#### AdditionalSurfaceAdjacencyOptions2019A SHRAE901

| Enumerator    | Description   | Notes |
|---------------|---|-------|
| UNENCLOSED    | The space on the other side of the surface is assumed to be unenclosed. The space on the other side of the surface is not explicity modeled.    |       |
| UNCONDITIONED | The space on the other side of the surface is assumed to be unconditioned. The space on the other side of the surface is not explicity modeled. |       |
| UNHEATED      | Surface adjacent to a environment that is not heated but enclosed.  |       |
| SEMIHEATED    | Surface adjacent to a environment that is semi-heated.  |       |

### ClimateZoneOptions2019ASHRAE901

| Enumerator | Description           | Notes |
|------------|-----------------------|-------|
| CZ0A       | Extremely Hot - Humid |       |
| CZ0B       | Extremely Hot - Dry   |       |
| CZ1A       | Very Hot - Humid      |       |
| CZ1B       | Very Hot - Dry        |       |
| CZ2A       | Hot - Humid           |       |
| CZ2B       | Hot - Dry             |       |
| CZ3A       | Warm - Humid          |       |
| CZ3B       | Warm - Dry            |       |
| CZ3C       | Warm - Marine         |       |
| CZ4A       | Mixed - Humid         |       |
| CZ4B       | Mixed - Dry           |       |
| CZ4C       | Mixed - Marine        |       |
| CZ5A       | Cool - Humid          |       |
| CZ5B       | Cool - Dry            |       |

| Enumerator | Description      | Notes |
|------------|------------------|-------|
| CZ5C       | Cool - Marine    |       |
| CZ6A       | Cold - Humid     |       |
| CZ6B       | Cold - Dry       |       |
| CZ7        | Very cold        |       |
| CZ8        | Subarctic/arctic |       |

#### CompliancePathOptions2019ASHRAE901

| Enumerator     | Description     | Notes |
|----------------|-----------------|-------|
| CODE_COMPLIANT | Code Compliance |       |
| BEYOND_CODE    | Beyond Code     |       |

### ConstructionClassificationOptions2019AS HRAE901

| Enumerator   | Description  | Notes |
|--------------|--------------|-------|
| STEEL_FRAMED | Steel-framed |       |

#### EnvelopeSpaceOptions2019ASHRAE901

| Enumerator                 | Description                | Notes |
|----------------------------|----------------------------|-------|
| NONRESIDENTIAL_CONDITIONED | Nonresidential conditioned |       |
| RESIDENTIAL_CONDITIONED    | Residential conditioned    |       |
| SEMIHEATED                 | Semiheated                 |       |
| UNCONDITIONED              | Unconditioned              |       |

# ExteriorLightingAreaOptions2019ASHRAE9 01TableG36

| Enumerator                        | Description                          | Notes  |
|-----------------------------------|--------------------------------------|--|
| UNCOVERED_PARKING_LOTS_AND_DRIVES | Uncovered parking lots and drives    |  |
| WALKWAY_NARROW                    | Walkway -<br>narrow                  | Less than 10 ft wide   |
| WALKWAY_WIDE                      | Walkway - wide                       | 10 ft wide or greater  |
| PLAZA_AREAS                       | Plaza Areas                          |  |
| SPECIAL_FEATURE_AREAS             | Special Feature<br>Areas             |  |
| STAIRWAYS                         | Stairways                            |  |
| MAIN_ENTRANCE_DOOR                | Main entrance<br>door                |  |
| OTHER_ENTRANCE_OR_EXIT_DOORS      | Other entrance or exit doors         |  |
| EXTERIOR_CANOPIES                 | Exterior canopies                    |  |
| OUTDOOR_SALES_OPEN_AREAS          | Outdoor sales -<br>open areas        |  |
| STREET_FRONTAGE                   | Street frontage                      |  |
| BUILDING_FACADE                   | Building facade                      |  |
| AUTOMATED_TELLER_MACHINES         | Automated teller machines            |  |
| NIGHT_DEPOSITORIES                | Night<br>depositories                |  |
| ENTRANCE_AND_GATEHOUSE            | Entrance and gatehouses              | Entrances and gatehouse inspection stations at guarded facilities.                               |
| EMERGENCY_VEHICLE_LOADING_AREA    | Emergency<br>vehicle loading<br>area | Loading areas for law<br>enforcement, fire, ambulance<br>and other emergency service<br>vehicles |

| Enumerator                         | Description                                      | Notes   |
|------------------------------------|--|---|
| DRIVE_UP_WINDOWS_FAST_FOOD         | Drive-up<br>windows at fast-<br>food restaurants |   |
| PARKING_NEAR_24HR_RETAIL_ENTRANCES | Parking near 24-<br>hour retail<br>entrances     |   |
| MISCELLANEOUS_TRADABLE             | Miscellaneous<br>tradable                        | This option would most often<br>be used by software that does<br>not support entire schema<br>and doesn't know if exterior<br>lighting is in a specific type but<br>does know if it is tradable     |
| MISCELLANEOUS_NON_TRADABLE         | Miscellaneous<br>non-tradable                    | This option would most often<br>be used by software that does<br>not support entire schema<br>and doesn't know if exterior<br>lighting is in a specific type but<br>does know if it is non-tradable |

# ExteriorLightingZoneOptions2019ASHRAE 901

| Enumerator                      | Description                             | Notes  |
|---------------------------------|---|--|
| ZONE_0_UNDEVELOPED              | Zone 0 -<br>undeveloped                 | Undeveloped areas within national parks, state parks, forest land, rural areas, and other undeveloped areas as defined by the authority having jurisdiction        |
| ZONE_1_DEVELOPED_RURAL_AND_PARK | Zone 1 -<br>developed rural<br>and park | Developed areas of national parks, state parks, forest land, and rural areas   |
| ZONE_2_RESIDENTIAL_NEIGHBORHOOD | Zone 2 -<br>residential<br>neighborhood | Areas predominantly consisting of residential zoning, neighborhood business districts, light industrial with limited nighttime use and residential mixed use areas |
| ZONE_3_ALL_OTHER_AREAS          | Zone 3 - all other areas                |  |

| Enumerator                      | Description                              | Notes  |
|---------------------------------|--|--|
| ZONE_4_HIGH_ACTIVITY_COMMERCIAL | Zone 4 - high-<br>activity<br>commercial | High-activity commercial districts in major metropolitan areas as designated by the local jurisdiction |

# HeatingVentilatingAirConditioningBuildin gAreaOptions2019ASHRAE901

| Enumerator            | Description           | Notes |
|-----------------------|-----------------------|-------|
| RESIDENTIAL           | Residential           |       |
| PUBLIC_ASSEMBLY       | Public assembly       |       |
| RETAIL                | Retail                |       |
| HOSPITAL              | Hospital              |       |
| HEATED_ONLY_STORAGE   | Heated only storage   |       |
| OTHER_NON_RESIDENTIAL | Other non-residential |       |

## LightingBuildingAreaOptions2019ASHRAE 901T951TG38

| Enumerator                 | Description                    | Notes |
|----------------------------|--------------------------------|-------|
| AUTOMOTIVE_FACILITY        | Automotive facility            |       |
| CONVENTION_CENTER          | Convention center              |       |
| COURTHOUSE                 | Courthouse                     |       |
| DINING_BAR_LOUNGE_LEISURE  | Dining: Bar<br>lounge/leisure  |       |
| DINING_CAFETERIA_FAST_FOOD | Dining:<br>Cafeteria/fast food |       |
| DINING_FAMILY              | Dining: Family                 |       |
| DORMITORY                  | Dormitory                      |       |
| EXERCISE_CENTER            | Exercise center                |       |
| FIRE_STATION               | Fire station                   |       |

| Enumerator              | Description               | Notes  |
|-------------------------|---------------------------|--|
| GYMNASIUM               | Gymnasium                 |  |
| HEALTH_CARE_CLINIC      | Health-care clinic        |  |
| HOSPITAL                | Hospital                  |  |
| HOTEL_MOTEL             | Hotel/motel               |  |
| LIBRARY                 | Library                   |  |
| MANUFACTURING_FACILITY  | Manufacturing facility    |  |
| MOTION_PICTURE_THEATER  | Motion picture<br>theater |  |
| MULTIFAMILY             | Multifamily               |  |
| MUSEUM                  | Museum                    |  |
| OFFICE                  | Office                    |  |
| PARKING_GARAGE          | Parking garage            |  |
| PENITENTIARY            | Penitentiary              |  |
| PERFORMING_ARTS_THEATER | Performing arts theater   |  |
| POLICE_STATION          | Police station            |  |
| POST_OFFICE             | Post office               |  |
| RELIGIOUS_FACILITY      | Religious facility        |  |
| RETAIL                  | Retail                    |  |
| SCHOOL_UNIVERSITY       | School/university         |  |
| SPORTS_ARENA            | Sports arena              |  |
| TOWN_HALL               | Town hall                 |  |
| TRANSPORTATION          | Transportation            |  |
| WAREHOUSE               | Warehouse                 |  |
| WORKSHOP                | Workshop                  |  |
| NONE                    | None                      | Indicates that building area method is not used and instead the space-by-space method is used. |

### LightingPurposeOptions2019ASHRAE901

| Enumerator     | Description    | Notes |
|----------------|----------------|-------|
| GENERAL        | General        |       |
| TASK           | Task           |       |
| DECORATIVE     | Decorative     |       |
| RETAIL_DISPLAY | Retail display |       |
| UNREGULATED    | Unregulated    |       |

## LightingSpaceOptions2019ASHRAE901TG3

| Enumerator  | Description  | Notes  |
|---|--|--|
| ATRIUM_LOW_MEDIUM                                 | Atrium - Low/Medium                                    |  |
| ATRIUM_HIGH                                       | Atrium - High  |  |
| AUDIENCE_SEATING_AREA_AUDITORIUM                  | Audience Seating Area - Auditorium                     |  |
| AUDIENCE_SEATING_AREA_CONVENTION_CENTER           | Audience Seating Area - Convention center              |  |
| AUDIENCE_SEATING_AREA_EXERCISE_CENTER             | Audience Seating Area - Excercise center               |  |
| AUDIENCE_SEATING_AREA_GYMNASIUM                   | Audience Seating Area - Gymnasium                      |  |
| AUDIENCE_SEATING_AREA_MOTION_PICTURE_THEATER      | Audience Seating Area - Motion picture theater         |  |
| AUDIENCE_SEATING_AREA_PENITENTIARY                | Audience Seating Area - Penitentiary                   |  |
| AUDIENCE_SEATING_AREA_PERFORMING_ARTS_THEATER     | Audience Seating Area - Performing arts theater        |  |
| AUDIENCE_SEATING_AREA_RELIGIOUS_FACILITY          | Audience Seating Area - Religious facility             |  |
| AUDIENCE_SEATING_AREA_SPORTS_ARENA                | Audience Seating Area - Sports arena                   |  |
| AUDIENCE_SEATING_AREA_TRANSPORTATION_FACILITY     | Audience Seating Area - Transportation facility        |  |
| AUDIENCE_SEATING_AREA_ALL_OTHER                   | Audience Seating Area - All other                      |  |
| BANKING_ACTIVITY_AREA                             | Banking Activity Area                                  |  |
| CLASSROOM_LECTURE_HALL_TRAINING_ROOM_PENITENTIARY | Classroom/Lecture Hall/Training Room -<br>Penitentiary |  |
| CLASSROOM_LECTURE_HALL_TRAINING_ROOM_SCHOOL       | Classroom/Lecture Hall/Training Room -<br>School       | Preschool<br>through 12th<br>grade, laboratory<br>and shop<br>classrooms |
| CLASSROOM_LECTURE_HALL_TRAINING_ROOM_ALL_OTHER    | Classroom/Lecture Hall/Training Room -<br>All other    |  |
| CONFERENCE_MEETING_MULTIPURPOSE_ROOM              | Conference/Meeting/Multipurpose Room                   |  |
| CONFINEMENT_CELLS                                 | Confinement Cells                                      |  |

| Enumerator                                     | Description  | Notes |
|--|--|-------|
| COPY_PRINT_ROOM                                | Copy/Print Room  |       |
| CORRIDOR_FACILITY_FOR_THE_VISUALLY_IMPAIRED    | Corridor - Facility for the visually impaired (and not used primarily by the staff)    |       |
| CORRIDOR_HOSPITAL                              | Corridor - Hospital  |       |
| CORRIDOR_MANUFACTURING_FACILITY                | Corridor - Manufacturing facility  |       |
| CORRIDOR_ALL_OTHERS                            | Corridor - All others  |       |
| COURT_ROOM                                     | Court room   |       |
| COMPUTER_ROOM                                  | Computer Room  |       |
| DINING_AREA_PENITENTIARY                       | Dining Area - Penitentiary   |       |
| DINING_AREA_FACILITY_FOR_THE_VISUALLY_IMPAIRED | Dining Area - Facility for the visually impaired (and not used primarily by the staff) |       |
| DINING_AREA_BAR_LOUNGE_OR_LEISURE_DINING       | Dining Area - Bar/lounge or leisure dining   |       |
| DINING_AREA_CAFETERIA_OR_FAST_FOOD_DINING      | Dining Area - Cafeteria or fast food dining  |       |
| DINING_AREA_FAMILY_DINING                      | Dining Area - Family dining  |       |
| DINING_AREA_ALL_OTHERS                         | Dining Area - All others   |       |
| ELECTRICAL_MECHANICAL_ROOM                     | Electrical/Mechanical Room   |       |
| EMERGENCY_VEHICLE_GARAGE                       | Emergency Vehicle Garage   |       |
| FOOD_PREPARATION_AREA                          | Food Preparation Area  |       |
| GUEST_ROOM                                     | Guest Room   |       |
| JUDGES_CHAMBERS                                | Judges Chambers  |       |
| DWELLING_UNIT                                  | Dwelling Unit  |       |
| LABORATORY_EXCEPT_IN_OR_AS_A_CLASSROOM         | Laboratory - Except in or as a classroom   |       |
| LAUNDRY_WASHING_AREA                           | Laundry/Washing Area   |       |
| LOADING_DOCK_INTERIOR                          | Loading Dock, Interior   |       |
| LOBBY_FACILITY_FOR_THE_VISUALLY_IMPAIRED       | Lobby - Facility for the visually impaired (and not used primarily by the staff)       |       |
| LOBBY_ELEVATOR                                 | Lobby - Elevator   |       |
| LOBBY_HOTEL                                    | Lobby - Hotel  |       |
| LOBBY_MOTION_PICTURE_THEATER                   | Lobby - Motion picture theater   |       |
| LOBBY_PERFORMING_ARTS_THEATER                  | Lobby - Performing arts theater  |       |
| LOBBY_ALL_OTHERS                               | Lobby - All others   |       |
| LOCKER_ROOM                                    | Locker Room  |       |
| LOUNGE_BREAKROOM_HEALTH_CARE_FACILITY          | Lounge/Breakroom - Health care facility  |       |
| LOUNGE_BREAKROOM_ALL_OTHERS                    | Lounge/Breakroom - All others  |       |
| OFFICE_ENCLOSED                                | Office - Enclosed  |       |
| OFFICE_OPEN_PLAN                               | Office - Open plan   |       |
| PARKING_AREA_INTERIOR                          | Parking Area, Interior   |       |
| PHARMACY_AREA                                  | Pharmacy Area  |       |

| Enumerator  | Description   | Notes |
|---|---|-------|
| RESTROOM_FACILITY_FOR_THE_VISUALLY_IMPAIRED                 | Restroom - Facility for the visually impaired (and not used primarily by the staff)             |       |
| RESTROOM_ALL_OTHERS   | Restroom - All others   |       |
| SALES_AREA  | Sales Area  |       |
| SEATING_AREA_GENERAL  | Seating Area, General   |       |
| STAIRWELL   | Stairwell   |       |
| STORAGE_ROOM_HOSPITAL                                       | Storage Room - Hospital   |       |
| STORAGE_ROOM_SMALL  | Storage Room - Small  |       |
| STORAGE_ROOM_LARGE  | Storage Room - Large  |       |
| VEHICULAR_MAINTENANCE_AREA                                  | Vehicular Maintenance Area  |       |
| WORKSHOP  | Workshop  |       |
| ASSISTED_LIVING_FACILITY_CHAPEL                             | Assisted Living Facility - Chapel (used primarily by residents)                                 |       |
| ASSISTED_LIVING_FACILITY_RECREATION_ROOM_COMMON_LIVING_ROOM | Assisted Living Facility - Recreation room/common living room (and not used primarily by staff) |       |
| CONVENTION_CENTER_EXHIBIT_SPACE                             | Convention Center â€" Exhibit Space   |       |
| DORMITORY_LIVING_QUARTERS                                   | Dormitory â€" Living Quarters   |       |
| FIRE_STATION_SLEEPING_QUARTERS                              | Fire Station â€" Sleeping Quarters  |       |
| GYMNASIUM_FITNESS_CENTER_EXERCISE_AREA                      | Gymnasium/Fitness Center - Exercise area  |       |
| GYMNASIUM_FITNESS_CENTER_PLAYING_AREA                       | Gymnasium/Fitness Center - Playing area   |       |
| HEALTHCARE_FACILITY_EMERGENCY_ROOM                          | Healthcare Facility - Emergency Room  |       |
| HEALTHCARE_FACILITY_EXAM_TREATMENT_ROOM                     | Healthcare Facility - Exam/treatment room   |       |
| HEALTHCARE_FACILITY_MEDICAL_SUPPLY_ROOM                     | Healthcare Facility - Medical supply room   |       |
| HEALTHCARE_FACILITY_NURSERY                                 | Healthcare Facility - Nursery   |       |
| HEALTHCARE_FACILITY_NURSES_STATION                          | Healthcare Facility - Nurse's station   |       |
| HEALTHCARE_FACILITY_OPERATING_ROOM                          | Healthcare Facility - Operating room  |       |
| HEALTHCARE_FACILITY_PATIENT_ROOM                            | Healthcare Facility - Patient room  |       |
| HEALTHCARE_FACILITY_PHYSICAL_THERAPY_ROOM                   | Healthcare Facility - Physical therapy room   |       |
| HEALTHCARE_FACILITY_RECOVERY_ROOM                           | Healthcare Facility - Recovery room   |       |
| LIBRARY_READING_AREA  | Library - Reading area  |       |
| LIBRARY_STACKS  | Library - Stacks  |       |
| MANUFACTURING_FACILITY_DETAILED_MANUFACTURING_AREA          | Manufacturing Facility - Detailed manufacturing area  |       |
| MANUFACTURING_FACILITY_EQUIPMENTROOM                        | Manufacturing Facility - Equipment room   |       |
| MANUFACTURING_FACILITY_EXTRA_HIGH_BAY_AREA                  | Manufacturing Facility - Extra high bay area  |       |
| MANUFACTURING_FACILITY_HIGH_BAY_AREA                        | Manufacturing Facility - High bay area  |       |
| MANUFACTURING_FACILITY_LOW_BAY_AREA                         | Manufacturing Facility - Low bay area   |       |
| MUSEUM_GENERAL_EXHIBITION_AREA                              | Museum - General exhibition area  |       |

| Enumerator  | Description   | Notes |
|---|---|-------|
| MUSEUM_RESTORATION_ROOM                                 | Museum - Restoration room   |       |
| POST_OFFICE_SORTING_AREA                                | Post Office â€" Sorting Area                                      |       |
| RELIGIOUS_FACILITY_FELLOWSHIP_HALL                      | Religious Facility - Fellowship hall                              |       |
| RELIGIOUS_FACILITY_WORSHIP_PULPIT_CHOIR_AREA            | Religious Facility - Worship/pulpit/choir area                    |       |
| RETAIL_FACILITIES_DRESSING_FITTING_ROOM                 | Retail Facilities - Dressing/fitting room                         |       |
| RETAIL_FACILITIES_MALL_CONCOURSE                        | Retail Facilities - Mall concourse                                |       |
| SPORTS_ARENA_PLAYING_AREA_CLASS_I_FACILITY              | Sports Arena â€" Playing Area - Class I<br>facility               |       |
| SPORTS_ARENA_PLAYING_AREA_CLASS_II_FACILITY             | Sports Arena â€" Playing Area - Class II<br>facility              |       |
| SPORTS_ARENA_PLAYING_AREA_CLASS_III_FACILITY            | Sports Arena â€" Playing Area - Class III<br>facility             |       |
| SPORTS_ARENA_PLAYING_AREA_CLASS_IV_FACILITY             | Sports Arena â€" Playing Area - Class IV facility                 |       |
| TRANSPORTATION_FACILITY_BAGGAGE_CAROUSEL_AREA           | Transportation Facility - Baggage/carousel area                   |       |
| TRANSPORTATION_FACILITY_AIRPORT_CONCOURSE               | Transportation Facility - Airport concourse                       |       |
| TRANSPORTATION_FACILITY_TICKET_COUNTER                  | Transportation Facility - Ticket counter                          |       |
| WAREHOUSE_STORAGE_AREA_MEDIUM_TO_BULKY_PALLETIZED_ITEMS | Warehouse â€" Storage Area - Medium to<br>bulky, palletized items |       |
| WAREHOUSE_STORAGE_AREA_SMALLER_HAND_CARRIED_ITEMS       | Warehouse — Storage Area - Smaller,<br>hand-carried items         |       |

#### OutputSchemaOptions2019ASHRAE901

| Enumerator                   | Description                        | Notes |
|------------------------------|------------------------------------|-------|
| OUTPUT_SCHEMA_ASHRAE901_2019 | Output schema for ASHRAE 90.1 2019 |       |

### PrescribedScheduleOptions2019ASHRAE90

| Enumerator     | Description   | Notes |
|----------------|---|-------|
| NOT_APPLICABLE | No prescribed schedules for Appendix G of ASHRAE Standard 90.1-2019. This field may be relavent for other rulesets. |       |

#### RulesetModelOptions2019ASHRAE901

| Enumerator   | Description  | Notes |
|--------------|--|-------|
| BASELINE_0   | The building model that corresponds with the Baseline Buildings<br>Performance column of Appendix G Table G3.1 with no rotation            |       |
| BASELINE_90  | The building model that corresponds with the Baseline Buildings<br>Performance column of Appendix G Table G3.1 with 90 degree<br>rotation  |       |
| BASELINE_180 | The building model that corresponds with the Baseline Buildings<br>Performance column of Appendix G Table G3.1 with 180 degree<br>rotation |       |
| BASELINE_270 | The building model that corresponds with the Baseline Buildings<br>Performance column of Appendix G Table G3.1 with 270 degree<br>rotation |       |

## ServiceWaterHeatingSpaceOptions2019AS HRAE901

| Enumerator                 | Description                 | Notes |
|----------------------------|-----------------------------|-------|
| AUTOMOTIVE_FACILITY        | Automotive facility         |       |
| CONVENIENCE_STORE          | Convenience store           |       |
| CONVENTION_CENTER          | Convention center           |       |
| COURTHOUSE                 | Courthouse                  |       |
| DINING_BAR_LOUNGE_LEISURE  | Dining: Bar lounge/leisure  |       |
| DINING_CAFETERIA_FAST_FOOD | Dining: Cafeteria/fast food |       |
| DINING_FAMILY              | Dining: Family              |       |
| DORMITORY                  | Dormitory                   |       |
| EXERCISE_CENTER            | Exercise center             |       |
| FIRE_STATION               | Fire station                |       |
| GROCERY_STORE              | Grocery store               |       |
| GYMNASIUM                  | Gymnasium                   |       |
| HEALTH_CARE_CLINIC         | Health-care clinic          |       |

| Enumerator                      | Description                            | Notes |
|---------------------------------|--|-------|
| HOSPITAL_AND_OUTPATIENT_SURGERY | Hospital and outpatient surgery center |       |
| HOTEL                           | Hotel                                  |       |
| LIBRARY                         | Library                                |       |
| MANUFACTURING_FACILITY          | Manufacturing facility                 |       |
| MOTEL                           | Motel                                  |       |
| MOTION_PICTURE_THEATER          | Motion picture theater                 |       |
| MULTIFAMILY                     | Multifamily                            |       |
| MUSEUM                          | Museum                                 |       |
| OFFICE                          | Office                                 |       |
| PARKING_GARAGE                  | Parking garage                         |       |
| PENITENTIARY                    | Penitentiary                           |       |
| PERFORMING_ARTS_THEATER         | Performing arts theater                |       |
| POLICE_STATION                  | Police station                         |       |
| POST_OFFICE                     | Post office                            |       |
| RELIGIOUS_FACILITY              | Religious facility                     |       |
| RETAIL                          | Retail                                 |       |
| SCHOOL_UNIVERSITY               | School/university                      |       |
| SPORTS_ARENA                    | Sports arena                           |       |
| TOWN_HALL                       | Town hall                              |       |
| TRANSPORTATION                  | Transportation                         |       |
| WAREHOUSE                       | Warehouse                              |       |
| WORKSHOP                        | Workshop                               |       |
| ALL_OTHERS                      | All others                             |       |

### SubsurfaceFrameOptions2019ASHRAE901

| Enumerator             | Description                    | Notes |
|------------------------|--------------------------------|-------|
| ALUMINUM_WITHOUT_BREAK | Aluminum without Thermal Break |       |

| Enumerator          | Description                 | Notes |
|---------------------|-----------------------------|-------|
| ALUMINUM_WITH_BREAK | Aluminum with Thermal Break |       |
| REINFORCED_VINYL    | Reninforced Vinyl           |       |
| ALUMINUM_CLAD_WOOD  | Aluminum Clad Wood          |       |
| WOOD                | Wood                        |       |
| VINYL               | Vinyl                       |       |
| STRUCTURAL_GLAZING  | Structural Glazing          |       |
| METAL_WITHOUT_BREAK | Metal without Thermal Break |       |
| METAL_WITH_BREAK    | Metal with Thermal Break    |       |
| FIBERGLASS          | Fiberglass                  |       |
| OTHER               | Other                       |       |

## SubsurfaceSubclassificationOptions2019A SHRAE901

| Enumerator            | Description   | Notes |
|-----------------------|---|-------|
| METAL_COILING_DOOR    | an upward-acting, nonswinging door assembly consisting of interlocking horizontal slats or sheets that, upon opening the door, roll up around a horizontal barrel above the door opening. |       |
| NONSWINGING_DOOR      | roll-up, metal coiling, sliding, and any other door that is not a swinging door.  |       |
| SECTIONAL_GARAGE_DOOR | an upward-acting, nonswinging door assembly made of<br>two or more horizontal panels hinged together<br>vertically.   |       |
| SWINGING_DOOR         | a door having an operable opaque panel with hinges or pivots on one side.   |       |
| SPANDREL_GLASS        | opaque glass that conceals structural building components from being visible from the exterior of the building  |       |
| GLASS_BLOCK           | a translucent, hollow or solid block of glass for glazing openings or constructing partitions   |       |
| OTHER                 | other subclassifications  |       |

### VentilationSpaceOptions2019ASHRAE901

|   | Description  | Notes |
|---|--|-------|
| ANIMAL_FACILITIES_ANIMAL_EXAM_ROOM_VETERINARY_OFFICE      | Animal Facilities - Animal exam room (veterinary office)             |       |
| ANIMAL_FACILITIES_ANIMAL_IMAGING_MRI_CT_PET               | Animal Facilities - Animal imaging (MRI/CT/PET)                      |       |
| ANIMAL_FACILITIES_ANIMAL_OPERATING_ROOMS                  | Animal Facilities - Animal operating rooms                           |       |
| ANIMAL_FACILITIES_ANIMAL_POSTOPERATIVE_RECOVERY_ROOM      | Animal Facilities - Animal postoperative recovery room               |       |
| ANIMAL_FACILITIES_ANIMAL_PREPARATION_ROOMS                | Animal Facilities - Animal preparation rooms                         |       |
| ANIMAL_FACILITIES_ANIMAL_PROCEDURE_ROOM                   | Animal Facilities - Animal procedure room                            |       |
| ANIMAL_FACILITIES_ANIMAL_SURGERY_SCRUB                    | Animal Facilities - Animal surgery scrub                             |       |
| ANIMAL_FACILITIES_LARGE_ANIMAL_HOLDING_ROOM               | Animal Facilities - Large-<br>animal holding room                    |       |
| ANIMAL_FACILITIES_NECROPSY                                | Animal Facilities -<br>Necropsy                                      |       |
| ANIMAL_FACILITIES_SMALL_ANIMAL_CAGE_ROOM_STATIC_CAGES     | Animal Facilities - Small-<br>animal-cage room (static<br>cages)     |       |
| ANIMAL_FACILITIES_SMALL_ANIMAL_CAGE_ROOM_VENTILATED_CAGES | Animal Facilities - Small-<br>animal-cage room<br>(ventilated cages) |       |
| CORRECTIONAL_FACILITIES_BOOKING_WAITING                   | Correctional Facilities -<br>Booking/waiting                         |       |
| CORRECTIONAL_FACILITIES_CELL                              | Correctional Facilities -<br>Cell                                    |       |
| CORRECTIONAL_FACILITIES_DAYROOM                           | Correctional Facilities -<br>Dayroom                                 |       |
| CORRECTIONAL_FACILITIES_GUARD_STATIONS                    | Correctional Facilities -<br>Guard stations                          |       |
| EDUCATIONAL_FACILITIES_ART_CLASSROOM                      | Educational Facilities - Art classroom                               |       |
| EDUCATIONAL_FACILITIES_CLASSROOMS_AGES_5_TO_8             | Educational Facilities -<br>Classrooms (ages 5 to 8)                 |       |
| EDUCATIONAL_FACILITIES_CLASSROOMS_AGE_9_PLUS              | Educational Facilities -<br>Classrooms (age 9 plus)                  |       |
| EDUCATIONAL_FACILITIES_COMPUTER_LAB                       | Educational Facilities -<br>Computer lab                             |       |
| EDUCATIONAL_FACILITIES_DAYCARE_SICKROOM                   | Educational Facilities -<br>Daycare sickroom                         |       |
| EDUCATIONAL_FACILITIES_DAYCARE_THROUGH_AGE_4              | Educational Facilities -<br>Daycare (through age 4)                  |       |
| EDUCATIONAL_FACILITIES_LECTURE_CLASSROOM                  | Educational Facilities -<br>Lecture classroom                        |       |
| EDUCATIONAL_FACILITIES_LECTURE_HALL_FIXED_SEATS           | Educational Facilities -<br>Lecture hall (fixed seats)               |       |
| EDUCATIONAL_FACILITIES_LIBRARIES                          | Educational Facilities -<br>Libraries                                |       |
| EDUCATIONAL_FACILITIES_MEDIA_CENTER                       | Educational Facilities -<br>Media center                             |       |
| EDUCATIONAL_FACILITIES_MULTIUSE_ASSEMBLY                  | Educational Facilities -<br>Multiuse assembly                        |       |
| EDUCATIONAL_FACILITIES_MUSIC_THEATER_DANCE                | Educational Facilities -<br>Music/theater/dance                      |       |
| EDUCATIONAL_FACILITIES_SCIENCE_LABORATORIES               | Educational Facilities -<br>Science laboratories                     |       |
| EDUCATIONAL_FACILITIES_UNIVERSITY_COLLEGE_LABORATORIES    | Educational Facilities -<br>University/college<br>laboratories       |       |
|   |  |       |

| Enumerator   | Description   | Notes |
|--|---|-------|
| FOOD_AND_BEVERAGE_SERVICE_BARS_COCKTAIL_LOUNGES  | Food and Beverage<br>Service - Bars, cocktail<br>lounges  |       |
| FOOD_AND_BEVERAGE_SERVICE_CAFETERIA_FAST_FOOD_DINING   | Food and Beverage<br>Service - Cafeteria/fast-<br>food dining   |       |
| FOOD_AND_BEVERAGE_SERVICE_KITCHEN_COOKING  | Food and Beverage<br>Service - Kitchen (cooking)  |       |
| FOOD_AND_BEVERAGE_SERVICE_RESTAURANT_DINING_ROOMS  | Food and Beverage<br>Service - Restaurant<br>dining rooms   |       |
| FOOD_AND_BEVERAGE_SERVICE_GENERAL_BREAK_ROOMS  | Food and Beverage<br>Service, General - Break<br>rooms  |       |
| FOOD_AND_BEVERAGE_SERVICE_GENERAL_COFFEE_STATIONS  | Food and Beverage<br>Service, General - Coffee<br>stations  |       |
| FOOD_AND_BEVERAGE_SERVICE_GENERAL_CONFERENCE_MEETING   | Food and Beverage<br>Service, General -<br>Conference/meeting   |       |
| FOOD_AND_BEVERAGE_SERVICE_GENERAL_CORRIDORS  | Food and Beverage<br>Service, General -<br>Corridors  |       |
| FOOD_AND_BEVERAGE_SERVICE_GENERAL_OCCUPIABLE_STORAGE_ROOMS_FOR_LIQUIDS_OR_GELS   | Food and Beverage<br>Service, General -<br>Occupiable storage rooms<br>for liquids or gels  |       |
| HOTELS_MOTELS_RESORTS_DORMITORIES_BARRACKS_SLEEPING_AREAS  | Hotels, Motels, Resorts,<br>Dormitories - Barracks<br>sleeping areas  |       |
| HOTELS_MOTELS_RESORTS_DORMITORIES_BEDROOM_LIVING_ROOM  | Hotels, Motels, Resorts,<br>Dormitories -<br>Bedroom/living room  |       |
| HOTELS_MOTELS_RESORTS_DORMITORIES_LAUNDRY_ROOMS_CENTRAL  | Hotels, Motels, Resorts,<br>Dormitories - Laundry<br>rooms, central   |       |
| HOTELS_MOTELS_RESORTS_DORMITORIES_LAUNDRY_ROOMS_WITHIN_DWELLING_UNITS  | Hotels, Motels, Resorts,<br>Dormitories - Laundry<br>rooms within dwelling<br>units   |       |
| HOTELS_MOTELS_RESORTS_DORMITORIES_LOBBIES_PREFUNCTION  | Hotels, Motels, Resorts,<br>Dormitories -<br>Lobbies/prefunction  |       |
| HOTELS_MOTELS_RESORTS_DORMITORIES_MULTIPURPOSE_ASSEMBLY  | Hotels, Motels, Resorts,<br>Dormitories -<br>Multipurpose assembly  |       |
| MISCELLANEOUS_SPACES_BANKS_OR_BANK_LOBBIES   | Miscellaneous Spaces -<br>Banks or bank lobbies   |       |
| MISCELLANEOUS_SPACES_BANK_VAULTS_SAFE_DEPOSIT  | Miscellaneous Spaces -<br>Bank vaults/safe deposit  |       |
| MISCELLANEOUS_SPACES_COMPUTER_NOT_PRINTING   | Miscellaneous Spaces -<br>Computer (not printing)   |       |
| MISCELLANEOUS_SPACES_FREEZER_AND_REFRIGERATED_SPACES   | Miscellaneous Spaces -<br>Freezer and refrigerated<br>spaces (<50°F [10°C])   |       |
| MISCELLANEOUS_SPACES_MANUFACTURING_WHERE_HAZARDOUS_MATERIALS_ARE_NOT_USED  | Miscellaneous Spaces -<br>Manufacturing where<br>hazardous materials are<br>not used  |       |
| MISCELLANEOUS_SPACES_MANUFACTURING_WHERE_HAZARDOUS_MATERIALS_ARE_USED_EXCLUDES_HEAVY_INDUSTRIAL_AND_CHEMICAL_PROCESSES | Miscellaneous Spaces -<br>Manufacturing where<br>hazardous materials are<br>used (excludes heavy<br>industrial and chemical<br>processes) |       |
| MISCELLANEOUS_SPACES_PHARMACY_PREP_AREA  | Miscellaneous Spaces -<br>Pharmacy (prep. area)   |       |
| MISCELLANEOUS_SPACES_PHOTO_STUDIOS   | Miscellaneous Spaces -<br>Photo studios   |       |
| MISCELLANEOUS_SPACES_SHIPPING_RECEIVING  | Miscellaneous Spaces -<br>Shipping/receiving  |       |
| MISCELLANEOUS_SPACES_SORTING_PACKING_LIGHT_ASSEMBLY  | Miscellaneous Spaces -<br>Sorting, packing, light<br>assembly   |       |

| Enumerator   | Description  | Not |
|--|--|-----|
| MISCELLANEOUS_SPACES_TELEPHONE_CLOSETS                             | Miscellaneous Spaces -<br>Telephone closets                                |     |
| MISCELLANEOUS_SPACES_TRANSPORTATION_WAITING                        | Miscellaneous Spaces -<br>Transportation waiting                           |     |
| MISCELLANEOUS_SPACES_WAREHOUSES                                    | Miscellaneous Spaces -<br>Warehouses                                       |     |
| OFFICE_BUILDINGS_BREAKROOMS  | Office Buildings -<br>Breakrooms   |     |
| OFFICE_BUILDINGS_MAIN_ENTRY_LOBBIES                                | Office Buildings - Main entry lobbies                                      |     |
| OFFICE_BUILDINGS_OCCUPIABLE_STORAGE_ROOMS_FOR_DRY_MATERIALS        | Office Buildings -<br>Occupiable storage rooms<br>for dry materials        |     |
| OFFICE_BUILDINGS_OFFICE_SPACE                                      | Office Buildings - Office space  |     |
| OFFICE_BUILDINGS_RECEPTION_AREAS                                   | Office Buildings -<br>Reception areas                                      |     |
| OFFICE_BUILDINGS_TELEPHONE_DATA_ENTRY                              | Office Buildings -<br>Telephone/data entry                                 |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_BIRTHING_ROOM                    | Outpatient Health Care<br>Facilities - Birthing room                       |     |
| DUTPATIENT_HEALTH_CARE_FACILITIES_CLASS_1_IMAGING_ROOMS            | Outpatient Health Care<br>Facilities - Class 1 imaging<br>rooms            |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_DENTAL_OPERATORY                 | Outpatient Health Care<br>Facilities - Dental<br>operatory                 |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_GENERAL_EXAMINATION_ROOM         | Outpatient Health Care<br>Facilities - General<br>examination room         |     |
| DUTPATIENT_HEALTH_CARE_FACILITIES_OTHER_DENTAL_TREATMENT_AREAS     | Outpatient Health Care<br>Facilities - Other dental<br>treatment areas     |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_PHYSICAL_THERAPY_EXERCISE_AREA   | Outpatient Health Care<br>Facilities - Physical<br>therapy exercise area   |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_PHYSICAL_THERAPY_INDIVIDUAL_ROOM | Outpatient Health Care<br>Facilities - Physical<br>therapy individual room |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_PHYSICAL_THERAPEUTIC_POOL_AREA   | Outpatient Health Care<br>Facilities - Physical<br>therapeutic pool area   |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_PROSTHETICS_AND_ORTHOTICS_ROOM   | Outpatient Health Care<br>Facilities - Prosthetics and<br>orthotics room   |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_PSYCHIATRIC_CONSULTATION_ROOM    | Outpatient Health Care<br>Facilities - Psychiatric<br>consultation room    |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_PSYCHIATRIC_EXAMINATION_ROOM     | Outpatient Health Care<br>Facilities - Psychiatric<br>examination room     |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_PSYCHIATRIC_GROUP_ROOM           | Outpatient Health Care<br>Facilities - Psychiatric<br>group room           |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_PSYCHIATRIC_SECLUSION_ROOM       | Outpatient Health Care<br>Facilities - Psychiatric<br>seclusion room       |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_SPEECH_THERAPY_ROOM              | Outpatient Health Care<br>Facilities - Speech therapy<br>room              |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_URGENT_CARE_EXAMINATION_ROOM     | Outpatient Health Care<br>Facilities - Urgent care<br>examination room     |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_URGENT_CARE_OBSERVATION_ROOM     | Outpatient Health Care<br>Facilities - Urgent care<br>observation room     |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_URGENT_CARE_TREATMENT_ROOM       | Outpatient Health Care<br>Facilities - Urgent care<br>treatment room       |     |
| OUTPATIENT_HEALTH_CARE_FACILITIES_URGENT_CARE_TRIAGE_ROOM          | Outpatient Health Care<br>Facilities - Urgent care<br>triage room          |     |
| PUBLIC_ASSEMBLY_SPACES_AUDITORIUM_SEATING_AREA                     | Public Assembly Spaces -<br>Auditorium seating area                        |     |

| Enumerator  | Description  | Notes |
|---|--|-------|
| PUBLIC_ASSEMBLY_SPACES_COURTROOMS                   | Public Assembly Spaces -<br>Courtrooms                         |       |
| PUBLIC_ASSEMBLY_SPACES_LEGISLATIVE_CHAMBERS         | Public Assembly Spaces -<br>Legislative chambers               |       |
| PUBLIC_ASSEMBLY_SPACES_LIBRARIES                    | Public Assembly Spaces -<br>Libraries                          |       |
| PUBLIC_ASSEMBLY_SPACES_LOBBIES                      | Public Assembly Spaces -<br>Lobbies                            |       |
| PUBLIC_ASSEMBLY_SPACES_MUSEUMS_CHILDRENS            | Public Assembly Spaces -<br>Museums (children's)               |       |
| PUBLIC_ASSEMBLY_SPACES_MUSEUMS_GALLERIES            | Public Assembly Spaces -<br>Museums/galleries                  |       |
| PUBLIC_ASSEMBLY_SPACES_PLACES_OF_RELIGIOUS_WORSHIP  | Public Assembly Spaces -<br>Places of religious worship        |       |
| RETAIL_SALES_EXCEPT_OTHER_SPECIFIC_RETAIL           | Retail - Sales (except other specific retail)                  |       |
| RETAIL_BARBERSHOP                                   | Retail - Barbershop  |       |
| RETAIL_BEAUTY_AND_NAIL_SALONS                       | Retail - Beauty and nail salons                                |       |
| RETAIL_COIN_OPERATED_LAUNDRIES                      | Retail - Coin-operated<br>laundries                            |       |
| RETAIL_MALL_COMMON_AREAS                            | Retail - Mall common<br>areas                                  |       |
| RETAIL_PET_SHOPS_ANIMAL_AREAS                       | Retail - Pet shops (animal areas)                              |       |
| RETAIL_SUPERMARKET                                  | Retail - Supermarket   |       |
| SPORTS_AND_ENTERTAINMENT_BOWLING_ALLEY_SEATING      | Sports and Entertainment - Bowling alley (seating)             |       |
| SPORTS_AND_ENTERTAINMENT_DISCO_DANCE_FLOORS         | Sports and Entertainment - Disco/dance floors                  |       |
| SPORTS_AND_ENTERTAINMENT_GAMBLING_CASINOS           | Sports and Entertainment - Gambling casinos                    |       |
| SPORTS_AND_ENTERTAINMENT_GAME_ARCADES               | Sports and Entertainment - Game arcades                        |       |
| SPORTS_AND_ENTERTAINMENT_GYM_SPORTS_ARENA_PLAY_AREA | Sports and Entertainment<br>- Gym, sports arena (play<br>area) |       |
| SPORTS_AND_ENTERTAINMENT_HEALTH_CLUB_AEROBICS_ROOM  | Sports and Entertainment - Health club/aerobics room           |       |
| SPORTS_AND_ENTERTAINMENT_HEALTH_CLUB_WEIGHT_ROOMS   | Sports and Entertainment - Health club/weight rooms            |       |
| SPORTS_AND_ENTERTAINMENT_SPECTATOR_AREAS            | Sports and Entertainment - Spectator areas                     |       |
| SPORTS_AND_ENTERTAINMENT_STAGES_STUDIOS             | Sports and Entertainment<br>- Stages, studios                  |       |
| SPORTS_AND_ENTERTAINMENT_SWIMMING_POOL_AND_DECK     | Sports and Entertainment<br>- Swimming (pool and<br>deck)      |       |
| TRANSIENT_RESIDENTIAL_COMMON_CORRIDORS              | Transient Residential -<br>Common corridors                    |       |
| TRANSIENT_RESIDENTIAL_DWELLING_UNIT                 | Transient Residential -<br>Dwelling unit                       |       |

## VerticalFenestrationBuildingAreaOptions 2019ASHRAE901

| Enumerator            | Description             | Notes |
|-----------------------|-------------------------|-------|
| GROCERY_STORE         | Grocery store           |       |
| HEALTHCARE_OUTPATIENT | Healthcare (outpatient) |       |

| Enumerator                      | Description                       | Notes |
|---------------------------------|-----------------------------------|-------|
| HOSPITAL                        | Hospital                          |       |
| HOTEL_MOTEL_SMALL               | Hotel/motel - Small               |       |
| HOTEL_MOTEL_LARGE               | Hotel/motel - Large               |       |
| OFFICE_SMALL                    | Office - Small                    |       |
| OFFICE_MEDIUM                   | Office - Medium                   |       |
| OFFICE_LARGE                    | Office - Large                    |       |
| RESTAURANT_QUICK_SERVICE        | Restaurant (quick service)        |       |
| RESTAURANT_FULL_SERVICE         | Restaurant (full service)         |       |
| RETAIL_STAND_ALONE              | Retail (stand alone)              |       |
| RETAIL_STRIP_MALL               | Retail (strip mall)               |       |
| SCHOOL_PRIMARY                  | School (primary)                  |       |
| SCHOOL_SECONDARY_AND_UNIVERSITY | School (secondary and university) |       |
| WAREHOUSE_NONREFRIGERATED       | Warehouse (nonrefrigerated)       |       |
| OTHER                           | Other                             |       |