NWSC NCAR-Wyoming Supercomputing Center

NWSC Update

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University of Wyoming

Physical Construction Effort

- Somewhat ahead of schedule currently
  - Terrible weather for fires and farms but excellent for construction
- Tracking on budget and expenditures to date as expected
- Upcoming milestones
  - Generators Ship Nov 1st
  - Roofing starts next week
  - Majority of mechanical & electrical equipment delivers Nov-Feb
  - Electrical Startup ~ May 2011
  - Integration & testing summer to early fall

Unofficial Groundbreaking – 3 June, 2010

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Groundbreaking Ceremony - 15 June, 2010

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Site Utilities

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Structural Excavation

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Concrete – Spread Footers and Foundations

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Concrete Flatwork

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Electrical

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Mechanical

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Structural Steel

Pre-stress Concrete

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Framing and Masonry

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The Gang – Picture taken at Safety Luncheon

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Statistical Data

- 3,196 Cubic yards of foundation concrete
- 2,425 Cubic yards of slab on grade/deck concrete
- 144 Cubic yards of caisson concrete
- 1000 tons of steel
- 5000 ft 6” PVC conduit
- 60,000 ft 4” PVC conduit (almost 11 miles)

Virtual Construction

- 3D Coordination Model
  - Mechanical
  - Electrical
  - Fire Protection
  - Structure
- Completely built the building virtually

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NCAR MEP Coordination Clash Results

Clash Set	Clash Count											Remarks
	8/4/10	8/11/10	8/18/10	8/19/10	8/25/10	9/8/10	9/15/10	9/22/10	10/8/10	10/12/10		
Structural-Fire Protection (Area A)	9	2	0		0							
Structural - Mech Duct (Area A)					2			0				Duct Slab Pen
Structural - Mech Piping (Area A)	2		25	25	25		1					Clashes are clearance for hoist rail (Reviewed)
Structural - Waste Vent Piping (Area A)	9						1					Wall Pen
Structural - Electrical Systems (Area A)		1			0			0				Generator/Pads, EL Slab Pen
Fire Protection - Mech Duct (Area A)	152											
Fire Protection - Mech Piping (Area A)	79	10	14				5					Fire pipe passes thru hoist beam clearance (Reviewed)
Fire Protection - Waste Vent Piping (Area A)	22	0										
Fire Protection - Electrical Systems (Area A)		1	0				23					
Mech Duct - Electrical Systems (Area A)	9	1	1									US Eng to coordinate access location w/ owner
Mech Duct - Mech Piping (Area A)		14	15	25	21							Duct access areas (Reviewed)
TOTAL AREA A Service Level		**29**	**55**	**50**	**48**	**0**	**30**	**0**	**0**	**0**		
Fire Protection - Mech Duct (Area B)						4	3					
Fire Protection - Mech Piping (Area B)						69	45					
Structural-Mech Piping (Area B)								2				Slab & Wall Pen
Fire Protection - Waste Vent Piping (Area B)						9	7					
Structural-Fire Protection (Area B)			3	2								
Fire Protection - Electrical Systems (Area B)												
TOTAL AREA B Main Level		**0**	**3**	**2**	**0**	**82**	**55**	**2**	**0**	**0**		
Structural - Mech Duct (Area C)								0				Fan Wall/Beams
Structural - Electrical Systems (Area C)		13	21		7		3	0				Panel Clearance, Lights/Beam, Conduit /Slab Pen
Fire Protection - Mech Duct (Area C)		144	141	6	6		1					
Fire Protection - Mech Piping (Area C)			6	2	15		5					
Mech Duct - Mech Piping (Area A)						1	8	8	8			Valve Handle Clash
Fire Protection - Electrical Systems (Area C)		15	29	209		4						
TOTAL AREA C Service Level		**172**	**197**	**227**	**28**	**5**	**17**	**8**	**8**	**0**		
Structural - Waste Vent Piping (Area C)								0				
Structural - Electrical Systems (Area C)		13	21		7							Panel Clearance
Fire Protection - Mech Duct (Area C)		144	141	6	6		6					
Fire Protection - Mech Piping (Area C)			6	2	15							
Mech Duct - Mech Piping (Area C)						1						
Fire Protection - Electrical Systems (Area C)		15	29	209		4						
TOTAL AREA C Main Level		**172**	**197**	**227**	**28**	**5**	**6**	**0**	**0**	**0**		

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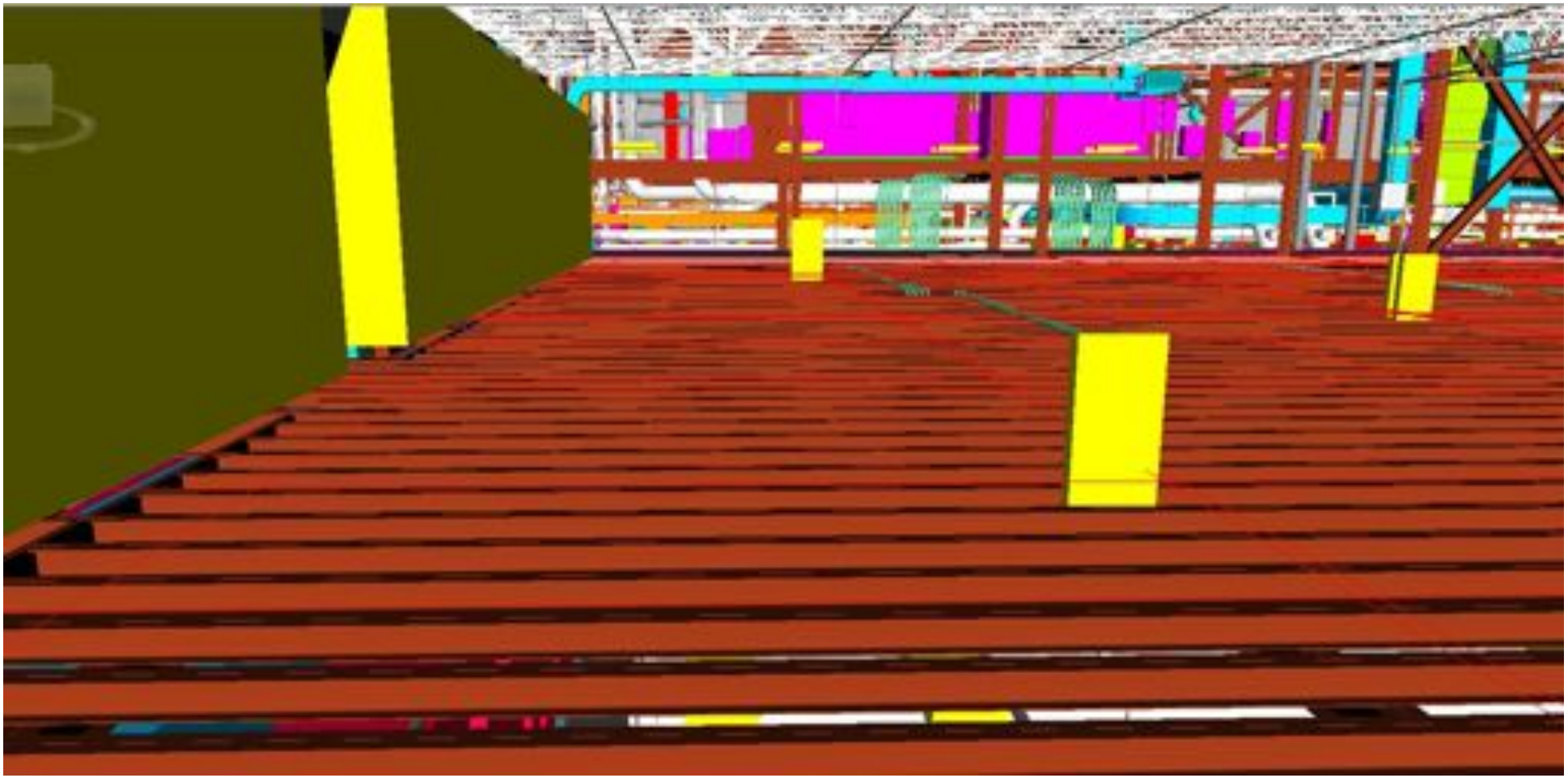
Data Center 3D Model



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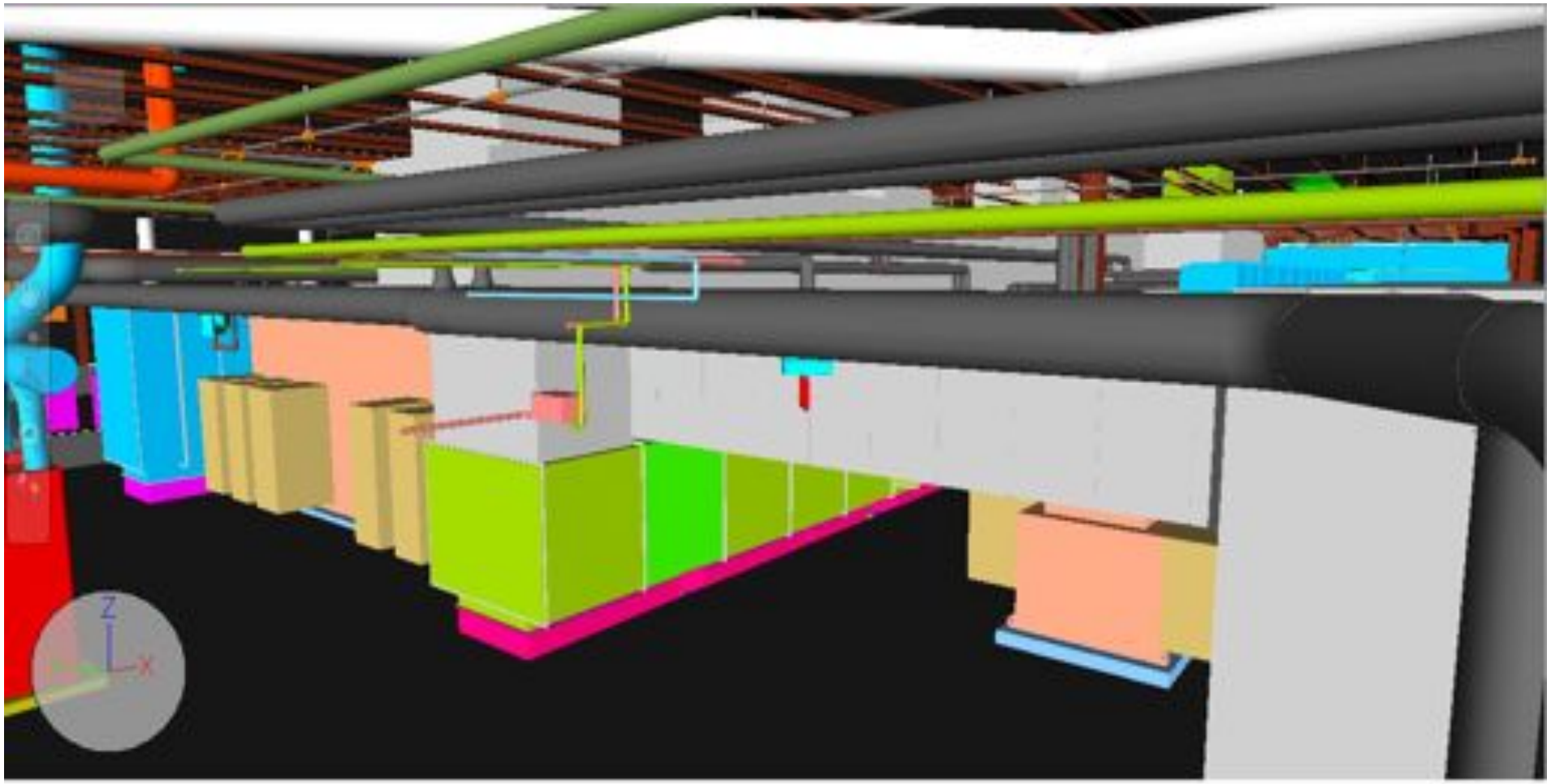
Rooftop Enclosure 3D Model