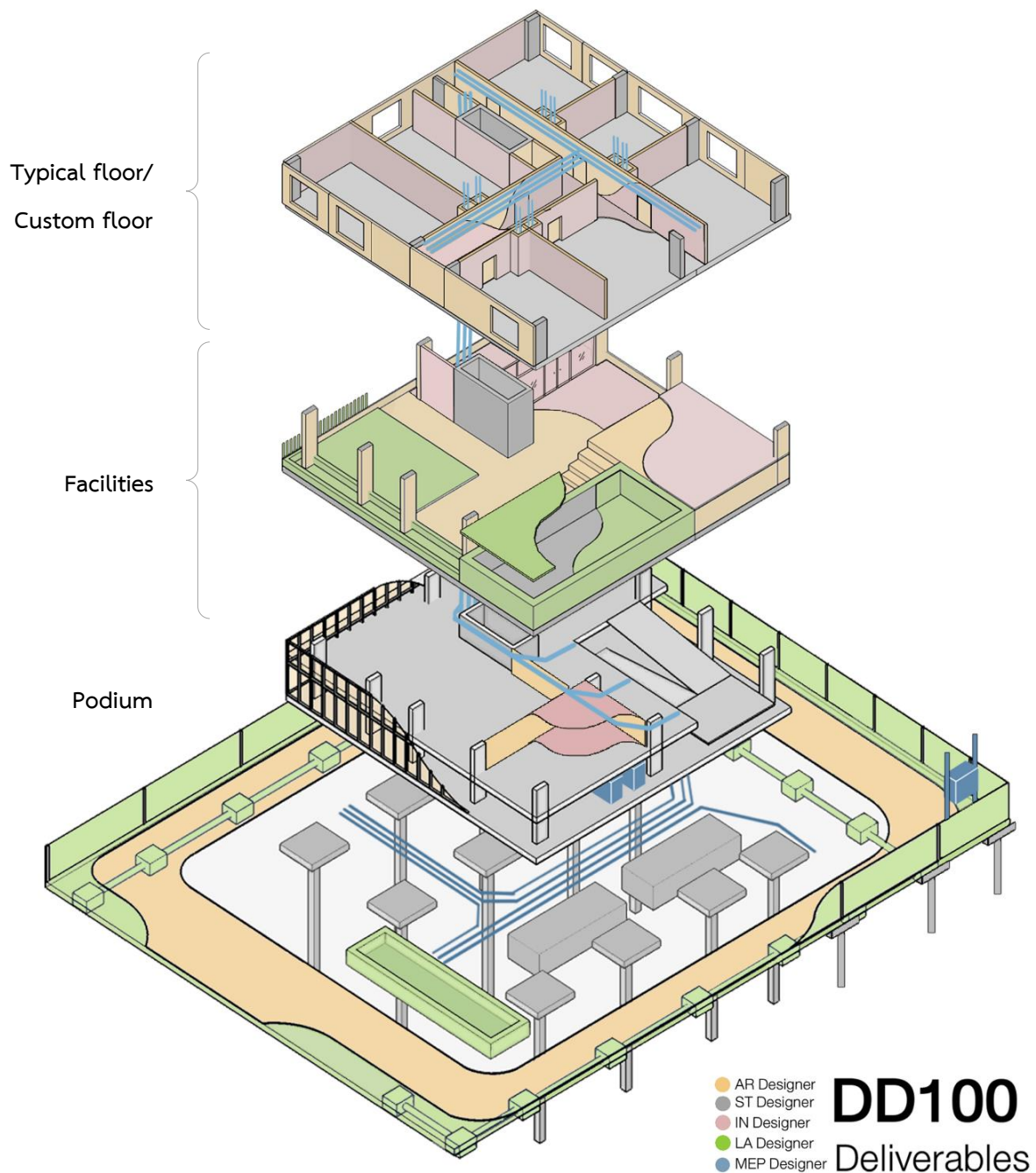


Model Ownership & LOD Definition

Version 1.0

Model Ownership: Zoning Diagram - DD100

Model Ownership นี้แสดงรายละเอียดขององค์ประกอบในโมเดลที่ต้องส่งมอบในช่วงออกแบบ DD100 ของอาคาร ประกอบด้วย Element ย่อยในแต่ละ Zone ทั้งนี้ เพื่อใช้เป็นข้อมูลอ้างอิงในการวางแผนขอบเขตการโมเดลของผู้ออกแบบแต่ละหมวดงาน ดังรูปที่ 1.1 Model Ownership - Zoning Diagram DD100

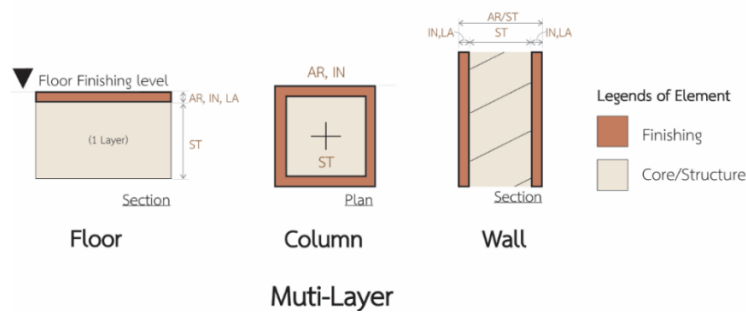


รูปที่ 1.1 Model Ownership - Zoning Diagram DD100

จากแผนภาพข้างต้นนั้นแสดงรายละเอียดเกี่ยวกับการแบ่งหน้าที่ในการทำโมเดลของแต่ละหมวดงานในภาพรวมเท่านั้น ซึ่งในแต่ละ Zone ของอาคารประกอบไปด้วย Element ที่มีผู้รับผิดชอบการทำโมเดลที่ไม่ชัดเจน ให้อ้างอิงรายละเอียดของผู้ออกแบบตามตาราง ดังนี้

ตารางที่ 1.1 Model Ownership - Multi - Discipline

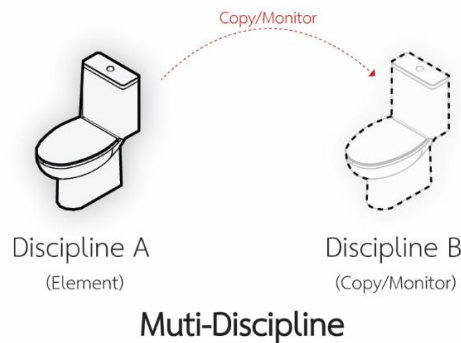
| | Residential Floor | | | | Common Area | | | | | | Service |
|---|-------------------|----------|------------------------------------|----------------|-----------------------------|---|-----------------------------|-----------------------|----------------------|---------|--------------|
| | Unit (Inside) | Corridor | Unit (Boundary), Service Room etc. | Unit (Balcony) | General Area, Back of House | Lobby, Library, Fitness, Indoor Area / Front of House | Swimming Pool, Outdoor Area | Site / Front of House | Site / Back of House | Parking | Machine Room |
| Architectural Wall, Floor, Ceiling | IN | IN | AR | AR | AR | IN | LA | LA | AR | AR | AR |
| Door, Window | IN | - | AR | - | AR | IN | LA | LA | AR | AR | AR |
| Room Boundary | IN | IN | AR | AR | AR | IN | LA | LA | AR | AR | AR |
| Road Surface | - | - | - | - | - | - | - | LA | AR | - | - |
| XXX Outlet, Lighting Fixture, Lighting Switches | IN | IN | AR | AR | AR | IN | LA | LA | AR | AR | MEP |
| Plumbing Fixture | IN | - | MEP | AR | AR | IN | LA | LA | AR | AR | MEP |
| Smoke, Heat Detector | IN | MEP | MEP | - | MEP | IN | LA | LA | AR | AR | MEP |
| Air Terminal | IN | - | - | - | MEP | IN | - | - | - | - | MEP |



รูปที่ 1.2 Model Ownership: Model - Multi-Layer

- ผู้ออกแบบงานสถาปัตยกรรม (AR): ให้เขียน Element (พื้น เสา และผนัง) โดยเขียน Element แบบที่รวมระยะ Finishing แล้ว หรือเขียน Element แบบแยกเฉพาะ Finishing เช่น งานฉาบเรียบทาสี และงานกรุหิน-กระเบื้อง โดยการเขียนใดๆ ต้องคำนึงถึงระยะที่ถูกต้องตามกฎหมายอาคาร
- ผู้ออกแบบงานวิศวกรรมโครงสร้าง (ST): ให้เขียน Element (พื้นโครงสร้าง เสาโครงสร้าง และผนังโครงสร้าง) โดยจะต้องเว้นระยะสำหรับ Finishing ของหมวดงานสถาปัตยกรรม เช่น งานฉาบเรียบทาสี และงานกรุหิน-กระเบื้อง เพื่อให้โมเดลมีระยะที่ถูกต้องตามกฎหมายอาคาร
- ผู้ออกแบบงานวิศวกรรมระบบอาคาร และผู้ออกแบบภูมิสถาปัตยกรรม (MEP): ให้เขียนเฉพาะ Finishing เช่น งานฉาบเรียบทาสี และงานกรุหิน-กระเบื้อง เพื่อให้มีตำแหน่ง และระยะที่ถูกต้องตามกฎหมายอาคาร

จากการทำงานร่วมกันนั้นอาจมีการ Link หรือ Copy Monitor ของหมวดงานอื่นๆ ร่วมด้วยเพื่อการทำแบบ การรวมโมเดล หรือตรวจสอบการซ้อนทับขององค์ประกอบ ดังนั้นก่อนการนำส่งงานให้ดำเนินการเปิด-ปิดโมเดลให้เป็นไปตามตารางนี้



รูปที่ 1.3 Model Ownership: Model - Multi-Layer

ตารางที่ 1.2 Model Ownership - Multi - Discipline

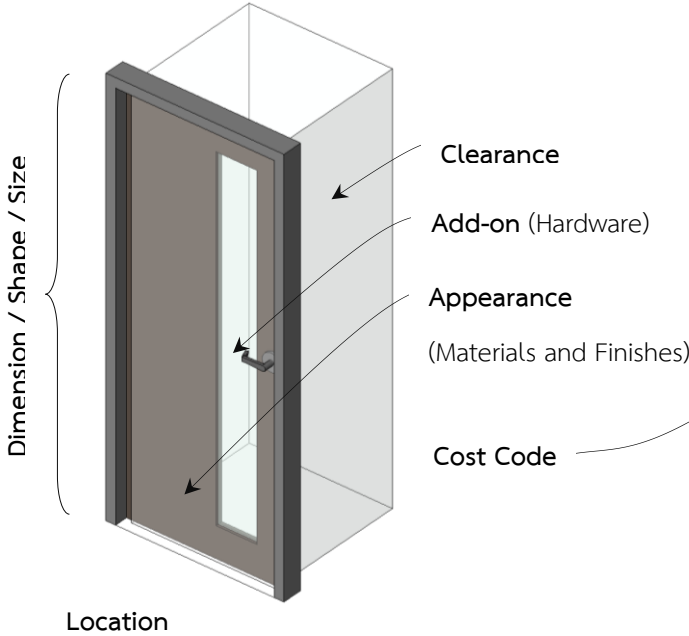
| Discipline | Export for clash detection (NWC) | | Export for Revit Sheet (DD100) | |
|----------------------------|----------------------------------|----------------|--------------------------------|----------------|
| Discipline A | X | Model | X | Model |
| Discipline B | - | Linked Model | X | Linked Model |
| | - | Copied/Monitor | - | Copied/Monitor |
| | X | Others | X | Others |
| Legend: X = Confirmed Uses | | | | |

โดยโมเดลแต่ละ Element จะกำหนดความละเอียดตั้งแต่ช่วงการออกแบบไปจนกระบวนการก่อสร้างเสร็จสิ้น ให้เป็นไปตามตารางที่ 1.2 ดังนี้

ตารางที่ 1.3 Model Ownership - Model Element

| | | Pre-Construction | | | Construction | |
|-----------------|--------------|------------------|-------------|--------------|-----------------------|--------------|
| | | DD50 | DD75 | DD100 | Building Construction | As-Built |
| Model Ownership | Deliverables | ✗ Size | ✗ Size | ✗ Size | ✗ Size | ✗ Size |
| | | ✗ Shape | ✗ Shape | ✗ Shape | ✗ Shape | ✗ Shape |
| | | ✗ Location | ✗ Location | ✗ Location | ✗ Location | ✗ Location |
| | | Cost Code | ✗ Cost Code | ✗ Cost Code | ✗ Cost Code | ✗ Cost Code |
| | | Appearance | Appearance | ✗ Appearance | ✗ Appearance | ✗ Appearance |
| | | Add-on | Add-on | ✗ Add-on | ✗ Add-on | ✗ Add-on |

Example: Model Element



Type Properties

Family: SingleSwing_Metal Load...

Type: Typemark_800x2000mm Duplicate... Rename...

Type Parameters


| Parameter | Value |
|------------------------------|-------------|
| Identity Data | |
| Assembly Code | 02.04.01.04 |
| Type Image | |
| Keynote | |
| Model | |
| Manufacturer | |
| Type Comments | |
| Type of Usage (ลักษณะการใช้) | |
| URL | |
| Description | |
| Fire Rating | |
| Cost | |
| Assembly Description | |
| Type Mark | 40 |
| OmniClass Number | |
| OmniClass Title | |
| Code Name | |

Legend: X = Confirmed Uses


Architectural Works

| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 | DD75 | DD100 |
|---------------|------------------|------------------------------|--------|--------|--------|
| | | | LOD100 | LOD200 | LOD300 |

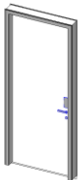
1) Level & Grid

| | | | | | |
|---|-------|-------------------|---|---|---|
|  | Level | | X | X | X |
| | Grid | | X | X | X |
| | | Level name | X | X | X |
| | | Grid number/ name | X | X | X |
| | | | | | |


2) Architectural Wall

| | | | | | |
|--|------------------------------|----------------------------------|---|---|---|
|  Layer: Wall finishes Layer: Core Layer: Wall finishes | Architectural wall | | X | X | X |
| | Architectural wall thickness | | | X | X |
| | Architectural wall finishes | | | X | X |
| | Curtain wall | | X | X | X |
| | Elevator shaft | | X | X | X |
| | Service shaft (MEP) | | X | X | X |
| | | Architectural wall type and code | | X | X |
| | | | | | |

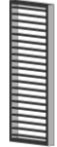
3) Door

| | | | | | |
|--|---------------------------|--------------------|---|---|---|
|  | Door geometric complexity | | X | X | X |
| | Door operation (system) | | X | X | X |
| | Door leaf size | | X | X | X |
| | Door leaf thickness | | | X | X |
| | Door leaf finishes | | | | X |
| | Door clearance | | | X | X |
| | | Door type and code | | X | X |
| | | Location | X | X | X |
| | | Hardware | | | X |

4) Window


| | | | | | |
|---|-----------------------------|----------------------|---|---|---|
|  | Window geometric complexity | | X | X | X |
| | Window operation (system) | | X | X | X |
| | Window size | | X | X | X |
| | Window thickness | | | X | X |
| | Window finishes | | | | X |
| | Glazing type and finishes | | | X | X |
| | Window clearance | | | X | X |
| | | Window type and code | | X | X |
| | | Location | X | X | X |
| | | Hardware | | | X |

5) Louver, Grill

| | | | | | |
|---|-------------------------|---------------------------------|---|---|---|
|  | Louver, grill | | | X | X |
| | Louver, grill size | | | X | X |
| | Louver, grill thickness | | | X | X |
| | Louver, grill finishes | | | | X |
| | | Louver, grill typemark and code | | X | X |
| | | Location | X | X | X |

| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 | DD75 | DD100 |
|---------------|------------------|------------------------------|--------|--------|--------|
| | | | LOD100 | LOD200 | LOD300 |

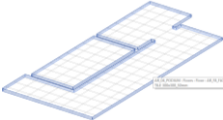
6) Architecture Column

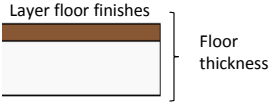
| | | | | | |
|---|-------------------------------|------------------------------------|---|---|---|
|  | Architectural column | | X | X | X |
| | Architectural column finishes | | X | X | X |
| | | Architectural column type and code | | X | X |
| | | Location | X | X | X |
| | | | | | |

Remark:


For the DD75 submission package, Architectural columns must be hidden before files are submitted as the published model.

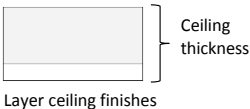
7) Architectural Floor

| | | | | | |
|---|-------------------------------|-----------------------------------|---|---|---|
|  | Architectural floor | | X | X | X |
| | Shaft opening | | X | X | X |
| | Architectural floor thickness | | | X | X |
| | Architectural floor finishes | | | | X |
| | | Architectural floor type and code | | X | X |
| | | Location | X | X | X |
| | | | | | |



 Layer floor finishes
 Floor thickness

8) Ceiling


| | | | | | |
|--|---|-------------------------------|---|---|---|
|  | Ceiling | | | X | X |
| | Recessed ceiling (vertical elements) | | | X | X |
| | Ceiling thickness (Include ceiling support and ceiling finishes) | | | X | X |
| | Ceiling finishes | | | X | X |
| | Layer of insulation where this is applied to the ceiling | | | | X |
| | Ceiling detail (like skirting and drop) | | | | X |
| | | Ceiling type and code | | X | X |
| | | Location | X | X | X |
| | | Insulation type and thickness | | | X |


 Layer ceiling support
 Ceiling thickness
 Layer ceiling finishes


9) Roof

| | | | | | |
|---|----------------|--------------------|---|---|---|
|  | Roof | | X | X | X |
| | Roof thickness | | | X | X |
| | Roof finishes | | | | X |
| | | Roof type and code | | X | X |
| | | Location | X | X | X |

10) Elevator (Door only)

| | | | | | |
|---|------------------------------------|-----------------------------|---|---|---|
|  | Elevator door geometric complexity | | X | X | X |
| | Elevator door operation (system) | | | X | X |
| | Elevator door clearance | | | X | X |
| | | Elevator door type and code | | X | X |
| | | Location | X | X | X |

11) Stair

| | | | | | |
|---|----------------------------|---------------------|---|---|---|
|  | Stair geometric complexity | | X | X | X |
| | Stair size | | | X | X |
| | Stair finishes | | | X | X |
| | Railing | | | | X |
| | | Stair type and code | | X | X |
| | | Location | X | X | X |

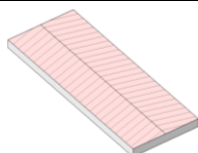
| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|---------------|------------------|------------------------------|----------------|----------------|-----------------|
|---------------|------------------|------------------------------|----------------|----------------|-----------------|

12) Ladder



| | | | | |
|-----------------------------|--|---|---|---|
| Ladder geometric complexity | | X | X | X |
| Ladder sizes | | | X | X |
| Ladder type and code | | | X | X |
| Ladder finishes | | | | X |
| Location | | X | X | X |

13) Ramp



| | | | | |
|---------------------------|--|---|---|---|
| Ramp geometric complexity | | X | X | X |
| Ramp sizes | | | X | X |
| Ramp finishes | | | X | X |
| Railing | | | X | X |
| Ramp type and code | | | X | X |

14) Railing

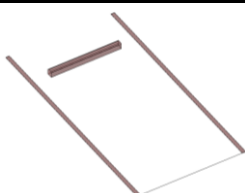


| | | | | |
|------------------------------|--|---|---|---|
| Railing geometric complexity | | | X | X |
| Railing sizes | | | X | X |
| Railing finishes | | | X | X |
| Railing type and code | | | X | X |
| Railing location | | X | X | X |

15) Room Boundary

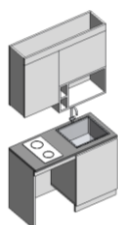
| | | | | |
|-------------------------------|--|---|---|---|
| Room boundary | | X | X | X |
| Room separation (if required) | | X | X | X |
| Room name | | X | X | X |
| Room number | | X | X | X |

16) Parking



| | | | | |
|---|--|---|---|---|
| Parking geometric complexity | | X | X | X |
| Handicap parking geometric complexity | | X | X | X |
| Motorcycling parking geometric complexity | | X | X | X |
| Parking type and code | | | X | X |
| Parking sizes | | X | X | X |
| Location | | X | X | X |

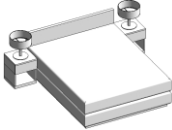
17) Joinery and Casework



| | | | | |
|------------------------------|--|---|---|---|
| Joinery geometric complexity | | | X | X |
| Joinery sizes | | | X | X |
| Joinery clearance | | | X | X |
| Joinery type and code | | | X | X |
| Joinery location | | X | X | X |

Remarks


- Scope of joinery include;
- Wardrobe, Closet
 - Lavatory counter
 - Cabinetry • Kitchen cabinet
 - Reception counter • Counter bar
 - Bookcase, shelf (built-in)
 - Mailbox • Other

| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|---|--------------------------------|------------------------------|----------------|----------------|-----------------|
| Furniture | | | | | |
|  | Furniture geometric complexity | | | X | X |
| | Furniture sizes | | | X | X |
| | Furniture clearance | | | X | X |
| | Furniture type and code | | | X | X |
| | Furniture location | X | X | X | X |
| Remarks Scope of Furniture include; • Bed • Seating • Table • Other | | | | | |

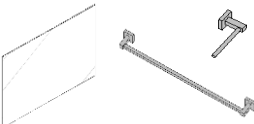
19) Equipment

| | | | | |
|--|--------------------------------|---|---|---|
| Remarks Scope of Equipment included; • Curtain • Television • Media and entertainment equipment • IOT Equipment • Refrigerator • Microwave / Oven • Coffee machine • Stove • Hood • Washing machine / Dishwasher • Gym equipment • Vending machine • Other | Equipment geometric complexity | | X | X |
| | Equipment sizes | | X | X |
| | Equipment type and code | | X | X |
| | Equipment location | X | X | X |
| | | | | |

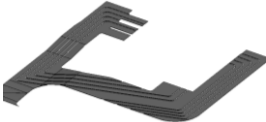
20) Signage

| | | | | |
|---|------------------------------|---|---|---|
|  | Signage geometric complexity | | X | X |
| | Signage sizes | | X | X |
| | Signage type and code | | X | X |
| | Signage location | X | X | X |
| | | | | |

21) Toilet Accessories


| | | | | | |
|---|---------------------------------------|--|---|---|---|
|  | Toilet accessory geometric complexity | | | X | X |
| | Toilet accessory sizes | | | X | X |
| | Toilet accessory type and code | | | X | X |
| | Toilet accessory location | | X | X | X |
| | | | | | |
| Remarks | | | | | |
| Scope of Toilet accessories included; | | | | | |
| ● Mirror ● Towel bar ● Toilet paper holder ● Soap dispenser | | | | | |
| ● Shelf ● Hook ● Trash bin ● Safety accessories ● Other | | | | | |

22) Road Surface

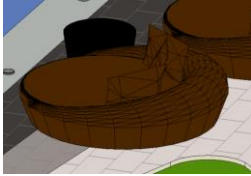
| | | | | |
|--|-----------------------------------|---|---|---|
|  | Road surface geometric complexity | | X | X |
| | Road surface thickness | | X | X |
| | Road finishes | | | X |
| | Falls | | | X |
| | Road surface type and code | | X | X |
| Remarks Scope of Road direction included; • Road direction (Sign) • Other | Road surface location | X | X | X |
| | Road surface sizes | | X | X |

| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|---------------|------------------|------------------------------|----------------|----------------|-----------------|
|---------------|------------------|------------------------------|----------------|----------------|-----------------|

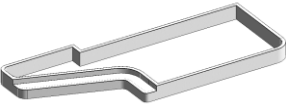
23) Swimming Pool & Water Feature

| | | | | | |
|---|--|--|---|---|---|
|  | Swimming pool geometric complexity (Wall, Floor) | | X | X | X |
| | Drainage | | | X | X |
| | Swimming pool thickness | | X | X | X |
| | Swimming pool finishes | | | X | X |
| | Swimming pool type and code | | | X | X |


24) Street Furniture

| | | | | | |
|---|---------------------------------------|---|---|---|---|
|  | Street furniture geometric complexity | | | X | X |
| | Street furniture sizes | | | X | X |
| | Street furniture clearance | | | X | X |
| | Street furniture type and code | | | X | X |
| | Street furniture location | X | X | X | X |

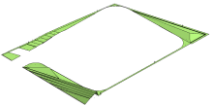
25) Planter

| | | | | | |
|--|------------------------------|---|---|---|---|
|  | Planter geometric complexity | | | X | X |
| | Drainage | | | X | X |
| | Planter thickness | | | X | X |
| | Planter finishes | | | | X |
| | Planter type and code | | | X | X |
| | Planter location | X | X | X | X |

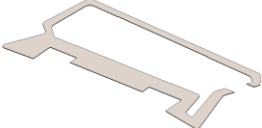
26) Planter (Structure)

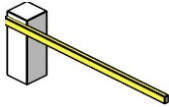
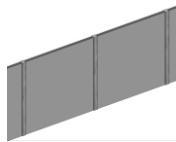
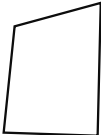
| | | | | | |
|---|------------------------------|---|---|---|---|
|  | Wall | | | X | X |
| | Floor | | | X | X |
| | Wall and floor thickness | | | X | X |
| | Wall and floor finishes | | | X | X |
| | Wall and floor type and code | | | X | X |
| | Planter (Structure) location | X | X | X | X |

27) Green Area

| | | | | | |
|---|--------------------------|---|---|---|---|
|  | Green area | | | X | X |
| | Green area type and code | | | X | X |
| | Green area location | X | X | X | X |

28) Walkway (Footpath)


| | | | | | |
|---|------------------------------|--|---|---|---|
|  | Walkway geometric complexity | | X | X | X |
| | Walkway thickness | | | X | X |
| | Walkway finishes | | | X | X |
| | Walkway type and code | | | X | X |

| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|---|----------------------------|------------------------------|----------------|----------------|-----------------|
| 29) Gate | | | | | |
|  | Gate geometric complexity | | | X | X |
| | Gate operation (System) | | | X | X |
| | Gate size | | | X | X |
| | Gate finishes | | | X | X |
| | Gate type and code | | | X | X |
| | Gate location | | X | X | X |
| 30) Fence | | | | | |
|  | Fence geometric complexity | | | X | X |
| | Fence thickness | | | X | X |
| | Fence finishes | | | X | X |
| | Green wall | | | X | X |
| | Fence type and code | | | X | X |
| | Fence location | | X | X | X |
| 31) Site Property Line | | | | | |
|  | Site property line | | X | X | X |
| | Topography | | | X | X |
| | Contour line | | | X | X |
| | Coordination benchmark | | X | X | X |
| | Existing topography | | X | X | X |

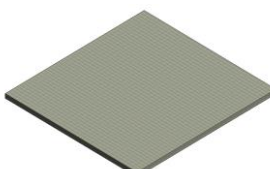
Structural Engineering Works

| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 | DD75 | DD100 |
|---------------|------------------|------------------------------|--------|--------|--------|
| | | | LOD100 | LOD200 | LOD300 |


32) Structural Wall

| | | | | | |
|--|---|--|---|---|---|
| The wall is divided into 2 types: 1.Core wall 2.RC wall  | Structural wall geometric complexity | | X | X | X |
| | Structural wall thickness | | X | X | X |
| | Basement retaining wall | | X | X | X |
| | Shear wall | | X | X | X |
| | Structural wall (Civil) | | | X | X |
| | Structural wall type and code | | | X | X |
| | Material grade (Strength of concrete in MPa) | | | X | X |
| | Reinforcement rate (Estimation of reinforcement in kg/m3) | | | X | X |

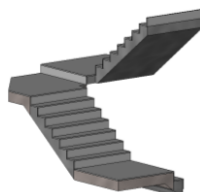
33) Structural Floor

| | | | | | |
|---|--|--|---|---|---|
| The floor is divided into 3 types: 1.Slab on ground 2.Post tension 3.RC slab  | Structural floor geometric complexity | | X | X | X |
| | Thickenings to floor | | X | X | X |
| | Hollow core slabs | | X | X | X |
| | Structural floor thickness | | X | X | X |
| | Structural Floor (Civil) | | | X | X |
| | Structural floor type and code | | | X | X |
| | Slab edges | | | X | X |
| | Material grade (Strength of concrete in MPa) | | | X | X |
| | Reinforcement rate (Estimation of | | | X | X |

34) Structural Framing

| | | | | | |
|---|---|--|---|---|---|
|  Remarks Scope of Structural Framing included; • Column, Beam, Roof structure, Joist, Girt, Purlin, Bracing, Support, Hanger, Rebars for standard joint detail | Structural framing geometric complexity | | X | X | X |
| | Structural framing size | | X | X | X |
| | Structural framing (Civil) | | | X | X |
| | Structural framing type and code | | | X | X |
| | Material grade (Strength of concrete in MPa) | | | X | X |
| | Reinforcement rate (Estimation of reinforcement in kg/m3) | | | X | X |
| | Coating (steel framing only) | | | X | X |

35) Structural Stair

| | | | | | |
|---|---|--|---|---|---|
|  | Structural stair geometric complexity | | X | X | X |
| | Structural stair size | | X | X | X |
| | Structural stair type and code | | | X | X |
| | Stair and flight number | | | X | X |
| | Material grade (Strength of concrete in MPa) | | | X | X |
| | Reinforcement rate (Estimation of reinforcement in kg/m3) | | | X | X |

| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 | DD75 | DD100 |
|---------------|------------------|------------------------------|--------|--------|--------|
| | | | LOD100 | LOD200 | LOD300 |

36) Steel Structure Stairs



| | | | | | |
|---------------------------------------|--------------------------------|--|---|---|---|
| Structural stair geometric complexity | | | X | X | X |
| Structural stair size | | | X | X | X |
| | Structural stair type and code | | | | X |
| | Stair number | | | | X |
| | Flight number | | | | X |

37) Foundation

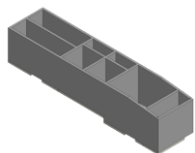


Remarks

Scope of Foundation included; • Footing and Piling • Fence Footing • Sheet pile

| | | | | | |
|---------------------------------|---|--|---|---|---|
| Foundation geometric complexity | | | X | X | X |
| Sheet pile geometric complexity | | | | X | X |
| Foundation size | | | X | X | X |
| | Foundation (Civil) | | | X | X |
| | Foundation type and code | | | X | X |
| | Material grade (Strength of concrete in MPa) | | | X | X |
| | Reinforcement rate (Estimation of reinforcement in kg/m3) | | | X | X |

38) Tank

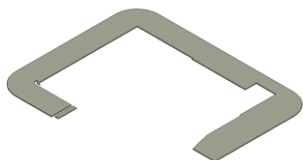


Remarks

Scope of Tank include;
 • Water tank
 • Underground water tank
 • Concrete waste water treatment plant

| | | | | | |
|---------------------------|---|--|---|---|---|
| Tank geometric complexity | | | X | X | X |
| Tank thickness | | | X | X | X |
| | Tank type and code | | | X | X |
| | Material grade (Strength of concrete in MPa) | | | X | X |
| | Reinforcement rate (Estimation of reinforcement in kg/m3) | | | X | X |

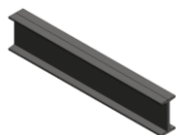
39) Structural Road



| | | | | | |
|--------------------------------------|---|--|---|---|---|
| Structural road geometric complexity | | | X | X | X |
| Structural road thickness | | | X | X | X |
| Thickenings to road | | | X | X | X |
| | Structural road type and code | | | X | X |
| | Slab edges | | | X | X |
| | Material grade (Strength of concrete in MPa) | | | X | X |
| | Reinforcement rate (Estimation of reinforcement in kg/m3) | | | X | X |

| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 | DD75 | DD100 |
|---------------|------------------|------------------------------|--------|--------|--------|
| | | | LOD100 | LOD200 | LOD300 |

40) Steel Structural

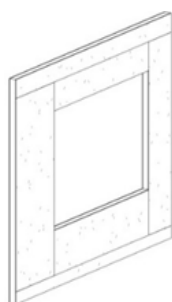


| | | | |
|--------------------------------------|---|---|---|
| Steel structure geometric complexity | X | X | X |
| Steel structure size | X | X | X |
| Steel structure type and code | | X | X |
| Coating | | X | X |

Remarks

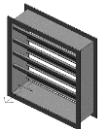
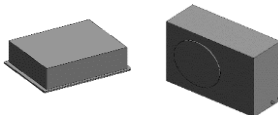
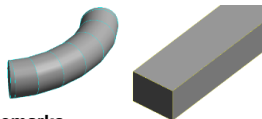
Scope of Steel Structure included;
 • Column, Beam, Roof structure, Joist,
 Girt, Purlin, Bracing, Support, Hanger

41) Structural Precast Elements




| | | | |
|--|---|---|---|
| Precast geometric complexity (Wall, Slab, Beam) | X | X | X |
| Precast stair geometric complexity | | X | X |
| Precast parapet / Fin geometric complexity | | X | X |
| Structural precast type and code | | | X |
| Structural precast element size | | | X |
| Structural precast element joint type | | | X |
| Structural precast element orientation, location and direction | | | X |
| Material grade (Strength of concrete in MPa) | | | X |
| Reinforcement rate (Estimation of reinforcement in kg/m3) | | | X |

MEP-Mechanical Engineering Works

| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|--|---|------------------------------|----------------|----------------|-----------------|
| 42) Elevator System | | | | | |
| Remarks Scope of Elevator included; • Structural support • Elevator equipment • Elevator control cabinet | Elevator system geometric complexity | | X | X | |
| | Elevator system size | | X | X | |
| | Elevator structural support | | X | X | |
| | Elevator system clearance | | X | X | |
| | Type and code | | X | X | |
| | Location and size | X | X | X | |
| | Equipment spec. | | X | X | |
| 43) Autoparking | | | | | |
| Remarks Scope of Auto parking included; • Structural support • Equipment • Other | Auto parking geometric complexity | | X | X | |
| | Auto parking size | | X | X | |
| | Auto parking structural support | | X | X | |
| | Type and code | | X | X | |
| | Location and size | X | X | X | |
| | Autoparking size | X | X | X | |
| | Equipment spec. | | X | X | |
| 44) Air Terminal Devices | | | | | |
|  Remarks Scope of Air terminal devices included; • Grille, Diffusers , Louver, Other | Air terminal device geometric complexity | | X | X | |
| | Air terminal device size | | X | X | |
| | Type and code | | X | X | |
| | Location and Size | X | X | X | |
| | System name (The name/type of the system to which the element is connected) | | X | X | |
| | Equipment spec. | | X | X | |
| | 45) A/C Equipment (FCU, CDU, AHU) | | | | |
|  Remarks Scope of A/C Equipment included; • Split type air conditioning unit • Fans • Pump • AHU • Other | A/C Equipment geometric complexity | | X | X | |
| | A/C Equipment size | | X | X | |
| | Type and code | | X | X | |
| | A/C Equipment size | X | X | X | |
| | A/C Equipment Location | X | X | X | |
| | System name (The name/type of the system to which the element is connected) | | X | X | |
| | Equipment spec. | | X | X | |
| 46) A/C Duct | | | | | |
|  Remarks Scope of A/C Duct included; • Insulation • Fitting • Damper • Flexible ductwork • Other | A/C Duct | | X | X | |
| | A/C Duct size | | X | X | |
| | Type and code | | X | X | |
| | Location | X | X | X | |
| | System name (The name/type of the system to which the element is connected) | | X | X | |

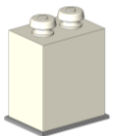
| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|---------------|------------------|------------------------------|----------------|----------------|-----------------|
|---------------|------------------|------------------------------|----------------|----------------|-----------------|

47) A/C Pipe

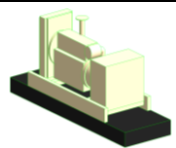
| | | | | |
|--|---|---|---|---|
|  Remarks Scope of A/C Pipe included; • Insulation • Fitting • Other | A/C Pipe | | X | X |
| | A/C Pipe size | | X | X |
| | Type and code | | X | X |
| | Location | X | X | X |
| | System name (The name/type of the system to which the element is connected) | | X | X |
| | | | | |

MEP-Electrical Engineering Works

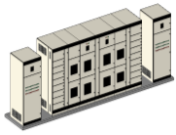
48) Transformer

| | | | | |
|---|----------------------------------|---|---|---|
|  | Transformer geometric complexity | | X | X |
| | Transformer size | | X | X |
| | Transformer clearance | | X | X |
| | Type and code | | X | X |
| | Location and size | X | X | X |
| | Equipment spec. | | X | X |

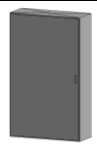
49) Generator Set

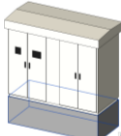
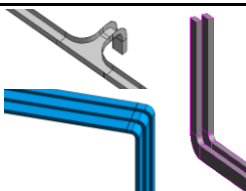

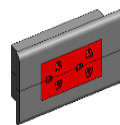
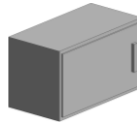
| | | | | |
|--|--------------------------------|---|---|---|
|  | Generator geometric complexity | | X | X |
| | Generator size | | X | X |
| | Generator clearance | | X | X |
| | Type and code | | X | X |
| | Location and size | X | X | X |
| | Equipment spec. | | X | X |

50) MDB / EMDB

| | | | | |
|---|---------------------------------|---|---|---|
|  | MDB / EMDB geometric complexity | | X | X |
| | MDB / EMDB size | | X | X |
| | MDB / EMDB clearance | | X | X |
| | Type and code | | X | X |
| | Location and Size | X | X | X |
| | Equipment spec. | | X | X |

51) Power Distribution Board

| | | | | |
|---|---|---|---|---|
|  | Power distribution board geometric complexity | | X | X |
| | Power distribution board size | | X | X |
| | Power distribution board clearance | | X | X |
| | Type and code | | X | X |
| | Location and size | X | X | X |
| | Equipment spec. | | X | X |

| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|--|--|------------------------------|----------------|----------------|-----------------|
| 52) Ring Main Unit (RMU) | | | | | |
|  | Ring main unit (RMU) geometric complexity | | | X | X |
| | Ring main unit (RMU) size | | | X | X |
| | Ring main unit (RMU) clearance | | | X | X |
| | Type and code | | | X | X |
| | Location and size | X | | X | X |
| | Equipment spec. | | | X | X |
| 53) Cable Tray / Wireway Riser / Bus Duct | | | | | |
|  | Cable tray / Wireway riser / Bus duct geometric complexity | | | X | X |
| | Cable tray / Wireway riser / Bus duct size | | | X | X |
| | Type and code | | | X | X |
| | Location | X | | X | X |
| | Equipment spec. | | | X | X |
| | 54) Power Conduit EE | | | | |
|  | Power conduit geometric complexity | | | X | X |
| | Power conduit size (More than 2 inches) | | | X | X |
| | Type and code | | | X | X |
| | Location | X | | X | X |
| | | | | | |
| Remarks Scope of Power conduit EE (Public zone only) included; • Fittings | | | | | |
| 55) Power Outlets | | | | | |
|  | Power outlet geometric complexity | | | X | X |
| | Power outlet size | | | X | X |
| | Type and code | | | X | X |
| | Interior power outlets location | X | | X | X |
| | Building power outlets location | X | | X | X |
| | Landscape power outlets location | X | | X | X |
| | Equipment spec. | | | X | X |
| Remarks Scope of Power outlet included; • Surface mounted outlet • Recess mounted outlet | | | | | |
| 56) Consumer Unit | | | | | |
|  | Consumer unit geometric complexity | | | X | X |
| | Consumer unit size | | | X | X |
| | Consumer unit clearance | | | X | X |
| | Type and code | | | X | X |
| | Location and size | X | | X | X |
| | Equipment spec. | | | X | X |

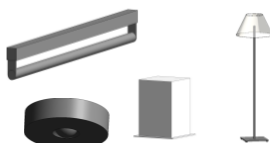
| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|---------------|------------------|------------------------------|----------------|----------------|-----------------|
|---------------|------------------|------------------------------|----------------|----------------|-----------------|

57) MEA Meters



| | | | | |
|--------------------------------|-------------------|---|---|---|
| MEA meter geometric complexity | | | X | X |
| MEA meter size | | | X | X |
| MEA meter clearance | | | X | X |
| | Type and code | | X | X |
| | Location and size | X | X | X |
| | Equipment spec. | | X | X |

58) Lighting Fixture



Remarks

Scope of Lighting fixture included;

- Interior lighting
- Exterior lighting
- Landscape lighting

| | | | | |
|---------------------------------------|-----------------------------|---|---|---|
| Lighting fixture geometric complexity | | | X | X |
| Lighting fixture size | | | X | X |
| | Type and code | | X | X |
| | Interior lighting location | X | X | X |
| | Building lighting location | X | X | X |
| | Landscape lighting location | X | X | X |
| | Equipment spec. | | X | X |

59) Lighting Switch



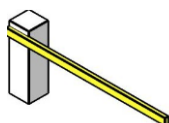
Remarks

Scope of Lighting fixture included;

- Interior lighting
- Exterior lighting
- Landscape lighting

| | | | | |
|--------------------------------------|------------------------------------|---|---|---|
| Lighting switch geometric complexity | | | X | X |
| Lighting switch size | | | X | X |
| | Type and code | | X | X |
| | Interior lighting switch location | X | X | X |
| | Building lighting switch location | X | X | X |
| | Landscape lighting switch location | X | X | X |
| | Lighting switch size | | X | X |
| | Equipment spec. | | X | X |

60) Automatic Gate Barrier Set



| | | | | |
|---|-----------------|---|---|---|
| Automatic gate barrier set geometric complexity | | | X | X |
| Automatic gate barrier set size | | | X | X |
| Automatic gate barrier set clearance | | | X | X |
| | Type and code | | X | X |
| | Location | X | X | X |
| | Equipment spec. | | X | X |

61) Communication Boards

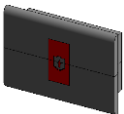
| | | | | |
|--|--------------------|---|---|---|
| Communication board geometric complexity | | | X | X |
| Communication board size | | | X | X |
| Communication board clearance | | | X | X |
| | Type and code | | X | X |
| | Location | X | X | X |
| | Distribution board | | | X |
| | Circuit | | | X |
| | Equipment spec. | | X | X |

| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|---------------|------------------|------------------------------|----------------|----------------|-----------------|
|---------------|------------------|------------------------------|----------------|----------------|-----------------|

| | | | | | |
|---|--|--|---|---|---|
| 62) Communication Cable tray / Wireway | | | | | |
| Remarks Scope of Communication cable tray included; • Riser • Trunking trays • Other | Communication cable tray / Wireway geometric complexity | | | X | X |
| | Communication cable tray / Wireway size (More than 2 inches) | | | X | X |
| | Type and code | | | X | X |
| | Location | | X | X | X |
| | | | | | |

| | | | | | |
|--------------------------------------|--|--|---|---|---|
| 63) Fire Wall Penetration Box | | | | | |
| | Fire wall penetration box geometric complexity | | | X | X |
| | Fire wall penetration box size | | | X | X |
| | Fire wall penetration box clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | | X | X | X |
| | Equipment spec. | | | X | X |






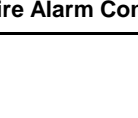

| | | | | | |
|--|---|--|---|---|---|
| 64) Communication Conduits | | | | | |
| Remarks Scope of Communication conduit (Public zone only) included; • Main communication conduit • Fiber optic cable bundle • Fitting • Other | Communication conduit | | | X | X |
| | Communication conduit size (More than 2 inches) | | | X | X |
| | Type and code | | | X | X |
| | Location | | X | X | X |
| | | | | | |

| | | | | | |
|---|---|--|---|---|---|
| 65) Communication Outlet | | | | | |
|  Remarks Scope of Communication Outlet included; • Telephone outlet • Data outlet • Other | Communication outlet geometric complexity | | | X | X |
| | Communication outlet size | | | X | X |
| | Type and code | | | X | X |
| | Location | | X | X | X |
| | Equipment spec. | | | X | X |

| | | | | | |
|------------------------|----------------------------------|--|---|---|---|
| 66) MATV Outlet | | | | | |
| | MATV outlet geometric complexity | | | X | X |
| | MATV outlet size | | | X | X |
| | Type and code | | | X | X |
| | Location | | X | X | X |
| | Equipment spec. | | | X | X |

| | | | | | |
|---|--|--|---|---|---|
| 67) MATV Conduits | | | | | |
| Remarks Scope of MATV conduit (Public zone only) included; • Main MATV conduit • Fitting | MATV conduit | | | X | X |
| | MATV conduit size (more than 2 inches) | | | X | X |
| | MATV conduit type and code | | | X | X |
| | Location | | X | X | X |
| | | | | | |

| | | | | | |
|------------------------|---------------------------------|--|---|---|---|
| 68) MATV Boards | | | | | |
| | MATV board geometric complexity | | | X | X |
| | MATV size | | | X | X |
| | MATV clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | | X | X | X |
| | Equipment spec. | | | X | X |


| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|---|---|------------------------------|----------------|----------------|-----------------|
| 69) Control Alarm Board | | | | | |
|  | Control alarm board geometric complexity | | | X | X |
| | Control alarm board size | | | X | X |
| | Control alarm board clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | X | X | X | X |
| | Equipment spec. | | | X | X |
| 70) Manual Alarm Call | | | | | |
|  | Manual alarm call geometric complexity | | | X | X |
| | Manual alarm call size | | | X | X |
| | Manual alarm call clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | X | X | X | X |
| | Equipment spec. | | | X | X |
| 71) Warning Device | | | | | |
|  | Warning device geometric complexity | | | X | X |
| | Warning device size | | | X | X |
| | Warning device clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | X | X | X | X |
| | Equipment spec. | | | X | X |
| 72) Exit Sign | | | | | |
|  | Exit sign geometric complexity | | | X | X |
| | Exit sign size | | | X | X |
| | Exit sign clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | X | X | X | X |
| | Equipment spec. | | | X | X |
| 73) Emergency Lighting | | | | | |
|  | Emergency lighting geometric complexity | | | X | X |
| | Emergency lighting size | | | X | X |
| | Emergency lighting clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | X | X | X | X |
| | Equipment spec. | | | X | X |
| 74) Fire Alarm Control Panel | | | | | |
|  | Fire alarm control panel geometric complexity | | | X | X |
| | Fire alarm control panel size | | | X | X |
| | Fire alarm control panel clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | X | X | X | X |
| | Equipment spec. | | | X | X |
| 75) Electrical Control for Fire Pump | | | | | |
|  | Electrical control for fire pump geometric complexity | | | X | X |
| | Electrical control for fire pump size | | | X | X |
| | Electrical control for fire pump clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | X | X | X | X |
| | Equipment spec. | | | X | X |

| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|---------------|------------------|------------------------------|----------------|----------------|-----------------|
|---------------|------------------|------------------------------|----------------|----------------|-----------------|

76) Electrical Equipment

| | | | | |
|--|---|---|---|---|
| Remarks Scope of Electrical equipment included; • Electrical equipment • Other | Electrical equipment geometric complexity | | X | X |
| | Electrical equipment size | | X | X |
| | Electrical equipment clearance | | X | X |
| | Type and code | | X | X |
| | Location | X | X | X |
| | Equipment spec. | | X | X |

77) Lightning Conductor



| | | | | |
|---|--|---|---|---|
|  | Lightning conductor geometric complexity | | X | X |
| | Lightning conductor size | | X | X |
| | Type and code | | X | X |
| | Location | X | X | X |
| | Equipment spec. | | X | X |

Remarks

Scope of Lightning conductor included;
 Copper clad ground rod

MEP-Plumbing Engineering Works

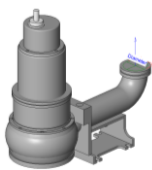
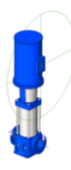
78) Plumbing Fixture

| | | | | |
|---|--|---|---|---|
|   | Plumbing fixture geometric complexity | | X | X |
| | Plumbing fixture size | | X | X |
| | Plumbing fixture clearance | | X | X |
| | Type and code | | X | X |
| | Interior plumbing fixture location | X | X | X |
| | Exterior plumbing fixture location | X | X | X |
| | System name (The name of the system to which is connected) | | X | X |
| | Equipment spec. | | X | X |

Remarks

Scope of Plumbing fixture included;
 • Toilet • Sink • Shower • Bathtub
 • Faucet • Floor drain • Other

79) Water Pump



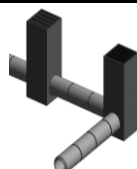
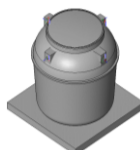
| | | | | |
|---|--|---|---|---|
|   | Pump/Filter/Generator geometric complexity | | X | X |
| | Pump/Filter/Generator size | | X | X |
| | Pump/Filter/Generator clearance | | X | X |
| | Type and code | | X | X |
| | Location | X | X | X |
| | System name (The name of the system to which is connected) | | X | X |
| | Equipment spec. | | X | X |

Remarks

Scope of Pump/Filter/Generator included;
 • Cold water pump
 • Package booster pump
 • D.E. Filter • Other

80) Sumps

| | | | | |
|--|---------------------------|---|---|---|
| | Sump geometric complexity | | X | X |
| | Sump size | | X | X |
| | Type and code | | X | X |
| | Location | X | X | X |
| | Equipment spec. | | X | X |

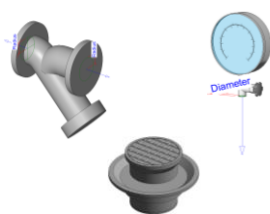
| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|---|---|------------------------------|----------------|----------------|-----------------|
| 81) Pipe | | | | | |
|  | Pipe geometric complexity | | | X | X |
| | Pipe size | | | X | X |
| | Type and code | | | X | X |
| | Location | X | | X | X |
| | System name (The name/type of the system to which the element is connected) | | | X | X |
| Remarks Scope of Pipe included; ● Fitting ● Valve ● Other | | | | | |
| 82) Landscape Sprinkler | | | | | |
|  | Landscape sprinkler geometric complexity | | | X | X |
| | Landscape sprinkler size | | | X | X |
| | Type and code | | | X | X |
| | Location | X | | X | X |
| | Equipment spec. | | | X | X |
| 83) Site Drainage | | | | | |
|  | Site drainage geometric complexity | | | X | X |
| | Site drainage size | | | X | X |
| | Type and code | | | X | X |
| | Location | X | | X | X |
| | Site drainage capacity | | | X | X |
| 84) Swimming Pool Equipment | | | | | |
| Remarks Scope of Swimming pool equipment included; ● Inlet nozzle ● Hose ● Water feature ● Skimmer ● Drain ● Salt Chlorine generator ● Onsen system ● Other | Swimming pool equipment geometric complexity | | | X | X |
| | Swimming pool equipment size | | | X | X |
| | Type and code | | | X | X |
| | Location | X | | X | X |
| | Equipment spec. | | | X | X |
| 85) Swimming Pool Treatment Equipment | | | | | |
| Remarks Scope of Swimming pool treatment equipment included; ● Filter ● Pump ● Valve ● Heater ● Other | Swimming pool treatment equipment geometric complexity | | | X | X |
| | Swimming pool treatment equipment size | | | X | X |
| | Type and code | | | X | X |
| | Location | X | | X | X |
| | System name (The name of the system to which is connected) | | | X | X |
| | Equipment spec. | | | X | X |
| 86) Sewage Treatment Plants | | | | | |
|  | Sewage treatment plant geometric complexity | | | X | X |
| | Sewage treatment plant size | | | X | X |
| | Sewage treatment plant clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | X | | X | X |
| | Equipment spec. | | | X | X |

| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|---------------|------------------|------------------------------|----------------|----------------|-----------------|
|---------------|------------------|------------------------------|----------------|----------------|-----------------|

87) Grease Trap

| | | | | | |
|--|----------------------------------|---|--|---|---|
| | Grease trap geometric complexity | | | X | X |
| | Grease trap size | | | X | X |
| | Type and code | | | X | X |
| | Location | X | | X | X |
| | Equipment spec. | | | X | X |

88) Sanitary Pipe Accessories

| | | | | | |
|---|--|---|--|---|---|
|  | Sanitary pipe accessory geometric complexity | | | X | X |
| | Sanitary pipe accessory size | | | X | X |
| | Type and code | | | X | X |
| | Location | X | | X | X |
| | Equipment spec. | | | X | X |

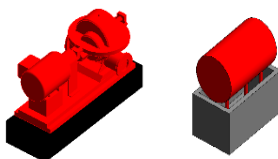
Remarks

Scope of Sanitary pipe accessory included;

- Floor Cleanout
- Strainer
- Flexible Connection
- Automatic Air Vent
- Water Meter
- Pressure Gauge
- Flow Switch

MEP-Fire Protection Engineering Works

89) Fire Protection Equipment

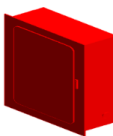
| | | | | | |
|---|--|---|--|---|---|
|  | Fire protection equipment geometric complexity | | | X | X |
| | Fire protection equipment size | | | X | X |
| | Fire protection equipment clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | X | | X | X |
| | System name (The name of the system to which is connected) | | | X | X |
| | Equipment spec. | | | X | X |

Remarks

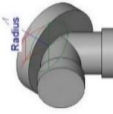
Scope of Fire protection equipment included;

- Pump (Electric, Diesel)
- Oil tank
- Electrical control panel

90) Fire Host Cabinet

| | | | | | |
|---|--|---|--|---|---|
|  | Fire hose cabinet geometric complexity | | | X | X |
| | Fire hose cabinet size | | | X | X |
| | Fire hose cabinet clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | X | | X | X |
| | Equipment spec. | | | X | X |



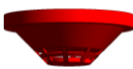



91) Fire Department Connector

| | | | | | |
|---|--|---|--|---|---|
|  | Fire department connector geometric complexity | | | X | X |
| | Fire department connector size | | | X | X |
| | Fire department connector clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | X | | X | X |


Remarks


Scope of Fire department connector included;

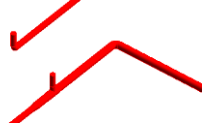
- Siamese connector
- Other

| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|---|---|------------------------------|----------------|----------------|-----------------|
| 92) Bell Alarm | | | | | |
|  | Bell alarm geometric complexity | | | X | X |
| | Bell alarm size | | | X | X |
| | Type and code | | | X | X |
| | Location | | X | X | X |
| | Equipment spec. | | | X | X |
| 93) Fire Control Panel | | | | | |
|  | Fire control panel geometric complexity | | | X | X |
| | Fire control panel size | | | X | X |
| | Type and code | | | X | X |
| | Location | | X | X | X |
| | Equipment spec. | | | X | X |
| 94) Indicator Lamp | | | | | |
| | Indicator lamp geometric complexity | | | X | X |
| | Indicator lamp size | | | X | X |
| | Type and code | | | X | X |
| | Location | | X | X | X |
| | Equipment spec. | | | X | X |
| 95) Smoke Detector | | | | | |
|  | Smoke detector geometric complexity | | | X | X |
| | Smoke detector size | | | X | X |
| | Smoke detector clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | | X | X | X |
| | Equipment spec. | | | X | X |
| 96) Heat Detector | | | | | |
|  | Heat detector geometric complexity | | | X | X |
| | Heat detector size | | | X | X |
| | Heat detector clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | | X | X | X |
| | Equipment spec. | | | X | X |
| 97) Fire Phone Jack | | | | | |
|   | Fire phone jack geometric complexity | | | X | X |
| | Fire phone jack size | | | X | X |
| | Type and code | | | X | X |
| | Location | | X | X | X |
| | Equipment spec. | | | X | X |

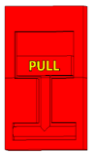
| MODEL ELEMENT | MODEL INCLUSIONS | DATA AND DRAWING REQUIREMENT | DD50 LOD100 | DD75 LOD200 | DD100 LOD300 |
|---------------|------------------|------------------------------|----------------|----------------|-----------------|
|---------------|------------------|------------------------------|----------------|----------------|-----------------|


| | | | | | |
|---|---|---|---|---|---|
| 98) Fire Alarm Speaker | | | | | |
|  | Fire alarm speaker geometric complexity | | | X | X |
| | Fire alarm speaker size | | | X | X |
| | Fire alarm speaker clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | X | X | X | X |
| | Equipment spec. | | | X | X |

| | | | | | |
|---|-------------------------------------|---|---|---|---|
| 99) Fire Sprinkler | | | | | |
|  | Fire sprinkler geometric complexity | | | X | X |
| | Fire sprinkler size | | | X | X |
| | Fire sprinkler clearance | | | X | X |
| | Type and code | | | X | X |
| | Location | X | X | X | X |
| | Equipment spec. | | | X | X |

| | | | | | |
|---|--|---|---|---|---|
| 100) Fire Pipework | | | | | |
|  | Fire pipework | | | X | X |
| | Fire pipework size | | | X | X |
| | Type and code | | | X | X |
| | Location | X | X | X | X |
| | System name (The name of the system to which is connected) | | | X | X |
| | | | | | |

Remarks
 Scope of Fire pipework included;
 • Fitting • Other

| | | | | | |
|---|---|---|---|---|---|
| 101) Fire Alarm Manual Pull Station | | | | | |
|  | Fire alarm manual pull station geometric complexity | | | X | X |
| | Fire alarm manual pull station size | | | X | X |
| | Type and code | | | X | X |
| | Location | X | X | X | X |
| | Equipment spec. | | | X | X |
| | | | | | |

| | | | | | |
|---|--|---|---|---|---|
| 102) Fire Pipe Accessory | | | | | |
|  | Fire Pipe Accessory geometric complexity | | | X | X |
| | Fire Pipe Accessory size | | | X | X |
| | Type and code | | | X | X |
| | Location | X | X | X | X |
| | System name (The name of the system to which is connected) | | | X | X |
| | | | | | |

Remarks
 Scope of Pipe accessory included;
 • Flow meter • Flow switch
 • Supervisory switch • Strainer
 • Flexible drain • Sight glass
 • Pressure gauge • Other

ACRONYM LIST

| Abbreviation | Definition |
|--------------|--|
| AR | Architecture |
| ST | Structure |
| IN | Interior |
| LA | Landscape |
| MEP | Mechanical, Electrical, Plumbing Engineering |
| SN | Sanitary |
| HVAC | Heating, Ventilation, and Air Conditioning |
| AC | Air Conditioning |
| FP | Fire Protection |
| EE | Electrical |
| DD | Design Development |
| LOD | Level of Development |



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