



National Conference
of States
on Building Codes
and Standards

Building Regulatory Process Interoperability Framework

Implementation Specification

Version 1.0
June 30, 2004

505 Huntmar Park Drive • Suite 210 • Herndon, VA 20170
+1 703-437-0100
www.ncsbcs.org

DRAFT

Copyright © 2004 by National Conference of States on Building Codes and Standards
All Rights Reserved

Information
Technology
Industry Advisory
Sub-Committee



Table of Contents

1	Preamble	4
1.1	Compliance Claims	4
1.2	Disclaimer	4
2	Introduction.....	6
2.1	Specification Organization.....	6
2.2	Working Groups	6
2.2.1	Data Warehousing Work Group	6
2.2.2	Compliance Work Group.....	6
2.2.3	Addressing Work Group.....	6
2.2.4	Permitting Work Group.....	7
3	Architecture	8
3.1	Assumptions	8
3.2	Concepts.....	8
3.2.1	Data Model.....	8
3.2.2	Data Provision.....	8
3.2.3	Event Reporting	8
3.2.4	Communication: An Asynchronous Model.....	8
3.2.5	Security Model	8
3.2.6	Encryption	8
3.2.7	Authentication and Validation	8
3.2.8	Access Control.....	8
3.3	BRPIF Architecture	8
3.3.1	Architectural Components.....	8
3.3.2	Naming Conventions for Agents.....	8
3.3.3	Object Identifiers.....	8
3.3.4	Agent/Application Requirements	8
3.3.4.1	Establishing Connection	8
3.3.4.2	Responding to Requests.....	8
3.3.4.3	Changes Required to the Vendor's Applications	8
3.3.4.4	Support Authentication and Digital Signatures.....	8
3.3.4.5	Access Control List.....	8
3.4	Message Processing.....	8
3.4.1	Message Identification	8
3.4.2	Message Security	8
3.4.2.1	BRPIF_AuthenticationLevel.....	8
3.4.2.2	BRPIF_EncryptionLevel.....	8
3.4.3	Message Robustness.....	8
3.4.4	Message Cycle	8
3.4.5	Message Delivery	8
3.4.5.1	The "Push" Model.....	8
3.4.5.2	The "Pull" Model	8
3.4.6	Message Handling Protocols	8
3.5	Infrastructure Transport Layer.....	8
3.5.1	BRPIF HTTPS Transport	8
3.5.2	HTTPS Request/Response Model	8
3.5.3	HTTP Request Header.....	8
3.5.4	HTTP Response Header.....	8
4	Infrastructure	9
4.1	Elements	9
5	Data Model	10
5.1	Common Elements.....	11
5.1.1	Name	12
5.2	Addressing Work Group Objects.....	13
5.2.1	Address	14

5.2.2	GridLocation.....	15
5.3	Permitting Work Group Objects	17
5.3.1	Permit	18
5.3.1.1	PermitApplicant	21
5.3.1.2	SubContractors.....	22
5.3.1.3	PermitFees.....	23
5.3.1.4	PermitInspections	24
5.3.1.5	Holds	25
5.3.1.6	Certificates	26
5.3.2	Contractor.....	27
5.3.2.1	CompanyInfo	29
5.3.2.2	LicenseInfo.....	30
5.3.2.3	InsuranceInfo	31
5.3.2.4	QualifierInfo.....	32
5.4	Property Work Group Objects	33
5.4.1	ParcelDetails	34
5.4.2	BuildingInfo	35
5.4.3	Fixtures.....	36
5.4.4	Circuits.....	37
5.4.5	Setbacks.....	38
5.4.6	PropertyOwner	39

1 Preamble

The Building Regulatory Process (BRP) impacts all areas of local, regional, national government and the private sector. Coordination between these different entities is essential for public safety, interagency communication and customer service to the general public.

The Information Technology Industry Advisory Sub-Committee (ITIAS), the National Conference of States on Building Codes and Standards (NCSBCS) and the National Alliance for Building Regulatory Reform in the Digital Age (the Alliance) has established a unified vision that leverages interoperability capabilities to create a standard for communicating information between BRP systems and other applications.

Building Regulatory Process Interoperability Framework (BRPIF) is the place where companies and jurisdictions can participate in the development of specifications that will ensure interoperability in the BRP environment. BRPIF is not a product, but an industry initiative to develop a technical blueprint for BRP software that will enable diverse applications to interact and share data now and in the future.

1.1 Compliance Claims

No organization may claim to be BRPIF compliant until compliance criteria have been created and their product has been tested for compliance. As marketing, public relations, and technical materials are being created, companies may use the following designations to describe their company's involvement:

BRPIF Participant – The organization has paid their NCSBCS dues and has designated technical and marketing personnel and resources to the project. BRPIF participants are involved in the working groups that are writing the specifications and may vote on future versions of the specifications.

BRPIF Endorser – This is an organization that is building product to the BRPIF specifications but has not paid NCSBCS dues. BRPIF endorsers are encouraged to comment on the specifications, but may not vote or help to write future versions of specifications.

BRPIF Compliant – Ultimately, this designation will be placed on specific products that have met BRPIF criteria and passed compliance testing. This designation may not be used until compliance criteria have been written and agreed to by the BRPIF participants.

1.2 Disclaimer

The information, software, products, and services included in the *BRPIF Implementation Specification Version 1.0* may include inaccuracies or typographical errors. Changes are periodically added to the information herein. The NCSBCS may make improvements and/or changes in this document at any time without notification. Information contained in this document should not be relied upon for personal, medical, legal or financial decisions. Appropriate professionals should be consulted for advice tailored to specific situations.

THE NCSBCS, ITS PARTICIPANT(S), AND THIRD PART CONTENT PROVIDERS MAKE NO REPRESENTATIONS ABOUT THE SUITABILITY, RELIABILITY, TIMELINESS, AND ACCURACY OF THE INFORMATION, SOFTWARE, PRODUCTS, SERVICES, AND RELATED GRAPHICS CONTAINED IN THIS DOCUMENT FOR ANY PURPOSE. ALL SUCH INFORMATION, SOFTWARE, PRODUCTS, SERVICES, AND RELATED GRAPHICS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND. THE NCSBCS AND/OR ITS PARTICIPANT(S) HEREBY DISCLAIM ALL WARRANTIES AND CONDITIONS WITH REGARD TO THIS INFORMATION, SOFTWARE, PRODUCTS, SERVICES, AND RELATED GRAPHICS, INCLUDING ALL IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND NON-INFRINGEMENT.

IN NO EVENT SHALL THE NCSBCS, ITS PARTICIPANT(S), OR THIRD PARTY CONTENT PROVIDERS BE LIABLE FOR ANY DIRECT, INDIRECT, PUNITIVE, INCIDENTAL, SPECIAL,

CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF USE, DATA, OR PROFITS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE USE OR PERFORMANCE OF THIS DOCUMENT, WITH THE DELAY OR INABILITY TO USE THE DOCUMENT, THE PROVISION OF OR FAILURE TO PROVIDE SERVICES, OR FOR ANY INFORMATION, SOFTWARE, PRODUCTS, SERVICES AND RELATED GRAPHICS OBTAINED THROUGH THIS DOCUMENT OR OTHERWISE ARISING OUT OF THE USE OF THIS DOCUMENT, WHETHER BASED ON CONTRACT, TORT, STRICT LIABILITY, OR OTHERWISE, EVEN IF THE NCSBCS, ITS PARTICIPANT(S), OR THIRD PARTY CONTENT PROVIDERS HAVE BEEN ADVISED OF THE POSSIBILITY OF DAMAGES. BECAUSE SOME STATES/JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU. IF YOU ARE DISSATISFIED WITH ANY PORTION OF THIS DOCUMENT OR WITH ANY OF THESE TERMS OF USE, YOUR SOLE AND EXCLUSIVE REMEDY IS TO DISCONTINUE USING THIS DOCUMENT.

2 Introduction

The Implementation Specification defines the software implementation guidelines for BRPIF; it does not make any assumption that hardware and software products need to be used to develop BRPIF-compliant applications. Instead, it defines the requirements of architecture, communication, software components, and interfaces between them.

2.1 Specification Organization

The Preamble details the compliance claims and the disclaimer.

The Introduction outlines the specification and the BRPIF Working Group structure.

Architecture describes the assumptions, concepts, models, and requirements to the data model, the BRPIF Architecture, message processing, and the infrastructure transport layer.

Infrastructure focuses on the infrastructure elements, messages and objects.

The Data Model section describes the common elements and all approved objects.

The Appendixes list all elements and objects, tables and examples, in addition to external code sets referenced by BRPIF.

The document ends with References. References occurring in the text of the specification are given in brackets, e.g. [REFERENCE]. The text in brackets corresponds to a key in the Reference section. Often when the text in the brackets duplicates surrounding text, the reference alone is used (e.g. [XML] instead of XML [XML]).

2.2 Working Groups

2.2.1 Data Warehousing Workgroup

The mission of the Data Warehouse Work Group is to lead the definition of the detailed data that building officials and contractors need to improve contractor achievement and organizational effectiveness. It will represent to the other BRPIF working groups the interest of the building officials, contractors, and homebuilders associations who can benefit from the analysis of integrated BRPIF data.

There are no data elements or objects for this working group.

2.2.2 Compliance Workgroup

Compliance creates the process and procedures for certifying software as BRPIF compliant. This will include establishing a format for the working groups to submit compliance criteria; establishing an entity to conduct the compliance testing; communicating the compliance process and procedures to all interested parties; reviewing the compliance criteria; establishing a pricing structure for the compliance testing process; creating a procedure for applying for, distributing, and using the BRPIF compliant logo; establishing an official list of compliant products; and establishing criteria for re-certification as new specifications are released.

There are no data elements or objects for this working group.

2.2.3 Addressing Workgroup

The mission of the Addressing Workgroup is an efficient, functional standard that supports the BRPIF structure, allowing for easy, bi-directional transfer of data integral to addressing.

2.2.4 Permitting Workgroup

The mission of the Permitting Workgroup is an efficient, functional standard that supports the BRPIF structure, allowing for easy, bi-directional transfer of data integral to permitting.

3 Architecture

3.1 Assumptions

3.2 Concepts

- 3.2.1 Data Model**
- 3.2.2 Data Provision**
- 3.2.3 Event Reporting**
- 3.2.4 Communication: An Asynchronous Model**
- 3.2.5 Security Model**
- 3.2.6 Encryption**
- 3.2.7 Authentication and Validation**
- 3.2.8 Access Control**

3.3 BRPIF Architecture

- 3.3.1 Architectural Components**
- 3.3.2 Naming Conventions for Agents**
- 3.3.3 Object Identifiers**
- 3.3.4 Agent/Application Requirements**
 - 3.3.4.1 Establishing Connection**
 - 3.3.4.2 Responding to Requests**
 - 3.3.4.3 Changes Required to the Vendor's Applications**
 - 3.3.4.4 Support Authentication and Digital Signatures**
 - 3.3.4.5 Access Control List**

3.4 Message Processing

- 3.4.1 Message Identification**
- 3.4.2 Message Security**
 - 3.4.2.1 BRPIF_AuthenticationLevel**
 - 3.4.2.2 BRPIF_EncryptionLevel**
- 3.4.3 Message Robustness**
- 3.4.4 Message Cycle**
- 3.4.5 Message Delivery**
 - 3.4.2.1 The "Push" Model**
 - 3.4.2.2 The "Pull" Model**
- 3.4.6 Message Handling Protocols**

3.5 Infrastructure Transport Layer

- 3.5.1 BRPIF HTTPS Transport**
- 3.5.2 HTTPS Request/Response Model**
- 3.5.3 HTTP Request Header**
- 3.5.4 HTTP Response Header**

4 Infrastructure

All objects detailed in the Addressing Workgroup data models have approved status. In order to support universally available administration functions, the Infrastructure Workgroup will be adding objects.

4.1 Elements

The characteristics for all tables in this section use the following codes.

Code	Characteristics
R	Required Attribute
I	Implied or Optional Attribute
M	Mandatory Element
O	Optional Element
C	Conditional Element
MR	Mandatory & Repeatable Element
OR	Optional & Repeatable Element
CR	Conditional & Repeatable Element

Table 4.1-1: Characteristic Codes

NOTE: For objects in this section, elements coded with a 'M' or 'MR' in the 'Characteristics' column must be provided in the objects in which they appear.

5 Data Model

Please note that the Description columns in the tables of elements/attributes in this section often contain lists of valid element and attribute values. In some cases, these values originate from external code sets. When this is the case, sources are listed for the values and most code values and descriptions are provided for convenience in **Appendix F; External Code Sets**. When a list of values is defined by BRPIF itself, no source is listed. In some instances, BRPIF defines a subset of an external code set that is valid for use within BRPIF. When this occurs, the list of values will be indicated as a subset following the source of the external code set.

5.1 Common Elements

The characteristics for all of the tables in this section use the following codes:

Code	Characteristics
R	Required Attribute
I	Implied or Optional Attribute
M	Mandatory Element
O	Optional Element
C	Conditional Element
MR	Mandatory & Repeatable Element
OR	Optional & Repeatable Element
CR	Conditional & Repeatable Element

Table 5.1-1: Characteristic Codes

NOTE: For objects in this section, elements coded with a 'M' or 'MR' in the 'Characteristics' column must be provided in the objects in which they appear.

This definition does not apply to attributes, which are always required to be present if their corresponding element is present.

5.1.1 Name

This *Name* element could belong to a contractor, property owner, staff member, etc. This element occurs within objects such as *PermitApplicant*, *GeneralContractor*, *SubContractor*, etc.

Element	Attribute	Code	Description
Name			
	Type	R	Code that specifies what type of name this is. Values: 01 – Given Name (Name at Birth) 02 – Current Legal Name 03 – Alias 04 – Name of Record 05 – Previous Name 06 – Professional Name
Prefix		O	A prefix associated with the name like Mr., Ms., etc.
LastName		M	The last name.
FirstName		M	The first name.
MiddleName		O	The middle name or initial.
Suffix		O	Generation of suffix like II, Jr., etc.
PreferredName		O	This is a name that the person prefers to be called by.
SortName		O	This is the name to be used for sorting purposes.
FullName		O	A free text field for the complete name.

Table 5.1.1-1: Name Element

```
<Name Type="04">
  <Prefix>Mr.</Prefix>
  <LastName>Woodall</LastName>
  <FirstName>Charles</FirstName>
  <MiddleName>William</MiddleName>
  <Suffix>Jr.</Suffix>
  <PreferredName>Chuck</PreferredName>
</Name>
```

Example 5.1.1-1 Name

5.2 Addressing Workgroup Elements

5.2.1 Address

This element represents an address. This element occurs within objects and elements such as *ContractorPersonal*, *ContractorAddress*, *OwnerPersonal*, *OwnerAddress*, etc.

Element	Attribute	Code	Description
Address		M	This element contains information about the address. The address element could be included in a permit address, contractor address, or owner address.
	Type	R	Code that defines the location of the address. Values: Sources: 0369 (Address Type).
Street		M	The street element is a complex element and breaks the street down into several parts.
Street/Line1		M	Address Line 1.
Street/Line2		O	Address Line 2.
Street/Line3		O	Address Line 3.
Street/Complex		O	Name of the complex.
Street/StreetNumber		O	The address number assigned to the building.
Street/StreetPrefix		O	Street prefix like NE
Street/StreetName		O	The name of the street.
Street/StreetType		O	The type of street. For example Lane, Blvd, Ave etc.
Street/StreetSuffix		O	Street suffix like SW.
Street/AptType		O	Type of apartment, for example Suite.
Street/AptNumber		O	The number of the apartment.
AddressGrid		O	The address grid from which this address is taken
City		M	The city part of the address.
County		O	The county part of the address.
StatePr		M	The state or province code. Values: Sources: 156 (State or Province Code-U.S. States and Provinces) and 156 (State or Province Code-Canadian Provinces) Note: When dealing with countries other than the United States or Canada, state/province codes other than those referenced above (or actual names) will be used.
Country		M	The country code. Values: Sources: 26 (Country Code) [ISO 3166-1]
PostalCode		M	The ZIP/postal code.
GridLocation		O	The location of the address. For a description of this element, see 5.1.2 <i>GridLocation</i> .

Table 5.2.1-1 Address Element

```

<Address Type="01">
  <Street>
    <Line1>1 IBM Plaza</Line1>
    <Line2>Suite 2000</Line2>
    <Line3>Chicago, IL 60611</Line3>
    <StreetNumber>1</StreetNumber>
    <StreetName>IBM</StreetName>
    <StreetType>Plaza</StreetType>
    <AptType>Suite</AptType>
    <AptNumber>2000</AptNumber>
  </Street>
  <City>Chicago</City>
  <County>Cook</County>
  <StatePr >IL</StatePr>
  <Country >US</Country>
  <PostalCode>60611</PostalCode>
  <GridLocation>
    <Latitude>41.7699657</Latitude>
    <Longitude>79.548445</Longitude>
  </GridLocation>
</Address>

```

Example 5.2.1-1 Address

5.2.2 GridLocation

This element contains a map location. The *GridLocation* element is utilized within other objects and elements, such as *ParcelInfo* and *Address*, etc.

Element	Attribute	Code	Description
Grid Location		M	
	Type	R	Code that defines the type of coordinate represented. Values: Sources: 0500 (Coordinate Type)
XCoordinate		M	
YCoordinate		M	
ZCoordinate		O	

Table 5.2.2-1: GridLocation Element

```

<GridLocation Type="01">
  <XCoordinate>41.7699657</XCoordinate>
  <YCoordinate>79.548445</YCoordinate>
</GridLocation>

```

Example 5.2.2-1 GridLocation

This page intentionally left blank.

5.3 Permitting Workgroup Elements

5.3.1 Permit

This element represents a permit. This element occurs within objects and elements such as *GetPermitsByAddress*, *GetPermitsByNumber*, *GetPermitsByDate*, etc.

Element	Attribute	Code	Description
Permit		M	
PermitNumber		M	The unique number assigned to a permit.
CensusType		O	The US Census C-404 code assigned to a permit.
IssueDate		M	The date on which this permit was issued.
PermitType		M	The unique code identifying the type of permit.
PermitTypeDescription		M	A brief description of the type code.
StatusCode		M	A code indicating the status of the permit.
StatusDescription		M	A brief description of the status code.
WorkType		O	A brief description of the type of work to be done under a permit.
Valuation		O	The valuation attributed to the work to be done under a permit.
SquareFeet		O	Heated Square Feet
SubdivisionCode		O	The unique code identifying a subdivision associated with a permit.
SubdivisionDescription		O	A brief description of the <i>SubdivisionCode</i> .
ParcelNumber		O	The unique number assigned to the parcel associated with a permit.
MasterNumber		O	The unique number assigned to the master permit to which a permit has been associated.
GeneralContractor		O	The contractor identification number assigned to the General Contractor for a permit.
PermitApplicant		O	Information about the person that applied for a permit. For a description of this element, see 5.3.1.1 <i>Applicant</i>
SubContractors		O	A list of the subcontractors associated with a permit. For a description of this element see 5.3.1.2 <i>SubContractors</i> .
PermitFees		O	A list of the fees associated with a permit. For a description of this element see 5.3.1.3 <i>PermitFees</i> .
PermitInspections		O	A list of the inspections associated with a permit. For a description of this element see 5.3.1.4 <i>PermitInspections</i> .
Address		M	The situs address associated with a permit. For a description of this element, see 5.2.1 <i>Address</i> .
Holds		O	A list of holds associated with a permit. For a description of this element, see 5.3.1.5 <i>Holds</i> .
Certificates		O	A list of certificates associated with a permit. For a description of this element, see 5.3.1.6 <i>Certificates</i> .

Table 5.3.1-1: Permit Element

```

<Permit>
  <PermitNumber>04060002</PermitNumber>
  <CensusType>101</CensusType>
  <IssueDate>06/30/2004</IssueDate>
  <PermitType>SFRD</PermitType>
  <PermitTypeDescription>SINGLE FAMILY RESIDENTIAL DWELLING</PermitTypeDescription>
  <StatusCode>O</StatusCode>
  <StatusDescription>Open</StatusDescription>
  <WorkType>Construct single family residential dwelling w/ detached 2-car garage</WorkType>
  <Valuation>250000</Valuation>
  <SquareFeet>2500</SquareFeet>
  <SubdivisionCode>KINGSACRES</SubdivisionCode>
  <SubdivisionDescription>KINGSWOOD ACRES</SubdivisionDescription>
  <ParcelNumber>02260100004569</ParcelNumber>
  <MasterNumber></MasterNumber>
  <Applicant>
    <Relationship>01</Relationship>
    <Name Type="04">
      <Prefix>Mr.</Prefix>
      <LastName>Woodall</LastName>
      <FirstName>Charles</FirstName>
      <MiddleName>William</MiddleName>
      <Suffix>Jr.</Suffix>
      <PreferredName>Chuck</PreferredName>
    </Name>
    <Address Type="01">
      <Street>
        <Line1>1 IBM Plaza</Line1>
        <Line2>Suite 2000</Line2>
        <Line3>Chicago, IL 60611</Line3>
        <StreetNumber>1</StreetNumber>
        <StreetName>IBM</StreetName>
        <StreetType>Plaza</StreetType>
        <AptType>Suite</AptType>
        <AptNumber>2000</AptNumber>
      </Street>
      <City>Chicago</City>
      <County>Cook</County>
      <StatePr >IL</StatePr>
      <Country >US</Country>
      <PostalCode>60611</PostalCode>
      <GridLocation>
        <Latitude>41.7699657</Latitude>
        <Longitude>79.548445</Longitude>
      </GridLocation>
    </Address>
  </Applicant>
  <ParcelDetails>
  </ParcelDetails>
  <GeneralContractor>CM01020001</GeneralContractor>
  <SubContractors>
  </SubContractors>
  <Address Type="01">
    <Street>
      <Line1>1 IBM Plaza</Line1>
      <Line2>Suite 2000</Line2>
      <Line3>Chicago, IL 60611</Line3>
      <StreetNumber>1</StreetNumber>
      <StreetName>IBM</StreetName>
      <StreetType>Plaza</StreetType>
      <AptType>Suite</AptType>
      <AptNumber>2000</AptNumber>
    </Street>
  </Address>

```

```
</Street>
<City>Chicago</City>
<County>Cook</County>
<StatePr >IL</StatePr>
<Country >US</Country>
<PostalCode>60611</PostalCode>
<GridLocation>
  <Latitude>41.7699657</Latitude>
  <Longitude>79.548445</Longitude>
</GridLocation>
</Address>
<Holds>
  <Hold>
    <Flag>True</Flag>
    <Reason>Worker Compensation Insurance Policy is Expired</Reason>
  </Hold>
</Holds>
</Permit>
```

Example 5.3.1-1 Permit

5.3.1.1 PermitApplicant

This element represents information about the entity applying for a permit. The *PermitApplicant* element is utilized within other objects and elements such as *Permit*.

Element	Attribute	Code	Description
PermitApplicant		O	
Relationship		M	Relationship to permit. Values: 01 – Property Owner 02 – Contractor/Developer
Name		M	The name of the entity applying for a permit. For a description of this element, see 5.1.3 <i>Name</i> .
Address		M	The address associated with this applicant. For a description of this element, see 5.2.1 <i>Address</i> .

Table 5.3.1.1-1: *PermitApplicant* Element

```

<PermitApplicant>
  <Relationship>01</Relationship>
  <Name Type="04">
    <Prefix>Mr.</Prefix>
    <LastName>Woodall</LastName>
    <FirstName>Charles</FirstName>
    <MiddleName>William</MiddleName>
    <Suffix>Jr.</Suffix>
    <PreferredName>Chuck</PreferredName>
  </Name>
  <Address Type="01">
    <Street>
      <Line1>1 IBM Plaza</Line1>
      <Line2>Suite 2000</Line2>
      <Line3>Chicago, IL 60611</Line3>
      <StreetNumber>1</StreetNumber>
      <StreetName>IBM</StreetName>
      <StreetType>Plaza</StreetType>
      <AptType>Suite</AptType>
      <AptNumber>2000</AptNumber>
    </Street>
    <City>Chicago</City>
    <County>Cook</County>
    <StatePr >IL</StatePr>
    <Country >US</Country>
    <PostalCode>60611</PostalCode>
    <GridLocation>
      <Latitude>41.7699657</Latitude>
      <Longitude>79.548445</Longitude>
    </GridLocation>
  </Address>
</PermitApplicant>

```

Example 5.3.1.1-1 Applicant

5.3.1.2 SubContractors

This element represents a list of subcontractors associated with a permit. The *SubContractor* element is utilized within other objects and elements such as *Permit*.

Element	Attribute	Code	Description
SubContractors		O	
Category		MR	The <i>Category</i> element is a complex element and provides a list of the subcontractor categories associated with a permit.
Category/Code		M	A code indicating which contractor category or discipline that a subcontractor has been associated with on a permit.
Category/Description		M	A brief description of the subcontractor category code.
SubContractor		MR	The <i>SubContractor</i> element is a complex element and provides a list of the contractors for the category element.
SubContractor/ContractorId		M	The unique identifier assigned to each contractor.

Table 5.3.1.2-1: SubContractors Element

```

<SubContractors>
  <Category>
    <Code>ELEC</Code>
    <Description>Electrical</Description>
    <SubContractor>
      <ContractorId>EL123456</ContractorId>
    </SubContractor>
  </Category>
</SubContractors>

```

Example 5.3.1.2-1: SubContractors

5.3.1.3 PermitFees

This element contains a list of the fees associated with a permit. The *PermitFees* element is utilized within other objects such as *Permit*.

Element	Attribute	Code	Description
PermitFees		O	List of fees associated with a permit.
Fee		MR	The <i>Fee</i> element is a complex element and provides a list of the fees associated with a permit.
Fee/Code		M	A unique code identifying each fee associated with a permit.
Fee/CodeDesc		O	A brief description of the fee code.
Fee/Units		O	The unit of measure associated with the units reported.
Fee/Quantity		O	The number of units used to compute the fee.
Fee/Amount		M	The amount charged for the fee.
Fee/Balance		M	The balance due for the fee.

Table 5.3.1.3-1: *PermitFees* Element

```

<PermitFees>
  <Fee>
    <Code>APPFEE</Code>
    <CodeDesc>Permit Application Fee</CodeDesc>
    <Units>FLAT RATE</Units>
    <Quantity>1.00</Quantity>
    <Amount>100.00</Amount>
    <Balance>0.00</Balance>
  </Fee>
  <Fee>
    <Code>PERMITFEE</Code>
    <CodeDesc>Permit Fee</CodeDesc>
    <Units>VALUATION</Units>
    <Quantity>150000.00</Quantity>
    <Amount>250.00</Amount>
    <Balance>250.00.00</Balance>
  </Fee>
  <Fee>
    <Code>PLANFEE</Code>
    <CodeDesc>Plan Review Fee</CodeDesc>
    <Units>SETS OF PLANS</Units>
    <Quantity>8.00</Quantity>
    <Amount>400.00</Amount>
    <Balance>0.00</Balance>
  </Fee>
</PermitFees>

```

Example 5.3.1.3-1: *PermitFees*

5.3.1.4 PermitInspections

This element contains a list of the inspections associated with a permit. The *PermitInspections* element is utilized within other objects such as *Permit*.

Element	Attribute	Code	Description
PermitInspections		O	List of inspections associated with a permit.
Inspection		MR	The <i>Inspection</i> element is a complex element and provides a list of the inspections associated with a permit.
Inspection/Type		M	A unique code identifying each fee associated with a permit.
Inspection/TypeDesc		M	A brief description of the fee code.
Inspection/Scheduled		O	The amount charged for the fee.
Inspection/ScheduledTime		O	The time of day an inspection has been scheduled to occur.
Inspection/Instructions		O	Instructions for the inspector assigned an inspection.
Inspection/Result		O	A code indicating the result of an inspection.
Inspection/ResultDesc		O	A description of the <i>Result</i> element.
Inspection/ResultDate		O	The date on which the inspection occurred.
Inspection/Comments		O	Inspector's comments.
Inspection/ConfirmNbr		O	Confirmation number assigned by host system.
Inspection/ContractorId		O	The unique identification number assigned to the contractor associated with an inspection.
Inspection/InspectorId		O	A unique code assigned to each inspector.
Inspection/InspectorName		O	The name of the inspector assigned to an inspection.
Inspection/Feeld		O	A unique code identifying a fee that is charged as the result of an inspection.
Inspection/FeeDesc		O	A brief description of the <i>Feeld</i> element.
Inspection/FeeAmount		O	The amount charged.

Table 5.3.1.4-1: PermitInspections Element

```

<PermitInspections>
  <Inspection>
    <Type>EROUGH</Type>
    <TypeDesc>Electrical Rough Inspection</TypeDesc>
  </Inspection>
  <Inspection>
    <Type>EFINAL</Type>
    <TypeDesc>Electrical Final Inspection</TypeDesc>
  </Inspection>
  <Inspection>
    <Type>PFINAL</Type>
    <TypeDesc>Plumbing Final Inspection</TypeDesc>
  </Inspection>
  <Inspection>
    <Type>PROUGH</Type>
    <TypeDesc>Plumbing Rough Inspection</TypeDesc>
    <Scheduled>07/01/2004</Scheduled>
    <ScheduledTime>AM</ScheduledTime>
    <Instructions>Please check in with Bob Smith upon arrival</Instructions>
    <Result>P</Result>
    <ResultDesc>Passed</ResultDesc>
    <ResultDate>07/01/2004</ResultDate>
    <ConfirmNbr>01060001</ConfirmNbr>
    <InspectorId>ABC</InspectorId>
    <InspectorName>Andrew B Canter</InspectorName>
  </Inspection>
</PermitInspection>

```

Example 5.3.1.4-1: PermitInspections

5.3.1.5 Holds

This element contains a list of the holds associated with a permit. The *Holds* element is utilized within other objects such as *Permit*.

Element	Attribute	Code	Description
Holds		M	
Hold		MR	The <i>Inspection</i> element is a complex element and provides a list of the inspections associated with a permit.
Hold/Flag		M	True or False.
Hold/Reason		CR	If the <i>Hold/Flag</i> element contains "True", then this element must contain the reason for the hold.

Table 5.3.1.5-1: Holds Element

```
<Holds>
  <Hold>
    <Flag>True</Flag>
    <Reason>Worker Compensation Insurance Policy is Expired</Reason>
  </Hold>
</Holds>
```

Example 5.3.1.5-1: Holds

5.3.1.6 Certificates

This element contains a list of the certificates associated with a permit. The *Certificates* element is utilized within other objects such as *Permit*.

Element	Attribute	Code	Description
Certificates		M	
Certificate		MR	The <i>Certificate</i> element is a complex element and provides information for a certificate issued for a permit.
Certificate/Type		M	A code that indicates the type of certificate issued.
Certificate/TypeDesc		O	A brief description of the <i>Type</i> element.
Certificate/IssueDate		O	The date that the certificate was issued.
Certificate/ExpirationDate		O	The date that the certificate will expire.

Table 5.3.1.6-1: Certificates Element

```

<Certificates>
  <Certificate>
    <Type>TCO</Type>
    <TypeDesc>Temporary Certificate of Occupancy</TypeDesc>
    <IssueDate>07/01/2004</IssueDate>
    <ExpirationDate>07/30/2004</ExpirationDate>
  </Certificate>
</Certificates>

```

Example 5.3.1.6-1: Holds

5.3.2 Contractor

This element represents information about a contractor. The *Contractor* element is utilized within other objects and elements such as *Permit*.

Element	Attribute	Code	Description
Contractor		O	
ContractorId		M	The unique identifier assigned to each contractor
Status		M	The status of the contractor
CompanyInfo		M	Information about the contractor's company For a description of this element, see <i>CompanyInfo 5.3.3.1</i>
LicenseInfo		OR	License information for the contractor For a description of this element, see <i>LicenseInfo 5.3.3.2</i>
InsuranceInfo		OR	Insurance information for the contractor For a description of this element, see <i>InsuranceInfo 5.3.3.3</i>
QualifierInfo		O	Qualifier information for the contractor For a description of this element, see <i>QualifierInfo 5.3.3.4</i>

Table 5.3.2-1: Contractor

```
<Contractor>
  <ContractorId>GC02002</ContractorId>
  <Status>A</Status>
  <CompanyInfo>
    <Name Type="06">
      <FullName>Oak Tree Contracting</FullName>
    </Name>
    <Address Type="01">
      <Street>
        <Line1>1 IBM Plaza</Line1>
        <Line2>Suite 2000</Line2>
        <Line3>Chicago, IL 60611</Line3>
        <StreetNumber>1</StreetNumber>
        <StreetName>IBM</StreetName>
        <StreetType>Plaza</StreetType>
        <AptType>Suite</AptType>
        <AptNumber>2000</AptNumber>
      </Street>
      <City>Chicago</City>
      <County>Cook</County>
      <StatePr >IL</StatePr>
      <Country >US</Country>
      <PostalCode>60611</PostalCode>
      <GridLocation>
        <Latitude>41.7699657</Latitude>
        <Longitude>79.548445</Longitude>
      </GridLocation>
    </Address>
    <PhoneNumbers>
      <Phone Type="01" Format="NA">850-555-1212</Phone>
      <Phone Type="02" Format="NA">850-555-1213</Phone>
      <Phone Type="03" Format="NA">850-555-1214</Phone>
    </PhoneNumbers>
  </CompanyInfo>
  <LicenseInfo>
  </LicenseInfo>
  <InsuranceInfo>
  </InsuranceInfo>
  <QualifierInfo>
  </QualifierInfo>
</Contractor>
```

Example 5.3.2-1: Contractor

5.3.2.1 CompanyInfo

This element details information about the contractor's company. The *CompanyInfo* element is utilized within other objects and elements such as *Contractor*.

Element	Attribute	Code	Description
CompanyInfo		O	
Name		M	The name of the company. For a description of this element, see <i>Name 5.1.1</i> .
Address		M	The address for the company For a description of this element, see <i>Address 5.2.1</i> .
PhoneNumbers		M	A list of phone numbers for this company. For a description of this element, see <i>PhoneNumber 5.1.2</i> .

Table 5.3.2.1-1: *CompanyInfo* Element

```

<CompanyInfo>
  <Name Type="06">
    <FullName>Oak Tree Contracting</FullName>
  </Name>
  <Address Type="01">
    <Street>
      <Line1>1 IBM Plaza</Line1>
      <Line2>Suite 2000</Line2>
      <Line3>Chicago, IL 60611</Line3>
      <StreetNumber>1</StreetNumber>
      <StreetName>IBM</StreetName>
      <StreetType>Plaza</StreetType>
      <AptType>Suite</AptType>
      <AptNumber>2000</AptNumber>
    </Street>
    <City>Chicago</City>
    <County>Cook</County>
    <StatePr >IL</StatePr>
    <Country >US</Country>
    <PostalCode>60611</PostalCode>
    <GridLocation>
      <Latitude>41.7699657</Latitude>
      <Longitude>79.548445</Longitude>
    </GridLocation>
  </Address>
  <PhoneNumbers>
    <Phone Type="01" Format="NA">850-555-1212</Phone>
    <Phone Type="02" Format="NA">850-555-1213</Phone>
    <Phone Type="03" Format="NA">850-555-1214</Phone>
  </PhoneNumbers>
</CompanyInfo>

```

Example 5.3.2.1-1: *CompanyInfo*

5.3.2.2 LicenseInfo

This element details information about the licenses held by a contractor'. The *LicenseInfo* element is utilized within other objects and elements such as *Contractor*.

Element	Attribute	Code	Description
LicenseInfo		O	
	Type	M	The type of license. Values: 01 – Contractor License from local jurisdiction 02 – Occupational License from local jurisdiction 03 – County License 04 – State License
License		MR	The <i>License</i> element is a complex element and provides detailed information for each license
License/Number		M	The unique number assigned to a license.
License/Type		M	A code indicating the type of license held by a contractor
License/TypeDesc		O	A brief description of the license type.
License/IssueDate		O	The date that a license was issued.
License/ExpirationDate		O	The date that a license expires.

Table 5.3.2.2-1: LicenseInfo Element

```

<LicenseInfo>
  <License Type = "01">
    <Number>04020001</Number>
    <Type>BCGENERAL</Type>
    <TypeDesc>Building Contractor – General /TypeDesc>
    <IssueDate>01/01/2004</IssueDate>
    <ExpirationDate>12/31/2004</ExpirationDate>
  </License>
  <License Type = "04">
    <Number>GC04000001</Number>
    <Type>GCBUILDING</Type>
    <TypeDesc>General Contractor – Building</TypeDesc>
    <IssueDate>01/01/2004</IssueDate>
    <ExpirationDate>12/31/2004</ExpirationDate>
  </License>
</LicenseInfo>

```

Example 5.3.2.2-1: LicenseInfo

5.3.2.3 InsuranceInfo

This element details insurance information for a contractor. The *InsuranceInfo* element is utilized within other objects and elements such as *Contractor*.

Element	Attribute	Code	Description
InsuranceInfo		O	
	Type	M	The type of insurance policy. Values: 01 – Liability Insurance 02 – Worker Compensation Insurance
Insurance		MR	The <i>Insurance</i> element is a complex element and provides detailed information for each insurance policy.
Insurance/Policy		M	The insurance policy number.
Insurance/IssueDate		O	The date that a policy was issued.
Insurance/ExpirationDate		O	The date that a policy expires.

Table 5.3.2.3-1: *InsuranceInfo* Element

```

<InsuranceInfo>
  <Policy Type = "01">
    <Policy>XYZ123456</Number>
    <IssueDate>01/01/2004</IssueDate>
    <ExpirationDate>12/31/2004</ExpirationDate>
  </Policy>
  <Policy Type = "02">
    <Number>WC04000001</Number>
    <IssueDate>01/01/2004</IssueDate>
    <ExpirationDate>12/31/2004</ExpirationDate>
  </Policy>
</InsuranceInfo>

```

Example 5.3.2.3-1: *InsuranceInfo*

5.3.2.4 QualifierInfo

This element details information about the qualifier for a contractor. The *QualifierInfo* element is utilized within other objects and elements such as *Contractor*.

Element	Attribute	Code	Description
QualifierInfo		O	
Name		M	The name of the qualifier. For a description of this element, see <i>Name 5.1.1</i> .
Address		M	The address for the qualifier For a description of this element, see <i>Address 5.2.1</i> .
PhoneNumbers		M	A list of phone numbers for the qualifier. For a description of this element, see <i>PhoneNumber 5.1.2</i> .

Table 5.3.2.4-1: *QualifierInfo* Element

```

<QualifierInfo>
  <Name Type="06">
    <FullName>Edwin H Hathaway</FullName>
  </Name>
  <Address Type="01">
    <Street>
      <Line1>2649 W Breezey Lane</Line1>
      <Line2>Panama City, FL 32404</Line2>
      <StreetNumber>2649</StreetNumber>
      <StreetPrefix>W</StreetPrefix>
      <StreetName>Breezey</StreetName>
      <StreetType>Lane</StreetType>
    </Street>
    <City>Panama City</City>
    <County>Bay</County>
    <StatePr >FL</StatePr>
    <Country >US</Country>
    <PostalCode>32404</PostalCode>
    <GridLocation>
      <Latitude>41.7699657</Latitude>
      <Longitude>79.548445</Longitude>
    </GridLocation>
  </Address>
  <PhoneNumbers>
    <Phone Type="01" Format="NA">850-555-1212</Phone>
    <Phone Type="02" Format="NA">850-555-1213</Phone>
    <Phone Type="03" Format="NA">850-555-1214</Phone>
  </PhoneNumbers>
</QualifierInfo>

```

Example 5.3.2.4-1: *QualifierInfo*

5.4 Property Work Group Elements

5.4.1 ParcelDetails

This element represents a parcel of land. This element occurs within objects and elements such as *GetPermitsByAddress*, *GetPermitsByNumber*, *GetPermitsByDate*, etc.

Element	Attribute	Code	Description
ParcelDetails		M	
ParcelNumber		R	The unique number assigned to the parcel associated with a permit.
SubdivisionCode		O	The unique code identifying a subdivision associated with a permit.
SubdivisionDescription		O	A brief description of the SubdivisionCode.
Address		O	The situs address associated with a parcel. For a description of this element, see 5.2.1 Address.

Table 5.4.1-1: ParcelDetails

```
<ParcelDetails>
  <ParcelNumber></ParcelNumber>
  <SubdivisionCode></SubdivisionCode>
  <SubdivisionDescription></SubdivisionDescription>
  <Address></Address>
</ParcelDetails>
```

Example 5.4.1-1 ParcelDetails

5.4.2 BuildingInfo

This element represents information concerning a structure associated with a permit. The *BuildingInfo* element is utilized within other objects and elements such as *Permit*.

Element	Attribute	Code	Description
BuildingInfo		O	
BuildingUse		M	Building Use
HeatedSqFeet		M	Heated Square Feet
UnheatedSqFeet		O	Unheated Square Feet
SqFeetRoof		O	Square Feet Under Roof
Height		O	Height of Structure
Volume		O	Volume of Structure
Capacity		O	Capacity of Structure
Bedrooms		O	Number of Bedrooms
Bathrooms		O	Number of Bathrooms
Floors		O	Number of Floors
Rooms		O	Number of Rooms
HeatingCoolingType		O	Heating & Cooling Type
BuildingValue		O	Building Value
Fixtures		O	Number of type of Fixtures For a description of this element see 5.1.6 <i>Fixtures</i> .
Circuits		OR	Number and type of Circuits For a description of this element see 5.1.7 <i>Circuits</i> .
Setbacks		O	The setbacks for a structure. For a description of this element see 5.1.8 <i>Setbacks</i> .
Address		O	The address of the structure. For a description of this element see 5.1.1 <i>Address</i> .

Table 5.4.2-1: *BuildingInfo* Element

```

<BuildingInfo>
  <BuildingUse></BuildingUse>
  <HeatedSqFeet></HeatedSqFeet>
  <UnheatedSqFeet></UnheatedSqFeet>
  <SqFeetRoof></SqFeetRoof>
  <Height></Height>
  <Volume></Volume>
  <Capacity></Capacity>
  <Bedrooms></Bedrooms>
  <Bathrooms></Bathrooms>
  <Floors></Floors>
  <Rooms></Rooms>
  <HeatingCoolingType></HeatingCoolingType>
  <BuildingValue></BuildingValue>
  <Fixtures></Fixtures>
  <Circuits></Circuits>
  <Setbacks></Setbacks>
  <Address></Address>
</BuildingInfo>

```

Example 5.4.2-1 *BuildingInfo*

5.4.3 Fixtures

This element represents information concerning the fixtures associated with a structure. The *Fixtures* element is utilized within other objects and elements such as *Permit*.

Element	Attribute	Code	Description
Fixtures		O	
FemaleToilets		M	The number of female toilets
MaleToilets		M	The number of male toilets
BathroomSinks		O	The number of bathroom sinks
TubShowers		O	The number of tub/showers
KitchenSinks		O	The number of kitchen sinks
Dishwasher		O	The number of dishwashers
GarbageDisposal		O	The number of garbage disposals
LaundryTub		O	The number of laundry tubs
HoseBibs		O	The number of hose bibs
WaterHeater		OR	
	Type	R	Code that specifies the type of water heater. Values: 01 – Gas 02 – Electric
	Qty	R	Number of water heaters of specified type.

Table 5.4.3-1: Fixtures Element

```

<Fixture>
  <FemaleToilets>2</FemaleToilets>
  <MaleToilets>1</MaleToilets>
  <BathroomSinks>4</BathroomSinks>
  <TubShowers>2</TubShowers>
  <KitchenSinks>1</KitchenSinks>
  <Dishwasher>1</Dishwasher>
  <GarbageDisposal>1</GarbageDisposal>
  <LaundryTub>1</LaundryTub>
  <HoseBibs>5</HoseBibs>
  <WaterHeater Type="01", Qty=1></WaterHeater>
</Fixture>

```

Example 5.4.3-1 Fixtures

5.4.4 Circuits

This element represents information concerning the quantity and types of circuits associated with a structure. The *Circuits* element is utilized within other objects and elements such as *Permit*.

Element	Attribute	Code	Description
Circuits		OR	
	Size	R	Code that specifies the size of a circuit. Values: 1-Infinity
	Qty	R	Number of circuits of specified type.

Table 5.4.4-1: Circuits Element

```
<Circuits Size="200A", Qty="1"></Circuits>
```

Example 5.4.4-1 Circuits

5.4.5 Setbacks

This element represents information concerning the setbacks associated with a structure. The *Setbacks* element is utilized within other objects and elements such as *BuildingInfo*.

Element	Attribute	Code	Description
Setbacks		O	
Front		M	Front setback required
Back		M	Back setback required
Left		M	Left setback required
Right		M	Right setback required
Other		OR	Other setback required
	Type	R	The type of setback
	Qty	R	A quantity associated with the setback type.

Table 5.4.5-1: Setbacks Element

```

<Setbacks>
  <Front>10</Front>
  <Back>10</Back>
  <Left>10</Left>
  <Right>10</Right>
  <Other Type="SCHOOL ZONE", Qty="50"></Other>
  <Other Type="HISTORIC DISTRICT", Qty="100"></Other>
</Setbacks>

```

Example 5.4.5-1 Setbacks

5.4.6 PropertyOwner

This page intentionally left blank.

Appendix A: Elements by Alpha

Data Elements

Name	Revised
Address	1.0
BuildingInfo	1.0
Certificates	1.0
Circuits	1.0
CompanyInfo	1.0
Contractor	1.0
Fixtures	1.0
GridLocation	1.0
Holds	1.0
InsuranceInfo	1.0
LicenseInfo	1.0
Name	1.0
ParcelDetails	1.0
ParcelOwner	1.0
Permit	1.0
PermitApplicant	1.0
PermitFees	1.0
PermitInspections	1.0
QualifierInfo	1.0
Setbacks	1.0
SubContractors	1.0

Appendix B: Objects by Alpha

Data Objects

Object	Working Group	Revised
CancelInspection	Permitting	1.0
ContractorInfo	Permitting	1.0
PermitsByAddress	Permitting	1.0
PermitsByDate	Permitting	1.0
PermitsByNumber	Permitting	1.0
RelatedPermitsByAddress	Permitting	1.0
RelatedPermitsByContact	Permitting	1.0
ResultInspection	Permitting	1.0

Appendix C: Examples

Example 4.1-1: Infrastructure Characteristic Codes	9
Example 5.1-1: Common s Characteristic Codes	8
Example 5.1.1-1: Name	12
Example 5.2.1-1: Address	15
Example 5.2.2-1: GridLocation	16
Example 5.3.1-1: Permit	19
Example 5.3.1.1-1: PermitApplicant	22
Example 5.3.1.2-1: SubContractors	23
Example 5.3.1.3-1: PermitFees	24
Example 5.3.1.4-1: PermitInspections	25
Example 5.3.1.5-1: Holds	27
Example 5.3.1.6-1: Certificates	28
Example 5.3.2-1: Contractor.....	29
Example 5.3.2.1-1 CompanyInfo.....	31
Example 5.3.2.2-1 LicenseInfo	32
Example 5.3.2.3-1 InsuranceInfo	33
Example 5.3.2.4-1 Qualifier	34
Example 5.4.1-1: ParcelDetails	37
Example 5.4.2-1: BuildingInfo.....	38
Example 5.4.3-1: Fixtures	39
Example 5.4.4-1: Circuits.....	40
Example 5.4.5-1: Setbacks.....	41

Appendix D: Tables

Table 4.1-1: Infrastructure Characteristic Codes.....	9
Table 5.1-1: Common Elements Characteristic Codes.....	8
Table 5.1.1-1: Name Element.....	12
Table 5.2.1-1: Address Element.....	15
Table 5.2.2-1: GridLocation Element	16
Table 5.3.1-1: Permit Element.....	19
Table 5.3.1.1-1: PermitApplicant Element	22
Table 5.3.1.2-1: SubContractors Element	23
Table 5.3.1.3-1: PermitFees Element	24
Table 5.3.1.4-1: PermitInspections Element.....	25
Table 5.3.1.5-1: Holds Element.....	27
Table 5.3.1.6-1: Certificates Element.....	28
Table 5.3.2-1: Contractor	29
Table 5.3.2.1-1 CompanyInfo Element	31
Table 5.3.2.2-1 LicenseInfo Element	32
Table 5.3.2.3-1 InsuranceInfo Element.....	33
Table 5.3.2.4-1 Qualifier Element.....	34
Table 5.4.1-1: ParcelDetails Element	37
Table 5.4.2-1: BuildingInfo Element	38
Table 5.4.3-1: Fixtures Element	39
Table 5.4.4-1: Circuits	40
Table 5.4.5-1: Setbacks Element	41

Appendix E: Error Codes

Appendix F: External Code Sets

All external code sets referenced in the Building Regulation Process Interoperability Framework are included here for informational purposes only. The referenced documents serve as authorities for all codes, descriptions, semantics and revisions.

26 Country Codes

NOTE: The list below is extracted from [ISO 3166-1]. It contains all short country names and alpha-2 code elements officially published by ISO. The maintenance agency for these country codes is [ISO 3166/MA].

Code	Country
AF	AFGHANISTAN
AX	ÅLAND ISLANDS
AL	ALBANIA
DZ	ALGERIA
AS	AMERICAN SAMOA
AD	ANDORRA
AO	ANGOLA
AI	ANGUILLA
AQ	ANTARCTICA
AG	ANTIGUA AND BARBUDA
AR	ARGENTINA
AM	ARMENIA
AW	ARUBA
AU	AUSTRALIA
AT	AUSTRIA
AZ	AZERBAIJAN
BS	BAHAMAS
BH	BAHRAIN
BD	BANGLADESH
BB	BARBADOS
BY	BELARUS
BE	BELGIUM
BZ	BELIZE
BJ	BENIN
BM	BERMUDA
BT	BHUTAN
BO	BOLIVIA
BA	BOSNIA AND HERZEGOVINA
BW	BOTSWANA
BV	BOUVET ISLAND
BR	BRAZIL
IO	BRITISH INDIAN OCEAN TERRITORY
BN	BRUNEI DARUSSALAM
BG	BULGARIA
BF	BURKINA FASO
BI	BURUNDI
KH	CAMBODIA
CM	CAMEROON
CA	CANADA
CV	CAPE VERDE
KY	CAYMAN ISLANDS
CF	CENTRAL AFRICAN REPUBLIC
TD	CHAD
CL	CHILE
CN	CHINA
CX	CHRISTMAS ISLAND
CC	COCOS (KEELING) ISLANDS
CO	COLOMBIA
KM	COMOROS

Code	Country
CG	CONGO
CD	CONGO, THE DEMOCRATIC REPUBLIC OF THE
CK	COOK ISLANDS
CR	COSTA RICA
CI	COTE D'IVOIRE
HR	CROATIA
CU	CUBA
CY	CYPRUS
CZ	CZECH REPUBLIC
DK	DENMARK
DJ	DJIBOUTI
DM	DOMINICA
DO	DOMINICAN REPUBLIC
EC	ECUADOR
EG	EGYPT
SV	EL SALVADOR
GQ	EQUATORIAL GUINEA
ER	ERITREA
EE	ESTONIA
ET	ETHIOPIA
FK	FALKLAND ISLANDS (MALVINAS)
FO	FAROE ISLANDS
FJ	FIJI
FI	FINLAND
FR	FRANCE
GF	FRENCH GUIANA
PF	FRENCH POLYNESIA
TF	FRENCH SOUTHERN TERRITORIES
GA	GABON
GM	GAMBIA
GE	GEORGIA
DE	GERMANY
GH	GHANA
GI	GIBRALTAR
GR	GREECE
GL	GREENLAND
GD	GRENADA
GP	GUADELOUPE
GU	GUAM
GT	GUATEMALA
GN	GUINEA
GW	GUINEA-BISSAU
GY	GUYANA
HT	HAITI
HM	HEARD ISLAND AND MCDONALD ISLANDS
VA	HOLY SEE (VATICAN CITY STATE)
HN	HONDURAS
HK	HONG KONG
HU	HUNGARY
IS	ICELAND
IN	INDIA
ID	INDONESIA
IR	IRAN, ISLAMIC REPUBLIC OF
IQ	IRAQ
IE	IRELAND
IL	ISRAEL
IT	ITALY
JM	JAMAICA
JP	JAPAN
JO	JORDAN
KZ	KAZAKHSTAN
KE	KENYA
KI	KIRIBATI
KP	KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF
KR	KOREA, REPUBLIC OF

Code	Country
KW	KUWAIT
KG	KYRGYZSTAN
LA	LAO PEOPLE'S DEMOCRATIC REPUBLIC
LV	LATVIA
LB	LEBANON
LS	LESOTHO
LR	LIBERIA
LY	LIBYAN ARAB JAMAHIRIYA
LI	LIECHTENSTEIN
LT	LITHUANIA
LU	LUXEMBOURG
MO	MACAO
MK	MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF
MG	MADAGASCAR
MW	MALAWI
MY	MALAYSIA
MV	MALDIVES
ML	MALI
MT	MALTA
MH	MARSHALL ISLANDS
MQ	MARTINIQUE
MR	MAURITANIA
MU	MAURITIUS
YT	MAYOTTE
MX	MEXICO
FM	MICRONESIA, FEDERATED STATES OF
MD	MOLDOVA, REPUBLIC OF
MC	MONACO
MN	MONGOLIA
MS	MONTSERRAT
MA	MOROCCO
MZ	MOZAMBIQUE
MM	MYANMAR
NA	NAMIBIA
NR	NAURU
NP	NEPAL
NL	NETHERLANDS
AN	NETHERLANDS ANTILLES
NC	NEW CALEDONIA
NZ	NEW ZEALAND
NI	NICARAGUA
NE	NIGER
NG	NIGERIA
NU	NIUE
NF	NORFOLK ISLAND
MP	NORTHERN MARIANA ISLANDS
NO	NORWAY
OM	OMAN
PK	PAKISTAN
PW	PALAU
PS	PALESTINIAN TERRITORY, OCCUPIED
PA	PANAMA
PG	PAPUA NEW GUINEA
PY	PARAGUAY
PE	PERU
PH	PHILIPPINES
PN	PITCAIRN
PL	POLAND
PT	PORTUGAL
PR	PUERTO RICO
QA	QATAR
RE	REUNION
RO	ROMANIA
RU	RUSSIAN FEDERATION
RW	RWANDA

Code	Country
SH	SAINT HELENA
KN	SAINT KITTS AND NEVIS
LC	SAINT LUCIA
PM	SAINT PIERRE AND MIQUELON
VC	SAINT VINCENT AND THE GRENADINES
WS	SAMOA
SM	SAN MARINO
ST	SAO TOME AND PRINCIPE
SA	SAUDI ARABIA
SN	SENEGAL
CS	SERBIA AND MONTENEGRO
SC	SEYCHELLES
SL	SIERRA LEONE
SG	SINGAPORE
SK	SLOVAKIA
SI	SLOVENIA
SB	SOLOMON ISLANDS
SO	SOMALIA
ZA	SOUTH AFRICA
GS	SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS
ES	SPAIN
LK	SRI LANKA
SD	SUDAN
SR	SURINAME
SJ	SVALBARD AND JAN MAYEN
SZ	SWAZILAND
SE	SWEDEN
CH	SWITZERLAND
SY	SYRIAN ARAB REPUBLIC
TW	TAIWAN, PROVINCE OF CHINA
TJ	TAJIKISTAN
TZ	TANZANIA, UNITED REPUBLIC OF
TH	THAILAND
TL	TIMOR-LESTE
TG	TOGO
TK	TOKELAU
TO	TONGA
TT	TRINIDAD AND TOBAGO
TN	TUNISIA
TR	TURKEY
TM	TURKMENISTAN
TC	TURKS AND CAICOS ISLANDS
TV	TUVALU
UG	UGANDA
UA	UKRAINE
AE	UNITED ARAB EMIRATES
GB	UNITED KINGDOM
US	UNITED STATES
UM	UNITED STATES MINOR OUTLYING ISLANDS
UY	URUGUAY
UZ	UZBEKISTAN
VU	VANUATU
VE	VENEZUELA
VN	VIET NAM
VG	VIRGIN ISLANDS, BRITISH
VI	VIRGIN ISLANDS, U.S.
WF	WALLIS AND FUTUNA
EH	WESTERN SAHARA
YE	YEMEN
ZM	ZAMBIA
ZW	ZIMBABWE

156 State or Province Code-U.S. States and Territories

Code	Country
AL	ALABAMA
AK	ALASKA
AZ	ARIZONA
AR	ARKANSAS
CA	CALIFORNIA
CZ	CANAL ZONE
CO	COLORADO
CT	CONNECTICUT
DE	DELAWARE
DC	DISTRICT OF COLUMBIA
FL	FLORIDA
GA	GEORGIA
GU	GUAM
HI	HAWAII
ID	IDAHO
IL	ILLINOIS
IN	INDIANA
IA	IOWA
KS	KANSAS
KY	KENTUCKY
LA	LOUISIANA
ME	MAINE
MD	MARYLAND
MA	MASSACHUSETTES
MI	MICHIGAN
MN	MINNESOTA
MS	MISSISSIPPI
MO	MISSOURI
MT	MONTANA
NE	NEBRASKA
NV	NEVADA
NH	NEW HAMPSHIRE
NJ	NEW JERSEY
NM	NEW MEXICO
NY	NEW YORK
NC	NORTH CAROLINA
ND	NORTH DAKOTA
OH	OHIO
OK	OKLAHOMA
OR	OREGON
PA	PENNSYLVANIA
PR	PUERTO RICO
RI	RHODE ISLAND
SC	SOUTH CAROLINA
SD	SOUTH DAKOTA
TN	TENNESSEE
TX	TEXAS
UT	UTAH
VT	VERMONT
VA	VIRGINIA
VI	VIRGIN ISLANDS
WA	WASHINGTON
WV	WEST VIRGINIA
WI	WISCONSIN
WY	WYOMING

156 State or Province Code-Canadian Province Codes

Code	Country
AB	ALBERTA
BC	BRITISH COLUMBIA
MB	MANITOBA
NB	NEW BRUNSWICK
NF	NEWFOUNDLAND AND LABRADOR
NS	NOVA SCOTIA
NT	NORTH WEST TERRITORIES
NU	NUNAVUT
ON	ONTARIO
PE	PRINCE EDWARD ISLAND
PQ	QUEBEC
SK	SASKATCHEWAN
YT	YUKON

0369 Address Type

Code	Address Type
01	Physical location (situs address)
02	Mailing address – other address, Rural Route address, or P.O. Box address

0500 Coordinate Type

Code	Coordinate Type
001	Geodetic Latitude, Longitude – NAD-83
002	Geodetic Latitude, Longitude – NAD-27
003	Geodetic Latitude, Longitude – WGS-72
004	UTM Easting, Northing, Zone – NAD-83
005	UTM Easting, Northing, Zone – NAD-27
006	Military Grid Reference System – NAD-83
007	Military Grid Reference System – NAD-27
008	State Plane, TX C 4203 Easting, Northing – NAD-83
009	State Plane, TX C 4203 Easting, Northing – NAD-27
010	State Plane, TX SC 4204 Easting, Northing – NAD-83
011	State Plane, TX SC 4204 Easting, Northing – NAD-27
012	World Geographic Reference System – WGS-72