



AGC of America
THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA
Quality People. Quality Projects.



The Practical Applications of Lean

What Happens When We Give the Keys to the Field Teams to Simply Perform Their Work?

Quality People.
Quality Projects.



Objectives for the Today

1. What is the project?
2. Establishing a project culture/mindset
3. Production and Productivity



Quality People. Quality Projects.

Van Ness & Geary Campus Hospital Project

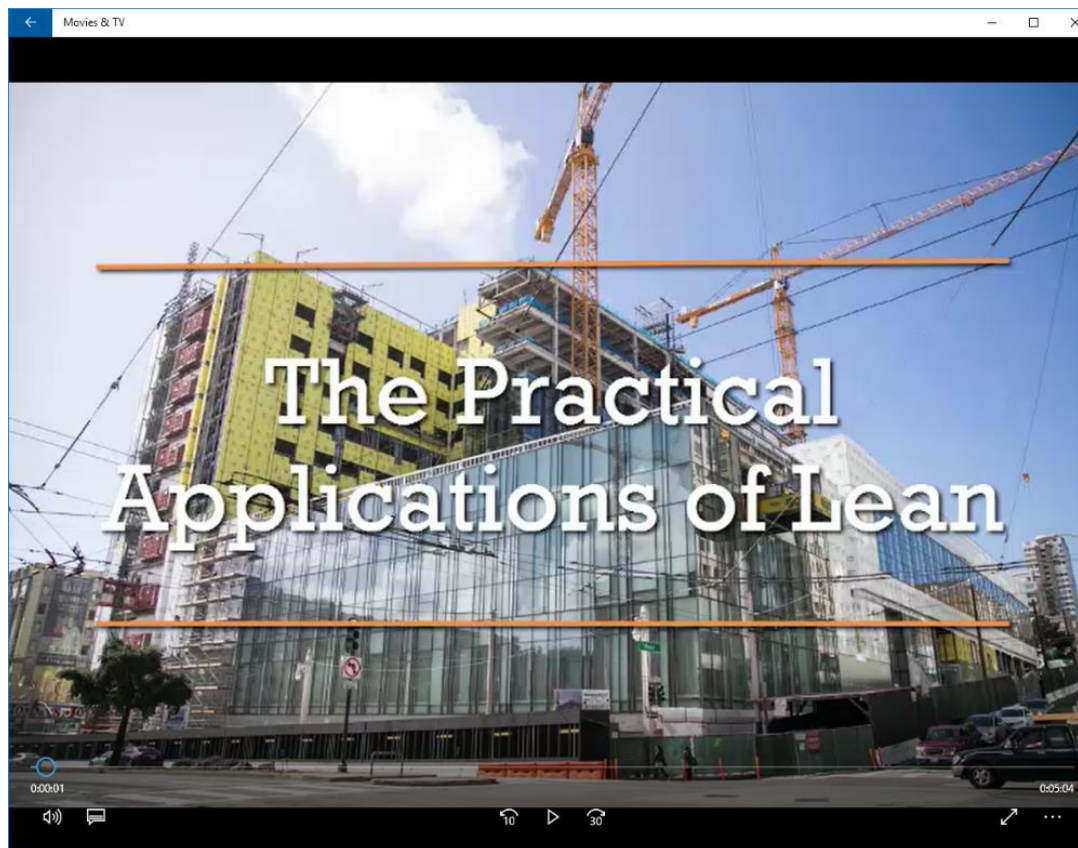


Van Ness & Geary Campus Hospital Project

Total Project Stats

- Full IPD/IFOA Contract
- \$1.3 Billion Project
- Over 4 million hours worked to date
- 1.1 million pounds of duct
- Over 26 miles of piping/plumbing systems
- Just celebrated 3 year safety challenge for Southland – October 13, 2017

Practical Applications of Lean



Bulk Nitrogen System

- Install base piping system including remote fill and piping at the tanks - \$75,000
- Expected savings:
- 90% of usage or more is through this system – Unit Cost \$50,000
- Labor to move Dewars and “6 pack” high pressure bottles; 2 men, 9 months \$300,000
- Removal of impact to facilities/manpower to move bottles and Dewars



Temporary Vacuum Toilets

- Install base system \$727,000
- Mechanical maintenance during service \$50,000
- Estimated savings in Porta-Potty rentals and labor to move/clean \$500,000 - \$700,000
- No tie up for lifts or cranes
- Improved morale – clean water for crews, odor removal, shows respect for workers



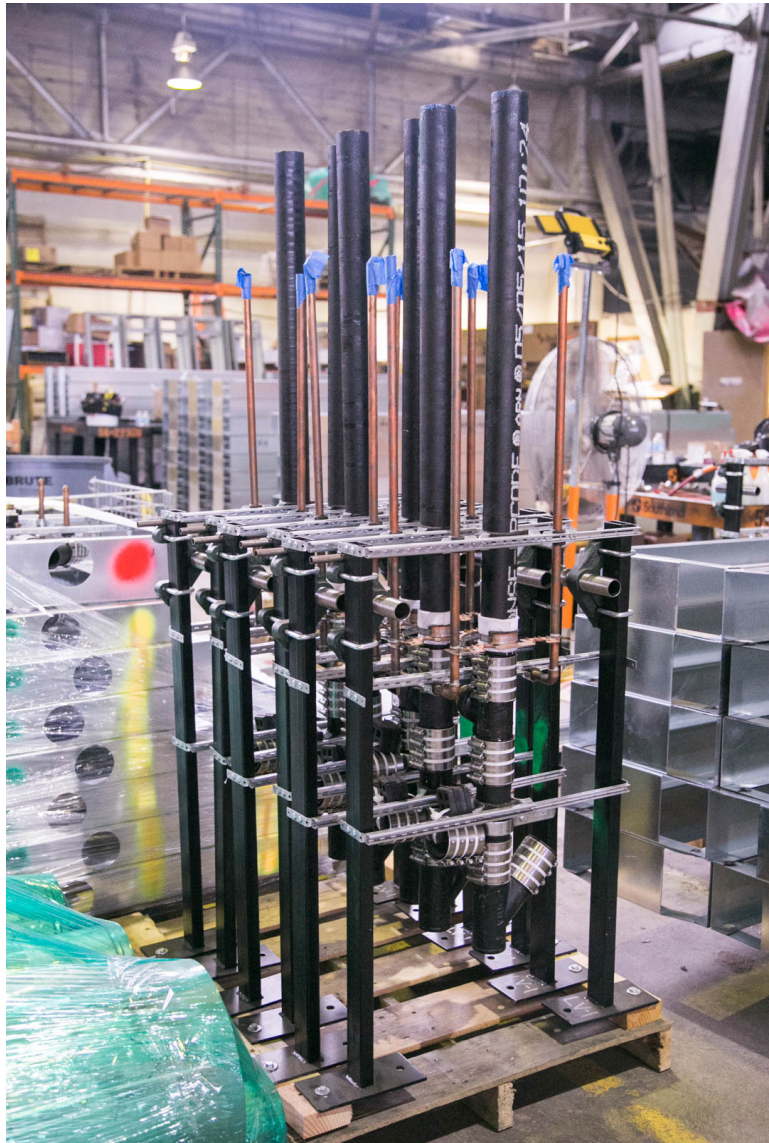
Treasure Island Fab Shop

- 2 Years at TI – Injury Free
- Over 26,000 spool sheets that included:
 - 56,000 hanger/rod assemblies
 - 73,944 LF Medical Gas cut and cap to length
 - 72,481 LF cast iron
 - Over 26 miles of installed pre-assembled pipe
 - Used 35 – 48ft flatbed semi-trailers



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Prefabbed Racks & Plumbing Assemblies

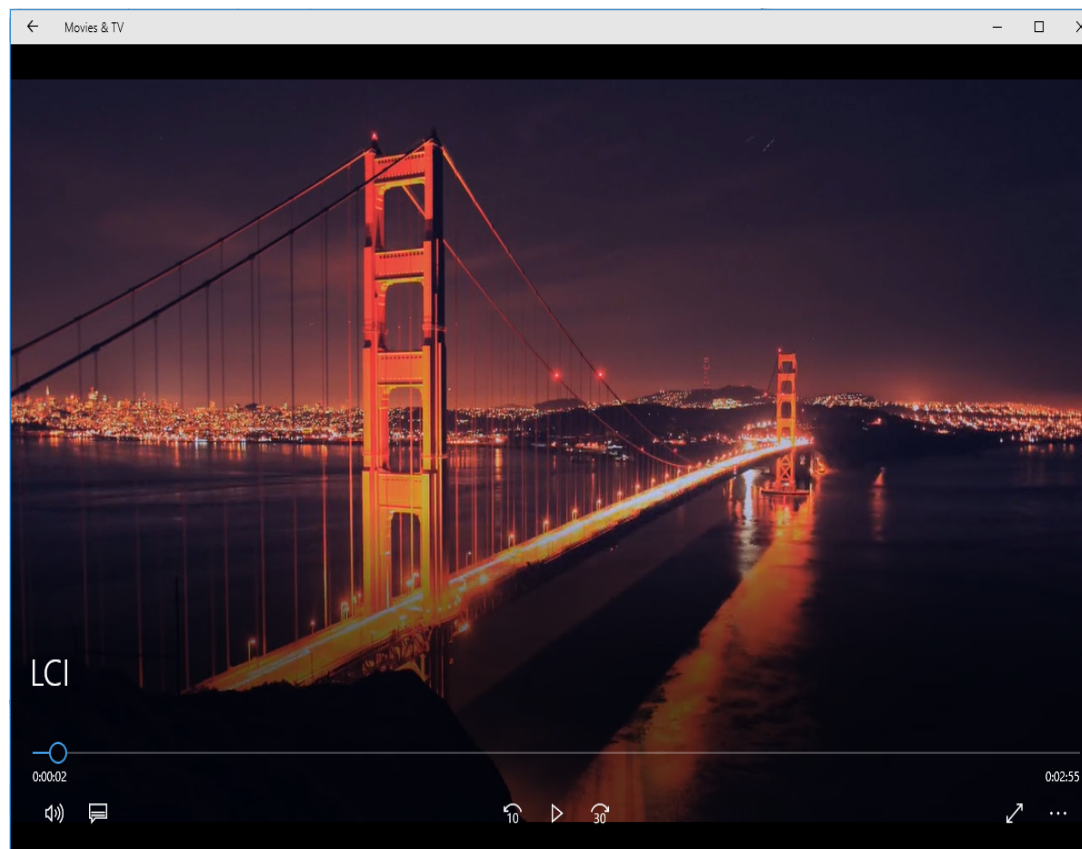


Quality People. Quality Projects.

Prefabbed Racks & Plumbing Assemblies



Setting the Culture/Mindset



Welcome Brochure



Welcome to the VNGC Project Team



V
A
L
U
E
S

Wellness
Transparency
Discipline
Trust & Respect
Community
Innovation

Core Values We Need **YOU** To Share!

Our Team's Success builds on a strong **Community of Trust and Respect.**

Together we strive to challenge the status quo and through **Transparency** and **Innovation**, eliminate waste and maximize flow.

All team members are engaged to actively promote both physical and mental **Wellness** and execute with **Discipline** and **Passion**



Work With Heart, Build With Care

What **YOU** Need to do to Help Us Strive!

Respect All Team Members!

As an Integrated Project Delivery Team, all workers, regardless of trade, are **YOUR** colleagues, look out for them!

Stop The Line, Optimize!

YOU are expected to pause work and discuss with your supervisor whenever **Safety**, **Quality** and/or **Optimal Production** are jeopardized. Hiding challenges is not permitted!

Share your Ideas!

It is **YOUR** experience and knowledge that drives **Production Improvements**. We want to hear your ideas and remember, there are no dumb ideas. Submit a **Production Card** and we will follow up!

Set Up Your Workspace!

It is **YOUR** responsibility to keep your workspace safe, clean and efficiently organized with the right material and equipment readily accessible.

Recognize and Celebrate!

If you see someone behave in a great way that helps the team succeed, nominate him or her for the **Sticker Award!**



Welcome Brochure

Why VNGC is Different:



The IPDT approach is not a just a flashy thing, it is very much real and proving to be a huge benefit to our project. This is not your traditional general contractor/subcontractor build. Here every voice matters and is heard. Every trade partner on our project has skin in the game. We continue to beat our schedule and I believe it is because we are an IPDT"

- Mike Price, General Superintendent HB



The VNGC project team is built with dedicated professionals from each trade that are committed to supporting and challenging each other to ensure successful completion and to continuously improve

- Joe McKeown, Superintendent Pankow



From a construction perspective, our field leads have worked side by side with the architects and engineers of record to produce a fully constructible and well informed set of documents. Their efforts upfront is supporting the success of the site installation daily.

- John Oliva, Superintendent, REI



At VNGC, every single person needs to adopt the culture, "that we are all as one". Then we will succeed.

- Matt Davenport, Superintendent, SI



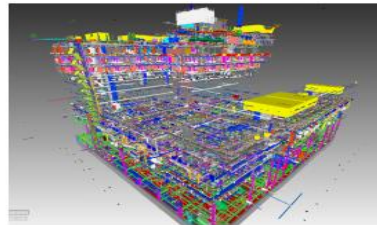
A committed owner that has heavily invested in it's team with an inherent belief of complete success that resonates throughout the project daily.

- Henry Nutt, Superintendent, SI

Project Overview: Highlights and Statistics



Sutter Health CPMC has provided medical care to San Franciscans for over 150 years. For example, approximately one-half of the children born in San Francisco have been born at a CPMC hospital. The next generation of health care will be delivered at the Van Ness and Geary Campus in state-of-the-art facilities essential for medical care in the 21st century. The campus will include a 274-bed, 12-story hospital that will provide 740,000 square feet of women's, children's, cardiology, oncology, transplant and emergency care services. Across Van Ness, a 9-story, 253,000 square foot medical office building will support the hospital and will be connected by a pedestrian tunnel beneath the street. The hospital and medical office building will be LEED and LEED-Silver certified respectively. The campus will provide 376,000 square feet of underground parking.



The VNGC hospital is being built using forward-thinking, sustainable design and construction concepts. The project requires a construction team that can incorporate innovative construction management practices in order to be safe, efficient and cost-effective. The VNGC team will "virtually" design and resolve construction challenges in a collaborative manner before physical construction begins. Our integrated approach allows our team to share and retain accurate and accessible information, providing state-of-the-art and cost-efficient means to ensure we meet the challenges of a high visibility, high impact and complex project.

Designing a flagship medical center poses unique challenges. Some examples are a hospital with a lightweight yet strong structural system that significantly improves the seismic safety and energy effectiveness of the building. Incorporating a 100 percent filtered outside air system, green roofs, healthy building materials and water conservation techniques result in a setting that promotes the health of patients, staff, and visitors.

Fun Facts:



We will pour enough concrete to pave the Golden Gate Bridge 4 feet thick between the towers



If rolled out, the VNGC wiring would go from San Francisco to Midland, Texas



The emergency generator for VNGC would power 800 homes



Drywall on VNGC would cover 70 football fields

Hard Hat Sticker Award Program



Stickers are given to team players for execution of an exceptional play in the field that increases our chances of success

\$ Ideas to increase productivity

✂ Ideas to improve working environment

⚡ Ideas to remove constraints

✚ Ideas to improve safety and well being

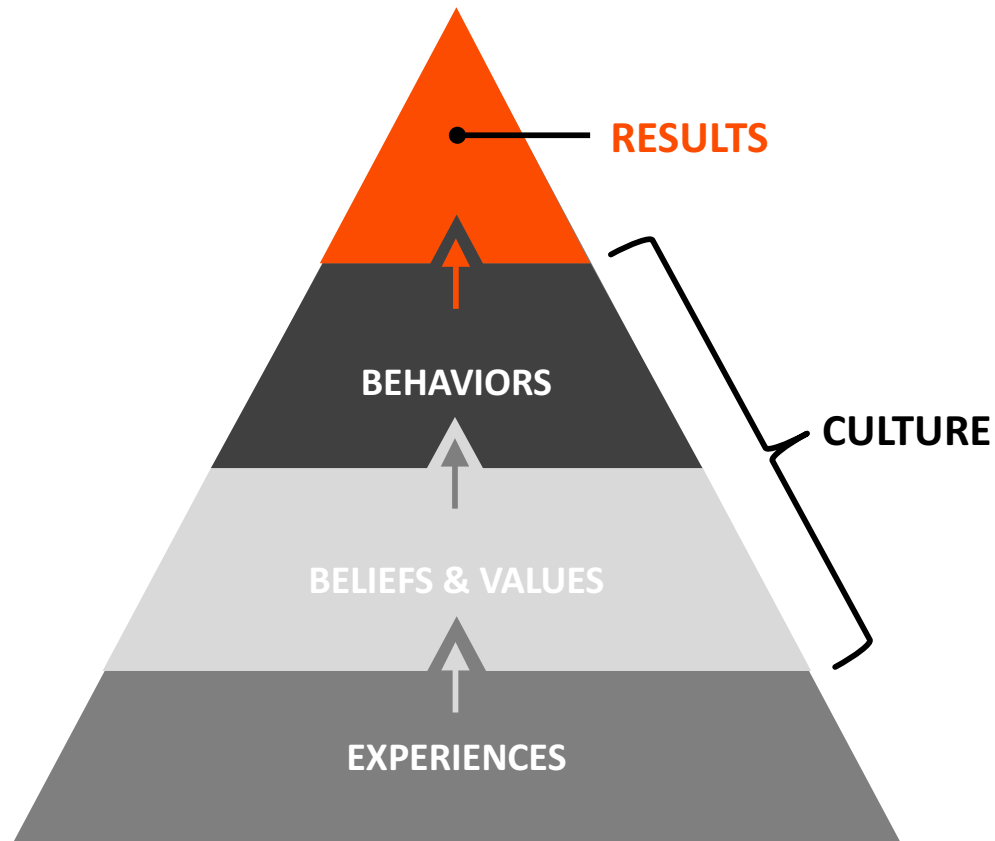
Awards can be given to any one by any one, nominate someone on the project news board

Critical Contacts:

Safety/ EMT Thomas Chayrez:	408-826-7418
Site Superintendent Ken Moehling:	916-995-1522
Logistics Superintendent Tom Herrero:	414-652-5292
Production Superintendent Dan Wagner:	415-369-7460
General Superintendent Mike Price:	415-517-7009
Production Engineer Alex Campbell:	415-308-6247

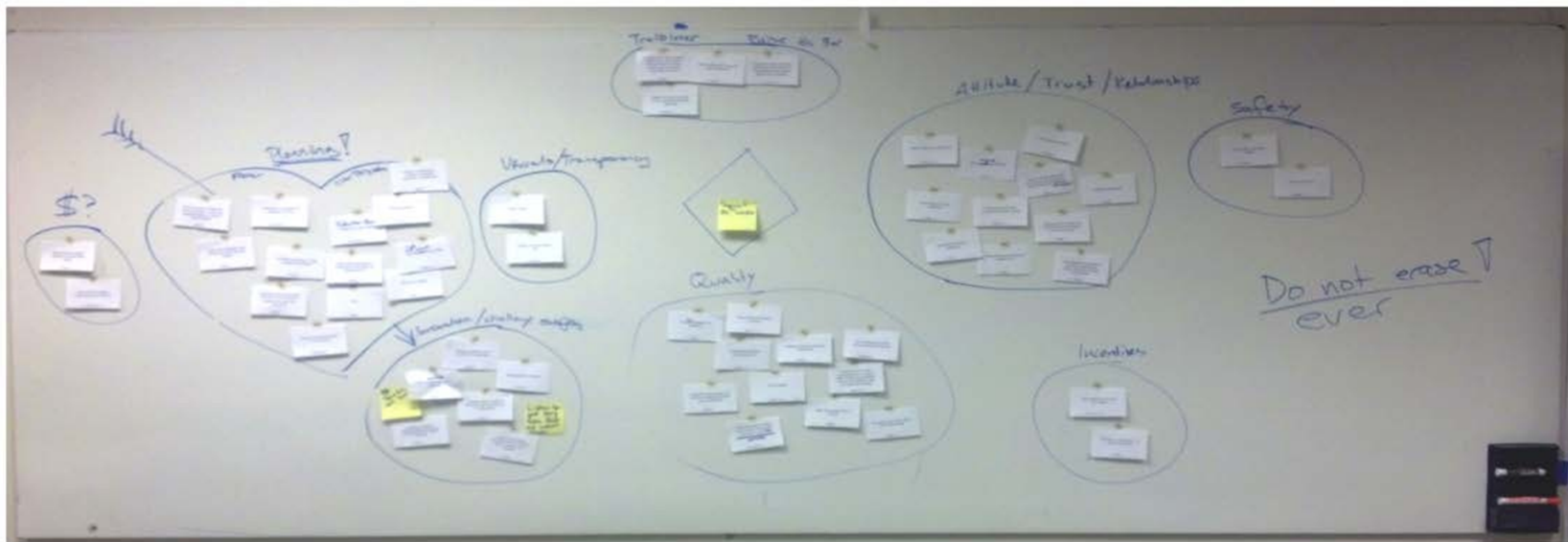
Culture Triangle

Change the experiences, mold the culture, drive results



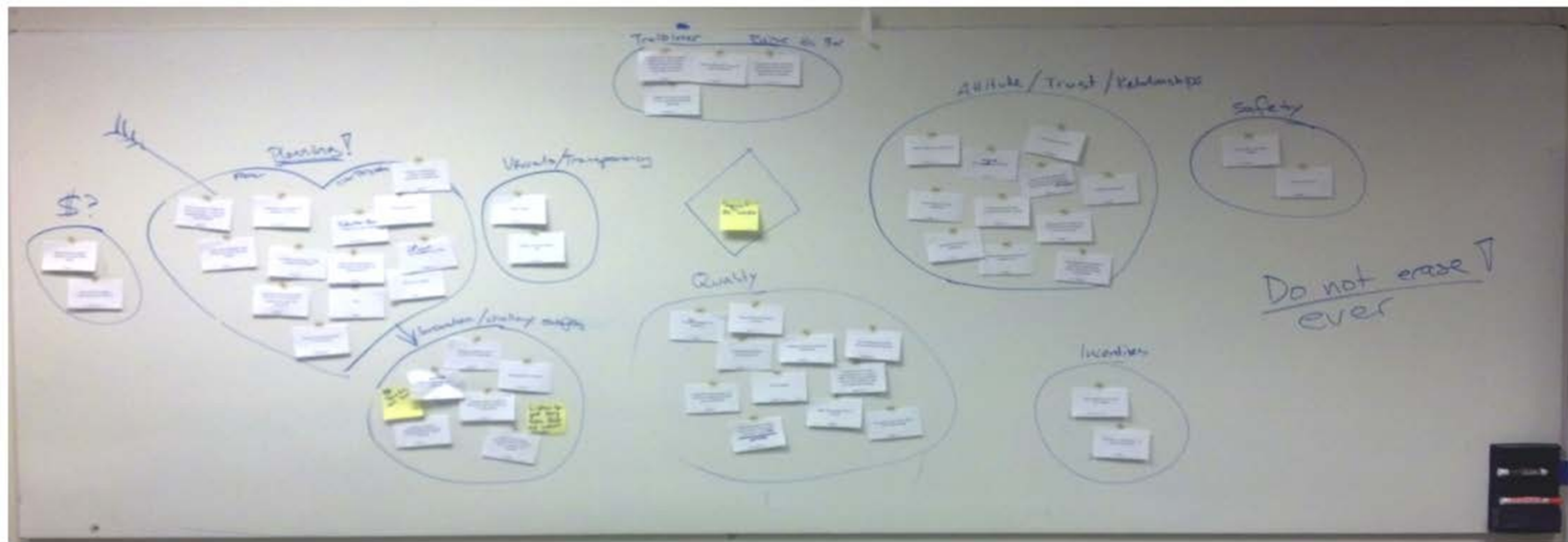
Culture

- The “soft” aspects of projects does not just happen
- Take the time to align your team
- Learn about each other
- Set common goals and use them for good!



Culture (get used to these words...)

- ✓ Planning
- ✓ Trust
- ✓ Buy in
- ✓ Transparency
- ✓ Commitment
- ✓ Accountability



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- Always think of your project as a production system
- Work together to systematically control capacity and maximize flow
- The integrated project allows for true production planning and supply chain optimization



Van Ness & Geary Campus Hospital Project

Takt Planning

Develop a balanced, consistent and predictable work flow (plan best for project not for individual trade partner)

Prevention

- Optimize the slowest trade to set the rhythm or takt of construction
- Have all trades adjust their capability levels to the capacity of the slowest trade



Van Ness & Geary Campus Hospital Project

Takt Planning: Flow

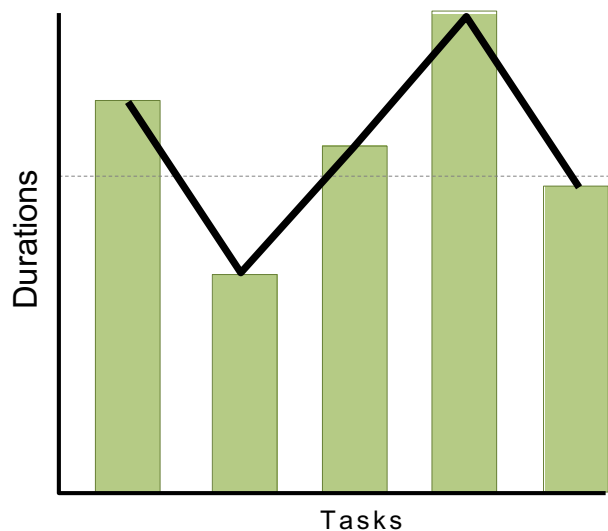
- All cars physically fit on the road
- If we could all just set our cruise control to 30 Mph



Van Ness & Geary Campus Hospital Project

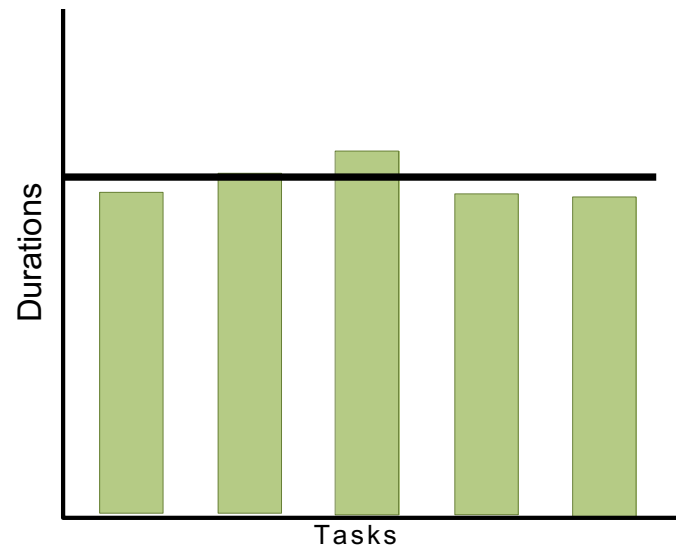
Takt Planning

Develop a balanced, consistent and predictable work flow



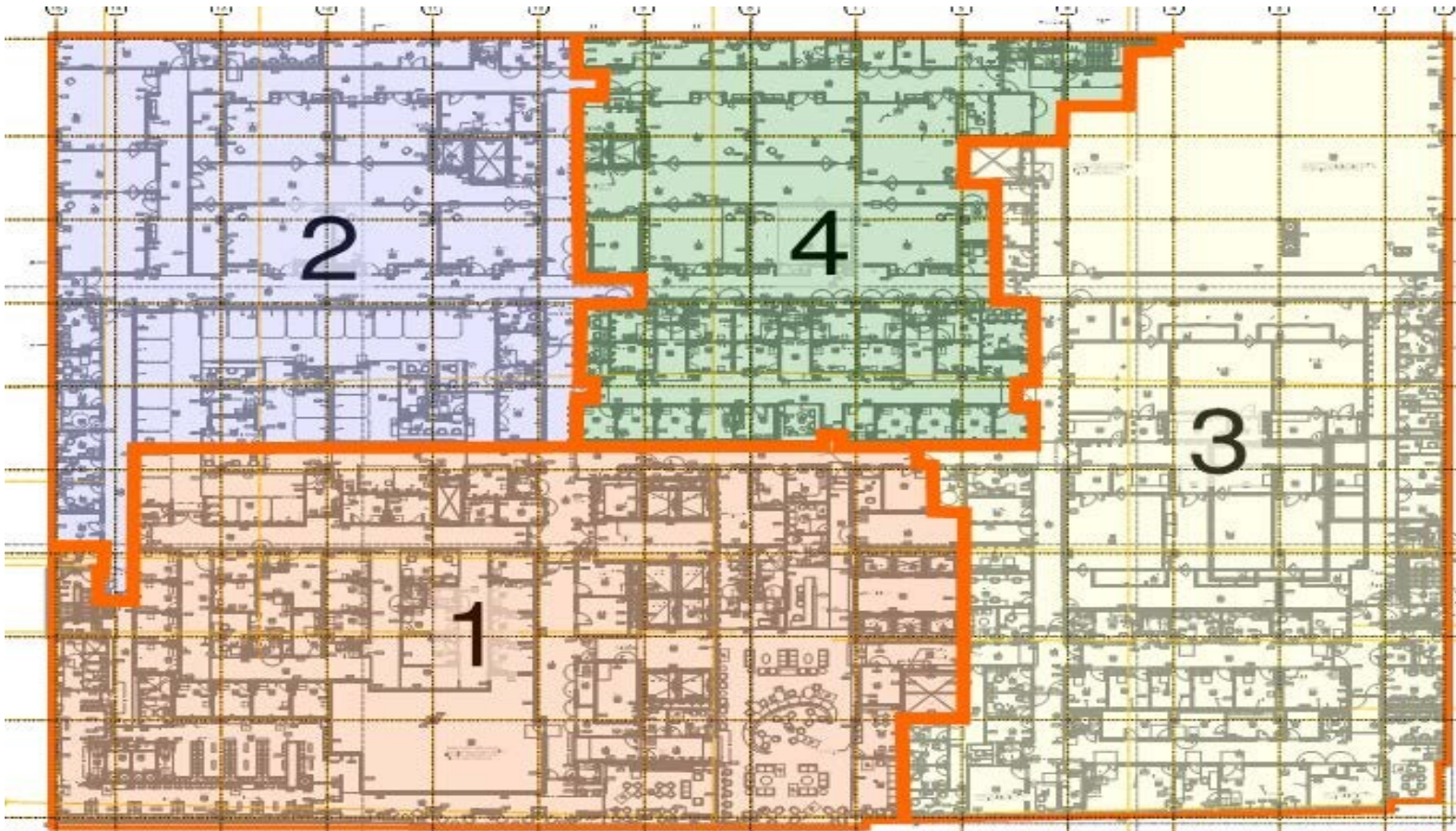
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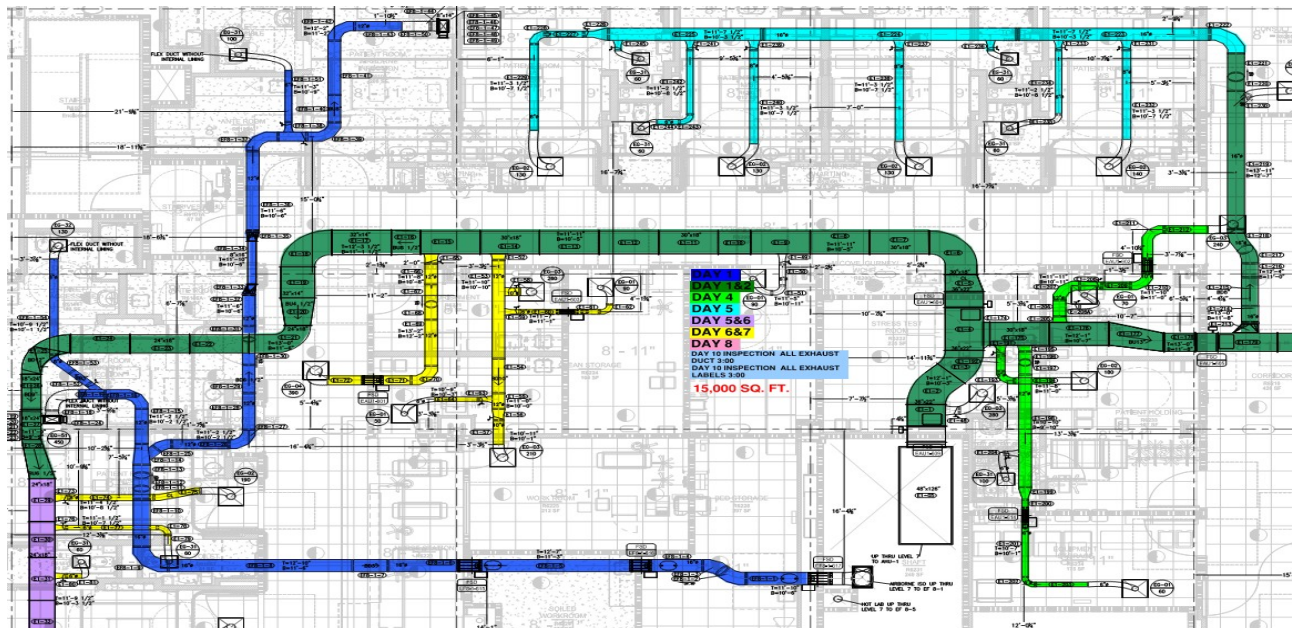
Van Ness & Geary Campus Hospital Project

Common Geographical Language



Track the way we will actually bid

Make Timely Adjustment



Detailing and Fabrication Scheduling Tool

Project Name: VNGC Hospital
Project Number: 5621037

SHEETMETAL

General Foreman: Ron Heise
Cell: 510.358.7785

AREA	TOTAL LBS.	DRAWINGS READY FOR DOWNLOAD	DIMENSIONED FIELD INSTALL DRWGS	DOWNLOAD TO SHOP	SHOP FAB START	SHOP FAB COMPLETE	SHOP PRE-FAB COMPLETE TO TI	CONSTRUCTION START
OVERHEAD		4 wks prior to fab start		2 wks prior to fab start	10 wks prior to TI due date		4 wks prior to construction start	
P3	27,217	9/9/2015		9/23/2015	10/7/2015		12/16/2015	1/13/2016
P2	40,672	10/29/2015		11/12/2015	11/26/2015		2/4/2016	3/3/2016
LEVEL 1	Welded: 3,407 LBS (345 FT)							
L1 MAINS P1	19,890	12/10/2015		12/24/2015	1/7/2016		3/17/2016	4/14/2016
L1 MAINS P2	19,890	12/31/2015		1/14/2016	1/28/2016		4/7/2016	5/5/2016
L1 MAINS P3	19,890	1/21/2016		2/4/2016	2/18/2016		4/28/2016	5/26/2016
L1 MAINS P4	19,890	2/12/2016		2/26/2016	3/11/2016		5/20/2016	6/17/2016
L1 2ND PASS P1	7,225	12/31/2015		1/14/2016	1/28/2016		4/7/2016	5/5/2016
L1 2ND PASS P2	7,225	1/21/2016		2/4/2016	2/18/2016		4/28/2016	5/26/2016
L1 2ND PASS P3	7,225	2/12/2016		2/26/2016	3/11/2016		5/20/2016	6/17/2016
L1 2ND PASS P4	7,225	3/7/2016		3/21/2016	4/4/2016		6/13/2016	7/11/2016
LEVEL 1 TOTAL	108,460							
LEVEL 2	Welded: 2,607 LBS (263 FT)							
L2 MAINS P1	24,460	3/7/2016		3/21/2016	4/4/2016		6/13/2016	7/11/2016

Weekly Productivity Tracking

Job Status - Labor Feedback Report

Version: Monthly
AsOf: 06/22/2017

Job:

Section	Activity	Cost Type	Description	Open	Units	Current Budget	Period 1 02/28/17	Period 2 03/31/17	Period 3 04/30/17	Period 4 05/31/17	Period 5 06/30/17	Rolling Total	Job To Date	Units % Comp / %Spent	Remain	Forecast	Over / (Under)
10	10102	25	SM Main Duct - Rectangular - L2 Sheet Metal NA NA	N	LF Hrs LF/MD Cost \$/ HR												
10	10103	20	SM Main Duct - Rectangular - L3 Sheet Metal NA NA	Y	LF Hrs LF/MD Cost \$/ HR												
10	10103	25	SM Main Duct - Rectangular - L3 Sheet Metal NA NA	N	LF Hrs LF/MD Cost \$/ HR												
10	10104	20	SM Main Duct - Rectangular L4 Sheet Metal NA NA	Y	LF Hrs LF/MD Cost \$/ HR												
10	10104	25	SM Main Duct - Rectangular - L4 Sheet Metal NA NA	N	LF Hrs LF/MD Cost \$/ HR												
10	10105	20	SM Main Duct - Rectangular - L5 Sheet Metal NA NA	Y	LF Hrs LF/MD Cost \$/ HR												
10	10105	25	SM Main Duct - Rectangular - L5 Sheet Metal NA NA	N	LF Hrs LF/MD Cost \$/ HR												

Ingredients for Success

- ✓ Trade Partners – Willing and Capable
- ✓ General Contractors – Help to set the tone and provide leadership
- ✓ Owners – Investment and set very high expectations

Van Ness & Geary Campus Hospital Project

Production Tracking: Does it work? We think so!

