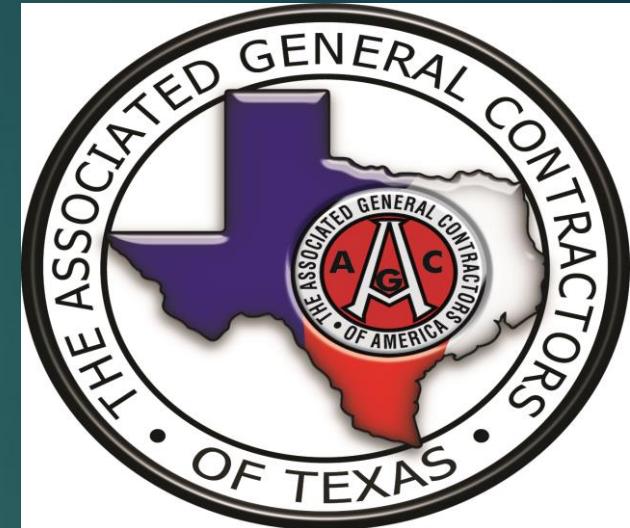


# Accelerated Construction Workshop

PHILLIPPE FALKNER – ED BELL CONSTRUCTION



# There's no magic wand or silver bullet

- ▶ It's about reducing critical path activities.
- ▶ It's about keeping utility delays out of your schedule.
- ▶ It's about simplifying the design.
- ▶ It's about seeing the bigger picture.
- ▶ It's about avoiding red tape.
- ▶ It's about checking your ego at the door.
- ▶ It's about being proactive instead of reactive.
- ▶ It's about keeping an open mind. It can be done. We've done it and lived to tell the tale.

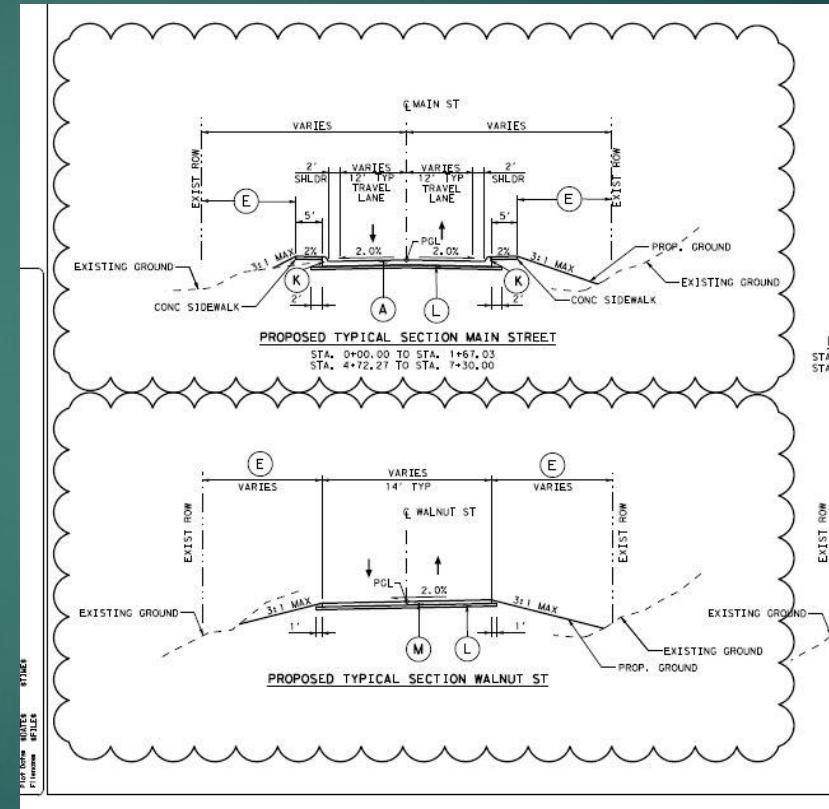
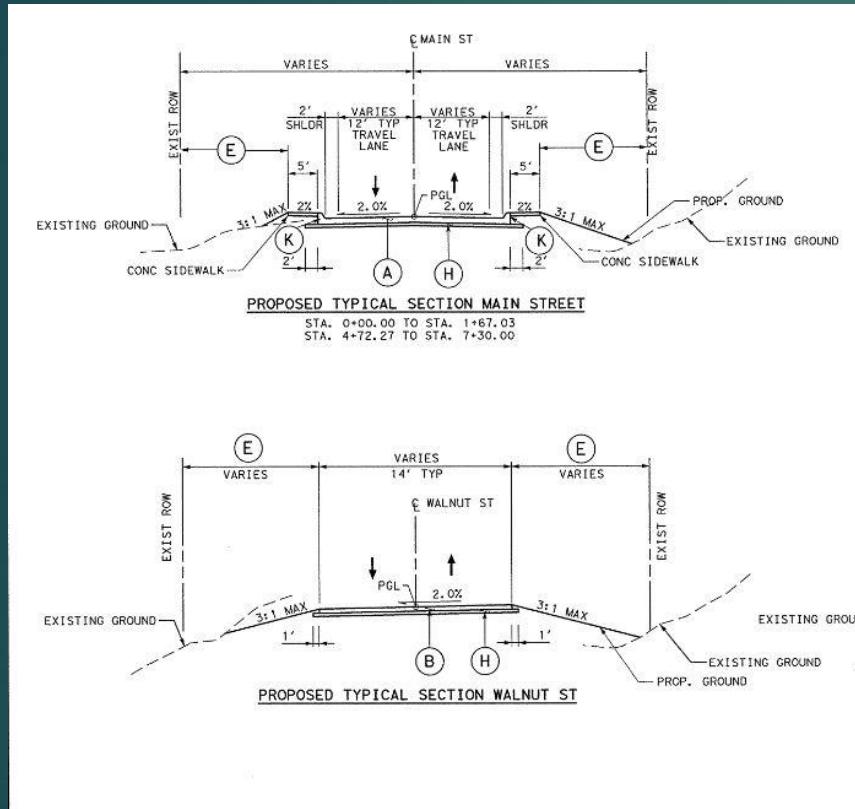
# Design and Construction Methods



# Accelerating key phases or intersections: weekends work

- ▶ Be prepared before you get to the need to do it. Have alternate subgrade designs, pricing, and mechanisms in place to use on the fly. Much better to bid it in than change order it in.
- ▶ Even if a project section is designed with lime or cement, consider flexible base for subgrade...or no subgrade at all.
- ▶ HES concrete is underutilized. It's not just for concrete paving. Inlet throats, flowable fill with accelerator in lieu of CSB at abutments, just about any non-HPC concrete is an option.
- ▶ Maturity meters are a vastly underutilized tool.

# Removal of subgrade and increasing concrete depth

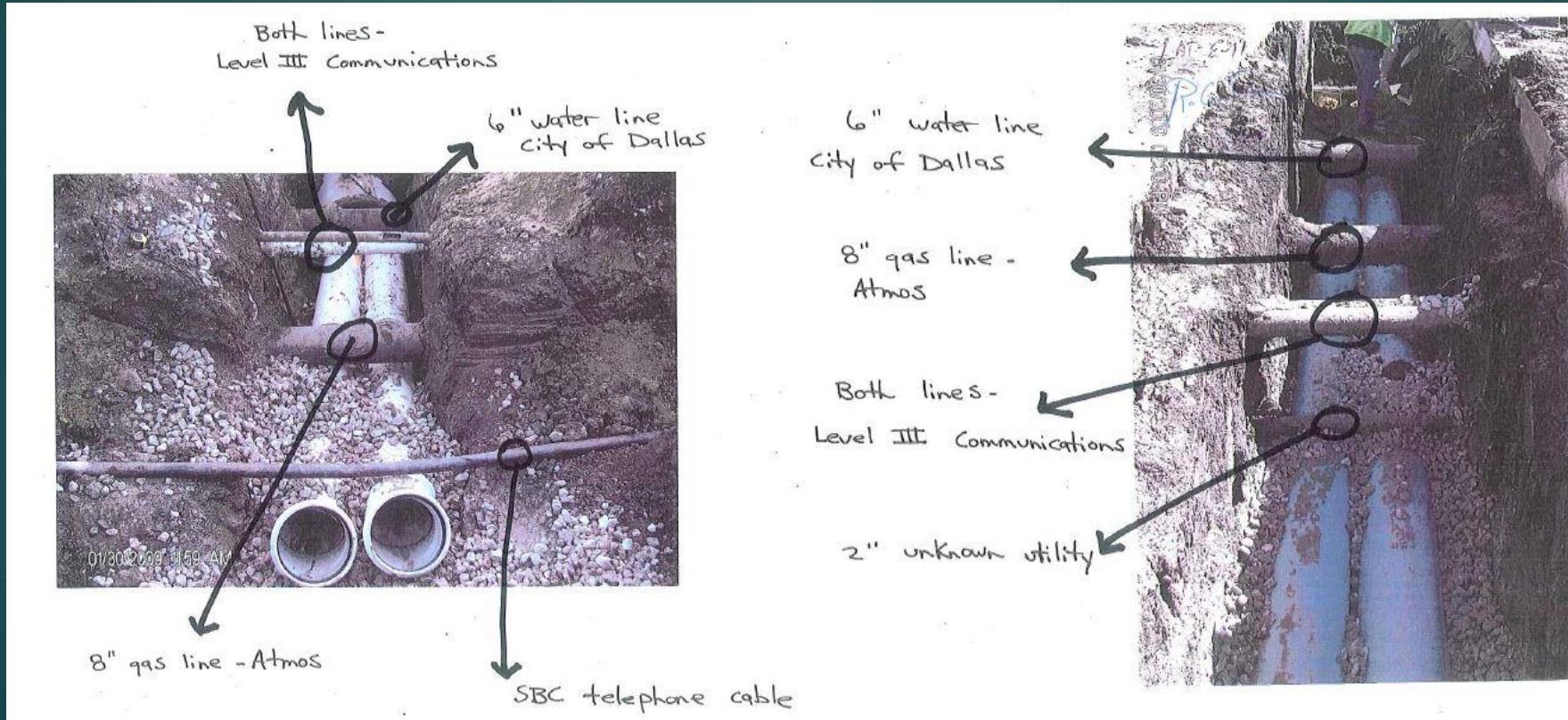


# Avoid utility delays when possible...and probable

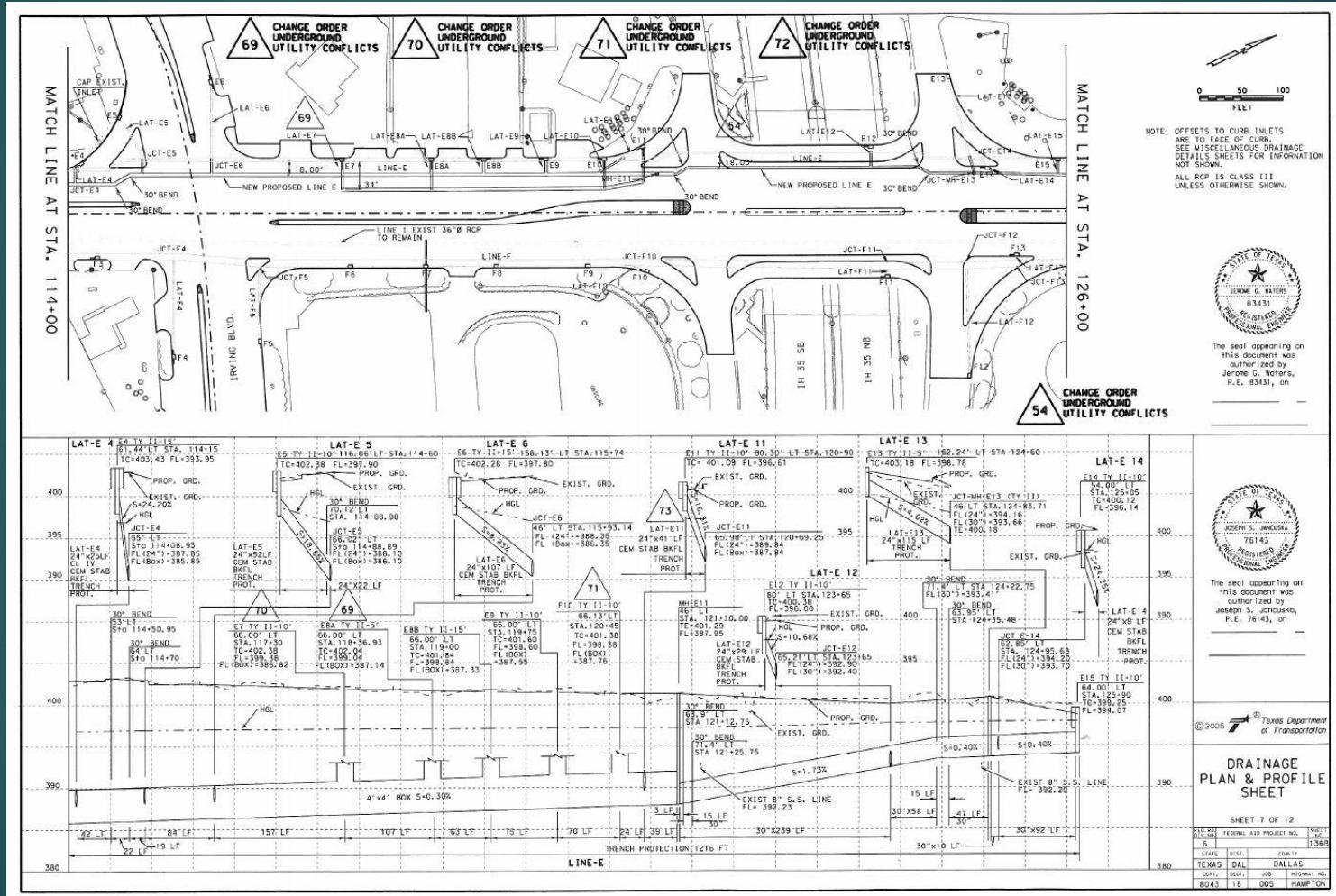
- ▶ The Department in conjunction with the contractor can ALWAYS move faster than a franchise utility...if they are willing to do so.
- ▶ Don't be afraid to think WAY out of the box on rerouting foundations, structures, utilities, etc. Additional construction costs are almost always cheaper than utility delay claims, plus added time for the public.
- ▶ Quit asking "Do we have a pay item?" or "What is the standard?". Start asking "What will solve the problem?" and "What will work?"

# Hampton/Inwood Road

- ▶ On a project in Dallas County (with 31 separate franchise utilities), contractor field fit drainage laterals on a daily basis under force account, under supervision from an engineer, to progress laterals around live utilities.



# Hampton/Inwood Road



# Simpler designs = faster construction

- ▶ Curb and Gutter templates should rest on the subgrade, with an adjacent section of HMAC. Avoid placing HMAC under AND adjacent to a curb and gutter section. This generates a second HMAC mobilization.
- ▶ Try to avoid using multiple types or classes of HMAC in a section. Most vendors only run one type of mix in a silo per day. Slows down production rates.
- ▶ Think about roadway geometry, especially as it relates to structures. Just because it can be done, is it necessary? Will it add additional low production work, especially in the superstructure? Does it add falsework or additional critical path activities, like haunch build up?
- ▶ Use of common paving widths where possible. Reduce the need for machine and formwork changes. Make the process repeatable.
- ▶ Bridge rail: stick to what can be slip formed, gets done in less than 20% of the time.

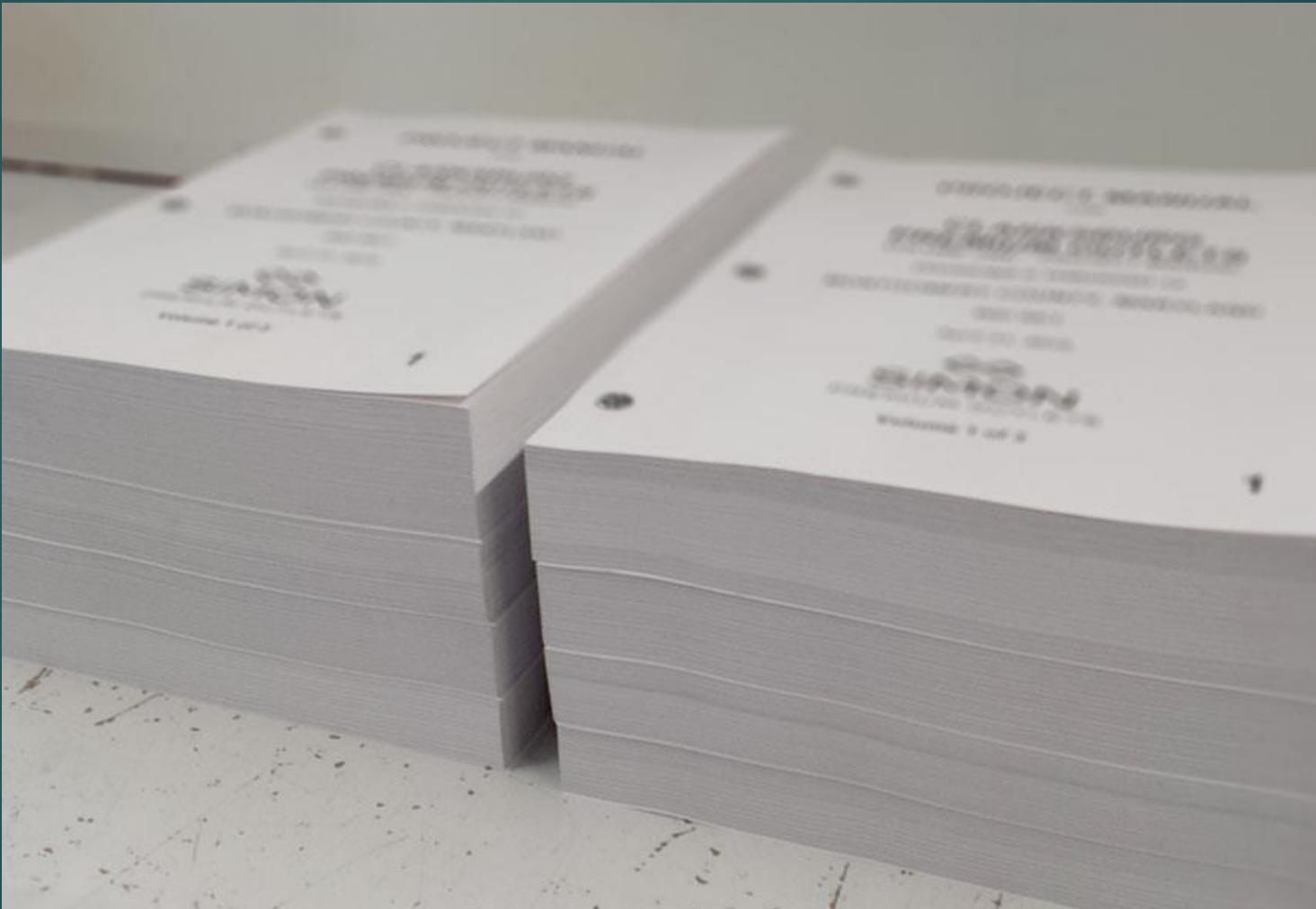
# Sometimes, it's about getting out the checkbook....

- ▶ Sometimes it makes sense to pay for all the PCTB upfront, to work in all available areas.
- ▶ Utilize available PCTB types, understand fabrication times and limited vendors.
- ▶ Stamped traffic control plans : figure out who can do them quicker, and don't be married to either party doing them. It's about keeping the project moving.
- ▶ Certain types of shoring open new and available work areas in an instant.
- ▶ Pay for sod. Yes, pay for sod.

# You cannot sacrifice safety or quality for speed

- ▶ Accelerated bridge deck riding surfaces. Is it worth getting a decrease in ride quality?
- ▶ Trying to work multiple crews in limited workspaces. Don't believe the "project manager misnomer" : nine women together can make a baby in one month.
- ▶ At some point, men and machines only go so fast.
- ▶ Some things should be limited to emergency construction only.

# Regulations and Rules



# Don't handcuff yourself intentionally

- ▶ The spec book is a guide in combination with common sense and design parameters.
- ▶ See the forest AND the trees. Look for opportunity, don't be scared by the perception of "regulations and protocol."
- ▶ Avoid the crutch of "Build it per plan."
- ▶ Build flexibility into all aspects of your plan. Set the Engineer and contractor up for success later. You can always put in options, then not use them.

# When is it time to rip the band-aid off?

- ▶ What do 9A-330P closure restriction really get the traveling public? How do we get anything done on the critical path in 5 ½ hours per shift?
- ▶ Twice the pain in less than half the time; the traveling public is equally unhappy.
- ▶ Understand fixed times (lane closure setups, equipment setups). Find ways to increase production times.

# Partnering and Project Delivery



# It takes effort and “want to”

- ▶ Empower personnel to make field level decisions.
- ▶ Stop with “We have #X days to review.” If it helps the project, walk it through and expedite. Take the active role.
- ▶ Don’t plan for IF something goes wrong, but rather WHEN something goes wrong.
- ▶ It may be a last minute idea, doesn’t mean it’s too late.
- ▶ Work towards helping the contractors be successful. This isn’t a puzzle.
- ▶ Neither side should have surprises waiting for them.
- ▶ “Bid as shown” before the letting – change order and delay after it.

# Understand what tools you have in your toolbox

- ▶ Use of incentives and disincentives; it works better with more carrot and less stick.
- ▶ No excuse incentives – have your ducks in a row.
- ▶ Time determination calculations. Is the foundation you're building on solid? What are we trying to accelerate? You can't defy logic.
- ▶ Make a clean path for value engineering and time savings proposals. Discuss at the pre-con.
- ▶ Understand your bid items and the proper application of them.

# Real world concerns

- ▶ Reduction of aesthetics, landscaping, form liner, bridge rail, etc.
- ▶ Prop 1/7 and the promise to the taxpayer. 80%+ of the voters didn't support more funding for aesthetics. Even if third party pays – it still slows down the project.
- ▶ Understanding the workforce challenges and shortfalls, you're not going to cut 50% out of project time in the current environment. One project gains – another project suffers.
- ▶ Accelerating time too much limits competition and success ratio.
- ▶ Accelerate key projects wisely. If you accelerate every project, you've accelerated none of them.
- ▶ Gains of 10-25% are realistic.

# Project Delivery

- ▶ Project delivery task force goals are hand in hand with accelerated construction goals.
- ▶ High levels of open and productive communication.
- ▶ Setting realistic goals and expectations.
- ▶ All project team members have to be pulling the cart in the same direction.