OZFS Structure

Standard GeoJSON Structure

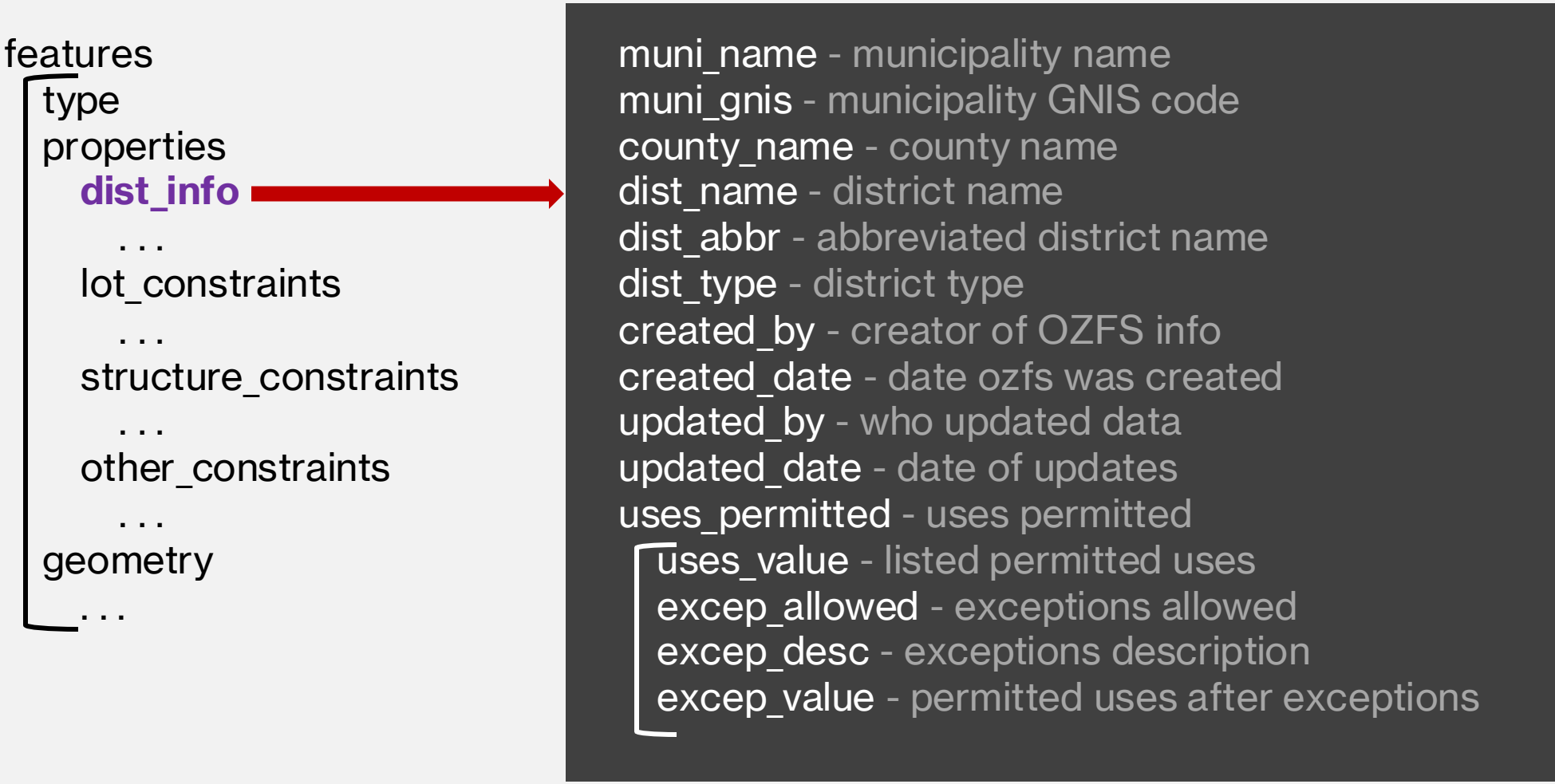
type
features
- type
- properties
  - . . .
- geometry
  - . . .

Standard GeoJSON Structure

type
features
- type
- **properties**
  - . . .
- geometry
  - . . .

OZFS Feature Properties

features
- type
- **properties**
  - dist_info
    - . . .
  - lot_constraints
    - . . .
  - structure_constraints
    - . . .
  - other_constraints
    - . . .
- geometry
  - . . .


features
type
properties
dist_info
. . .
lot_constraints
. . .
structure_constraints
. . .
other_constraints
. . .
geometry
. . .
muni_name - municipality name
muni_gnis - municipality GNIS code
county_name - county name
dist_name - district name
dist_abbr - abbreviated district name
dist_type - district type
created_by - creator of OZFS info
created_date - date ozfs was created
updated_by - who updated data
updated_date - date of updates
uses_permitted - uses permitted
uses_value - listed permitted uses
excep_allowed - exceptions allowed
excep_desc - exceptions description
excep_value - permitted uses after exceptions

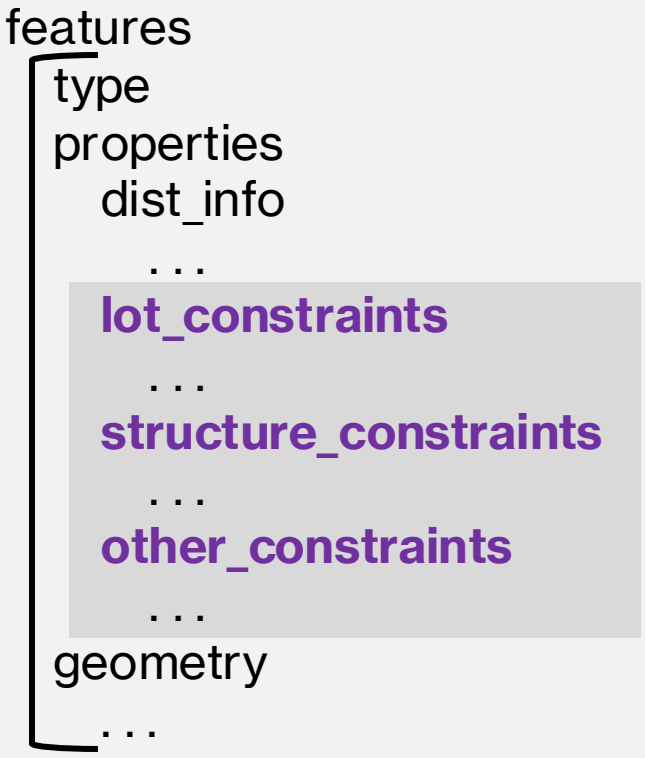

features
type
properties
dist_info
. . .
lot_constraints
. . .
structure_constraints
. . .
other_constraints
. . .
geometry
. . .
lot_width – lot width
lot_size – lot area

features
- type
- properties
  - dist_info
    - . . .
  - lot_constraints
    - . . .
  - **structure_constraints**
    - . . .
  - other_constraints
    - . . .
- geometry
- . . .

height - building height
stories - building
setback_front - front setback
setback_side_ext - side setback exterior
setback_side_int - side setback interior
setback_rear - rear setback
lot_cov_bldg - lot coverage
lot_cov_imp - lot coverage (impervious surfaces)
pct_primary_area - % of primary area (ADUs)
footprint - building footprint area
fl_area - floor area
far - floor area ratio
unit_qty - unit quantity
unit_density - unit density
unit_size - unit floor area
bedrooms - number of bedrooms
roof_pitch - roof pitch

features
- type
- properties
  - dist_info
    - . . .
  - lot_constraints
    - . . .
  - structure_constraints
    - . . .
  - **other_constraints** →
    - . . .
- geometry
- . . .

parking_enclosed – unclosed parking spaces
parking_covered – covered parking spaces
parking_uncovered – uncovered parking spaces
open_space – % open space
swr_connect – connected to sewer
wtr_connect – connected to water
acc_struct_permitted – accessory structures



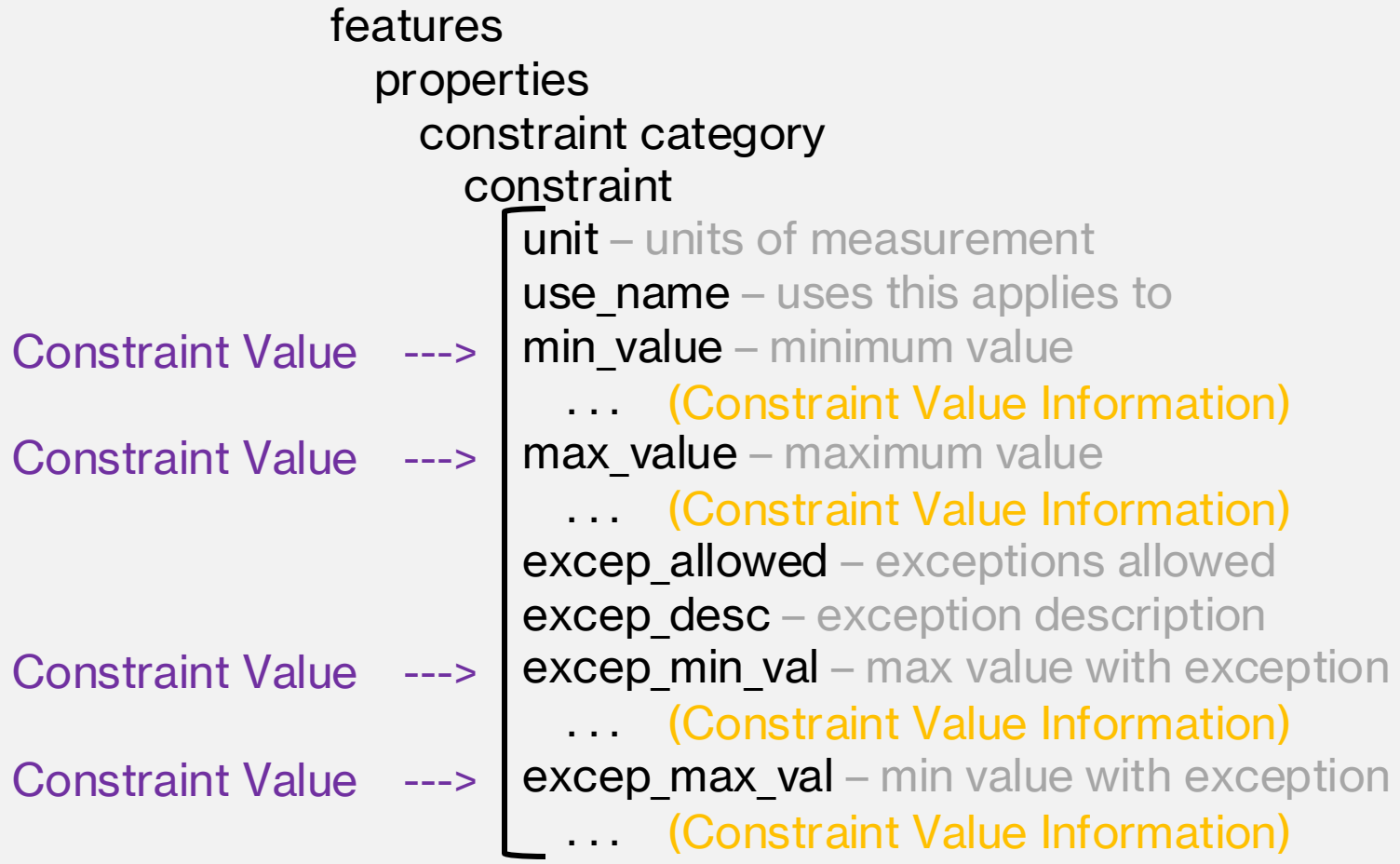
Constraint Categories

Each constraint category has a list of constraints. Each constraint has a list of **constraint details**.

Constraint Details

features
- properties
  - constraint category
    - constraint
      - unit – units of measurement
      - use_name – uses this applies to
      - min_value – minimum value
      - . . .
      - max_value – maximum value
      - . . .
      - excep_allowed – exceptions allowed
      - excep_desc – exception description
      - excep_min_val – max value with exception
      - . . .
      - excep_max_val – min value with exception
      - . . .

Constraint Details



Constraint Value Information

The constraint value is determined either by an expression (if there are no conditions) or by a set of rules (if there are conditions to the constraint value). OZFS uses the following format to express the constraint value.

Features
  Properties
    Constraint Type
      Constraint
        Constraint Value
          expression – expression or list of expressions to find constraint value
          rule
            logical_operator – "AND" or "OR" to connect conditions
            conditions – conditions to activate this rule
              [
              ]
            select – option to select a min or max value of listed expressions
            expression – expression or list of expressions to find constraint value

IMPORTANT: Expression Syntax

Write out the expression using **only these variables.**

Values reliant on building info

bedrooms	-	Number of bedrooms in a unit
units_0bed	-	Number of studio units in a building
units_1bed	-	Number of 1-bedroom units in a building
units_2bed	-	Number of 1-bedroom units in a building
units_3bed	-	Number of 1-bedroom units in a building
units_4bed	-	Number of 1-bedroom units in a building
total_units	-	Total number of units in building
fl_area	-	Floor area of the building
height	-	Height of the building
floors	-	Number of floors for the building
min_unit_size	-	Size of the smallest unit in the building
max_unit_size	-	Size of the largest unit in the building
far	-	fl_area / lot_area
parking_enclosed	-	Number of enclosed parking stalls (garage)
parking_open	-	Number of open parking stalls
parking	-	Total number of parking stalls for the building
parking_floors	-	Floors of the enclose parking structure

IMPORTANT: Expression Syntax

Write out the expression using **only these variables.**

Values reliant on parcel info

lot_width	-	The width of the front of the parcel
lot_depth	-	The length of the side of a parcel
lot_area	-	The area of the parcel

Constraint Value Information

Zoning Code Scenarios

"Minimum floor area is 500 square feet."

"Minimum off-street parking requirement is either 1 stall plus an additional 1.5 stalls per bedroom or 2 stalls per thousand square feet of floor area. Whichever is greater"

OZFS Input

```
features
  properties
    structure_constraints
      fl_area
        min_val
          expression: "500"
```

```
features
  properties
    structure_constraints
      fl_area
        min_val
          rules:
            select: "max"
            expression: ["1 + (1.5 * bedrooms)",
                         "2 * (fl_area / 1000)"]
```

OZFS Input

```
min_val
  expression: "500"
```

```
min_val
  rules:
    select: "max"
    expression: ["1 + (1.5 * bedrooms)",
                 "2 * (fl_area / 1000)"]
```

```
min_val
  expression: ["1 + (1.5 * bedrooms)",
               "2 * (fl_area / 1000)"]
```

Computer Interpretation

min_val = 500

min_val = max(1 + (1.5 * bedrooms), 2 * (fl_area / 1000))

if there are multiple expressions without a select option, then the computer will list and test both options

Constraint Value Information

Zoning Code Scenarios

"Buildings in this district have a maximum height of 50, but every 1-foot increase in height after 35 feet requires an additional 2-foot setback."

OZFS Input

```
features
  properties
    structure_constraints
      front_setback
        min_val
          rules:
            logical_operator: "AND"
            conditions:
              "height > 0"
              "height <= 35"
            expression: "25"
            conditions:
              "height > 35"
            expression: "(height – 35) * 2 + 25"
```

OZFS Input

```
features
  properties
    structure_constraints
      front_setback
        min_val
          rules:
            logical_operator: "AND"
            conditions:
              "height > 0"
              "height <= 35"
            expression: "25"
            conditions:
              "height > 35"
            expression: "(height – 35) * 2 + 25"
```

Computer Interpretation

```
if
   bldg_height > 0
   AND
   bldg_height <= 35
min_val = 25

else if
   height > 35
min_val = (height – 35) * 2 + 25
```

Constraint Details

Zoning Code Scenarios

Unit Size Restrictions

One-family

Min Unti Size
500 sf plus 200 sf per bedroom
Max Unti Size
5000 sf plus 2000 sf per bedroom

The min unit size can be lowered to 300 sf plus 150 sf per bedroom with city approval

Two-family and three-family

Min Unti Size
400 sf
Max Unti Size
1500 sf

The max unit size can be 3000 sf if building meets luxury apartment classification requirements

OZFS Input

```
features
  properties
    structure_constraints
      unit_size
        unit: "sqaure feet"
        use_name: ["1-family"]
        min_val
          expression: "500 + (200 * bedrooms)"
        max_val
          expression: "5000 + (2000 * bedrooms)"
        excep_allowed: TRUE
        excep_desc: "city approval"
        excep_min_val
          expression: "500 + (200 * bedrooms)"
        excep_max_val
          expression: "5000 + (2000 * bedrooms)"
        unit: "sqaure feet"
        use_name: ["2-family", "3-family"]
        min_val
          expression: "400"
        max_val
          expression: "1500"
        excep_allowed: TRUE
        excep_desc: "specific building type"
        excep_min_val
          expression: "400"
        excep_max_val
          expression: "3000"
```

OZFS Input

```
features
  properties
    structure_constraints
      unit_size
        unit: "sqaure feet"
        use_name: ["1-family"]
        min_val
          expression: "500 + (200 * bedrooms)"
        max_val
          expression: "5000 + (2000 * bedrooms)"
        excep_allowed: TRUE
        excep_desc: "city approval"
        excep_min_val
          expression: "500 + (200 * bedrooms)"
        excep_max_val
          expression: "5000 + (2000 * bedrooms)"
        unit: "sqaure feet"
        use_name: ["2-family", "3-family"]
        min_val
          expression: "400"
        max_val
          expression: "1500"
        excep_allowed: TRUE
        excep_desc: "specific building type"
        excep_min_val
          expression: "400"
        excep_max_val
          expression: "3000"
```

Computer Interpretation

```
if
    use_name == "1-fmaily"
min_val = "500 + (200 *
bedrooms)"

else if
    use_name is in ("2-family", "3-
family")
min_val = 400

else
min_val = NA
```