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## PROJECTS PORTFOLIO

**WestCON** | **MEP & HVAC**  
وست كون Contractors

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## Power Supply:

### 1. King Faisal University Switchgear Building - Al Hassa, KSA

- Switchgear Bldg. For the New 13.8 KV MV Switchgear - Civil & Architectural works: includes, excavation and backfill, reinforced concrete foundations, beams, columns & suspended slab, CHB walls, plastering, painting, stainless steel ladder, steel doors, Aluminum windows. Electrical works: wiring, lighting fixtures, outlets, fire alarm annunciation system medium voltage switchgear assembly, install software and remote-control system. Testing & commissioning. LV / MV cables, termination, splicing and connection. Install new unit Sub-Station 500 kVA, 1000 kVA with concrete foundation, cabling and testing. Mechanical works: Installing A/C split units exhaust fans, installing firefighting system FM 200 with all its component.























### 2. MV Cables & Switchgear (Lucy)

- Medium voltage switch gear was installed and tested by Westcon in-house team.
- Final testing was done by third party company hired by WestCon
- 3/C-300mm<sup>2</sup> Cu, XLPE/PVC 15KV
- Medium voltage switchgear 13.8 kV, complete with 1 Incoming cell 630A vacuum circuit breaker, 5 Outgoing cells 630A vacuum circuit breakers, with electronic protection relays, indicators ..etc,











(Switch Gear installation site picture)





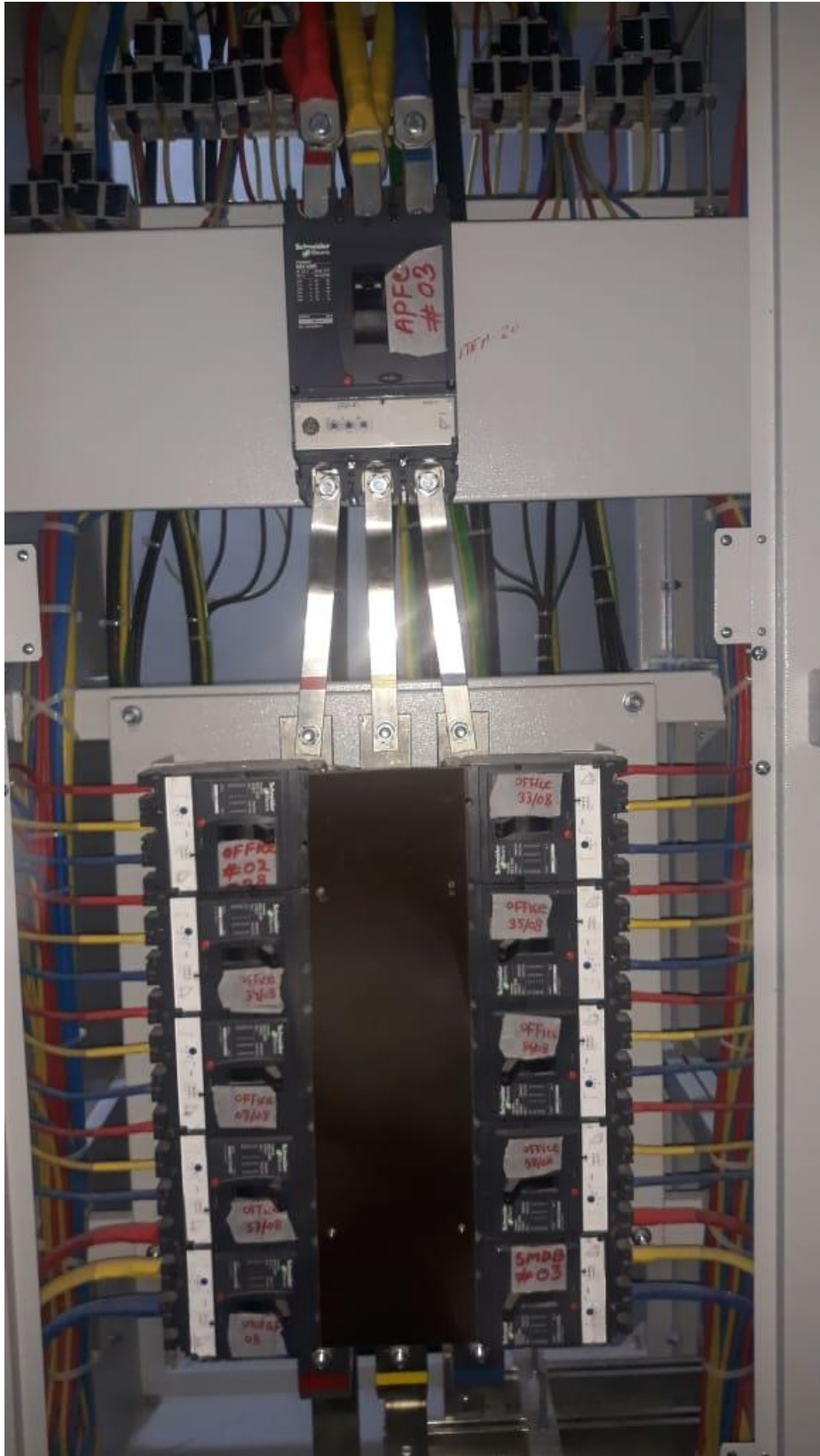
### **3. MV Transformers (Legrand)**

- Indoor type medium voltage transformer installed by WestCon and commissioned by the supplier/manufacturer.
- 4 x Dry Type Distribution Transformer - 3  $\phi$  1500KVA , 13.8KV/.4KV 60HZ - all complete with accessories



#### **4. Power Factor Correction Panels**

- APFC - 01, 2, 3, 4 - 350 kVAR capacitor bank complete with 6 step automatic controller

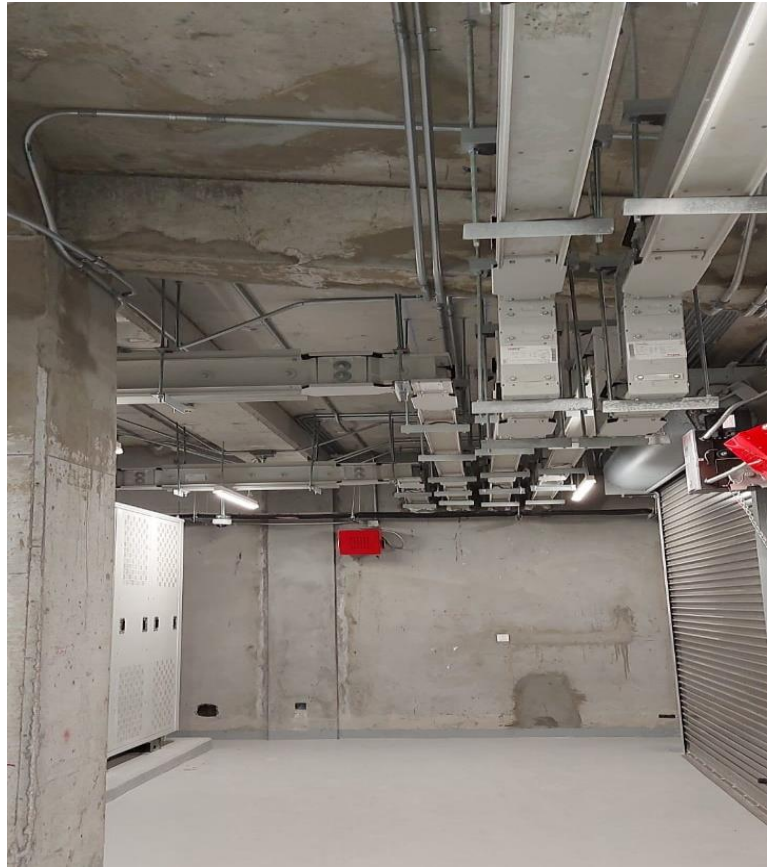






**5. Busbar, SMDB & MDB LV Panels Of 2200AT/2500AF Capacity (Schneider)**

- Including and not limited to:
  - Low voltage bus ducts 2500A, 3P+N+E , 400V, 60 Hz
  - Supply and install 4 x 2200AT/2500AF panels for project
  - 20,000 meters of cabling in one project









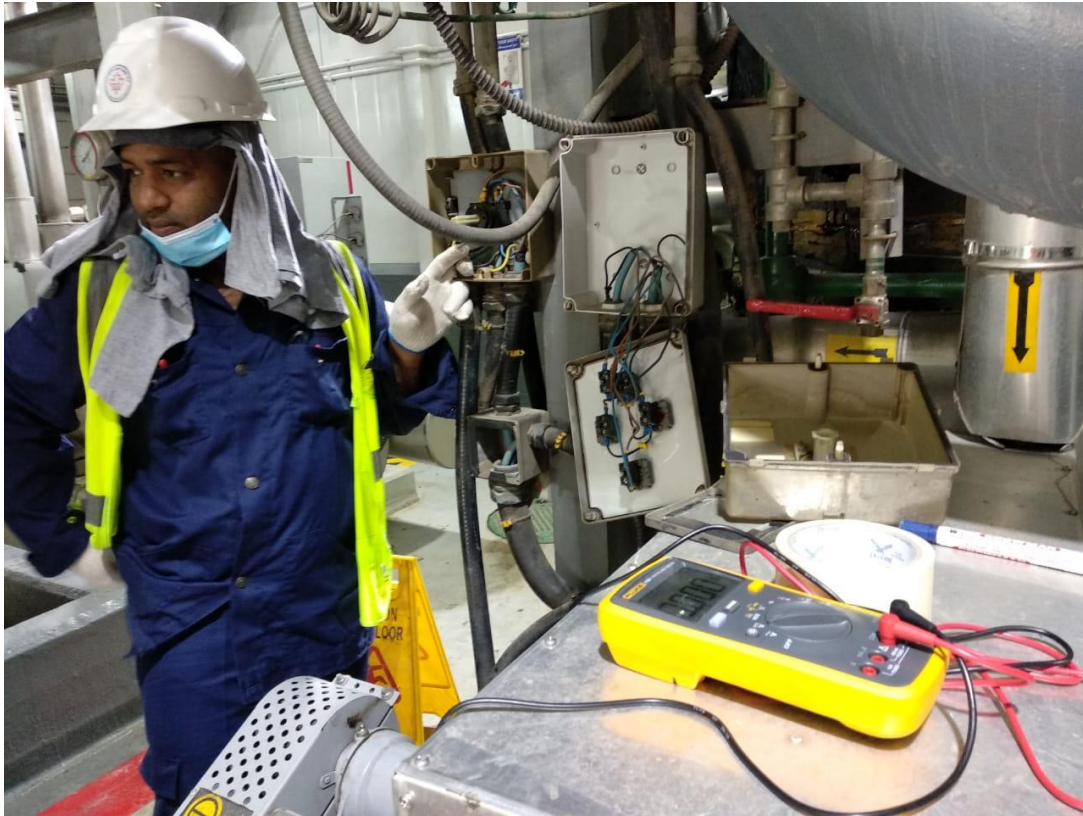
## **6. UPS, ATS and Standby Diesel Generator**

- Diesel engine generator with automatic transformer switch was installed by Westcon and commissioned by the manufacturer/supplier
- Diesel engine Generator 3  $\phi$  400V, 60Hz, 1000kVA - complete with silencer, Fuel tank for diesel generator 2000 litre complete
- ATS Automatic transfer switch 1600A
- Uninterruptible Power Supply UPS - double conversion UPS system 50 kVA, 3  $\phi$  400V



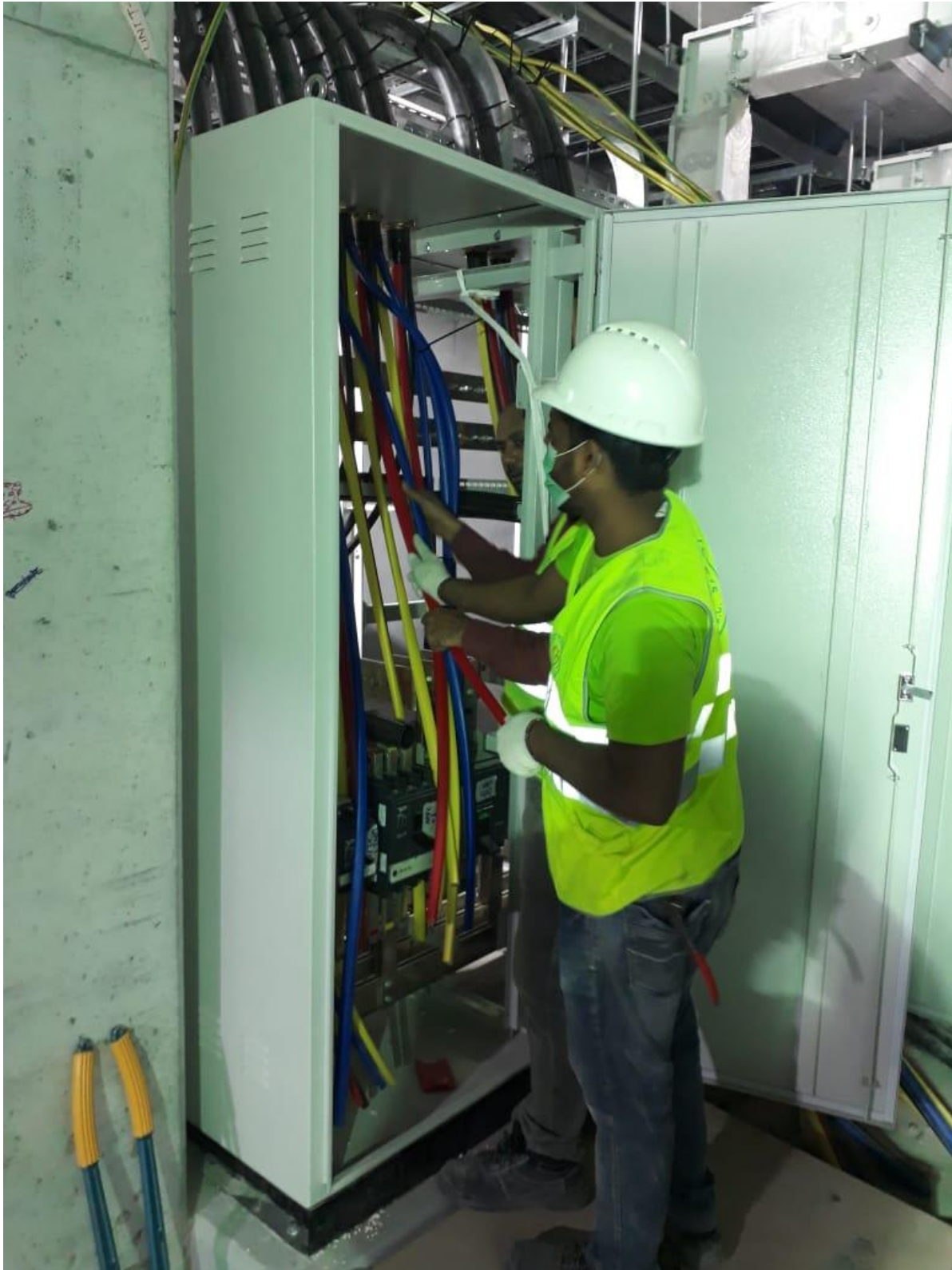


## 7. Controls panel wiring



## **8. Earthing Protection System**

- Supply and install and test earthing system according to NEC standard and with total earth resistance No more than 2 ohms







**9. Cable Tray and Cable Ladder**

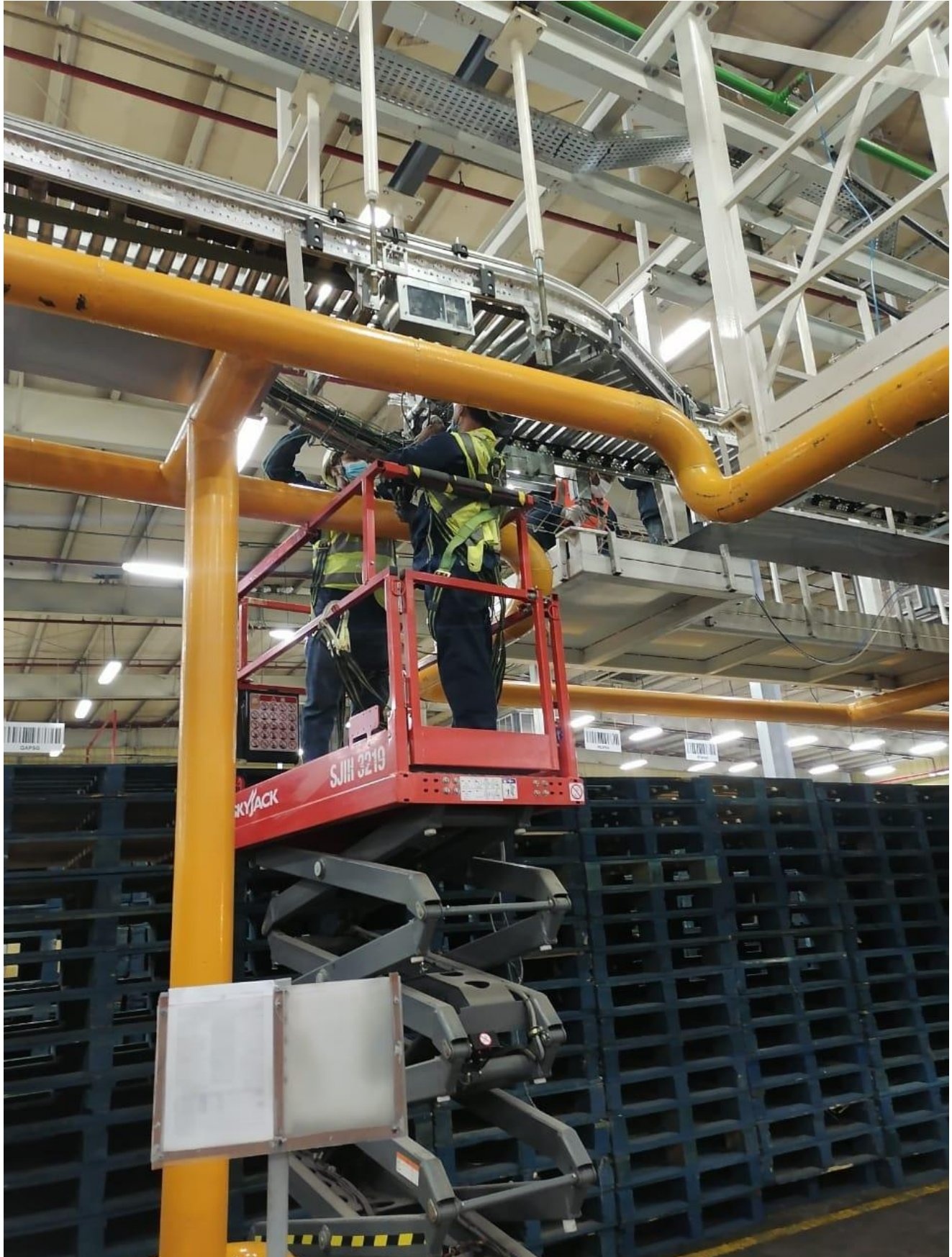
- SS and/or galvanized-steel cable trays



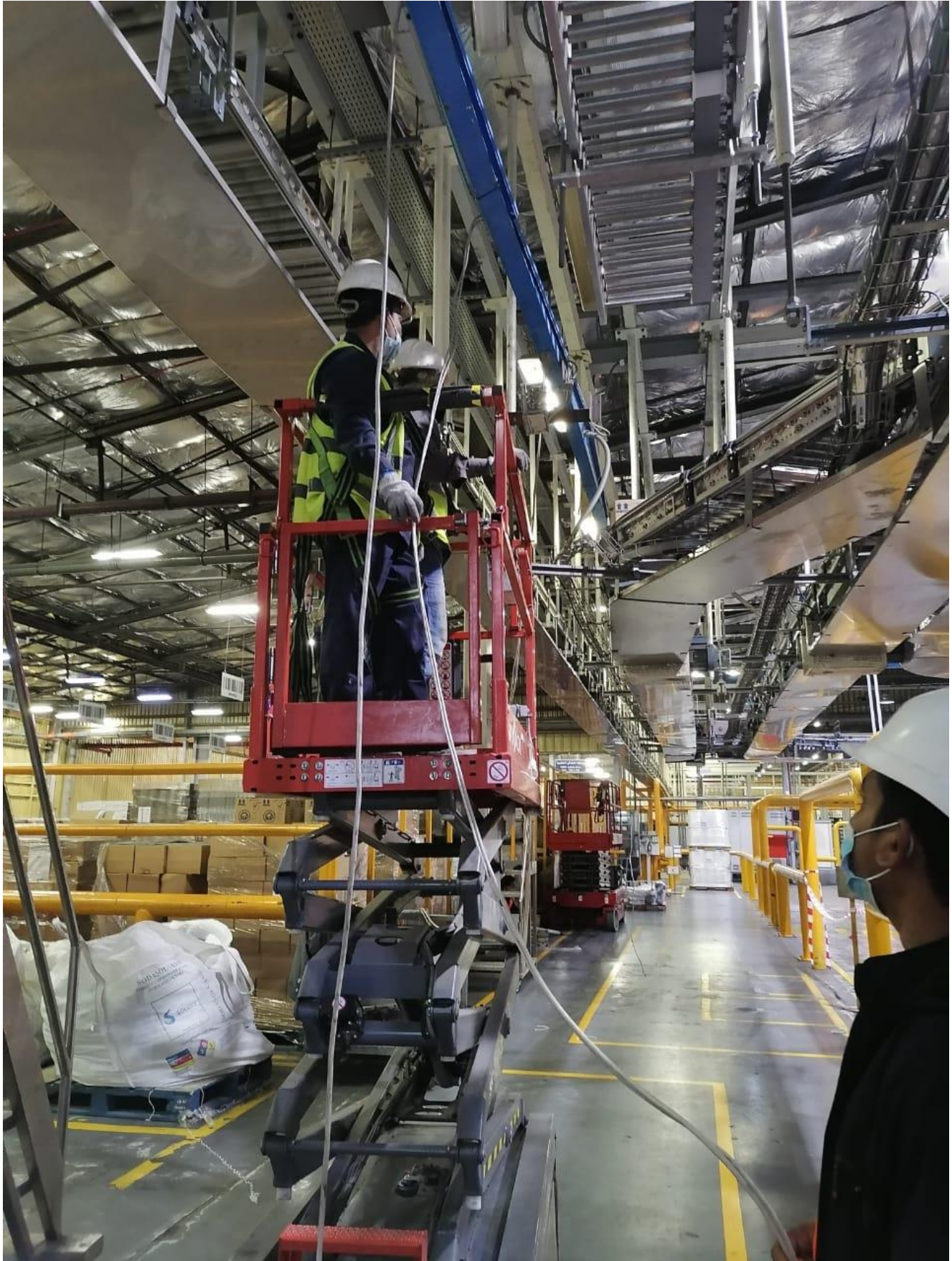














## HVAC

### 10. VRV System (DAIKIN)

- Daikin VRV system consist of combination of ceiling concealed ducted unit and Hi-wall mounted unit
- Total more than 70 no's indoor unit installed with capacity ranging from 1.0 ton to 5.0 ton
- Total copper pipe length above 3000 meters
- Total VRV outdoor unit was more than 24 unit with capacity ranging from 8 hp to 16 hp
- **Installation of copper pipe VRV unit, testing and commissioning was done by Westcon in-house team**











































## 11. Ducting













## **12. Fresh Air Handling Units (DAIKIN)**

- Fresh air unit with energy wheel and smart control system dedicated with supply air and return air temp sensor, filter sensor, and monitoring of FAHU fan running status by BMS system.
- **Installation of AHU, Copper pipe and testing commissioning was done by Westcon in-house team.**
- 







### **13. Ventilation System and Fire Smoke Basement System Including Fans And Jet Fans (Saudi Fans)**

- **A complete ventilation system was installed by Westcon in-house team while ducting was done by Westcon third party subcontractor NEBB certified.**
- **VE was done to save for client 30% value of the item.**
- Jet fans with 5000 CFM capacity and approx. 30 number, axial fan for basement fresh air and smoke extraction fan was installed and tested by Westcon and commissioned by manufacturer. Axial fresh and smoke extraction fan capacity range was 20,000.00 CFM to 30,000.00 CFM and approx. 13 no's total axial fan was installed.
- All the Jet fan, fresh air fan and smoke extraction air fan was integrated with CO sensor and working with VFD













#### **14. Staircase Pressurization Fan (Saudi Fans)**

- Staircase pressurization consist of axial high velocity fan 12000 CFM capacity, ducting and pressure relief damper, grille, pressure sensor.
- All staircase pressurization system was installed and tested by Westcon and ducting was done by Westcon subcontractor.
- All electrical connection was done by Westcon in-house team.



## Water-Supply System

### 15. PPR Pipe & Booster Pump System (Grundfos) with Variable Speed Control

- PPR pipe with size from 12.5 mm to 160 mm PN10 Bar and total approximate length more than 7000 meter was installed by in house Westcon Team.
- Potable water, raw water and filter water booster pump, each pump was equipped with VFD and its control panel.
- All the booster pump was installed, tested and commissioned by in-house Westcon team.
- 11.1 LPS, HEAD 1350kPA, 400V-3P-60Hz - Supply and installation of UL listed Gray Water Pump set complete with valves, controller, instruments, Flexible connections, electrical control panel, control wiring, BMS provision, alternator, (1 Duty + 1 Standby), VFD, with all connetions and accessories
- 11.1 LPS, HEAD 1350kPA, 400V-3P-60Hz - Supply and installation of UL listed Domestic Water Pump set complete with valves, controller, instruments, Flexible connections, electrical control panel, control wiring, BMS provision, alternator, (1 Duty + 1 Standby), VFD, with all connetions and accessories



















## 16. Filtration System

- Complete filtration system was installed and tested by WestCon and commissioned by the manufacturer.
- Municipal raw water was filtered with system consist of multimedia filter, chlorination system, filtration pump, a complete automated dosing system and storage and storage tank with capacity above 250m3.
- 13.89 LPS, HEAD 900kPA, 400V-3P-60Hz - Supply and installation of UL listed Domestic Filter Transfer Pump set complete with valves, controller, instruments, Flexible connections, electrical control panel, control wiring, BMS provision, alternator, (1 Duty + 1 Standby), VFD, with all connections and accessories
- Dossing Pump for Potable Water Tanks - Supply and installation of UL listed Domestic Filter Transfer Pump set complete with valves, controller, instruments, Flexible connections, electrical control panel, control wiring, BMS provision, (1 Duty + 1 Standby), with all connetions and accessories
- Activated Sand/Carbon Filter (D/D/SB) - Supplying, installing, leveling, aligning, testing and commissioning of Activated Sand/Carbon Filter, complete with pipes, fittings, sleeves, test plugs and all other accessories required
- **All filtration system was installed and tested by Westcon and commissioned by manufacturer**









## 17. Tanks of Water Supply GRP - For Potable and Raw Water

- For raw and potable water storage GRP water tank was installed and commissioned by Westcon.
- **POTABLE WATER TANKS:** Supply & Install 55 m<sup>3</sup> capacity fibre glass water tanks with insulation, complete with valves, float valve, piping connections, and all necessary accessories, fittings, etc
- **RAW WATER TANKS:** Supply & Install 55 m<sup>3</sup> capacity fibre glass water tanks with insulation, complete with valves, float valve, piping connections, and all necessary accessories, fittings, etc
- Storage capacity of each tank was 50m3 and total 6 tank was installed.











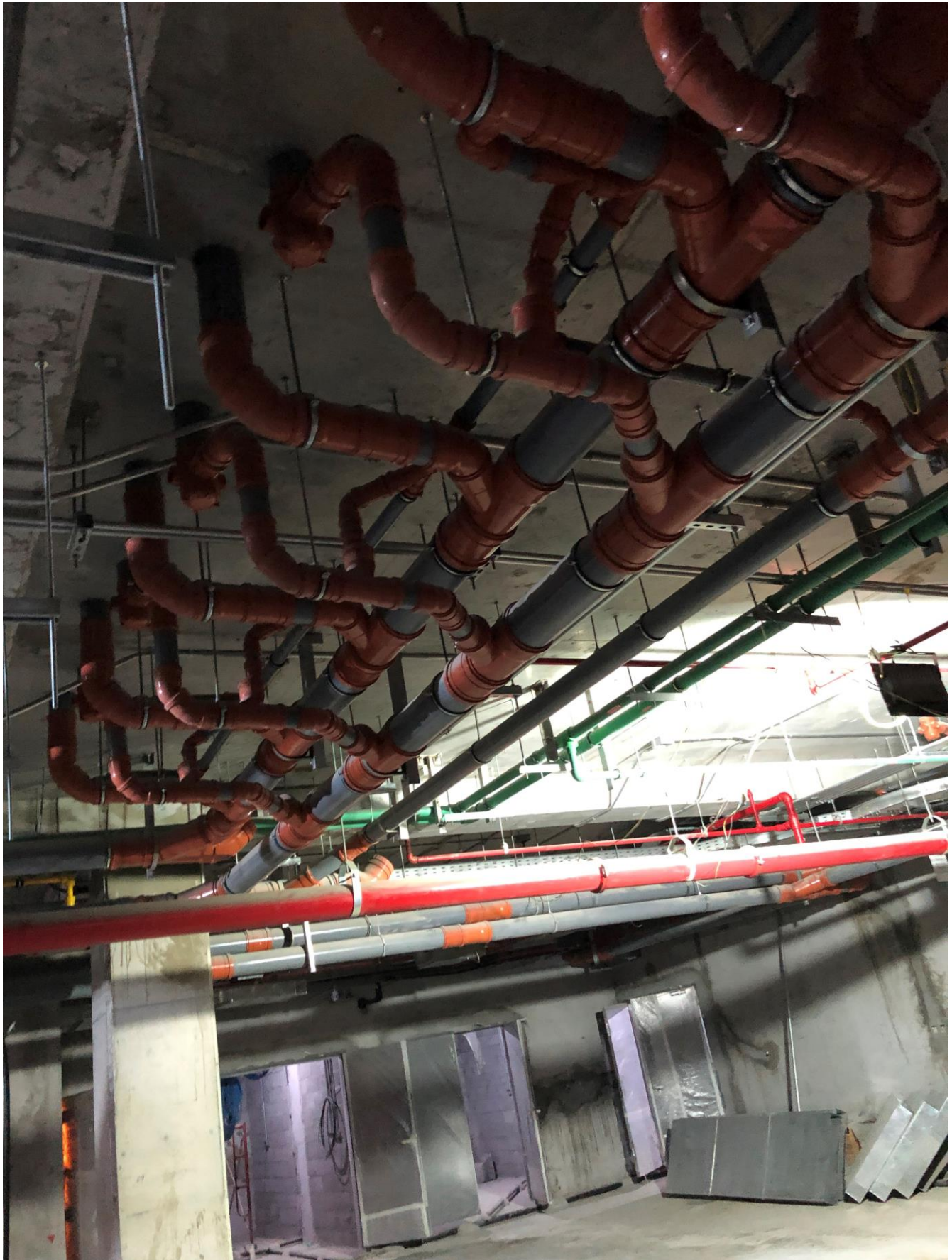
## **Storm Drainage & Sewerage System**

### **18. uPVC Overhead Gravity & Pressurized, Drainage & Sewerage Systems**

- uPVC class 4 pipe for all storm drainage by gravity and uPVC class 5 for pump discharge water
- All the storm water from the building was collected in basement sump pit and from sump pit submersible pump was installed to discharge the water to municipal storm water line
- Supplying, installing, leveling, aligning, testing and commissioning of drain pipe system, complete with pipes, fittings, sleeves, test plugs and all other accessories
- uPVC DWV Pipe schedule 40 with solvent weld joint and fittings, including adaptors, hangers, support and etc
- Total length of uPVC Class-4 pipe was more than 3000 meter and class 5 pipe was more than 2000 meter
- **All the pipe was installed, tested and commissioned by Westcon In-House team**



















### **19. Sumpits With Over 40 Submersible Pumps (Grundfos) With Variable Speed Control**

- Submersible Pumps for Drainage Sumpits: - 20.80 LPS, HEAD 200kPa, 400V-3P-60Hz - Supply and installation of UL listed Drainage Lift Pump set complete with valves, controller, instruments, Flexible connections, electrical control panel, control wiring, BMS provision, (1 Duty + 1 Standby), with all connections and accessories

















## Waterfeature

### 20. Complete Design-Build Of 1000m2 Waterfeature & MEP System with Filtration.

- Central Water feature Including All Required Architectural and MEP Works Including All Needed Concrete and Waterproofing Works
- Complete water feature was design and built by Westcon
- Water feature had filtration pump, circulation pump for circulation of water from balancing tank up to the water feature surface located at ground floor plaza. Hypo chlorination system to control the PH level of the water.
- Water Feature has a provision of backwash and makeup water system
- **All the water feature design, engineering, construction and tested by Westcon in house team**









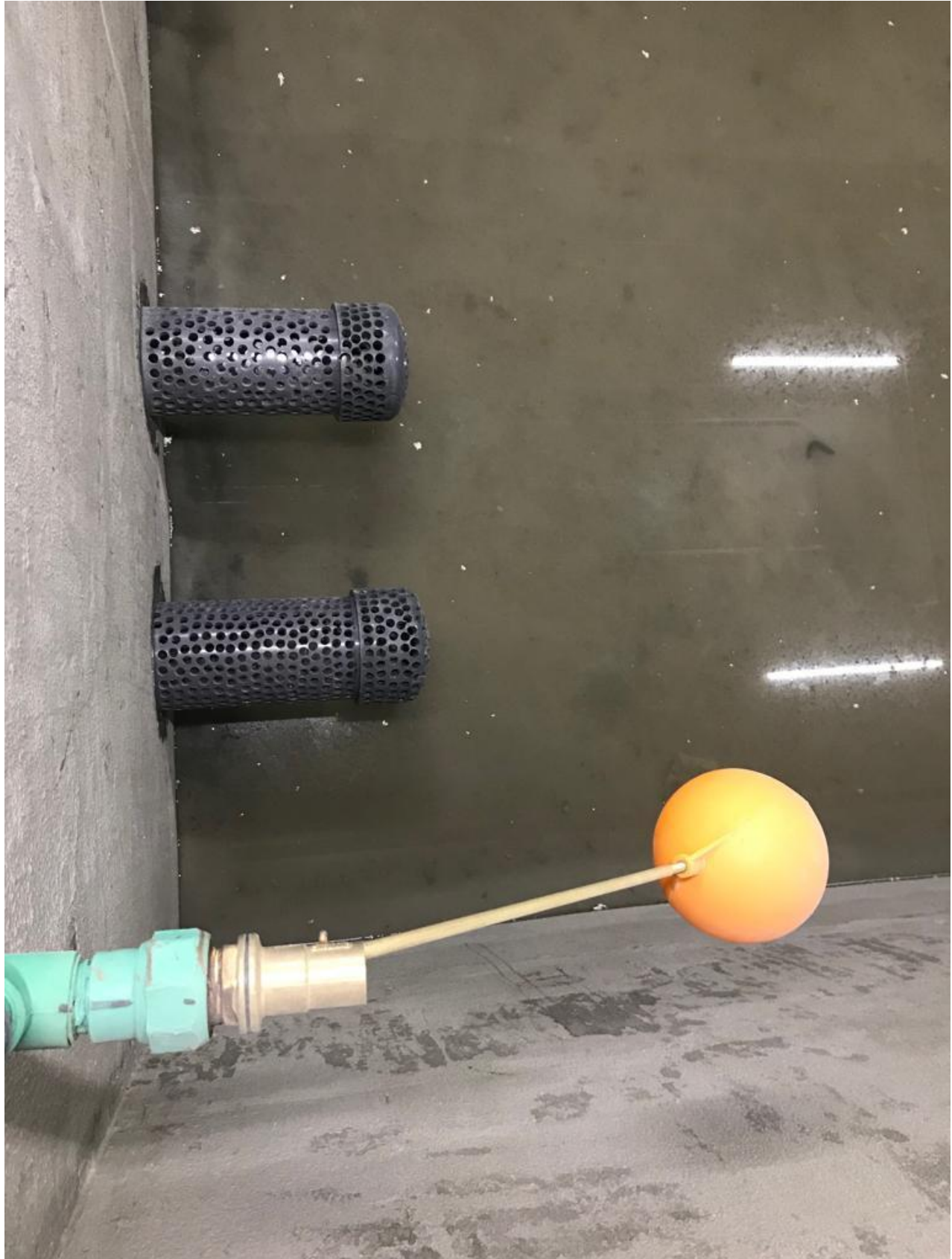


**21. All Brass Pumps Produced in Turkey Custom Order (Sempa).**

- Custom made all brass water pumps for 1000m2 waterfeature. Design-build project.







## **Water Treatment & Sewage treatment Plant**

### **22. GWTP and STP (Veolia)**

- 60 m3 per day capacity MBBR Veolia Sewage treatment plant was installed by WestCon and commissioned by Veolia. STP Working method was fully automated.
- Grey Water treatment 60m3/per day capacity with aerator, collection pit, transfer pump submersible pump, multimedia sand filter was installed by Westcon and commissioned by Veolia







STP Film & media in the plant





### **23. Grease Interceptors Throughout for Restaurants**

- Centralized Grease Interceptors complete with accessories, pre-assembled pipe work, valves, instruments, strainers, flexible connections, with all required civil works
- Veolia







## Low Current

### 24. BMS (Siemens)

- A complete BMS system was installed by Westcon including installation of field device, wiring pulling, DDC installation and central workstation with monitor.
- **All BMS system was installed by Westcon in house team and commissioned by Siemens.**
- All HVAC system are controlled by BMS all submersible pump, booster pump, water tank, irrigation system, fire alarm, CCTV and access control system were interfaced by BMS system for their running status monitor.
- All LPG system was interface with BMS for monitoring purpose.







## **25. CCTV & Access Control (Hikvision)**

- All CCTV system was installed by Westcon and commissioned by Hikvision, and all access control system cable pulling was done by Westcon in-house team and magnetic lock, card reader installation and commissioned was done by third party suborn hired by Westcon.
- All CCTV and access control system were controlled by workstation.







## 26. ELV Systems

- Main Distribution Frame - MDF
- IP telephone server for 200 extensions, data switches, POE data switches, patch panels patch cords, 1.5 KVA UPS, all complete for the number of data, voice, cameras
- ICT data rack



(ICT data rack)







## Lighting

### 27. RGB LED Lighting Control Systems (Disano and many others)





**28. Waterfeature Specialty Lighting... (specify here..)**

- Pinpoint LED lighting spread out throughout the water feature



Strip light installed throughout the drainage system – RGBW LED strip light

## LPG System & Piping

### 29. Piping & Metering

- All LPG system carbon steel seamless schedule 80 piping was installed and tested by Westcon.
- All LPG gas meter, PRV was installed by Westcon and tested by the manufacturer.
- LPG Main Gas Meter
- Motorized expansion control valve
- Supply and install of LPG storage Tanks Horizontal mounted-buried Factory Fabricated, complying with requirements of NFPA58 & ASME Boiler and Pressure Vessel code & bearing ASME, tanks shall be rated for 250psig as minimum working pressure with all level gauges, fitting, and necessary accessories; Capacity 10,000 Litters)
- Supply and install of Factory-fabricated-assembled Vaporizer and tested with heat exchanger sealed pressure-tight, built on a steel base, including insulated jacket, flue gas vent, liquid fuel supply and vapour connections and controls. Assemble shall be FMG labelled and comply with NFPA 58 & NFPA 70

### 30. Tanks

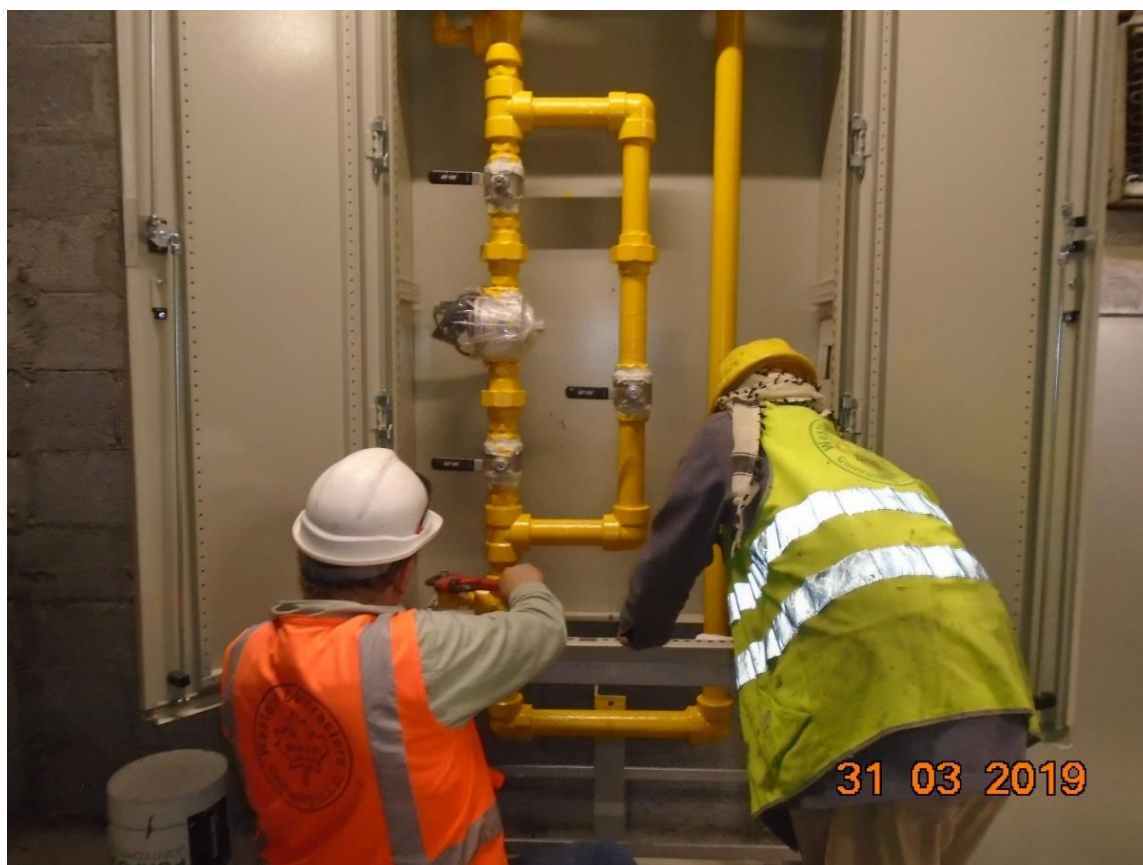
- LPG storage tank with cathodic protection system was supplied installed and commissioned by Sergas (hired by subcontractor)

### 31. LPG Fire Alarm and Fire Suppression

- All LPG system were protected by Deluge fire suppression system
- All LPG system including LPG gas meter water tank and leak detection was interface and monitor by BMS.
- Supply and installation of UL-listed, FM approved Fire Fighting System complete with pipes, sprinklers, valves, controller, instruments, Flexible connections, electrical control panel, control wiring, BMS provision, diesel piping, Day diesel tank fill with diesel with all required civil works all as per current civil defence regulations/approval.













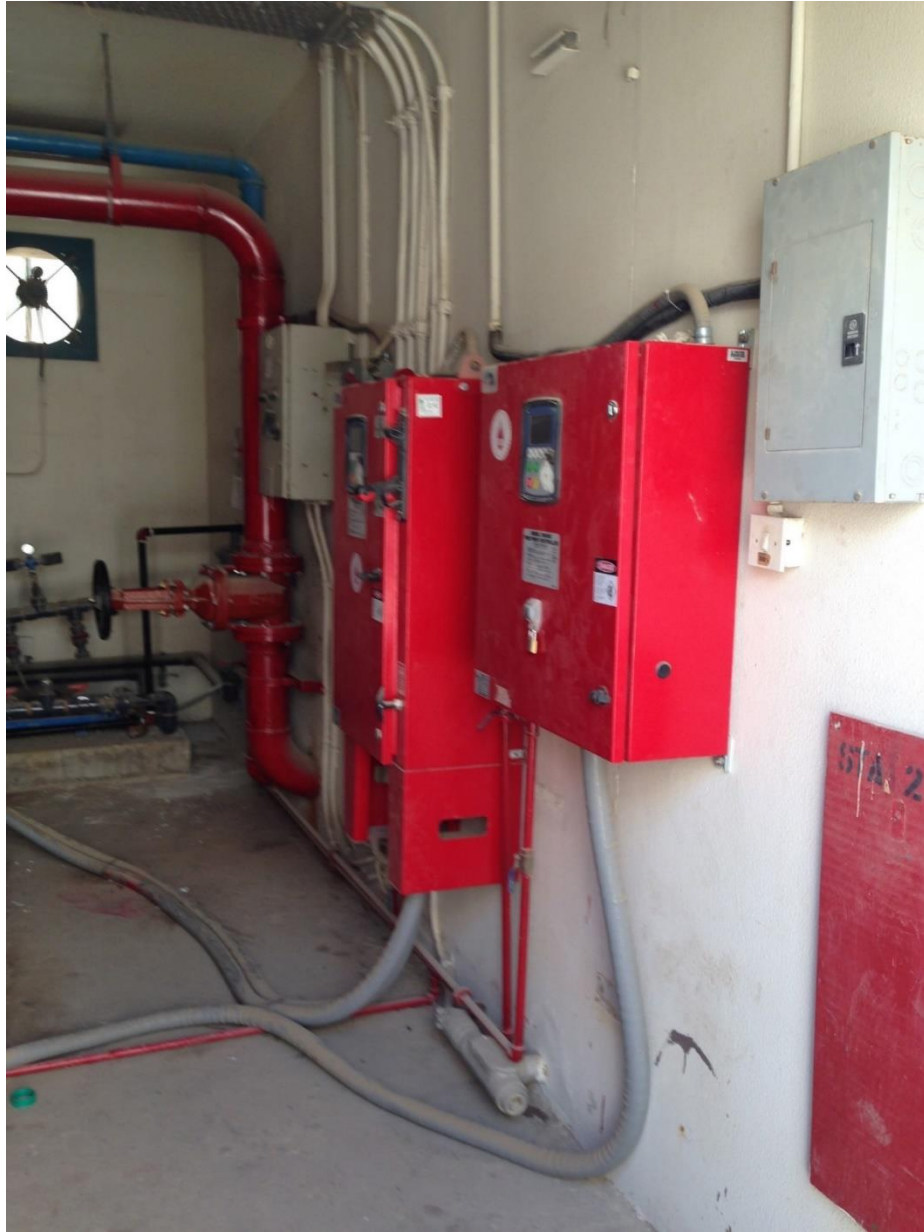
## Firefighting, Fire Suppression and Fire Alarm

### 32. Dammam University, Dammam, KSA

- Main Contractor for Dammam University. Design, execute, and operate Gas and Firefighting systems for university; 19 buildings in total. Buildings include: 10 warehouses, girls' dorm, design college, dentist college, central library, printing press, main gymnasium, central mosque, car workshop and pet home building. Civil work scope includes: excavation and backfill, concrete foundations for underground water tanks, asphalt, design and build concrete rooms for pump and gas storage. Mechanical work scope includes: install, commission and operate UL listed firefighting pumps, design and execute pipe layout in all buildings (includes gate valves, check valves, strainer, sprinkler, fire hose cabinet, fire hydrants, extinguishers, connected to electrical, diesel and jockey pumps). Fire annunciation system (addressed fire alarm control panel board) with smoke, gas and, heat detectors along with manual break glass stations. Underground tanks and piping.







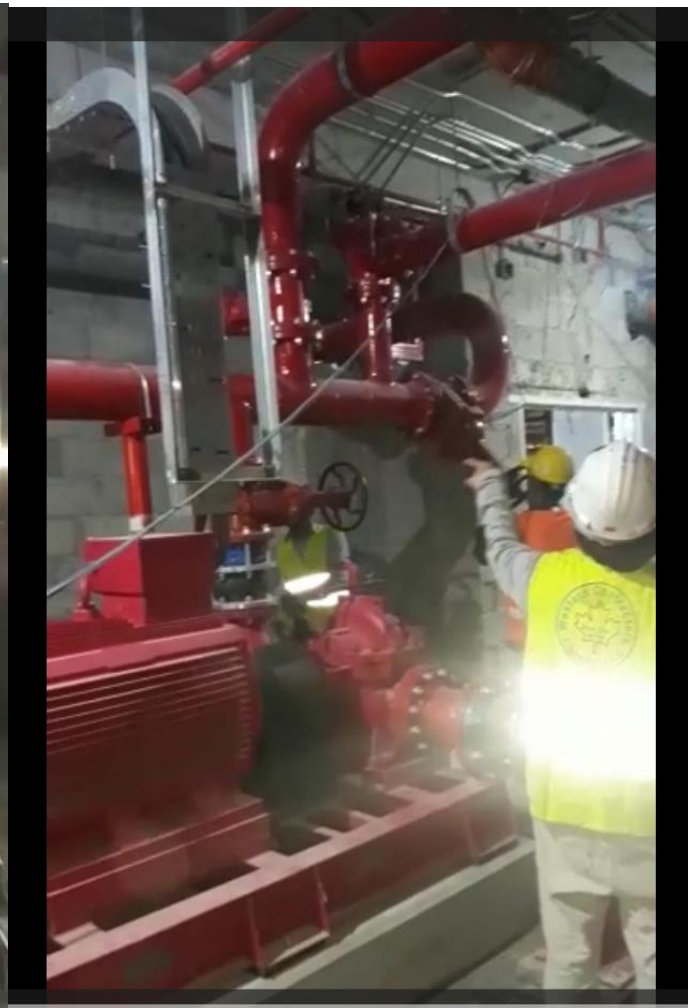






**33. Firefighting (UL listed) Piping and Pump Installation and Commissioning**

- System included overhead ERW steel piping network, as well as ductile iron pipe exterior underground pipe network equipped with all hydrants and connection.
- Fire hose cabinets
- All Firefighting pipe size from 1 / 2" to 10" was installed and tested by Westcon in-house team.
- Firefighting sprinkler with various types such as 1 / 2" pendent and upright sprinkler, ceiling concealed sprinkler with k factor 5.2, high hazard sprinkler with k factor 11.2 are installed by Westcon total approximate quantity of all sprinklers was above 2500 pcs.
- All above ground firefighting pipe was ERW carbon steel from SSP, Jazira or local others.
- All underground pipe was ductile iron pipe purchased from Amiantit.
- All exterior building was protected by fire hydrant and fire department connection with quantity approximate 10 number.
- Zone control valve approximately above 20 number was installed and tested by Westcon
- DIESEL DRIVE, CENTRIFUGAL FIRE PUMPS 1250 GPM; Fire pump set Diesel, 78.85 LPS, HEAD BAR 174 PSI; ELECTRIC DRIVE, CENTRIFUGAL FIRE PUMPS, Fire pump set Electric, 78.85 LPS, HEAD BAR 174 PSI; Suction (75mm dia) and discharge (65mm dia) header; fire suppression system which consist of diesel engineer pump, electric driven pump and jockey pump was installed and tested by Westcon and commissioned by









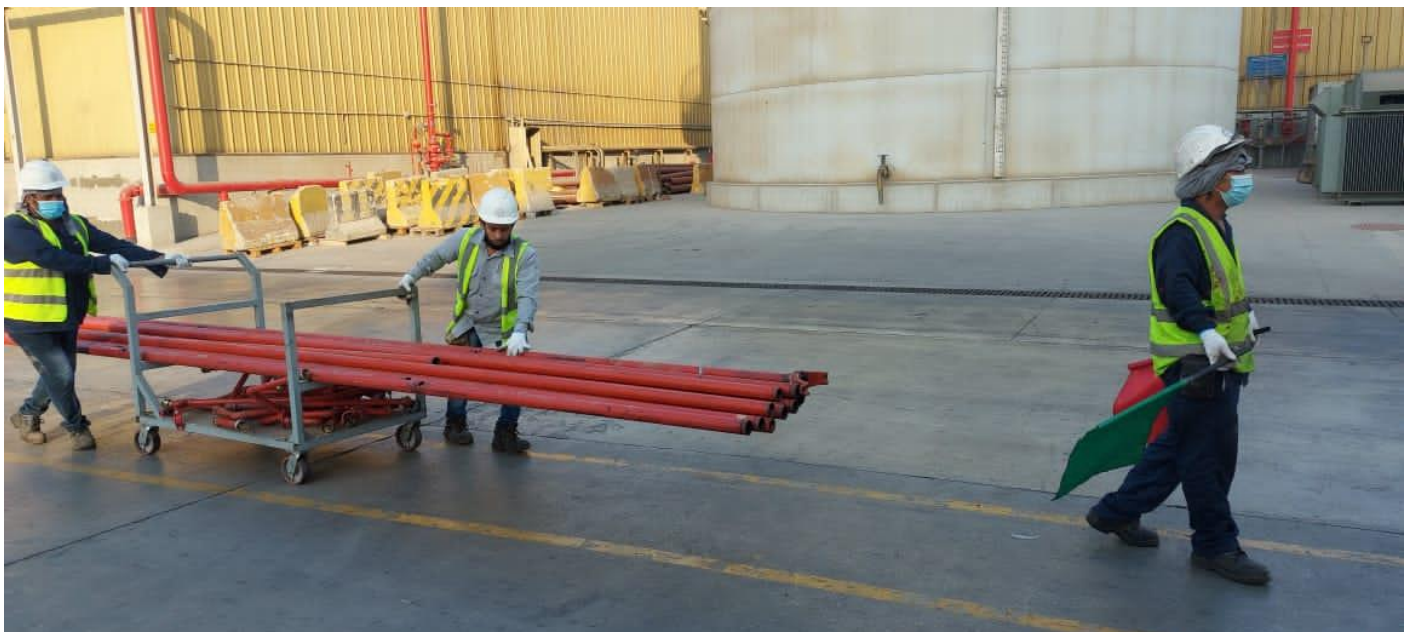
















### 34. Fire Alarm (Simplex)

- Complete fire alarm system was installed, tested by Westcon and fire alarm panel was commissioned by the manufacturer/supplier.
- All the electrical room, all the basement area, mechanical room and building corridor had provision of fire alarm system.
- All the firefighting flow switch, tamper switch and DDC, elevator, ventilation system, and pressurization of stairwell was interfaced by the fire alarm system for its control and monitor status.











### 35. Fire Extinguishing; Fire Suppression CO2 & Foam; FM200

- CO2 fire suppression in form of extinguisher cylinder was installed by Westcon
- Foam system was installed for generator room and LPG room
- All the foam system was installed and installed and tested by Westcon subcontractor.
- A total more than 200 fire extinguisher was installed with capacity 5 kg
- All the ICT room was protected by FM200 fire suppression.
- For each room 1 working and 1 standby FM200 cylinder was installed total approximately 13 ICT room was protected by FM200 fire suppression system. Cylinder capacity was in the range of 23 kg to 46 kg
- All the FM200 system was installed and commissioned by Westcon Subcontractor.
- FM200 system was monitored by BMS







### **36. Aerosol for SMDB and MDB room**

- All SMDB and MDB room was protected by Aerosol fire suppression system.
- Aerosol system was installed and commissioned by Westcon hired subcontractor/Manufacturer/Supplier.



## Specialty Items

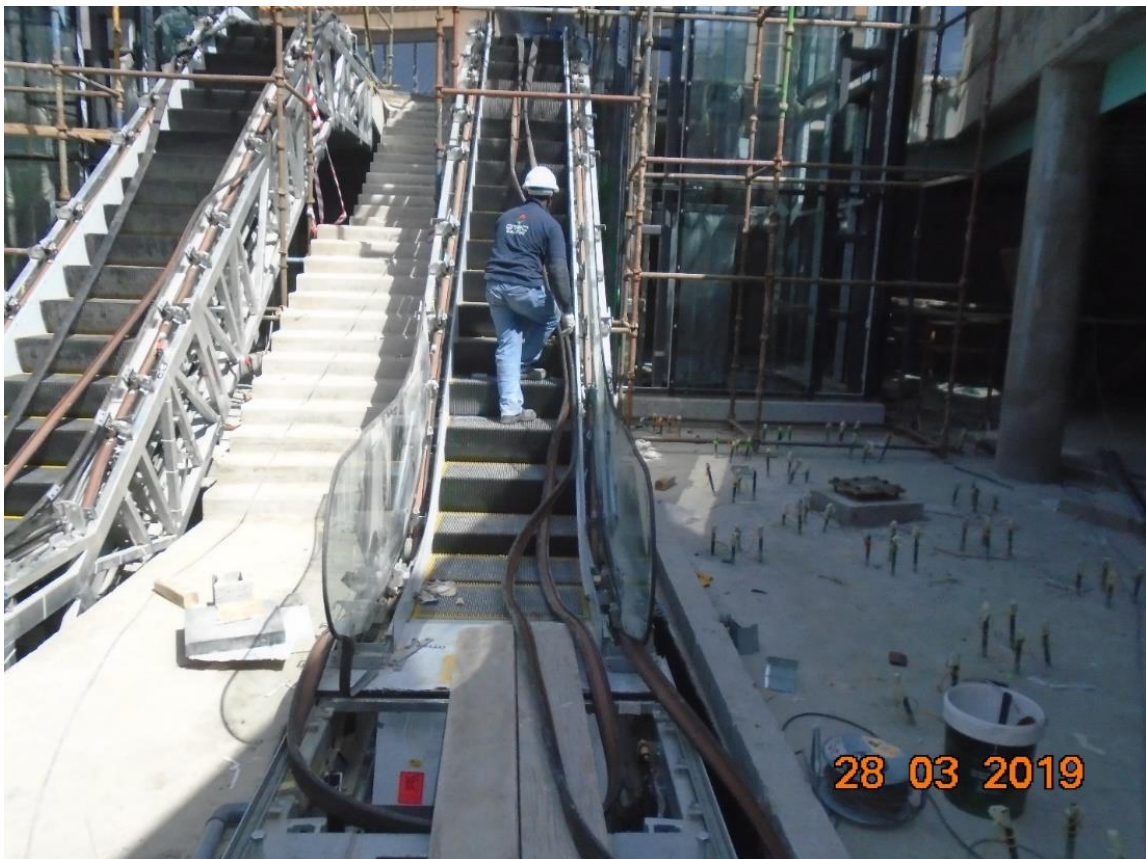
### 37. Elevators Indoor and Outdoor (OTIS)

- 2 number escalator outdoor type -1000kg capacity for access from plaza area to basement car parking was installed and commissioned by Westcon hired subcontractor manufacturer/supplier.
- Panorama elevator outdoor type -1000kg capacity was installed and commissioned by Westcon hired subcontractor/supplier/manufacturer.
- 8 number 1000kg elevator indoor type installed and commissioned by Westcon hired subcontractor/supplier/manufacturer.
- All electrical connection for elevators and escalator was done by Westcon

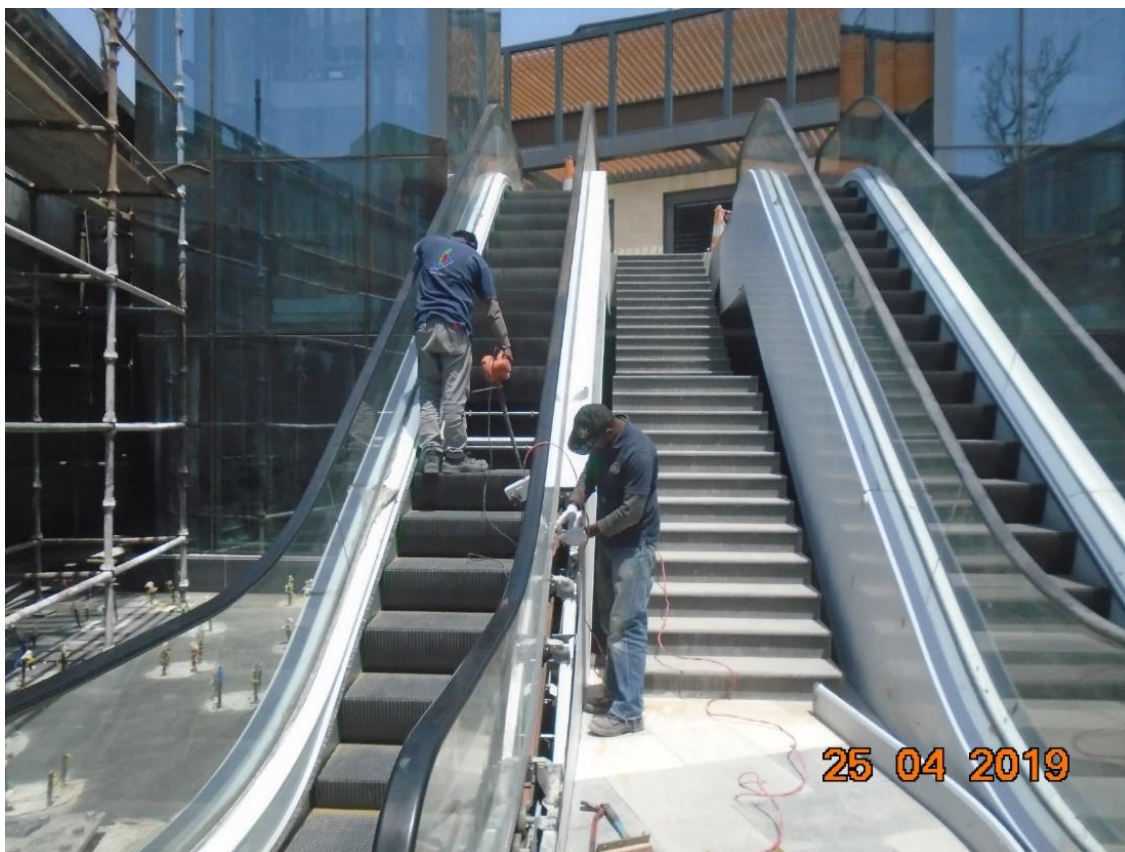




**38. Escalators Outdoor (OTIS)**









## **Irrigation Network, FRP Tanks and Pumps (Grundfos)**

### **39. Irrigation System, Pumps & Tanks**

- All irrigation system uPVC piping, Grundfos booster pump installation, pressure tank, rainbird irrigation controller, solenoid valve and irrigation FRP water tank was installed and commissioned by Westcon in-house team.
- Pump capacity was 8 l/s and pressure was 6 bar and irrigation water tank capacity was 30m3







#### **40. Timer and Controllers**

- Rain bird timer and controller 12 stations
- Solenoid valve



## Challenges & Complexities of Coordination





