

# 3D BIM SERVICES WITH D & D FOR PLUMBING SYSTEM

DESIGN AND DRAWING SOLUTION

25<sup>th</sup> September 2020

D & D News room – 010



Contact Us

[www.dndrawing.com](http://www.dndrawing.com)

[info@dndrawing.com](mailto:info@dndrawing.com)



## INTRODUCTION – PLUMBING SYSTEM

### Basic Plumbing system

consist of basic two type of system drainage and water Supply system .Drainage system included the Soil, Waste and Storm/Rain water drainage for building . Water Supply system consists

with cold and hot water systems.

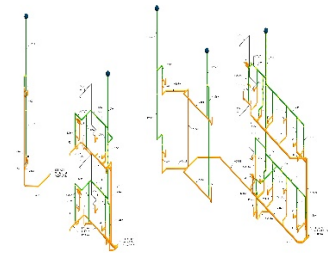
### Soil, Waste and Storm Drainage

Cold and Hot water system,

External Plumbing System

Specialized plumbing System

( Irrigation ,Medical Gas, STP,WTP Swimming Pool )

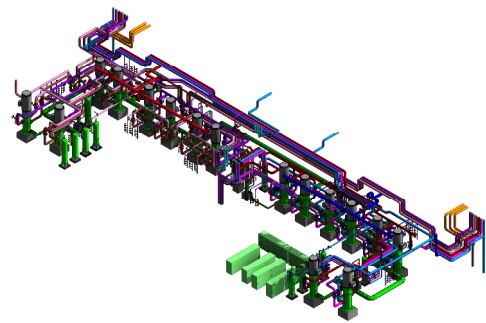


## PLUMBING CODES & STANDARD

Plumbing system contract/design drawings in strict compliance with contract specifications, technical submittals, and the relevant codes which we use internationally.

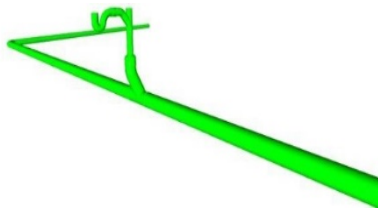


## 3D BIM LOD DETAILS FOR PLUMBING SYSTEM



As per BIM standard like NBIMS, BIM Forum LOD ( Level of Development ) are 100 , 200, 300,350 , 400 & 500 and as far as construction Industry is concern , Majorly LOD 300 , 400 & 500 are used .Details of LOD 300 , 400 & 500 are provided below.

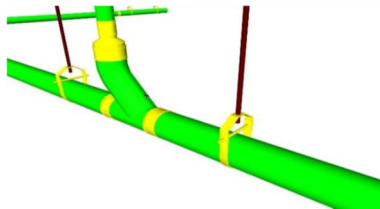
### DESIGN MODEL



#### LOD – 300

The quantity, size, shape, location, and orientation of the element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension call-outs. The project origin is defined and the element is located accurately with respect to the project origin.

### CO-ORDINATED MODEL



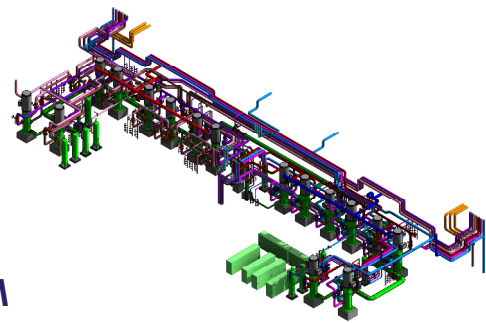
#### LOD – 400

An LOD 400 element is modeled at sufficient detail and accuracy for fabrication of the represented component. The quantity, size, shape, location, and orientation of the element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension call-out sprecise location.

### AS BUILT MODEL

#### LOD – 500

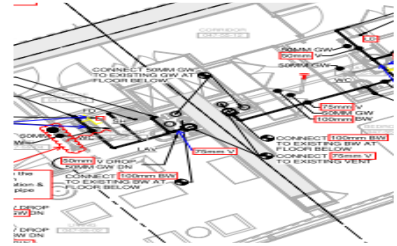
Since LOD 500 relates to field verification and is not an indication of progression to a higher level of model element geometry or non-graphic information, this Specification does not define or illustrate it



## D & D 3D BIM SERVICES FOR PLUMBING SYSTEM

- **Design Validation**

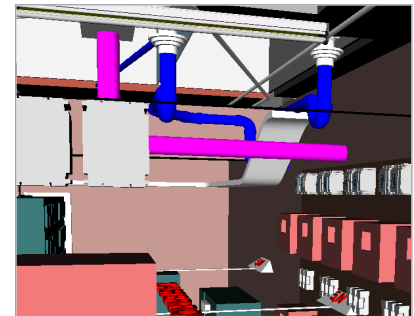
BIM enables the review of contract drawing and specifications and validate the system to reduce the rework at later stage and increase the efficiency of BIM process. During the constructability review, our BIM team generates a series of RFI's with the proposed solution to help identify following type of constructability and operational issues before the actual 3D construction.



- **Value Engineering**

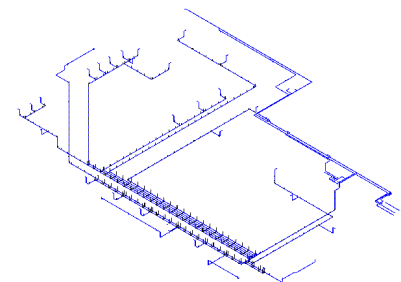
Virtual Construction of project in BIM enables Independent Review of the contract drawing in-line with requirement and technical specification and we do internal value engineering with the following steps.

- Proposed re-rout with shortest distance for piping to reduce the material cost.
- Reduced the no of fitting and bends in the co-ordination.
- Optimization the design through constructability review.
- Reduce the pipe size if require as per the specification and code.



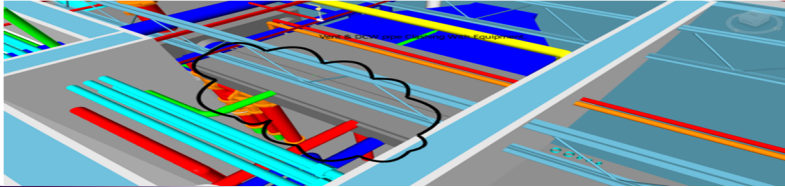
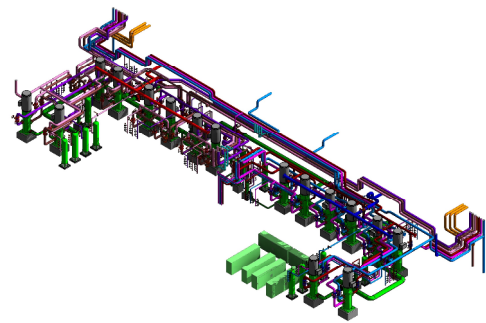
- **3D modeling**

We are specializes in the virtual construction of 3D BIM plumbing models of plumbing piping with fittings ,equipment, plumbing fixtures and all accessories based on contract drawings, manufacturer specifications and client standards.

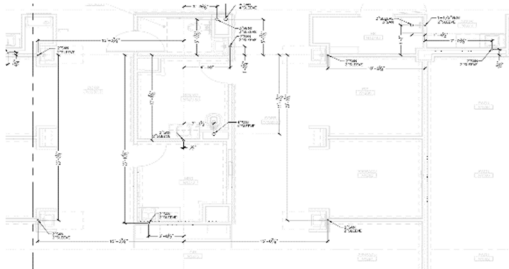


- **Clash Co-ordination & Resolution**

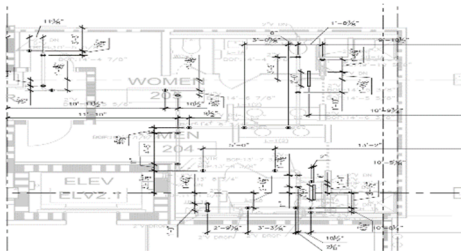
We generate a coordinated BIM model after resolving the clashes among all the trades (Architecture, Structure, Concrete, Mechanical, Electrical, plumbign, Fire Protection, etc.). Clashes are resolved through WebEx meetings / sharing 3D clash snapshot. with multiple options like re-routing utilities, changing elevation and re-sizing. Value Engineering is also offered to improve system efficiency, reduce costs and easier construction and maintenance.



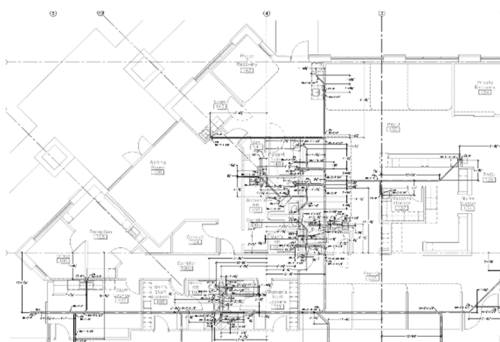
- **Sleeve Drawing**



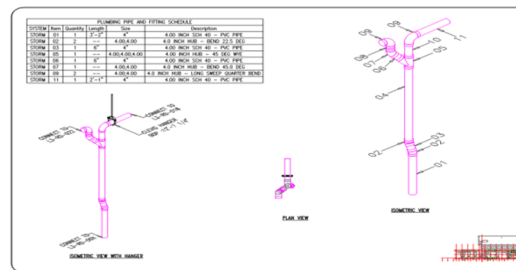
- **Insert and Hanger drawing**



- **Shop Drawing or Installation Drawing**



- **Spool Drawing**



- **Qty Take Off**

		27500	100	500			
1.1	WELDED STEEL PIPE	1.00	17.00	17	17	17.00	17.00
1.2	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.3	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.4	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.5	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.6	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.7	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.8	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.9	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.10	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.11	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.12	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.13	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.14	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.15	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.16	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.17	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.18	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.19	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.20	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.21	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.22	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.23	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.24	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.25	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.26	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.27	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.28	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.29	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00
1.30	WELDED STEEL PIPE	1.00	17.00	17.00	17	17	17.00