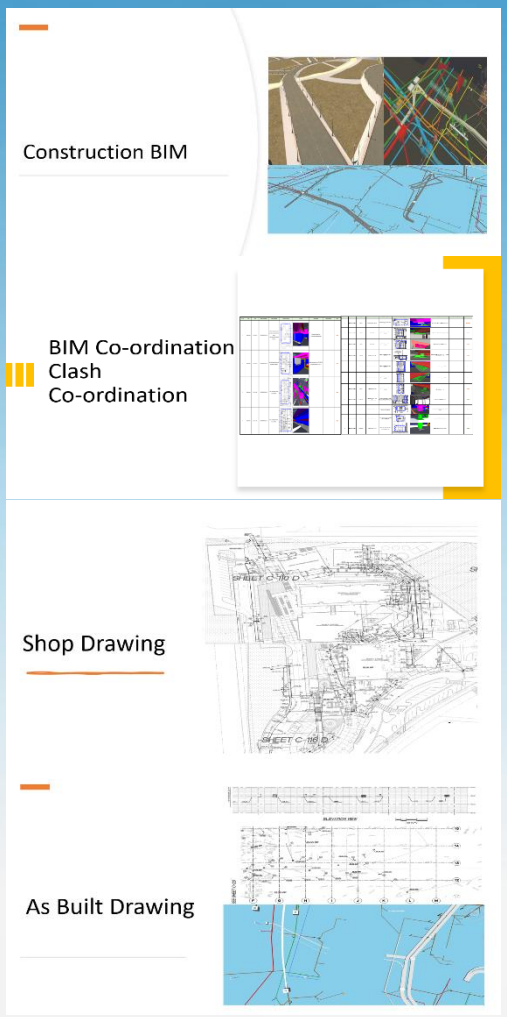
Year 2025-26

# CIVIL & SITE UTILITY BIM SERVICES




## Index

# About us

At DESIGN AND DRAWING SOLUTION, we are offering AEC BIM solutions for Civil Site Plan and Site Utility projects which are backed by our technical excellence and experience.

Our expertise on BIM team for Architectural and MEP Utility team to collaborate and give a complete solution BIM co-ordination & construction documentation works.

Our experience team is trained BIM tool used by the Utility contractor s like Revit, Civil 3D for utility for Production of construction document like shop drawings.

DESIGN AND DRAWING SOLUTION
ONE STOP BIM | CAD | MEP ENGINEERING SOLUTIONS

**6+** Years' Experience

**300+** Completed Projects

**150+** Customer world wide

## TRADES TO COVER

- Civil Site Plan
- Stormwater Network
- Sewer Network
- Water Network
- Gas Network
- Electrical Network

## BIM SERVICES

### CONSTRUCTION BIM

- CONSTRUCTION MODEL @ LOD 400
- BIM Co-ordination

### BIM 2D DRAWING

- Shop drawing

### AS BUILT BIM

- As built Model @ LOD 500



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# CIVIL SITE AND UTILITIES

## Civil Site Plan:

Civil Site plan covers all existing and proposed improvements to a site. Basically, it covers the site topography with all elevation, boundary limits for a development project, incorporating all aspects of landscaping, construction, paving

## Site Utilities

**Stormwater Network:** The stormwater system includes underground drainage piping, external building connections, road gutters, and chambers leading to the final drainage collection point.

**Sewer Network:** The sewer system covers underground sewer piping, chambers along roadways, and connections from buildings to the city network, ultimately reaching the main city sewer Networks.

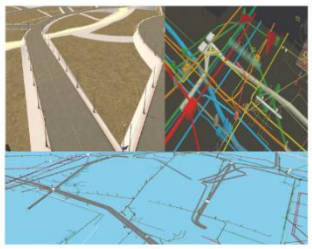
**Water Network:** The water system connects the main water supply from city to individual building connections, fittings, and accessories like valves, delivering water to zonal reservoirs and distributing it to individual buildings.

**Gas Network:** The gas system transports supply from the main source through pipes equipped with fittings, regulators, and valves for controlled distribution.

**Electrical Network:** The electrical system includes components such as substations, generators, main LV panels, cable trays, underground conduits, and associated underground chambers.

**Telecommunication Network:** The Telecommunication system include underground conduits, and associated underground chambers.

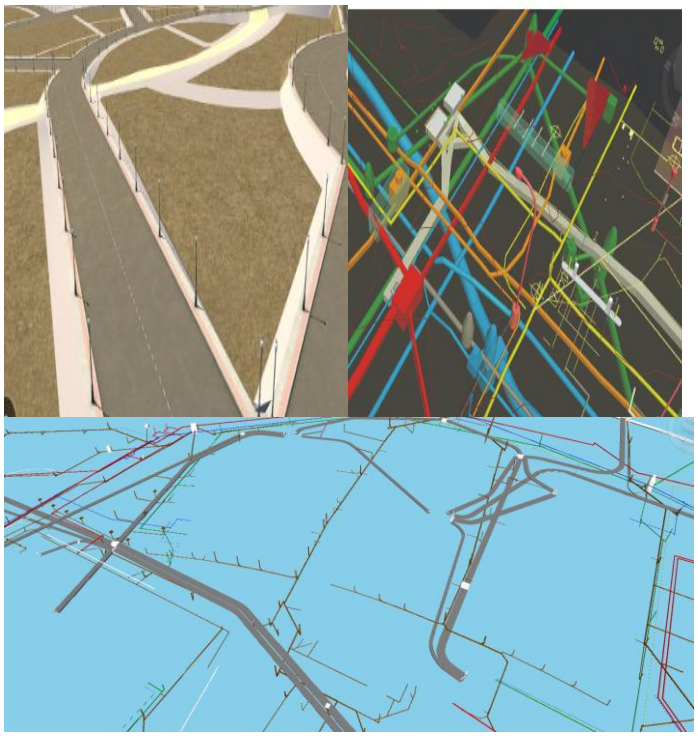
Construction BIM



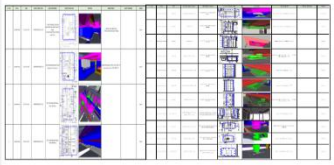
**Civil Site Plan 3D Model:** We are specializing in the virtual construction of 3D BIM Site topography models shape, landforms and other physical features of the site inline with site plan and drawing, specifications and client standards.

**Utility Systems construction 3D model @ LOD 350|400**

We Produce 3D models of stormwater, Sewer, Water piping with Telecommunication, Gas and electrical power network with fitting and all accessories, Chambers, Manholes with integration of existing network connection inline with contract drawing, details inline with contract drawing, specifications, details to complete construction 3D model.



BIM Co-ordination
Clash
Co-ordination



**BIM co-ordination covers** –

1. Clash co-ordination
2. Generation of Report
3. Resolution

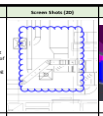
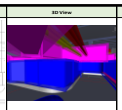
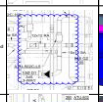
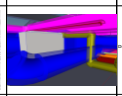
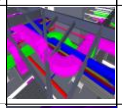
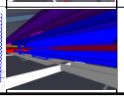
**Clash co-ordination**

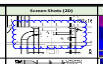
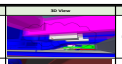
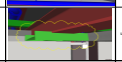
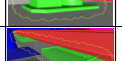
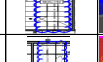
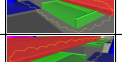
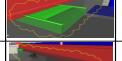
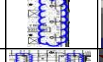
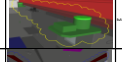
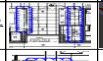
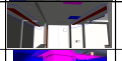
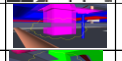
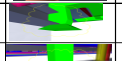
We generate a coordinated BIM model after resolving the clashes among all disciplines. For Civil Site Utility BIM, we use to merge the model Civil Site Plan 3D model, Utility services Stormwater, Sewer, gas, Electrical, Telecommunication to identify the clash.

First, we identify the clash and create a viewpoints level wise or Zone wise as per schedule and working on resolution internally. If we found any critical clash, we use to generate report and to co-ordinate with the all stakeholders and providing optimize solution to complete. Once all the clashes has been resolved, we make the final model for next stage to produce the shop drawing and As built drawing.

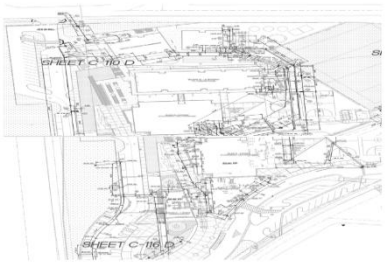
1. Generation of Report
2. Resolution

We have produced the clash report through Navisworks and provide the alternative optimize solutions to make clash free model.

| Sr. No. | Zone | Grid | Room Name & No | Clash Description | Screen Shots (2D) | 3D View | CRS Remarks | Client Feedback | Status |
|---|---|---|---|---|---|---|---|---|---|
| 1 | South Area | 15-16 & C-D | CORRIDOR S02C-C4 | 1. Duct clashing with duct and cable tray due to lack of space.<br>2. Mechanical Pipe clashing with Duct. |  |  | 1. Resize the Supply Duct.<br>2. Offset the Mechanical Piping | | Open |
| 2 | South Area | 13-14 & C-D | CORRIDOR S02C-C4 | Duct clashing with duct and equipment clearance. |  |  | Delete the long run from ATU-S02C-C4 and connect from ATU-S02C-C3 | | Open |
| 3 | South Area | 12-14 & M-L | CORRIDOR S02C-C1 | Duct clashing with Beam, Duct and Pipe. |  |  | | | Open |
| 4 | South Area | 10-12 & M-L | CORRIDOR S02C-C1 | Duct clashing with Beam, Duct and Pipe. |  |  | | | Open |

| Sr. No. | Zone | Grid | Room Name & No | Clash Description | Screen Shots (2D) | 3D View | CRS Remarks | Client Feedback | Status |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Additional Area | 1 & B-C | CORRIDOR S02C-C4 | Equipment Clashing with Duct |  |  | Shift the VAV to 2 BDRM S02C-156 | | Working |
| 2 | Additional Area | 7 & C-D | S02C-C8 | Light Clashing with Steel Beam |  |  | Lower the Acoustic Ceiling to 7'-10" | | Open |
| 3 | Additional Area | 7 & C-D | S02C-C8 | Light Clashing with Steel Beam |  |  | Lower the GYP Ceiling to 7'-6" | | Open |
| 4 | Additional Area | 5 & A-B | BATH S02C-143A | Light Clashing with Steel Beam |  |  | Move the Light 6" West or Lower the Ceiling to 7'-6" | | Open |
| 5 | Additional Area | 4 & A-B | EDUCATION S02C-142 | Light Clashing with Steel Beam |  |  | Lower the Ceiling to 7'-9" | | Open |
| 6 | Additional Area | 3 & A-B | EDUCATION S02C-140 | Light Clashing with Steel Beam |  |  | Lower the Ceiling to 7'-9" | | Open |
| 7 | Additional Area | 2 & C-D | 2 BDRM S02C-155 | Light Clashing with Steel Beam |  |  | Move the Light 2" West or Lower the Ceiling to 7'-6" | | Open |
| 8 | Additional Area | 6-7 & C-D | CORRIDOR S02C-149<br>HVAC S02C-150 | Ceiling clashing with Steel Beam Bottom & Duct & Steel Beam Bottom 8'-4" |  |  | Lower the Ceiling to 8'-0" | | Closed |
| 9 | Additional Area | 6 - 4 & C | CORRIDOR S02C-149 | Duct drop to diffuser clashing with HSS low beam |  |  | Move the Diffuser 24" East & 24" South | | Closed |
| 10 | Additional Area | 5 & A-B | BATH S02C-143A | Diffuser & & Duct Clashing with Steel Beam |  |  | Move the Diffuser 6" West | | Closed |
| 11 | Additional Area | 2-3 & A-B | GROUP S02C-139 | Light & Exhaust diffuser in the same location |  |  | Move the Diffuser 24" North | | Closed |

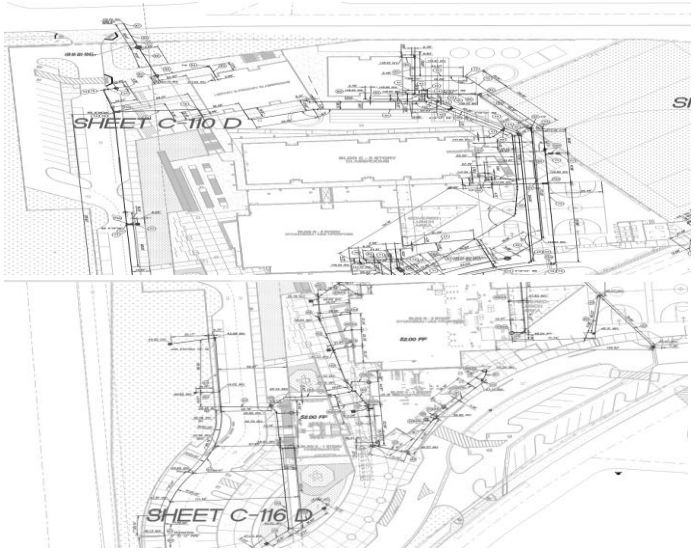
Shop Drawing




BIM is highly useful for contractors, fabricators, suppliers, and manufacturers during construction of any irregular or complex project to generate accurate shop drawings.

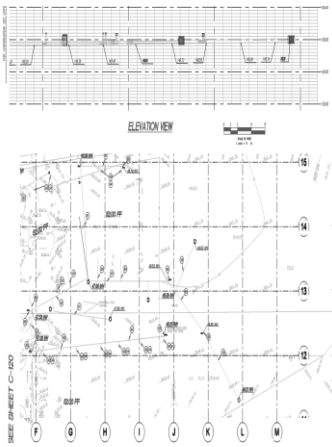
Utilizing a coordinated project BIM model, we generate accurate shop drawings that are detailed enough for workshop fabrication and/or on-site construction.

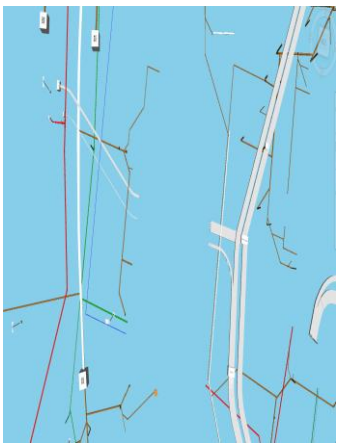
Shop Drawing produced with proper dimension, annotation, Tag including the utility networks each point Invert level for easy installation.



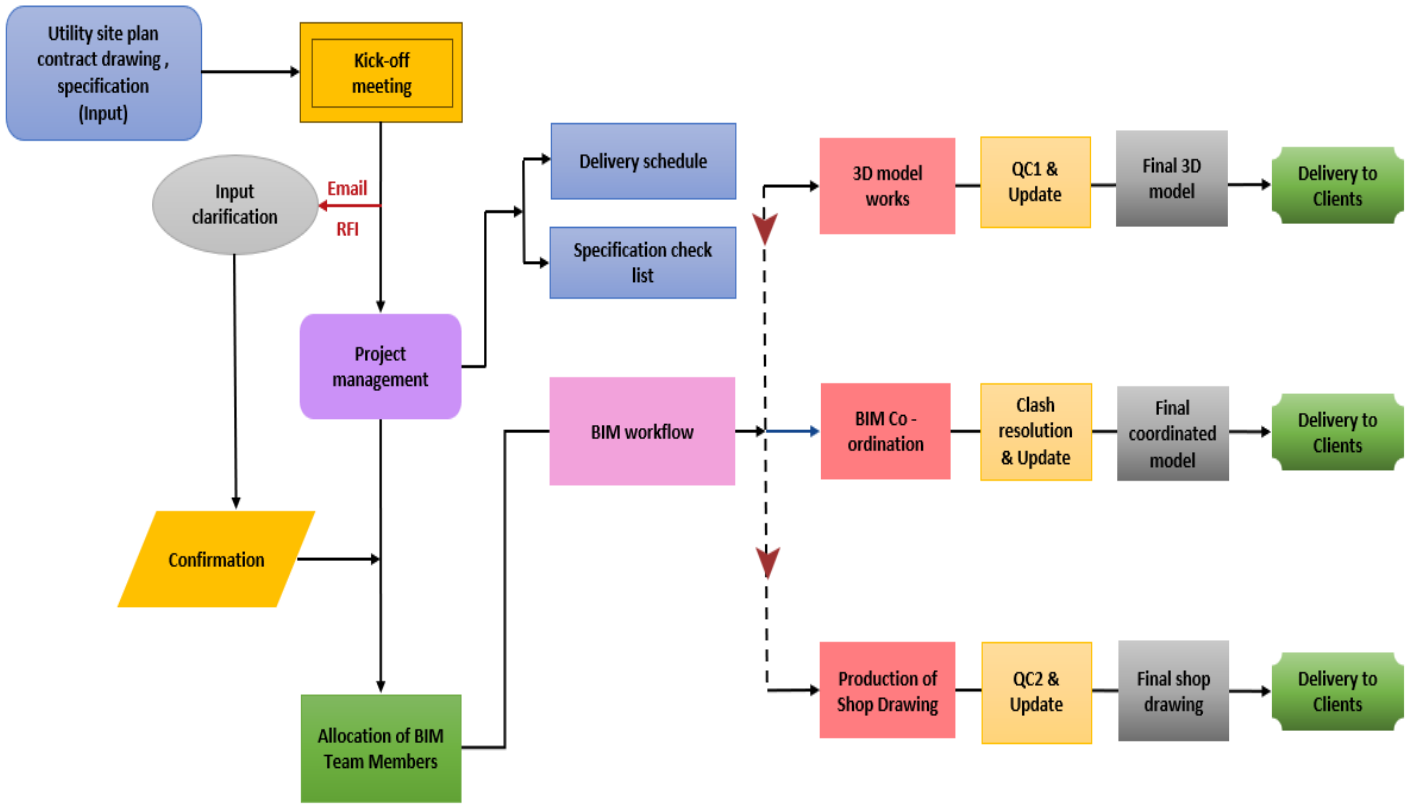

As Built Drawing

After Installation of Utility networks based on BIM drawings, Site team use to mark-ups the updates and changes in the plans based on the actual installation in site. Based on the site mark-ups, we create as built 3D model & Drawing and prepare the as built set for project hand over and record.



# Execution Process




## QC1-3D MODEL CHECKLIST

| SITE UTILITY | |
|---|---|
| 1 | STORM PIPE |
| 2 | SANITARY PIPE |
| 3 | DOMESTIC WATER PIPE |
| 4 | GAS PIPE |
| 5 | ELECTRICAL & COMMUNICATION DUCT BANK |
| 6 | ELECTRICAL & COMMUNICATION CONDUIT |
| 7 | FIRE WATER PIPE |
| 8 | MANHOLE |
| 9 | INLET |
| 10 | CATCH BASIN |
| 11 | STORM FILTER |
| 12 | FIRE HYDRANT |
| 13 | CLEANOUT |

| CIVIL SITE | |
|---|---|
| 1 | GRID PLACEMENT, DIMENSION & PROPERTY LINE |
| 2 | LEVEL CREATION & NORTH ARROW PLACEMENT |
| 3 | SITE TOPOGRAPHY & RELEVANT FEATURES |

## QC2-DRAWING CHECKLIST

| Common Checklist | |
|---|---|
| **Title Block** | |
| 1 | Key Plan |
| 2 | Revision Check |
| 3 | Date |
| 4 | Scale |
| 5 | Title |
| 6 | Consulting Details |
| 7 | Client Details |
| 8 | Sheet Key Notes |
| **B** | **General Notes and Sheet Key Notes** |
| 1 | General Notes |
| 2 | Sheet Key Notes |
| **C** | **Aesthetic Review / Grid Review** |
| 1 | Drawing Presentation |
| 2 | Grid Check |
| **D** | **Project Specific** |
| 1 | Sheets Referenced in Appendix A Present |
| 2 | Schedules Present |
| 3 | Finishes Present |
| 4 | Elevations to Finish Schedules Proper |
| 5 | Missing Key Drawing-Specific Information |
| 6 | Proper Drawing Reference Details |
| 7 | Relevant Annotation Information |

| CIVIL SITE | |
|---|---|
| 1 | Site topography |
| 2 | Landscape, Frame, Floors |
| 3 | Standard Annotations |
| 4 | Required Sections & Elevations |
| 5 | Legends & Notes |

| SITE UTILITY | |
|---|---|
| 1 | Utility Network Standard Dimension |
| 2 | Utility Networks Chambers, Manholes Tag, Schedule |
| 3 | Utility Networks Chambers, Network Invert Levels (INV/IL) |
| 4 | Required Sections & Elevations |
| 5 | Schedule Detailed Sheet |
| 6 | Drawing Notes |

# Core Team

**Irshad Ali Shaikh**
**CE0 – Co-Founder**

Mr. Irshad Ali is the co-owner & founder of DESIGN AND DRAWING SOLUTION. He is having more than 15 years of experience in Building services in construction Industry throughout AEC project execution process from Pre-construction, construction processes like MEP engineering consulting, Designing, installation and handover process of the project.

He has completed BE in Mechanical Engineering from Pune University with Post Graduation in Project Management (PGPPM) from NICMAR Pune, India. In his small journey, he has successfully delivered the more than hundred BIM/CAD project for his satisfied client with the best quality and unique team effort.

He has experienced in all kinds of projects i.e., starting from Residential township, Commercial IT buildings and parks, Malls, High rise building, Hotel, Hospital & Institutional building. Including building Infrastructure projects like metro, airports, globally i.e. USA, Australia, New Zealand & India.

**Karishma Bibi**
**Sales** Head

She is the co-owner of DESIGN AND DRAWING SOLUTION and well experienced in offshore sales development initiatives. She is having a good knowledge of result-oriented sales development processes and customer retention. She is leading the complete sales team for B2B sales within the company and managing and monitoring the effectiveness of the entire sales cycle. She has implemented her interior design expertise to improve the technical expertise for client communication for offshore sales which helps her build a long-term relationship with new and existing clientele.

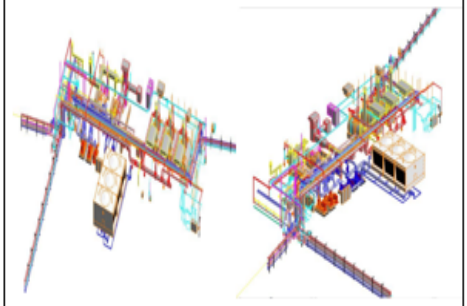
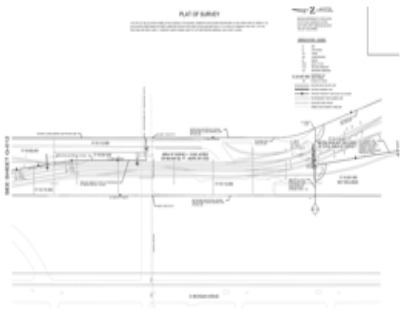
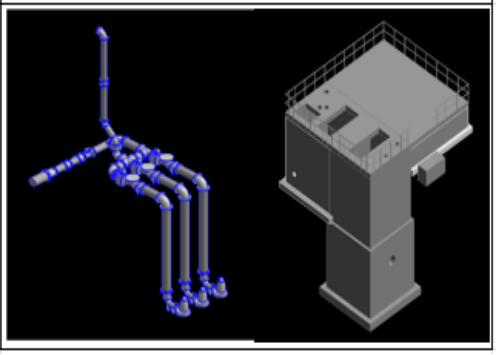
**Rupam Mondal**
**Production Manager**

He holds a Mechanical Engineering diploma form WBSCTE, India and having more than 7 years' experience in Building construction Industry for MEP engineering, Drafting, of 3D , 4D , 5D & 6D BIM service .

He is having expertise in MEP engineering calculation, with all Autodesk BIM/CAD tools like Revit , Fabrication, AutoCAD MEP ,Navis works and AutoCAD and has complete knowledge of engineering and drafting services for all stages ( Pre/post ) of construction process .

He is working in DESIGNING AND DRAWING SOLUTION since from starting period of the company. With a short period of time , He has gained the managing process of the company , client communication, project management process and assisting with innovative ( R & D ) solution of new process , tools for new requirement of clients.

# Project References

| SITE UTILITY | | |
|---|---|---|
| **MCCSQ** | **VAN BUREN STREET/MILLENNIUM STATION** | **17th Street Utility** |
| Utility Building | UG utility | Lift Station |
| Warren, MI , USA | Chicago , IL , USA | INDIANA, USA |
|  |  |  |

# Contact US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