



Schweizerische Eidgenossenschaft
Confédération suisse
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Eidgenössisches Departement des Innern EDI
Département fédéral de l'intérieur DFI
Bundesamt für Statistik BFS
Office fédéral de la statistique OFS

Federal Register of Buildings and Dwellings eCH-0216-based software FSO requirements

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Lexicon

- FSO: Swiss Federal Statistical Office
- FRBD: Federal Register of Buildings and Dwellings
- GEWO: section of the FSO, belonging to the IOR (Interoperabilität und Register) division, in charge of, among others, the continued development of the computerized information system and the data update of the FRBD.
- REST: Representational state transfer (REST) is a software architectural style that defines a set of constraints to be used for creating Web services.

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1. General

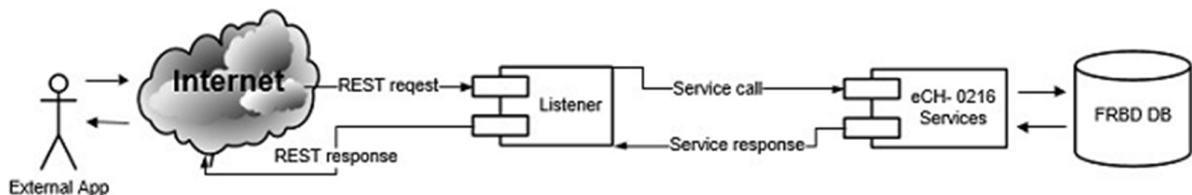
This documents applies especially to software editors developing a commercial solution for municipalities which update the FRBD through Web services in a standard way from the point of view of the Federal statistical office.

11.06.2021. Last modified 30.06.2021

1.1 Architecture

A third party application (for instance, a software specialized in the management of construction projects administration) sends a REST request to enter a building description in the FRBD; the listener calls the service in charge of performing that task; the service returns the EGID of the new building to the listener, which, in turn, sends it to the customer in the shape of a REST response.

16.06.2021. Last modified 30.06.2021



1.2 HTTP Status codes used in the eCH-0216 Web services

200 OK: Standard response for successful HTTP requests. It is sent back when an eCH-0216 Web service was successfully executed.

400 Bad Request: The server cannot or will not process the request due to an apparent client error (e.g., malformed request syntax, size too large, invalid request message framing, or deceptive request routing). That code is also used in the WS216 when the quality assurance system of the FRBD refuses and update and sends back a "refused" type error message, along with HTTP 400.

401 unauthorized: The request contained valid data and was understood by the server, but the server is refusing action.

With the eCH-0216 Web services, it is mostly returned when the authentication token has expired. It is also sent back for services which are currently not active and returns the message "Please call the FRBD at 0800 866 600 or send a request by e-mail to housing-stat@bfs.admin.ch"

404 Not Found: The requested resource could not be found but may be available in the future. It is mostly returned when a street is searched for and not found, based on the street elements sent in the request (addBuilding for example). A cleaner error message will be sent instead in the future.

11.06.2021. Last modified 15.06.2021

1.3 List of eCH-0216 Web services by entity

Construction projects

- getConstructionProjects
- getArchivedConstructionProject
- getConstructionProjectById
- addConstructionProject
- modifyConstructionProject
- addBuildingToConstructionProject
- addDwellingToConstructionProject
- deactivateConstructionProject

- setToApprovedConstructionProject
- setToRefusedConstructionProject
- setToCancelledConstructionProject
- setToWithdrawnConstructionProject
- setToStartConstructionProject
- setToCompletedConstructionProject
- setToSuspendedConstructionProject
- setToCancelledSuspensionConstructionProject
- getDeactivatedConstructionProjects
- reactivateConstructionProject

Work

- addWork
- modifyWork
- deactivateWork

Building

- getBuildings
- getBuildingByld
- addBuilding
- modifyBuilding
- bindToConstructionProject
- unbindToConstructionProject
- deactivateBuilding
- setToApprovedBuilding
- setToBuildingConstructionStarted
- setToCompletedBuilding
- setToDemolishedBuilding
- setToNotRealizedBuilding
- setToUnusableBuilding
- getDeactivatedBuildings
- reactivateBuilding

Building entrance

- getBuildingEntrance
- getBuildingEntranceByld
- addBuildingEntrance
- modifyBuildingEntrance
- deactivateBuildingEntrance
- getDeactivatedBuildingEntrance
- reactivateBuildingEntrance

Dwelling

- getDwellings
- getDwellingByld
- addDwelling
- modifyDwelling
- reallocateDwelling
- deactivateDwelling
- setToApprovedDwelling
- setToDwellingConstructionStarted
- setToCompletedDwelling
- setToDemolishedDwelling
- setToNotRealizedDwelling
- setToNotUsableDwelling
- getDeactivatedDwelling

- reactivateDwelling

Data quality check

- checkQuarterlySurveyDept
- checkConstructionProject
- checkBuilding

Quarterly survey

- setMaintenanceCosts
- closeQuarterlySurvey
- getProgressStatusQuarterlyClosure

Construction survey deparment

- getConstructionSurveyDept
- modifyConstructionSurveyDept

Street

- getStreet
- getStreetByld
- addStreet
- addStreetName
- addStreetSection
- modifyStreet
- modifyStreetName
- setOfficialToNo
- setOfficialToYes
- getDeactivatedStreet
- deactivateStreet
- deleteStreetName
- deleteStreetSection
- reactivateStreet

Mutation

- getMutation (not implemented yet)
- getMutationByld

11.06.2021. Last modified 12.08.2021

1.4 Construction process data entry requests and responses

16.06.2021. Last modified 12.08.2021

Request	ConstructionSurveyDept	ConstructionProject	Work	Building	BuildingEntrance	Dwelling	Street	StreetSection	ErrorMessage	Mutation	Technical Receipt	Response
addConstructionProject		x	x	x	x	x	x	x	x	x	x	constructionProjectCompleteResponse
setToApproveConstructionProject		ID							x	x		constructionProjectProcessResponse
setToStartConstructionProject		ID							x	x		constructionProjectProcessResponse
setToCompleteConstructionProject		x	x	x	x	x	x	x	x	x	x	constructionProjectCompleteResponse
setToRefuseConstructionProject		ID							x	x		constructionProjectProcessResponse
setToCancelConstructionProject		ID							x	x		constructionProjectProcessResponse
setToNotRealizedConstructionProject		ID							x	x		constructionProjectProcessResponse
setToCancelSuspensionConstructionProject		ID							x	x		constructionProjectProcessResponse
setToSuspendConstructionProject		ID							x	x		constructionProjectProcessResponse
setToNotRealizedBuilding				ID					x	x		buildingProcessResponse
setToUnusableBuilding				ID					x	x		buildingUnusableResponse
setToApprovedBuilding				ID					x	x		buildingProcessResponse
setToStartConstructionBuilding				ID					x	x		buildingProcessResponse
setToCompleteBuilding				x	x	x	x	x	x	x		buildingCompleteResponse
setToDemolishBuilding				ID					x	x		buildingProcessResponse
setToNotRealizedDwelling				ID	ID	ID			x	x		dwellingProcessResponse
setToUnusableDwelling				ID	ID	ID			x	x		dwellingUnusableResponse
setToApprovedDwelling				ID	ID	ID			x	x		dwellingProcessResponse
setToStartConstructionDwelling				ID	ID	ID			x	x		dwellingProcessResponse
setToCompleteDwelling				ID	ID	ID			x	x		dwellingCompleteResponse
setToDemolishDwelling				ID	ID	ID			x	x		dwellingProcessResponse

- x All FRBD available attributes of the entity is returned
 ID Only the identifier of the entity is returned
 A A selected list of attributes is returned

1.5 Quarterly closure requests and responses

16.06.2021. Last modified 12.08.2021

Request	ConstructionSurveyDept	ConstructionProject	Work	Building	BuildingEntrance	Dwelling	Street	StreetSection	ErrorMessage	Mutation	Technical Receipt	Response
closeQuarterlySurvey											x	quarterlySurveyResponse
getProgressStatusQuarterlyClosure	ID								x		x	quarterlySurveyResponse
setMaintenanceCosts	ID								x		x	checkQuarterlySurveyDeptResponse

- x All FRBD available attributes of the entity is returned
- ID Only the identifier of the entity is returned
- A A selected list of attributes is returned

1.6 Corrections requests and responses

16.06.2021. Last modified 12.08.2021

Request	ConstructionSurveyDept	ConstructionProject	Work	Building	BuildingEntrance	Dwelling	Street	StreetSection	ErrorMessage	Mutation	Technical Receipt	Response
modifyConstructionSurveyDept	x								x		x	modifyConstructionSurveyDeptResponse
modifyConstructionProject		x							x		x	modifyConstructionProjectResponse
bindBuildingToConstructionProject		ID		ID					x		x	bindBuildingToConstructionProjectResponse
unbindBuildingFromConstructionProject		ID		ID					x		x	bindBuildingToConstructionProjectResponse
deactivateConstructionProject		ID									x	deactivateConstructionProjectResponse
reactivateConstructionProject		ID							x		x	reactivateConstructionProjectResponse
addBuildingToConstructionProject				x	x		x	x	x		x	getByldAddReactivateBuildingResponseType
addDwellingToConstructionProject				ID	ID	x			x		x	addModifyDwellingResponse
addWork		ID	ID						x		x	addWorkToProjectResponse
modifyWork		ID	x						x		x	modifyWorkResponse
deactivateWork		ID	ID						x		x	deactivateWorkResponse
addBuilding				x	x		x	x	x		x	getByldAddReactivateBuildingResponseType
modifyBuilding				x					x		x	modifyBuildingResponse
deactivateBuilding				ID							x	deactivateBuildingResponse
reactivateBuilding				x	x		x	x	x		x	reactivateBuildingResponse
addBuildingEntrance				ID	x		x	x	x		x	addModifyBuildingEntranceResponse
modifyBuildingEntrance				ID	x		x	x	x		x	addModifyBuildingEntranceResponse
deactivateBuildingEntrance				ID	ID						x	deactivateBuildingEntranceResponse
reactivateBuildingEntrance				ID	x		x	x	x		x	reactivateBuildingEntranceResponse
addDwelling				ID	ID	x			x		x	addModifyDwellingResponse
modifyDwelling				ID	ID	x			x		x	addModifyDwellingResponse
deactivateDwelling				ID	ID	ID					x	reactivateReallocateDwellingResponse
reallocateDwelling				ID	ID	ID					x	reactivateReallocateDwellingResponse
reactivateDwelling				ID	ID	x			x		x	addModifyDwellingResponse

- x All FRBD available attributes of the entity is returned
- ID Only the identifier of the entity is returned
- A A selected list of attributes is returned

1.7 Quality requests and responses

16.06.2021. Last modified 12.08.2021

Request	ConstructionSurveyDept	ConstructionProject	Work	Building	BuildingEntrance	Dwelling	Street	StreetSection	ErrorMessage	Mutation	Technical Receipt	Response
checkConstructionProject		ID							x		x	checkConstructionProjectResponse
checkQuarterlySurveyDept	ID								x		x	checkQuarterlySurveyDeptResponse
checkBuilding				ID					x		x	checkBuildingResponse

- x All FRBD available attributes of the entity is returned
- ID Only the identifier of the entity is returned
- A A selected list of attributes is returned

1.8 Searches requests and responses

16.06.2021. Last modified 12.08.2021

Request	ConstructionSurveyDept	ConstructionProject	Work	Building	BuildingEntrance	Dwelling	Street	StreetSection	ErrorMessage	Mutation	Technical Receipt	Response
getConstructionProjectByld		x	x	x	x	x	x	x	x		x	constructionProjectCompleteResponse
getConstructionProject		A									x	getConstructionProjectResponse
getArchivedConstructionProject		A									x	getConstructionProjectResponse
getDeactivatedConstructionProject		A									x	getConstructionProjectResponse
getConstructionSurveyDept	x										x	getConstructionSurveyDeptResponse
getBuildingByld				x	x	x	x	x	x		x	getByldAddReactivateBuildingResponseType
getBuilding				A	A		A	A			x	getBuildingResponse
getDeactivatedBuilding				A	A		A	A			x	getBuildingResponse
getDwellingByld				ID	ID	x			x		x	dwellingCompleteResponse
getDwelling				ID	ID	ID					x	getDwellingResponse
getDeactivatedDwelling				ID	ID	ID					x	getDwellingResponse
getBuildingEntranceByld				X	x		x	x	x		x	getBuildingEntranceByldResponse
getBuildingEntrance				A	x		x	x			x	getBuildingEntranceResponse
getDeactivatedBuildingEntrance				A	x		x	x			x	getBuildingEntranceResponse
getMutation										A	x	getMutationResponse
getMutationByld										x	x	getMutationByldResponse

- x All FRBD available attributes of the entity is returned
- ID Only the identifier of the entity is returned
- A A selected list of attributes is returned

1.9 Streets requests and responses

16.06.2021. Last modified 12.08.2021

Request	ConstructionSurveyDept	ConstructionProject	Work	Building	BuildingEntrance	Dwelling	Street	StreetSection	ErrorMessage	Mutation	Technical Receipt	Response
addStreet							A	A			x	getStreetResponse
modifyStreet							A	A			x	modifyStreetResponse
getStreetById							A	A			x	getStreetResponse
getStreet							A	A			x	getStreetResponse
getDeactivatedStreet							A	A			x	getStreetResponse
setOfficialToYes							A	A			x	modifyStreetResponse
setOfficialToNo							A	A			x	modifyStreetResponse
modifyStreetName							A	A			x	modifyStreetResponse
addStreetSection							A	A			x	modifyStreetResponse
deleteStreetSection							A	A			x	modifyStreetResponse
deactivateStreet							A	A			x	modifyStreetResponse
reactivateStreet							A	A			x	modifyStreetResponse
addStreetName							A	A			x	modifyStreetResponse
deleteStreetName							A	A			x	modifyStreetResponse

- x All FRBD available attributes of the entity is returned
- ID Only the identifier of the entity is returned
- A A selected list of attributes is returned

2. Business Process View

The diagram below describes the global process that municipalities have to execute in relation with the FRBD. They have to continuously maintain their data in the FRBD and, each quarter, make sure that it is complete and that the quality level of the data has the appropriate level to be able to close the FRBD quarterly survey. The level of data quality is determined by the automated data quality assurance system of the FRBD and its set of predefined error messages.

10.06.2021. Last modified 30.06.2021

Version 1.0

created on 14.06.2021. Last modified 11.08.2021

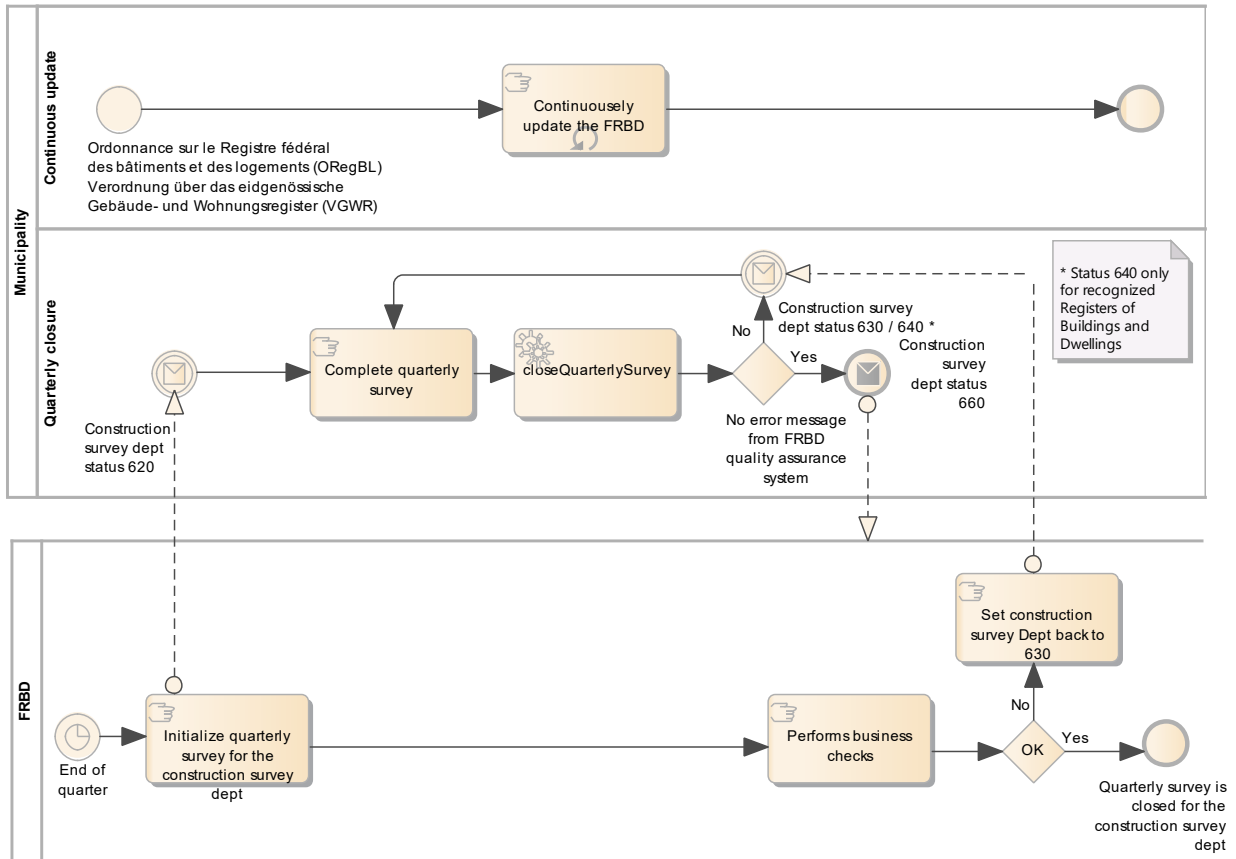
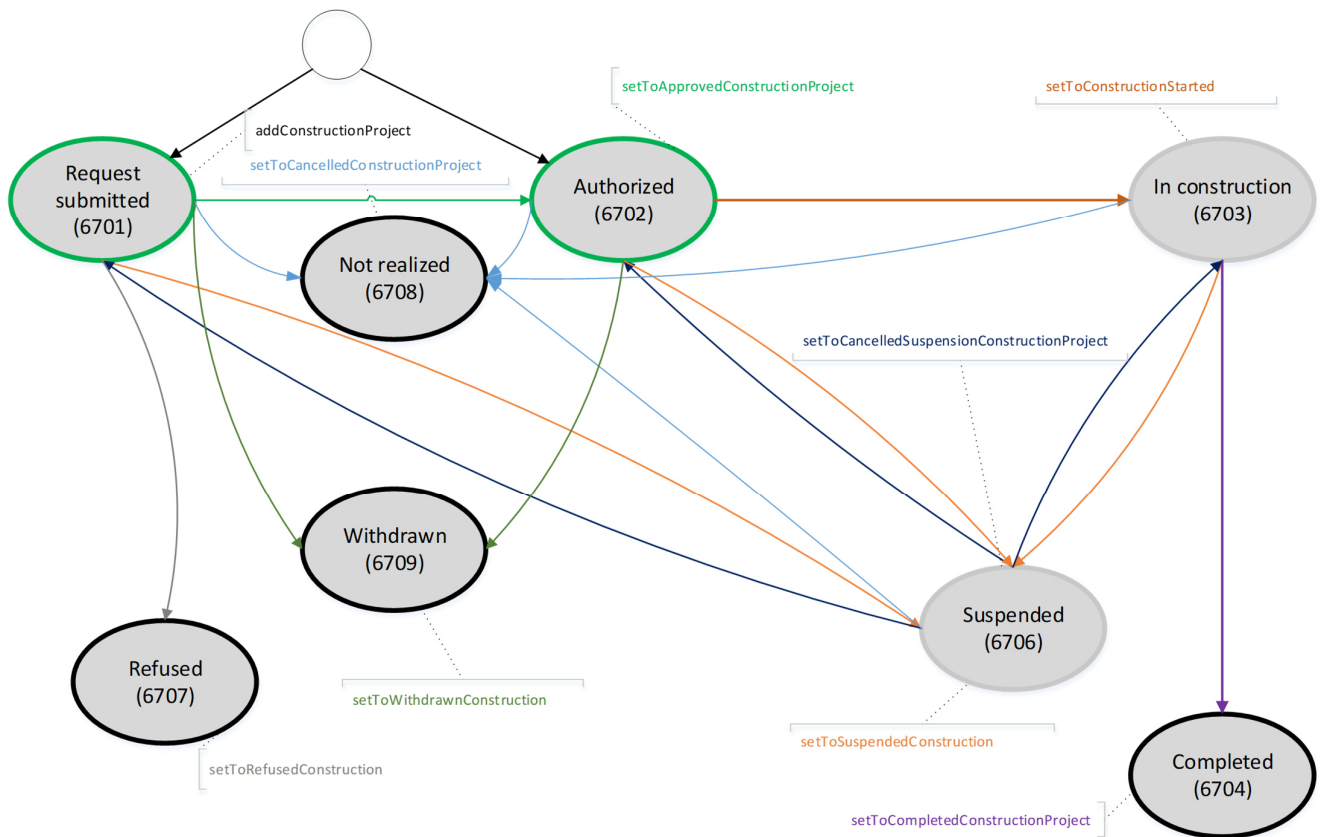


Figure 1: FRBD Data maintenance

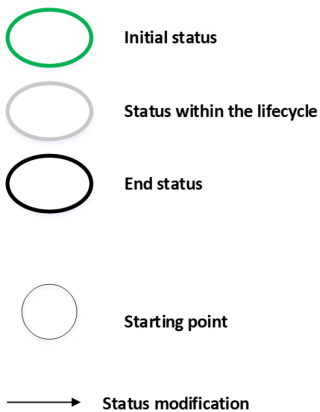
1.10 Construction project life cycle

15.06.2021. Last modified 22.06.2021

Project



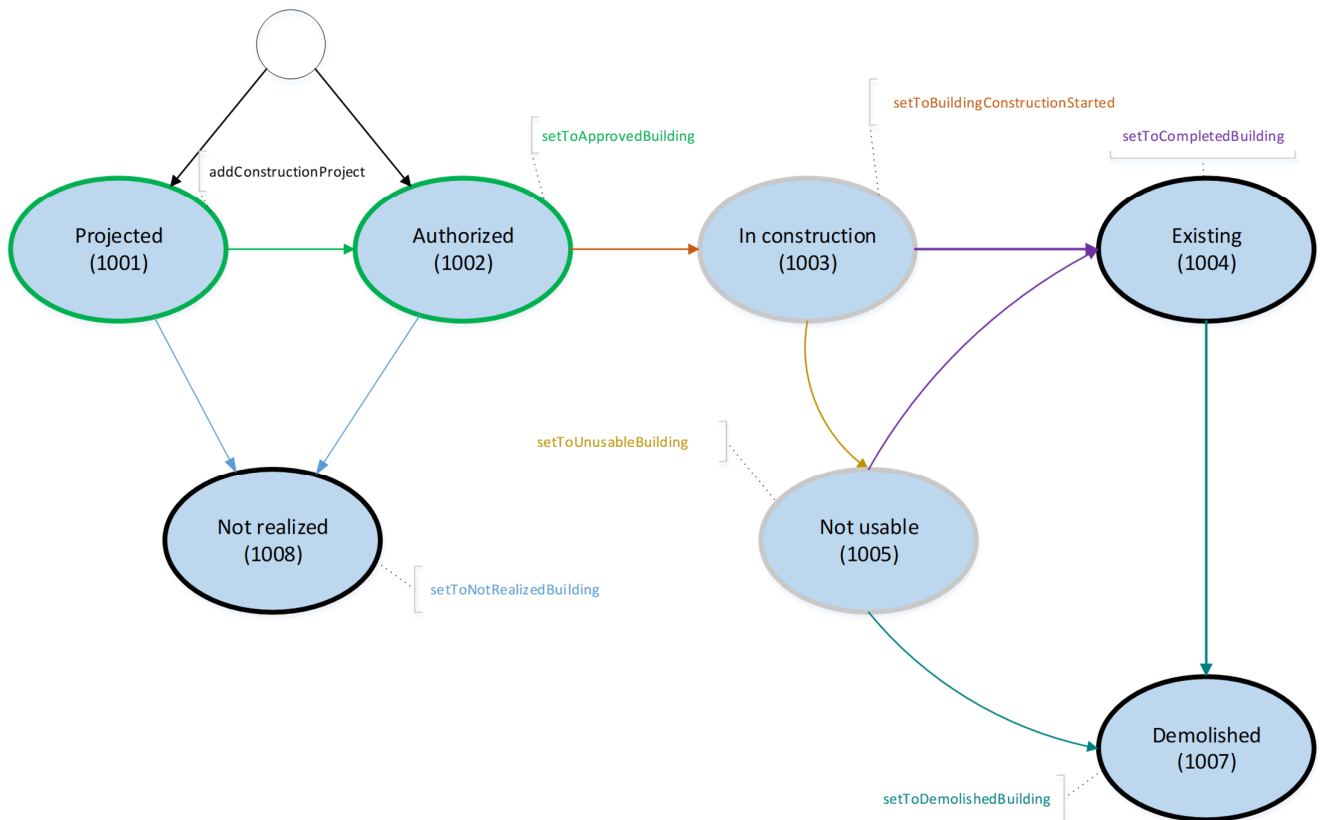
Legend



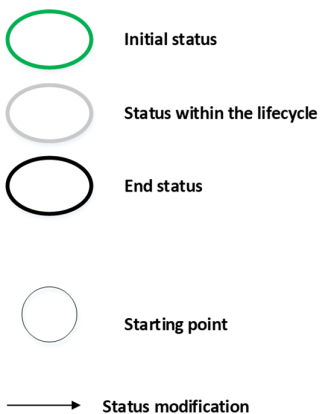
1.11 Building life cycle

15.06.2021. Last modified 22.06.2021

Building



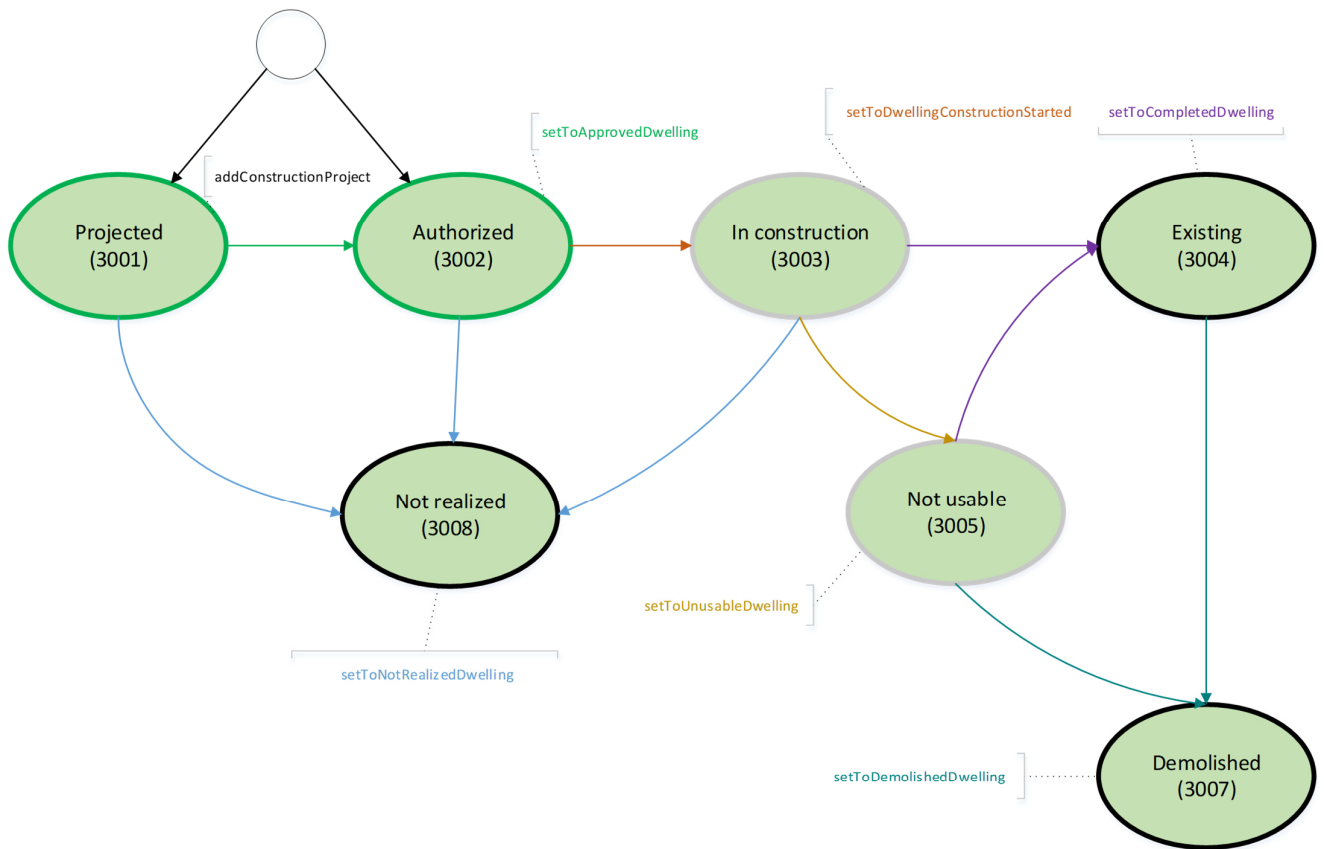
Legend



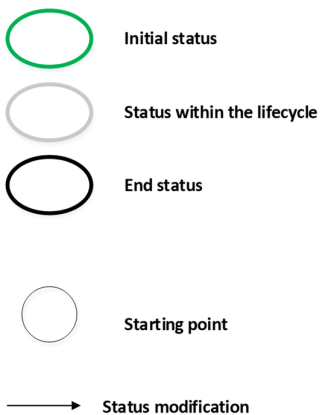
1.12 Dwelling life cycle

15.06.2021. Last modified 22.06.2021

Dwelling



Legend



1.13 Create a construction project with a new building, a transformation and a demolition

The diagram below describes how to add a construction project, in which the planned work is to build a new building, transform another one and demolish a third one.

15.06.2021. Last modified 30.06.2021

Version 1.0
created on 15.06.2021. Last modified 23.06.2021

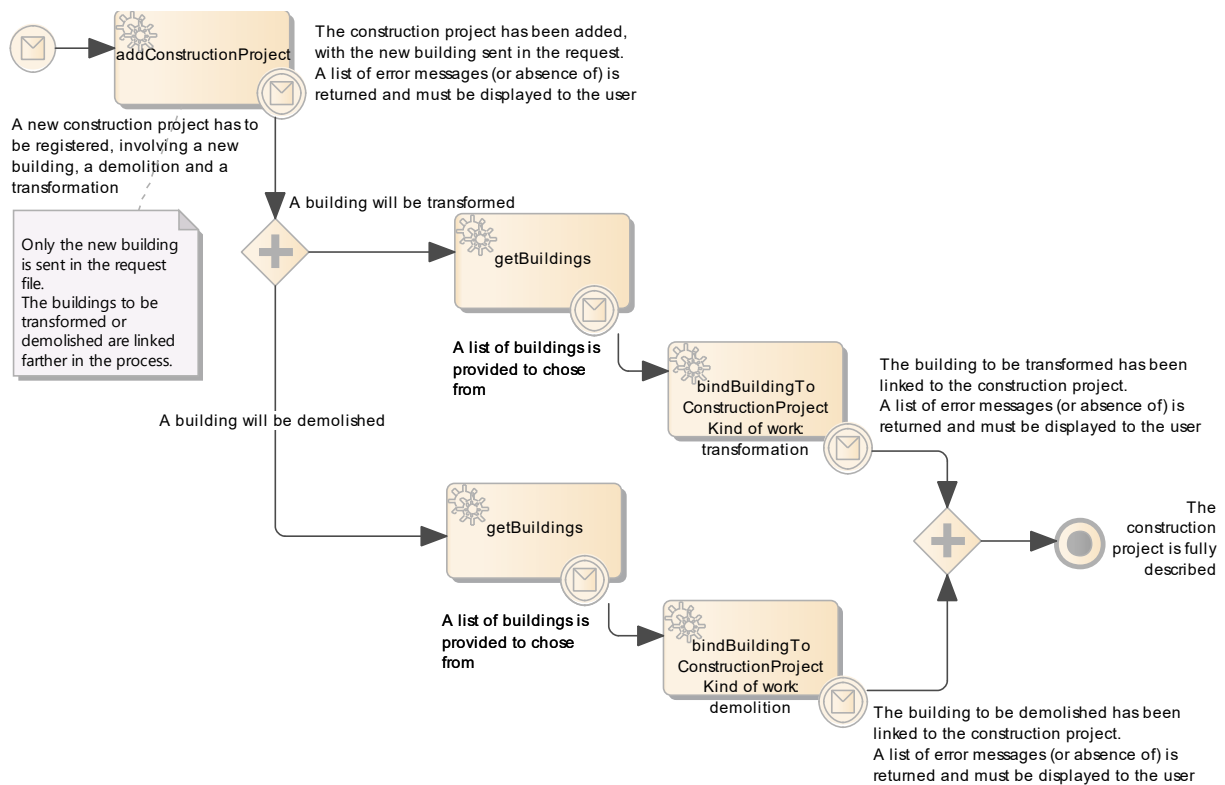


Figure 2: Create a construction project involving a new building

1.14 Create a new transformation only or demolition only project

The diagram below describes how to add a construction project, in which the planned work is to transform or demolish a building, not to build any new building. In that case, the suppression of the work created by default by addConstructionProject with ARBID = 1 is very important for the FRBD information system, when typeOfConstructionProject (PARTBW) = 6011 (superstructure construction project). For that type of construction project, no work without a related building is allowed.

15.06.2021. Last modified 30.06.2021

Version 1.0
created on 15.06.2021. Last modified 29.06.2021

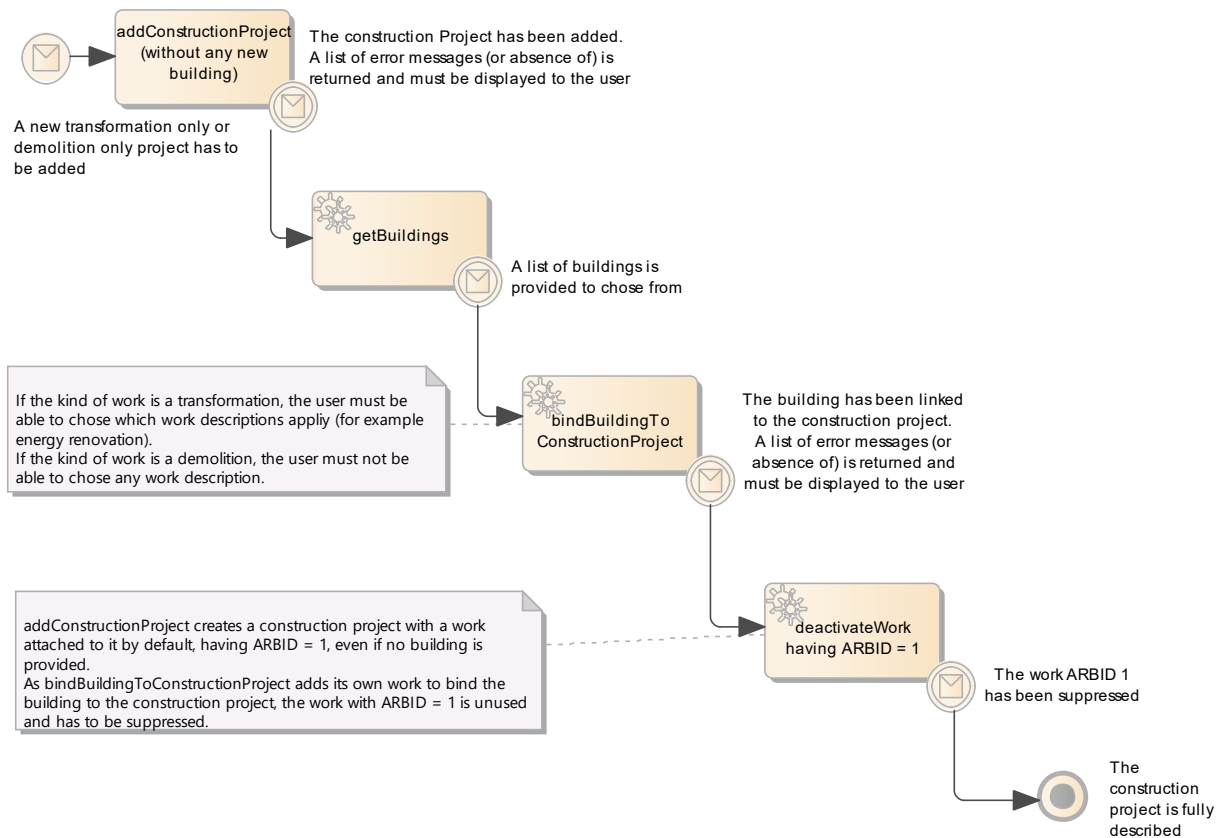


Figure 3: Create a new transformation only or demolition only project

1.15 Add a new building to an existing construction project

The diagram below describes how to add a new building to an existing construction project, with `addBuildingToConstructionProject`. `addBuilding` may not be used in this case. It may only be used to add a existing building which is missing in the inventory of the municipality.

15.06.2021. Last modified 30.06.2021

Version 1.0
created on 15.06.2021. Last modified 29.06.2021

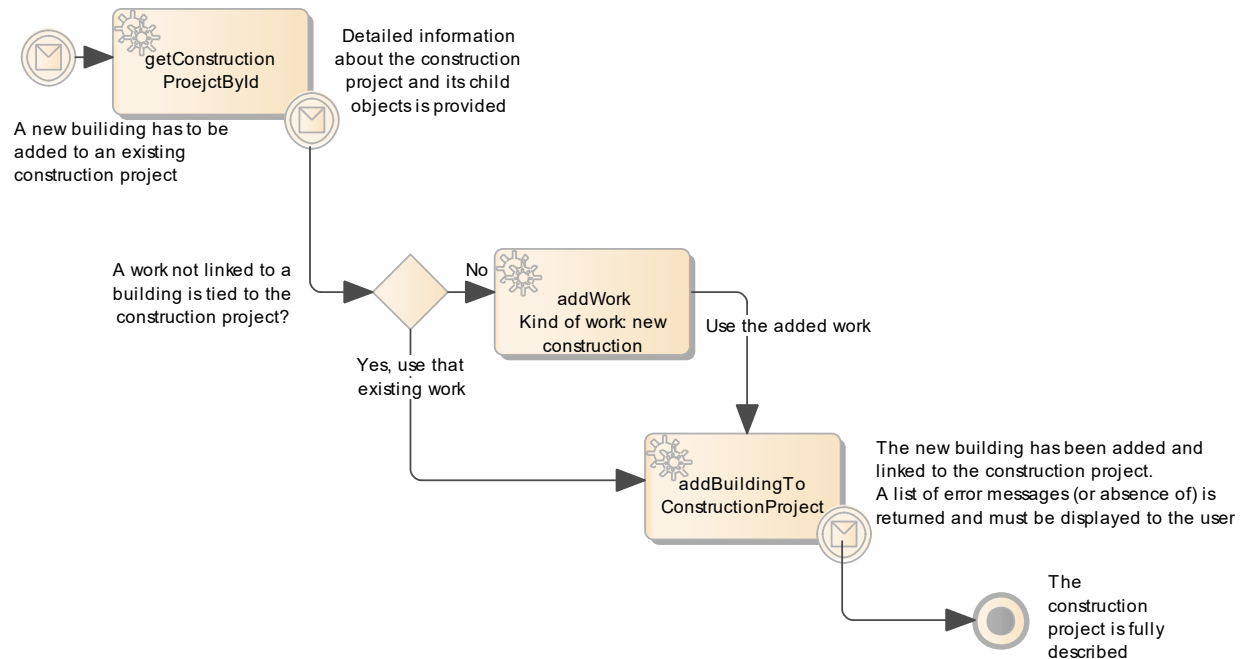


Figure 4: Add a new building to an existing construction project

1.16 Add a new dwelling to a construction project

The diagram below describes how to add a new dwelling to a building linked to a construction project, with `addDwellingToConstructionProject`. `addDwelling` may not be used in this case. It may only be used to add an existing dwelling which is missing in the inventory of the municipality.

15.06.2021. Last modified 30.06.2021

Version 1.0
created on 15.06.2021. Last modified 30.06.2021

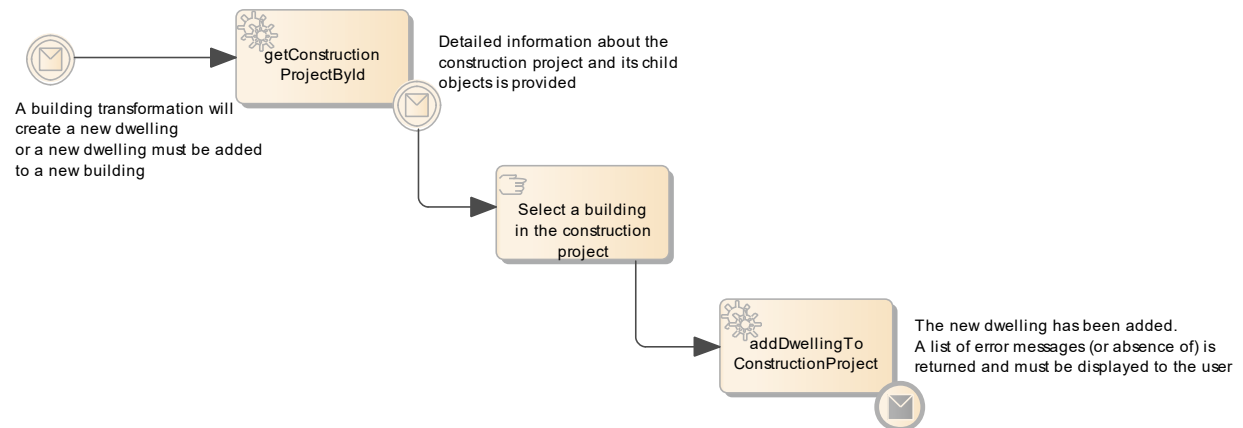


Figure 5: Add a new dwelling to a construction project

3. Requirements

The eCH-0216 standard has been developed by the eCH Association in order to allow applications to update the Federal Register of Buildings and Dwelling (FRBD), based on its catalogue of attributes version 4.1 (see www.housing-stat.ch), via a number of eCH-0216 REST Web services developed by the Federal Statistical Office (FSO).

The Web Services of the FRBD run on a Tomcat application server, hosted by the Federal Office of Information Technology and Telecommunication (OFIT / BIT). The operating system is Linux.

A "Referenz" environment is available to external developers for their development work. The end point is www-r.housing-stat.ch.

Initial eCH-0216 documentation is available at
<https://www.ech.ch/standards/39983> in German
<https://www.ech.ch/fr/standards/39983> in French

The XML definition file eCH-0216-1-0.xsd will be under work during 2020. Other related XML definition files such as the one of eCH-0129 may get some changes too. Latest version is available by the FSO, GEWO section.

The technical specifications of the eCH-0216 will be issued incrementally, as the services are progressively deployed in 2020, in the Referenz Environment.

Below are the requirements that apply to applications developed by Software editors, in application of the eCH-0216 standard.

The fulfillment of those requirements are part of a certification process, leading to the authorization by the FSO, to market the software.

29.01.2020. Last modified 30.11.2020

1.17 Functional Requirements

29.01.2020. Last modified 29.01.2020




1.18 EPROID not reusable, not transferable

BusinessRequirement «BusinessRequirement» in package 'Functional Requirements'

EPROID not reusable, not transferable

Version 1.0 Phase 1.0 Proposed

André Quan created on 18.02.2020. Last modified 04.05.2021

RESPONSIBILITIES (INTERNAL REQUIREMENTS)	
 Functional. 1 User shall not re-use an EPROID for a new construction project at the end of the life cycle of a construction project	[Proposed, Medium difficulty.]
 Functional. 2 User shall not use an existing EPROID and describe another construction project than the initial one It is forbidden to "transfer" the description of another construction project to an already existing eidg. Projekt Identifikator (EPROID).	[Proposed, Medium difficulty.]
 Functional. 3 "Dead end" construction project status Once a construction project has reached the status "nicht realisiert", "zurückgezogen", "abgelehnt" or "abgeschlossen", it shall not be modified anymore.	[Proposed, Medium difficulty.]



1.19 ARBID not reusable, not transferable

BusinessRequirement «BusinessRequirement» in package 'Functional Requirements'

ARBID not reusable, not transferable

Version 1.0 Phase 1.0 Proposed

André Quan created on 17.09.2020. Last modified 17.09.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)
<p> Functional. 1 User shall not re-use an ARBID for a new work at the end of the life cycle of a work [Proposed, Medium difficulty.]</p>
<p> Functional. 2 User shall not use an existing ARBID and describe another work than the initial one</p> <p>It is forbidden to "transfer" the description of another construction project to an already existing eidg. Projekt Identifikator (EPROID).</p> <p>[Proposed, Medium difficulty.]</p>




1.20 EGID not reusable, not transferable

BusinessRequirement «BusinessRequirement» in package 'Functional Requirements'

EGID not reusable, not transferable

Version 1.0 Phase 1.0 Proposed

André Quan created on 18.02.2020. Last modified 26.02.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)
<p> Functional. 1 User shall not re-use an EGID for a new building at the end of the life cycle of a building</p> <p>Typically, if a building has been demolished, it is forbidden to use its EGID in association with a new building description, even it the later has the very same footprint than the previous one ("EGID recycling").</p> <p>[Proposed, Medium difficulty.]</p>
<p> Functional. 2 User shall not use an existing EGID and describe another building than the initial one</p> <p>It is forbidden to "transfer" the description of another building to an already existing eidg. Gebäude Identifikator (EGID).</p> <p>[Proposed, Medium difficulty.]</p>
<p> Functional. 3 "Dead end" building status</p> <p>Once a building has reached the status "not realized", it shall not be modified anymore. This does not apply to the status "demolished". Example: the status has been assigned by error. In this case, the use must be able to correct it.</p> <p>[Proposed, Medium difficulty.]</p>



1.21 EDID not reusable, not transferable

BusinessRequirement «BusinessRequirement» in package 'Functional Requirements'

EDID not reusable, not transferable

Version 1.0 Phase 1.0 Proposed

André Quan created on 18.02.2020. Last modified 19.02.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)	
	Functional. 1 User shall not re-use an EDID for a new entrance at the end of the life cycle of an entrance [Proposed, Medium difficulty.]
	Functional. 2 User shall not use an existing EDID and describe another entrance than the initial one It is forbidden to "transfer" the description of another entrance to an already existing eidg. Eingang Identifikator (EDID). [Proposed, Medium difficulty.]




1.22 EWID not reusable, not transferable

BusinessRequirement «BusinessRequirement» in package 'Functional Requirements'

EWID not reusable, not transferable

Version 1.0 Phase 1.0 Proposed

André Quan created on 18.02.2020. Last modified 26.02.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)	
	Functional. 1 User shall not re-use an EWID for a new dwelling at the end of the life cycle of a dwelling [Proposed, Medium difficulty.]
	Functional. 2 User shall not use an existing EWID and describe another dwelling than the initial one User shall not assign an existing eidg. Wohnung Identifikator (EWID) to another dwelling. Typically, it is forbidden to "transfer" EWIDs among dwellings to "reorganize" them. [Proposed, Medium difficulty.]
	Functional. 3 "Dead end" dwelling status Once a dwelling has reached the status "nicht realisiert" it shall not be modified anymore. This does not apply to the status "aufgehoben". Example: a dwelling becomes a "separat Wohnraum", its status goes to "aufgehoben", and it is a couple of years later transformed back into a dwelling. [Proposed, Medium difficulty.]

1.23 Implementation of eCH-0216 Web services


ImplementationRequirement «ImplementationRequirement» in package 'Functional Requirements'

Implementation of eCH-0216 Web services

Version 1.0 Phase 1.0 Proposed

André Quan created on 31.01.2020. Last modified 31.01.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. The system shall implement the standard eCH-0216

All services of the eCH-0216 standard must be implemented.

Should a partial implementation be chosen, the software editor has the responsibility to prove that all business processes related to the update of the FRBD can duly be executed by the end user.

Buildings, entrances and dwellings cannot be broken down individually.

[Proposed, Medium difficulty.]

1.24 Minimum one entrance for a building


BusinessRequirement «BusinessRequirement» in package 'Functional Requirements'

Minimum one entrance for a building

Version 1.0 Phase 1.0 Proposed

André Quan created on 18.02.2020. Last modified 19.02.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. An entrance is required for a building

A building must be related to minimum one active entrance in order to be created in the system. Other restrictions apply, according to eCH-0216.

[Proposed, Medium difficulty.]




1.25 Matching objects stocks

ImplementationRequirement «ImplementationRequirement» in package 'Functional Requirements'

Matching objects stocks

Version 1.0 Phase 1.0 Proposed

André Quan created on 18.02.2020. Last modified 19.03.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)
<p> Functional. 1 Matching stocks of objects</p> <p>The stock of objects (construction projects, buildings, entrances, dwellings) in the external application must match the corresponding stock of objects in the FRBD at any time.</p> <p>[Proposed, Medium difficulty.]</p>
<p> Functional. 2 Stock of deactivated (deleted) objects must match</p> <p>The stock of deactivated objects (construction projects, buildings, entrances, dwellings) in the external application must correspond with the stock of deleted objects in the FRBD at any time.</p> <p>[Proposed, Medium difficulty.]</p>
<p> Functional. 3 Deactivation of objects must involve eCH-0216 deactivation methods</p> <p>Deactivation of an object (construction project, building, entrance, dwelling) in the external application cannot be done independently from the execution of the corresponding eCH-0216 "deactivate" method.</p> <p>[Proposed, Medium difficulty.]</p>


1.26 Local storage of FRBD objects attributes

ImplementationRequirement «ImplementationRequirement» in package 'Functional Requirements'

Local storage of FRBD objects attributes

Version 1.0 Phase 1.0 Proposed

André Quan created on 31.01.2020. Last modified 19.03.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)
<p> Functional. The system shall only store federal identifiers</p> <p>Should the system have its own local database, no FRBD attributes are stored therein, only federal identifiers.</p> <p>Should FRBD attributes be stored, the values contained in the FRBD must always be read first and updated locally, whenever the values are different, before any update.</p> <p>[Proposed, Medium difficulty.]</p>

1.27 FRBD data stemming from secondary data sources


BusinessRequirement «BusinessRequirement» in package 'Functional Requirements'

FRBD data stemming from secondary data sources

Version 1.0 Phase 1.0 Proposed

André Quan created on 29.01.2020. Last modified 19.03.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 **Functional.** Should the system store FRBD attributes locally, it shall allow end users to obtain FRBD data stemming from secondary data sources

This requirement applies only if the system stores FRBD attributes in a local database.

Data collected by the Federal Statistical Office from other sources than municipalities (secondary data sources such as Amtliche Vermessung, Insurances, other federal offices) must automatically be updated in the local database via eCH-0216 and made available to the end user, without extra financial cost.

Example: the FSO will introduce the real estate identifier EGRID to identify lots. Through that identifier, any lot value previously inputted by a municipality (Parzelle Nummer) may change and the new value, stemming from the FRBD, must come as replacement.

[Proposed, Medium difficulty.]

1.28 Process driven data update

BusinessRequirement «BusinessRequirement» in package 'Functional Requirements'

Process driven data update

Version 1.0 Phase 1.0 Proposed

André Quan created on 29.01.2020. Last modified 07.07.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 **Functional.** The system shall implement the process driven data update

According to the eCH-0216 standard, chapter 5 - Lebenszyklen der Objekte, the end user must be constrained to follow defined data update processes and steps. Therefore, the sequence in which the methods are called has a significant importance.

The end user must be able to make corrections during his work.

[Proposed, Medium difficulty.]

1.29 Deactivation of a construction project


BusinessRequirement «BusinessRequirement» in package 'Functional Requirements'

Deactivation of a construction project

Version 1.0 Phase 1.0 Proposed

André Quan created on 25.02.2020. Last modified 26.02.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. Warn the user before the deactivation of a construction project

The deactivateConstructionProject request allows for the deactivation of a construction project in the FRBD. It is a critical action and the user must be informed that it should be taken only in specific cases:

- the construction project record has been added by error
 - the construction project record actually describes the same construction project as another one (double entry)
- That action must NEVER be taken when a construction project has been completed or when it has been canceled or when it has not been authorized.

In any doubt, the user must consult the FSO support team by e-mail at housing-stat@bfs.admin.ch or by phone at 0800 866 600.

[Proposed, Medium difficulty.]

1.30 Deactivation of a building

BusinessRequirement «BusinessRequirement» in package 'Functional Requirements'

Deactivation of a building

Version 1.0 Phase 1.0 Proposed

André Quan created on 25.02.2020. Last modified 30.11.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. Warn the user before the deactivation of a building

The deactivateBuilding request allows for the deactivation of a building in the FRBD. It is a critical action and the user must be informed that it should be taken only in specific cases:

- the building record has been added by error
- the building record actually describes the same building as another one (double entry, the EGID to be kept ist the oldest of the two)
- a building has been merged with another one during a transformation project (typically, passages have been created through the firewall that was separating both buildings, the EGID to be kept ist the oldest of the two, that is, the one with the smallest value).

That action must NEVER be taken when a building has been demolished.

In any doubt, the user must consult the FSO support team by e-mail at housing-stat@bfs.admin.ch or by phone at 0800 866 600.

[Proposed, Medium difficulty.]

1.31 Deactivation of an entrance


BusinessRequirement «BusinessRequirement» in package 'Functional Requirements'

Deactivation of an entrance

Version 1.0 Phase 1.0 Proposed

André Quan created on 25.02.2020. Last modified 26.02.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. Warn the user before the deactivation of a building entrance

The deactivateBuildingEntrance request allows for the deactivation of a building entrance in the FRBD. It is a critical action and the user must be informed that it should be taken only in specific cases:

- the building entrance record has been added by error
- the building entrance record actually describes same building entrance as another one (double entry, the EDID to be kept is the one with the smallest value)
- the building entrance record actually describes a building entrance that does not exist.

In any doubt, the user must consult the FSO support team by e-mail at housing-stat@bfs.admin.ch or by phone at 0800 866 600.

[Proposed, Medium difficulty.]

1.32 Deactivation of a dwelling

BusinessRequirement «BusinessRequirement» in package 'Functional Requirements'

Deactivation of a dwelling

Version 1.0 Phase 1.0 Proposed

André Quan created on 25.02.2020. Last modified 26.02.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. Warn the user before the deactivation of a dwelling

The deactivateDwelling request allows for the deactivation of a dwelling in the FRBD. It is a critical action and the user must be informed that it should be taken only in specific cases:

- the dwelling record has been added by error
- the dwelling record actually describes the same dwelling as another one (double entry)

The deactivateDwelling request must NEVER be used when a dwelling has been physically deconstructed or merged with another one (see https://www.housing-stat.ch/de/benutzerhilfen/mb_18.html). Instead, its status must be set to "aufgehoben".

In any doubt, the user must consult the FSO support team by e-mail at housing-stat@bfs.admin.ch or by phone at 0800 866 600.

[Proposed, Medium difficulty.]

1.33 Default values


BusinessRequirement «BusinessRequirement» in package 'Functional Requirements'

Default values

Version 1.0 Phase 1.0 Proposed

André Quan created on 07.02.2020. Last modified 30.11.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. Default values restriction

Default values are only allowed for attributes which are not specific to the FSO.
For example, a default value setting is allowed for the Grundbuchkreis Nummer (not FSO specific), but not for the Gebäude Kategorie (FSO specific).
In case of doubt, advice should be sought from the FSO (GEWO section).

[Proposed, Medium difficulty.]

1.34 Automatismms


BusinessRequirement «BusinessRequirement» in package 'Functional Requirements'

Automatismms

Version 1.0 Phase 1.0 Proposed

André Quan created on 07.02.2020. Last modified 26.11.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. Automatic setting of values

Business rules meant to be used to automatically set values of attributes of the FRBD which are FSO specific, must be submitted beforehand to the FSO (GEWO section) for approval.

[Proposed, Medium difficulty.]

1.35 All elements displayed in GUI


ImplementationRequirement «ImplementationRequirement» in package 'Functional Requirements'

All elements displayed in GUI

Version 1.0 Phase 1.0 Proposed

André Quan created on 30.11.2020. Last modified 30.11.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. All elements of the XSD must be displayed in the GUI

The GUI must make all elements defined in the eCH-0216 XSD file available to the end user.

[Proposed, Medium difficulty.]

1.36 All search criteria elements available in GUI

ImplementationRequirement «ImplementationRequirement» in package 'Functional Requirements'

All search criteria elements available in GUI

Version 1.0 Phase 1.0 Proposed

André Quan created on 30.11.2020. Last modified 30.11.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. All search criteria elements must be available in the GUI

For each possible query as defined in the request types of the eCH-0216 XSD file, all search criteria elements must be available to the end user in the GUI.

[Proposed, Medium difficulty.]

1.37 Map embedded component


ImplementationRequirement «ImplementationRequirement» in package 'Functional Requirements'

Map embedded component

Version 1.0 Phase 1.0 Proposed

André Quan created on 26.11.2020. Last modified 21.06.2021

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. Integration of a map in the graphic user interface

Any new street, place or known place in Switzerland must exclusively be sketched and entered through the API developed by Swisstopo.

In the Web application of the FRBD, that API is integrated as a map embedded component in the GUI to allow the user to sketch a new street, place, or known place on a map, in relation with the addStreet service.

The same map embedded component must be integrated, should the addStreet service be implemented.

The transmission of a new street should not be possible if its geo coordinates cannot be provided.

Optionally, that embedded component can also be integrated in relation with the addBuilding service.

Technical details

Hosting

The Internet page of the graphic interface and the code are stored on Amazon S3.

The following production URL is used: regbl.geo.admin.ch.

An integration URL is also available: web-regbl.int.bgdi.ch

Code

The code of the graphic interface is available in a public Github directory named web-regbl. The management of that code (issues, pull requests) is made with the tools made available by Github.

API

The Javascript API of geo.admin.ch is used for the making of the client part: <http://geoadmin.github.io/ol3/apidoc/>

Search services are: <https://api3.geo.admin.ch/services/sdiservices.html#search>

[Mandatory, Medium difficulty.]

1.38 Building entrance coordinates input


ImplementationRequirement «ImplementationRequirement» in package 'Functional Requirements'

Building entrance coordinates input

Version 1.0 Phase 1.0 Proposed

André Quan created on 09.02.2021. Last modified 09.02.2021

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. No building entrance coordinates input fields

Do not implement building entrance coordinates fields in the GUI.
FRBD building entrances coordinates are updated by an external data source.

[Proposed, Medium difficulty.]

1.39 Deactivated objects services


ImplementationRequirement «ImplementationRequirement» in package 'Functional Requirements'

Deactivated objects services

Version 1.0 Phase 1.0 Proposed

André Quan created on 09.02.2021. Last modified 09.02.2021

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. Do not implement searches for deactivated objects

Our client support team has requested not to make the services allowing to search for deactivated objects available to end users, in regular commercial eCH-0216 Web services solutions. Please remove or do not implement those services.

[Proposed, Medium difficulty.]

1.40 Inactive object response


ImplementationRequirement «ImplementationRequirement» in package 'Functional Requirements'

Inactive object response

Version 1.0 Phase 1.0 Proposed

André Quan created on 09.02.2021. Last modified 09.02.2021

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. Translate inactive objects responses

Our client support team has requested that any message indicating that an object is inactive be translated into a message indicating that the object actually does not exist. Please make sure that a function is implemented accordingly in your solution.

[Proposed, Medium difficulty.]

1.41 Binding a building to a construction project, GUI

Requirement «Display» in package 'Functional Requirements'

bindBuildingToConstructionProject is meant to link a building to be transformed or to be demolished, to a construction project.

Binding a building to a construction project, GUI

Version 1.0 Phase 1.0 Proposed

André Quan created on 25.02.2021. Last modified 05.03.2021

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. GUI field for demolition work

When bindBuildingToConstructionProject is used with constructionWorkDone = 6007 - demolition, no input field is available to the user in the GUI for the following elements:

- energeticRestauration
- renovationHeatingsystem
- innerConversionRenovation
- conversion
- extensionHeighteningHeated
- extensionHeighteningNotHeated
- thermicSolarFacility
- photovoltaicSolarFacility
- otherWorks

[Proposed, Medium difficulty.]

 Functional. GUI fields for transformation work

When bindBuildingToConstructionProject is used with constructionWorkDone = 6002 - transformation, input fields are available to the user in the GUI for all following elements:

- energeticRestauration
- renovationHeatingsystem
- innerConversionRenovation
- conversion
- extensionHeighteningHeated
- extensionHeighteningNotHeated
- thermicSolarFacility
- photovoltaicSolarFacility
- otherWorks

[Proposed, Medium difficulty.]

 Functional. GUI selection list without new construction work

bindBuildingToConstructionProject is only meant for transformation or demolition works, not for new construction. Selection of constructionWorkDone = 6001 - new construction - is not proposed to the user in the GUI, only constructionWorkDone 6002 and 6007.

[Proposed, Medium difficulty.]

1.42 Usage of addWorkToProject

Requirement «Functional» in package 'Functional Requirements'

addWorkToProject is to be used to add additional works to an infrastructure construction project (Tiefbau Projekt, typeOfConstructionProject = 6010).

It is also used to add a new building construction work, to which a new building will be attached in a second step, with the service addBuildingToConstructionProject.

Usage of addWorkToProject

Version 1.0 Phase 1.0 Proposed

André Quan created on 25.02.2021. Last modified 05.03.2021

1.43 Usage of addBuildingToConstructionProject

Requirement «Functional» in package 'Functional Requirements'

addBuildingToConstructionProject is meant to add a new building to be built, to a construction project.

It requires a work to be connected to, therefore, before executing that service, make sure to execute addWorkToProject, which will provide an EPROID and an ARBID to use with addBuildingToConstructionProject.

Usage of addBuildingToConstructionProject

Version 1.0 Phase 1.0 Proposed

André Quan created on 05.03.2021. Last modified 05.03.2021

1.44 No generic shared system user

Requirement «Functional» in package 'Functional Requirements'

Username and password are personal, they must relate to the physical person using the solution.

When a municipal service employee receives an FRBD acces confirmation letter by post mail, it is specifically written:

Benutzername (Username) und Passwort sind persönlich; es ist Ihnen ausdrücklich untersagt, diese Angabe innerhalb oder ausserhalb Ihres Amtes an andere Personen weiterzugeben oder sonst wie bekannt zu machen. Jeder Missbrauch hat die unverzügliche Sperrung des Zugriffs sowie rechtliche Schritte gemäss dem Bundesstatistikgesetz vom 9. Oktober 1992 zur Folge.

Therefore, do not implement a generic user access system. The username logged in the FRBD transactions logs must correspond with the actual person who executed it, by law.

No generic shared system user

Version 1.0 Phase 1.0 Proposed

André Quan created on 16.04.2021. Last modified 16.04.2021

1.45 External ids

Requirement «Functional» in package 'Functional Requirements'

Various external ids are available. Some can be modified, some can only be added once, others are read only.

See buildingNamedId, entranceNamedId, dwellingNamedId types.

They have to be used in add- and modify- services accordingly.





They have to be displayed to the user along with the other attributes.

KNOWN BUG: please limit the length of the ids that you generate to 15 characters until further notice, even if they are defined to 20 in the XSD.

External ids

Version 1.0 Phase 1.0 Proposed

André Quan created on 29.04.2021. Last modified 19.05.2021

RESPONSIBILITIES (INTERNAL REQUIREMENTS)
<p> Functional. Add only and read</p> <p>buildingNamedId - externalApp entranceNamedId - externalApp dwellingNamedId - externalApp</p> <p>[Proposed, Medium difficulty.]</p>
<p> Functional. Add, modify and read</p> <p>buildingNamedId - insurance - canton - taxAssessment - municipal - cadastreSurvey</p> <p>entranceNamedId - canton</p> <p>dwellingNamedId - canton - municipal</p> <p>[Proposed, Medium difficulty.]</p>
<p> Functional. Read only</p> <p>buildingNamedId - 1990Census - 2000Census</p> <p>[Proposed, Medium difficulty.]</p>
<p> Functional. Remark: FRBD user profile permissions vs responses</p> <p>Commercial solutions are base on a specific FRBD user profile, with some add / modify / read permission. That user profile may evolve in the future. On the read permission side, you may want to dynamically display external ids in the GUI, only when its tag is sent back in the response. Currently the FRBD user profile allows to read externaApp and municipal external ids.</p> <p>[Proposed, Medium difficulty.]</p>

1.46 External ids fields in the GUI

Requirement «Display» in package 'Functional Requirements'

Commercial solutions using eCH-0216 web services are meant to be used by a certain type of FRBD user profile.




That user profile can modify and read only the following external ids.

- Building: municipal, externalApp
- Entrance: externalApp
- Dwelling: municipal, externalApp

Therefore, it is not necessary to implement fields for the other external ids in the GUI.

External ids fields in the GUI
Version 1.0 Phase 1.0 Proposed

André Quan created on 12.05.2021. Last modified 12.05.2021

RESPONSIBILITIES (INTERNAL REQUIREMENTS)	
 Functional. Add only and read buildingNamedId - externalApp entranceNamedid - externalApp dwellingNamedid - externalApp	[Proposed, Medium difficulty.]
 Functional. Add, modify and read buildingNamedId - insurance - canton - taxAssessment - municipal - cadastreSurvey entranceNamedId - canton dwellingNamedId - canton - municipal	[Proposed, Medium difficulty.]
 Functional. Read only buildingNamedId - 1990Census - 2000Census	[Proposed, Medium difficulty.]

1.47 Dwelling elements to exclude as input


ImplementationRequirement «ImplementationRequirement» in package 'Functional Requirements'

Dwelling elements to exclude as input

Version 1.0 Phase 1.0 Proposed

André Quan created on 19.05.2021. Last modified 19.05.2021

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. Elements not to include as inputs for dwellings

Do not implement the following elements of dwellingUsage as input, either for add or modify dwelling services:

personWithMainResidence

dateLastOccupancy

personWithSecondaryResidence

dateFirstOccupancy

[Proposed, Medium difficulty.]

1.48 Maintenance costs rounding


ImplementationRequirement «ImplementationRequirement» in package 'Functional Requirements'

Maintenance costs rounding

Version 1.0 Phase 1.0 Proposed

André Quan created on 21.05.2021. Last modified 21.05.2021

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. Maintenance costs amounts must be rounded

All amounts of municipal maintenance costs sent through setMaintenanceCosts must be rounded to the thousands, up or down.

Example: CHF 1'200'752 --> 1'201'000 or 1'200'000.

[Proposed, Medium difficulty.]

1.49 Non-Functional Requirements

29.01.2020. Last modified 29.01.2020

1.50 Credentials

SecurityRequirement «SecurityRequirement» in package 'Non-Functional Requirements'

Credentials

Version 1.0 Phase 1.0 Proposed

André Quan created on 07.02.2020. Last modified 07.02.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)

 Functional. Authentication parameters

To use the eCH-0216 Web services, following credentials are required:

1. username
2. password
3. software key

Those are setup upon request by the FSO, GEWO section.

[Proposed, Medium difficulty.]

1.51 User password storage

SecurityRequirement «SecurityRequirement» in package 'Non-Functional Requirements'

The users' password should not be stored. If it is, it must be encrypted.

User password storage

Version 1.0 Phase 1.0 Proposed

André Quan created on 29.01.2020. Last modified 29.01.2020

1.52 UTF-8 Encoding


ImplementationRequirement «ImplementationRequirement» in package 'Non-Functional Requirements'

UTF-8 Encoding

Version 1.0 Phase 1.0 Proposed

André Quan created on 31.01.2020. Last modified 31.01.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)


 Functional. The system shall support UTF-8 encoding

[Proposed, Medium difficulty.]

1.53 Communication protocol

SecurityRequirement «SecurityRequirement» in package 'Non-Functional Requirements'


Communication protocol
Version 1.0 Phase 1.0 Proposed
André Quan created on 29.01.2020. Last modified 29.01.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)	
 Functional. The system shall use the https protocol	[Proposed, Medium difficulty.]

1.54 Transport Layer Security (TLS)

SecurityRequirement «SecurityRequirement» in package 'Non-Functional Requirements'

Transport Layer Security (TLS)
Version 1.0 Phase 1.0 Proposed
André Quan created on 29.01.2020. Last modified 29.01.2020

RESPONSIBILITIES (INTERNAL REQUIREMENTS)	
 Functional. The system shall support TLS 1.2 and above	[Proposed, Medium difficulty.]

1.55 Examples of POST, GET, PUT, DELETE messages for the FRBD REST Web services (json)

ImplementationRequirement «ImplementationRequirement» in package 'Non-Functional Requirements'

```
{
  "name": "GetToken",
  "request": {
    "method": "POST",
    "header": [],
    "body": {
      "mode": "raw",
      "raw":
        "{ \"username\": \"[FRBDUserName]\", \"password\": \"[userPassword]\", \"wsk_id\": [softwareKeyNumber] }",
      "options": {
        "raw": {
          "language": "json"
        }
      }
    }
  },
  "url": {
    "raw": "http://localhost:9090/regbl/api/ech0216/2/tokenWS/",
    "protocol": "http",
    "host": [
      "localhost"
    ],
    "port": "9090",
    "path": [
```

```
"regbl",
    "resources",
    "tokenWS",
    ""
]
}
{
  "response": []
},
{
  "name": "addBuildingEntrance",
  "request": {
    "method": "POST",
    "header": [
      {
        "key": "token",
        "value":
"eyJhbGciOiJIUzUxMiJ9.eyJ1c2VySWQiOiIxNzIwXmVudHMlLCJleHAiOjEOTAOTZODJ9.zs4pn47CLAwB7d8TtjlSc4F91TiN_D7LFS89d2WFT__u5pL0ZQFBqn4l112TYEMJ_qY8-vHjt40G4c1tq6Ug",
        "type": "text"
      }
    ],
    "body": {
      "mode": "raw",
      "raw": "<?xml version='1.0' encoding='UTF-8' standalone='yes'?>\r\n<delivery xmlns='http://www.ech.ch/xmlns/ech-0216/2' xmlns:ns2='http://www.ech.ch/xmlns/eCH-0129/5' xmlns:ns3='http://www.ech.ch/xmlns/eCH-0044/4' xmlns:ns4='http://www.ech.ch/xmlns/eCH-0097/2' xmlns:ns5='http://www.ech.ch/xmlns/eCH-0010/6' xmlns:ns6='http://www.ech.ch/xmlns/eCH-0058/5' xmlns:ns7='http://www.ech.ch/xmlns/eCH-0007/6' xmlns:ns8='http://www.ech.ch/xmlns/eCH-0008/3' xmlns:ns9='http://www.ech.ch/xmlns/eCH-0129/5'/>\r\n <addBuildingEntrance>\r\n <EDID>1</EDID>\r\n <street>\r\n <ESID>10003788</ESID>\r\n <streetStatus>9813</streetStatus>\r\n <localisationKind>9809</localisationKind>\r\n <streetGeometry xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance' xmlns:xs='http://www.w3.org/2001/XMLSchema'\r\n xsi:type='xs:string'>{\r\n\"MultiLineString\", \"coordinates\": [[ [2753379.668, 1261736.392], [2753109.424, 1262173.038], [2753086.473, 1262202.767], [2752960.641, 1262338.064], [2752914.057, 1262388.094], [2752890.216, 1262407.504], [2752861.041, 1262421.614], [2752695.459, 1262479.74], [2752659.435, 1262493.291], [2752607.017, 1262508.684], [2752565.805, 1262518.26], [2752503.85, 1262531.412], [2752465.309, 1262542.141], [2752435.089, 1262554.451], [2752395.881, 1262574.185], [2752340.819, 1262590.86], [2752202.479, 1262633.287], [2752089.777, 1262673.62], [2752051.585, 1262684.269], [2752011.87, 1262692.09], [2751915.844, 1262700.765], [2751824.637, 1262705.861], [2751794.017, 1262711.662], [2751756.252, 1262722.154], [2751724.856, 1262734.177], [2751628.733, 1262782.089], [2751615.646, 1262791.253], [2751505.079, 1262893.355], [2751485.895, 1262920.066]] ]\r\n </streetGeometry>\r\n </street>\r\n <locality>\r\n <ns2:swissZipCode>8933</ns2:swissZipCode>\r\n <ns2:swissZipCodeAddOn>0</ns2:swissZipCodeAddOn>\r\n <ns2:name>\r\n <ns9:language>9901</ns9:language>\r\n <ns9:nameLong>Maschwanden</ns9:nameLong>\r\n <ns9:nameShort>Maschwanden</ns9:nameShort>\r\n </ns2:name>\r\n </locality>\r\n <otherID>\r\n <IdCategory>canton</IdCategory>\r\n <Id>12345</Id>\r\n </otherID>\r\n <reason>Test add building entrance</reason>\r\n </addBuildingEntrance>\r\n </delivery>",
      "options": {
        "raw": {
          "language": "xml"
        }
      }
    },
    "url": {
      "raw": "http://localhost:9090/regbl/api/ech0216/2/buildings/190008440/entrance",
```

```

    "protocol": "http",
    "host": [
        "localhost"
    ],
    "port": "9090",
    "path": [
        "regbl",
        "resources",
        "buildings",
        "190008440",
        "entrance"
    ]
},
"response": []
},
{
    "name": "GetConstructionsProjects",
    "request": {
        "method": "GET",
        "header": [
            {
                "key": "token",
                "value":
"eyJhbGciOiJIUzUxMiJ9.eyJ1c2VySWQiOiIxNzlxliwidXNlck5hbWUiOiJpbmNldi9tYSIsInN0YXR1cyI6IlZBTEIEIiwid3NrX2lklj0zMIC0gUmVnaXN0cmUgZGVzIGJhdGlhZW50cyBlbCBsb2dlbWVudHMiLCJleHAiOjE1ODU1NTE1MjI7Lj30iBxKUUM1QeqUCjx6gUz1TI06laXf08YWUVgsmLARbtKQkWM3-2jlLnRY75uh6rLGv2vdUawquqlqL27RQ",
                "type": "text"
            }
        ],
        {
            "key": "query",
            "value": "<?xml version='\"1.0\"' encoding='\"UTF-8\"' standalone='\"yes\"'?><ns2:delivery xmlns='\"http://www.ech.ch/xmlns/eCH-0129/5\"' xmlns:ns2='\"http://www.ech.ch/xmlns/ech-0216/2\"' xmlns:ns3='\"http://www.ech.ch/xmlns/eCH-0097/2\"' xmlns:ns4='\"http://www.ech.ch/xmlns/eCH-0044/4\"' xmlns:ns5='\"http://www.ech.ch/xmlns/eCH-0010/6\"' xmlns:ns6='\"http://www.ech.ch/xmlns/eCH-0007/6\"' xmlns:ns7='\"http://www.ech.ch/xmlns/eCH-0008/3\"' xmlns:ns8='\"http://www.ech.ch/xmlns/eCH-0058/5\"'><ns2:getConstructionProject> <ns2:constructionSurveyDept> <buildingAuthorityIdentificationType> <ns3:localOrganisationId> <ns3:organisationIdCategory>-</ns3:organisationIdCategory> <ns3:organisationId>270200</ns3:organisationId> </ns3:localOrganisationId> <ns3:organisationName>Bettingen</ns3:organisationName> </buildingAuthorityIdentificationType> </ns2:constructionSurveyDept> <ns2:projectStatus>6702</ns2:projectStatus> </ns2:getConstructionProject></ns2:delivery>",
            "type": "text"
        }
    ],
    "url": {
        "raw": "http://localhost:9090/regbl/api/ech0216/2/constructionprojects/",
        "protocol": "http",
        "host": [
            "localhost"
        ],
        "port": "9090",
        "path": [
            "regbl",
            "resources",
            "constructionprojects",
            ""
        ]
    },
    "response": []
}

```



```

    },
    {
      "name": "modifyConstructionProject",
      "request": {
        "method": "PUT",
        "header": [
          {
            "key": "token",
            "value":
"eyJhbGciOiJIUzUxMiJ9.eyJ1c2VySWQiOiIxNzliwXNlck5hbWUiOiJpbnNlcl9tYSIsInN0YXR1cyI6IIZBTEIEIiwid3NrX2lkIjozMzg5LCJsYW5nIjoieHlLCjQdGkiOiIxNzliwXNlck5hbWUiOiJpbnNlcl9tYSIsImZcyI6IIZ0JMIC0gUmVnaXN0cmUgZGVzIGJhdGltZW50cyBldCBsb2dlbWVudHMiLCJleHAiOiE1ODUzMjM4MTF9.qM4gHC4ppp2Wc2AuhQhtqSU9TICEFYhSdU5I0w28w9CnVlakz_1xmXRldV-ausu2UA0wAoX9upUljWrB6HfBmQ",
            "type": "text"
          }
        ],
        "body": {
          "mode": "raw",
          "raw": "<?xml version='1.0' encoding='UTF-8' standalone='yes'?>\r\n<ns2:delivery
xmlns='http://www.ech.ch/xmlns/eCH-0129/5' xmlns:ns2='http://www.ech.ch/xmlns/eCH-0216/2'
xmlns:ns3='http://www.ech.ch/xmlns/eCH-0097/2' xmlns:ns4='http://www.ech.ch/xmlns/eCH-0044/4'
xmlns:ns5='http://www.ech.ch/xmlns/eCH-0010/6' xmlns:ns6='http://www.ech.ch/xmlns/eCH-0007/6'
xmlns:ns7='http://www.ech.ch/xmlns/eCH-0008/3' xmlns:ns8='http://www.ech.ch/xmlns/eCH-0058/5'>\r\n
<ns2:modifyConstructionProject>\r\n <ns2:constructionProject>\r\n <ns2:constructionProjectIdentification>\r\n
<localID>\r\n <IdCategory>Test</IdCategory>\r\n <Id>12</Id>\r\n </localID>\r\n
<EPROID>190011128</EPROID>\r\n
<officialConstructionProjectFileNo>123</officialConstructionProjectFileNo>\r\n
</ns2:constructionProjectIdentification>\r\n <ns2:buildingPermitIssueDate>2006-02-
02</ns2:buildingPermitIssueDate>\r\n </ns2:constructionProject>\r\n <ns2:reason>Modification
enregimentent</ns2:reason>\r\n </ns2:modifyConstructionProject>\r\n</ns2:delivery>",
          "options": {
            "raw": {
              "language": "xml"
            }
          }
        },
        "url": {
          "raw": "http://localhost:9090/regbl/api/ech0216/2/constructionprojects/190011128",
          "protocol": "http",
          "host": [
            "localhost"
          ],
          "port": "9090",
          "path": [
            "regbl",
            "resources",
            "constructionprojects",
            "190011128"
          ]
        }
      },
      "response": []
    },
    {
      "name": "DeactivateDwelling",
      "request": {
        "method": "DELETE",
        "header": [
          {
            "key": "token",
            "value":
"eyJhbGciOiJIUzUxMiJ9.eyJ1c2VySWQiOiIxNzliwXNlck5hbWUiOiJpbnNlcl9tYSIsInN0YXR1cyI6IIZBTEIEIiwid3NrX2lkIjozMzg5LCJsYW5nIjoieHlLCjQdGkiOiIxNzliwXNlck5hbWUiOiJpbnNlcl9tYSIsImZcyI6IIZ0JMIC0gUmVnaXN0cmUgZGVzIGJhdGltZW50cyBldCBsb2dlbWVudHMiLCJleHAiOiE1ODUzMjM4MTF9.qM4gHC4ppp2Wc2AuhQhtqSU9TICEFYhSdU5I0w28w9CnVlakz_1xmXRldV-ausu2UA0wAoX9upUljWrB6HfBmQ"
          }
        ]
      }
    }
  ]
}

```

```

iwiD3NrX2lkljozMzg5LCJsYW5nljoiZnliLCJqdGkiOilxNzlxliwiaWF0ljoXNTg5OTc3MzY1LCJzdWliOiJpbnNlcl9t
YSIsImZcyY6IjI0JmI0gUmVnaXN0cmUgZGVzIGJhdGltZW50cyBldCBsb2dlbWVudHMiLCJleHAiOiE1ODk
5ODA5NjV9.KTE2IGpiA9pzmVNkoVNAB-
M6aG44hJZ3IMhDa2vEAvyRJ8y7DIHajTjgfVef_kZC7lkNWaoEtotxmL0cWjJ-TQ",
  "type": "text"
}

```

```

},
"body": {
  "mode": "raw",
  "raw": "<?xml version='1.0' encoding='UTF-8' standalone='yes'?>\r\n<delivery
xmlns='http://www.ech.ch/xmlns/ech-0216/2' xmlns:ns2='http://www.ech.ch/xmlns/eCH-0129/5'
xmlns:ns3='http://www.ech.ch/xmlns/eCH-0044/4' xmlns:ns4='http://www.ech.ch/xmlns/eCH-0097/2'
xmlns:ns5='http://www.ech.ch/xmlns/eCH-0010/6' xmlns:ns6='http://www.ech.ch/xmlns/eCH-0058/5'
xmlns:ns7='http://www.ech.ch/xmlns/eCH-0007/6' xmlns:ns8='http://www.ech.ch/xmlns/eCH-0008/3'>\r\n
<deactivateDwelling>\r\n <reason>Test désactivation du dwelling</reason>\r\n
</deactivateDwelling>\r\n</delivery>",
  "options": {
    "raw": {
      "language": "xml"
    }
  }
},
"url": {
  "raw": "http://localhost:9090/regbl/api/ech0216/2/buildings/190008404/dwellings/1",
  "protocol": "http",
  "host": [
    "localhost"
  ],
  "port": "9090",
  "path": [
    "regbl",
    "resources",
    "buildings",
    "190008404",
    "dwellings",
    "1"
  ]
},
"response": []
}

```

Examples of POST, GET, PUT, DELETE messages for the FRBD REST Web services (json)

Version 1.0 Phase 1.0 Proposed

André Quan created on 19.03.2020. Last modified 16.06.2021

4. Additional information

18.12.2020. Last modified 18.12.2020

1.56 Minimum data entry for "add" services

Most mandatory elements for services adding objects in the FRBD have been defined as minOccurs="1" in the XML definition file.

addBuildingrequestType

- municipalityId
- buildingCategory
- buildingStatus

addBuildingEntranceRequestType

- isOfficialAddress

addConstructionProjectRequestType

- constructionSurveyDeptNumber
- typeOfConstructionProject
- typeOfPermit
- constructionProjectDescription
- projectAnnouncementDate
- totalCostsOfProject

addWorkRequestType

- kindOfWork

Exception:

addDwellinRequestType: statusOfDwelling is required, but could not be set as mandatory in the XML definition file, due to problematic dependencies. Therefore, the control is made via a "REFUSED" quality rule that will return HTTP 400 and an explanatory quality rule message in the errors, contained at the bottom of the response (see [FRBD quality rules may trigger HTTP 400](#)).

18.12.2020. Last modified 16.04.2021

1.57 modifyBuildingEntrance

Zip code, zip code addon, long name and short name of locality are all attached to the street identification ESID and cannot be modified separately.

If a zip code and corresponding locality is deemed wrong, the correction must be made via the selection of another street, that is, another ESID.

18.12.2020. Last modified 14.04.2021

1.58 Municipal maintenance costs

In eCH-0216, it is only possible to update municipal maintenance costs. It is not possible to read them. This is made on purpose, for economic reasons, because the FSO plans to obtain the data from another source than the municipal construction survey departments in the future.

Users of your application are invited to login to the FRBD Web application using the same username and password as they use to login to the FRBD through the WS216, to read current maintenance costs information (<https://www.housing-stat.ch/regbl/2017/#/login>). They will also be able to use that interface to update information.

Support is available by phone at 0800 866 600 and by email at housing-stat@bfs.admin.ch.

13.01.2021. Last modified 15.01.2021

1.59 FRBD quality rules may trigger HTTP 400

FRBD quality rules are programmed independently from the WS216.

They are grouped according to the action that they trigger and one of those possible actions is the "REFUSED" one.

REFUSED actions cancel the insertion or the update of the data record, based on various criteria.

The consequence on WS216, is an HTTP 400 response, alongside at least one "REFUSED" error message at the bottom of the response that is obtained.

09.04.2021. Last modified 09.04.2021

1.60 Erasing of values

The only values that can be erased through eCH-0216 Web services are:

- projectAnnouncementDate
- buildingPermitIssueDate
- projectStartDate
- projectCompletionDate
- projectSuspensionDate
- constructionAuthorisationDeniedDate
- withdrawalDate
- cancellationDate

Should a user need to erase a value in another field, he / she has to call the FRBD hotline or send an e-mail:

0800 866 600
housing-stat@bfs.admin.ch

Opening hours from monday to friday: 08:30-11:30. 14:00-16:00

16.04.2021. Last modified 16.04.2021

1.61 Elements length discrepancy with the FRBD database

There is a discrepancy between the XSD length definition set to 20 for building-, entrance-, dwelling- and constructionProjectNamedIdType and the one of the database for all corresponding fields, currently set to 15. A project to extend the lengths of the corresponding columns in the database of the FRBD will be initiated. Due to multiple dependencies in the information system of the FRBD, we have to plan, coordinate and inform a significant number of partners.

In the meantime, please limit generated ids to 15 characters.

10.05.2021. Last modified 10.05.2021

1.62 How to add a transformation- or demolition only construction project (no new construction)

1. addConstructionProject with a worktype 6002 or 6007 (without building)
2. bindBuildingToConstructionProject (one or more)
3. deactivateWork where ARBID = 1 (no building is linked to that work, which has been created by addConstructionProject during the first step)

12.05.2021. Last modified 31.05.2021

1.63 Buildings and constructions projects 1-n relationship to real estate

The data model includes a 1-n relationship between the building entity and the real estate entity. The same applies to the construction project entity.

This will actually not be implemented in the foreseeable future, because a reliable real estate referential cannot be setup at the national level.

Therefore, for both buildings and construction projects, a single "main" piece of real estate may be sent to the FRBD.

19.05.2021. Last modified 19.05.2021

1.64 Attributes subject to updates from secondary data sources

The main data source of the FRBD is the municipalities. However, some attributes are also updated from secondary data sources, directly in the FRBD. If the software maintains a local database, those attributes must be updated from the FRBD in the local database:

EGRID	EGRID
GAREA	surfaceAreaOfBuilding
GENH1	energySourceHeating
GENH2	energySourceHeating
GENW1	energySourceHeating
GENW2	energySourceHeating
GKSCE	originOfCoordinates
GWAERDATH1	revisionDate
GWAERDATH2	revisionDate
GWAERDATW1	revisionDate
GWAERDATW2	revisionDate
GWAERSCEH1	informationSourceHeating
GWAERSCEH2	informationSourceHeating
GWAERSCEW1	informationSourceHeating
GWAERSCEW2	informationSourceHeating
GWAERZH1	heatGeneratorHeating
GWAERZH2	heatGeneratorHeating
GWAERZW1	heatGeneratorHotWater
GWAERZW2	heatGeneratorHotWater
GKODE	building coordinate east
GKODN	building coordinate north
DKODE	building entrance coordinate east
DKODN	building entrance coordinate north

25.06.2021. Last modified 25.06.2021

1.65 Criteria for successful quarterly closure

The criteria for a successful quarterly survey closure revolves around the error message category (eCH-0216:plausibilityRuleType.ruleCategory).

That category may take the following values:

1. ADR
2. BAU
3. G+W
4. MISS

In order to successfully close a quarterly survey, the construction survey department must reach a data quality level where no error message of the category "ADR" or "BAU" is returned, be it for the construction survey department, construction projects, buildings, building entrances or dwellings.

12.07.2021. Last modified 12.07.2021

1.66 Criteria for client identification

In the various construction project types, if element typeOfClient = 6161 (private individual), then identification in element client is personIdentification, else it is organisationIdentification.

12.07.2021. Last modified 12.07.2021