceType

Tag	Description
absentee-ballots	This department handles the dispatch, tracking, and return of absentee ballots.
overseas-voting	The department for overseas, military, and other outside-the-U.S. voters.
polling-places	This department handles the selection and management of polling places.
voter-registration	The department that manages voter registration.
other	Any other service not covered by the above descriptions.

Elements (Separate Pages)

BallotMeasureContest

The BallotMeasureContest provides information about a ballot measure before the voters, including summary statements on each side. Extends *ContestBase*.

Tag	Data	Re-	Re-	Description	Error Handling
iay	Type		døeats		LITOT FIARIUMNY
Con-	In-	Ор-	Sin-	Specifies a statement in opposition to the referendum. It does not	If the element
		- 1		1.	is invalid or not
State-		tional	gle	necessarily appear on the ballot.	
ment	na-				present, then the
	tion-				implementation
	al-				is required to
	ized-				ignore it.
	<i>Text</i>				
Ef-	In-	Op-	Sin-	Specifies what effect abstaining (i.e. not voting) on this proposi-	If the element
fectO	- ter-	tional	gle	tion will have (i.e. whether abstaining is considered a vote against	is invalid or not
fAb-	na-			it).	present, then the
stain	tion-				implementation
500111	al-				is required to
	ized-				ignore it.
	Text				ignore it.
Full-	In-	0.0	Sin-	Specifies the full text of the referendum as it appears on the ballot.	If the element
		Op-		Specifies the full text of the referendum as it appears on the ballot.	
Text	ter-	tional	gle		is invalid or not
	na-				present, then the
	tion-				implementation
	al-				is required to
	ized-				ignore it.
	Text				
In-	xs:a	n Ø ØRI	Sin-	Specifies a URI that links to additional information about the ref-	If the field is
foUri		tional	gle	erendum.	invalid or not
					present, then the
					implementation
					is required to
					ignore it.
Pas-	In-	Op-	Sin-	Specifies the threshold of votes that the referendum needs in order	If the element
sageT	I	tional		to pass. The default is a simple majority (i.e. 50% plus one vote).	is invalid or not
resh-	na-	tiona	510	Other common thresholds are "three-fifths" and "two-thirds". If	present, then the
old	tion-			there are competing initiatives, information about their effect on	implementation
oid	al-			the passage of the BallotMeasureContest would go here.	is required to
	ized-			the passage of the Danotivicastic Contest would go here.	ignore it.
	I				ignore it.
D C.	Text	0	G		TC 41 1
ProSt		Op-	Sin-	Specifies a statement in favor of the referendum. It does not nec-	If the element
ment		tional	gle	essarily appear on the ballot.	is invalid or not
	na-				present, then the
	tion-				implementation
	al-				is required to
	ized-				ignore it.
	Text				
Sum-	In-	Op-	Sin-	Specifies a short summary of the referendum that is on the ballot,	If the element
ma-	ter-	tional	gle	below the title, but above the text.	is invalid or not
ry-	na-		-		present, then the
Text	tion-				implementation
	al-				is required to
	ized-				ignore it.
	Text				-51101010
Туре	Bal-	Op-	Sin-	Specifies the particular type of ballot measure. Must be one of the	If the field is
Турс	lot-	- 1			
		tional	gie	valid BallotMeasureType options.	
	Меа-				present, then the
	sure-				implementation
9 1 V	<i>Type</i> 'ML Sr	ooific	ation		is required to
	ML Sp			Allows for octologing a new Dulladday T	ignore it. 75
Oth-	xs:s	t 0p n¢		Allows for cataloging a new <i>BallotMeasureType</i> option, when	If the field is
er-		tional	gle	Type is specified as "other."	invalid or not
Type					present, then the

```
<BallotMeasureContest id="bmc30001">
      <BallotSelectionIds>bms30001a bms30001b/BallotSelectionIds>
2
      <BallotTitle>
3
         <Text language="en">State of the State</Text>
         <Text language="es">Estado del Estado.</Text>
      </BallotTitle>
      <ElectoralDistrictId>ed60129</ElectoralDistrictId>
      <Name>Referendum on Virginia
      <ConStatement label="bmc30001con">
9
         <Text language="en">This is no good.</Text>
10
         <Text language="es">Esto no es bueno.</Text>
11
12
      </ConStatement>
      <EffectOfAbstain label="bmc30001abs">
13
         <Text language="en">Nothing will happen.</Text>
14
         <Text language="es">Nada pasará.</Text>
15
      </EffectOfAbstain>
16
      <ProStatement label="bmc30001pro">
17
         <Text language="en">Everything will be great.</Text>
         <Text language="es">Todo va a estar bien.</Text>
      </ProStatement>
20
      <Type>referendum</Type>
21
   </BallotMeasureContest>
22
```

ContestBase

A base model for all Contest types: *BallotMeasureContest*, *CandidateContest*, *PartyContest*, and *RetentionContest* (NB: the latter because it extends *BallotMeasureContest*).

Tag	Data Type		Re- dβeats	Description s?	Error Handling
Ab- bre- via- tion	xs:s	t Op -n tional	gSin- l gle	An abbreviation for the contest.	If the field is invalid or not present, then the implementation should ignore it.
Bal- lot- Se- lec- tion- Ids	xs:	tional		References a set of BallotSelections, which could be of any selection type that extends <i>BallotSelectionBase</i> .	If the field is invalid or not present, then the implementation should ignore it.
Bal- lot- Sub- Ti- tle	In- ter- na- tion- al- ized- Text	Op- tional	Sin- l gle	Subtitle of the contest as it appears on the ballot.	If the element is invalid or not present, then the implementation should ignore it.
Bal- lot- Ti- tle	In- ter- na- tion- al- ized- Text	Op- tional	Sin- l gle	Title of the contest as it appears on the ballot.	If the element is invalid or not present, then the implementation should ignore it.
Elec- toral is- tric- tId		Quire	Sin- e d gle	References an <i>ElectoralDistrict</i> element that represents the geographical scope of the contest.	If the field is invalid, then the implementation is required to ignore the ContestBase element containing it.
Electorate Specifica- tion	- ter-	Op- tional	Sin- l gle	Specifies any changes to the eligible electorate for this contest past the usual, "all registered voters" electorate. This subtag will most often be used for primaries and local elections. In primaries, voters may have to be registered as a specific party to vote, or there may be special rules for which ballot a voter can pull. In some local elections, non-citizens can vote.	If the element is invalid or not present, then the implementation should ignore it.
Ex- ter- nalI- den- ti- fiers	Ex- ter- nalI- den- ti- fiers	Op- tional	Sin- l gle	Other identifiers for a contest that links to another source of information.	If the element is invalid or not present, then the implementation should ignore it.
Has- Ro- ta- tion	U	⊘pi -e tiona		Indicates whether the selections in the contest are rotated.	If the field is invalid or not present, then the implementation should ignore it.
		t Re- n quire pecific	dgle	Name of the contest, not necessarily how it appears on the ballot (NB: BallotTitle should be used for this purpose).	If the field is invalid, then the implementa tion is required to ignore the

BallotMeasureSelection

Represents the possible selection (e.g. yes/no, recall/do not recall, et al) for a *BallotMeasureContest* that would appear on the ballot. BallotMeasureSelection extends *BallotSelectionBase*.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quired	?peats	?	
Se-	Interna-	Re-	Sin-	Selection text for	If the element is invalid or not present, the implemen-
lec-	tional-	quired	gle	a BallotMeasure-	tation is required to ignore the BallotMeasureSelection
tion	izedText			Contest	containing it.

```
<BallotMeasureSelection id="bms30001a">
      <Selection label="bms30001at">
         <Text language="en">Yes</Text>
         <Text language="es">Sí</Text>
4
      </Selection>
5
   </BallotMeasureSelection>
6
   <BallotMeasureSelection id="bms30001b">
      <Selection label="bms30001bt">
9
         <Text language="en">No</Text>
         <Text language="es">No</Text>
10
      </Selection>
11
   </BallotMeasureSelection>
```

BallotSelectionBase

A base model for all ballot selection types: BallotMeasureSelection, CandidateSelection, and PartySelection.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeat	s?	
Se-	xs:i	n tOp peje	rSin-	The order in which a selection can be listed on the bal-	If the field is invalid or
quence	-	tiona	l gle	lot or in results. This is the default ordering, and can	not present, then the im-
Order				be overridden by OrderedBallotSlectionIds in Ordered-	plementation is required to
				Contest.	ignore it.

BallotStyle

A container for the contests/measures on the ballot.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired	? peats?		
ImageUri	xs:any	√ ∪0γπ -	Sin-	Specifies a URI that returns	If the field is invalid or not present, then
		tional	gle	an image of the sample bal-	the implementation is required to ignore
				lot.	it.
Ordered-	xs:IDF	₹ £Øp 5-	Sin-	Reference to a set of Or-	If the field is invalid or not present, then
Con-		tional	gle	deredContest	the implementation is required to ignore
testIds					it.
PartyIds	xs:IDF	RE OPpS -	Sin-	Reference to a set of	If the field is invalid or not present, then
		tional	gle	:ref: multi-xml-party's.	the implementation is required to ignore
					it.

Candidate

The Candidate object represents a candidate in a contest. If a candidate is running in multiple contests, each contest **must** have its own Candidate object. Candidate objects may **not** be reused between Contests.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	dpeats	s?	_
Bal- lot- Name	Inter- nation- alized- Text	Re- quire	Sin- e d gle	The candidate's name as it will be displayed on the official ballot (e.g. "Ken T. Cuccinelli II").	If the element is invalid, then the implementation is required to ignore the Candidate element containing it.
Contact- Information	Con- tactIn- forma- tion	Op- tional	Sin-	Contact and physical address information for this Candidate and/or their campaign (see <i>ContactInformation</i>).	If the element is invalid or not present, then the implementation is required to ignore it.
Ex- ter- nalI- den- ti- fiers	Exter- nall- denti- fiers	Op- tional	Sin- gle	Another identifier for a candidate that links to another source of information (e.g. a campaign committee ID that links to a campaign finance system).	If the element is invalid or not present, then the implementation is required to ignore it.
File- Date	xs:dat	e Op- tional		Date when the candidate filed for the contest.	If the field is invalid or not present, then the implementation is required to ignore it.
IsIn- cum- bent	xs:boo	1. ⊙p n tional	Sin- l gle	Indicates whether the candidate is the incumbent for the office associated with the contest.	If the field is invalid or not present, then the implementation is required to ignore it.
IsTopT	icket: boo	1. Op n tional	Sin- l gle	Indicates whether the candidate is the top of a ticket that includes multiple candidates.	If the field is invalid or not present, then the implementation is required to ignore it.
Par- tyId	xs:IDR	EIOp- tional	Sin- gle	Reference to a <i>Party</i> element with additional information about the candidate's affiliated party. This is the party affiliation that is intended to be presented as part of ballot information.	If the field is invalid or not present, then the implementation is required to ignore it.
Per- sonId	xs:IDR	E I Op- tional	Sin- l gle	Reference to a <i>Person</i> element with additional information about the candidate.	If the field is invalid or not present, then the implementation is required to ignore it.
Post- Elec- tion- Sta- tus	Candi- datePost- Elec- tion- Status	Op- tional	Sin- gle	Final status of the candidate (e.g. winner, withdrawn, etc).	If the field is invalid or not present, then the implementation is required to ignore it.
Pre- Elec- tion- Sta- tus	Candi- datePre- Elec- tion- Status	Op- tional	Sin- l gle	Registration status of the candidate (e.g. filed, qualified, etc).	If the field is invalid or not present, then the implementation is required to ignore it.

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</Candidate>

CandidateContest

CandidateContest extends *ContestBase* and represents a contest among candidates.

Tag	Data	Re-	Re-	Description	Error Han-
	Type	quire	døeats	s?	dling
Num	·xs:i	n Otpe g	eSin-	Number of candidates that are elected in the contest (i.e. "N" of N-of-	If the field
ber-		tional	l gle	M).	is invalid or
Electe	ed				not present,
					then the
					implemen-
					tation is
					required to
					ignore it.
Of-	xs:I	DOPPEF	SSin-	References a set of Office elements, if available, which give additional	If the field
fi-		tional	l gle	information about the offices. Note: the order of the office IDs must be	is invalid or
ceIds				in the same order as the candidates listed in BallotSelectionIds. E.g., if	not present,
				the various BallotSelectionIds reference CandidateSelection elements	then the
				which reference the candidate for President first and Vice-President sec-	implemen-
				ond, the OfficeIds should reference the office of President first and the	tation is
				office of Vice-President second.	required to
					ignore it.
Pri-	xs:I	DOPPEF		References <i>Party</i> elements, if the contest is related to a particular party.	If the field
ma-		tional	l gle		is invalid or
ry-					not present,
Par-					then the
tyIds					implemen-
					tation is
					required to
					ignore it.
Vote-	xs:i	.n Otpe g		Maximum number of votes/write-ins per voter in this contest.	If the field
sAl-		tional	l gle		is invalid or
lowed	1				not present,
					then the
					implemen-
					tation is
					required to
					ignore it.

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<VotesAllowed>1</VotesAllowed>
</CandidateContest>

ContestBase

A base model for all Contest types: *BallotMeasureContest*, *CandidateContest*, *PartyContest*, and *RetentionContest* (NB: the latter because it extends *BallotMeasureContest*).

Tag	I	Re- Re-	Description	Error Handling
A 1		quiredpeat		TC 41 C 11 '
Ab-	XS:S	t Op -ngSin-	An abbreviation for the contest.	If the field is
bre-		tional gle		invalid or not
via-				present, then the
tion				implementation
				should ignore it.
Bal-	xs:	DOPOEFFSSin-	References a set of BallotSelections, which could be of any se-	If the field is
lot-		tional gle	lection type that extends <i>BallotSelectionBase</i> .	invalid or not
Se-				present, then the
lec-				implementation
tion-				should ignore it.
Ids				Silouid Ignore IV
Bal-	In-	Op- Sin-	Subtitle of the contest as it appears on the ballot.	If the element
lot-	ter-	tional gle	Subtrice of the contest as it appears on the barrot.	is invalid or not
		tional gie		
Sub-	na-			present, then the
Ti-	tion-			implementation
tle	al-			should ignore it.
	ized-			
	Text			
Bal-	In-	Op- Sin-	Title of the contest as it appears on the ballot.	If the element
lot-	ter-	tional gle		is invalid or not
Ti-	na-			present, then the
tle	tion-			implementation
	al-			should ignore it.
	ized-			Silouid Ignore IV
	Text			
Elec-		DREF Sin-	References an <i>ElectoralDistrict</i> element that represents the geo-	If the field is
toral	I	quiredgle	graphical scope of the contest.	invalid, then
	/ -	quireugie	grapinear scope of the contest.	· ·
is-				the implementa-
tric-				tion is required
tId				to ignore the
				ContestBase
				element containing
				it.
Elec-	In-	Op- Sin-	Specifies any changes to the eligible electorate for this contest	If the element
torate	- ter-	tional gle	past the usual, "all registered voters" electorate. This subtag	is invalid or not
Spec-	na-		will most often be used for primaries and local elections. In	present, then the
ifi-	tion-		primaries, voters may have to be registered as a specific party to	implementation
ca-	al-		vote, or there may be special rules for which ballot a voter can	should ignore it.
tion	ized-		pull. In some local elections, non-citizens can vote.	
	Text		,	
Ex-	Ex-	Op- Sin-	Other identifiers for a contest that links to another source of in-	If the element
ter-	ter-	tional gle	formation.	is invalid or not
nalI-	nalI-	lional gic	TOTHINGOH.	present, then the
				-
den-	den-			implementation
ti-	ti-			should ignore it.
fiers	fiers			TO 1 2 :: :
Has-	xs:k	oOpt-eaSin-	Indicates whether the selections in the contest are rotated.	If the field is
Ro-		tional gle		invalid or not
ta-				present, then the
tion				implementation
				should ignore it.
Name	xs:s	t Re- ngSin-	Name of the contest, not necessarily how it appears on the ballot	If the field is
		quiredgle	(NB: BallotTitle should be used for this purpose).	invalid, then
2.1. X	ML S	ecification	1 1 /	the implementa83
	•			tion is required
				to ignore the
				ContestBase
				CONCESTDASE

CandidateSelection

CandidateSelection extends BallotSelectionBase and represents a ballot selection for a candidate contest.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dpeats	s?	
Can-	xs:I	D Op f:	Sin-	References a set of <i>Candidate</i> elements. The number of	If the field is invalid
di-		tional	gle	candidates that can be references is unbounded in cases	or not present, then the
dateIds				where the ballot selection is for a ticket (e.g. "Presi-	implementation is re-
				dent/Vice President", "Governor/Lt Governor").	quired to ignore it.
En-	xs:I	D O pF	Sin-	References a set of <i>Party</i> elements, which signifies one or	If the field is invalid
dorse-		tional	gle	more endorsing parties for the candidate(s).	or not present, then the
ment-					implementation is re-
Par-					quired to ignore it.
tyIds					
IsWrite	Inxs:b	⊙0 pea	ar Sin -	Signifies if the particular ballot selection allows for write-	If the field is invalid
		tional	gle	in candidates. If true, one or more write-in candidates are	or not present, then the
				allowed for this contest.	implementation is re-
					quired to ignore it.

<CandidateSelection id="cs10861">

- <CandidateIds>can10861a can10861b
- <EndorsementPartyIds>par0001</EndorsementPartyIds>
- </CandidateSelection>

2

3

BallotSelectionBase

A base model for all ballot selection types: BallotMeasureSelection, CandidateSelection, and PartySelection.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeat	s?	_
Se-	xs:i	nt Op pge	rSin-	The order in which a selection can be listed on the bal-	If the field is invalid or
quence) -	tiona	l gle	lot or in results. This is the default ordering, and can	not present, then the im-
Order				be overridden by OrderedBallotSlectionIds in Ordered-	plementation is required to
				Contest.	ignore it.

Election

The Election object represents an Election Day, which usually consists of many individual contests and/or referenda. A feed may **not** contain multiple Election objects. All relationships in the feed (e.g., street segment to precinct to polling location) are assumed to relate only to the Election specified by this object. It is permissible, and recommended, to combine unrelated contests (e.g., a special election and a general election) that occur on the same day into one feed with one Election object.

Tag		Re-	Re-	Description	Error Handling
Date	xs:	Re quire	Sin- e d gle	Specifies when the election is being held. The <i>Date</i> is considered to be in the timezone local to the state holding the election.	If the field is invalid, then the implementation is required to ignore the Election element containing it.
Election- Type	In- ter- na- tion- al- ized- Text	Op- tiona	Sin- l gle	Specifies the highest controlling authority for election (e.g., federal, state, county, city, town, etc.)	If the element is invalid or not present, then the implementation is required to ignore it.
StateId		o Res F quire	e d gle	Specifies a link to the <i>State</i> element where the election is being held.	If the field is invalid, then the implementation is required to ignore the Election element containing it.
Is- Statew		Opi-e tiona		Indicates whether the election is statewide.	If the field is not present or invalid, the implementation is required to default to "yes".
Name	In- ter- na- tion- al- ized- Text	Op- tiona	Sin- l gle	The name for the election (NB : while optional, this element is highly recommended).	If the element is invalid or not present, then the implementation is required to ignore it.
Reg- is- tra- tionInf	In- ter- na-	Op- tiona	Sin- l gle	Specifies information about registration for this election either as text or a URI.	If the element is invalid or not present, then the implementation is required to ignore it.
Ab- sen- tee- Bal- lot- Info	In- ter- na- tion- al- ized- Text	Op- tiona	Sin- l gle	Specifies information about requesting absentee ballots either as text or a URI	If the element is invalid or not present, then the implementation is required to ignore it.
Re- sult- sUri	XS:	tiona	l gle	Contains a URI where results for the election may be found	If the field is invalid or not present, then the implementation 85
				Contains the hours (in least time) that Floring Dense Ward	is required to ignore it.
Polling	g mo urs	Up-	Sin-	Contains the hours (in local time) that Election Day polling loca-	If the element

```
<Election id="ele30000">
     <AbsenteeRequestDeadline>2013-10-30</AbsenteeRequestDeadline>
2
     <Date>2013-11-05</Date>
3
     <ElectionType>
       <Text language="en">General</Text>
       <Text language="es">Generales</Text>
     </ElectionType>
     <HasElectionDayRegistration>false/HasElectionDayRegistration>
     <HoursOpenId>hours0001/HoursOpenId>
9
     <IsStatewide>true</IsStatewide>
10
     <Name>
11
       <Text language="en">2013 Statewide General</Text>
12
13
     </Name>
     <RegistrationDeadline>2013-10-15/RegistrationDeadline>
14
     <ResultsUri>http://www.sbe.virginia.gov/ElectionResults.html/ResultsUri>
15
     <StateId>st51</StateId>
16
   </Election>
```

ElectionAdministration

The Election Administration represents an institution for serving a locality's (or state's) election functions.

Tag	Data		Re-	Description	Error Handling
			døeats		
Ab-	xs:	ır Qp⊎ R	I Sin-	Specifies the web address for informa-	If the field is invalid or not present, then the
sen- teeUri			tion on absentee voting.	implementation is required to ignore it.	
AmIRe	g-xs:a	r (√n bJR	⊺ Sin-	Specifies the web address for informa-	If the field is invalid or not present, then the
is-	5.1.5	tional		tion on whether an individual is regis-	implementation is required to ignore it.
tere-		trona	510	tered.	imprementation is required to ignore it.
dUri				torou.	
Bal-	vei	ır Qıp UR	⊺ Sin-	Specifies the web address for tracking	If the field is invalid or not present, then the
lot-	A5.0	tional		information for a ballot cast by mail	implementation is required to ignore it.
Trackin	o I Iri	tiona	gic	information for a banot east by man	implementation is required to ignore it.
		-O-ID	⊤ Cim	Charles the web address for treating	If the field is invested on not present then the
Bal-	xs:a	ır Q np⊍R		Specifies the web address for tracking	If the field is invalid or not present, then the
lot-		tional	i gie	information for a provisional ballot.	implementation is required to ignore it.
Pro-				To support EAC guidelines for "Pro-	
vi-				cessing Provisional Ballots" (https:	
sion-				//www.eac.gov/research-and-data/	
al-				provisional-voting/)	
Trackin	_				
De-	De-	Re-	Re-	Describes the administrative body for	There must be at least one valid <i>Department</i>
part-	part-	quire	d peats	a particular voter service.	in each <i>ElectionAdministration</i> element. If
ment	ment				no valid <i>Department</i> objects are present,
					the implementation is required to ignore the
					ElectionAdministration object that contains
					it/them.
Elec-	Elec-	Op-	Sin-	A place for election administrators to	If the element is invalid or not present, then
tion-	tion-	tional	l gle	post last minute and emergency notifi-	the implementation is required to ignore it.
No-	No-			cations pertaining to the election.	
tice	tice				
Elec-	xs:	ır Qıp UR	I Sin-	Specifies web address the administra-	If the field is invalid or not present, then the
tion-		tional		tion's website.	implementation is required to ignore it.
sUri					
Reg-	xs:a	r Qp BR	I Sin-	Specifies web address for information	If the field is invalid or not present, then the
istra-		tional		on registering to vote.	implementation is required to ignore it.
tionUri					
RulesU	rixs:a	r (∂n bJR	⊺ Sin-	Specifies a URI for the election rules	If the field is invalid or not present, then the
1101050	1110	tional		and laws (if any) for the jurisdiction of	implementation is required to ignore it.
		tiona	gie	the administration.	implementation is required to ignore it.
WhatI-	ve	ır Qy iJR	⊺ Sin-	Specifies web address for information	If the field is invalid or not present, then the
sOn-	A3.0	tional		on what is on an individual's ballot.	implementation is required to ignore it.
My-		uona	gie	on what is on an individual 8 ballot.	implementation is required to ignore it.
•					
Bal-					
lo-					
tUri		0	- C.	TTI 0 'C 1 11 C 'C	TCA C 11: 1:1
Where-	xs:	ır Qıp HR	⊥ Sın-	The Specifies web address for infor-	If the field is invalid or not present, then the
	I				
DoIV-		tiona	l gle	mation on where an individual votes	implementation is required to ignore it.
		tiona	l gle	mation on where an individual votes based on their address.	implementation is required to ignore it.

```
<ElectionAdministration id="ea40133">
```

(continues on next page)

<AbsenteeUri>http://www.sbe.virginia.gov/absenteevoting.html</AbsenteeUri>

<AmIRegisteredUri>https://www.vote.virginia.gov/</AmIRegisteredUri>

(continued from previous page)

```
<BallotTrackingUri>https://www.vote.virginia.gov//BallotTrackingUri>
      <BallotProvisionalTrackingUri>https://www.vote.virginia.gov///
   →BallotProvisionalTrackingUri>
      <Department>
        <ContactInformation label="ci60000">
          <addressLine>Washington Building First Floor</addressLine>
          <AddressLine>1100 Bank Street</AddressLine>
          <AddressLine>Richmond, VA 23219</AddressLine>
10
          <Name>State Board of Elections
11
        </ContactInformation>
12
      </Department>
13
      <ElectionNotice>
        <NoticeText>
          <Text language="en">This is an emergency notification for this election.
16
        </NoticeText>
17
        <NoticeURI>https://www.yadayada.gov</NoticeURI>
18
      </ElectionNotice>
19
      <ElectionsUri>http://www.sbe.virginia.gov/</ElectionsUri>
20
      <RegistrationUri>https://www.vote.virginia.gov//RegistrationUri>
21
      <RulesUri>http://www.sbe.virginia.gov/</RulesUri>
22
      <WhatIsOnMyBallotUri>https://www.vote.virginia.gov/</WhatIsOnMyBallotUri>
23
      <WhereDoIVoteUri>https://www.vote.virginia.gov/</WhereDoIVoteUri>
24
  </ElectionAdministration>
```

Department

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	d peats	3?	
Contact-	Con-	Op-	Sin-	Contact and physical address information	If the element is invalid or not
Informa-	tactIn-	tional	gle	for the election administration body (see	present, then the implementa-
tion	forma-			ContactInformation).	tion is required to ignore it.
	tion				
Elec-	xs:IDRE	FOp-	Sin-	The individual to contact at the election	If the field is invalid or not
tionOffi-		tional	gle	administration office. The specified per-	present, then the implementa-
cialPer-				son should be the election official.	tion is required to ignore it.
sonId					
Vot-	multi-	Op-	Re-	The types of services and appropriate	If the element is invalid or not
erSer-	xml-	tional	peats	contact individual available to voters.	present, then the implementa-
vice	voter-				tion is required to ignore it.
	service				

VoterService

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quired	l?peats	?	
Contact-	Contact-	Op-	Sin-	The contact for a particular voter	If the element is invalid or not
Informa-	Informa-	tional	gle	service.	present, then the implementation is
tion	tion				required to ignore it.
Descrip-	Interna-	Op-	Sin-	Long description of the services	If the element is invalid or not
tion	tional-	tional	gle	available.	present, then the implementation is
	izedText				required to ignore it.
Elec-	xs:IDRE	FOp-	Sin-	The <i>authority</i> for a particular	If the field is invalid or not present,
tionOffi-		tional	gle	voter service.	then the implementation is required
cialPer-					to ignore it.
sonId					
Type	Vot-	Op-	Sin-	The type of <i>voter service</i> .	If the field is invalid or not present,
	erSer-	tional	gle		then the implementation is required
	viceType				to ignore it.
Other-	xs:stri	n 6)p-	Sin-	If Type is "other", OtherType al-	If the field is invalid or not present,
Type		tional	gle	lows for cataloging another type	then the implementation is required
				of voter service.	to ignore it.

ContactInformation

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *ElectionAdministration*, *Office*, *Person*, *Source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag	Data Type	Re-	Re- døeats	Description	Error Handling
A .1		_			TC d. C.11
Ad- dressL		.i Op ₁g	- 1	The "location" portion of a mailing address. <i>See usage note</i> .	If the field is in-
uressi	ine	uona	peats		valid or not present, then the implemen-
					tation is required to
					_
D:	7	0	C:	Caraifee foother instructions for languing this south	ignore it. If the element is in-
Di-	In-	Op-	Sin-	Specifies further instructions for locating this entity.	
rec-	ter-	tional	gie		valid or not present, then the implemen-
tions	na- tion-				
					tation is required to
	al-				ignore it.
	ized- Text				
F '1	1 1	0	D.	A	TC 41 . C .1.1
Email	xs:st	- 1	- 1	An email address for the contact.	If the field is in-
		uonai	peats		valid or not present,
					then the implemen-
					tation is required to
Fax	77.5.1	. 1 Ор +д	Da	A fax line for the contact.	ignore it. If the field is in-
гах	XS:SU	- 1	- 1	A lax line for the contact.	
		uona	peats		valid or not present, then the implemen-
					tation is required to
					ignore it.
Hours	In-	Op-	Sin-	Contains the hours (in local time) that the location is open	If the element is in-
[dep-	ter-	tional	- 1	(NB: this element is deprecated in favor of the more struc-	valid or not present,
re-	na-	tional	gic	tured :ref: 'multi-xml-hours-open' element. It is strongly	then the implemen-
cated				encouraged that data providers move toward contributing	tation is required to
cateu	al-			hours in this format).	ignore it.
	ized-			nours in this formur).	ignore it.
	Text				
Hour-	xs:II	H Om -	Sin-	References an <i>HoursOpen</i> element, which lists the hours of	If the field is in-
sOpen		tional	I	operation for a location.	valid or not present,
				· · · · · · · · · · · · · · · · · · ·	then the implemen-
					tation is required to
					ignore it.
LatLn	g LatLng	Op-	Sin-	Specifies the latitude and longitude of this entity.	If the element is in-
		tional	- 1	ar.	valid or not present,
					then the implemen-
					tation is required to
					ignore it.
Name	xs:st	1 Op 1-0	Sin-	The name of the location or contact. See usage note.	If the field is in-
		tional	I		valid or not present,
					then the implemen-
					tation is required to
					ignore it.
Phone	xs:st	л Ор т-9	Re-	A phone number for the contact.	If the field is in-
		tional	peats		valid or not present,
					then the implemen-
					tation is required to
					ignore it.
Uri	xs:ar	ny Op RI	Re-	An informational URI for the contact or location.	If the field is in-
		tional	peats		valid or not present,
					then the implemen-
					tation is required to
90				Chapter 2.	XMA₀Poeumentation

Name and AddressLine Usage Note

The Name and AddressLine fields should be chosen so that a display or mailing address can be constructed programmatically by joining the Name and AddressLine fields together. For example, for the following address:

```
Department of Elections
1 Dr. Carlton B. Goodlett Place, Room 48
San Francisco, CA 94102
```

The name could be "Department of Elections" and the first address line could be "1 Dr. Carlton B. Goodlett Place, Room 48."

However, VIP does not yet support the representation of mailing addresses whose "name" portion spans more than one line, for example:

```
California Secretary of State
Elections Division
1500 11th Street
Sacramento, CA 95814
```

For addresses like the above, we recommend choosing a name like, "California Secretary of State, Elections Division" with "1500 11th Street" as the first address line. This would result in a programmatically constructed address like the following:

```
California Secretary of State, Elections Division
1500 11th Street
Sacramento, CA 95814
```

ElectionNotice

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d peats	?	
No-	Inter-	Re-	Sin-	The last minute or emergency noti-	If the element is invalid, then the im-
tice-	nation-	quired gle		fication text should be placed here.	plementation is required to ignore the
Text	alized-				ElectionNotice element containing it.
	Text				
No-	xs:any	Ј Юр-	Sin-	Optional URL for additional infor-	If the field is invalid or not present, then the
ticeU	ri	tional	gle	mation related to the last minute or	implementation is required to ignore it.
				emergency notification.	

VoterService

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quired	quired?peats?		
Contact-	Contact-	Op-	Sin-	The contact for a particular voter	If the element is invalid or not
Informa-	Informa-	tional	gle	service.	present, then the implementation is
tion	tion				required to ignore it.
Descrip-	Interna-	Op-	Sin-	Long description of the services	If the element is invalid or not
tion	tional-	tional	gle	available.	present, then the implementation is
	izedText				required to ignore it.
Elec-	xs:IDRE	FOp-	Sin-	The authority for a particular	If the field is invalid or not present,
tionOffi-		tional	gle	voter service.	then the implementation is required
cialPer-					to ignore it.
sonId					
Type	Vot-	Op-	Sin-	The type of <i>voter service</i> .	If the field is invalid or not present,
	erSer-	tional	gle		then the implementation is required
	viceType				to ignore it.
Other-	xs:stri	п 9р-	Sin-	If Type is "other", OtherType al-	If the field is invalid or not present,
Type		tional	gle	lows for cataloging another type	then the implementation is required
				of voter service.	to ignore it.

ElectoralDistrict

The ElectoralDistrict object represents the geographic area in which contests are held. Examples of ElectoralDistrict include: "the state of Maryland", "Virginia's 5th Congressional District", or "Union School District". The geographic area that comprises a ElectoralDistrict is defined by which precincts link to the ElectoralDistrict.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	døeats	s?	
Ex-	Ex-	Op-	Sin-	Other identifiers that link to external datasets (e.g.	If the element is invalid or
ter-	ter-	tional	gle	OCD-IDs)	not present, then the imple-
nalI-	nalI-				mentation is required to ig-
den-	den-				nore it.
ti-	ti-				
fiers	fiers				
Name	xs:s	t Rė -n	Sin-	Specifies the electoral area's name.	If the field is invalid or not
		quire	dgle		present, then the implemen-
					tation is required to ignore
					the ElectoralDistrict
					object containing it.
Num-	xs:i	n Op g	e Sin-	Specifies the district number of the district (e.g. 34, in	If the field is invalid or not
ber		tional	gle	the case of the 34th State Senate District). If a number	present, then the implemen-
				is not applicable, instead of leaving the field blank,	tation is required to ignore it.
				leave this field out of the object; empty strings are not	
				valid for xs:integer fields.	
Type	Dis-	Re-	Sin-	Specifies the type of electoral area.	If the field is invalid or not
	trict-	quire	dgle		present, then the implemen-
	Туре				tation is required to ignore
					the ElectoralDistrict
					object containing it.
Oth-	xs:s	t 0p n	g Sin-	Allows for cataloging a new <i>DistrictType</i> option when	If the field is invalid or not
er-		tional	gle	Type is specified as "other".	present, then the implemen-
Type					tation is required to ignore it.

```
<ElectoralDistrict id="ed60129">
      <ExternalIdentifiers>
2
        <ExternalIdentifier>
          <Type>ocd-id</Type>
          <Value>ocd-division/country:us/state:va</Value>
        </ExternalIdentifier>
6
        <ExternalIdentifier>
          <Type>fips</Type>
          <Value>51</Value>
        </ExternalIdentifier>
10
      </ExternalIdentifiers>
11
      <name>Commonwealth of Virginia</name>
12
      <Type>state</Type>
   </ElectoralDistrict>
```

ExternalFile

The ExternalFile object holds a reference to a file external to the feed itself. External files are packaged along with the VIP feed into a single, archived file.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired	?peats	?	
FileUr	ixs:an	y Re ∃	Sin-	The URI of the external	If the field is invalid, then the implementation is re-
		quired	gle	file.	quired to ignore the ExternalFile element con-
					taining it.
Check	- Check-	Re-	Sin-	The cryptographic check-	If the element is invalid, then the implementation
sum	sum	quired	gle	sum of the referenced ex-	is required to ignore the ExternalFile element
				ternal file.	containing it.

Checksum

The Checksum object contains information about a cryptographic checksum, including the raw checksum value and the cryptographic hash algorithm used to compute it.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d peats	?	
Al-	Check-	Re-	Sin-	The cryptographic hash algorithm	If the field is invalid, then the im-
go-	sumAl-	quire	d gle	used to compute the checksum value.	plementation is required to ignore the
rithm	go-				Checksum element containing it.
	rithm				
Value	xs:str	in Re -	Sin-	The raw cryptographic checksum	If the field is invalid, then the im-
		quired gle		value encoded as a non-delimited,	plementation is required to ignore the
				lowercase hexadecimal string.	Checksum element containing it.

```
Checksum>
Algorithm>sha-256</Algorithm>

Value>65b634c5037f8a344616020d8060d233daa37b0f032a7ld0d15ad7a5d3afa68e</value>

(Checksum>
```

Externalldentifier

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeat	s?	
Type	Iden-	Re-	Sin-	Specifies the type of identifier. Must be one of	If the field is invalid or not
	ti-	quire	d gle	the valid types as defined by <i>IdentifierType</i> .	present, the implementa-
	fier-				tion is required to ignore the
	Type				ElectionIdentifier con-
					taining it.
Oth-	xs:s	t 0p n	g Sin-	Allows for cataloging an	If the field is invalid or not present,
er-		tiona	l gle	ExternalIdentifier type that falls	then the implementation is required
Type				outside the options listed in <i>IdentifierType</i> .	to ignore it.
				Type should be set to "other" when using this	
				field.	
Value	xs:s	t Re -no	g Sin-	Specifies the identifier.	If the field is invalid or not
		quire	d gle		present, the implementa-
					tion is required to ignore the
					ElectionIdentifier con-
					taining it.

```
<ExternalIdentifiers>
      <ExternalIdentifier>
2
         <Type>ocd-id</Type>
3
         <Value>ocd-division/country:us/state:nc/county:durham</Value>
      </ExternalIdentifier>
      <ExternalIdentifier>
6
         <Type>FIPS</Type>
         <Value>37063</Value>
      </ExternalIdentifier>
      <ExternalIdentifier>
10
         <Type>OTHER</Type>
         <OtherType>GNIS</OtherType>
12
         <Value>1008550</Value>
13
      </ExternalIdentifier>
14
      <external_identifer>
15
         <Type>OTHER</Type>
16
         <OtherType>census</OtherType>
17
         <Value>99063</Value>
      </ExternalIdentifier>
   </ExternalIdentifiers>
```

ExternalIdentifiers

The ExternalIdentifiers element allows VIP data to connect with external datasets (e.g. candidates with campaign finance datasets, electoral geographies with OCD-IDs that allow for greater connectivity with additional datasets, etc...). Examples for ExternalIdentifiers can be found on the objects that support them:

- Candidate
- Any element that extends *ContestBase*
- ElectoralDistrict
- Locality

- Office
- Party
- Precinct
- State

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	døeat	\$?	
Ex-	Ex-	Re-	Re-	Defines the identifier and	At least one valid ExternalIdentifier must be present
ter-	ter-	quire	d peats	the type of identifier it	for ExternalIdentifiers to be valid. If no valid
nalI-	nalI-			is (see 'ExternalIdenti-	ExternalIdentifier is present, the implementation is
den-	den-			fier'_ for complete infor-	required to ignore the ExternalIdentifiers ele-
ti-	ti-			mation).	ment.
fier	fier				

HoursOpen

A structured way of describing the days and hours that a place such as a *Office* or *PollingLocation* is open, or that an event such as an *Election* is happening. The range of days indicated by the *StartDate* and *EndDate* in each *Schedule* element should not overlap with peer *Schedule* elements. For example, it is invalid to specify a schedule from 10/01/2016 to 10/31/2016 and also specify a schedule from 10/10/2016 to 10/11/2016 within the same *HoursOpen* element.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	e quiredpeats?			
Scheo	1-Schea	- Re-	Re-	Defines a block of	At least one valid Schedule must be present for HoursOpen
ule	ule	quire	d peats	days and hours that a	to be valid. If no valid <i>Schedule</i> is present, the implementation
				place will be open.	is required to ignore the HoursOpen element.

Schedule

A sub-portion of the schedule. This describes a range of days, along with one or more set of open and close times for those days, as well as the options describing whether or not appointments are necessary or possible.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeat	s?	
Hours	Hours	Op-	Re-	Blocks of hours in the date range in which the place	If the element is invalid or
		tional	peats	is open.	not present, then the imple-
					mentation is required to ig-
					nore it.
IsOnly-	xs:b	o Øp ea		If true, the place is only open during the specified	If the field is invalid or
ByAp-		tional	gle	time window with an appointment.	not present, then the imple-
point-					mentation is required to ig-
ment					nore it.
IsOr-	xs:b	o © pea		If true, the place is open during the hours specified	If the field is invalid or
ByAp-		tional	gle	time window and may also be open with an appoint-	not present, then the imple-
point-				ment.	mentation is required to ig-
ment					nore it.
IsSub-	xs:b	o © pea		If true, the place should be open during the specified	If the field is invalid or
ject-		tional	gle	time window, but may be subject to change. People	not present, then the imple-
ToChang	e			should contact prior to arrival to confirm hours are	mentation is required to ig-
				still accurate.	nore it.
Start-	xs:d		Sin-	The date at which this collection of start and end	If the field is invalid or
Date		tional	gle	times and options begin.	not present, then the imple-
					mentation is required to ig-
					nore it.
End-	xs:d		Sin-	The date at which this collection of start and end	If the field is invalid or
Date		tional	gle	times and options end.	not present, then the imple-
					mentation is required to ig-
					nore it.

Hours

The open and close time for this place. All times must be fully specified, including a timezone offset from UTC.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired?	peats?		
Start-	Time-	Op-	Sin-	The time at which	If the element is invalid or not present, then the im-
Time	With-	tional	gle	this place opens.	plementation is required to ignore it.
	Zone		_		
End-	Time-	Op-	Sin-	The time at which	If the element is invalid or not present, then the im-
Time	With-	tional	gle	this place closes.	plementation is required to ignore it.
	Zone				

TimeWithZone

A string pattern restricting the value to a time with an included offset from UTC. The pattern is

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InternationalizedText

InternationalizedText allows for support of multiple languages for a string. InternationalizedText has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID). Examples of InternationalizedText can be seen in: * Any element that extends *ContestBase* Any element that extends *BallotSelectionBase* *Candidate* *ContactInformation* *Election* *ElectionAdministration* *Office* *Party* *Person* *PollingLocation* *Source* NOTE: Internationalized Text is not currently supported for CSV submissions.

Tag	Data	Re-	Re- Description			Erro	r Hand	ling						
	Type	quire	uiredøeats?											
Text	Lan-	Re-	Re-	Contains	the	At	least	one	valid	Text	must	be	present	for
	guageS	<i>ti</i> quire	d peats	translations	Int	ernat	ional	LizedT	ext to	be val	lid.	If no	valid	
				particular	Tex	t is p	resent,	the in	plementa	ation is	requ	ired to ig	gnore	
				of text.				natio	nalize	edText (element.			

LanguageString

LanguageString extends xs:string and can contain text from any language. LanguageString has one required attribute, language, that must contain the 2-character language code for the type of language LanguageString contains.

Locality

The Locality object represents the jurisdiction below the *State* (e.g. county).

Tag Data Re	- Re-		Error Handling
Type qu	red ß eat	Description s?	S .
Elec- xs:IDD		Links to the locality's <i>ElectionAdministration</i>	If the field is invalid or not present,
tion- tion	al gle	object.	then the implementation is required to
Ad-			ignore it.
min-			
is-			
tra-			
tionId			
Ex- <i>Ex</i> - Op	- Sin-	Another identifier for a locality that links to	If the element is invalid or not present,
	al gle	another dataset (e.g. OCD-ID)	then the implementation is required to
nalI- nalI-		, ,	ignore it.
den- den-			
ti- <i>ti-</i>			
fiers fiers			
Is- xs:boOpp	eaSin-	Determines if the locality runs mail-only	If the field is missing or invalid, the
MailOnly tion	al gle	elections. If this is true, then all precincts	implementation is required to assume
		a part of the locality will also run mail-only	IsMailOnly is false.
		elections. Drop boxes may be used in ad-	, and the second
		dition to this flag using a polling location	
		record configured as a Drop Box.	
Name xs:stRe	ngSin-	Specifies the name of a locality.	If the field is invalid, then the im-
qu	redgle		plementation is required to ignore the
			Locality element containing it.
PollingLxos: IDO	FSSin-	Specifies a link to a set of the locality's	If the field is invalid or not present,
ca- tion	al gle	:ref: 'polling locations <multi-xml-polling-< td=""><td>the implementation is required to ig-</td></multi-xml-polling-<>	the implementation is required to ig-
tion-		location>'s. If early vote centers or ballot	nore it. However, the implementation
Ids		drop locations are locality-wide, they should	should still check to see if there are
		be specified here.	any polling locations associated with
			this locality's state.
StateId xs: IDRe	F Sin-	References the locality's State.	If the field is invalid, then the im-
qu	red gle		plementation is required to ignore the
			Locality element containing it.
Type Dis- Op	- Sin-	Defines the kind of locality (e.g. county,	If the field is invalid or not present,
trict- tion	al gle	town, et al.), which is one of the various <i>Dis</i> -	then the implementation is required to
Type		trictType enumerations.	ignore it.
Oth- xs:stOp		Allows for defining a type of locality that falls	If the field is invalid or not present,
er- tion	al gle	outside the options listed in <i>DistrictType</i> .	then the implementation is required to
Type			ignore it.

```
<Locality id="loc70001">
     <ElectionAdministrationId>ea40001/ElectionAdministrationId>
2
     <ExternalIdentifiers>
3
       <ExternalIdentifier>
         <Type>ocd-id</Type>
         <Value>ocd-division/country:us/state:va/county:albemarle</Value>
       </ExternalIdentifier>
     </ExternalIdentifiers>
     <IsMailOnly>true</IsMailOnly>
     <Name>ALBEMARLE COUNTY</Name>
10
     <StateId>st51</StateId>
     <Type>county</Type>
   </Locality>
```

Office

Office represents the office associated with a contest or district (e.g. Alderman, Mayor, School Board, et al).

Tag	Data	Re-	Re-	Description	Error Handling
	Туре		døeats		
Con-	Con-	Op-	Re-	Links to the ContactInformation ele-	If the element is invalid or not present,
tactIn-	tactIn-	tional	peats	ment associated with the office.	then the implementation is required to
forma-	forma-				ignore it.
tion	tion				
De-	Inter-	Op-	Sin-	A brief description of the office and	If the element is invalid or not present,
scrip-	nation-	tional	gle	its purpose.	then the implementation is required to
tion	alized-				ignore it.
	Text				
Elec-	xs:IDR	E Re-	Sin-	Links to the <i>ElectoralDistrict</i> element	If the field is invalid or not present, the
toralD-		quire	d gle	associated with the office.	implementation is required to ignore
istrictId		_			the Office element containing it.
Exter-	Exter-	Op-	Sin-	Other identifiers that link this office to	If the element is invalid or not present,
nalI-	nalI-	tional	gle	other related datasets (e.g. campaign	then the implementation is required to
denti-	denti-			finance systems, OCD IDs, et al.).	ignore it.
fiers	fiers			•	
Fil-	xs:dat	еОр-	Sin-	Specifies the date and time when a	If the field is invalid or not present,
ingDead-		tional	gle	candidate must have filed for the con-	then the implementation is required to
line				test for the office.	ignore it.
IsParti-	xs:boo	1 0թ ո	Sin-	Indicates whether the office is parti-	If the field is invalid or not present,
san		tional	gle	san.	then the implementation is required to
					ignore it.
Name	Inter-	Re-	Sin-	The name of the office.	If the field is invalid or not present, the
	nation-	quire	d gle		implementation is required to ignore
	alized-	•			the Office element containing it.
	Text				
Office-	xs:IDR	E Ø ₿-	Sin-	Links to the <i>Person</i> element(s) that	If the field is invalid or not present,
Holder-		tional	gle	hold additional information about the	then the implementation is required to
Person-				current office holder(s).	ignore it.
Ids				.,	
Term	Term	Op-	Sin-	Defines the term the office can be	If the element is invalid or not present,
		tional		held.	then the implementation is required to
					ignore it.

Term

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quirec	l?peats	?	
Type	Of-	Op-	Sin-	Specifies the type of office	If the field is invalid or not present, the imple-
	ficeTerm	<i>T</i> tijomal	gle	term (see OfficeTermType for	mentation is required to ignore the Office el-
				valid values).	ement containing it.
Start-	xs:dat	:еОр-	Sin-	Specifies the start date for the	If the field is invalid or not present, then the im-
Date		tional	gle	current term of the office.	plementation is required to ignore it.
End-	xs:dat	:еОр-	Sin-	Specifies the end date for the	If the field is invalid or not present, then the im-
Date		tional	gle	current term of the office.	plementation is required to ignore it.

ContactInformation

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *ElectionAdministration*, *Office*, *Person*, *Source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag	Data Type	Re-	Re- døeats	Description	Error Handling
A al			•		If the field is in-
Ad- dressL	ine		peats	The "location" portion of a mailing address. See usage note.	valid or not present, then the implemen- tation is required to ignore it.
Di- rec- tions	In- ter- na- tion- al- ized- Text	Op- tional	Sin- gle	Specifies further instructions for locating this entity.	If the element is invalid or not present, then the implementation is required to ignore it.
Email	xs:st	tional	peats	An email address for the contact.	If the field is invalid or not present, then the implementation is required to ignore it.
Fax			peats		If the field is invalid or not present, then the implementation is required to ignore it.
Hours [dep- re- cated]	In- ter- na- tion- al- ized- Text	Op- tional	Sin- gle	Contains the hours (in local time) that the location is open (NB: this element is deprecated in favor of the more structured :ref: 'multi-xml-hours-open' element. It is strongly encouraged that data providers move toward contributing hours in this format).	If the element is invalid or not present, then the implementation is required to ignore it.
Hour- sOpen	xs:II Id	Ю р - tional	Sin- gle	References an <i>HoursOpen</i> element, which lists the hours of operation for a location.	If the field is invalid or not present, then the implementation is required to ignore it.
LatLn	g LatLng	Op- tional	Sin- gle	Specifies the latitude and longitude of this entity.	If the element is invalid or not present, then the implementation is required to ignore it.
Name	xs:st	tional		The name of the location or contact. See usage note.	If the field is invalid or not present, then the implementation is required to ignore it.
Phone	xs:st		Re- peats	A phone number for the contact.	If the field is invalid or not present, then the implementation is required to ignore it.
Uri	xs:ar		Re- peats	An informational URI for the contact or location.	If the field is invalid or not present, then the implementation is required to
102				Chapter 2.	XMA _O Pocumentation

Name and AddressLine Usage Note

The Name and AddressLine fields should be chosen so that a display or mailing address can be constructed programmatically by joining the Name and AddressLine fields together. For example, for the following address:

```
Department of Elections
1 Dr. Carlton B. Goodlett Place, Room 48
San Francisco, CA 94102
```

The name could be "Department of Elections" and the first address line could be "1 Dr. Carlton B. Goodlett Place, Room 48."

However, VIP does not yet support the representation of mailing addresses whose "name" portion spans more than one line, for example:

```
California Secretary of State
Elections Division
1500 11th Street
Sacramento, CA 95814
```

For addresses like the above, we recommend choosing a name like, "California Secretary of State, Elections Division" with "1500 11th Street" as the first address line. This would result in a programmatically constructed address like the following:

```
California Secretary of State, Elections Division
1500 11th Street
Sacramento, CA 95814
```

```
contactInformation label="ci10861a">
cAddressLine>1600 Pennsylvania Ave</AddressLine>
cAddressLine>Washington, DC 20006</AddressLine>
cEmail>president@whitehouse.gov</Email>
cPhone>202-456-1111</Phone>
cPhone annotation="TDD">202-456-6213</Phone>
cUri>http://www.whitehouse.gov</Uri>
c/ContactInformation>
```

OrderedContest

OrderedContest encapsulates links to the information that comprises a contest and potential ballot selections. OrderedContest elements can be collected within a *BallotStyle* to accurate depict exactly what will show up on a particular ballot in the proper order.

Tag	Data	Re-	Re-	Descrip)-	Error Handling
	Type quiredpeats?ion			s?tion		
Con-	xs:	DREF	Sin-	Links	to	If the field is invalid or not present, the implementation is required to
testId		quire	d gle	element	s	ignore the OrderedContest element containing it.
				that ext	end	
				Contest-	-	
				Base.		
Or-	xs:	D O pp-F	SSin-	Links	to	If the field is invalid or not present, the implementation is required
dered-		tional	gle	element	S	to ignore it. If an OrderedBallotSelectionIds element is
Bal-				that ext	end	not present, the presumed order of the selection will be the order of
lotS-				BallotS-		BallotSelectionBase-extended elements referenced by the underlying
elec-				election	-	ContestBase-extended elements.
tion-				Base.		
Ids						

Party

This element describes a political party and the metadata associated with them. These can also include "dummy" parties to indicate a type of contest (e.g., a Voter Nominated *CandidateContest* can use the **PrimaryPartyIds** field and a dummy Party object to indicate that the contest is a "Top-Two" primary).

Tag	Data Type	Re- quire	Re- døeats	Description s?	Error Handling
Ab- bre- via- tion		tional	Sin-	An abbreviation for the party name.	If the field is invalid or not present, then the implementation is required to ignore it.
Color	Html- Col- orStrin	Op- tional	Sin- l gle	The preferred display color for the party, for use in maps and other displays.	If the element is invalid or not present, then the implementation is required to ignore it.
Ex- ter- nalI- den- ti- fiers	Ex- ter- nalI- den- ti- fiers	Op- tional		Other identifiers that link this party to other related data sets (e.g. a campaign finance system, etc).	If the element is invalid or not present, then the implementation is required to ignore it.
IsWrit	telms:bo	tional	gle	Signals if this political party is one that is officially recognized by a local, state, or federal organization, or is a "write-in" in jurisdictions which allow candidates to free-form enter their political affiliation. If this field is not present then it is assumed to be false.	If the field is invalid or not present, then the implementation is required to ignore it.
Lead- er- Per- son- Ids	xs:II	tional		A reference of <i>Person</i> elements which are leaders of the <i>Party</i> .	If the field is invalid or not present, then the implementation is required to ignore it.
Lo- goUri		ny Qp RI tionai	gle	Web address of a logo to use in displays.	If the field is invalid or not present, then the implementation is required to ignore it.
Name	In- ter- na- tion- al- ized- Text	Op- tional	Sin-	The name of the party.	If the element is invalid or not present, then the implementation is required to ignore it.

HtmlColorString

A restricted string pattern for a six-character hex code representing an HTML color string. The pattern is:

$$[0-9a-f]{6}$$

PartyContest

An extension of *ContestBase* which describes a contest in which the possible ballot selections are of type *PartySelection*. These could include contests in which straight-party selections are allowed, or party-list contests (although these are more common outside of the United States).

ContestBase

A base model for all Contest types: *BallotMeasureContest*, *CandidateContest*, *PartyContest*, and *RetentionContest* (NB: the latter because it extends *BallotMeasureContest*).

Tag	1	Re- Re	· ·	Error Handling
Ab- bre- via- tion	xs:s	t Op -ngSin tional gle	An abbreviation for the contest.	If the field is invalid or not present, then the implementation should ignore it.
Bal- lot- Se- lec- tion- Ids	xs:	ГОФБ-FSSii tional gle	· ·	If the field is invalid or not present, then the implementation should ignore it.
Bal- lot- Sub- Ti- tle	In- ter- na- tion- al- ized- Text	Op- Sin tional gle	11	If the element is invalid or not present, then the implementation should ignore it.
Bal- lot- Ti- tle	In- ter- na- tion- al- ized- Text	Op- Sin tional gle	11	If the element is invalid or not present, then the implementation should ignore it.
Electoral I istrictId		TREF Sin		If the field is invalid, then the implementation is required to ignore the ContestBase element containing it.
Electorate Specification	- ter-	Op- Sin tional gle		If the element is invalid or not present, then the implementation should ignore it.
Ex- ter- nalI- den- ti- fiers	Ex- ter- nalI- den- ti- fiers	Op- Sin tional gle		If the element is invalid or not present, then the implementation should ignore it.
Has- Ro- ta- tion	-	Øpi-ea Sin tional gle		If the field is invalid or not present, then the implementation should ignore it.
		st Re -ngSii quiredgle pecificatio	(NB: BallotTitle should be used for this purpose).	If the field is invalid, then the implement 107 tion is required to ignore the

PartySelection

This element extends *BallotSelectionBase* to support contests in which the selections can be groups of one or more parties.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	1?peats	?	
Par-	xs:II	r re- s	Sin-	One or more <i>Party</i> IDs	If one or more parties referenced are invalid or not
tyIds		quire	quired gle which collectively represent		present, the implementation is required to ignore the
				a ballot selection.	PartySelection containing it.

BallotSelectionBase

A base model for all ballot selection types: BallotMeasureSelection, CandidateSelection, and PartySelection.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeat	s?	
Se-	xs:i	n tOp pge	rSin-	The order in which a selection can be listed on the bal-	If the field is invalid or
quence	-	tiona	l gle	lot or in results. This is the default ordering, and can	not present, then the im-
Order				be overridden by OrderedBallotSlectionIds in Ordered-	plementation is required to
				Contest.	ignore it.

Person

Person defines information about a person. The person may be a candidate, election administrator, or elected official. These elements reference Person:

- Candidate
- ElectionAdministration
- Office

Tag	Data	Re-	Re-	Description	Error Handling
_	Туре		døeat		70.4
Con-	Con-	Op-	Re-	Refers to the associated <i>ContactInformation</i> .	If the element is in-
tact-	tact-	tional	peats		valid or not present,
In-	In-				then the implementa-
for-	for-				tion is required to ig-
ma-	ma-				nore it.
tion	tion				
Da-	xs:da	t @ p-	Sin-	Represents the individual's date of birth.	If the field is invalid or
te-		tional	gle	•	not present, then the
Of-			8		implementation is re-
Birth					quired to ignore it.
Ex-	Ex-	Op-	Sin-	Identifiers for this person.	If the element is in-
ter-	ter-	tional	I	identifiers for this person.	valid or not present,
nalI-	nalI-	tional	gie		
					then the implementa-
den-	den-				tion is required to ig-
ti-	ti-				nore it.
fiers	fiers				
First-	xs:st	r Op ⊷g	Sin-	Represents an individual's first name.	If the field is invalid or
Name		tional	gle		not present, then the
					implementation is re-
					quired to ignore it.
Full-	In-	Op-	Sin-	Specifies a person's full name (NB : this information is <i>In</i> -	If the element is in-
Name	ter-	tional	- 1	ternationalizedText because it sometimes appears on bal-	valid or not present,
1 varie	na-	tiona		lots in multiple languages).	then the implementa-
				lots in multiple languages).	
	tion-				tion is required to ig-
	al-				nore it.
	ized-				
	Text				
Gen-	xs:st	1 - 1	Sin-	Specifies a person's gender.	If the field is invalid or
der		tional	gle		not present, then the
					implementation is re-
					quired to ignore it.
Last-	xs:st	r Op ⊬g	Sin-	Represents an individual's last name.	If the field is invalid or
Name		tional	gle		not present, then the
					implementation is re-
					quired to ignore it.
Mid-	xs:st	10n .a	Re-	Represents any number of names between an individual's	If the field is invalid or
dle-	A5.50		peats	first and last names (e.g. John Ronald Reuel Tolkien).	not present, then the
Name		tiona	pears	inst and last names (e.g. John Konaid Kedel Tolkien).	_
Name					implementation is re-
NT: 1				D	quired to ignore it.
Nick-	xs:st		Sin-	Represents an individual's nickname.	If the field is invalid or
name		tional	gle		not present, then the
					implementation is re-
					quired to ignore it.
Par-	xs:II	R (B) 15-	Sin-	Refers to the associated <i>Party</i> . This information is intended	If the field is invalid or
tyId		tional	I	to be used by feed consumers to help them disambiguate	not present, then the
,				the person's identity, but not to be presented as part of any	implementation is re-
				ballot information. For that see <i>Candidate</i> PartyId .	quired to ignore it.
Pre-	xs:st	7Gm ~	Sin-	Specifies a prefix associated with a person (e.g. Dr.).	If the field is invalid or
	A5.SL			opecines a piena associated with a person (e.g. Di.).	
fix		tional	gie		not present, then the
					implementation is re-
					quired to ignore it.
Pro-	In-	Op-	Sin-	Specifies a person's profession (NB : this information is <i>In</i> -	If the element is in-
fes-	ter-	tional	gle	ternationalizedText because it sometimes appears on bal-	valid or not present,
slonXI	∕IL _a Spe	cificat	ion	lots in multiple languages).	then the implement 10
	tion-			- · · · · · · · · · · · · · · · · · · ·	tion is required to ig-
	al-				nore it.
	ized-				
	iLu-	1			

```
<Person id="per50001">
      <ContactInformation label="ci60002">
2
        <Email>rwashburne@albemarle.org
3
        <Phone>4349724173</phone>
      </ContactInformation>
      <FirstName>RICHARD</FirstName>
      <LastName>WASHBURNE</LastName>
      <MiddleName>J.</MiddleName>
      <Nickname>JAKE</Nickname>
      <Title>
10
        <Text language="en">General Registrar Physical</Text>
11
12
      </Title>
   </Person>
```

ContactInformation

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *ElectionAdministration*, *Office*, *Person*, *Source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag	Data Type	Re-	Re- døeats	Description	Error Handling
Ad-		dane ⊒Obu-d		The "location" portion of a mailing address. <i>See usage note</i> .	If the field is in-
dressL	ine	tional	peats		valid or not present, then the implemen- tation is required to ignore it.
Di- rec- tions	In- ter- na- tion- al- ized- Text	Op- tional	Sin- gle	Specifies further instructions for locating this entity.	If the element is invalid or not present, then the implementation is required to ignore it.
Email			peats		If the field is invalid or not present, then the implementation is required to ignore it.
Fax		i Op ig tional	peats		If the field is invalid or not present, then the implementation is required to ignore it.
Hours [dep- re- cated]	ter- na-	Op- tional	Sin- gle	Contains the hours (in local time) that the location is open (NB: this element is deprecated in favor of the more structured :ref: 'multi-xml-hours-open' element. It is strongly encouraged that data providers move toward contributing hours in this format).	If the element is invalid or not present, then the implementation is required to ignore it.
Hour- sOpen		Ю р - tional	Sin- gle	References an <i>HoursOpen</i> element, which lists the hours of operation for a location.	If the field is invalid or not present then the implementation is required to ignore it.
LatLn	g LatLng	Op- tional	Sin- gle	Specifies the latitude and longitude of this entity.	If the element is invalid or not present then the implementation is required to ignore it.
Name		:1 Op +g tional	gle	The name of the location or contact. See usage note.	If the field is invalid or not present, then the implementation is required to ignore it.
Phone			peats		If the field is invalid or not present, then the implementation is required to ignore it.
Uri	xs:ar	ny Op RI tional	Re- peats	An informational URI for the contact or location.	If the field is invalid or not present, then the implementation is required to
2.1. XI	ML Spe	cificat	ion		ignore it. 11

Name and AddressLine Usage Note

The Name and AddressLine fields should be chosen so that a display or mailing address can be constructed programmatically by joining the Name and AddressLine fields together. For example, for the following address:

```
Department of Elections
1 Dr. Carlton B. Goodlett Place, Room 48
San Francisco, CA 94102
```

The name could be "Department of Elections" and the first address line could be "1 Dr. Carlton B. Goodlett Place, Room 48."

However, VIP does not yet support the representation of mailing addresses whose "name" portion spans more than one line, for example:

```
California Secretary of State
Elections Division
1500 11th Street
Sacramento, CA 95814
```

For addresses like the above, we recommend choosing a name like, "California Secretary of State, Elections Division" with "1500 11th Street" as the first address line. This would result in a programmatically constructed address like the following:

```
California Secretary of State, Elections Division
1500 11th Street
Sacramento, CA 95814
```

```
contactInformation label="ci10861a">
cAddressLine>1600 Pennsylvania Ave</AddressLine>
cAddressLine>Washington, DC 20006</AddressLine>
cEmail>president@whitehouse.gov</Email>
cPhone>202-456-1111</Phone>
cPhone annotation="TDD">202-456-6213</Phone>
cUri>http://www.whitehouse.gov</Uri>
c/ContactInformation>
```

PollingLocation

The PollingLocation object represents a site where voters cast or drop off ballots.

Tag	Data	Re-	Re-	Description	Error Handling
3	Туре	l 1	døeats		3 3 3
Ad-	Sim-	Op-	Sin-	Represents the various structured parts of an	One of AddressStructured and
	StrokeAa			address to a polling location.	AddressLine should be present
	dress		510	address to a poining focution.	for a given Polling Location. If
tarea	aress.	lype			none is present, the implemen-
					tation is required to ignore the
					PollingLocation element
		. 0 .	- D		containing it.
Ad-		t 0p -n		Represents the various parts of an address to	One of AddressStructured and
dress	Line	tional	peats	a polling location.	AddressLine should be present
					for a given Polling Location. If
					none is present, the implemen-
					tation is required to ignore the
					PollingLocation element
					containing it.
Di-	In-	Op-	Sin-	Specifies further instructions for locating the	If the element is invalid or not present,
rec-	ter-	tional	gle	polling location.	then the implementation is required to
tions	na-		Ü		ignore it.
	tion-				
	al-				
	ized-				
	Text				
Hour		Op-	Sin-	Contains the hours (in local time) that the	If the element is invalid or not present,
[dep-		tional		polling location is open (NB: this element	then the implementation is required to
re-	na-	tional	gic	is deprecated in favor of the more structured	ignore it.
-	l] tion-			HoursOpen element. It is strongly encour-	ignore it.
Cateu	al-			aged that data providers move toward con-	
	ized-				
	Text			tributing hours in this format).	
тт			G:	That was H O street this	If the Cold is its all the most account
	- xs:I		Sin-	Links to an <i>HoursOpen</i> element, which is a	If the field is invalid or not present,
sOpe	nia	tional	gie	schedule of dates and hours during which the	then the implementation is required to
			~.	polling location is available.	ignore it.
Is-		∞0p e		Indicates if this polling location is a drop box.	If the field is invalid or not present,
Drop-	-	tional	gle		then the implementation is required to
Box					ignore it.
	-xs:b	∞0p e	asSin-	Indicates if this polling location is an early	If the field is invalid or not present,
lyVot	-	tional	gle	vote site.	then the implementation is required to
ing					ignore it.
LatLı	ngLatLr	gOp-	Sin-	Specifies the latitude and longitude of this	If the element is invalid or not present,
	-	tional	gle	polling location.	then the implementation is required to
			_		ignore it.
Name	xs:s	t 0p -n	g Sin-	Name of the polling location.	If the field is invalid or not present,
		tional		1 5	then the implementation is required to
			0		ignore it.
Pho-	XS.3	n Qp R	⊺ Sin-	Contains a link to an image of the polling lo-	If the field is invalid or not present,
toUri		tional		cation.	then the implementation is required to
worr		นบแส	gie	Cauon.	
					ignore it.

(continues on next page)

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```
<IsDropBox>true</IsDropBox>
      <IsEarlyVoting>true</IsEarlyVoting>
      <LatLng>
6
         <Latitude>38.009939</Latitude>
         <Longitude>-78.506204</Longitude>
      </LatLng>
      <name>ALBERMARLE HIGH SCHOOL</Name>
10
   </PollingLocation>
11
   <!-- Or: -->
12
   <PollingLocation id="pl00000">
13
      <AddressStructured>
         <Line1>2775 Hydraulic Rd</Line1>
15
         <City>CHARLOTTESVILLE</City>
16
         <State>VA</State>
17
         <Zip>22901</Zip>
18
      </AddressStructured>
19
      <HoursOpenId>hours0002/HoursOpenId>
20
      <IsDropBox>true</IsDropBox>
21
      <IsEarlyVoting>true</IsEarlyVoting>
22
      <LatLng>
23
         <Latitude>38.009939
24
         <Longitude>-78.506204</Longitude>
25
      </LatLng>
26
      <name>ALBERMARLE HIGH SCHOOL</Name>
27
   </PollingLocation>
```

LatLng

The latitude and longitude of a polling location in 'WGS 84'_ format. Both latitude and longitude values are measured in decimal degrees.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d peats	?	
Lat-	xs:do	ou Re ⊩e	Sin-	The latitude of the polling location.	If the field is invalid, then the
i-		quire	d gle		implementation is required to
tude					ignore it.
Lon-	xs:do	ou Re ⊦e	Sin-	The longitude of the polling location.	If the field is invalid, then the
gi-		quire	d gle		implementation is required to
tude					ignore it.
Sourc	exs:st	т Ор тд	Sin-	The system used to perform the lookup from lo-	If the field is invalid or not
		tional	gle	cation name to lat/lng. For example, this could be	present, then the implementa-
				the name of a geocoding service.	tion is required to ignore it.

SimpleAddressType

A SimpleAddressType represents a structured address.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d?peats	.?	
Line1	xs:st	r Re rg	Sin-	The address line for a structured address.	If no Line1 is provided, the
		quire	l gle	Should include the street number, street	implementation should ignore the
				name, and any prefix and suffix.	SimpleAddressType.
Line2	2 xs:st	т Ор нд	Sin-	Additional field for an address	If no Line2 is provided, the imple-
		tional	gle		mentation should ignore it.
Line3	xs:st	т Ор нд	Sin-	Additional field for an address	If no Line3 is provided, the imple-
		tional	gle		mentation should ignore it.
City	xs:st	r Re ig	Sin-	The City value of a structured address.	If City is not provided, the
		quire	l gle		implementation should ignore the
					SimpleAddressType.
State	xs:st	r Re ig	Sin-	The State value of a structured address.	If State is not provided, the
		quire	l gle		implementation should ignore the
					SimpleAddressType.
Zip	xs:st	т Ор нд	Sin-	The ZIP code of a structured address.	If Zip is not provided, the im-
		tional	gle		plementation should ignore the
					SimpleAddressType.

Precinct

The Precinct object represents a precinct, which is contained within a Locality. While the id attribute does not have to be static across feeds for one election, the combination of *Source.VipId*, *Locality.Name*, *Precinct.Ward*, *Precinct.Name*, and *Precinct.Number* should remain constant across feeds for one election (NB: not all of the fields just mentioned are required – omitting those non-required fields is fine).

Voters can be assigned to a precinct in two ways. A voter location modeled by *StreetSegment* is assigned to a precinct by *StreetSegment.PrecinctId*. Alternatively, a precinct's spatial boundary can be modeled with *Precinct.SpatialBoundary*. Any registered voter address contained within the spatial boundary of the precinct is assigned to that precinct.

Tag	1	Re- Re- quiredøea		Error Handling
Bal- lot- Style	xs:]	DOPF Sintional gle	Links to the <i>BallotStyle</i> , which a person who lives in this precinct will vote.	If the field is invalid or not present, then the implementation is required to ignore it.
Elec- torall is- tric- tIds		DOMESSin- tional gle	Links to the :ref: multi-xml-electoral-district's (e.g., congressional district, state house district, school board district) to which the entire precinct/precinct split belongs. Highly Recommended if candidate information is to be provided.	If the field is invalid or not present, then the implementation is required to ignore it.
Ex- ter- nalI- den- ti- fiers	Ex- ter- nalI- den- ti- fiers	Op- Sintional gle	Other identifier for the precinct that relates to another dataset (e.g. OCD-ID).	If the element is invalid or not present, then the implementation is required to ignore it.
Is- Mail	1	o Oopl-ea Sin- tional gle		If the field is missing or invalid, the implementation is required to assume <i>IsMailOnly</i> is false.
Lo- cal- i- tyId		DRESF Sin- quiredgle		If the field is invalid, then the implementation is required to ignore the Precinct element containing it.
Name	e xs:s	s tRe -ng Sin- quired gle	Specifies the precinct's name (or number if no name exists).	If the field is invalid, then the implementation is required to ignore the Precinct element containing it.
ber		tOpi-ngSin- tional gle	ters are legal). Should be used if the <i>Name</i> field is populated by a name and not a number.	If the field is invalid or not present, then the implementation is required to ignore it.
ca- tion- Ids		DOMDFSSin- tional gle		If the field is invalid or not present, then the implementation is required to ignore it.
Split- Name	e	stOpi-ngSin- tional gle	precinct. If this field is present, then this <i>Precinct</i> object represents one portion of a split precinct. Each <i>Precinct</i> object that represents one portion of a split precinct must have the same <i>Name</i> value, but different <i>PrecinctSplitName</i> values. See the <i>sample_feed.xml</i> file for examples.	If the field is invalid or not present, then the implementation is required to ignore it.
Spa-	Spa-	Op- Sin-		If the element is in-
tial- 1 16 un	tial d <i>Boun</i>	tional gle	a voter address also maps to a <i>StreetSegment</i> , the Chapter A ct	valid or not present, MkcPecumentation
ary	ary		assignment from the StreetSegment will be preferred over the	tation is required to
Ward	xs:s	st Op i-ngSin-	assignment from the spatial boundary. Specifies the ward the precinct is contained within.	ignore it. If the field is in-
, , ar u		~~~~~~~~~~		11010 10 111

```
<Precinct id="pre90111">
      <BallotStyleId>bs00010/BallotStyleId>
2
      <ElectoralDistrictIds>ed60129 ed60311 ed60054/ElectoralDistrictIds>
3
      <IsMailOnly>false</IsMailOnly>
      <LocalityId>loc70001</LocalityId>
      <Name>203 - GEORGETOWN</Name>
      <Number>0203</Number>
      <PollingLocationIds>p181274</pollingLocationIds>
      <SpatialBoundary>
9
        <ExternalGeospatialFeature>
10
          <ExternalFileId>ef1</ExternalFileId>
11
          <FileFormat>shp</FileFormat>
12
          <FeatureIdentifier>
13
               <Index>3</Index>
14
           </FeatureIdentifier>
15
        </ExternalGeospatialFeature>
16
      </SpatialBoundary>
17
   </Precinct>
   <1--
     Precinct split. Name and PollingLocationIds are the same but
20
     PrecinctSplitName is present, the ElectoralDistrictIds are different,
21
    and the BallotStyleId is different.
22
23
   <Precinct id="pre90348sp0000">
24
     <BallotStyleId>bs00002/BallotStyleId>
25
     <ElectoralDistrictIds>ed60129 ed60054 ed60150/ElectoralDistrictIds>
26
     <IsMailOnly>false</IsMailOnly>
27
     <LocalityId>loc70001</LocalityId>
28
     <Name>201 - JACK JOUETT</Name>
29
     <Number>0201</Number>
30
     <PollingLocationIds>p100000 p181273 p181662</pollingLocationIds>
31
     <PrecinctSplitName>0000</precinctSplitName>
32
   </Precinct>
33
   <Precinct id="pre90348sp0001">
34
     <BallotStyleId>bs00015</BallotStyleId>
35
     <ElectoralDistrictIds>ed60129 ed60054 ed60267/ElectoralDistrictIds>
36
     <IsMailOnly>false</IsMailOnly>
37
     <LocalityId>loc70001</LocalityId>
     <Name>201 - JACK JOUETT</Name>
39
     <Number>0201</Number>
40
     <PollingLocationIds>pl00000 pl81273 pl81662</PollingLocationIds>
41
     <PrecinctSplitName>0001</precinctSplitName>
42
   </Precinct>
```

SpatialBoundary

The SpatialBoundary object defines a boundary in space. This boundary is usually defined by one or more discrete, closed polygonal shapes.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dpeats	s?	
External-	External-	Re-	Sin-	The spatial boundary defined	If the element is invalid, then the im-
Geospa-	Geospa-	quire	d gle	by a geospatial feature that is	plementation is required to ignore the
tialFea-	tialFea-			external to the VIP feed.	SpatialBoundary element containing
ture	ture				it.

```
<SpatialBoundary>

<ExternalGeospatialFeature>

<ExternalFileId>ef1</ExternalFileId>

<FileFormat>shp</FileFormat>

<FeatureIdentifier>

<Index>3</Index>

</FeatureIdentifier>

</FeatureIdentifier>

</ExternalGeospatialFeature>

</SpatialBoundary>
```

ExternalGeospatialFeature

The ExternalGeospatialFeature object contains a reference to a geospatial feature (one or more shapes) contained in a separate file external to the VIP feed.

Tag	Data	Re-	Re-	Description	Error Handling	
rag				•	Litor Handling	
			døeats			
Ex-	xs:1	Re F	Sin-	Links to the <i>ExternalFile</i> containing the geospatial shape(s)	If the field is in-	
ter-		quire	d gle	that define the feature's boundary.	valid, then the	
nal-					implementation is	
FileId	l				required to ignore the	
					ExternalGeospatialFe	ature
					element containing it.	
File-	Geos	ρ Æe-	Sin-	The format of the geospatial file.	If the field is in-	
For-	tial-	quire	d gle		valid, then the	
mat	For-				implementation is	
	mat				required to ignore the	
					ExternalGeospatialFe	ature
					element containing it.	
Fea-	Fea-	Re-	Re-	Identifiers indicating which specific shape(s) to use from the	If the element is	
tureI-	tureI-	quire	d peats	geospatial file. These refer to identifiers within the refer-	invalid, then the	
den-	den-			enced external file. This is a repeated field in the XML spec-	implementation is	
ti-	ti-			ification, but a scalar field in the CSV specification. If more	required to ignore the	
fier	fier			than one identifier is required with the CSV specifiation, mul-	ExternalGeospatialFe	ature
				tiple values can be provided by delimited by space.	element containing it.	

Featureldentifier

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quired?	peats?		
In-	xs:int	Op-	Single	The index value for the	If the field is invalid or not present, then the imple-
dex		tional		shapefile feature.	mentation is required to ignore it.

RetentionContest

RetentionContest extends *BallotMeasureContest* and represents a contest where a candidate is retained in a position (e.g. a judge).

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired?peats?			
Can-	xs:ID	r re -	Sin-	Links to the Can-	If the field is invalid or not present, the implementation
di-		quired	gle	didate being re-	is required to ignore the RetentionContest element
dateId				tained.	containing it.
Offi-	xs:ID	R ©p -	Sin-	Links to the infor-	If the field is invalid or not present, then the implementa-
ceId		tional	gle	mation about the	tion is required to ignore it.
				office.	

Source

The Source object represents the organization that is publishing the information. This object is the only required object in the feed file, and only one source object is allowed to be present.

Tag	Data	Re-	Re-	Description	Error Handling
N.T.	Туре		døeats		YC 1 C 11' ' 1'1 1 1 1 1 '
Name	xs:str		Sin-	Specifies the name of the organization that	If the field is invalid, then the im-
		quire	dgle	is providing the information.	plementation is required to ignore
					the Source element containing
					it.
VipId	xs:str	iRe-	Sin-	Specifies the ID of the organization. VIP	If the field is invalid, then the im-
		quire	d gle	uses FIPS codes for this ID.	plementation is required to ignore
					the Source element containing
					it.
Date-	xs:dat	e Rė me	e Sin-	Specifies the date and time of the feed pro-	If the field is invalid, then the im-
Time		quire	dgle	duction. The date/time is considered to be	plementation is required to ignore
		_		in the timezone local to the organization.	the Source element containing
					it.
De-	Inter-	Op-	Sin-	Specifies both the nature of the organiza-	If the element is invalid or not
scrip-	na-	tional		tion providing the data and what data is in	present, then the implementation
tion	tional-	liona	5.0	the feed.	is required to ignore it.
	ized-			the recu.	is required to ignore it.
	Text				
Orga-	xs:str	i 0 p-	Sin-	Specifies a URI to the home page of the	If the field is invalid or not
niza-		tional		organization publishing the data.	present, then the implementation
tionUri				g	is required to ignore it.
Feed-	Con-	Op-	Sin-	Reference to the <i>Person</i> who will respond	If the element is invalid or not
Con-	tactIn-	tional		to inquiries about the information con-	present, then the implementation
tactIn-	forma-		8.5	tained within the file.	is required to ignore it.
forma-	tion				1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
tion					
TouUri	xs:any	U (2)10 -	Sin-	Specifies the website where the Terms of	If the field is invalid or not
	1	tional		Use for the information in this file can be	present, then the implementation
				found.	is required to ignore it.
Version	xs:str	i Re -	Sin-	Specifies the version of the data	If the field is invalid, then the im-
		quire	dgle		plementation is required to ignore
		-			the Source element containing
					it.

State

The State object includes state-wide election information. The ID attribute is recommended to be the state's FIPS code, along with the prefix "st".

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dβeats	s?	_
Elec-	xs:I	D RAP F	Sin-	Links to the state's election administration object.	If the field is invalid or
tion-		tional	gle		not present, then the im-
Ad-					plementation is required
min-					to ignore it.
istra-					
tionId					
Exter-	Ex-	Op-	Sin-	Other identifier for the state that relates to another	If the element is in-
nalI-	ter-	tional	gle	dataset (e.g. OCD-ID).	valid or not present, then
denti-	nalI-				the implementation is
fiers	den-				required to ignore it.
	ti-				
	fiers				
Name	xs:s	t Re ng		Specifiers the name of a state, such as Alabama.	If the field is invalid,
		quire	dgle		then the implementation
					is required to ignore
					the State element con-
					taining it.
Pollingl	Loxs:I	D RAP FS	Sin-	Specifies a link to the state's <i>polling locations</i> . If early	If the field is invalid or
ca-		tional	gle	vote centers or ballot drop locations are state-wide (e.g.,	not present, then the im-
tion-				anyone in the state can use them), they can be specified	plementation is required
Ids				here, but you are encouraged to only use the <i>Precinct</i>	to ignore it.
				element.	

StreetSegment

A Street Segment objection represents a portion of a street and the links to the precinct that this geography (i.e., segment) is contained within. The start address house number must be less than the end address house number unless the segment consists of only one address, in which case these values are equal.

Tag Data Type	Re-Re- quired@eats	Description s?	Error Handling
	tOpi-ng Sin- tional gle	Specifies the (inter-)cardinal direction of the entire address. An example is "NE" for the address "100 E Capitol St NE."	If the field is invalid or not present, then the implementation is required to ignore it.
City xs:s	t Re -ng Sin- quired gle	The city specifies the city or town of the address.	If the field is invalid, then the implementation is required to ignore the StreetSegment element containing it.
In- xs:b clude- sAl- lAd-	cOpt-eaSin- tional gle	Specifies if the segment covers every address on this street. If this is <i>true</i> , then the values of StartHouseNumber and EndHouseNumber should be ignored. The value of OddE -	If the field is invalid or not present, then the implementation is required to ignore it.
dresses	o ⊙pi -ea S in-	venBoth must be both. Specifies if the segment covers every street in	If the field is invalid or not present,
clude- sAll- Streets	tional gle	this city. If this is <i>true</i> , then the values of OddEvenBoth , StartHouseNumber , End-HouseNumber , StreetName , and Zip should	then the implementation is required to ignore it.
0.11	0 0	be ignored.	Vol. C.III
Odd- OebE E- num ven- Both	Op- Sin- tional gle	Specifies whether the odd side of the street (in terms of house numbers), the even side, or both are in included in the street segment.	If the field is not present or invalid, the implementation is required to ignore the StreetSegment containing it.
Precinces: I	TREF Sin- quiredgle	References the <i>Precinct</i> that contains the entire street segment. If a precinct has a <i>SpatialBoundary</i> which also contains the entire street segment, then the precinct assignment from the segment will be preferred over the assignment defined by the spatial boundary.	If the field is invalid, then the implementation is required to ignore the StreetSegment element containing it.
Start- xs:i House- Num- ber	rOpege Sintional gle	The house number at which the street segment starts. This value is necessary for the street segment to make any sense. Unless IncludesAllAddresses or IncludesAllStreets are true, this value must be less than or equal to EndHouseNumber. If IncludesAllAddresses or IncludesAllStreets are true, this value is ignored.	Unless IncludesAllAddresses or IncludesAllStreets are true, if the field is not present or invalid, the implementation is required to ignore the StreetSegment element containing it. If the StartHouseNumber is greater than the EndHouseNumber, the implementation should ignore the element containing them.
End- xs:i House- Num- ber	rOpegeSintional gle	The house number at which the street segment ends. This value is necessary for the street segment to make any sense. Unless IncludesAllAddresses or IncludesAll-Streets are true, it must be greater than or equal to StartHouseNumber. If IncludesAllAddresses or IncludesAllStreets are true, this value is ignored.	Unless IncludesAllAddresses or IncludesAllStreets are true, if the field is not present or invalid, the implementation is required to ignore the Street-Segment element containing it. If the EndHouseNumber is less than the StartHouseNumber, the implementation should ignore the element containing it.
House-xs:s Num- ber- Pre- fix	t Op -ngSin- tional gle	Part of a street address. It may contain letters or slashes (e.g., 'B' in 'B22 Main St'). If this value is present then StartHouseNumber must be equal to EndHouseNumber . This field cannot be used if IncludesAllAddresses or IncludesAllStreets are true.	If the field is invalid or not present, then the implementation is required to ignore it.
1226 use-xs:s Num- ber- Suf-	t Opi -ng Sin- tional gle	Part of a street address. It may contain letters or slashes (e.g., 1/2 in '22 1/2 Main St'). If this value is present then StartHouse-Number must be equal to EndHouseNum-	If Chapter 2: i XMI d Pocumentation then the implementation is required to ignore it.

```
<StreetSegment id="ss999999">
      <City>Charlottesville</City>
2
      <IncludesAllAddresses>true</IncludesAllAddresses>
3
      <OddEvenBoth>both</OddEvenBoth>
      <Pre><PrecinctId>pre99999</PrecinctId>
      <State>VA</State>
      <StreetName>CHAPEL HILL</StreetName>
      <StreetSuffix>RD</StreetSuffix>
      <Zip>22901</Zip>
   </StreetSegment>
10
   <StreetSegment id="ss309904">
11
      <City>GREENWOOD</City>
12
      <OddEvenBoth>both</OddEvenBoth>
13
      <Pre><PrecinctId>pre92145</PrecinctId>
14
      <StartHouseNumber>1</StartHouseNumber>
15
      <EndHouseNumber>201</EndHouseNumber>
16
      <State>VA</State>
17
      <StreetName>MISTY MOUNTAIN</StreetName>
      <StreetSuffix>RD</StreetSuffix>
      <Zip>22943</Zip>
20
   </StreetSegment>
21
   <StreetSegment id = "ss1"</pre>
22
      <City>GREENWOOD</City>
23
      <OddEvenBoth>both</OddEvenBoth>
24
      <PrecinctId>pre92145</precinctId>
      <StartHouseNumber>1</StartHouseNumber>
26
      <EndHouseNumber>1</EndHouseNumber>
27
      <HouseNumberPrefix>B</HouseNumberPrefix>
28
      <HouseNumberSuffix>1/2/HouseNumberSuffix>
29
      <State>VA</State>
30
      <StreetName>MISTY MOUNTAIN</StreetName>
      <StreetSuffix>RD</StreetSuffix>
      <Zip>22943</Zip>
33
   </StreetSegment>
```

Enumerations (Separate Pages)

BallotMeasureType

A list of the various types of ballot measures. States may have different legal definitions of each type; Wikipedia has more details about each type. These values are to help states with multiple types of non-candidate-based contests distinguish between each type; as such, the definitions in this table are simple guidelines. Ultimately it is up to the state or local election official to choose the value which best describes the ballot measure(s) in their jurisdiction.

Tag	Description		
ballot-	A catch-all for generic types of non-candidate-based contests.		
measure			
initiative	These are usually citizen-driven measures to be placed on the ballot. These could include both statu-		
	tory changes and constitutional amendments.		
referen-	These could include measures to repeal existing acts of legislation, legislative referrals, and		
dum	legislatively-referred state constitutional amendments.		
other	Anything that does not fall into the above categories.		

CandidatePostElectionStatus

Tag	Description
advanced-to-runoff	For contests in which the top N candidates advance to the next round.
projected-winner	A candidate is expected to win, but official results are not yet complete.
winner	The candidate has officially won.
withdrawn	The candidate has withdrawn from the contest.

CandidatePreElectionStatus

Tag	Description
filed The candidate has filed for office but not yet been qualified.	
qualified	The candidate has qualified for the contest.
withdrawn	The candidate has withdrawn from the contest (but may still be on the ballot).
write-in	

ChecksumAlgorithm

Tag	Tag Description	
sha-256	256-bit cryptographic hash algorithm of the SHA-2 family	
sha-512	512-bit cryptographic hash algorithm of the SHA-2 family	

DistrictType

Enumeration describing the set of possible jurisdiction and district types. Please use the enumeration value which most accurately reflects the type of district or jurisdiction in your state or county. For example, "town" and "township" may mean different things – or not be defined at all – in your state, so please use the definition which best matches your local meaning.

Tag	Description
borough	A borough
city	A city.
city-council	A specific seat/jurisdiction for a city, town, or village council.
congressional	A United States congressional district.
county	A county.
county-council	A county council district, either in its entirety or for a specific seat.
judicial	A judicial district.
municipality	A civil division which is not a town, city, village, or county.
national	The United States.
school	A school district.
special	A special-purpose district that exist separate from general-purpose districts.
state	A state, district, commonwealth, or U.S. territory.
state-house	The lower house of a state legislature.
state-senate	The upper house of a state legislature.
town	A town.
township	A township, which may be different than a town. See the Wikipedia article.
utility	A non-water public or municipal utility district.
village	A village district.
ward	A ward.
water	A water district.
other	Any district not described above. Use the <i>OtherType</i> field to describe it.

GeospatialFormat

Geospatial file formats that are supported by the VIP specification.

Tag	Description
shp	ESRI Shapefile (reference)

IdentifierType

Tag	Description
fips	Federal Information Processing Standards codes for states, counties, and cities.
local-level	An identifier generated or used by local governments or organizations.
national-level	An identifier generated or used by national organizations.
ocd-id	An Open Civic Data Division Identifier.
state-level	An identifier generated or used by state governments or organizations.
other	Any identifier which doesn't fall into any of the above categories.

OebEnum

Tag	Description
both	Both even and odd addresses within the range.
even	Only even-numbered addresses within the range.
odd	Only odd-numbered addresses within the range.

OfficeTermType

Tag	Description
full-term	This election is for an office for which the existing term has been completed.
unexpired-term	This election is for an office for which the original term is not yet complete.

VoteVariation

Note that the descriptions below describe what the enumeration names stand for in the context of the VIP spec, rather than provide general definitions of the election terms that the names correspond to. For example, even though there are majority voting methods that are not "1-of-m" (e.g. ranked choice voting), we constrain "majority" to 1-of-m. We do this to eliminate any source of ambiguity when a single enumeration value needs to be assigned to a contest.

Tag	Description
1-of-m	A method where each voter can select up to one option.
ap-	Approval voting, where each voter can select as many options as desired.
proval	
borda	Borda count, where each voter can rank the options, and the rankings are assigned point values.
cumu-	Cumulative voting, where each voter can distribute their vote to up to N options.
lative	
major-	A 1-of-m method where the winner needs more than 50% of the vote to be elected.
ity	
n-of-m	A method where each voter can select up to N options.
plural-	A 1-of-m method where the option with the most votes is elected, regardless of whether the option has
ity	more than 50% of the vote.
propor-	A proportional representation method (other than STV), which is any system that elects winners in
tional	proportion to the total vote.
range	Range voting, where each voter can select a score for each option.
rcv	Ranked choice voting (RCV), where each voter can rank the options, and the ballots are counted in
	rounds. Also known as instant-runoff voting (IRV) and the single transferable vote (STV).
super-	A 1-of-m method where the winner needs more than some predetermined fraction of the vote to be
majority	elected, where the fraction is more than 50% (e.g. three-fifths or two-thirds).
other	Used when the vote variation type is not included in this enumeration.

VoterServiceType

Tag	Description
absentee-ballots	This department handles the dispatch, tracking, and return of absentee ballots.
overseas-voting	The department for overseas, military, and other outside-the-U.S. voters.
polling-places	This department handles the selection and management of polling places.
voter-registration	The department that manages voter registration.
other	Any other service not covered by the above descriptions.

CHAPTER 3

CSV Documentation

3.1 CSV Specification

- Getting Started
- Elements & Enumerations
 - Single-page Format
 - Elements (Separate Pages)
 - Enumerations (Separate Pages)

3.1.1 Getting Started

The CSV files contain election information, with files containing links between each other, that is compiled into an XML feed that represents the data according to the XML specification. See the 'sample xml file'_ and 'xsd file'_ for more details.

Certain files are required to serve different types of information. Below is a listing of which files are required for different VIP data sets.

Required files:

- · election.txt
- source.txt
- state.txt
- department.txt

Files to serve polling locations:

• election_administration.txt

- department.txt
- locality.txt
- polling_location.txt
- precinct.txt
- street segment.txt

Files to serve candidate contests:

- · candidate.txt
- · candidate_contest.txt
- candidate_selection.txt
- · office.txt

Files to serve referenda and ballot measures:

- ballot_measure_contest.txt
- ballot_measure_selection.txt

Files to serve retention contests:

· retention contest.txt

CSV files must be comma-delimited, UTF-8 .txt files, named according to the specification. The id attribute for the state object should be the state's FIPS number. The id attributes are not required to remain constant for the same piece of semantic data across multiple productions of the feed (e.g. candidate Michael Smith, running for dogcatcher in Iowa, is not required to have the same candidate id attribute each time the state of Iowa publishes data).

3.1.2 Elements & Enumerations

Single-page Format

CSV Elements & Enumerations (Single Page)

- Elements
 - ballot_measure_contest
 - * contest_base
 - ballot measure selection
 - * ballot selection base
 - ballot_selection_base
 - ballot_style
 - candiate_selection
 - * ballot_selection_base
 - candidate
 - candidate_contest

- * contest_base
 checksum
- contact_information
- contest_base
- department
 - * voter_service
 - * contact_information
- election
- election_administration
 - * department
 - · voter_service
 - $\cdot \ contact_information$
 - * election_notice
 - * voter_service
- election_notice
- electoral_district
- external_file
 - * checksum
- external_geospatial_feature
 - * feature_identifier
- external_identifier
- external_identifiers
- feature_identifier
- hours
 - * time_with_zone
- hours_open
 - * schedule
 - · hours
- time_with_zone
- html_color_string
- internationalized_text
- language_string
- lat_long
- locality
- office

- * term * contact_information ordered_contest party * html_color_string - party_contest * contest_base party_selection * ballot_selection_base - person * contact_information - polling_location * lat_long * simple_address_type precinct * spatial_boundary external_geospatial_feature * feature_identifier retention_contest - schedule * hours time_with_zone - simple_address_type source spatial_boundary * external_geospatial_feature
 - state
 - street_segment
 - term
 - time_with_zone
 - voter_service
 - Enumerations
 - ballot_measure_type
 - candidate_post_election_status

· feature_identifier

- candidate_pre_election_status

- checksum_algorithm
- district_type
- geospatial_format
- identifier_type
- oeb_enum
- office_term_type
- vote_variation
- voter_service_type

Elements

ballot_measure_contest

The BallotMeasureContest provides information about a ballot measure before the voters, including summary statements on each side. Extends single-csv-contest-base.

Tag	l I	Re-	Re- døeats	Description	Error Handling
					If the element
con_s	tateme	_		Specifies a statement in opposition to the referendum. It does not	If the element
		tiona	l gle	necessarily appear on the ballot.	is invalid or not
					present, then the
					implementation
					is required to
					ignore it.
ef-		t Opi- n	~ Cin	Specifies what effect abstaining (i.e. not voting) on this proposi-	If the element
rect_	of_abst	a u ona	gie	tion will have (i.e. whether abstaining is considered a vote against	is invalid or not
				it).	present, then the
					implementation
					is required to
					ignore it.
full t	exats:	t On -n	a Sin-	Specifies the full text of the referendum as it appears on the ballot.	If the element
		tiona			is invalid or not
		tiona			present, then the
					implementation
					is required to
					ignore it.
info_	unxis:a	ır Qqb JR	I Sin-	Specifies a URI that links to additional information about the ref-	If the field is
		tiona		erendum.	invalid or not
					present, then the
					implementation
					is required to
		. 0 . 1	G.		ignore it.
pas-		t Op -n		Specifies the threshold of votes that the referendum needs in order	If the element
sage_	thresh	oltiona	l gle	to pass. The default is a simple majority (i.e. 50% plus one vote).	is invalid or not
				Other common thresholds are "three-fifths" and "two-thirds". If	present, then the
				there are 'competing initiatives'_, information about their effect	implementation
				on the passage of the BallotMeasureContest would go here.	is required to
					ignore it.
pro s	tateme	ntOni-n	a Sin-	Specifies a statement in favor of the referendum. It does not nec-	If the element
r		tiona		essarily appear on the ballot.	is invalid or not
		tiona	gie	essarily appear on the barrot.	present, then the
					implementation
					is required to
					ignore it.
sum-	xs:s	t Qpi- n	g Sin-	Specifies a short summary of the referendum that is on the ballot,	If the element
mary	l I	tiona		below the title, but above the text.	is invalid or not
	-				present, then the
					implementation
					is required to
			C.		ignore it.
type	xs:	t Op -n	I= I	Specifies the particular type of ballot measure. Must be one of the	If the field is
		tiona	gle	valid ballot_measure_type options.	invalid or not
					present, then the
					implementation
					is required to
					ignore it.
other	_txpe s	+Ωmin	a Sin	Allows for cataloging a new <i>ballot_measure_type</i> option, when	If the field is
other	Trik be: S				
		tiona	gie	Type is specified as "other."	
					present, then the
					implementation
_					is required to
132				Chapter 3. CS	V _i ტეცლლentation
				· · · · · · · · · · · · · · · · · · ·	

id,abbreviation,ballot_selection_ids,ballot_sub_title,ballot_title,elecoral_district_

→id,electorate_specification,external_identifier_type,external_identifier_othertype,

→external_identifier_value,has_rotation,name,sequence_order,vote_variation,other_

→vote_variation,con_statement,effect_of_abstain,full_text,info_uri,passage_threshold,

→pro_statement,summary_text,type,other_type

bmc0001,HB2,bs001 bs002 bs003,Raising levy for School Bond,School Bond Issue,ed001,

→all registered voters,,54,false,School Bond,42,majority,,This is no good.,No effect,

→A measure to do raise funds for etc etc,www.ballotmeasure.com,two-thirds,Everything_

→will be great.,It's a referendum about school funding,referendum,

contest base

A base model for all Contest types: *ballot_measure_contest*, *candidate_contest*, *party_contest*, and *retention_contest* (NB: the latter because it extends *ballot_measure_contest*).

Tag	Data	Re-	Re-	Description	Error Handling
	Type		døeats		
ab-	xs:st	т Ор тд		An abbreviation for the contest.	If the field is
bre-		tional	l gle		invalid or not
via-					present, then the
tion					implementation
					should ignore it.
bal-		р Юф -S		References a set of BallotSelections, which could be of any se-	If the field is
lot_se	lection_	id s ona	gle	lection type that extends single-csv-ballot-selection-base.	invalid or not
					present, then the
					implementation
					should ignore it.
bal-	xs:st	:Ор -9	Sin-	Subtitle of the contest as it appears on the ballot.	If the element
lot_su	ıb_title	tional	l gle		is invalid or not
					present, then the
					implementation
					should ignore it.
bal-	xs:st	1Ор т-д	Sin-	Title of the contest as it appears on the ballot.	If the element
lot_tit		tional		••	is invalid or not
_					present, then the
					implementation
					should ignore it.
elec-	xs:II	Re-	Sin-	References an <i>electoral_district</i> element that represents the ge-	If the field is
	district_			ographical scope of the contest.	invalid, then
				S of the state of	the implementa-
					tion is required
					to ignore the
					ContestBase
					element containing
					it.
elec-	xs·st	.Юр ъд	Sin-	Specifies any changes to the eligible electorate for this contest	If the element
	_specific			past the usual, "all registered voters" electorate. This subtag	is invalid or not
torate	_specim		810	will most often be used for primaries and local elections. In	present, then the
				primaries, voters may have to be registered as a specific party	implementation
				to vote, or there may be special rules for which ballot a voter	should ignore it.
				can pull. In some local elections, non-citizens can vote.	Silouid ignore in
ex-	xs·st	т Ор тд	Sin-	Other identifiers for a contest that links to another source of	If the element
ter-		tional		information.	is invalid or not
	lentifiers		5.0		present, then the
10		[implementation
					should ignore it.
hae r	otatsano	(A)	n Sin	Indicates whether the selections in the contest are rotated.	If the field is
11as_1	CLALDUIL	tional		indicates whether the selections in the contest are rotated.	invalid or not
		uona	gie		present, then the
					implementation
					_
nor		.Da	C:	Name of the contact not reconscribe how it are and the last	should ignore it.
name	xs:st	1 Re 1g		Name of the contest, not necessarily how it appears on the ballot	If the field is
		quire	ugie	(NB: BallotTitle should be used for this purpose).	invalid, then
					the implementa-
					tion is required
					to ignore the
					ContestBase
					element containing
			~:		it.
se-		nt Opp ge		Order in which the contests are listed on the ballot. This is the	If the field is
4tt enc	e_order	tional	l gle	default ordering, and can be overrides by data in Chapter 3, le	
				element.	present, then the
			1		imamlamantation
					implementation should ignore it.

ballot_measure_selection

Represents the possible selection (e.g. yes/no, recall/do not recall, et al) for a *ballot_measure_contest* that would appear on the ballot. BallotMeasureSelection extends single-csv-ballot-selection-base.

Tag	Data	Re-	Re-	Description			Error Handling
	Type	quired	?peats	?			
se-	xs:st	r Re g	Sin-	Selecti	on	text	If the element is invalid or not present, the implementa-
lec-		quired	gle	for	a	bal-	tion is required to ignore the BallotMeasureSelection con-
tion				lot_measure_contest		contest	taining it.

```
id, sequence_order, selection
bms001, 1, Proposition A
bms002, 2, Proposition B
```

ballot_selection_base

A base model for all ballot selection types: ballot_measure_selection, candiate_selection, and party_selection.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	døeat	s?	
se-	xs:i	n tOp ge	rSin-	The order in which a selection can be listed on the	If the field is invalid or
quence	_order	tiona	l gle	ballot or in results. This is the default ordering, and	not present, then the im-
				can be overridden by OrderedBallotSlectionIds in or-	plementation is required to
				dered_contest.	ignore it.

ballot_selection_base

A base model for all ballot selection types: ballot_measure_selection, candiate_selection, and party_selection.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeat	s?	
se-	xs:i	n Op pege	rSin-	The order in which a selection can be listed on the	If the field is invalid or
quence	_order	tiona	l gle	ballot or in results. This is the default ordering, and	not present, then the im-
				can be overridden by OrderedBallotSlectionIds in or-	plementation is required to
				dered_contest.	ignore it.

ballot_style

A container for the contests/measures on the ballot.

Tag	Data	Re- Re-		Description	Error Handling	
	Type	quired	? peats?	•		
image_uri	xs:any	≀U O pp <u>ī</u> -	Sin-	Specifies a URI that returns	If the field is invalid or not present, then	
		tional	gle	an image of the sample bal-	the implementation is required to ignore	
				lot.	it.	
or-	xs:IDH	REOPPS-	Sin-	Reference to a set of or-	If the field is invalid or not present, then	
dered_conte	sts_ids	tional	gle	dered_contest	the implementation is required to ignore	
					it.	
party_ids	xs:IDRE Op s		Sin-	Reference to a set of	If the field is invalid or not present, then	
	tional g		gle	:ref:'single-csv-party's.	the implementation is required to ignore	
					it.	

```
id,image_uri,ordered_contest_ids,party_ids
bs00010,http://i.giphy.com/26BoCh3PgT8ai45ji.gif,oc2025,par02
bs00011,http://i.giphy.com/3oEjHYDWEICgEpAOjK.gif,oc3000 oc2025,par01
```

candiate selection

CandidateSelection extends single-csv-ballot-selection-base and represents a ballot selection for a candidate contest.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeats		
candi-	xs:I	D Op F:	Sin-	References a set of candidate elements. The number of	If the field is invalid
date_ids	3	tional	l gle	candidates that can be references is unbounded in cases	or not present, then the
				where the ballot selection is for a ticket (e.g. "Presi-	implementation is re-
				dent/Vice President", "Governor/Lt Governor").	quired to ignore it.
en-	xs:I	D Op F	Sin-	References a set of <i>party</i> elements, which signifies one or	If the field is invalid
dorse-		tional	l gle	more endorsing parties for the candidate(s).	or not present, then the
ment_pa	arty_ids	3			implementation is re-
					quired to ignore it.
is_write	_ixas:b	⊘0 ptea	ar Sin -	Signifies if the particular ballot selection allows for write-	If the field is invalid
		tional	gle	in candidates. If true, one or more write-in candidates are	or not present, then the
				allowed for this contest.	implementation is re-
					quired to ignore it.

```
id, sequence_order, candidate_ids, endorsement_party_ids, is_write_in
cs001,3,can004,par01,false
cs002,2,can001 can002,par03 par02,false
cs003,1,can003,par02 par03,true
```

ballot_selection_base

A base model for all ballot selection types: ballot_measure_selection, candiate_selection, and party_selection.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeat	s?	
se-	xs:i	n Op ge	rSin-	The order in which a selection can be listed on the	If the field is invalid or
quence	_order	tiona	gle	ballot or in results. This is the default ordering, and	not present, then the im-
				can be overridden by OrderedBallotSlectionIds in or-	plementation is required to
				dered_contest.	ignore it.

candidate

The Candidate object represents a candidate in a contest. If a candidate is running in multiple contests, each contest **must** have its own Candidate object. Candidate objects may **not** be reused between Contests.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	<u> </u>	døeat		
bal-	xs:stri	_	Sin-	The candidate's name as it will be displayed on	If the element is invalid,
lot_nai		quire		the official ballot (e.g. "Ken T. Cuccinelli II").	then the implementation is required to ignore the Candidate element containing it.
con-	xs:stri	.n @ p-	Sin-	Contact and physical address information for	If the element is invalid or
tact_in	formation	tional		this Candidate and/or their campaign (see single-csv-contact-information).	not present, then the implementation is required to ignore it.
ex-	exter-	Op-	Sin-	Another identifier for a candidate that links to	If the element is invalid or
	nal_identi entifiers			another source of information (e.g. a campaign committee ID that links to a campaign finance system).	not present, then the implementation is required to ignore it.
file_da	t e xs:dat∈	e Op- tional	Sin- gle	Date when the candidate filed for the contest.	If the field is invalid or not present, then the implementation is required to ignore it.
is_inct	mbentoool	.e ⊙ pъ-	Sin-	Indicates whether the candidate is the incumbent	If the field is invalid or not
		tional	gle	for the office associated with the contest.	present, then the implementation is required to ignore it.
is_top_	tixketbool	-6 a pp-	Sin-	Indicates whether the candidate is the top of a	If the field is invalid or not
		tional	gle	ticket that includes multiple candidates.	present, then the implementation is required to ignore it.
party_i	dxs:IDRE	EFOp-	Sin-	Reference to a party element with additional in-	If the field is invalid or not
		tional	gle	formation about the candidate's affiliated party.	present, then the implemen-
				This is the party affiliation that is intended to be presented as part of ballot information.	tation is required to ignore it.
per-	xs:IDRE	FOp-	Sin-	Reference to a <i>person</i> element with additional	If the field is invalid or not
son_id		tional		information about the candidate.	present, then the implementation is required to ignore it.
post_e	le ctiod<u>i</u>- stati		Sin-	Final status of the candidate (e.g. winner, with-	If the field is invalid or not
	date_post	_&lonai	or <u>gl</u> etat	udrawn, etc).	present, then the implementation is required to ignore it.
pre_ele	ction <u>d</u> istatu date_pre_		Sin- n_gl e atu	Registration status of the candidate (e.g. filed, squalified, etc).	If the field is invalid or not present, then the implementation is required to ignore it.

```
id, ballot_name, external_identifier_type, external_identifier_othertype, external_
identifier_value, file_date, is_incumbent, is_top_ticket, party_id, person_id, post_
election_status, pre_election_status
can001, Jude Fawley,,,,2016-12-01, true, false, par01, per50001,, filed
can002, Arabella Donn,,,,2016-12-01, false, false, par02, per50002,, qualified
can003, John Coltrane,,,,2016-09-23, false, false, par02, per50003,, qualified
can004, Miles Davis,,,,2016-05-26, false, false, par01, per50004,, qualified
```

candidate contest

CandidateContest extends single-csv-contest-base and represents a contest among candidates.

Tag	Data	Re-	Re-	Description	Error Han-
	Туре	quire	døeats	s?	dling
num-	xs:i	.n 01pe g	eSin-	Number of candidates that are elected in the contest (i.e. "N" of N-of-	If the field
ber_e	lected	tiona	l gle	M).	is invalid or
					not present,
					then the
					implemen-
					tation is
					required to
					ignore it.
of-	xs:]	D Оф -F	SSin-	References a set of office elements, if available, which give additional	If the field
fice_i	ds	tiona	l gle	information about the offices. Note: the order of the office IDs must	is invalid or
				be in the same order as the candidates listed in <i>BallotSelectionIds</i> . E.g.,	not present,
				if the various <i>BallotSelectionIds</i> reference <i>candiate_selection</i> elements	then the
				which reference the candidate for President first and Vice-President sec-	implemen-
				ond, the <i>OfficeIds</i> should reference the office of President first and the	tation is
				office of Vice-President second.	required to
					ignore it.
pri-		D O PPEF		References <i>party</i> elements, if the contest is related to a particular party.	If the field
mary	_party_	_i di sona	l gle		is invalid or
					not present,
					then the
					implemen-
					tation is
					required to
					ignore it.
votes	_alkowi			Maximum number of votes/write-ins per voter in this contest.	If the field
		tiona	l gle		is invalid or
					not present,
					then the
					implemen-
					tation is
					required to
					ignore it.

id, abbreviation, ballot_selection_ids, ballot_sub_title, ballot_title, electoral_

district_id, electorate_specification, external_identifier_type, external_identifier_

othertype, external_identifier_value, has_rotation, name, sequence_order, vote_variation,

other_vote_variation, number_elected, office_ids, primary_party_ids, votes_allowed

cancon001, SE-1, bs001 bs002,, Governor of Virginia, ed001, all registered voters, fips,,

49, true, Governor, 1,,, 1, off001, par01, 1

cancon002, SE-2, bs003 bs004,, Lieutenant Governor of Virginia, ed001, all registered_

voters, fips,, 49, true, Lt Governor, 2,,, 1, off002, par01, 1

contest base

A base model for all Contest types: *ballot_measure_contest*, *candidate_contest*, *party_contest*, and *retention_contest* (NB: the latter because it extends *ballot_measure_contest*).

Tag	Data	Re-	Re-	Description	Error Handling
1	Туре	<u> </u>	døeat		TC 1 C 11 :
ab-	xs:st	т Ор тд		An abbreviation for the contest.	If the field is
bre-		tional	gle		invalid or not
via-					present, then the
tion					implementation
					should ignore it.
bal-	l .	Р ОДТ -S		References a set of BallotSelections, which could be of any se-	If the field is
lot_se	lection_	id s onal	l gle	lection type that extends single-csv-ballot-selection-base.	invalid or not
					present, then the
					implementation
					should ignore it.
bal-	xs:st	т Ор ъд	Sin-	Subtitle of the contest as it appears on the ballot.	If the element
lot_su	ıb_title	tional	lgle		is invalid or not
					present, then the
					implementation
					should ignore it.
bal-	xs:st	1 Ор на	Sin-	Title of the contest as it appears on the ballot.	If the element
lot_tit	l .	tional		11	is invalid or not
			0-3		present, then the
					implementation
					should ignore it.
elec-	xs:II) E IR WE	Sin-	References an <i>electoral_district</i> element that represents the ge-	If the field is
	district_			ographical scope of the contest.	invalid, then
torai_	uisuici_	icquire	ugie	ographical scope of the contest.	the implementa-
					tion is required
					to ignore the
					ContestBase
					element containing
			~.		it.
elec-	xs:st			Specifies any changes to the eligible electorate for this contest	If the element
torate	_specific	ca tıon a	gle	past the usual, "all registered voters" electorate. This subtag	is invalid or not
				will most often be used for primaries and local elections. In	present, then the
				primaries, voters may have to be registered as a specific party	implementation
				to vote, or there may be special rules for which ballot a voter	should ignore it.
				can pull. In some local elections, non-citizens can vote.	
ex-	xs:st	т Ор тд	Sin-	Other identifiers for a contest that links to another source of	If the element
ter-		tional	gle	information.	is invalid or not
nal_i	lentifiers	 			present, then the
					implementation
					should ignore it.
has_r	otatisono	o Ope a	n Sin-	Indicates whether the selections in the contest are rotated.	If the field is
_		tional			invalid or not
			-		present, then the
					implementation
					should ignore it.
name	XS · St	r Re rg	Sin-	Name of the contest, not necessarily how it appears on the ballot	If the field is
		quire		(NB: BallotTitle should be used for this purpose).	invalid, then
		quiit	510	(1.2. Suitotitue bilouid de disea foi una purpose).	the implementa-
					tion is required
					to ignore the
					_
					ContestBase
					element containing
					it.
se-	xs:ir			Order in which the contests are listed on the ballot. This is the	If the field is
quene	SV.Spe	ealip:	rı ğl	default ordering, and can be overrides by data in a <i>ballot_style</i>	invalid or n b39
				element.	present, then the
					implementation
					should ignore it.

checksum

The Checksum object contains information about a cryptographic checksum, including the raw checksum value and the cryptographic hash algorithm used to compute it.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired peats?			
al-	check-	Re-	Sin-	The cryptographic hash algorithm	If the field is invalid, then the im-
go-	sum_algo	<i>riql</i> uired gle		used to compute the checksum value.	plementation is required to ignore the
rithm					Checksum element containing it.
value	xs:str	in R ge-	Sin-	The raw cryptographic checksum	If the field is invalid, then the im-
		quired gle		value encoded as a non-delimited,	plementation is required to ignore the
				lowercase hexadecimal string.	Checksum element containing it.

id,algorithm,value ch1,sha-256,65b634c5037f8a344616020d8060d233daa37b0f032a71d0d15ad7a5d3afa68e

contact_information

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *election_administration*, *office*, *person*, *source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag	Data		Re-	Description	Error Handling
	Type	quire	dpeats	s?	
ad-	xs:s	t 0p ng	Re-	The "location" portion of a mailing address. See usage note.	If the field is in-
dress	line	tional	peats		valid or not present,
			•		then the implementa-
					tion is required to ig-
					nore it.
di-	vc•c	t Op ng	Sin_	Specifies further instructions for locating this entity.	If the element is in-
rec-	A5.5	tional		specifies further instructions for focating this entity.	valid or not present,
tions		tionai	gie		then the implementa-
uons					-
					tion is required to ig-
• •		. 01	n	A '1 11 C d	nore it.
email	XS:S	ե 0ր ոց		An email address for the contact.	If the field is in-
		tional	peats		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
fax	xs:s	t 0p ng	Re-	A fax line for the contact.	If the field is in-
		tional	peats		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
hours	xs:s	t 0p ng	Sin-	Contains the hours (in local time) that the location is open	If the element is in-
		tional		(NB: this element is deprecated in favor of the more struc-	valid or not present,
			0	tured :ref: 'single-csv-hours-open' element. It is strongly en-	then the implementa-
				couraged that data providers move toward contributing hours	tion is required to ig-
				in this format).	nore it.
hours	_øpenI	ı addıki	Sin-	References an <i>hours_open</i> element, which lists the hours of	If the field is in-
Hours		tional		operation for a location.	valid or not present,
		tionai	gie	operation for a location.	then the implementa-
					-
					tion is required to ig-
1.4.1.	1 .	0	0	C 1C 4 - 1 - 4 - 1 11 2 - 1 C 4 - 1 42	nore it.
lat_lo	ngingle		Sin-	Specifies the latitude and longitude of this entity.	If the element is in-
	csv-	tional	gle		valid or not present,
	lat-				then the implementa-
	lng				tion is required to ig-
					nore it.
name	xs:s	t 0p ng		The name of the location or contact. See usage note.	If the field is in-
		tional	gle		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
phone	exs:s	t 0p n	Re-	A phone number for the contact.	If the field is in-
-		tional	peats	•	valid or not present,
			•		then the implementa-
					tion is required to ig-
					nore it.
uri	xs.a	n Qp R	Re-	An informational URI for the contact or location.	If the field is in-
W11	250.0		peats		valid or not present,
		Honai	pears		then the implementa-
					tion is required to ig-
					nore it.

```
id,address_line_1,address_line_2,address_line_3,directions,email,fax,hours_
open_id,latitude,longitude,latlng_source,name,phone,uri,parent_id
ci0827,The White House,1600 Pennsylvania Ave,,,josh@example.com,,Early to very late,,
open_id,latitude,longitude,latlng_source,name,phone,uri,parent_id
ci0827,The White House,1600 Pennsylvania Ave,,,josh@example.com,,Early to very late,,
ci0828,The White House,1600 Pennsylvania Ave,,,josh@example.com,,Early to very late,,
open_id,latitude,longitude,latlng_source,name,phone,uri,parent_id
ci0827,The White House,1600 Pennsylvania Ave,,,josh@example.com,off001
ci0828,The White House,1600 Pennsylvania Ave,,,josh@example.com,,Early to very late,,
open_id,latitude,longitude,latlng_source,name,phone,uri,parent_id
ci0827,The White House,1600 Pennsylvania Ave,,,josh@example.com,off001
ci0828,The White House,1600 Pennsylvania Ave,,,josh@example.com,,Early to very late,,
open_id,latitude,longitude,latlng_source,name,phone,uri,parent_id
ci0828,The White House,1600 Pennsylvania Ave,,,josh@example.com,off001
ci0828,The White House,1600 Pennsylvania Ave,,,josh@example.com,,Early to very late,,
open_id,latitude,longitude,latlng_source,name,phone,uri,parent_id
ci0828,The White House,1600 Pennsylvania Ave,,,josh@example.com,off001
```

contest base

A base model for all Contest types: *ballot_measure_contest*, *candidate_contest*, *party_contest*, and *retention_contest* (NB: the latter because it extends *ballot_measure_contest*).

Tag	Data	Re-	Re-	Description	Error Handling
	Туре		døeats		
ab-	xs:s	10 p 1g		An abbreviation for the contest.	If the field is
bre-		tional	l gle		invalid or not
via-					present, then the
tion					implementation
					should ignore it.
bal-		Р О47 -S		References a set of BallotSelections, which could be of any se-	If the field is
lot_se	lection_	id s ona	l gle	lection type that extends single-csv-ballot-selection-base.	invalid or not
					present, then the
					implementation
					should ignore it.
bal-	xs:s	:Ор -9	Sin-	Subtitle of the contest as it appears on the ballot.	If the element
lot_sı	b_title	tional	l gle		is invalid or not
					present, then the
					implementation
					should ignore it.
bal-	xs:s	1 Op 1-g	Sin-	Title of the contest as it appears on the ballot.	If the element
lot_ti		tional		11	is invalid or not
					present, then the
					implementation
					should ignore it.
elec-	xs:Il	PRA-	Sin-	References an <i>electoral_district</i> element that represents the ge-	If the field is
	district_			ographical scope of the contest.	invalid, then
torur_		raquire	ugic	ograpment scope of the contest.	the implementa-
					tion is required
					to ignore the
					ContestBase
					element containing
-1		.0	C:-	Charles any shanges to the all-like all states of Court !	it. If the element
elec-		t 1 Op rg		Specifies any changes to the eligible electorate for this contest	
torate	_specifi	ca uon a.	l gle	past the usual, "all registered voters" electorate. This subtag	is invalid or not
				will most often be used for primaries and local elections. In	present, then the
				primaries, voters may have to be registered as a specific party	implementation
				to vote, or there may be special rules for which ballot a voter	should ignore it.
			G:	can pull. In some local elections, non-citizens can vote.	TC 1 1
ex-	XS:S	t i Op ng		Other identifiers for a contest that links to another source of	If the element
ter-		tional	l gle	information.	is invalid or not
nal_io	dentifier	8			present, then the
					implementation
			~.		should ignore it.
has_r	otationo			Indicates whether the selections in the contest are rotated.	If the field is
		tional	gle		invalid or not
					present, then the
					implementation
					should ignore it.
name	xs:s	rRe ₁g		Name of the contest, not necessarily how it appears on the ballot	If the field is
		quire	d gle	(NB: BallotTitle should be used for this purpose).	invalid, then
					the implementa-
					tion is required
					to ignore the
					ContestBase
					element containing
					it.
se-	xs:i	nt Opp e	r Sin-	Order in which the contests are listed on the ballot. This is the	If the field is
	SV.Sp	eqifiga	tigg	default ordering, and can be overrides by data in a <i>ballot_style</i>	invalid or nl43
1				element.	present, then the
					implementation
					should ignore it.
					and and ignore it.

department

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	dpeats	s?	
con-	single-	Op-	Sin-	Contact and physical address informa-	If the element is invalid or not
tact_inform	na ti xon	tional	gle	tion for the election administration body	present, then the implementa-
	contact-			(see single-csv-contact-information).	tion is required to ignore it.
	information				
elec-	xs:IDREF	Op-	Sin-	The individual to contact at the election	If the field is invalid or not
tion_officia	l_person_id	tional	gle	administration office. The specified per-	present, then the implementa-
				son should be the election official.	tion is required to ignore it.
voter_servi	cesingle-	Op-	Re-	The types of services and appropriate	If the element is invalid or not
	csv-voter-	tional	peats	contact individual available to voters.	present, then the implementa-
	service				tion is required to ignore it.

```
id, election_official_person_id, election_administration_id
dep01,per50002,ea123
dep02,per50002,ea345
dep03,per50002,ea625
dep04,per50002,ea625
```

voter_service

Tag	Data Type	Re-	Re-	Description	Error Handling
		quired peats?			
con-	single-csv-	Op-	Sin-	The contact for a particular	If the element is invalid or not
tact_informa	ti co ntact-	tional	gle	voter service.	present, then the implementation is
	information				required to ignore it.
descrip-	xs:string	Op-	Sin-	Long description of the services	If the element is invalid or not
tion		tional	gle	available.	present, then the implementation is
					required to ignore it.
elec-	xs:IDREF	Op-	Sin-	The authority for a particular	If the field is invalid or not present,
tion_official	_person_id	tional	gle	voter service.	then the implementation is re-
					quired to ignore it.
type	voter_service	_tQpr-	Sin-	The type of <i>voter service</i> .	If the field is invalid or not present,
		tional	gle		then the implementation is re-
					quired to ignore it.
other_type	xs:string	Op-	Sin-	If Type is "other", OtherType al-	If the field is invalid or not present,
		tional	gle	lows for cataloging another type	then the implementation is re-
				of voter service.	quired to ignore it.

```
id, description, election_official_person_id, type, other_type, department_id vs01,A service we provide,per50002,other,overseas-voting,dep01 vs00,Elections notifications,per50002,other,voter-registration,dep02 vs02,Pencil sharpening,per50002,other,office-help,dep03 vs03,Guided hike to polling place,per50002,other,polling-places,dep03 vs04,Bike messenger ballot delivery,per50002,other,absentee-ballots,dep03
```

contact_information

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *election_administration*, *office*, *person*, *source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag	Data		Re-	Description	Error Handling
	Type	quire	dpeats	s?	
ad-	xs:s	t 0p ng	Re-	The "location" portion of a mailing address. See usage note.	If the field is in-
dress	line	tional	peats		valid or not present,
			•		then the implementa-
					tion is required to ig-
					nore it.
di-	vc•c	t Op ng	Sin_	Specifies further instructions for locating this entity.	If the element is in-
rec-	A5.5	tional		specifies further instructions for focating this entity.	valid or not present,
tions		tionai	gie		then the implementa-
uons					-
					tion is required to ig-
• •		. 01	n	A '1 11 C d	nore it.
email	XS:S	ե 0ր ոց		An email address for the contact.	If the field is in-
		tional	peats		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
fax	xs:s	t 0p ng	Re-	A fax line for the contact.	If the field is in-
		tional	peats		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
hours	xs:s	t 0p ng	Sin-	Contains the hours (in local time) that the location is open	If the element is in-
		tional		(NB: this element is deprecated in favor of the more struc-	valid or not present,
			0	tured :ref: 'single-csv-hours-open' element. It is strongly en-	then the implementa-
				couraged that data providers move toward contributing hours	tion is required to ig-
				in this format).	nore it.
hours	_øpenI	ı addıki	Sin-	References an <i>hours_open</i> element, which lists the hours of	If the field is in-
Hours		tional		operation for a location.	valid or not present,
		tionai	gie	operation for a location.	then the implementa-
					-
					tion is required to ig-
1.4.1.	1 .	0	0	C 1C 4 - 1 - 4 - 1 11 2 - 1 C 4 - 1 42	nore it.
lat_lo	ngingle		Sin-	Specifies the latitude and longitude of this entity.	If the element is in-
	csv-	tional	gle		valid or not present,
	lat-				then the implementa-
	lng				tion is required to ig-
					nore it.
name	xs:s	t 0p ng		The name of the location or contact. See usage note.	If the field is in-
		tional	gle		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
phone	exs:s	t 0p n	Re-	A phone number for the contact.	If the field is in-
-		tional	peats	•	valid or not present,
			•		then the implementa-
					tion is required to ig-
					nore it.
uri	xs.a	n Qp R	Re-	An informational URI for the contact or location.	If the field is in-
W11	250.0		peats		valid or not present,
		Honai	pears		then the implementa-
					tion is required to ig-
					nore it.

```
id,address_line_1,address_line_2,address_line_3,directions,email,fax,hours,hours_
open_id,latitude,longitude,latlng_source,name,phone,uri,parent_id
ci0827,The White House,1600 Pennsylvania Ave,,,josh@example.com,,Early to very late,,
o,,,Josh Lyman,555-111-2222,http://lemonlyman.example.com,off001
ci0828,The White House,1600 Pennsylvania Ave,,,josh@example.com,,Early to very late,,
o,,,Josh Lyman,555-111-2222,http://lemonlyman.example.com,vs01
```

election

The Election object represents an Election Day, which usually consists of many individual contests and/or referenda. A feed must contain **exactly one** Election object. All relationships in the feed (e.g., street segment to precinct to polling location) are assumed to relate only to the Election specified by this object. It is permissible, and recommended, to combine unrelated contests (e.g., a special election and a general election) that occur on the same day into one feed with one Election object.

Tag		Re-	Re-	Description 9?	Error Handling
date		a Re quire	Sin-	Specifies when the election is being held. The <i>Date</i> is considered to be in the timezone local to the state holding the election.	If the field is invalid, then the implementation is required to ignore the Election element containing
elec- tion_ty		t Op -nc tional	- 1	Specifies the highest controlling authority for election (e.g., federal, state, county, city, town, etc.)	it. If the element is invalid or not present, then the implementation is required to ignore it.
state_i	idxs:	DR&F quire		Specifies a link to the <i>State</i> element where the election is being held.	If the field is invalid, then the implementation is required to ignore the Election element containing it.
is_stat	tewide	c Q pi-ea tional	- 1	Indicates whether the election is statewide.	If the field is not present or invalid, the implementation is required to default to "yes".
name	xs:s	t Opi -nc tional	- 1	The name for the election (NB: while optional, this element is highly recommended).	If the element is invalid or not present, then the implementation is required to ignore it.
reg- is- tra- tion_in		t Opi -no tional	gSin- gle	Specifies information about registration for this election either as text or a URI.	If the element is invalid or not present, then the implementation is required to ignore it.
ab- sen- tee_ba	xs:s	t Opi -no tional fo		Specifies information about requesting absentee ballots either as text or a URI	If the element is invalid or not present, then the implementation is required to ignore it.
re- sults_i		ar Qp ⊍R tional		Contains a URI where results for the election may be found	If the field is invalid or not present, then the implementation is required to ignore it.
pollinį 148	_hour	t Op -ne tional	- 1	Contains the hours (in local time) that Election Day polling locations are open. If polling hours differ in specific polling hours alternative hours may be specified in the polling_location object (NB: this element is deprecated in favor of the more structured :ref: 'single-csv-hours-open' element. It is strongly encouraged	If the element ViDocumentation present, then the implementation is required to

id, date, name, election_type, state_id, is_statewide, registration_info, absentee_ballot_

→info, results_uri, polling_hours, has_election_day_registration, registration_deadline,

→absentee_request_deadline, hours_open_id

e001, 10-08-2016, Best Hot Dog, State, st51, true, www.registrationinfo.com, You can vote_

→absentee, http://hotdogcontest.gov/results, Noon to 3p.m., true, 10/08/2016, , ho002

election_administration

The Election Administration represents an institution for serving a locality's (or state's) election functions.

Tag	Data	Re-	Re-	Description	Error Handling
	Type		døeats		
ab-	xs:a	n yOp RI		Specifies the web address for informa-	If the field is invalid or not present, then
sen-		tional	gle	tion on absentee voting.	the implementation is required to ignore it.
tee_uri					
am_i_re	gistered		Sin-	Specifies the web address for informa-	If the field is invalid or not present, then
		tional	gle	tion on whether an individual is regis-	the implementation is required to ignore it.
				tered.	
bal-		n yOp RI		Specifies the web address for tracking	If the field is invalid or not present, then
lot_trac	_		-	information for a ballot cast by mail	the implementation is required to ignore it.
bal-		n yOp RI	I	Specifies the web address for tracking	If the field is invalid or not present, then
lot_trac	king_pr	t roioiy c	a <u>gl</u> eri	information for a provisional ballot.	the implementation is required to ignore it.
				To support EAC guidelines for "Pro-	
				cessing Provisional Ballots" (https:	
				//www.eac.gov/research-and-data/	
				provisional-voting/)	
de-	single-		Re-	Describes the administrative body for	There must be at least one valid <i>Depart</i> -
part-	csv-		d peats	a particular voter service.	ment in each ElectionAdministration ele-
ment	depart	ment			ment. If no valid <i>Department</i> objects are
					present, the implementation is required to
					ignore the <i>ElectionAdministration</i> object
					that contains it/them.
elec-	single-	-	Sin-	A place for election administrators to	If the element is invalid or not present, then
tion_no		tional	gle	post last minute and emergency noti-	the implementation is required to ignore it.
	electio	n-		fications pertaining to the election.	
	notice				
elec-		n yOp RI		Specifies web address the administra-	If the field is invalid or not present, then
tions_u		tional	_	tion's website.	the implementation is required to ignore it.
reg-	xs:a		Sin-	Specifies web address for information	If the field is invalid or not present, then
istra-		tional	gle	on registering to vote.	the implementation is required to ignore it.
tion_uri					
rules_u	ixs:aı			Specifies a URI for the election rules	If the field is invalid or not present, then
		tional	gle	and laws (if any) for the jurisdiction	the implementation is required to ignore it.
				of the administration.	
what_is	Ø115 <u>173</u> 1y			Specifies web address for information	If the field is invalid or not present, then
		tional	_	on what is on an individual's ballot.	the implementation is required to ignore it.
where_	lo <u>x.</u> si_:voo	te <u>O</u> upriï	Sin-	The Specifies web address for infor-	If the field is invalid or not present, then
		tional	gle	mation on where an individual votes	the implementation is required to ignore it.
				based on their address.	

department

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	dpeats	s?	<u>-</u>
con-	single-	Op-	Sin-	Contact and physical address informa-	If the element is invalid or not
tact_inform	na cison	tional	gle	tion for the election administration body	present, then the implementa-
	contact-			(see single-csv-contact-information).	tion is required to ignore it.
	information				
elec-	xs:IDREF	Op-	Sin-	The individual to contact at the election	If the field is invalid or not
tion_officia	l_person_id	tional	gle	administration office. The specified per-	present, then the implementa-
				son should be the election official.	tion is required to ignore it.
voter_servi	cesingle-	Op-	Re-	The types of services and appropriate	If the element is invalid or not
	csv-voter-	tional	peats	contact individual available to voters.	present, then the implementa-
	service				tion is required to ignore it.

```
id,election_official_person_id,election_administration_id
dep01,per50002,ea123
dep02,per50002,ea345
dep03,per50002,ea625
dep04,per50002,ea625
```

voter service

Tag	Data Type	Re-	Re-	Description	Error Handling
		quire	peats?	?	-
con-	single-csv-	Op-	Sin-	The contact for a particular	If the element is invalid or not
tact_informa	ti co ntact-	tional	gle	voter service.	present, then the implementation is
	information				required to ignore it.
descrip-	xs:string	Op-	Sin-	Long description of the services	If the element is invalid or not
tion		tional	gle	available.	present, then the implementation is
					required to ignore it.
elec-	xs:IDREF	Op-	Sin-	The authority for a particular	If the field is invalid or not present,
tion_official	_person_id	tional	gle	voter service.	then the implementation is re-
					quired to ignore it.
type	voter_service	tQp-	Sin-	The type of <i>voter service</i> .	If the field is invalid or not present,
		tional	gle		then the implementation is re-
					quired to ignore it.
other_type	xs:string	Op-	Sin-	If Type is "other", OtherType al-	If the field is invalid or not present,
		tional	gle	lows for cataloging another type	then the implementation is re-
				of voter service.	quired to ignore it.

```
id, description, election_official_person_id, type, other_type, department_id
vs01, A service we provide, per50002, other, overseas-voting, dep01
vs00, Elections notifications, per50002, other, voter-registration, dep02
vs02, Pencil sharpening, per50002, other, office-help, dep03
vs03, Guided hike to polling place, per50002, other, polling-places, dep03
vs04, Bike messenger ballot delivery, per50002, other, absentee-ballots, dep03
```

contact_information

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *election_administration*, *office*, *person*, *source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag	Data		Re-	Description	Error Handling
	Type	quire	dpeats	s?	
ad-	xs:s	t 0p ng	Re-	The "location" portion of a mailing address. See usage note.	If the field is in-
dress	line	tional	peats		valid or not present,
			•		then the implementa-
					tion is required to ig-
					nore it.
di-	vc•c	t Op ng	Sin_	Specifies further instructions for locating this entity.	If the element is in-
rec-	A5.5	tional		specifies further instructions for focating this entity.	valid or not present,
tions		tionai	gie		then the implementa-
uons					-
					tion is required to ig-
• •		. 01	n	A '1 11 C d	nore it.
email	XS:S	ե 0ր ոց		An email address for the contact.	If the field is in-
		tional	peats		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
fax	xs:s	t 0p ng	Re-	A fax line for the contact.	If the field is in-
		tional	peats		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
hours	xs:s	t 0p ng	Sin-	Contains the hours (in local time) that the location is open	If the element is in-
		tional		(NB: this element is deprecated in favor of the more struc-	valid or not present,
			0	tured :ref: 'single-csv-hours-open' element. It is strongly en-	then the implementa-
				couraged that data providers move toward contributing hours	tion is required to ig-
				in this format).	nore it.
hours	_øpenI	ı addıki	Sin-	References an <i>hours_open</i> element, which lists the hours of	If the field is in-
Hours		tional		operation for a location.	valid or not present,
		tionai	gie	operation for a location.	then the implementa-
					-
					tion is required to ig-
1.4.1.	1 .	0	0	C 1C 4 - 1 - 4 - 1 11 2 - 1 C 4 - 1 42	nore it.
lat_ic	ngingle		Sin-	Specifies the latitude and longitude of this entity.	If the element is in-
	csv-	tional	gle		valid or not present,
	lat-				then the implementa-
	lng				tion is required to ig-
					nore it.
name	xs:s	t 0p ng		The name of the location or contact. See usage note.	If the field is in-
		tional	gle		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
phone	exs:s	t 0p n	Re-	A phone number for the contact.	If the field is in-
-		tional	peats	•	valid or not present,
			•		then the implementa-
					tion is required to ig-
					nore it.
uri	xs.a	n Qp R	Re-	An informational URI for the contact or location.	If the field is in-
W11	250.0		peats		valid or not present,
		Honai	pears		then the implementa-
					tion is required to ig-
					nore it.

```
id,address_line_1,address_line_2,address_line_3,directions,email,fax,hours_hours_
open_id,latitude,longitude,latlng_source,name,phone,uri,parent_id
ci0827,The White House,1600 Pennsylvania Ave,,,josh@example.com,,Early to very late,,
o,,,Josh Lyman,555-111-2222,http://lemonlyman.example.com,off001
ci0828,The White House,1600 Pennsylvania Ave,,,josh@example.com,,Early to very late,,
o,,,Josh Lyman,555-111-2222,http://lemonlyman.example.com,vs01
```

election_notice

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d peats	?	
elec-	xs:s	: Re ng	Sin-	The last minute or emergency noti-	If the element is invalid, then the im-
tion_noti	notice_text quired gle		d gle	fication text should be placed here.	plementation is required to ignore the
					ElectionNotice element containing it.
elec-	xs:s	.1Ор -19	Sin-	Optional URL for additional infor-	If the field is invalid or not present, then the
tion_noti	ce_uri	uri tional gle		mation related to the last minute or	implementation is required to ignore it.
				emergency notification.	

voter_service

Tag	Data Type	Re-	Re-	Description	Error Handling
		quire	d?peats	?	
con-	single-csv-	Op-	Sin-	The contact for a particular	If the element is invalid or not
tact_informa	ti co ntact-	tional	gle	voter service.	present, then the implementation is
	information				required to ignore it.
descrip-	xs:string	Op-	Sin-	Long description of the services	If the element is invalid or not
tion		tional	gle	available.	present, then the implementation is
					required to ignore it.
elec-	xs:IDREF	Op-	Sin-	The authority for a particular	If the field is invalid or not present,
tion_official	_person_id	tional	gle	voter service.	then the implementation is re-
					quired to ignore it.
type	voter_service	_tQpr-	Sin-	The type of <i>voter service</i> .	If the field is invalid or not present,
		tional	gle		then the implementation is re-
					quired to ignore it.
other_type	xs:string	Op-	Sin-	If Type is "other", OtherType al-	If the field is invalid or not present,
		tional	gle	lows for cataloging another type	then the implementation is re-
				of voter service.	quired to ignore it.

```
id, description, election_official_person_id, type, other_type, department_id
vs01, A service we provide, per50002, other, overseas-voting, dep01
vs00, Elections notifications, per50002, other, voter-registration, dep02
vs02, Pencil sharpening, per50002, other, office-help, dep03
vs03, Guided hike to polling place, per50002, other, polling-places, dep03
```

vs04, Bike messenger ballot delivery, per50002, other, absentee-ballots, dep03

election notice

Tag	Data	Re-	Re-	Description	Error Handling	
	Type	quire	dpeats	?		
elec-	xs:st	: Re ng	Sin-	The last minute or emergency noti-	If the element is invalid, then the im-	
tion_noti	tion_notice_text quired gle		d gle	fication text should be placed here.	plementation is required to ignore the	
					ElectionNotice element containing it.	
elec-	xs:st	.101р эд	Sin-	Optional URL for additional infor-	If the field is invalid or not present, then the	
tion_noti	ce_uri	tional	gle	mation related to the last minute or	implementation is required to ignore it.	
				emergency notification.		

electoral_district

The ElectoralDistrict object represents the geographic area in which contests are held. Examples of ElectoralDistrict include: "the state of Maryland", "Virginia's 5th Congressional District", or "Union School District". The geographic area that comprises a ElectoralDistrict is defined by which precincts link to the ElectoralDistrict.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	døeats	?	
ex-	ex-	Op-	Sin-	Other identifiers that link to external datasets (e.g.	If the element is invalid or
ter-	ter-	tional	gle	OCD-IDs)	not present, then the imple-
nal_id	lentif <u>ie</u> r	kentifie	rs		mentation is required to ig-
					nore it.
name	xs:s	t Rė n¢	Sin-	Specifies the electoral area's name.	If the field is invalid or not
		quire	dgle		present, then the implemen-
					tation is required to ignore
					the ElectoralDistrict
					object containing it.
num-	xs:i	n Op ge	e 1Sin-	Specifies the district number of the district (e.g. 34, in	If the field is invalid or not
ber		tional	gle	the case of the 34th State Senate District). If a number	present, then the implemen-
				is not applicable, instead of leaving the field blank,	tation is required to ignore it.
				leave this field out of the object; empty strings are not	
				valid for xs:integer fields.	
type	dis-	Re-	Sin-	Specifies the type of electoral area.	If the field is invalid or not
	trict_i	y g aire	dgle		present, then the implemen-
					tation is required to ignore
					the ElectoralDistrict
					object containing it.
other_	typae: s	t 0p n	Sin-	Allows for cataloging a new <i>district_type</i> option when	If the field is invalid or not
		tional	gle	Type is specified as "other".	present, then the implemen-
					tation is required to ignore it.

ed001,ocd-id,,ocd-division/country:us/state:ny/borough:brooklyn,Brooklyn,1,borough,
ed002,other,community-board,4,CB 4,2,other,community-board

external file

The ExternalFile object holds a reference to a file external to the feed itself. External files are packaged along with the VIP feed into a single, archived file.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired	?peats	?	
file_uri	xs:an	y R r∃	Sin-	The URI of the external	If the field is invalid, then the implementation is
		quired gle		file.	required to ignore the ExternalFile element
					containing it.
check-	xs:ID	r re -	Sin-	The cryptographic check-	If the element is invalid, then the implementation
sum_id		quired gle		sum of the referenced ex-	is required to ignore the ExternalFile element
				ternal file.	containing it.

```
id, file_uri, checksum_id
ef1, precinct_shapes.zip, ch1
```

checksum

The Checksum object contains information about a cryptographic checksum, including the raw checksum value and the cryptographic hash algorithm used to compute it.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d peats	?	
al-	check-	Re-	Sin-	The cryptographic hash algorithm	If the field is invalid, then the im-
go-	sum_algo	<i>ri</i> quired gle		used to compute the checksum value.	plementation is required to ignore the
rithm					Checksum element containing it.
value	xs:str	in R ge-	Sin-	The raw cryptographic checksum	If the field is invalid, then the im-
		quired gle		value encoded as a non-delimited,	plementation is required to ignore the
				lowercase hexadecimal string.	Checksum element containing it.

```
id,algorithm,value ch1,sha-256,65b634c5037f8a344616020d8060d233daa37b0f032a71d0d15ad7a5d3afa68e
```

external_geospatial_feature

The ExternalGeospatialFeature object contains a reference to a geospatial feature (one or more shapes) contained in a separate file external to the VIP feed.

Tag	Data	Re-	Re-	Description	Error Handling	
	Туре	quire	dpeats	3?		
ex-	xs:I	DIREF	Sin-	Links to the <i>external_file</i> containing the geospatial shape(s)	If the field is in-	
ter-		quire	e d gle	that define the feature's boundary.	valid, then the	
nal_f	le_id				implementation is	
					required to ignore the	
					ExternalGeospatia	alFeature
					element containing it.	
file_f	ognatpa	≀-Re-	Sin-	The format of the geospatial file.	If the field is in-	
	tial_fo	<i>m</i> quire	ed gle		valid, then the	
					implementation is	
					required to ignore the	
					ExternalGeospatia	alFeature
					element containing it.	
fea-	single-	Re-	Re-	Identifiers indicating which specific shape(s) to use from the	If the element is	
ture_	id esn tifie	r quire	d peats	geospatial file. These refer to identifiers within the refer-	invalid, then the	
	feature	-		enced external file. This is a repeated field in the XML	implementation is	
	identif	ìer		specification, but a scalar field in the CSV specification. If	required to ignore the	
				more than one identifier is required with the CSV specifia-	ExternalGeospatia	alFeature
				tion, multiple values can be provided by delimited by space.	element containing it.	

id,external_file_id,file_format,shape_identifiers
egf1,ef1,shp,0 7 9

feature_identifier

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quired?	peats?		
in-	xs:int	Op-	Single	The index value for the	If the field is invalid or not present, then the imple-
dex		tional		shapefile feature.	mentation is required to ignore it.

external identifier

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeats	s?	_
type	ident	i fRic er	_ Simp e	Specifies the type of identifier. Must be one of	If the field is invalid or not
		quire	dgle	the valid types as defined by <i>identifier_type</i> .	present, the implementa-
					tion is required to ignore the
					ElectionIdentifier con-
					taining it.
other	_txpe st:	r Op g	Sin-	Allows for cataloging an	If the field is invalid or not present,
		tiona	l gle	ExternalIdentifier type that falls	then the implementation is re-
				outside the options listed in identifier_type.	quired to ignore it.
				Type should be set to "other" when using this	
				field.	
value	xs:st:	r Re g	Sin-	Specifies the identifier.	If the field is invalid or not
		quire	d gle		present, the implementa-
					tion is required to ignore the
					ElectionIdentifier con-
					taining it.

external_identifiers

The ExternalIdentifiers element allows VIP data to connect with external datasets (e.g. candidates with campaign finance datasets, electoral geographies with OCD-IDs that allow for greater connectivity with additional datasets, etc...). Examples for ExternalIdentifiers can be found on the objects that support them:

- candidate
- Any element that extends single-csv-contest-base
- electoral_district
- *locality*
- office
- party
- precinct
- state

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeats	s?	
ex-	ex-	Re-	Re-	Defines the identifier and	At least one valid ExternalIdentifier must be present
ter-	ter-	quire	d peats	the type of identifier it	for ExternalIdentifiers to be valid. If no valid
nal_id	lentif <u>ie</u> ir	lentifie	r	is (see 'ExternalIdenti-	ExternalIdentifier is present, the implementation is
				fier'_ for complete infor-	required to ignore the ExternalIdentifiers ele-
				mation).	ment.

feature_identifier

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quired?	peats?		
in-	xs:int	Op-	Single	The index value for the	If the field is invalid or not present, then the imple-
dex		tional		shapefile feature.	mentation is required to ignore it.

hours

The open and close time for this place. All times must be fully specified, including a timezone offset from UTC.

Tag	Data Type	Re-	Re-	Description	Error Handling
		quired?	peats?		
start_ti	mæingle-csv-	Op-	Sin-	The time at which	If the element is invalid or not present, then the
	time-with-	tional	gle	this place opens.	implementation is required to ignore it.
	zone				
end_tir	nesingle-csv-	Op-	Sin-	The time at which	If the element is invalid or not present, then the
	time-with-	tional	gle	this place closes.	implementation is required to ignore it.
	zone				

time_with_zone

A string pattern restricting the value to a time with an included offset from UTC. The pattern is

```
(([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9]|(24:00:00))(z|[+-]((0[0-9]|1[0-3]):[0-5][0-9]|14=0)
```

```
<HoursOpen id="hours0001">
    <Schedule>
2
      <Hours>
3
       <StartTime>06:00:00-05:00
       <EndTime>12:00:00-05:00
      </Hours>
6
      <Hours>
       <StartTime>13:00:00-05:00
       <EndTime>19:00:00-05:00
      </Hours>
      <StartDate>2013-11-05
11
      <EndDate>2013-11-05
12
    </Schedule>
13
  </HoursOpen>
```

hours_open

A structured way of describing the days and hours that a place such as a *office* or *polling_location* is open, or that an event such as an *election* is happening. The range of days indicated by the *StartDate* and *EndDate* in each 'Schedule'_ element should not overlap with peer 'Schedule'_ elements. For example, it is invalid to specify a schedule from 10/01/2016 to 10/31/2016 and also specify a schedule from 10/10/2016 to 10/11/2016 within the same *HoursOpen* element.

Tag	Data	Re-	Re-	Description	Error Handling			
	Type	quired@eats?		\$?				
sched	l- single-	Re-	Re-	Defines a block of	At least one valid 'Schedule' must be present for			
ule	csv-	quire	d peats	days and hours that	HoursOpen to be valid. If no valid 'Schedule'_ is present,			
	schedule	a place will be open.		a place will be open.	the implementation is required to ignore the HoursOpen el-			
					ement.			

schedule

A sub-portion of the schedule. This describes a range of days, along with one or more set of open and close times for those days, as well as the options describing whether or not appointments are necessary or possible.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeats	3?	
hours	single-	Op-	Re-	Blocks of hours in the date range in which the place	If the element is invalid or
	csv-	tional	peats	is open.	not present, then the im-
	hours				plementation is required to
					ignore it.
is_only_b	y <u>x</u> appo	in Ope a	tıSin-	If true, the place is only open during the specified	If the field is invalid or
		tional	gle	time window with an appointment.	not present, then the im-
					plementation is required to
					ignore it.
is_or_by_	_axppoilnt			If true, the place is open during the hours specified	If the field is invalid or
		tional	gle	time window and may also be open with an appoint-	not present, then the im-
				ment.	plementation is required to
					ignore it.
is_subjec	t_xtos_xcha			If true, the place should be open during the specified	If the field is invalid or
		tional	gle	time window, but may be subject to change. People	not present, then the im-
				should contact prior to arrival to confirm hours are	plementation is required to
				still accurate.	ignore it.
start_date	xs:da	- 1	Sin-	The date at which this collection of start and end	If the field is invalid or
		tional	gle	times and options begin.	not present, then the im-
					plementation is required to
					ignore it.
end_date	xs:da		Sin-	The date at which this collection of start and end	If the field is invalid or
		tional	gle	times and options end.	not present, then the im-
					plementation is required to
					ignore it.

```
id, start_time, end_time, is_only_by_appointment, is_or_by_appointment, is_subject_to_

change, start_date, end_date, hours_open_id

sch001,07:00:00-06:00,22:00:00-06:00, true,,2016-10-10,2016-10-12, ho001

sch002,09:00:00-06:00,20:00:00-06:00, true,,,2016-10-13,2016-10-15, ho001

sch003,08:00:00-06:00,14:00:00-06:00,, true,2016-10-10,2016-10-15, ho002
```

hours

The open and close time for this place. All times must be fully specified, including a timezone offset from UTC.

Tag	Data Type	Re-	Re-	Description	Error Handling
		quired?	peats?		
start_ti	mæingle-csv-	Op-	Sin-	The time at which	If the element is invalid or not present, then the
	time-with-	tional	gle	this place opens.	implementation is required to ignore it.
	zone				
end_tir	nesingle-csv-	Op-	Sin-	The time at which	If the element is invalid or not present, then the
	time-with-	tional	gle	this place closes.	implementation is required to ignore it.
	zone				

time_with_zone

A string pattern restricting the value to a time with an included offset from UTC. The pattern is

(([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9]|(24:00:00))(z|[+-]((0[0-9]|1[0-3]):[0-5][0-9]|14=0)

```
<HoursOpen id="hours0001">
    <Schedule>
2
      <Hours>
3
        <StartTime>06:00:00-05:00
4
        <EndTime>12:00:00-05:00
      </Hours>
      <Hours>
        <StartTime>13:00:00-05:00</StartTime>
        <EndTime>19:00:00-05:00
10
      <StartDate>2013-11-05
11
      <EndDate>2013-11-05</EndDate>
12
    </Schedule>
13
  </HoursOpen>
```

html_color_string

A restricted string pattern for a six-character hex code representing an HTML color string. The pattern is:

```
[0-9a-f]{6}
```

internationalized text

InternationalizedText allows for support of multiple languages for a string. InternationalizedText has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID). Examples of InternationalizedText can be seen in: * Any element that extends single-csv-contest-base * Any element that extends single-csv-ballot-selection-base * candidate * single-csv-contact-information * election * election_administration * office * party * person * polling_location * source NOTE: Internationalized Text is not currently supported for CSV submissions. "

Tag	Data	Re-	Re-	Description	Erro	r Hand	ling							
	Туре	quire	døeat	s?										
text	xs:s	t Re ng	Re-	Contains	Contains the			one	valid	Text	must	be	present	for
		quire	d peats	translations of	translations of a			ional	izedT	ext to	be val	id.	If no	valid
				particular st	particular string			resent,	the in	plement	ation is	requi	ired to i	ignore
				of text.	-			atio	nalize	dText 6	element.			

language_string

LanguageString extends xs:string and can contain text from any language. LanguageString has one required attribute, language, that must contain the 2-character language code for the type of language LanguageString contains.

lat_long

The latitude and longitude of a polling location in 'WGS 84'_ format. Both latitude and longitude values are measured in decimal degrees.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dpeats	s?	
lati-	xs:do	ou Re ⊦e	Sin-	The latitude of the polling location.	If the field is invalid, then the
tude		quire	d gle		implementation is required to
					ignore it.
lon-	xs:do	ou Re ⊦e	Sin-	The longitude of the polling location.	If the field is invalid, then the
gi-		quire	d gle		implementation is required to
tude					ignore it.
latlng_	someces t	:101p +g	Sin-	The system used to perform the lookup from lo-	If the field is invalid or not
		tional	gle	cation name to lat/lng. For example, this could	present, then the implementa-
				be the name of a geocoding service.	tion is required to ignore it.

locality

The Locality object represents the jurisdiction below the *state* (e.g. county).

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeats	s?	
elec-	xs:I	D O PEF	Sin-	Links to the locality's elec-	If the field is invalid or not present,
tion_a	dminist	rationa <u>.</u>	Ligele	tion_administration object.	then the implementation is required to
					ignore it.
ex-	ex-	Op-	Sin-	Another identifier for a locality that links to	If the element is invalid or not
ter-	ter-	tional		another dataset (e.g. 'OCD-ID'_)	present, then the implementation is
	entif <u>le</u> r				required to ignore it.
is_mai	l_xonly	о 00 р1- е	a S in-	Determines if the locality runs mail-only	If the field is missing or invalid, the
		tional	gle	elections. If this is true, then all precincts a	implementation is required to assume
				part of the locality will also run mail-only	IsMailOnly is false.
				elections. Drop boxes may be used in ad-	
				dition to this flag using a polling location	
				record configured as a Drop Box.	
name	xs:	t Re -n	gSin-	Specifies the name of a locality.	If the field is invalid, then the im-
		quire	dgle		plementation is required to ignore the
					Locality element containing it.
polling	_kocat			Specifies a link to a set of the locality's	If the field is invalid or not present,
		tional	gle	:ref:'polling locations <single-csv-polling-< td=""><td>the implementation is required to ig-</td></single-csv-polling-<>	the implementation is required to ig-
				location>'s. If early vote centers or ballot	nore it. However, the implementation
				drop locations are locality-wide, they should	should still check to see if there are
				be specified here.	any polling locations associated with
					this locality's state.
state_i	dxs:I		Sin-	References the locality's <i>state</i> .	If the field is invalid, then the im-
		quire	dgle		plementation is required to ignore the
					Locality element containing it.
type	dis-	Op-	Sin-	Defines the kind of locality (e.g. county,	If the field is invalid or not present,
	trict_	<i>ty</i> ponal	gle	town, et al.), which is one of the various <i>Dis</i> -	then the implementation is required to
				trictType enumerations.	ignore it.
other_	type:s	t Op -n	g Sin-	Allows for defining a type of locality that	If the field is invalid or not present,
		tional	gle	falls outside the options listed in District-	then the implementation is required to
				Type.	ignore it.

```
id, election_administration_id, external_identifier_type, external_identifier_othertype,

--external_identifier_value, is_mail_only, name, polling_location_ids, state_id, type,

--other_type
loc001, ea123, ocd-id,, ocd-division/country:us/state:co/county:denver, true, Locality #1,

--poll001 poll002, st51, city,
loc002, ea345,,,,, Locality #2,, st51, other, unique type
```

office

Office represents the office associated with a contest or district (e.g. Alderman, Mayor, School Board, et al).

Tag	Data	Re-	Re-	Description	Error Handling	
	Type	quire	dßeats	3?	-	
con-	xs:II	RODP-	Re-	Links to the single-csv-contact-	If the element is invalid or not present,	
tact_inforr	nation_i	d tional	peats	information element associated with	then the implementation is required to	
				the office.	ignore it.	
descrip-	xs:st	г Ор нд	Sin-	A brief description of the office and its	If the element is invalid or not present,	
tion		tional	gle	purpose.	then the implementation is required to	
					ignore it.	
elec-	xs:II	r re -	Sin-	Links to the <i>electoral_district</i> element	If the field is invalid or not present,	
toral_distr	ict_id	quire	dgle	associated with the office.	the implementation is required to ig-	
					nore the Office element containing	
					it.	
exter-	xs:II	RODP-	Sin-	Other identifiers that link this office to	If the element is invalid or not present,	
nal_identif	iers	tional	gle	other related datasets (e.g. campaign	then the implementation is required to	
				finance systems, OCD IDs, et al.).	ignore it.	
fil-	xs:da	ıt @ p-	Sin-	Specifies the date and time when a	If the field is invalid or not present,	
ing_deadli	ne	tional	gle	candidate must have filed for the con-	then the implementation is required to	
				test for the office.	ignore it.	
is_partisan	xs:bo	o Ope ar	Sin-	Indicates whether the office is parti-	If the field is invalid or not present,	
		tional	gle	san.	then the implementation is required to	
					ignore it.	
name	xs:st	r Re rg	Sin-	The name of the office.	If the field is invalid or not present,	
		quire	dgle		the implementation is required to ig-	
					nore the Office element containing	
					it.	
of-	xs:II		Sin-	Links to the <i>person</i> element(s) that	If the field is invalid or not present,	
fice_holde	r_person	_ tids nal	gle	hold additional information about the	then the implementation is required to	
				current office holder(s).	ignore it.	
term	single-	Op-	Sin-	Defines the term the office can be held.	If the element is invalid or not present,	
	csv-	tional	gle		then the implementation is required to	
	term				ignore it.	

```
id, electoral_district_id, external_identifier_type, external_identifier_othertype,

→ external_identifier_value, filing_deadline, is_partisan, name, office_holder_person_ids,

→ term_type, term_start_date, term_end_date

off001, ed001, , , , , true, Deputy Chief of Staff, per50003, full-term, 2002-01-21,

off002, ed001, , , , , true, Deputy Deputy Chief of Staff, per50001, unexpired-term, 2002-01-

→ 21,

off003, ed001, , , , , false, General Secretary of Secretaries, per50004, full-term, 2002-01-

→ 21,
```

term

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired	1?peats	?	
term_ty	peof-	Op-	Sin-	Specifies the type of office	If the field is invalid or not present, the imple-
	fice_tern	ı <u>ti</u> ynal	gle	term (see office_term_type for	mentation is required to ignore the Office el-
				valid values).	ement containing it.
term_sta	urt <u>x</u> datdat	еОр-	Sin-	Specifies the start date for the	If the field is invalid or not present, then the
		tional	gle	current term of the office.	implementation is required to ignore it.
term_en	d <u>x</u> datedat	еОр-	Sin-	Specifies the end date for the	If the field is invalid or not present, then the
		tional	gle	current term of the office.	implementation is required to ignore it.

contact_information

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *election_administration*, *office*, *person*, *source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag	Data		Re-	Description	Error Handling
	Type	quire	dpeats	s?	
ad-	xs:s	t 0p ng	Re-	The "location" portion of a mailing address. See usage note.	If the field is in-
dress	line	tional	peats		valid or not present,
			•		then the implementa-
					tion is required to ig-
					nore it.
di-	vc•c	t Op ng	Sin_	Specifies further instructions for locating this entity.	If the element is in-
rec-	A5.5	tional		specifies further instructions for focating this entity.	valid or not present,
tions		tionai	gie		then the implementa-
uons					-
					tion is required to ig-
• •		. 01	n	A '1 11 C d	nore it.
email	XS:S	ե 0ր ոց		An email address for the contact.	If the field is in-
		tional	peats		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
fax	xs:s	t 0p ng	Re-	A fax line for the contact.	If the field is in-
		tional	peats		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
hours	xs:s	t 0p ng	Sin-	Contains the hours (in local time) that the location is open	If the element is in-
		tional		(NB: this element is deprecated in favor of the more struc-	valid or not present,
			0	tured :ref: 'single-csv-hours-open' element. It is strongly en-	then the implementa-
				couraged that data providers move toward contributing hours	tion is required to ig-
				in this format).	nore it.
hours	_øpenI	ı addıki	Sin-	References an <i>hours_open</i> element, which lists the hours of	If the field is in-
Hours		tional		operation for a location.	valid or not present,
		tionai	gie	operation for a location.	then the implementa-
					-
					tion is required to ig-
1.4.1.	1 .	0	0	C 1C 4 - 1 - 4 - 1 11 2 - 1 C 4 - 1 42	nore it.
lat_ic	ngingle		Sin-	Specifies the latitude and longitude of this entity.	If the element is in-
	csv-	tional	gle		valid or not present,
	lat-				then the implementa-
	lng				tion is required to ig-
					nore it.
name	xs:s	t 0p ng		The name of the location or contact. See usage note.	If the field is in-
		tional	gle		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
phone	exs:s	t 0p n	Re-	A phone number for the contact.	If the field is in-
-		tional	peats	•	valid or not present,
			•		then the implementa-
					tion is required to ig-
					nore it.
uri	xs.a	n Qp R	Re-	An informational URI for the contact or location.	If the field is in-
W11	250.0		peats		valid or not present,
		Honai	pears		then the implementa-
					tion is required to ig-
					nore it.

```
id,address_line_1,address_line_2,address_line_3,directions,email,fax,hours,hours_
open_id,latitude,longitude,latlng_source,name,phone,uri,parent_id
ci0827,The White House,1600 Pennsylvania Ave,,,josh@example.com,,Early to very late,,
o,,,Josh Lyman,555-111-2222,http://lemonlyman.example.com,off001
ci0828,The White House,1600 Pennsylvania Ave,,,josh@example.com,,Early to very late,,
o,,,Josh Lyman,555-111-2222,http://lemonlyman.example.com,vs01
```

ordered contest

OrderedContest encapsulates links to the information that comprises a contest and potential ballot selections. OrderedContest elements can be collected within a *ballot_style* to accurate depict exactly what will show up on a particular ballot in the proper order.

Tag	Data	Re-	Re-	Desc	ription	Error Handling
	Type quired@eats?					
con-	xs:	D Re F	Sin-	Links	to	If the field is invalid or not present, the implementation is required to
test_id		quire	d gle	gle elements		ignore the OrderedContest element containing it.
				that extend		
				single	-csv-	
				conte	st-base.	
or-	IDRE	ΣF Ø p-	Sin-	Links	to	If the field is invalid or not present, the implementation is required
dered_b	allot_s	elicotia	n_gildes	eleme	nts	to ignore it. If an OrderedBallotSelectionIds element is
				that	extend	not present, the presumed order of the selection will be the order
				single	-	of single-csv-ballot-selection-base-extended elements referenced by
				csv-b	allot-	the underlying single-csv-contest-base-extended elements.
				select	ion-	
				base.		

```
id,contest_id,ordered_ballot_selection_ids
oc2025,con001,bs001 bs002 bs003
oc3000,con002,bs001
```

party

This element describes a political party and the metadata associated with them. These can also include "dummy" parties to indicate a type of contest (e.g., a Voter Nominated *candidate_contest* can use the **PrimaryPartyIds** field and a dummy Party object to indicate that the contest is a "Top-Two" primary).

	Re-	Re-	Description	Error Handling
Type	quire	døeats	s?	
ab- xs:st	r :Op g	Sin-	An abbreviation for the party name.	If the field is invalid
bre-	tional	gle		or not present, then
via-				the implementation
tion				is required to ignore
				it.
color single-	Op-	Sin-	The preferred display color for the party, for use in maps and	If the element is in-
csv-	tional	gle	other displays.	valid or not present,
html-				then the implemen-
color-				tation is required to
string				ignore it.
ex- exter-	Op-	Sin-	Other identifiers that link this party to other related data sets	If the element is in-
ter- nal_ide	<i>nttfio</i> mal	gle	(e.g. a campaign finance system, etc).	valid or not present,
nal_identifiers				then the implemen-
				tation is required to
				ignore it.
is_writex_in: bo	o Oepe n	Sin-	Signals if this political party is one that is officially recog-	If the field is invalid
	tional	gle	nized by a local, state, or federal organization, or is a "write-	or not present, then
			in" in jurisdictions which allow candidates to free-form enter	the implementation
			their political affiliation. If this field is not present then it is	is required to ignore
			assumed to be false.	it.
leader_pærsoīnD	Rd O ps	Sin-	A reference of <i>person</i> elements which are leaders of the	If the field is invalid
	tional	gle	Party.	or not present, then
				the implementation
				is required to ignore
				it.
logo_urks:an	y (O PpE	Sin-	Web address of a logo to use in displays.	If the field is invalid
	tional	gle		or not present, then
				the implementation
				is required to ignore
				it.
name xs:st	EqOi:	Sin-	The name of the party.	If the element is in-
	tional	gle		valid or not present,
				then the implemen-
				tation is required to
				ignore it.

```
id,abbreviation,color,external_identifier_type,external_identifier_othertype,

→external_identifier_value,is_write_in,leader_person_ids,logo_uri,name

par01,REP,ff0000,,,,true,,http://example.com/elephant.png,Republican

par02,DEM,0000ff,,,,false,per01,http://example.com/donkey.png,Democrat

par03,GRN,efefef,,,,,http://example.com/tree.png,Green

par04,WFP,ee99aa,,,,,http://example.com/worker.png,Working Families Party
```

html_color_string

A restricted string pattern for a six-character hex code representing an HTML color string. The pattern is:

```
[0-9a-f]{6}
```

party contest

An extension of single-csv-contest-base which describes a contest in which the possible ballot selections are of type *party_selection*. These could include contests in which straight-party selections are allowed, or party-list contests (although these are more common outside of the United States).

contest base

A base model for all Contest types: *ballot_measure_contest*, *candidate_contest*, *party_contest*, and *retention_contest* (NB: the latter because it extends *ballot_measure_contest*).

Tag	Data	Re-	Re-	Description	Error Handling
ab-	Type xs:st	. 1 Ор ъд		An abbreviation for the contest.	If the field is
bre- via-		tional	i gie		invalid or not present, then the
tion			~.		implementation should ignore it.
bal- lot_se	xs:II lection_			References a set of BallotSelections, which could be of any selection type that extends single-csv-ballot-selection-base.	If the field is invalid or not
					present, then the implementation
bal-	xs:st	பிரை	Sin-	Subtitle of the contest as it appears on the ballot.	should ignore it. If the element
	b_title	tional		Subtitie of the contest as it appears on the band.	is invalid or not present, then the
					implementation
			a:		should ignore it.
bal- lot_tit	xs:st le	tional		Title of the contest as it appears on the ballot.	If the element is invalid or not
			8-3		present, then the
					implementation
elec-	xs:II	rre-	Sin-	References an <i>electoral_district</i> element that represents the ge-	should ignore it. If the field is
toral_	district_	idquire	d gle	ographical scope of the contest.	invalid, then
					the implementa- tion is required
					to ignore the
					ContestBase
					element containing it.
elec-	xs:st	. 1 Ор нд	Sin-	Specifies any changes to the eligible electorate for this contest	If the element
torate	_specific	ca tion al	l gle	past the usual, "all registered voters" electorate. This subtag	is invalid or not
				will most often be used for primaries and local elections. In primaries, voters may have to be registered as a specific party	present, then the implementation
				to vote, or there may be special rules for which ballot a voter	should ignore it.
			G.	can pull. In some local elections, non-citizens can vote.	TC (1 1
ex- ter-	xs:st	n Op ng tional		Other identifiers for a contest that links to another source of information.	is invalid or not
	lentifiers		gie		present, then the
					implementation
has r	otation o	∩ı∌ -a	n Sin-	Indicates whether the selections in the contest are rotated.	should ignore it. If the field is
1145_1		tional			invalid or not
					present, then the
					implementation should ignore it.
name	xs:st	. :Re- g	Sin-	Name of the contest, not necessarily how it appears on the ballot	If the field is
		quire	d gle	(NB: BallotTitle should be used for this purpose).	invalid, then
					the implementa- tion is required
					to ignore the
					ContestBase
					element containing it.
se-	xs:ir	ıt Qp ye	r Sin-	Order in which the contests are listed on the ballot. This is the	If the field is
3quen Q	SVBP	Qifi Ga	tigg	default ordering, and can be overrides by data in a <i>ballot_style</i>	invalid or n169
				element.	present, then the implementation
					should ignore it.

party_selection

This element extends single-csv-ballot-selection-base to support contests in which the selections can be groups of one or more parties.

Tag	Data	Re-	Re-	Description	Error Handling		
	Type	quired	d?peats	?			
party	_ixls:II	r re -s	RRE-S Sin- One or more party I		If one or more parties referenced are invalid or no		
		quire	quired gle which collectively repr		present, the implementation is required to ignore the		
				a ballot selection.	PartySelection containing it.		

```
id, sequence_order, party_ids
ps001,1,par01 par04
ps002,2,par02
ps003,3,par03
```

ballot_selection_base

A base model for all ballot selection types: ballot_measure_selection, candiate_selection, and party_selection.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeat	s?	
se-	xs:i	nt Op ge	rSin-	The order in which a selection can be listed on the	If the field is invalid or
quence	_order	tiona	l gle	ballot or in results. This is the default ordering, and	not present, then the im-
				can be overridden by OrderedBallotSlectionIds in or-	plementation is required to
				dered_contest.	ignore it.

person

Person defines information about a person. The person may be a candidate, election administrator, or elected official. These elements reference Person:

- candidate
- election_administration
- office

Tag	Data Type	Re-	Re- døeats	Description s?	Error Handling
con- tact_inf	xs:II	POpF	Re-	Refers to the associated single-csv-contact-information.	If the element is invalid or not present,
					then the implementa- tion is required to ig- nore it.
date_of	_bisth da	а Юр - tional	Sin- gle	Represents the individual's date of birth.	If the field is invalid or not present, then the implementation is re- quired to ignore it.
exter- nal_ide		Op- tional entifier	_	Identifiers for this person.	If the element is invalid or not present, then the implementation is required to ignore it.
first_na	mæs:st	tional		Represents an individual's first name.	If the field is invalid or not present, then the implementation is re- quired to ignore it.
full_naı	nexs∶st	tional		Specifies a person's full name (NB : this information is <i>internationalized_text</i> because it sometimes appears on ballots in multiple languages).	If the element is invalid or not present, then the implementation is required to ignore it.
gen- der	xs:st	tional		Specifies a person's gender.	If the field is invalid or not present, then the implementation is re- quired to ignore it.
last_naı	nexs∶st	tional		Represents an individual's last name.	If the field is invalid or not present, then the implementation is re- quired to ignore it.
mid- dle_nan		tional	Re- peats	Represents any number of names between an individual's first and last names (e.g. John Ronald Reuel Tolkien).	If the field is invalid or not present, then the implementation is required to ignore it.
nick- name	xs:st	tional		Represents an individual's nickname.	If the field is invalid or not present, then the implementation is re- quired to ignore it.
party_io	l xs:II	D Ю pF tional		Refers to the associated <i>party</i> . This information is intended to be used by feed consumers to help them disambiguate the person's identity, but not to be presented as part of any ballot information. For that see <i>candidate</i> PartyId .	If the field is invalid or not present, then the implementation is re- quired to ignore it.
prefix	xs:st	tional		Specifies a prefix associated with a person (e.g. Dr.).	If the field is invalid or not present, then the implementation is re- quired to ignore it.
pro- fes- sion		tional	gle	Specifies a person's profession (NB : this information is <i>internationalized_text</i> because it sometimes appears on ballots in multiple languages).	If the element is invalid or not present, then the implementation is required to ignore it.
suffix 3.1. CS	xs:st V Spec	: Oprg i ficati	Sin- og _{le}	Specifies a suffix associated with a person (e.g. Jr.).	If the field is invalid or not present, then the implementation is required to ignore it.
title	xs:s	:101p ag	Sin-	A title associated with a person (NB : this information is <i>in</i> -	If the element is in-

```
id, date_of_birth, first_name, gender, last_name, middle_name, nickname, party_id, prefix,

→profession, suffix, title

per50001, 1961-08-04, Barack, male, Obama, Hussein, ,par02, ,President, II, Mr. President

per50002, 1985-11-21, Carly, female, Jepsen, Rae, ,par01, ,Recording Artist,,

per50003, 1926-09-23, John, male, Coltrane, William, Trane, par02, ,Recording Artist, Saint,

per50004, 1926-05-26, Miles, male, Davis, Dewey, ,par01, ,Recording Artist, III,
```

contact information

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *election_administration*, *office*, *person*, *source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag	Data		Re-	Description	Error Handling
	Type	quire	dpeats	s?	
ad-	xs:s	t 0p ng	Re-	The "location" portion of a mailing address. See usage note.	If the field is in-
dress	line	tional	peats		valid or not present,
			1		then the implementa-
					tion is required to ig-
					nore it.
di-	vete	t Op ng	Sin_	Specifies further instructions for locating this entity.	If the element is in-
rec-	A3.3	tional		specifies further instructions for focating this entity.	valid or not present,
tions		tionai	gie		then the implementa-
tions					-
					tion is required to ig-
• •		. 01	n	A '1 11 C d	nore it.
email	xs:s	t 0 թո		An email address for the contact.	If the field is in-
		tional	peats		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
fax	xs:s	t 0p ng	Re-	A fax line for the contact.	If the field is in-
		tional	peats		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
hours	xs:s	t 0p ng	Sin-	Contains the hours (in local time) that the location is open	If the element is in-
		tional		(NB: this element is deprecated in favor of the more struc-	valid or not present,
			0	tured :ref: 'single-csv-hours-open' element. It is strongly en-	then the implementa-
				couraged that data providers move toward contributing hours	tion is required to ig-
				in this format).	nore it.
hours	_øpenI	ı addıki	Sin-	References an <i>hours_open</i> element, which lists the hours of	If the field is in-
Hours		tional		operation for a location.	valid or not present,
		tionai	gic	operation for a location.	then the implementa-
					tion is required to ig-
					nore it.
1a+ 1a	main ala	On	Sin-	Charifica the letitude and longitude of this antity	If the element is in-
rat_rc	ngingle			Specifies the latitude and longitude of this entity.	
	csv-	tional	gle		valid or not present,
	lat-				then the implementa-
	lng				tion is required to ig-
					nore it.
name	xs:s	t 0p ng		The name of the location or contact. See usage note.	If the field is in-
		tional	gle		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
phone	exs:s	t 0p ng	Re-	A phone number for the contact.	If the field is in-
		tional	peats		valid or not present,
			_		then the implementa-
					tion is required to ig-
					nore it.
uri	xs:a	n Qp RI	Re-	An informational URI for the contact or location.	If the field is in-
			peats		valid or not present,
		cionai	Pouts		then the implementa-
					tion is required to ig-
					nore it.
					noie it.

```
id,address_line_1,address_line_2,address_line_3,directions,email,fax,hours_
open_id,latitude,longitude,latlng_source,name,phone,uri,parent_id
ci0827,The White House,1600 Pennsylvania Ave,,,josh@example.com,,Early to very late,,
o,,,Josh Lyman,555-111-2222,http://lemonlyman.example.com,off001
ci0828,The White House,1600 Pennsylvania Ave,,,josh@example.com,,Early to very late,,
o,,,Josh Lyman,555-111-2222,http://lemonlyman.example.com,vs01
```

polling_location

The PollingLocation object represents a site where voters cast or drop off ballots.

Tag	Data	Re-	Re-	Description	Error Handling
	Type		dpeats		
single-	simp	_ eOpa d	d Sin ss	Represents the various structured parts of an	One of AddressStructured and Ad-
csv-		tional	gle	address to a polling location.	dressLine should be present for
simple-					a given Polling Location. If
address	-				none is present, the implemen-
type					tation is required to ignore the
					PollingLocation element con-
					taining it.
ad-	xs:st	.1 Op +g		Represents the various parts of an address to	One of AddressStructured and Ad-
dress_li	ine	tional	peats	a polling location.	dressLine should be present for
					a given Polling Location. If
					none is present, the implemen-
					tation is required to ignore the
					PollingLocation element con-
					taining it.
di-	xs:st	1 Op 1-g		Specifies further instructions for locating the	If the element is invalid or not
rec-		tional	gle	polling location.	present, then the implementation is
tions					required to ignore it.
hours	xs:st	n Op rg		Contains the hours (in local time) that the	If the element is invalid or not
		tional	gle	polling location is open (NB: this element	present, then the implementation is
				is deprecated in favor of the more structured	required to ignore it.
				hours_open element. It is strongly encour-	
				aged that data providers move toward con-	
				tributing hours in this format).	
hours_c	pen <u>:</u> id		Sin-	Links to an <i>hours_open</i> element, which is	If the field is invalid or not present,
		tional	gle	a schedule of dates and hours during which	then the implementation is required
			~.	the polling location is available.	to ignore it.
is_drop	_ bacsx: bo			Indicates if this polling location is a drop	If the field is invalid or not present,
		tional	gle	box.	then the implementation is required
			~.		to ignore it.
is_early	_xetilog			Indicates if this polling location is an early	If the field is invalid or not present,
		tional	gle	vote site.	then the implementation is required
			~.	~	to ignore it.
lat_lng	single-		Sin-	Specifies the latitude and longitude of this	If the element is invalid or not
	csv-	tional	gle	polling location.	present, then the implementation is
	lat-				required to ignore it.
	lng		G.	N 64 11: 1	TC 1 C 11 :
name	xs:st	1 Op 1-g		Name of the polling location.	If the field is invalid or not present,
		tional	gle		then the implementation is required
					to ignore it.
photo_t	unxs:st			Contains a link to an image of the polling	If the field is invalid or not present,
		tional	gle	location.	then the implementation is required
					to ignore it.

poll001, ALBERMARLE HIGH SCHOOL,,2775 Hydraulic Rd, Charlottesville, VA,22901, Use back_door,7am-8pm, www.picture.com,ho001,false,true,38.0754627,78.5014875,Google Maps poll002, Public Library, Main St Denver CO,,,,,,next to the checkout counter,7am-8pm, www.picture.com,,false,true,38.0754627,78.5014875,Google Maps

lat long

The latitude and longitude of a polling location in 'WGS 84'_ format. Both latitude and longitude values are measured in decimal degrees.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dpeats	s?	
lati-	xs:do	ou Re ⊦e	Sin-	The latitude of the polling location.	If the field is invalid, then the
tude		quire	d gle		implementation is required to
					ignore it.
lon-	xs:do	ou Re ⊦e	Sin-	The longitude of the polling location.	If the field is invalid, then the
gi-		quire	d gle		implementation is required to
tude					ignore it.
latlng	sourcest	:101p +g	Sin-	The system used to perform the lookup from lo-	If the field is invalid or not
		tional	gle	cation name to lat/lng. For example, this could	present, then the implementa-
				be the name of a geocoding service.	tion is required to ignore it.

simple_address_type

A SimpleAddressType represents a structured address.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired peats?		?	
struc-	xs:st	r Re rg	Sin-	The address line for a structured address.	If no Line1 is provided, the
tured_lii	ne_1	quire	d gle	Should include the street number, street	implementation should ignore the
				name, and any prefix and suffix.	SimpleAddressType.
struc-	xs:st	т Ор т-д	Sin-	Additional field for an address	If no Line2 is provided, the im-
tured_lii	ne_2	tional	gle		plementation should ignore it.
struc-	xs:st	т Ор т-д	Sin-	Additional field for an address	If no Line3 is provided, the im-
tured_lii	ne_3	tional	gle		plementation should ignore it.
struc-	xs:st	т Re -1g	Sin-	The City value of a structured address.	If City is not provided, the im-
tured_ci	ty	quire	d gle		plementation should ignore the
					SimpleAddressType.
struc-	xs:st	т Re -1g	Sin-	The State value of a structured address.	If State is not provided, the
tured_st	ate	quire	d gle		implementation should ignore the
					SimpleAddressType.
struc-	xs:st	т Ор т-д	Sin-	The ZIP code of a structured address.	If Zip is not provided, the im-
tured_zi	p	tional	gle		plementation should ignore the
					SimpleAddressType.

precinct

The Precinct object represents a precinct, which is contained within a Locality. While the id attribute does not have to be static across feeds for one election, the combination of *Source.VipId*, *Locality.Name*, *Precinct.Ward*, *Precinct.Name*, and *Precinct.Number* should remain constant across feeds for one election (NB: not all of the fields just mentioned are required – omitting those non-required fields is fine).

Voters can be assigned to a precinct in two ways. A voter location modeled by StreetSegment is assigned to a precinct by StreetSegment.PrecinctId. Alternatively, a precinct's spatial boundary can be modeled with Precinct.SpatialBoundary. Any registered voter address contained within the spatial boundary of the precinct is assigned to that precinct.

Tag			Re- edøeats	Description s?	Error Handling
bal-		D O PPEF		Links to the <i>ballot_style</i> , which a person who lives in this	If the field is in-
I	tyle_id	-		precinct will vote.	valid or not present, then the implemen- tation is required to
					ignore it.
elec-	xs:	D OP pEF	SSin-	Links to the :ref: single-csv-electoral-district's (e.g., congres-	If the field is in-
toral_	distric	t_ tidə nal	l gle	sional district, state house district, school board district) to	valid or not present,
				which the entire precinct/precinct split belongs. Highly Rec-	then the implemen-
				ommended if candidate information is to be provided.	tation is required to
				*	ignore it.
ex-	ex-	Op-	Sin-	Other identifier for the precinct that relates to another dataset	If the element is in-
ter-	ter-	tional	l gle	(e.g. 'OCD-ID' _).	valid or not present,
nal i	denti/fié				then the implemen-
_					tation is required to
					ignore it.
is ma	ail <u>×</u> enl	ø ⊘n -e	a Sin-	Determines if the precinct runs mail-only elections.	If the field is miss-
15_111		tional			ing or invalid, the
			5.0		implementation is
					required to assume
					<i>IsMailOnly</i> is false.
lo-	xs·1	D Re F	Sin-	Links to the <i>locality</i> that comprises the precinct.	If the field is
cal-		quire		to and to saving that comprises the provincti	invalid, then the
ity_id	4	quire	agie		implementation is
10,_10	1				required to ignore
					the Precinct
					element containing
					it.
name	xsis	t Re -n	a Sin-	Specifies the precinct's name (or number if no name exists).	If the field is
name	110.	quire	-	specifies the precinct's name (or number it no name exists).	invalid, then the
		4	-6-1		implementation is
					required to ignore
					the Precinct
					element containing
					it.
num-	xs:s	t Op -n	g Sin-	Specifies the precinct's number (e.g., 32 or 32A – alpha charac-	TO 1 0 11 1 1
ber		tional		ters are legal). Should be used if the <i>Name</i> field is populated by	If the field is in-
		uona.	1 510	ters are regar). Should be used if the <i>Nume</i> field is populated by	
		пона	510		valid or not present,
		пона	510	a name and not a number.	valid or not present, then the implemen-
		tiona.	, gic		valid or not present, then the implemen- tation is required to
pollin	ng <u>x</u> locā				valid or not present, then the implemen- tation is required to ignore it.
pollin	ng <u>×</u> locā		tsSin-	a name and not a number.	valid or not present, then the implemen- tation is required to ignore it. If the field is in-
pollin	ng <u>x</u> locā	1 i (Эq<u>ъ</u>-i c	tsSin-	a name and not a number.	valid or not present, then the implemen- tation is required to ignore it. If the field is in- valid or not present,
pollin	ng <u>x</u> lscā	1 i (Эq<u>ъ</u>-i c	tsSin-	a name and not a number.	valid or not present, then the implemen- tation is required to ignore it. If the field is in- valid or not present, then the implemen-
pollin	ng <u>×</u> ko¢ā	1 i (Эq<u>ъ</u>-i c	tsSin-	a name and not a number.	valid or not present, then the implemen- tation is required to ignore it. If the field is in- valid or not present, then the implemen-
	ng <u>x</u> kocā ncx_spl	t iQq<u>s-</u>ic tional	SSin- l gle	a name and not a number.	valid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it.
		t iQq<u>s-</u>ic tional	tsSin- l gle	a name and not a number. Specifies a link to the precinct's <i>polling_location</i> object(s). If this field is empty, then this <i>Precinct</i> object represents a full precinct. If this field is present, then this <i>Precinct</i> object repre-	valid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the field is interest in the field is interest.
		t iΩp ⊑ic tional	tsSin- l gle	a name and not a number. Specifies a link to the precinct's <i>polling_location</i> object(s). If this field is empty, then this <i>Precinct</i> object represents a full	valid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it.
		t iΩp ⊑ic tional	tsSin- l gle	a name and not a number. Specifies a link to the precinct's <i>polling_location</i> object(s). If this field is empty, then this <i>Precinct</i> object represents a full precinct. If this field is present, then this <i>Precinct</i> object repre-	valid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it.
		t iΩp ⊑ic tional	tsSin- l gle	a name and not a number. Specifies a link to the precinct's <i>polling_location</i> object(s). If this field is empty, then this <i>Precinct</i> object represents a full precinct. If this field is present, then this <i>Precinct</i> object represents one portion of a split precinct. Each <i>Precinct</i> object that	valid or not present, then the implemen- tation is required to ignore it. If the field is in- valid or not present, then the implemen- tation is required to
		t iΩp ⊑ic tional	tsSin- l gle	a name and not a number. Specifies a link to the precinct's <i>polling_location</i> object(s). If this field is empty, then this <i>Precinct</i> object represents a full precinct. If this field is present, then this <i>Precinct</i> object represents one portion of a split precinct. Each <i>Precinct</i> object that represents one portion of a split precinct must have the same	valid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it.
	nck_spl	t iΩp ⊑ic tional	tsSin- l gle gSin- l gle	a name and not a number. Specifies a link to the precinct's <i>polling_location</i> object(s). If this field is empty, then this <i>Precinct</i> object represents a full precinct. If this field is present, then this <i>Precinct</i> object represents one portion of a split precinct. Each <i>Precinct</i> object that represents one portion of a split precinct must have the same <i>Name</i> value, but different <i>PrecinctSplitName</i> values. See the	valid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it.
precir	nck_spl	tional tional it <u>Opi</u> m tional	sSin- gSin- ggSin- gge	a name and not a number. Specifies a link to the precinct's <i>polling_location</i> object(s). If this field is empty, then this <i>Precinct</i> object represents a full precinct. If this field is present, then this <i>Precinct</i> object represents one portion of a split precinct. Each <i>Precinct</i> object that represents one portion of a split precinct must have the same <i>Name</i> value, but different <i>PrecinctSplitName</i> values. See the <i>sample_feed.xml</i> file for examples.	valid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it.
precir spa- tial_b	nck_sspl xs:1	ti Op Er tional it <u>Op</u> am tional	s Sin- l gle	a name and not a number. Specifies a link to the precinct's <i>polling_location</i> object(s). If this field is empty, then this <i>Precinct</i> object represents a full precinct. If this field is present, then this <i>Precinct</i> object represents one portion of a split precinct. Each <i>Precinct</i> object that represents one portion of a split precinct must have the same <i>Name</i> value, but different <i>PrecinctSplitName</i> values. See the <i>sample_feed.xml</i> file for examples. Defines the spatial boundary of the precinct. All voter addresses	valid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it.
precir spa- tial_b	nck_spl	ti Op Er tional it <u>Op</u> am tional	s Sin- l gle	a name and not a number. Specifies a link to the precinct's <i>polling_location</i> object(s). If this field is empty, then this <i>Precinct</i> object represents a full precinct. If this field is present, then this <i>Precinct</i> object represents one portion of a split precinct. Each <i>Precinct</i> object that represents one portion of a split precinct must have the same <i>Name</i> value, but different <i>PrecinctSplitName</i> values. See the <i>sample_feed.xml</i> file for examples. Defines the spatial boundary of the precinct. All voter addresses contained within this boundary are assigned to the precinct. If	valid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it.
precir spa- tial_b	nck_sspl xs:1	ti Op Er tional it <u>Op</u> am tional	s Sin- l gle	If this field is empty, then this <i>Precinct</i> object represents a full precinct. If this field is present, then this <i>Precinct</i> object represents one portion of a split precinct. Each <i>Precinct</i> object that represents one portion of a split precinct. Each <i>Precinct</i> object that represents one portion of a split precinct must have the same <i>Name</i> value, but different <i>PrecinctSplitName</i> values. See the <i>sample_feed.xml</i> file for examples. Defines the spatial boundary of the precinct. All voter addresses contained within this boundary are assigned to the precinct. If a voter address also maps to a StreetSegment, then the precinct	then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the element is invalid or not present, then the implementation is required to ignore it.
precir spa- tial_b	xs:	ti Op Er tional it <u>Op</u> am tional	g Sin- l gle Sin- l gle	If this field is empty, then this <i>Precinct</i> object represents a full precinct. If this field is present, then this <i>Precinct</i> object represents one portion of a split precinct. Each <i>Precinct</i> object that represents one portion of a split precinct. Each <i>Precinct</i> object that represents one portion of a split precinct must have the same <i>Name</i> value, but different <i>PrecinctSplitName</i> values. See the <i>sample_feed.xml</i> file for examples. Defines the spatial boundary of the precinct. All voter addresses contained within this boundary are assigned to the precinct. If a voter address also maps to a StreetSegment, then the precinct assignment from the StreetSegment will be preferred over the	valid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the field is invalid or not present, then the implementation is required to ignore it. If the element is invalid or not present, then the implementation is required to ignore it.

```
id, ballot_style_id, electoral_district_ids, external_identifier_type, external_

identifier_othertype, external_identifier_value, is_mail_only, locality_id, name, number,

polling_location_ids, precinct_split_name, spatial_boundary_id, ward

pre90111, bs00010, ed001, ocd-id,, ocd-division/country:us, false, loc001, 203 - GEORGETOWN,

identifier_othertype, external_identifier_type, external_

pre90111, bs00010, ed001, ocd-id, ocd-division/country:us, false, loc001, 203 - GEORGETOWN, 0203, poll003, split26, 6

pre90112, bs00011, ed002, fips, , 42, false, loc001, 203 - GEORGETOWN, 0203, poll003, split26, , 6

pre90113, bs00010, ed003, , , , false, loc002, 203 - GEORGETOWN, 0203, poll004, split54, sb1, 7
```

spatial boundary

The SpatialBoundary object defines a boundary in space. This boundary is usually defined by one or more discrete, closed polygonal shapes.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	d peats	?	
exter-	xs:I	d Re f	Sin-	The spatial boundary defined	If the element is invalid, then the im-
nal_geospati	al_featu	ræquidre	d gle	by a geospatial feature that is	plementation is required to ignore the
				external to the VIP feed.	SpatialBoundary element containing
					it.

```
id,external_geospatial_feature_id
sbl,egf1
```

external geospatial feature

The ExternalGeospatialFeature object contains a reference to a geospatial feature (one or more shapes) contained in a separate file external to the VIP feed.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dβeats	·	
ex-	xs:I	DIREF	Sin-	Links to the <i>external_file</i> containing the geospatial shape(s)	If the field is in-
ter-		quire	d gle	that define the feature's boundary.	valid, then the
nal_f	ile_id				implementation is
					required to ignore the
					ExternalGeospatialFeature
					element containing it.
file_f	ognatpe	a-Re-	Sin-	The format of the geospatial file.	If the field is in-
	tial_fo	<i>ri</i> quire	d gle		valid, then the
					implementation is
					required to ignore the
					ExternalGeospatialFeature
					element containing it.
fea-	single-	Re-	Re-	Identifiers indicating which specific shape(s) to use from the	If the element is
ture_	id esn tifie	r quire	dpeats	geospatial file. These refer to identifiers within the refer-	invalid, then the
	feature	e -		enced external file. This is a repeated field in the XML	implementation is
	identif	fier		specification, but a scalar field in the CSV specification. If	required to ignore the
				more than one identifier is required with the CSV specifia-	ExternalGeospatialFeature
				tion, multiple values can be provided by delimited by space.	element containing it.

```
id,external_file_id,file_format,shape_identifiers
egf1,ef1,shp,0 7 9
```

feature_identifier

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quired?	peats?		
in-	xs:int	Op-	Single	The index value for the	If the field is invalid or not present, then the imple-
dex		tional		shapefile feature.	mentation is required to ignore it.

retention_contest

RetentionContest extends *ballot_measure_contest* and represents a contest where a candidate is retained in a position (e.g. a judge).

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired?peats?		?	
can-	xs:ID	r Re -	Sin-	Links to the can-	If the field is invalid or not present, the implementation
di-		quired	gle	didate being re-	is required to ignore the RetentionContest element
date_id				tained.	containing it.
of-	xs:ID	R O jjō-	Sin-	Links to the infor-	If the field is invalid or not present, then the implementa-
fice_id		tional	gle	mation about the	tion is required to ignore it.
				office.	

schedule

A sub-portion of the schedule. This describes a range of days, along with one or more set of open and close times for those days, as well as the options describing whether or not appointments are necessary or possible.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeats	s?	
hours	single-	Op-	Re-	Blocks of hours in the date range in which the place	If the element is invalid or
	csv-	tional	peats	is open.	not present, then the im-
	hours				plementation is required to
					ignore it.
is_only_t	y <u>x</u> appoo			If true, the place is only open during the specified	If the field is invalid or
		tional	l gle	time window with an appointment.	not present, then the im-
					plementation is required to
					ignore it.
is_or_by_	_appoint			If true, the place is open during the hours specified	If the field is invalid or
		tional	l gle	time window and may also be open with an appoint-	not present, then the im-
				ment.	plementation is required to
					ignore it.
is_subjec	t_xtos_c:he			If true, the place should be open during the specified	If the field is invalid or
		tional	l gle	time window, but may be subject to change. People	not present, then the im-
				should contact prior to arrival to confirm hours are	plementation is required to
				still accurate.	ignore it.
start_date	xs:da	atOep-	Sin-	The date at which this collection of start and end	If the field is invalid or
		tional	l gle	times and options begin.	not present, then the im-
					plementation is required to
					ignore it.
end_date	xs:da	- 1	Sin-	The date at which this collection of start and end	If the field is invalid or
		tional	l gle	times and options end.	not present, then the im-
					plementation is required to
					ignore it.

```
id, start_time, end_time, is_only_by_appointment, is_or_by_appointment, is_subject_to_
change, start_date, end_date, hours_open_id
sch001,07:00:00-06:00,22:00:00-06:00, true,,2016-10-10,2016-10-12,ho001
sch002,09:00:00-06:00,20:00:00-06:00,true,,,2016-10-13,2016-10-15,ho001
sch003,08:00:00-06:00,14:00:00-06:00,, true,2016-10-10,2016-10-15,ho002
```

hours

The open and close time for this place. All times must be fully specified, including a timezone offset from UTC.

Tag	Data Type	Re-	Re-	Description	Error Handling
		quired?	peats?		
start_ti	mæingle-csv-	Op-	Sin-	The time at which	If the element is invalid or not present, then the
	time-with-	tional	gle	this place opens.	implementation is required to ignore it.
	zone				
end_tir	nesingle-csv-	Op-	Sin-	The time at which	If the element is invalid or not present, then the
	time-with-	tional	gle	this place closes.	implementation is required to ignore it.
	zone				

time_with_zone

A string pattern restricting the value to a time with an included offset from UTC. The pattern is

```
<HoursOpen id="hours0001">
    <Schedule>
2
      <Hours>
3
        <StartTime>06:00:00-05:00
4
        <EndTime>12:00:00-05:00
5
      </Hours>
      <Hours>
        <StartTime>13:00:00-05:00
        <EndTime>19:00:00-05:00</EndTime>
      </Hours>
10
      <StartDate>2013-11-05
11
      <EndDate>2013-11-05
12
    </Schedule>
13
  </HoursOpen>
```

simple_address_type

A SimpleAddressType represents a structured address.

Tag	Data	Re-	Re-	Description	Error Handling	
	Type	quire	dpeats	?		
struc-	xs:st	: - Re- -g	Sin-	The address line for a structured address.	If no Line1 is provided, the	
tured_lii	ne_1	quire	d gle	Should include the street number, street	implementation should ignore the	
				name, and any prefix and suffix.	SimpleAddressType.	
struc-	xs:st	т Ор ъд	Sin-	Additional field for an address	If no Line2 is provided, the im-	
tured_lii	ne_2	tional	gle		plementation should ignore it.	
struc-	xs:st	т Ор ғд	Sin-	Additional field for an address	If no Line3 is provided, the im-	
tured_lii	ne_3	tional	gle		plementation should ignore it.	
struc-	xs:st	: -Re- -g	Sin-	The City value of a structured address.	If City is not provided, the im-	
tured_ci	ty	quire	d gle		plementation should ignore the	
					SimpleAddressType.	
struc-	xs:st	: -Re- -g	Sin-	The State value of a structured address.	If State is not provided, the	
tured_st	ate	quire	d gle		implementation should ignore the	
					SimpleAddressType.	
struc-	xs:st	т Ор ъд	Sin-	The ZIP code of a structured address.	If Zip is not provided, the im-	
tured_zi	p	tional	gle		plementation should ignore the	
					SimpleAddressType.	

source

The Source object represents the organization that is publishing the information. This object is the only required object in the feed file, and only one source object is allowed to be present.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dßeats	s?	
name	xs:st	r Re g	Sin-	Specifies the name of the organization that	If the field is invalid, then the im-
		quire	d gle	is providing the information.	plementation is required to ignore
					the Source element containing
					it.
vip_id	xs:st	r Re -g	Sin-	Specifies the ID of the organization. VIP	If the field is invalid, then the im-
		quire	d gle	uses FIPS _ codes for this ID.	plementation is required to ignore
					the Source element containing
					it.
date_time	xs:da	1	1	Specifies the date and time of the feed pro-	If the field is invalid, then the im-
		quire	d gle	duction. The date/time is considered to be	plementation is required to ignore
				in the timezone local to the organization.	the Source element containing
					it.
descrip-	xs:st	r Op -g	Sin-	Specifies both the nature of the organiza-	If the element is invalid or not
tion		tional	l gle	tion providing the data and what data is in	present, then the implementation
				the feed.	is required to ignore it.
organiza-	xs:st			Specifies a URI to the home page of the	If the field is invalid or not present,
tion_uri		tional	l gle	organization publishing the data.	then the implementation is re-
					quired to ignore it.
feed_conta	ct <u>x</u> isafoīrī		1	Reference to the <i>person</i> who will respond	If the element is invalid or not
		tional	gle	to inquiries about the information con-	present, then the implementation
				tained within the file.	is required to ignore it.
terms_of_u	se <u>x</u> sıriar	y 0 p-I	Sin-	Specifies the website where the Terms of	If the field is invalid or not present,
		tional	gle	Use for the information in this file can be	then the implementation is re-
				found.	quired to ignore it.
version	xs:st			Specifies the version of the data	If the field is invalid, then the im-
		quire	d gle		plementation is required to ignore
					the Source element containing
					it.

id, date_time, description, name, organization_uri, terms_of_use_uri, vip_id, version source01,2016-06-02T10:24:08,SBE is the official source for Virginia data, "State_ →Board of Elections, Commonwealth of Virginia", http://www.sbe.virginia.gov/,http:// →example.com/terms,51,5.1

spatial_boundary

The SpatialBoundary object defines a boundary in space. This boundary is usually defined by one or more discrete, closed polygonal shapes.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	dpeats	?	
exter-	xs:I	d Re f	Sin-	The spatial boundary defined	If the element is invalid, then the im-
nal_geospatia	al_featu	ræquidre	d gle	by a geospatial feature that is	plementation is required to ignore the
				external to the VIP feed.	SpatialBoundary element containing
					it.

```
id,external_geospatial_feature_id
sb1,egf1
```

external_geospatial_feature

The ExternalGeospatialFeature object contains a reference to a geospatial feature (one or more shapes) contained in a separate file external to the VIP feed.

Tag	Data	Re-	Re-	Description	Error Handling								
	Туре	quire	døeats	\$?									
ex-	xs:I	Ref	Sin-	Links to the <i>external_file</i> containing the geospatial shape(s)	If the field is in-								
ter-		quire	dgle	that define the feature's boundary.	valid, then the								
nal_f	ile_id				implementation is								
					required to ignore the								
					ExternalGeospati	alFeature							
					element containing it.								
file_f	ognatpe	≀-Re-	Sin-	The format of the geospatial file.	If the field is in-								
	tial_fo	<i>m</i> quire	d gle		valid, then the								
					implementation is								
					required to ignore the								
					ExternalGeospati	alFeature							
					element containing it.								
fea-	single	Re-	Re-	Identifiers indicating which specific shape(s) to use from the	If the element is								
ture_	id esn tifie	r quire	d peats	geospatial file. These refer to identifiers within the refer-	invalid, then the								
	feature	e -		enced external file. This is a repeated field in the XML	implementation is								
	identif	ier		specification, but a scalar field in the CSV specification. If	required to ignore the								
				more than one identifier is required with the CSV specifia-	ExternalGeospati	alFeature							
				tion, multiple values can be provided by delimited by space.	element containing it.								

id,external_file_id,file_format,shape_identifiers
egf1,ef1,shp,0 7 9

feature_identifier

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quired?	peats?		
in-	xs:int	Op-	Single	The index value for the	If the field is invalid or not present, then the imple-
dex		tional		shapefile feature.	mentation is required to ignore it.

state

The State object includes state-wide election information. The ID attribute is recommended to be the state's FIPS code, along with the prefix "st".

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeats	s?	
elec-	xs:I	D IOFPF	Sin-	Links to the state's election administration object.	If the field is invalid or
tion_adr	ninistra	ti oiro <u>n</u> iad	gle		not present, then the im-
					plementation is required
					to ignore it.
exter-	ex-	Op-	Sin-	Other identifier for the state that relates to another	If the element is in-
nal_iden	ti fae rs	tional	gle	dataset (e.g. 'OCD-ID'_).	valid or not present, then
	nal_id	lentifie <i>i</i>	S		the implementation is
					required to ignore it.
name	xs:s	t Re ng	Sin-	Specifiers the name of a state, such as Alabama.	If the field is invalid,
		quire	dgle		then the implementation
					is required to ignore
					the State element con-
					taining it.
polling_	location	D ikalipi FS	Sin-	Specifies a link to the state's <i>polling locations</i> . If early	If the field is invalid or
		tional	gle	vote centers or ballot drop locations are state-wide (e.g.,	not present, then the im-
				anyone in the state can use them), they can be specified	plementation is required
				here, but you are encouraged to only use the <i>precinct</i>	to ignore it.
				element.	

street_segment

A Street Segment objection represents a portion of a street and the links to the precinct that this geography (i.e., segment) is contained within. The start address house number must be less than the end address house number unless the segment consists of only one address, in which case these values are equal.

Tag Data Re- Re- Type quiredøeats	Description s?	Error Handling
		TC 41 . C .11 ! . ! . 1! 1
ad- xs:stOpi-ngSin- dress directionional gle	Specifies the (inter-)cardinal direction of the entire address. An example is "NE" for the address "100 E Capitol St NE."	If the field is invalid or not present, then the implementation is required to ignore it.
city xs:st Re -ngSin- quiredgle	The city specifies the city or town of the address.	If the field is invalid, then the implementation is required to ignore the StreetSegment element containing it.
in- xs:boOpi-eaSin-	Specifies if the segment covers every address	If the field is invalid or not present,
cludes_all_adtiressesgle	on this street. If this is <i>true</i> , then the values of StartHouseNumber and EndHouseNumber should be ignored. The value of OddEvenBoth must be <i>both</i> .	then the implementation is required to ignore it.
in- xs:boOp-eaSin-	Specifies if the segment covers every street in	If the field is invalid or not present,
cludes_all_str tiens al gle	this city. If this is <i>true</i> , then the values of OddEvenBoth , StartHouseNumber , End-HouseNumber , StreetName , and Zip should be ignored.	then the implementation is required to ignore it.
odd_evenbbonOpp-Sin-	Specifies whether the odd side of the street	If the field is not present or invalid, the
tional gle	(in terms of house numbers), the even side, or both are in included in the street segment.	implementation is required to ignore the StreetSegment containing it.
precinct_sid I DREF Sin- quiredgle	References the <i>precinct</i> that contains the entire street segment. If a precinct has a single-csv-spatial-boundary which also contains the entire street segment, then the precinct assignment from the segment will be preferred over the assignment defined by the spatial boundary.	If the field is invalid, then the implementation is required to ignore the StreetSegment element containing it.
start_housse_nonpoorsin-	The house number at which the street seg-	Unless IncludesAllAddresses or In-
tional gle	ment starts. This value is necessary for the street segment to make any sense. Unless IncludesAllAddresses or IncludesAllStreets are true, this value must be less than or equal to EndHouseNumber. If IncludesAllAddresses or IncludesAllStreets are true, this value is ignored.	cludesAllStreets are true, if the field is not present or invalid, the implementation is required to ignore the StreetSegment element containing it. If the StartHouseNumber is greater than the EndHouseNumber, the implementation should ignore the element containing them.
end_house_hutthpbge Sin-	The house number at which the street seg-	Unless IncludesAllAddresses or In-
tional gle	ment ends. This value is necessary for the street segment to make any sense. Unless IncludesAllAddresses or IncludesAll-Streets are true, it must be greater than or equal to StartHouseNumber. If IncludesAllAddresses or IncludesAllStreets are true, this value is ignored.	cludesAllStreets are true, if the field is not present or invalid, the implementation is required to ignore the Street-Segment element containing it. If the EndHouseNumber is less than the StartHouseNumber, the implementation should ignore the element containing it.
house_numberOpprefixin-	Part of a street address. It may contain let-	If the field is invalid or not present,
tional gle	ters or slashes (e.g., 'B' in 'B22 Main St'). If this value is present then StartHouseNumber must be equal to EndHouseNumber . This field cannot be used if IncludesAllAddresses or IncludesAllStreets are true.	then the implementation is required to ignore it.
house_number@piuffissin-	Part of a street address. It may contain let-	If the field is invalid or not present,
3.1. CSV Specification	ters or slashes (e.g., 1/2 in '22 1/2 Main St'). If this value is present then StartHouse -	then the implementation is required to ignore it. 185
	Number must be equal to EndHouseNumber. This field cannot be used if IncludesAllAddresses or IncludesAllStreets are true.	

term

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired	?peats	?	
term_ty	peof-	Op-	Sin-	Specifies the type of office	If the field is invalid or not present, the imple-
	fice_tern	n_tigmal	gle	term (see <i>office_term_type</i> for	mentation is required to ignore the Office el-
				valid values).	ement containing it.
term_sta	ırt <u>x</u> dateat	еОр-	Sin-	Specifies the start date for the	If the field is invalid or not present, then the
		tional	gle	current term of the office.	implementation is required to ignore it.
term_en	d <u>x</u> datedat	еОр-	Sin-	Specifies the end date for the	If the field is invalid or not present, then the
		tional	gle	current term of the office.	implementation is required to ignore it.

time_with_zone

A string pattern restricting the value to a time with an included offset from UTC. The pattern is

(([01][0-9]|2[0-3]):[0-5][0-9]:[0-5][0-9]|(24:00:00))(z|[+-]((0[0-9]|1[0-3]):[0-5][0-9]|14

```
<HoursOpen id="hours0001">
    <Schedule>
2
      <Hours>
       <StartTime>06:00:00-05:00
        <EndTime>12:00:00-05:00
      </Hours>
6
      <Hours>
        <StartTime>13:00:00-05:00
        <EndTime>19:00:00-05:00
10
      <StartDate>2013-11-05
11
      <EndDate>2013-11-05</EndDate>
12
    </Schedule>
13
  </HoursOpen>
```

voter service

Tag	Data Type	Re-	Re-	Description	Error Handling
		quire	peats	?	-
con-	single-csv-	Op-	Sin-	The contact for a particular	If the element is invalid or not
tact_informa	ti co ntact-	tional	gle	voter service.	present, then the implementation is
	information				required to ignore it.
descrip-	xs:string	Op-	Sin-	Long description of the services	If the element is invalid or not
tion		tional	gle	available.	present, then the implementation is
					required to ignore it.
elec-	xs:IDREF	Op-	Sin-	The authority for a particular	If the field is invalid or not present,
tion_official	_person_id	tional	gle	voter service.	then the implementation is re-
					quired to ignore it.
type	voter_service	tQp-	Sin-	The type of <i>voter service</i> .	If the field is invalid or not present,
		tional	gle		then the implementation is re-
					quired to ignore it.
other_type	xs:string	Op-	Sin-	If Type is "other", OtherType al-	If the field is invalid or not present,
		tional	gle	lows for cataloging another type	then the implementation is re-
				of voter service.	quired to ignore it.

```
id, description, election_official_person_id, type, other_type, department_id
vs01, A service we provide, per50002, other, overseas-voting, dep01
vs00, Elections notifications, per50002, other, voter-registration, dep02
vs02, Pencil sharpening, per50002, other, office-help, dep03
vs03, Guided hike to polling place, per50002, other, polling-places, dep03
vs04, Bike messenger ballot delivery, per50002, other, absentee-ballots, dep03
```

Enumerations

ballot_measure_type

A list of the various types of ballot measures. States may have different legal definitions of each type; **Wikipedia** has more details about each type. These values are to help states with multiple types of non-candidate-based contests distinguish between each type; as such, the definitions in this table are simple guidelines. Ultimately it is up to the state or local election official to choose the value which best describes the ballot measure(s) in their jurisdiction.

Tag	Description
ballot-	A catch-all for generic types of non-candidate-based contests.
measure	
initiative	These are usually citizen-driven measures to be placed on the ballot. These could include both statu-
	tory changes and constitutional amendments.
referen-	These could include measures to repeal existing acts of legislation, legislative referrals, and
dum	legislatively-referred state constitutional amendments.
other	Anything that does not fall into the above categories.

candidate_post_election_status

Tag	Description
advanced-to-runoff	For contests in which the top N candidates advance to the next round.
projected-winner	A candidate is expected to win, but official results are not yet complete.
winner	The candidate has officially won.
withdrawn	The candidate has withdrawn from the contest.

candidate_pre_election_status

Tag	Description
filed	The candidate has filed for office but not yet been qualified.
qualified	The candidate has qualified for the contest.
withdrawn	The candidate has withdrawn from the contest (but may still be on the ballot).
write-in	

checksum_algorithm

Tag	Description
sha-256	256-bit cryptographic hash algorithm of the SHA-2 family
sha-512	512-bit cryptographic hash algorithm of the SHA-2 family

district_type

Enumeration describing the set of possible jurisdiction and district types. Please use the enumeration value which most accurately reflects the type of district or jurisdiction in your state or county. For example, "town" and "township" may mean different things – or not be defined at all – in your state, so please use the definition which best matches your local meaning.

Tag	Description
borough	A borough
city	A city.
city-council	A specific seat/jurisdiction for a city, town, or village council.
congressional	A United States congressional district.
county	A county.
county-council	A county council district, either in its entirety or for a specific seat.
judicial	A judicial district.
municipality	A civil division which is not a town, city, village, or county.
national	The United States.
school	A school district.
special	A 'special-purpose district'_ that exist separate from general-purpose districts.
state	A state, district, commonwealth, or U.S. territory.
state-house	The lower house of a state legislature.
state-senate	The upper house of a state legislature.
town	A town
township	A township, which may be different than a town. See the 'Wikipedia article'
utility	A non-water public or municipal utility district.
village	A village district.
ward	A ward.
	A water district.
water	A water district.

geospatial_format

Geospatial file formats that are supported by the VIP specification.

Tag	Description
shp	ESRI Shapefile (reference)

identifier_type

Tag	Description
fips	Federal Information Processing Standards codes for states_, counties_, and cities
local-level	An identifier generated or used by local governments or organizations.
national-level	An identifier generated or used by national organizations.
ocd-id	An 'Open Civic Data Division Identifier'
state-level	An identifier generated or used by state governments or organizations.
other	Any identifier which doesn't fall into any of the above categories.

oeb_enum

Tag	Description
both	Both even and odd addresses within the range.
even	Only even-numbered addresses within the range.
odd	Only odd-numbered addresses within the range.

office_term_type

Tag	Description
full-term	This election is for an office for which the existing term has been completed.
unexpired-term	This election is for an office for which the original term is not yet complete.

vote_variation

Note that the descriptions below describe what the enumeration names stand for in the context of the VIP spec, rather than provide general definitions of the election terms that the names correspond to. For example, even though there are majority voting methods that are not "1-of-m" (e.g. ranked choice voting), we constrain "majority" to 1-of-m. We do this to eliminate any source of ambiguity when a single enumeration value needs to be assigned to a contest.

Tag	Description
1-of-m	A method where each voter can select up to one option.
ap- proval	'Approval voting'_, where each voter can select as many options as desired.
borda	Borda count , where each voter can rank the options, and the rankings are assigned point values.
cumu- lative	'Cumulative voting' _, where each voter can distribute their vote to up to <i>N</i> options.
major- ity	A 1-of-m method where the winner needs more than 50% of the vote to be elected.
n-of-m	A method where each voter can select up to <i>N</i> options.
plural-	A 1-of-m method where the option with the most votes is elected, regardless of whether the option has
ity	more than 50% of the vote.
propor- tional	A 'proportional representation'_ method (other than STV), which is any system that elects winners in proportion to the total vote.
range	'Range voting'_, where each voter can select a score for each option.
rcv	'Ranked choice voting'_ (RCV), where each voter can rank the options, and the ballots are counted in
	rounds. Also known as instant-runoff voting (IRV) and the single transferable vote (STV).
super-	A 1-of-m method where the winner needs more than some predetermined fraction of the vote to be
majority	elected, where the fraction is more than 50% (e.g. three-fifths or two-thirds).
other	Used when the vote variation type is not included in this enumeration.

voter_service_type

Tag	Description
absentee-ballots	This department handles the dispatch, tracking, and return of absentee ballots.
overseas-voting	The department for overseas, military, and other outside-the-U.S. voters.
polling-places	This department handles the selection and management of polling places.
voter-registration	The department that manages voter registration.
other	Any other service not covered by the above descriptions.

Elements (Separate Pages)

ballot_measure_contest

The BallotMeasureContest provides information about a ballot measure before the voters, including summary statements on each side. Extends *contest_base*.

Tag		Re-	Re- døeats	Description	Error Handling
					TC 4114
con_s	stateme	_		Specifies a statement in opposition to the referendum. It does not	If the element
		tiona	l gle	necessarily appear on the ballot.	is invalid or not
					present, then the
					implementation
					is required to
					ignore it.
ef-	77.0 • 6	s t Opi- n	~ Sin	Specifies what effect abstaining (i.e. not voting) on this proposi-	If the element
rect_	of_abst	aumona	i gie	tion will have (i.e. whether abstaining is considered a vote against	is invalid or not
				it).	present, then the
					implementation
					is required to
					ignore it.
full t	exts:	st On- n	a Sin-	Specifies the full text of the referendum as it appears on the ballot.	If the element
		tiona			is invalid or not
		tiona	Sic		present, then the
					implementation
					is required to
					ignore it.
info_	unxis:a	ar Qqb JR	I Sin-	Specifies a URI that links to additional information about the ref-	If the field is
		tiona		erendum.	invalid or not
					present, then the
					implementation
					is required to
		. 0 .	G.		ignore it.
pas-		t Op -n		Specifies the threshold of votes that the referendum needs in order	If the element
sage_	thresh	oltiona	l gle	to pass. The default is a simple majority (i.e. 50% plus one vote).	is invalid or not
				Other common thresholds are "three-fifths" and "two-thirds". If	present, then the
				there are 'competing initiatives'_, information about their effect	implementation
				on the passage of the BallotMeasureContest would go here.	is required to
					ignore it.
pro s	tateme	nt O ni-n	a Sin-	Specifies a statement in favor of the referendum. It does not nec-	If the element
F		tiona		essarily appear on the ballot.	is invalid or not
		tiona	gie	essarily appear on the barrot.	present, then the
					implementation
					is required to
					ignore it.
sum-	xs:s	t Op i-n	g Sin-	Specifies a short summary of the referendum that is on the ballot,	If the element
mary		tiona		below the title, but above the text.	is invalid or not
	-				present, then the
					implementation
					is required to
<u> </u>		.0:	C.		ignore it.
type	xs:s	t Op -n	I -	Specifies the particular type of ballot measure. Must be one of the	If the field is
		tiona	l gle	valid ballot_measure_type options.	invalid or not
					present, then the
					implementation
					is required to
					ignore it.
other	_txpe s	:+Omin	o Sin	Allows for cataloging a new <i>ballot_measure_type</i> option, when	If the field is
other	_rxbc s				
		tiona	gie	Type is specified as "other."	
					present, then the
					implementation
					is required to
192				Chapter 3. CS	V _i ₽0eumentation

id, abbreviation, ballot_selection_ids, ballot_sub_title, ballot_title, elecoral_district_

→id, electorate_specification, external_identifier_type, external_identifier_othertype,

→external_identifier_value, has_rotation, name, sequence_order, vote_variation, other_

→vote_variation, con_statement, effect_of_abstain, full_text, info_uri, passage_threshold,

→pro_statement, summary_text, type, other_type

bmc0001, HB2, bs001 bs002 bs003, Raising levy for School Bond, School Bond Issue, ed001,

→all registered voters, ,54, false, School Bond, 42, majority, ,This is no good., No effect,

→A measure to do raise funds for etc etc, www.ballotmeasure.com, two-thirds, Everything_

→will be great., It's a referendum about school funding, referendum,

contest base

A base model for all Contest types: *ballot_measure_contest*, *candidate_contest*, *party_contest*, and *retention_contest* (NB: the latter because it extends *ballot_measure_contest*).

Tag	Data	Re-	Re-	Description	Error Handling
	Type	-	døeats		
ab-	xs:st			An abbreviation for the contest.	If the field is
bre-		tional	l gle		invalid or not
via-					present, then the
tion					implementation
					should ignore it.
bal-	xs:II			References a set of BallotSelections, which could be of any se-	If the field is
lot_sel	lection_	idsional	l gle	lection type that extends <i>ballot_selection_base</i> .	invalid or not
					present, then the
					implementation
					should ignore it.
bal-	xs:st			Subtitle of the contest as it appears on the ballot.	If the element
lot_sul	b_title	tional	l gle		is invalid or not
					present, then the
					implementation
					should ignore it.
bal-	xs:st	. 1 Op 1-g	Sin-	Title of the contest as it appears on the ballot.	If the element
lot_titl	le	tional	gle		is invalid or not
					present, then the
					implementation
					should ignore it.
elec-	xs:II) FRE-	Sin-	References an <i>electoral_district</i> element that represents the ge-	If the field is
toral_c	district_	idquire	dgle	ographical scope of the contest.	invalid, then
					the implementa-
					tion is required
					to ignore the
					ContestBase
					element containing
					it.
elec-	xs:st	. 1 Ор ъд	Sin-	Specifies any changes to the eligible electorate for this contest	If the element
torate	_specific	ca tion al	l gle	past the usual, "all registered voters" electorate. This subtag	is invalid or not
	_			will most often be used for primaries and local elections. In	present, then the
				primaries, voters may have to be registered as a specific party	implementation
				to vote, or there may be special rules for which ballot a voter	should ignore it.
				can pull. In some local elections, non-citizens can vote.	
ex-	xs:st	: 1 Ор +9	Sin-	Other identifiers for a contest that links to another source of	If the element
ter-		tional	l gle	information.	is invalid or not
nal_id	entifiers				present, then the
					implementation
					should ignore it.
has ro	otatisonb c	o Ωpe a	n Sin-	Indicates whether the selections in the contest are rotated.	If the field is
_		tional			invalid or not
					present, then the
					implementation
					should ignore it.
name	xs:st	.r Re ∍a	Sin-	Name of the contest, not necessarily how it appears on the ballot	If the field is
		quire		(NB: BallotTitle should be used for this purpose).	invalid, then
		-1		parpose),	the implementa-
					tion is required
					to ignore the
					ContestBase
					element containing
					it.
Se	xs:ir	+Over	r Sin	Order in which the contests are listed on the ballot. This is the	If the field is
-se- 194ence				default ordering, and can be overrides by data in Ghapter 3,160	
- quend	c_oruci	uona	gic	element.	present, then the
1				cicincit.	present, then the
					1 -
					implementation should ignore it.

ballot_measure_selection

Represents the possible selection (e.g. yes/no, recall/do not recall, et al) for a *ballot_measure_contest* that would appear on the ballot. BallotMeasureSelection extends *ballot_selection_base*.

Tag	Data	Re-	Re-	Descri	iption		Error Handling
	Type	quired	?peats	?			
se-	xs:st	r Re g	Sin-	Selecti	on	text	If the element is invalid or not present, the implementa-
lec-		quired	gle	for	a	bal-	tion is required to ignore the BallotMeasureSelection con-
tion				lot_me	asure_	contest	taining it.

```
id, sequence_order, selection
bms001,1,Proposition A
bms002,2,Proposition B
```

ballot_selection_base

A base model for all ballot selection types: ballot_measure_selection, candiate_selection, and party_selection.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	døeat	s?	
se-	xs:i	n tOp ge	rSin-	The order in which a selection can be listed on the	If the field is invalid or
quence	_order	tiona	l gle	ballot or in results. This is the default ordering, and	not present, then the im-
				can be overridden by OrderedBallotSlectionIds in or-	plementation is required to
				dered_contest.	ignore it.

ballot_style

A container for the contests/measures on the ballot.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired	? peats?	•	_
image_uri	xs:any	≀U O pp <u>T</u> -	Sin-	Specifies a URI that returns	If the field is invalid or not present, then
		tional	gle	an image of the sample bal-	the implementation is required to ignore
				lot.	it.
or-	xs:IDF	REOPPS-	Sin-	Reference to a set of or-	If the field is invalid or not present, then
dered_conte	sts_ids	tional	gle	dered_contest	the implementation is required to ignore
					it.
party_ids	xs:IDF	RDPpS-	Sin-	Reference to a set of	If the field is invalid or not present, then
		tional	gle	:ref: 'multi-csv-party's.	the implementation is required to ignore
					it.

```
id,image_uri,ordered_contest_ids,party_ids
bs00010,http://i.giphy.com/26BoCh3PgT8ai45ji.gif,oc2025,par02
bs00011,http://i.giphy.com/3oEjHYDWEICgEpAOjK.gif,oc3000 oc2025,par01
```

candidate

The Candidate object represents a candidate in a contest. If a candidate is running in multiple contests, each contest **must** have its own Candidate object. Candidate objects may **not** be reused between Contests.

Tag	Data Type	Re- quire	Re- døeats	Description s?	Error Handling
bal- lot_nar	xs:stri	r k je- quire	Sin- e d gle	The candidate's name as it will be displayed on the official ballot (e.g. "Ken T. Cuccinelli II").	If the element is invalid, then the implementation is required to ignore the Candidate element containing it.
con- tact_in	xs:stri formation	ln @ p- tional	Sin- l gle	Contact and physical address information for this Candidate and/or their campaign (see <i>contact_information</i>).	If the element is invalid or not present, then the imple- mentation is required to ig- nore it.
ex- ter- nal_ide	exter- nal_identi ntifiers	Op- <i>fit</i> ional	Sin- l gle	Another identifier for a candidate that links to another source of information (e.g. a campaign committee ID that links to a campaign finance system).	If the element is invalid or not present, then the imple- mentation is required to ig- nore it.
file_da	texs:date	Op- tional	Sin- l gle	Date when the candidate filed for the contest.	If the field is invalid or not present, then the implementation is required to ignore it.
is_incu	mbentocol	eApp- tional	Sin- l gle	Indicates whether the candidate is the incumbent for the office associated with the contest.	If the field is invalid or not present, then the implementation is required to ignore it.
is_top_	tiæketbool	eO.pp⊦ tional	Sin- l gle	Indicates whether the candidate is the top of a ticket that includes multiple candidates.	If the field is invalid or not present, then the implementation is required to ignore it.
party_i	dxs:IDRE	tional		Reference to a <i>party</i> element with additional information about the candidate's affiliated party. This is the party affiliation that is intended to be presented as part of ballot information.	If the field is invalid or not present, then the implementation is required to ignore it.
per- son_id	xs:IDRE	EFOp- tional	Sin- l gle	Reference to a <i>person</i> element with additional information about the candidate.	If the field is invalid or not present, then the implementation is required to ignore it.
post_el	ection <u>i-</u> stati date_post		Sin- b <u>rgl</u> etat	Final status of the candidate (e.g. winner, with- udrawn, etc).	If the field is invalid or not present, then the implementation is required to ignore it.
pre_ele	ction <u>d</u> istatu date_pre_		Sin- n_gl <i>tatu</i>	Registration status of the candidate (e.g. filed, squalified, etc).	If the field is invalid or not present, then the implementation is required to ignore it.

```
id, ballot_name, external_identifier_type, external_identifier_othertype, external_
identifier_value, file_date, is_incumbent, is_top_ticket, party_id, person_id, post_
election_status, pre_election_status
can001, Jude Fawley,,,,2016-12-01, true, false, par01, per50001,, filed
can002, Arabella Donn,,,,2016-12-01, false, false, par02, per50002,, qualified
can003, John Coltrane,,,,2016-09-23, false, false, par02, per50003,, qualified
can004, Miles Davis,,,,2016-05-26, false, false, par01, per50004,, qualified
```

candidate contest

CandidateContest extends *contest_base* and represents a contest among candidates.

Tag		Re-	Re-	Description	Error Han-
		quire	•		dling
num-	xs:i	.r @ipe -g	e S in−	Number of candidates that are elected in the contest (i.e. "N" of N-of-	If the field
ber_e	lected	tional	lgle	M).	is invalid or
					not present,
					then the
					implemen-
					tation is
					required to
					ignore it.
of-	xs:]	D OP	S Sin-	References a set of office elements, if available, which give additional	If the field
fice_i		tional		information about the offices. Note: the order of the office IDs must	is invalid or
				be in the same order as the candidates listed in BallotSelectionIds. E.g.,	not present,
				if the various <i>BallotSelectionIds</i> reference <i>candiate_selection</i> elements	then the
				which reference the candidate for President first and Vice-President sec-	implemen-
				ond, the OfficeIds should reference the office of President first and the	tation is
				office of Vice-President second.	required to
					ignore it.
pri-	xs:]	D OP pEF	SSin-	References <i>party</i> elements, if the contest is related to a particular party.	If the field
mary	_party_	_i dis onal	l gle		is invalid or
					not present,
					then the
					implemen-
					tation is
					required to
					ignore it.
votes	_alkowi	e rl1) pe-g	eSin-	Maximum number of votes/write-ins per voter in this contest.	If the field
		tional			is invalid or
			-		not present,
					then the
					implemen-
					tation is
					required to
					ignore it.

id, abbreviation, ballot_selection_ids, ballot_sub_title, ballot_title, electoral_

→district_id, electorate_specification, external_identifier_type, external_identifier_

→othertype, external_identifier_value, has_rotation, name, sequence_order, vote_variation,

→other_vote_variation, number_elected, office_ids, primary_party_ids, votes_allowed

cancon001, SE-1, bs001 bs002, Governor of Virginia, ed001, all registered voters, fips,,

→49, true, Governor, 1,,, 1, off001, par01, 1

cancon002, SE-2, bs003 bs004, Lieutenant Governor of Virginia, ed001, all registered_

→voters, fips,, 49, true, Lt Governor, 2,,, 1, off002, par01, 1

contest base

A base model for all Contest types: *ballot_measure_contest*, *candidate_contest*, *party_contest*, and *retention_contest* (NB: the latter because it extends *ballot_measure_contest*).

Tag	Data	Re-	Re-	Description	Error Handling
	Туре		døeats		
ab-	xs:st	т Ор тд	I .	An abbreviation for the contest.	If the field is
bre-		tional	l gle		invalid or not
via-					present, then the
tion					implementation
					should ignore it.
bal-	xs:II	р Юр -S	Sin-	References a set of BallotSelections, which could be of any se-	If the field is
lot_se	lection_	id s onal	l gle	lection type that extends <i>ballot_selection_base</i> .	invalid or not
					present, then the
					implementation
					should ignore it.
bal-	xs:s	г Ор ъд	Sin-	Subtitle of the contest as it appears on the ballot.	If the element
	b_title	tional	1		is invalid or not
					present, then the
					implementation
					should ignore it.
bal-	xs · si	г Ор ъд	Sin-	Title of the contest as it appears on the ballot.	If the element
lot_tit	l	tional	I .	The of the contest as it appears on the barrot.	is invalid or not
151_11		Hond	5.0		present, then the
					implementation
					should ignore it.
elec-	xs:II	TD:	Sin-	References an <i>electoral_district</i> element that represents the ge-	If the field is
	district_			ographical scope of the contest.	invalid, then
torai_	uisuici_	laquire	ugie	ographical scope of the contest.	,
					the implementa-
					tion is required
					to ignore the
					ContestBase
					element containing
_			~.		it.
elec-	l	т Ор тд	1	Specifies any changes to the eligible electorate for this contest	If the element
torate	_specifi	ca tion a.	l gle	past the usual, "all registered voters" electorate. This subtag	is invalid or not
				will most often be used for primaries and local elections. In	present, then the
				primaries, voters may have to be registered as a specific party	implementation
				to vote, or there may be special rules for which ballot a voter	should ignore it.
				can pull. In some local elections, non-citizens can vote.	
ex-	xs:st	т Ор тд		Other identifiers for a contest that links to another source of	If the element
ter-		tional	l gle	information.	is invalid or not
nal_ic	lentifier	 			present, then the
					implementation
					should ignore it.
has_r	otatsono			Indicates whether the selections in the contest are rotated.	If the field is
		tional	gle		invalid or not
					present, then the
					implementation
					should ignore it.
name	xs:s	r Re rg	Sin-	Name of the contest, not necessarily how it appears on the ballot	If the field is
		quire	1	(NB: BallotTitle should be used for this purpose).	invalid, then
		•		1 1 /	the implementa-
					tion is required
					to ignore the
					ContestBase
					element containing
					it.
se-	ve-i	nt Qp ge	r Sin_	Order in which the contests are listed on the ballot. This is the	If the field is
	e_order			default ordering, and can be overrides by data in Ghapter . 3,1,0	SK Documentation
- चृत्तदाा	c_order	uona	gie	element.	present, then the
				CICHICIII.	-
					implementation
					should ignore it.

candiate selection

CandidateSelection extends ballot_selection_base and represents a ballot selection for a candidate contest.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeats	3?	
candi-	xs:I	D O p.f:	Sin-	References a set of <i>candidate</i> elements. The number of	If the field is invalid
date_ids		tional	l gle	candidates that can be references is unbounded in cases	or not present, then the
				where the ballot selection is for a ticket (e.g. "Presi-	implementation is re-
				dent/Vice President", "Governor/Lt Governor").	quired to ignore it.
en-	xs:I	D O pF	Sin-	References a set of <i>party</i> elements, which signifies one or	If the field is invalid
dorse-		tional	l gle	more endorsing parties for the candidate(s).	or not present, then the
ment_pa	arty_ids				implementation is re-
					quired to ignore it.
is_write	_ixas:b	⊙0 ptea	ar Sin -	Signifies if the particular ballot selection allows for write-	If the field is invalid
		tional	gle	in candidates. If true, one or more write-in candidates are	or not present, then the
				allowed for this contest.	implementation is re-
					quired to ignore it.

```
id, sequence_order, candidate_ids, endorsement_party_ids, is_write_in
cs001,3,can004,par01,false
cs002,2,can001 can002,par03 par02,false
cs003,1,can003,par02 par03,true
```

ballot selection base

A base model for all ballot selection types: ballot_measure_selection, candiate_selection, and party_selection.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	døeats	s?	
se-	xs:i	n Op pge	rSin-	The order in which a selection can be listed on the	If the field is invalid or
quence	_order	tiona	l gle	ballot or in results. This is the default ordering, and	not present, then the im-
				can be overridden by OrderedBallotSlectionIds in or-	plementation is required to
				dered_contest.	ignore it.

election

The Election object represents an Election Day, which usually consists of many individual contests and/or referenda. A feed must contain **exactly one** Election object. All relationships in the feed (e.g., street segment to precinct to polling location) are assumed to relate only to the Election specified by this object. It is permissible, and recommended, to combine unrelated contests (e.g., a special election and a general election) that occur on the same day into one feed with one Election object.

Tag		Re- guire	Re- døeats	Description ??	Error Handling
date		da Re quire	Sin-	Specifies when the election is being held. The <i>Date</i> is considered to be in the timezone local to the state holding the election.	If the field is invalid, then
					the implementa-
					tion is required to ignore the
					to ignore the Election ele-
					ment containing
					it.
elec-	1	t Op -n	I I	Specifies the highest controlling authority for election (e.g., fed-	If the element
tion_t	уре	tiona	l gle	eral, state, county, city, town, etc.)	is invalid or not present, then the
					implementation
					is required to
					ignore it.
state_	idxs:			Specifies a link to the <i>State</i> element where the election is being	If the field is
		quire	dgle	held.	invalid, then the implementa-
					tion is required
					to ignore the
					Election ele-
					ment containing
is stat	tewide h	_chnΩn	a Sin-	Indicates whether the election is statewide.	it. If the field is
15_514	ic variote i	tiona	1	indicates whether the election is statewide.	not present or in-
					valid, the imple-
					mentation is re-
					quired to default
name	ve•	s t Op i-n	orSin-	The name for the election (NB : while optional, this element is	to "yes". If the element
патте	75.	tiona		highly recommended).	is invalid or not
				•	present, then the
					implementation
					is required to
reg-	xs:s	: ::(/)ni- n	g Sin-	Specifies information about registration for this election either as	ignore it. If the element
is-	710.0	tiona		text or a URI.	is invalid or not
tra-					present, then the
tion_i	nfo				implementation
					is required to ignore it.
ab-	xs:s	st Opi- n	a Sin-	Specifies information about requesting absentee ballots either as	If the element
sen-		tiona		text or a URI	is invalid or not
tee_ba	allot_in				present, then the
					implementation
					is required to
re-	xs:a	ar Qpj JR	⊺ Sin-	Contains a URI where results for the election may be found	ignore it. If the field is
sults_		tiona		2 a 2	invalid or not
_			_		present, then the
					implementation
					is required to ignore it.
pollin	g_hours	:†()ni- n	a Sin-	Contains the hours (in local time) that Election Day polling lo-	If the element
200		tiona	1	cations are open. If polling hours differ in specific hapter 30c S	
				tions, alternative hours may be specified in the <i>polling_location</i>	present, then the
				object (NB: this element is deprecated in favor of the more struc-	implementation
				tured :ref:'multi-csv-hours-open' element. It is strongly encour-	is required to

id, date, name, election_type, state_id, is_statewide, registration_info, absentee_ballot_
→info, results_uri, polling_hours, has_election_day_registration, registration_deadline,
→absentee_request_deadline, hours_open_id
e001,10-08-2016, Best Hot Dog, State, st51, true, www.registrationinfo.com, You can vote_
→absentee, http://hotdogcontest.gov/results, Noon to 3p.m., true, 10/08/2016, , ho002

election_administration

The Election Administration represents an institution for serving a locality's (or state's) election functions.

Type quiredpeats? ab- xs:arQppRISin- Specifies the web address for informational gle tion on absentee voting. If the field is invalid or not protection is required to	
sen- tional gle tion on absentee voting implementation is required to	
sen nonat gie non on absence voung. implementation is required to	o ignore it.
tee_uri	
am_i_regissered Optin Sin- Specifies the web address for informa- If the field is invalid or not pro	esent, then the
tional gle tion on whether an individual is regis- implementation is required to	o ignore it.
tered.	
bal- xs: arQpbRISin- Specifies the web address for tracking If the field is invalid or not pro-	resent, then the
lot_tracking_uritional gle information for a ballot cast by mail implementation is required to	
bal- xs: arQpbHRISin- Specifies the web address for tracking If the field is invalid or not pro-	resent, then the
lot_tracking_protionidngleur information for a provisional ballot. implementation is required to	o ignore it.
To support EAC guidelines for "Pro-	
cessing Provisional Ballots" (https:	
//www.eac.gov/research-and-data/	
provisional-voting/)	
de- de- Re- Re- Describes the administrative body for There must be at least one	
part- part- quiredpeats a particular voter service. ment in each ElectionAdmir	
ment ment ment ment. If no valid Departme	
present, the implementation	
ignore the ElectionAdministration	tration object
that contains it/them.	
elec- elec- Op- Sin- A place for election administrators to If the element is invalid or no	•
tion_noticion_noticional gle post last minute and emergency notifi- the implementation is require	ed to ignore it.
cations pertaining to the election.	
elec- xs: arQpbR I Sin- Specifies web address the administra- If the field is invalid or not pro-	
tions_uri tional gle tion's website. implementation is required to	
reg- xs: arQpbr I Sin- Specifies web address for information If the field is invalid or not pro	
istra- tional gle on registering to vote. implementation is required to	o ignore it.
tion_uri	
rules_urixs: arQppr I Sin- Specifies a URI for the election rules If the field is invalid or not pro	
tional gle and laws (if any) for the jurisdiction of implementation is required to	o ignore it.
the administration.	
what_is_ons_may@patkotSin- Specifies web address for information If the field is invalid or not pro-	
tional gle on what is on an individual's ballot. implementation is required to	
where_dox_s:_vontoptiff Sin- The Specifies web address for infor- If the field is invalid or not pro-	· ·
tional gle mation on where an individual votes implementation is required to	o ignore it.
based on their address.	

department

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dpeats	3?	
con-	con-	Op-	Sin-	Contact and physical address information	If the element is invalid or not
tact_inform	ation_infor	mtional	gle	for the election administration body (see	present, then the implementa-
				contact_information).	tion is required to ignore it.
elec-	xs:IDRE	ГГОр-	Sin-	The individual to contact at the election	If the field is invalid or not
tion_officia	l_person_id	l tional	gle	administration office. The specified per-	present, then the implementa-
				son should be the election official.	tion is required to ignore it.
voter_servi	cemulti-	Op-	Re-	The types of services and appropriate	If the element is invalid or not
	csv-	tional	peats	contact individual available to voters.	present, then the implementa-
	voter-				tion is required to ignore it.
	service				

```
id, election_official_person_id, election_administration_id
dep01, per50002, ea123
dep02, per50002, ea345
dep03, per50002, ea625
dep04, per50002, ea625
```

voter service

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired	l?peats	?	
con-	con-	Op-	Sin-	The contact for a particular voter	If the element is invalid or not
tact_informa	ti on ct_infor	mtional	gle	service.	present, then the implementation is
					required to ignore it.
description	xs:stri	.n @p-	Sin-	Long description of the services	If the element is invalid or not
		tional	gle	available.	present, then the implementation is
					required to ignore it.
elec-	xs:IDRE	FOp-	Sin-	The authority for a particular	If the field is invalid or not present,
tion_official_	_person_id	tional	gle	voter service.	then the implementation is required
					to ignore it.
type	voter_serv	у і@ р#ур	e Sin-	The type of <i>voter service</i> .	If the field is invalid or not present,
		tional	gle		then the implementation is required
					to ignore it.
other_type	xs:stri	n Q p-	Sin-	If Type is "other", OtherType al-	If the field is invalid or not present,
		tional	gle	lows for cataloging another type	then the implementation is required
				of voter service.	to ignore it.

```
id, description, election_official_person_id, type, other_type, department_id
vs01, A service we provide, per50002, other, overseas-voting, dep01
vs00, Elections notifications, per50002, other, voter-registration, dep02
vs02, Pencil sharpening, per50002, other, office-help, dep03
vs03, Guided hike to polling place, per50002, other, polling-places, dep03
vs04, Bike messenger ballot delivery, per50002, other, absentee-ballots, dep03
```

contact_information

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *election_administration*, *office*, *person*, *source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag		Re-	Re-	Description	Error Handling
	Type	quire	døeat		
ad-	xs:s	t Op -n	gRe-	The "location" portion of a mailing address. See usage note.	If the field is invalid
dress	_line	tional	peats		or not present, then
			_		the implementation is
					required to ignore it.
di-	xs:s	t Op i-n	g Sin-	Specifies further instructions for locating this entity.	If the element is in-
rec-		tional	- 1		valid or not present,
tions					then the implementa-
					tion is required to ig-
					nore it.
email	xs:s	t Op i-n	Re-	An email address for the contact.	If the field is invalid
		- 1	peats		or not present, then
			1		the implementation is
					required to ignore it.
fax	xs:s	t Op i-n	aRe-	A fax line for the contact.	If the field is invalid
		- 1	peats		or not present, then
			1		the implementation is
					required to ignore it.
hours	XS:S	t Op i-n	Sin-	Contains the hours (in local time) that the location is open	If the element is in-
		tional	- 1	(NB: this element is deprecated in favor of the more structured	valid or not present,
				:ref: 'multi-csv-hours-open' element. It is strongly encouraged	then the implementa-
				that data providers move toward contributing hours in this for-	tion is required to ig-
				mat).	nore it.
hours	_open]	iæ⊅p -F	Sin-	References an <i>hours_open</i> element, which lists the hours of	If the field is invalid
	_	tional	gle	operation for a location.	or not present, then
					the implementation is
					required to ignore it.
lat_lo	n <i>lgit_le</i>	<i>n</i> @ p-	Sin-	Specifies the latitude and longitude of this entity.	If the element is in-
		tional	gle		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
name	xs:s	t 0p -n	- 1	The name of the location or contact. See usage note.	If the field is invalid
		tional	gle		or not present, then
					the implementation is
					required to ignore it.
phone	e xs:s	t 0p -n		A phone number for the contact.	If the field is invalid
		tional	peats		or not present, then
					the implementation is
					required to ignore it.
uri	xs:a	ar Qpb JR	- 1	An informational URI for the contact or location.	If the field is invalid
		tional	peats		or not present, then
					the implementation is
					required to ignore it.

```
id, address_line_1, address_line_2, address_line_3, directions, email, fax, hours, hours_
open_id, latitude, longitude, latlng_source, name, phone, uri, parent_id
ci0827, The White House, 1600 Pennsylvania Ave,,, josh@example.com,, Early to very late,,
o,,, Josh Lyman, 555-111-2222, http://lemonlyman.example.com,, Early to very late,,
o,,, Josh Lyman, 555-111-2222, http://lemonlyman.example.com, vs01
```

election_notice

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d peats	?	
elec-	xs:st	: Re ng	Sin-	The last minute or emergency noti-	If the element is invalid, then the im-
tion_noti	ce_text	quire	d gle	fication text should be placed here.	plementation is required to ignore the
					ElectionNotice element containing it.
elec-	xs:st	.1Ор -19	Sin-	Optional URL for additional infor-	If the field is invalid or not present, then the
tion_noti	ce_uri	tional	gle	mation related to the last minute or	implementation is required to ignore it.
				emergency notification.	

voter_service

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired	l?peats	?	
con-	con-	Op-	Sin-	The contact for a particular voter	If the element is invalid or not
tact_informa	ti on ct_infor	mtional	gle	service.	present, then the implementation is
					required to ignore it.
description	xs:stri	n Q p-	Sin-	Long description of the services	If the element is invalid or not
		tional	gle	available.	present, then the implementation is
					required to ignore it.
elec-	xs:IDRE	ГОр-	Sin-	The <i>authority</i> for a particular	If the field is invalid or not present,
tion_official_	_person_id	tional	gle	voter service.	then the implementation is required
					to ignore it.
type	voter_ser	v і@<u>p</u> ŧур	e Sin-	The type of <i>voter service</i> .	If the field is invalid or not present,
		tional	gle		then the implementation is required
					to ignore it.
other_type	xs:stri	n Q p-	Sin-	If Type is "other", OtherType al-	If the field is invalid or not present,
		tional	gle	lows for cataloging another type	then the implementation is required
				of voter service.	to ignore it.

```
id, description, election_official_person_id, type, other_type, department_id vs01, A service we provide, per50002, other, overseas-voting, dep01 vs00, Elections notifications, per50002, other, voter-registration, dep02 vs02, Pencil sharpening, per50002, other, office-help, dep03 vs03, Guided hike to polling place, per50002, other, polling-places, dep03 vs04, Bike messenger ballot delivery, per50002, other, absentee-ballots, dep03
```

electoral district

2

The ElectoralDistrict object represents the geographic area in which contests are held. Examples of ElectoralDistrict include: "the state of Maryland", "Virginia's 5th Congressional District", or "Union School District". The geographic area that comprises a ElectoralDistrict is defined by which precincts link to the ElectoralDistrict.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	døeats	s?	
ex-	ex-	Op-	Sin-	Other identifiers that link to external datasets (e.g.	If the element is invalid or
ter-	ter-	tional	l gle	'OCD-IDs'_)	not present, then the imple-
nal_id	lentif <u>ie</u> r	kentifie.	rs		mentation is required to ig-
					nore it.
name	xs:s	t Rė ng	Sin-	Specifies the electoral area's name.	If the field is invalid or not
		quire	dgle		present, then the implemen-
					tation is required to ignore
					the ElectoralDistrict
					object containing it.
num-	xs:i	n Op ge	erSin-	Specifies the district number of the district (e.g. 34, in	If the field is invalid or not
ber		tional	l gle	the case of the 34th State Senate District). If a number	present, then the implemen-
				is not applicable, instead of leaving the field blank,	tation is required to ignore it.
				leave this field out of the object; empty strings are not	
				valid for xs:integer fields.	
type	dis-	Re-	Sin-	Specifies the type of electoral area.	If the field is invalid or not
	trict_t	y g aire	dgle		present, then the implemen-
					tation is required to ignore
					the ElectoralDistrict
					object containing it.
other_	tyxpxe:s	t 0p ng	Sin-	Allows for cataloging a new <i>district_type</i> option when	If the field is invalid or not
		tional	l gle	Type is specified as "other".	present, then the implemen-
					tation is required to ignore it.

external_file

The ExternalFile object holds a reference to a file external to the feed itself. External files are packaged along with the VIP feed into a single, archived file.

Tag	Data	Re-	Re-	Description	Error Handling	
	Type	quired	?peats	?		
file_uri	xs:an	y Re I	Sin-	The URI of the external	If the field is invalid, then the implementation is	
		quired gle		file.	required to ignore the ExternalFile elemen	
					containing it.	
check-	xs:ID	r Re -	Sin-	The cryptographic check-	If the element is invalid, then the implementation	
sum_id		quired gle		sum of the referenced ex-	is required to ignore the ExternalFile element	
				ternal file.	containing it.	

```
id,file_uri,checksum_id
ef1,precinct_shapes.zip,ch1
```

ed002, other, community-board, 4, CB 4, 2, other, community-board

checksum

The Checksum object contains information about a cryptographic checksum, including the raw checksum value and the cryptographic hash algorithm used to compute it.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dpeats	?	
al-	check-	Re-	Sin-	The cryptographic hash algorithm	If the field is invalid, then the im-
go-	sum_algo	<i>riqu</i> ired gle		used to compute the checksum value.	plementation is required to ignore the
rithm					Checksum element containing it.
value	xs:str	ir R ge-	Sin-	The raw cryptographic checksum	If the field is invalid, then the im-
		quired gle		value encoded as a non-delimited,	plementation is required to ignore the
				lowercase hexadecimal string.	Checksum element containing it.

id,algorithm,value

ch1, sha-256, 65b634c5037f8a344616020d8060d233daa37b0f032a71d0d15ad7a5d3afa68e

external_identifier

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dpeats	s?	
type	ident	i f Rice r	_ Siyn pe	e Specifies the type of identifier. Must be one of	If the field is invalid or not
		quire	d gle	the valid types as defined by <i>identifier_type</i> .	present, the implementa-
					tion is required to ignore the
					ElectionIdentifier con-
					taining it.
other	_txpe st:	r Op g	Sin-	Allows for cataloging an	If the field is invalid or not present,
		tiona	gle	ExternalIdentifier type that falls	then the implementation is re-
				outside the options listed in identifier_type.	quired to ignore it.
				Type should be set to "other" when using this	
				field.	
value	xs:st:	r Re g	Sin-	Specifies the identifier.	If the field is invalid or not
		quire	d gle		present, the implementa-
					tion is required to ignore the
					ElectionIdentifier con-
					taining it.

external_identifiers

The ExternalIdentifiers element allows VIP data to connect with external datasets (e.g. candidates with campaign finance datasets, electoral geographies with OCD-IDs that allow for greater connectivity with additional datasets, etc...). Examples for ExternalIdentifiers can be found on the objects that support them:

- candidate
- Any element that extends *contest_base*
- electoral_district
- locality
- office

- party
- precinct
- state

Tag	Data	Re-	Re- Re- Description		Error Handling		
	Type	quired@eats?		s?			
ex-	ex-	Re- Re- Defines the identifie		Defines the identifier and	At least one valid ExternalIdentifier must be present		
ter-	ter-	quire	d peats	the type of identifier it	for ExternalIdentifiers to be valid. If no valid		
nal_id	nal_identifierlentifier		r	is (see 'ExternalIdenti-	ExternalIdentifier is present, the implementation is		
				fier'_ for complete infor-	required to ignore the ExternalIdentifiers ele-		
		ma		mation).	ment.		

hours_open

A structured way of describing the days and hours that a place such as a *office* or *polling_location* is open, or that an event such as an *election* is happening. The range of days indicated by the *StartDate* and *EndDate* in each *Schedule* element should not overlap with peer *Schedule* elements. For example, it is invalid to specify a schedule from 10/01/2016 to 10/31/2016 and also specify a schedule from 10/10/2016 to 10/11/2016 within the same *HoursOpen* element.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dpeats	s?	
sched	l-sched	- Re-	Re-	Defines a block of	At least one valid Schedule must be present for HoursOpen
ule	ule	quire	quired peats days and hours that a		to be valid. If no valid <i>Schedule</i> is present, the implementation
				place will be open.	is required to ignore the HoursOpen element.

schedule

A sub-portion of the schedule. This describes a range of days, along with one or more set of open and close times for those days, as well as the options describing whether or not appointments are necessary or possible.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	dβeats	3?	
hours	hours	Op-	Re-	Blocks of hours in the date range in which the place	If the element is invalid or
		tional	peats	is open.	not present, then the im-
					plementation is required to
					ignore it.
is_only_b	y <u>x</u> appo			If true, the place is only open during the specified	If the field is invalid or
		tional	gle	time window with an appointment.	not present, then the im-
					plementation is required to
					ignore it.
is_or_by_	_appoiln			If true, the place is open during the hours specified	If the field is invalid or
		tional	gle	time window and may also be open with an appoint-	not present, then the im-
				ment.	plementation is required to
					ignore it.
is_subjec	t_xcs_ch			If true, the place should be open during the specified	If the field is invalid or
		tional	gle	time window, but may be subject to change. People	not present, then the im-
				should contact prior to arrival to confirm hours are	plementation is required to
				still accurate.	ignore it.
start_date	xs:d		Sin-	The date at which this collection of start and end	If the field is invalid or
		tional	gle	times and options begin.	not present, then the im-
					plementation is required to
					ignore it.
end_date	xs:d	а О ф-	Sin-	The date at which this collection of start and end	If the field is invalid or
		tional	gle	times and options end.	not present, then the im-
					plementation is required to
					ignore it.

```
id, start_time, end_time, is_only_by_appointment, is_or_by_appointment, is_subject_to_
change, start_date, end_date, hours_open_id
sch001,07:00:00-06:00,22:00:00-06:00, true,,2016-10-10,2016-10-12,ho001
sch002,09:00:00-06:00,20:00:00-06:00,true,,,2016-10-13,2016-10-15,ho001
sch003,08:00:00-06:00,14:00:00-06:00,, true,2016-10-10,2016-10-15,ho002
```

hours

The open and close time for this place. All times must be fully specified, including a timezone offset from UTC.

Tag	Data	Re- Re-		Description	Error Handling		
	Туре	quired?	peats?				
start_ti	start_timeime_with_zOp-		Sin-	The time at which	If the element is invalid or not present, then the		
		tional	gle	this place opens.	implementation is required to ignore it.		
end_tin	end_timetime_with_zOp- Sin-		Sin-	The time at which	If the element is invalid or not present, then the		
		tional	gle	this place closes.	implementation is required to ignore it.		

time_with_zone

A string pattern restricting the value to a time with an included offset from UTC. The pattern is

```
<HoursOpen id="hours0001">
    <Schedule>
2
      <Hours>
3
        <StartTime>06:00:00-05:00
        <EndTime>12:00:00-05:00
      </Hours>
      <Hours>
        <StartTime>13:00:00-05:00
        <EndTime>19:00:00-05:00
9
      </Hours>
10
      <StartDate>2013-11-05
11
      <EndDate>2013-11-05</EndDate>
12
    </Schedule>
13
  </HoursOpen>
```

internationalized text

InternationalizedText allows for support of multiple languages for a string. InternationalizedText has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID). Examples of InternationalizedText can be seen in: * Any element that extends <code>contest_base*</code> Any element that extends <code>ballot_selection_base*</code> candidate * <code>contact_information*</code> election * election_administration * office * party * person * polling_location * source NOTE: Internationalized Text is not currently supported for CSV submissions.

Tag	Data	Re- Re- Description			Erro	r Hand	ling							
	Type	quired@eats?												
text	xs:s	t Rė ng	Re-	Contains	the	At	least	one	valid	Text	must	be	present	for
		quire	d peats	peats translations of a			ernat	ional	izedT	ext to	be val	id.	If no	valid
				particular	string	Tex	t is p	resent,	the in	plementa	ation is	requ	ired to ig	gnore
				of text.	the I	Intern	atio	nalize	dText e	element.				

language string

LanguageString extends xs:string and can contain text from any language. LanguageString has one required attribute, language, that must contain the 2-character language code for the type of language LanguageString contains.

```
SallotTitle>

Text language="en">Retention of Supreme Court Justice</Text>

Text language="es">La retención de juez de la Corte Suprema</Text>

(/BallotTitle>
```

locality

The Locality object represents the jurisdiction below the *state* (e.g. county).

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dβeats	s?	-
elec-	xs:	D OPP F	Sin-	Links to the locality's elec-	If the field is invalid or not present,
tion_a	dminist	rationa	ligtle	tion_administration object.	then the implementation is required to
					ignore it.
ex-	ex-	Op-	Sin-	Another identifier for a locality that links to	If the element is invalid or not
ter-	ter-	tional		another dataset (e.g. 'OCD-ID'_)	present, then the implementation is
	entif <u>le</u> r				required to ignore it.
is_mai	il_xonalsyt	- 1		Determines if the locality runs mail-only	If the field is missing or invalid, the
		tional	gle	elections. If this is true, then all precincts a	implementation is required to assume
				part of the locality will also run mail-only	IsMailOnly is false.
				elections. Drop boxes may be used in ad-	
				dition to this flag using a polling location	
				record configured as a Drop Box.	
name	xs:	st Re -n	-	Specifies the name of a locality.	If the field is invalid, then the im-
		quire	dgle		plementation is required to ignore the
					Locality element containing it.
polling	_kocati			Specifies a link to a set of the locality's	If the field is invalid or not present,
		tional	gle	:ref: polling locations <multi-csv-polling-< td=""><td>the implementation is required to ig-</td></multi-csv-polling-<>	the implementation is required to ig-
				location>'s. If early vote centers or ballot	nore it. However, the implementation
				drop locations are locality-wide, they should	should still check to see if there are
				be specified here.	any polling locations associated with
					this locality's state.
state_i	idxs:I		Sin-	References the locality's <i>state</i> .	If the field is invalid, then the im-
		quire	dgle		plementation is required to ignore the
					Locality element containing it.
type	dis-	Op-	Sin-	Defines the kind of locality (e.g. county,	If the field is invalid or not present,
	trict_	<i>ty</i> pional	gle	town, et al.), which is one of the various <i>Dis</i> -	then the implementation is required to
				trictType enumerations.	ignore it.
other_	type:	- 1	- 1	Allows for defining a type of locality that	If the field is invalid or not present,
		tional	gle	falls outside the options listed in District-	then the implementation is required to
				Type.	ignore it.

```
id, election_administration_id, external_identifier_type, external_identifier_othertype,

--external_identifier_value, is_mail_only, name, polling_location_ids, state_id, type,

--other_type
loc001, ea123, ocd-id,, ocd-division/country:us/state:co/county:denver, true, Locality #1,

--poll001 poll002, st51, city,
loc002, ea345,,,,, Locality #2,, st51, other, unique type
```

office

Office represents the office associated with a contest or district (e.g. Alderman, Mayor, School Board, et al).

Tag	Data	Re-	Re-	Description	Error Handling
	Type quiredpeats		døeats	s?	
con-	xs:II	FOLIPF-	Re-	Links to the <i>contact_information</i> ele-	If the element is invalid or not present,
tact_inform	nation_i	d tional	peats	ment associated with the office.	then the implementation is required to
					ignore it.
descrip-	xs:st	т Ор тд	Sin-	A brief description of the office and its	If the element is invalid or not present,
tion		tional	gle	purpose.	then the implementation is required to
					ignore it.
elec-	xs:II	₽ Re -	Sin-	Links to the <i>electoral_district</i> element	If the field is invalid or not present,
toral_distri	ct_id	quire	d gle	associated with the office.	the implementation is required to ig-
					nore the Office element containing
					it.
exter-	xs:II	FOEps-	Sin-	Other identifiers that link this office to	If the element is invalid or not present,
nal_identif	iers	tional	gle	other related datasets (e.g. campaign	then the implementation is required to
				finance systems, OCD IDs, et al.).	ignore it.
fil-	xs:da	a t@p -	Sin-	Specifies the date and time when a	If the field is invalid or not present,
ing_deadli	ne	tional	gle	candidate must have filed for the con-	then the implementation is required to
				test for the office.	ignore it.
is_partisan	xs:bo	ο Ωpe a:	n Sin-	Indicates whether the office is parti-	If the field is invalid or not present,
		tional	gle	san.	then the implementation is required to
					ignore it.
name	xs:st	:Re -g	Sin-	The name of the office.	If the field is invalid or not present,
		quire	d gle		the implementation is required to ig-
					nore the Office element containing
					it.
of-	xs:II	1 02p F-S	Sin-	Links to the <i>person</i> element(s) that	If the field is invalid or not present,
fice_holder	r_persor	n_tidənal	gle	hold additional information about the	then the implementation is required to
				current office holder(s).	ignore it.
term	term	Op-	Sin-	Defines the term the office can be held.	If the element is invalid or not present,
		tional	gle		then the implementation is required to
					ignore it.

term

Tag	Data	Re-	Re-	Description	Error Handling	
	Type	quired	quired?peats?			
term_ty	pe <i>of-</i>	Op-	- Sin- Specifies the type of office		If the field is invalid or not present, the imple-	
	fice_tern	ı <u>ti</u> ynal	gle	term (see office_term_type for	mentation is required to ignore the Office el-	
				valid values).	ement containing it.	
term_sta	urt <u>x</u> datdat	еОр-	Sin-	Specifies the start date for the	If the field is invalid or not present, then the	
		tional	gle	current term of the office.	implementation is required to ignore it.	
term_en	d <u>x</u> datedat	еОр-	Sin-	Specifies the end date for the	If the field is invalid or not present, then the	
		tional	gle	current term of the office.	implementation is required to ignore it.	

contact_information

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *election_administration*, *office*, *person*, *source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag		Re-	Re-	Description	Error Handling
	Type	quire	døeat		
ad-	xs:s	t Op -n	gRe-	The "location" portion of a mailing address. See usage note.	If the field is invalid
dress	_line	tional	peats		or not present, then
			_		the implementation is
					required to ignore it.
di-	xs:s	t Op i-n	g Sin-	Specifies further instructions for locating this entity.	If the element is in-
rec-		tional	- 1		valid or not present,
tions					then the implementa-
					tion is required to ig-
					nore it.
email	xs:s	t Op i-n	Re-	An email address for the contact.	If the field is invalid
		- 1	peats		or not present, then
			1		the implementation is
					required to ignore it.
fax	xs:s	t Op i-n	aRe-	A fax line for the contact.	If the field is invalid
		- 1	peats		or not present, then
			1		the implementation is
					required to ignore it.
hours	XS:S	t Op i-n	Sin-	Contains the hours (in local time) that the location is open	If the element is in-
		tional	- 1	(NB: this element is deprecated in favor of the more structured	valid or not present,
				:ref: 'multi-csv-hours-open' element. It is strongly encouraged	then the implementa-
				that data providers move toward contributing hours in this for-	tion is required to ig-
				mat).	nore it.
hours	_oxpsen]	iæ⊅p -F	Sin-	References an <i>hours_open</i> element, which lists the hours of	If the field is invalid
	_	tional	gle	operation for a location.	or not present, then
					the implementation is
					required to ignore it.
lat_lo	n <i>lgit_le</i>	<i>n</i> @ p-	Sin-	Specifies the latitude and longitude of this entity.	If the element is in-
		tional	gle		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
name	xs:s	t 0p -n	- 1	The name of the location or contact. See usage note.	If the field is invalid
		tional	gle		or not present, then
					the implementation is
					required to ignore it.
phone	e xs:s	t 0p -n		A phone number for the contact.	If the field is invalid
		tional	peats		or not present, then
					the implementation is
					required to ignore it.
uri	xs:a	ar Qpb JR	- 1	An informational URI for the contact or location.	If the field is invalid
		tional	peats		or not present, then
					the implementation is
					required to ignore it.

```
id, address_line_1, address_line_2, address_line_3, directions, email, fax, hours_hours_
open_id, latitude, longitude, latlng_source, name, phone, uri, parent_id
ci0827, The White House, 1600 Pennsylvania Ave,,, josh@example.com,, Early to very late,,
o,,, Josh Lyman, 555-111-2222, http://lemonlyman.example.com,, Early to very late,,
o,,, Josh Lyman, 555-111-2222, http://lemonlyman.example.com, vs01
```

ordered contest

OrderedContest encapsulates links to the information that comprises a contest and potential ballot selections. OrderedContest elements can be collected within a *ballot_style* to accurate depict exactly what will show up on a particular ballot in the proper order.

Tag	Data	Re-	Re-	Descrip-	Error Handling
	Type quired@eats?tion		s?ion		
con-	xs:	D Re FF	Sin-	Links to el-	If the field is invalid or not present, the implementation is required to
test_id	quiredgle ements that		ements that	ignore the OrderedContest element containing it.	
				extend con-	
				test_base.	
or-	IDRE	ΣΕ Ο ΣΡ-	Sin-	Links to el-	If the field is invalid or not present, the implementation is required to
dered_b	allot_s	el eictin ai	h_gilts	ements that	ignore it. If an OrderedBallotSelectionIds element is not
	extend bal- present, the presumed order of the selection will be t		present, the presumed order of the selection will be the order of bal-		
				lot_selection_blaste_selection_base-extended elements referenced by the underly	
					contest_base-extended elements.

```
id, contest_id, ordered_ballot_selection_ids
oc2025, con001, bs001 bs002 bs003
oc3000, con002, bs001
```

party

This element describes a political party and the metadata associated with them. These can also include "dummy" parties to indicate a type of contest (e.g., a Voter Nominated *candidate_contest* can use the **PrimaryPartyIds** field and a dummy Party object to indicate that the contest is a "Top-Two" primary).

Tag	Data	l	Re-	Description	Error Handling
	Type		døeats		
ab-	xs:s	t Op no		An abbreviation for the party name.	If the field is in-
bre-		tiona	l gle		valid or not present,
via-					then the implemen-
tion					tation is required to
					ignore it.
color	html_6	c <i>0</i> 0p s	_	The preferred display color for the party, for use in maps and	If the element is in-
		tiona	l gle	other displays.	valid or not present,
					then the implemen-
					tation is required to
					ignore it.
ex-	ex-	Op-	Sin-	Other identifiers that link this party to other related data sets	If the element is in-
ter-	ter-	tiona	l gle	(e.g. a campaign finance system, etc).	valid or not present,
nal_id	lentif <u>ie</u> in	entifie	rs		then the implemen-
					tation is required to
					ignore it.
is_wri	ite <u>x</u> in: b	о б ре а	nSin-	Signals if this political party is one that is officially recognized	If the field is in-
		tiona	l gle	by a local, state, or federal organization, or is a "write-in" in	valid or not present,
				jurisdictions which allow candidates to free-form enter their	then the implemen-
				political affiliation. If this field is not present then it is as-	tation is required to
				sumed to be false.	ignore it.
leader	_pesson	D idis FS	Sin-	A reference of <i>person</i> elements which are leaders of the <i>Party</i> .	If the field is in-
		tiona	l gle		valid or not present,
					then the implemen-
					tation is required to
					ignore it.
logo_	urks:a	n Ø ppRI	Sin-	Web address of a logo to use in displays.	If the field is in-
		tiona			valid or not present,
					then the implemen-
					tation is required to
					ignore it.
name	xs:s	t Oj pno	Sin-	The name of the party.	If the element is in-
		tiona		• •	valid or not present,
					then the implemen-
					tation is required to
					ignore it.
	1	I	l	I.	

html_color_string

A restricted string pattern for a six-character hex code representing an HTML color string. The pattern is:

```
[0-9a-f]{6}
```

party contest

An extension of *contest_base* which describes a contest in which the possible ballot selections are of type *party_selection*. These could include contests in which straight-party selections are allowed, or party-list contests (although these are more common outside of the United States).

contest base

A base model for all Contest types: *ballot_measure_contest*, *candidate_contest*, *party_contest*, and *retention_contest* (NB: the latter because it extends *ballot_measure_contest*).

Ta	ag	Data	Re-	Re-	Description	Error Handling
	_	Туре	_	døeats	s?	_
ał)-	xs:st	1 Ор тд		An abbreviation for the contest.	If the field is
	e-		tional	gle		invalid or not
vi	a-					present, then the
ti	on					implementation
						should ignore it.
	al-	xs:II			References a set of BallotSelections, which could be of any se-	If the field is
lo	t_se	lection_	id s onal	l gle	lection type that extends <i>ballot_selection_base</i> .	invalid or not
						present, then the
						implementation
						should ignore it.
	al-	xs:st			Subtitle of the contest as it appears on the ballot.	If the element
lo	t_sı	ib_title	tional	l gle		is invalid or not
						present, then the
						implementation
						should ignore it.
	al-	xs:st			Title of the contest as it appears on the ballot.	If the element
lo	t_ti	tle	tional	l gle		is invalid or not
						present, then the
						implementation
						should ignore it.
	ec-	xs:II		Sin-	References an <i>electoral_district</i> element that represents the ge-	If the field is
to	ral_	district_	idquire	dgle	ographical scope of the contest.	invalid, then
						the implementa-
						tion is required
						to ignore the
						ContestBase
						element containing
						it.
	ec-				Specifies any changes to the eligible electorate for this contest	If the element
to	rate	_specific	ca tion a.	l gle	past the usual, "all registered voters" electorate. This subtag	is invalid or not
					will most often be used for primaries and local elections. In	present, then the
					primaries, voters may have to be registered as a specific party	implementation
					to vote, or there may be special rules for which ballot a voter	should ignore it.
				G:	can pull. In some local elections, non-citizens can vote.	TC 1 1
ex		xs:st	т Ор тд	Sin-	Other identifiers for a contest that links to another source of	If the element
te			tional	gle	information.	is invalid or not
na	al_ic	lentifiers				present, then the
						implementation
_				C.		should ignore it.
ha	as_r	otatisono			Indicates whether the selections in the contest are rotated.	If the field is
			tional	ı gle		invalid or not
						present, then the
						implementation
			_	C.	X 64	should ignore it.
na	ame	xs:st			Name of the contest, not necessarily how it appears on the ballot	If the field is
			quire	dgle	(NB: BallotTitle should be used for this purpose).	invalid, then
						the implementa-
						tion is required
						to ignore the
						ContestBase
						element containing
						it.
-S€		xs:ir			Order in which the contests are listed on the ballot. This is the	If the field is
2 q {	enc	e_order	tional	l gle	default ordering, and can be overrides by data in Ghapter 3, leC	
					element.	present, then the
						implementation
						should ignore it.

party_selection

This element extends *ballot_selection_base* to support contests in which the selections can be groups of one or more parties.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	1?peats	?	
party	_inds:II	r re- s	Sin-	One or more party IDs	If one or more parties referenced are invalid or not
		quire	l gle	which collectively represent	present, the implementation is required to ignore the
				a ballot selection.	PartySelection containing it.

```
id, sequence_order, party_ids
ps001,1,par01 par04
ps002,2,par02
ps003,3,par03
```

ballot_selection_base

A base model for all ballot selection types: ballot_measure_selection, candiate_selection, and party_selection.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	døeat	s?	
se-	xs:i	nt Op ge	rSin-	The order in which a selection can be listed on the	If the field is invalid or
quence	_order	tiona	l gle	ballot or in results. This is the default ordering, and	not present, then the im-
				can be overridden by OrderedBallotSlectionIds in or-	plementation is required to
				dered_contest.	ignore it.

person

Person defines information about a person. The person may be a candidate, election administrator, or elected official. These elements reference Person:

- candidate
- election_administration
- office

Tag	Data Type	Re-	Re- døeats	Description s?	Error Handling
con-	xs:I	_	Re-	Refers to the associated <i>contact_information</i> .	If the element is in-
tact_inf				· ·	valid or not present,
	011114010		Peacs		then the implementa-
					tion is required to ig-
					nore it.
date_of	birth d	atOn-	Sin-	Represents the individual's date of birth.	If the field is invalid or
	_	tional	gle	•	not present, then the
					implementation is re-
					quired to ignore it.
exter-	ex-	Op-	Sin-	Identifiers for this person.	If the element is in-
nal_ide	ntiliers	tional	gle		valid or not present,
	nal_id	entifier.	S		then the implementa-
					tion is required to ig-
					nore it.
first_na	mæs:s¹	t ıOip ∍g	Sin-	Represents an individual's first name.	If the field is invalid or
		tional	gle		not present, then the
					implementation is re-
					quired to ignore it.
full_naı	mexs:s⁻			Specifies a person's full name (NB : this information is <i>in</i> -	If the element is in-
		tional	gle	ternationalized_text because it sometimes appears on bal-	valid or not present,
				lots in multiple languages).	then the implementa-
					tion is required to ig-
			<u> </u>		nore it.
gen-	xs:s	t Op ng		Specifies a person's gender.	If the field is invalid or
der		tional	gle		not present, then the
					implementation is re-
1 .		0	а·	D	quired to ignore it.
last_naı	nexs∶s			Represents an individual's last name.	If the field is invalid or
		tional	gie		not present, then the
					implementation is required to ignore it.
mid-	VC • C	tı Op ag	Dα	Represents any number of names between an individual's	If the field is invalid or
dle_nar			peats	first and last names (e.g. John Ronald Reuel Tolkien).	not present, then the
dic_nan	iic	tional	peats	inst and last names (c.g. John Rohald Reder Tolkien).	implementation is re-
					quired to ignore it.
nick-	XS:S	t. Ωp ag	Sin-	Represents an individual's nickname.	If the field is invalid or
name	110.0	tional		Tropicos di maritada si momunio	not present, then the
			8		implementation is re-
					quired to ignore it.
party_io	l xs:II	D POPF	Sin-	Refers to the associated party. This information is in-	If the field is invalid or
1 -		tional	gle	tended to be used by feed consumers to help them disam-	not present, then the
				biguate the person's identity, but not to be presented as part	implementation is re-
				of any ballot information. For that see <i>candidate</i> PartyId .	quired to ignore it.
prefix	xs:s	t ıΩp ag		Specifies a prefix associated with a person (e.g. Dr.).	If the field is invalid or
		tional	gle		not present, then the
					implementation is re-
					quired to ignore it.
pro-	xs:s	t ıOp ag		Specifies a person's profession (NB : this information is <i>in</i> -	If the element is in-
fes-		tional	gle	ternationalized_text because it sometimes appears on bal-	valid or not present,
sion				lots in multiple languages).	then the implementa-
					tion is required to ig-
60			a.		nore it.
suffix 220	xs:s	t Op ng		Specifies a suffix associated with a person (e.g. Jr.). Chapter 3.	If the field is invalid or CSV Documentation
		tional	gle	Onapter 3.	CSV _p Pocumentation
					implementation is re-
4:41 -		- C	C:	A title accordated with a manage (NID: 41' 1' Commercial)	quired to ignore it.
title	XS:S	t ıOp ng	Sin-	A title associated with a person (NB : this information is <i>in</i> -	If the element is in-

```
id, date_of_birth, first_name, gender, last_name, middle_name, nickname, party_id, prefix,

→profession, suffix, title

per50001, 1961-08-04, Barack, male, Obama, Hussein, ,par02, ,President, II, Mr. President

per50002, 1985-11-21, Carly, female, Jepsen, Rae, ,par01, ,Recording Artist,,

per50003, 1926-09-23, John, male, Coltrane, William, Trane, par02, ,Recording Artist, Saint,

per50004, 1926-05-26, Miles, male, Davis, Dewey, ,par01, ,Recording Artist, III,
```

contact information

For defining contact information about objects such as persons, boards of authorities, organizations, etc. ContactInformation is always a sub-element of another object (e.g. *election_administration*, *office*, *person*, *source*). ContactInformation has an optional attribute label, which allows the feed to refer back to the original label for the information (e.g. if the contact information came from a CSV, label may refer to a row ID).

Tag		Re-	Re-	Description	Error Handling
	Type	quire	døeat		
ad-	xs:s	t Op -n	gRe-	The "location" portion of a mailing address. See usage note.	If the field is invalid
dress	_line	tional	peats		or not present, then
			_		the implementation is
					required to ignore it.
di-	xs:s	t Op i-n	g Sin-	Specifies further instructions for locating this entity.	If the element is in-
rec-		tional	- 1		valid or not present,
tions					then the implementa-
					tion is required to ig-
					nore it.
email	xs:s	t Op i-n	Re-	An email address for the contact.	If the field is invalid
		- 1	peats		or not present, then
			1		the implementation is
					required to ignore it.
fax	xs:s	t Op i-n	aRe-	A fax line for the contact.	If the field is invalid
		- 1	peats		or not present, then
			1		the implementation is
					required to ignore it.
hours	XS:S	t Op i-n	Sin-	Contains the hours (in local time) that the location is open	If the element is in-
		tional	- 1	(NB: this element is deprecated in favor of the more structured	valid or not present,
				:ref: 'multi-csv-hours-open' element. It is strongly encouraged	then the implementa-
				that data providers move toward contributing hours in this for-	tion is required to ig-
				mat).	nore it.
hours	_oxpsen]	iæ⊅p -F	Sin-	References an <i>hours_open</i> element, which lists the hours of	If the field is invalid
	_	tional	gle	operation for a location.	or not present, then
					the implementation is
					required to ignore it.
lat_lo	n <i>lgit_le</i>	<i>n</i> @ p-	Sin-	Specifies the latitude and longitude of this entity.	If the element is in-
		tional	gle		valid or not present,
					then the implementa-
					tion is required to ig-
					nore it.
name	xs:s	t 0p -n	- 1	The name of the location or contact. See usage note.	If the field is invalid
		tional	gle		or not present, then
					the implementation is
					required to ignore it.
phone	e xs:s	t 0p -n		A phone number for the contact.	If the field is invalid
		tional	peats		or not present, then
					the implementation is
					required to ignore it.
uri	xs:a	ar Qpb JR	- 1	An informational URI for the contact or location.	If the field is invalid
		tional	peats		or not present, then
					the implementation is
					required to ignore it.

```
id, address_line_1, address_line_2, address_line_3, directions, email, fax, hours, hours_
open_id, latitude, longitude, latlng_source, name, phone, uri, parent_id
ci0827, The White House, 1600 Pennsylvania Ave,,, josh@example.com,, Early to very late,,
o,,, Josh Lyman, 555-111-2222, http://lemonlyman.example.com, off001
ci0828, The White House, 1600 Pennsylvania Ave,,, josh@example.com,, Early to very late,,
o,,,, Josh Lyman, 555-111-2222, http://lemonlyman.example.com, vs01
```

polling_location

The PollingLocation object represents a site where voters cast or drop off ballots.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре		døeats		
sim-				-Represents the various structured parts of an	One of AddressStructured and Ad-
ple_a	ddress_i	y <i>p</i> ional	gle	address to a polling location.	dressLine should be present for
					a given Polling Location. If
					none is present, the implemen-
					tation is required to ignore the
					PollingLocation element con-
					taining it.
ad-	xs:st			Represents the various parts of an address to	One of AddressStructured and Ad-
dress	_line	tional	peats	a polling location.	dressLine should be present for
					a given Polling Location. If
					none is present, the implemen-
					tation is required to ignore the
					PollingLocation element con-
		_			taining it.
di-	xs:st	т Ор нд		Specifies further instructions for locating the	If the element is invalid or not
rec-		tional	gle	polling location.	present, then the implementation is
tions			~.		required to ignore it.
hours	xs:st			Contains the hours (in local time) that the	If the element is invalid or not
		tional	gle	polling location is open (NB: this element	present, then the implementation is
				is deprecated in favor of the more structured	required to ignore it.
				hours_open element. It is strongly encour-	
				aged that data providers move toward con-	
		1-0-	g.	tributing hours in this format).	TC 1 C 11 : 111
hours	_oqæn∐i		Sin-	Links to an <i>hours_open</i> element, which is a	If the field is invalid or not present,
		tional	gle	schedule of dates and hours during which the	then the implementation is required
	1 ,		a.	polling location is available.	to ignore it.
1s_dro	op <u>x</u> boac			Indicates if this polling location is a drop box.	If the field is invalid or not present,
		tional	gle		then the implementation is required
	1	-0	- C:	To diagram if this malling the office is a second	to ignore it.
is_ea	rly <u>x s</u> vo t ir			Indicates if this polling location is an early	If the field is invalid or not present,
		tional	gie	vote site.	then the implementation is required
1.4 1	~1~/ 1	-0	C:	Charles the letter to an investment of the	to ignore it.
lat_in	glat_lor		Sin-	Specifies the latitude and longitude of this	If the element is invalid or not
		tional	gle	polling location.	present, then the implementation is
		.0	C:	Name of the malling location	required to ignore it.
name	xs:st			Name of the polling location.	If the field is invalid or not present,
		tional	gie		then the implementation is required
la 4		0	C:	Cantains a link to an image of the call as 1	to ignore it.
pnoto	_ ໝ3:: st			Contains a link to an image of the polling lo-	If the field is invalid or not present,
		tional	gie	cation.	then the implementation is required
					to ignore it.

id, name, address_line, structured_line_1, structured_city, structured_state, structured_
→zip, directions, hours, photo_uri, hours_open_id, is_drop_box, is_early_voting, latitude,

[→]longitude, latlng_source

poll001,ALBERMARLE HIGH SCHOOL,,2775 Hydraulic Rd,Charlottesville,VA,22901,Use back_

odor, 7am—8pm, www.picture.com, ho001, false, true, 38.0754627, 78.5014875, Google Maps (continues on next page)

(continued from previous page)

poll002, Public Library, Main St Denver CO,,,,,,next to the checkout counter, 7am-8pm, www.picture.com,, false, true, 38.0754627, 78.5014875, Google Maps

lat_long

The latitude and longitude of a polling location in 'WGS 84'_ format. Both latitude and longitude values are measured in decimal degrees.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	d peats	s?	
lati-	xs:do	ou Re ⊦e	Sin-	The latitude of the polling location.	If the field is invalid, then the
tude		quire	d gle		implementation is required to
					ignore it.
lon-	xs:do	ou Re ⊦e	Sin-	The longitude of the polling location.	If the field is invalid, then the
gi-		quire	d gle		implementation is required to
tude					ignore it.
latlng_	some cest	.1Ор +д	Sin-	The system used to perform the lookup from lo-	If the field is invalid or not
		tional	gle	cation name to lat/lng. For example, this could	present, then the implementa-
				be the name of a geocoding service.	tion is required to ignore it.

simple_address_type

A SimpleAddressType represents a structured address.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	peats	?	
struc-	xs:st	т Re эg	Sin-	The address line for a structured address.	If no Line1 is provided, the
tured_lii	ne_1	quire	d gle	Should include the street number, street	implementation should ignore the
				name, and any prefix and suffix.	SimpleAddressType.
struc-	xs:st	. 1 Ор ъд	Sin-	Additional field for an address	If no Line2 is provided, the im-
tured_lii	ne_2	tional	gle		plementation should ignore it.
struc-	xs:st	т Ор тд	Sin-	Additional field for an address	If no Line3 is provided, the im-
tured_lii	ne_3	tional	gle		plementation should ignore it.
struc-	xs:st	: -Re- -g	Sin-	The City value of a structured address.	If City is not provided, the im-
tured_ci	ty	quire	d gle		plementation should ignore the
					SimpleAddressType.
struc-	xs:st	: -Re- -g	Sin-	The State value of a structured address.	If State is not provided, the
tured_st	ate	quire	d gle		implementation should ignore the
					SimpleAddressType.
struc-	xs:st	. 1 Ор ъд	Sin-	The ZIP code of a structured address.	If Zip is not provided, the im-
tured_zi	p	tional	gle		plementation should ignore the
					SimpleAddressType.

precinct

The Precinct object represents a precinct, which is contained within a Locality. While the id attribute does not have to be static across feeds for one election, the combination of *Source.VipId*, *Locality.Name*, *Precinct.Ward*, *Precinct.Name*,

and *Precinct.Number* should remain constant across feeds for one election (NB: not all of the fields just mentioned are required – omitting those non-required fields is fine).

Voters can be assigned to a precinct in two ways. A voter location modeled by *StreetSegment* is assigned to a precinct by *StreetSegment.PrecinctId*. Alternatively, a precinct's spatial boundary can be modeled with *Precinct.SpatialBoundary*. Any registered voter address contained within the spatial boundary of the precinct is assigned to that precinct.

Tag	Data		Re- døeats	Description 2	Error Handling
bal-		DO:		Links to the <i>ballot_style</i> , which a person who lives in this	If the field is in-
	yle_id			precinct will vote.	valid or not present,
101_31	yic_id	tiona	gic	precinct will vote.	then the implemen-
					tation is required to
					ignore it.
2122		D(0)************************************	c Cin	Links to the mefimultiness electoral district's (e.g., concres	If the field is in-
elec-		D Op FF		Links to the :ref: 'multi-csv-electoral-district's (e.g., congres-	
torai_	distric	_ x na.	gie	sional district, state house district, school board district) to	valid or not present,
				which the entire precinct/precinct split belongs. Highly Rec-	then the implemen-
				ommended if candidate information is to be provided.	tation is required to
			~.		ignore it.
ex-	ex-	Op-	Sin-	Other identifier for the precinct that relates to another dataset	If the element is in-
ter-	ter-	tional		(e.g. 'OCD-ID' _).	valid or not present,
nal_i	lenti/fié	t 8ntifie	ers		then the implemen-
					tation is required to
					ignore it.
is_ma	il <u>x</u> enly	-		Determines if the precinct runs mail-only elections.	If the field is miss-
		tional	l gle		ing or invalid, the
					implementation is
					required to assume
					<i>IsMailOnly</i> is false.
lo-	xs:	DRE-F		Links to the <i>locality</i> that comprises the precinct.	If the field is
cal-		quire	d gle		invalid, then the
ity_ic	1				implementation is
					required to ignore
					the Precinct
					element containing
					it.
name	xs:	t Re -n	-	Specifies the precinct's name (or number if no name exists).	If the field is
		quire	dgle		invalid, then the
					implementation is
					required to ignore
					the Precinct
					element containing
					it.
num-	xs:	t 0p: -n		Specifies the precinct's number (e.g., 32 or 32A – alpha charac-	If the field is in-
ber		tional	l gle	ters are legal). Should be used if the <i>Name</i> field is populated by	valid or not present,
				a name and not a number.	then the implemen-
					tation is required to
					ignore it.
pollir	ig <u>x</u> locā	-		Specifies a link to the precinct's <i>polling_location</i> object(s).	If the field is in-
		tional	gle		valid or not present,
					then the implemen-
					tation is required to
					ignore it.
preci	ncat <u>s</u> spl			If this field is empty, then this <i>Precinct</i> object represents a full	If the field is in-
		tional	l gle	precinct. If this field is present, then this <i>Precinct</i> object repre-	valid or not present,
				sents one portion of a split precinct. Each <i>Precinct</i> object that	then the implemen-
				represents one portion of a split precinct must have the same	tation is required to
				Name value, but different PrecinctSplitName values. See the	ignore it.
				sample_feed.xml file for examples.	
spa-		D OPp E-F	Sin-	Defines the spatial boundary of the precinct. All voter addresses	If the element is in-
tial_b	oundar	y <u>ti</u> whal	l gle	contained within this boundary are assigned to the precinct. If	valid or not present,
000				a voter address also maps to a <i>StreetSegment</i> , then the precinct	then the implemen-
226				assignment from the StreetSegment will be prefe Geapter and	_
				assignment from the spatial boundary.	ignore it.
ward	xs:	t 0:p -n		Specifies the ward the precinct is contained within.	If the field is in-
		tional	l gle		valid or not present,

spatial boundary

The SpatialBoundary object defines a boundary in space. This boundary is usually defined by one or more discrete, closed polygonal shapes.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	d peats	?	
exter-	xs:I	d Re f	Sin-	The spatial boundary defined	If the element is invalid, then the im-
nal_geospati	al_featu	ræquidre	d gle	by a geospatial feature that is	plementation is required to ignore the
				external to the VIP feed.	SpatialBoundary element containing
					it.

```
id,external_geospatial_feature_id
sb1,egf1
```

external geospatial feature

The ExternalGeospatialFeature object contains a reference to a geospatial feature (one or more shapes) contained in a separate file external to the VIP feed.

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quire	døeats	s?	
ex-	xs:I	Re F	Sin-	Links to the <i>external_file</i> containing the geospatial shape(s)	If the field is in-
ter-		quire	d gle	that define the feature's boundary.	valid, then the
nal_f	ile_id				implementation is
					required to ignore the
					ExternalGeospatialFeature
					element containing it.
file_f	ogmat/	aRe-	Sin-	The format of the geospatial file.	If the field is in-
	tial_f	quire	d gle		valid, then the
					implementation is
					required to ignore the
					ExternalGeospatialFeature
					element containing it.
fea-	fea-	Re-	Re-	Identifiers indicating which specific shape(s) to use from the	If the element is
ture_	id ent i <u>f</u> i	equire	d peats	geospatial file. These refer to identifiers within the refer-	invalid, then the
				enced external file. This is a repeated field in the XML spec-	implementation is
				ification, but a scalar field in the CSV specification. If more	required to ignore the
				than one identifier is required with the CSV specifiation, mul-	ExternalGeospatialFeature
				tiple values can be provided by delimited by space.	element containing it.

```
id,external_file_id,file_format,shape_identifiers
egf1,ef1,shp,0 7 9
```

feature_identifier

Tag	Data	Re-	Re-	Description	Error Handling
	Туре	quired?	peats?		
in-	xs:int	Op-	Single	The index value for the	If the field is invalid or not present, then the imple-
dex		tional		shapefile feature.	mentation is required to ignore it.

retention_contest

RetentionContest extends *ballot_measure_contest* and represents a contest where a candidate is retained in a position (e.g. a judge).

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quired	?peats	?	
can-	xs:ID	r re -	Sin-	Links to the can-	If the field is invalid or not present, the implementation
di-		quired	gle	didate being re-	is required to ignore the RetentionContest element
date_id				tained.	containing it.
of-	xs:ID	R ©j jō-	Sin-	Links to the infor-	If the field is invalid or not present, then the implementa-
fice_id		tional	gle	mation about the	tion is required to ignore it.
				office.	

source

The Source object represents the organization that is publishing the information. This object is the only required object in the feed file, and only one source object is allowed to be present.

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	døeats	s?	
name	xs:st	r Re -g	Sin-	Specifies the name of the organization that	If the field is invalid, then the im-
		quire	d gle	is providing the information.	plementation is required to ignore
					the Source element containing
					it.
vip_id	xs:st	_		Specifies the ID of the organization. VIP	If the field is invalid, then the im-
		quire	dgle	uses FIPS _ codes for this ID.	plementation is required to ignore
					the Source element containing
					it.
date_time	xs:da	l		Specifies the date and time of the feed pro-	If the field is invalid, then the im-
		quire	dgle	duction. The date/time is considered to be	plementation is required to ignore
				in the timezone local to the organization.	the Source element containing
					it.
descrip-	xs:st	r Op -g	Sin-	Specifies both the nature of the organiza-	If the element is invalid or not
tion		tiona	l gle	tion providing the data and what data is in	present, then the implementation
				the feed.	is required to ignore it.
organiza-	xs:st	r Op -g	Sin-	Specifies a URI to the home page of the	If the field is invalid or not present,
tion_uri		tiona	gle	organization publishing the data.	then the implementation is re-
					quired to ignore it.
feed_contac	ct <u>x</u> isafoīrī	nR Œip n_	idSin-	Reference to the <i>person</i> who will respond	If the element is invalid or not
		tiona	l gle	to inquiries about the information con-	present, then the implementation
				tained within the file.	is required to ignore it.
terms_of_u	se <u>x</u> sırian	у Ор -I		Specifies the website where the Terms of	If the field is invalid or not present,
		tiona	gle	Use for the information in this file can be	then the implementation is re-
				found.	quired to ignore it.
version	xs:st	_		Specifies the version of the data	If the field is invalid, then the im-
		quire	d gle		plementation is required to ignore
					the Source element containing
					it.

id, date_time, description, name, organization_uri, terms_of_use_uri, vip_id, version source01,2016-06-02T10:24:08, SBE is the official source for Virginia data, "State_ → Board of Elections, Commonwealth of Virginia", http://www.sbe.virginia.gov/, http:// → example.com/terms, 51,5.1

state

The State object includes state-wide election information. The ID attribute is recommended to be the state's FIPS code, along with the prefix "st".

Tag	Data	Re-	Re-	Description	Error Handling
	Type	quire	dpeats	s?	
elec-	xs:I	D IOFPF	Sin-	Links to the state's election administration object.	If the field is invalid or
tion_adı	ninistra	ti oiro <u>n</u> iad	lgle		not present, then the im-
					plementation is required
					to ignore it.
exter-	ex-	Op-	Sin-	Other identifier for the state that relates to another	If the element is in-
nal_ider	nti fae rs	tional	lgle	dataset (e.g. 'OCD-ID'_).	valid or not present, then
	nal_id	entifier	S		the implementation is
					required to ignore it.
name	xs:s	t Re ng	Sin-	Specifiers the name of a state, such as Alabama.	If the field is invalid,
		quire	dgle		then the implementation
					is required to ignore
					the State element con-
					taining it.
polling_	location	D ikatis e s	Sin-	Specifies a link to the state's <i>polling locations</i> . If early	If the field is invalid or
		tional	gle	vote centers or ballot drop locations are state-wide (e.g.,	not present, then the im-
				anyone in the state can use them), they can be specified	plementation is required
				here, but you are encouraged to only use the <i>precinct</i>	to ignore it.
				element.	

street_segment

A Street Segment objection represents a portion of a street and the links to the precinct that this geography (i.e., segment) is contained within. The start address house number must be less than the end address house number unless the segment consists of only one address, in which case these values are equal.

Tag	Data		Re- døeats	Description	Error Handling
ad-		t Opi -n	_	Specifies the (inter-)cardinal direction of the	If the field is invalid or not present,
	_direct	iotional	l gle	entire address. An example is "NE" for the address "100 E Capitol St NE."	then the implementation is required to ignore it.
city		t Re -n quire	dgle	The city specifies the city or town of the address.	If the field is invalid, then the implementation is required to ignore the StreetSegment element containing it.
in-		⊘ p <u>i</u> -e		Specifies if the segment covers every address	If the field is invalid or not present,
clude	s_all_a			on this street. If this is <i>true</i> , then the values of StartHouseNumber and EndHouseNumber should be ignored. The value of OddEvenBoth must be <i>both</i> .	then the implementation is required to ignore it.
in-		⊘ p1-e		Specifies if the segment covers every street in	If the field is invalid or not present,
	s_all_s			this city. If this is <i>true</i> , then the values of OddEvenBoth , StartHouseNumber , End-HouseNumber , StreetName , and Zip should be ignored.	then the implementation is required to ignore it.
odd_	ewean <u>b</u> b	o1 60p ⊦	Sin-	Specifies whether the odd side of the street	If the field is not present or invalid, the
		tiona	l gle	(in terms of house numbers), the even side, or	implementation is required to ignore
				both are in included in the street segment.	the StreetSegment containing it.
preci	nc t_sid	TREF quire		References the <i>precinct</i> that contains the entire street segment. If a precinct has a <i>spatial_boundary</i> which also contains the entire street segment, then the precinct assignment from the segment will be preferred over the	If the field is invalid, then the implementation is required to ignore the StreetSegment element containing it.
		0.1	G.	assignment defined by the spatial boundary.	77.1 T 1 1 ANA 11
start_	housse <u>i</u>	tiona		The house number at which the street segment starts. This value is necessary for the street segment to make any sense. Unless IncludesAllAddresses or IncludesAllStreets are true, this value must be less than or equal to EndHouseNumber. If IncludesAllAddresses or IncludesAllStreets are true, this value is ignored.	Unless IncludesAllAddresses or IncludesAllStreets are true, if the field is not present or invalid, the implementation is required to ignore the StreetSegment element containing it. If the StartHouseNumber is greater than the EndHouseNumber , the implementation should ignore the element containing them.
end_l	hoxase_i	n Opb g	≘Sin-	The house number at which the street seg-	Unless IncludesAllAddresses or In-
		tiona	l gle	ment ends. This value is necessary for the street segment to make any sense. Unless IncludesAllAddresses or IncludesAll-Streets are true, it must be greater than or equal to StartHouseNumber. If IncludesAllAddresses or IncludesAllStreets are true, this value is ignored.	cludesAllStreets are true, if the field is not present or invalid, the implementation is required to ignore the Street-Segment element containing it. If the EndHouseNumber is less than the StartHouseNumber, the implementation should ignore the element containing it.
house	_អនភា	_		Part of a street address. It may contain let-	If the field is invalid or not present,
		tiona	I gle	ters or slashes (e.g., 'B' in 'B22 Main St'). If this value is present then StartHouseNumber must be equal to EndHouseNumber . This field cannot be used if IncludesAllAddresses or IncludesAllStreets are true.	then the implementation is required to ignore it.
house	_ทธเทโ	eOgsiuf	g∙Sin-	Part of a street address. It may contain let-	If the field is invalid or not present,
		tiona		ters or slashes (e.g., 1/2 in '22 1/2 Main	then the implementation is required to
21 (CV C	!!!	atia.	St'). If this value is present then StartHouse -	ignore it.
ช.1. (SV S _l	ecific	ation	Number must be equal to EndHouseNumber. This field cannot be used if IncludesAllAddresses or IncludesAllStreets are true.	231
ctate	ve	t Re -n	a Sin	Specifies the two-letter state abbreviation of	If the field is invalid, then the im-
state	x5:S	ux u -n	A om-	specifies the two-fetter state application of	n die heid is ilivand, dien die im-

```
id,address_direction,city,includes_all_addresses,includes_all_streets,odd_even_both,

→precinct_id,start_house_number,end_house_number,house_number_prefix,house_number_

→suffix,state,street_direction,street_name,street_suffix,unit_number,zip

ss000001,N,Washington,false,false,odd,pre90113,101,199,,,DC,NW,Delaware,St,,20001

ss000002,S,Washington,true,false,both,pre90112,,,,,DC,SE,Wisconsin,Ave,,20002

ss000003,N,Washington,false,false,even,pre90113,100,100,A,1/2,DC,NW,Delaware,St,,

→20001
```

Enumerations (Separate Pages)

ballot measure type

A list of the various types of ballot measures. States may have different legal definitions of each type; **Wikipedia** has more details about each type. These values are to help states with multiple types of non-candidate-based contests distinguish between each type; as such, the definitions in this table are simple guidelines. Ultimately it is up to the state or local election official to choose the value which best describes the ballot measure(s) in their jurisdiction.

Tag	Description					
ballot-	A catch-all for generic types of non-candidate-based contests.					
measure						
initiative	These are usually citizen-driven measures to be placed on the ballot. These could include both statu-					
	tory changes and constitutional amendments.					
referen-	These could include measures to repeal existing acts of legislation, legislative referrals, and					
dum	legislatively-referred state constitutional amendments.					
other	Anything that does not fall into the above categories.					

candidate_post_election_status

Tag	Description
advanced-to-runoff	For contests in which the top N candidates advance to the next round.
projected-winner	A candidate is expected to win, but official results are not yet complete.
winner	The candidate has officially won.
withdrawn	The candidate has withdrawn from the contest.

candidate_pre_election_status

Tag	Description
filed	The candidate has filed for office but not yet been qualified.
qualified	The candidate has qualified for the contest.
withdrawn	The candidate has withdrawn from the contest (but may still be on the ballot).
write-in	

checksum algorithm

Tag	Description
sha-256	256-bit cryptographic hash algorithm of the SHA-2 family
sha-512	512-bit cryptographic hash algorithm of the SHA-2 family

district_type

Enumeration describing the set of possible jurisdiction and district types. Please use the enumeration value which most accurately reflects the type of district or jurisdiction in your state or county. For example, "town" and "township" may mean different things – or not be defined at all – in your state, so please use the definition which best matches your local meaning.

Tag	Description
borough	A borough
city	A city.
city-council	A specific seat/jurisdiction for a city, town, or village council.
congressional	A United States congressional district.
county	A county.
county-council	A county council district, either in its entirety or for a specific seat.
judicial	A judicial district.
municipality	A civil division which is not a town, city, village, or county.
national	The United States.
school	A school district.
special	A 'special-purpose district'_ that exist separate from general-purpose districts.
special state	A 'special-purpose district'_ that exist separate from general-purpose districts. A state, district, commonwealth, or U.S. territory.
-	
state	A state, district, commonwealth, or U.S. territory.
state state-house	A state, district, commonwealth, or U.S. territory. The lower house of a state legislature.
state state-house state-senate	A state, district, commonwealth, or U.S. territory. The lower house of a state legislature. The upper house of a state legislature. A town A township, which may be different than a town. See the 'Wikipedia article'
state state-house state-senate town	A state, district, commonwealth, or U.S. territory. The lower house of a state legislature. The upper house of a state legislature. A town
state state-house state-senate town township	A state, district, commonwealth, or U.S. territory. The lower house of a state legislature. The upper house of a state legislature. A town A township, which may be different than a town. See the 'Wikipedia article'
state state-house state-senate town township utility	A state, district, commonwealth, or U.S. territory. The lower house of a state legislature. The upper house of a state legislature. A town A township, which may be different than a town. See the 'Wikipedia article' A non-water public or municipal utility district.
state state-house state-senate town township utility village	A state, district, commonwealth, or U.S. territory. The lower house of a state legislature. The upper house of a state legislature. A town A township, which may be different than a town. See the 'Wikipedia article' A non-water public or municipal utility district. A village district.

geospatial_format

Geospatial file formats that are supported by the VIP specification.

Tag	Description	
shp	ESRI Shapefile (reference)	

identifier_type

Tag	Description	
fips	Federal Information Processing Standards codes for states_, counties_, and cities	
local-level	An identifier generated or used by local governments or organizations.	
national-level	An identifier generated or used by national organizations.	
ocd-id	An 'Open Civic Data Division Identifier'	
state-level	An identifier generated or used by state governments or organizations.	
other	Any identifier which doesn't fall into any of the above categories.	

oeb_enum

Tag	Description
both	Both even and odd addresses within the range.
even	Only even-numbered addresses within the range.
odd	Only odd-numbered addresses within the range.

office_term_type

Tag	Description
full-term	This election is for an office for which the existing term has been completed.
unexpired-term	This election is for an office for which the original term is not yet complete.

vote_variation

Note that the descriptions below describe what the enumeration names stand for in the context of the VIP spec, rather than provide general definitions of the election terms that the names correspond to. For example, even though there are majority voting methods that are not "1-of-m" (e.g. ranked choice voting), we constrain "majority" to 1-of-m. We do this to eliminate any source of ambiguity when a single enumeration value needs to be assigned to a contest.

Tag	Description
1-of-m	A method where each voter can select up to one option.
ap- proval	'Approval voting'_, where each voter can select as many options as desired.
borda	'Borda count' _, where each voter can rank the options, and the rankings are assigned point values.
cumu- lative	'Cumulative voting' _, where each voter can distribute their vote to up to <i>N</i> options.
major- ity	A 1-of-m method where the winner needs more than 50% of the vote to be elected.
n-of-m	A method where each voter can select up to <i>N</i> options.
plural-	A 1-of-m method where the option with the most votes is elected, regardless of whether the option has
ity	more than 50% of the vote.
propor- tional	A 'proportional representation'_ method (other than STV), which is any system that elects winners in proportion to the total vote.
range	'Range voting'_, where each voter can select a score for each option.
rcv	'Ranked choice voting' _ (RCV), where each voter can rank the options, and the ballots are counted in
	rounds. Also known as instant-runoff voting (IRV) and the single transferable vote (STV).
super-	A 1-of-m method where the winner needs more than some predetermined fraction of the vote to be
majority	elected, where the fraction is more than 50% (e.g. three-fifths or two-thirds).
other	Used when the vote variation type is not included in this enumeration.

voter_service_type

Tag	Description
absentee-ballots	This department handles the dispatch, tracking, and return of absentee ballots.
overseas-voting	The department for overseas, military, and other outside-the-U.S. voters.
polling-places	This department handles the selection and management of polling places.
voter-registration	The department that manages voter registration.
other	Any other service not covered by the above descriptions.

Voting Information Project Specification Documentation, Release 5.1.2		
226	Chapter 3	CSV Documentation

Best Practices

4.1 Data Best Practices

Following is a series of best practice for data collection and file creation and suggestions about best practices of formatting data within your VIP XML and CSV file.

4.1.1 Naming convention

While many of the Voting Information Project's data processes are managed by software, the quality of the entire system relies on human intervention, especially for error reporting and quality control. For this reason, VIP files should follow a naming convention that describes the contents of each individual feed file in an accessible way.

The file containing the VIP feed should be named using the following convention:

```
vipfeed-${FIPS}-${ELECTION_DATE}-${STATE}[-${LOCAL}].{xml|zip}
```

An explanation of each of the segments of the file naming convention above are as follows:

- \${FIPS} The FIPS code for the jurisdiction.
- \${ELECTION_DATE} The date of the election in ISO 8601 format.
- \${STATE} The full state name (e.g. Alaska, Arkansas, etc...) and not the abbreviation. If there are spaces in the state name, they should be substituted with underscores (e.g. New York -> New_York).
- \${LOCAL} (optional) This additional identifier should be used if the file contains data from a specific jurisdiction. As with \${STATE} above, all spaces should be substituted with underscores. For example, if the data contained in the file only covers Maricopa County, AZ for the November 6, 2012 election, the file name would be vipfeed-04013-2012-11-06-Arizona-Maricopa County.xml.
- {xml|zip} If the file is an uncompressed XML document, the extension should be .xml. If the file is zipped, the file extension should end with .zip.

For a final example, vipfeed-19-2012-11-06-Iowa.zip denotes Iowa's (NB: the FIPS code for IA is 19) feed for the Nov 6, 2012 election that has been compressed.

4.1.2 Element Identifiers

Most elements within the VIP feed require unique identifiers, xs:ID data types. Conformance to xs:ID requires the identifying record to:

- begin with a letter or underscore
- only contain letters, digits, hyphens and periods
- be unique across the VIP data set

In order to maintain uniqueness and provide context for the identifiers, the best practice is to use Hungarian-Style notation for identifiers.

ID values should follow Hungarian-Style notation, were the identifier prefix implicitly names the data element. Below is a list of preferred prefixes by element (e.g. par00001 for a Party id):

BallotMeasureContest	bmc bms
	hme
BallotMeasureSelection	UIIIS
BallotStyle	bs
Candidate	can
CandidateContest	сс
CandidateSelection	cs
ContactInformation	ci
Election	ele
ElectionAdministration	ea
ElectoralDistrict	ed
HoursOpen	hours
Locality	loc
Office	off
OrderedContest	oc
Party	par
PartyContest	pc
PartySelection	ps
Person	per
PollingLocation	pl
RetentionContest	rc
Source	src
State	st
StreetSegment	SS

4.1.3 File Structure

All XML and CSV files should be encoded UFT-8 and line breaks should be LF (\n) as opposed to CR LF (\n).

For consistency across files and to aid human readability all indentation of elements should be an indent of two spaces and tabs should not be used. Each child node of an element should also be indented an additional two spaces.

4.1.4 General Data Structure

All data that are presented to end users of the data (i.e. contest names, referendum text, polling location names, street names, proper names), where possible, should be converted to Title Case to aid readability.

All data should be trimmed to remove leading and trailing white space.

Optional elements without values should be omitted from XML feed.

4.1.5 Specific Data Types

Elements with a data type of xs:integer must contain a valid whole number greater than zero.

Elements with a data type of xs:anyURI should be entered as a fully qualified domain name (e.g. https://www.votinginfoproject.org/)

Elements with a data type of xs:dateTime should be entered in ISO-8601 format.

Elements with a data type of xs:boolean should either have a value of true or false

Elements with a data type of xs:language should contain a two character, lower-case, value corresponding to the ISO 639 standard.

Elements that have enumerations which include an other should have a corresponding value assigned to OtherType within the containing element. For example:

```
<BallotMeasureContest id="bm390616670907">
      <BallotSelectionId>bms390616670907</BallotSelectionId>
2
      <ElectoralDistrictId>ed3906177703103/ElectoralDistrictId>
      <Name>Proposed Tax Levy School District
4
      <SequenceOrder>34</SequenceOrder>
      <FullText>
        <Text language="en">An additional tax for the benefit of the Lockland Local,
   →School District, County of Hamilton,
        Ohio, for the purpose of CURRENT EXPENSES at a rate not exceeding eleven and two-
   →tenths (11.2) mills for each
        one dollar of valuation, which amounts to one dollar and twelve cents ($1.12)
   →for each one hundred dollars of
        valuation, for a continuing period of time, commencing in 2015, first due in.
10
   →calendar year 2016.</Text>
      </FullText>
11
      <SummaryText>
12
        <Text language="en">4 Proposed Tax Levy</Text>
13
      </SummaryText>
      <Type>other</Type>
      <OtherType>bond</OtherType>
16
   </BallotMeasureContest>
```

4.1.6 Specific Data Elements

Street Segments: Valid street segment records should not contain leading zeros in xs:integer fields and should have a Zip value of 00000 if a value is unknown.

External Identifiers: External identifiers with an enumeration of fips should contain valid FIPS code values as defined by the U.S. Census Bureau. External identifiers with an enumeration of ocd-id should contain a valid Open Civic Data Division Identifier.

For long text fields (e.g. FullText in BallotMeasureContest) the XML line break (
) should be used to enforce line break styling.

In all fields the characters <, >, and & should be encoded <, >, and & respectively.

4.1.7 Geospatial Data

The following sections provide guidance and best practices on using geospatial data with a VIP feed. Geospatial data represents the geographic modeling of a shape on the Earth's surface (i.e. a polygon on a map), and within the context of a VIP feed is primarily used to model the boundary of voter precincts. In places where voter precinct shapes are available, this capability is intended to be straightforward and lightweight to integrate with existing GIS tooling.

Geodetic Datum

VIP exclusively uses the 84 revision of the World Geodetic System (WGS 84) as the geodetic reference system by which geospatial coordinates are defined. This applies to geospatial coordinates provided within the VIP feed itself (e.g. PollingLocation.LatLng) as well as coordinates provided in an external geospatial file.

Assigning Voters to Precincts

Voter precincts are the atomic unit of electoral districts in the U.S., and provide the mechanism by which voters are mapped to their polling places, ballot information and more. It is critical that voter locations are mapped to the correct precinct in a VIP feed in order to provide the most accurate and reliable voting information.

There are two mechanisms by which voters can be assigned to precincts in a VIP feed:

- 1. **Street segments** A voter address that maps to a street segment is assigned to the precinct given by StreetSegment.PrecinctId. This is the traditional approach of assigning voters to precincts that has been in use since the beginning of the VIP specification.
- 2. Containment within a precinct boundary A geocoded voter address that is contained within the geographic boundary of a precinct is considered assigned to that precinct. The geographic boundary of each precinct is defined by Precinct.SpatialBoundary. This is a newer approach of assigning voters to precincts that was supported starting with version 6.0 of the VIP specification. Compared to the approach of using street segments, geospatial data offers a far more accurate and reliable solution to mapping voters to precincts, and thus should be the preferred approach whenever possible.

Providing both street segments and precinct shapes

There are some cases where precinct boundaries alone are not sufficient to accurately map all voters to their precinct. For example, if a precinct boundary divides an apartment building, there is no way to distinguish the correct precinct for voters that live in this building using a two-dimensional shape on a map.

To mitigate this limitation of geospatial data, it is possible to provide **both** street segments and precinct shapes in the same VIP feed. If a voter's location is determined to map to a street segment *and* is also contained within a precinct shape, the precinct assignment from the street segment will be preferred.

Using the above example where a precinct boundary runs through an apartment building, this scenario could be handled by providing street segments in the VIP feed, in addition to precinct shapes, to specify the mapping of apartment numbers to precinct. For N apartments in the building, there could be N street segments provided in the feed, each with a distinct StreetSegment.UnitNumber and precinct assignment. If a voter address maps to one of these street segments, the precinct assignment from the segment will supersede a precinct assignment given by containment with a precinct shape.

Exporting and packaging geospatial files with a VIP feed

Geospatial data files are provided in a native geospatial format. Each geospatial file should adhere to standard industry conventions and requirements of the corresponding GeospatialFormat. In most cases, these files will be exported directly from a GIS tool or an Election Management System and delivered alongside a VIP feed.

All referenced external files need to be packaged with the VIP feed file, and archived together within a single ZIP file. The following is an example of the file structure for the case of an XML feed file that includes ESRI shapefiles.

Example file structure:

- vipfeed-19-2012-11-06-Arizona.zip
 - vipfeed-19-2012-11-06-Arizona.xml
 - precinct_shapes1.zip
 - * precinct_shapes1.shp
 - * precinct_shapes1.shx
 - * precinct_shapes1.dbf
 - precinct_shapes2.zip
 - * precinct_shapes2.shp
 - * precinct_shapes2.shx
 - * precinct_shapes2.dbf

The expected file type and structure of each individual geospatial file will depend on the GeospatialFormat being used. The external file referenced from the VIP feed may be a flat file, but it could also be a ZIP file containing multiple relevant files, as the geospatial format requires. The following provides geospatial data file requirements by format.

Expected file type and structure by Geospatial Format:

Geos	spEax-	Description	
tial-	I- pected		
For-	file		
mat	type		
shp	.zip	The referenced external file should be a ZIP archive containing, at a minimum, all files required by	
(ESR	$I \qquad $	the ESRI Shapefile f ormat. The filename referenced from the VIP feed should be the name of the ZIP	
shape	-	archive for the shapefile. Required files within the archive include a main .shp geometry file, a .shx	
file)		index file, and a .dbf attributes file. Other optional files as part of the ESRI Shapefile specification	
		are permitted, but may be ignored.	
		Individual files within the shapefile archive are identified by file extension. For example, the main	
		geometry file is identified by the file within the archive with a .shp file extension, regardless of the	
		file name. It is therefore required that there is only one file per expected file type within the archive.	

Referencing specific shapes within a geospatial data file

Geospatial data files will usually contain many shapes. For example, depending on how the source shape data is managed, it may be easiest to export a single file containing all precinct shapes represented in the VIP feed. A precinct boundary is modeled in the feed as a reference to the external geospatial data file, but in most cases only one or a few shapes contained in that file are relevant to the precinct.

The specific shape(s) within the external file that comprise the spatial boundary of the geometric feature are captured by the field **ExternalGeospatialFeature.ShapeIdentifier**. ShapeIdentifier is a repeated string field, but the expected value will depend on the geospatial format of the external file. For example, an integer type is expected when using the ESRI shapefile format, so the string value of ShapeIdentifier should be parsable as an integer.

Expected type of ShapeIdentifier by GeospatialFormat:

Geosp tial- For- mat	aShapel- dentifier ex- pected type	Description
shp	32-bit in-	ShapeIdentifier should be parsable as a 32-bit integer. Geometric features in an ESRI shape-
(ESRI	teger	file are ordered in sequence, and the ShapeIdentifier value corresponds to the zero-based
shape-		index of a record within the file. For example, a ShapeIdentifier value of "35" is a reference
file)		to the 36th sequential record in the shapefile.

External file checksums

Geospatial data is provided in the form of supplemental files external to the VIP feed itself. Since this effectively divides the full set of information of the feed across multiple files, it's essential that references between files be reliable. This is ensured by verifiable cryptographic checksums.

Each external file reference includes the name of the file and its checksum. A checksum includes both the raw cryptographic hash of the file's contents, as well as information about which cryptographic algorithm was used to compute the value. A consumer of a VIP feed should be able to compute a checksum value of an external file using the same algorithm and independently verify it matches the checksum value in the feed.

It's worth noting that having a file checksum also introduces an opportunity for consumers of the data to optimize their processing of it. If the contents of a VIP feed are updated, but the checksum for an external geospatial data file has not changed, then the consumer could omit having to reprocess the geospatial aspects of the feed.

Requirements for precinct shapes

The following are practical requirements when defining the spatial boundary of a Precinct element (whether a precinct or precinct split) with geospatial shapes.

- The resolution of a polygon for a precinct shape can be as coarse or fine as needed, so long as the shape accurately represents the boundary of the precinct.
- No two shapes should overlap.
- All polygons must form a closed loop. That is, the polygon should start and end from the same point.
- The border of a polygon must not intersect itself.
- The spatial boundary of a Precinct is defined by a single geospatial feature. That feature, however, may contain one or more discrete and non-overlapping polygons as necessary to define the full extent of the boundary.
- ShapeIdentifier must be a valid, existing reference in the external file.
- ShapeIdentifier must have an expected type according to the table above.