



INDIANA
TRANSPORTATION TEAM

Breakout Topics

1. Stage 2 Plans

Stage 2 Plans – The idea behind this station was to identify who is/should be involved in Stage 2 Plans and what are we / could be doing to improve this area. Notes are consolidated notes from the different rotating groups through the station. In general the conversations revolved on Stage 2 Plan Submissions, Reviews, and Plan Availability for Contractors.

Who Is / Should Be Involved in Stage 2 Plan Submission

- Designer
- INDOT PM
- Central Office (INDOT)
- Contractors
- Maintenance Department
- PE/PS
- Right-of-way
- Environmental/Permitting
- Utilities/Pipeline/etc
- Geotechnical
- Railroad Coordination
- Area Engineer
- Technical Support (Specifically noted to provide a feedback loop on design meeting original intent)
- Public (Question raised if possible at this time given Right-of-way concerns)
- Asset Owners/Locals
- Pavement Design
- Work Zone Safety
- Suppliers
- Construction
- Traffic

It should be noted that it was emphasized by multiple groups that Stage 2 is often skipped and that Stage 2 should be prioritized and re-engaged as a must stage submittal. If any Stage is skipped it was suggested that Stage 1 would be better skipped than Stage 2. Several times it was mentioned that Stages are skipped over a perceived cost and time savings that may not actually be savings in the long run.

Questions Surrounding Stage 2 Plan Submission

- Timing of Stage 2 vs availability for contractors to provide reviews; particularly with conflicts with multiple projects bidding
- Timeframes for contractor review and turnaround of comments
- Where are contractor questions submitted and who reviews
- Would questions be answered and posted
- Could contractors be added to final field check if interested
- What is incentive to contractor to provide comments
- Will contractors provide real feedback
- Could you require feedback at Stage 2 in order to bid
- Will comment process effect timeline
- Should items provided in Stage 2 be revised
- Is this for all sites/types projects
- Do designers increase costs because of this
- Do comments affect scoring
- Is Stage 2 detailed enough for real constructability comments
- Sometimes drastic change between Stages 2 and 3; does this create issues

Suggestions/Comments Surrounding Stage 2 Plan Submission

- Involve suppliers to improve product availability; ensure suppliers have the information they need on the plans such as type and quantity; particularly long lead items or unique materials
- INDOT request contractor reviews; send notifications to all contractors and advertise online
- Set review timing window to account for bidding deadlines
- Define the internal hierarchy of who reviews comments
- Categorize all comments and questions
- Get pavement design done by Stage 2 in order to ensure asphalt vs concrete can be defined
- Be comfortable pulling Letting with major feedback
- Early review may take away financial incentive on CRI's
- Ensure INDOT and Designers take QC reviews seriously
- Hold actual field checks and consider adding an additional field check or moving PFC for better timing with additional information; encourage or make attendance mandatory as everyone needs field experience
- Stage 2 reviews provide valuable review and information on MOT and phasing
- Seek input from contractors on Time Set
- Advertise to contractors the advantages of their involvement:
 - Abate risk
 - Allow for future planning
 - Submit better bids
 - Know what is coming
 - Level the playing field

- Need to keep legal involved; concerns raised on publication of plans at Stage 2 showing Right-of-way conflicts
- Ensure core question is answered: Is the design buildable?
- Put an emphasis on the design documents at Stage 2 to ensure design is better/farther along
- Emphasis on unique special provisions
- Stop skipping Stage
- Revise overall timeline between Stages to provide team more time to complete Stage 2; increase time between Stage 1 and 2; decrease time between Stage 2 and 3
- INDOT needs to ensure internally they are reviewing and focused on ensuring every project is biddable
- Convene a meeting of contractors and get an understanding of what they want to see at Stage 2
- Include geotechnical information
- Include general/preliminary quantities
- Send INDOT internal constructability reviews to the designers
- Consider Stage 3 plan release vs Stage 2; would need to revise timelines in order to provide enough review time

There was some concern raised about releasing plans online that will be available to the public showing Right-of-way and potential conflicts with private property including potential property takes. Timing of Stage 2 typically may occur prior to environmental being complete and acquisition being initiated.

2. Pre-Construction Conference

WHO SHOULD BE INVOLVED?

- a. INDOT
 - i. AE, PE/S, INSPECTORS
 - ii. EEO
 - iii. PM
 - iv. DESIGNER (IN-HOUSE DESIGN)
 - v. UTILITY & RAILROAD COORDINATOR
 - vi. TECHNICAL SERVICES – SCOPING/PAVEMENT
 - vii. MAINTENANCE UNIT FOREMAN
 - viii. DISTRICT TESTING ENGINEER
 - ix. ENVIRONMENTAL/SWQM/EROSION CONTROL
 - x. SAFETY
 - xi. COMMUNICATIONS
 - xii. TRAFFIC ENGINEER
- b. CONSULTANT
 - i. DESIGNER (CONSULTANT DESIGN)

- ii. PE/S, INSPECTORS (CONSULTANT INSPECTION)
 - iii. ENVIRONMENTAL/SWQM/EROSION CONTROL
- c. CONTRACTOR
 - i. PRIME (INCLUDING SUPERINTENDENT)
 - ii. SUBS (ALL)
 - iii. SUPPLIERS
 - iv. ENVIRONMENTAL/SWQM/EROSION CONTROL
 - v. SAFETY
- d. OWNER – INDOT/MPO/LPA
- e. UTILITIES
- f. RXR
- g. FHWA
- h. ADJACENT PROPERTY REPRESENTATIVES
- i. LOCAL STAKEHOLDERS

WHAT'S IT LOOK LIKE?

- a. SEND OUT SOME PAPER WORK IN ADVANCE TO SAVE TIME – EXAMPLE: AGENDA, EEO, SCHEDULES
- b. PE/S RUNS MEETING
 - i. DISTRIBUTE AGENDA
 - ii. INTRODUCTIONS (“HOSPITALITY”) INCLUDING ROLES
 - iii. ESTABLISH DECISION MAKING HIERARCHY
 - iv. NOTE PROJECT BUDGET AND TIME REQUIREMENTS
 - v. ESTABLISH HOW CHALLENGES/CHANGED CONDITIONS/CHANGE ORDERS WILL BE ADDRESSED
- c. DESIGNER
 - vi. MORE SHARING AT BEGINNING – WHY ARE WE HERE?
 - vii. CLEARLY DEFINE PURPOSE AND NEED
 - viii. DISCUSS PROJECT GOALS
 - ix. USE GIS/MEDIA TO DISPLAY AND IDENTIFY PROJECT
 - x. GO THROUGH DOCUMENTS
 - 1. PLANS
 - 2. UNIQUE SPECIAL PROVISIONS
 - 3. COMMITMENTS
 - 4. Q&A CONCERNS
- d. CONTRACTOR
 - xi. ESTABLISH HOW WORK WILL BE ACCOMPLISHED/MOT
 - xii. ACCURATE SCHEDULE AND “DEEP DIVE” SCHEDULE REVIEW
 - xiii. IDENTIFY RISKS
 - xiv. DISCUSS PROBLEMATIC AREAS (REFINE, ESTABLISHING TRUST)
- e. SEND OUT NOTES/MINUTES TO ALL PARTIES

HOW DO YOU MAKE IT STICK?

- a. ALL COMMIT
- b. BE PREPARED AND ON THE SAME PAGE

- c. EMPOWER STAFF – EXPLAIN RESPONSIBILITIES
- d. USE THE PROCESS ON ALL PROJECTS
- e. IDENTIFY IT AS PRIORITY WITH CHAIN OF COMMAND
- f. PROVIDE CALL-IN OPTION
- g. HAVE ADVANCED CONVERSATIONS TO SET EXPECTATIONS
- h. MAKE SURE THE RIGHT PEOPLE ARE IN THE MEETING
- i. REVIEW AND EDIT THE INDOT PRE-CON LIST

3. Pre-Final Conference

4. Pre-Final Conference Station

- a. Who is involved?
- b. What does it look like?
- c. How do we make sure that it works?

5. Who is involved?

- a. The following stakeholders can vary depending on the nature of the project and the involvement of the various stakeholders throughout the life of the project.
 - i. Prime Contractor and Major Subcontractors
 - ii. INDOT
 - 1. Construction
 - a. Area Engineer
 - b. Project Engineer/ Supervisor
 - 2. Technical Services Asset Engineers
 - 3. Capital Program Management
 - a. Project Manager
 - b. In-House Designer
 - 4. Maintenance
 - 5. Traffic
 - 6. Environmental
 - iii. ***Consultant Designer
 - iv. County (Especially for LPA projects)
 - v. Other Federal/ State Agencies

1. Army Corp of Engineers, Indiana Department of Environmental Management, Indiana Department of Natural Resources

- vi. Utilities

***It should be noted that currently and often, the Consultant Designer is not invited to the Pre-Final Conference. Many see value in their involvement throughout the life of the project, rather than waiting until the end of the project. There should be two-way communication, collaboration, and an expectation between INDOT and the Consultant Designer for involvement in periodic site visits and progress meeting throughout the life of the project. There must also be funds available to compensate the Consultant Designer for this.

6. What does it look like?
 - a. This should be a time to CELEBRATE!!!
 - b. This should be one of the very last milestones for which all stakeholders meet to ensure that all project work has been completed satisfactorily. There may be work items (punch-list) identified that still need some attention, but this should be minimal.
7. How do we make sure that it works?
 - a. Be consistent with attendance!
 - b. Lead, Facilitate, and Work TOGETHER!
 - c. All agreed that the more that is accomplished prior to the Pre-Final Conference, the better for all stakeholders.
 - i. Efforts and Communication prior to with ALL stakeholders
 - ii. NO surprises!
 - d. Discussions and action plans started well before the Pre-Final Conference with a final validation point to ensure success
 - i. Final Pay Items and Quantities (IC- 642 generation and sharing)... ALL items and quantities should be well known between INDOT and the Prime Contractor, as well as ALL of the Subcontractors
 - ii. Materials and Certifications resolution
 - iii. Change Order resolution
 - iv. Failed material resolution... this shouldn't be left hanging
 - v. Notice of Termination (if applicable)

8. 2019 Best Practices (What went well)

What Went Well – The idea behind this station was to identify areas that we are succeeding at. That is - Areas that are going well or items that have already seen improvement from the ITT efforts. The conversation was broken down in to several categories: INDOT Processes, Consultant Practices, Construction Practices, Communications, Partnering, and Projects. Notes are being arranged by all the groups feedback for each category discussed. (Not all topics were hit on heavily due to time limits or wins for that category were covered in other topics discussions)

INDOT Processes:

- The awareness of the need for more Progress meetings throughout the life of a construction contract.
- INDOT funding in place is a win
- Having discussions about how to improve the constructability review process.
- INDOT is getting better at the bundling process with more streamlining of matching up projects and cleaning up pay items and specs for those type projects.
 - The awareness of the need to improve bundling projects was an item that came up a lot.
- INDOT taking the initiative to improve the process through the initial 360 Engagement Study is a win.
- INDOT is reducing the items required for submittals during the design process

Consultant Practices:

- Improvement in trust and communication between consultants and INDOT is being noticed.
- The need for improvement in contractor and consultant coordination and communication is being recognized.
- Post construction reviews for consultant are beneficial
- Constructability reviews during project development.

Construction Practices:

- The awareness of the need for more Progress meetings throughout the life of a construction contract was mentioned again.
- Beginning to have more partial acceptance for contracts.

Communications:

- We are learning that sometimes it is better to pick up the phone and have a conversation that to let the emails to continue to go back and forth.
- The ITT initiative bringing everyone together to have these discussions.
- No such thing as too much communication

- Partnering is: top down setting of expectations, embrace the process and put ego's aside, building trust and increase flexibility, say you are sorry....
- Progress meetings promote communication.
- Communication helps establish relationships.
- We are learning sometimes you have to plan on how we are going to communicate.

- It is good for the consultants and contractors to be at the same table engaging in communication.
- Consistency in who is tracking communications through the project. One source for sending out progress updates and meeting minutes.
- Understanding how we communicate can be good or bad for those working relationships.

Partnering:

- The ITT initiative bringing everyone together is a win for partnering.
- Learning that sometimes less structure is more effective for partnering.
- It is important to build relationships with all parties throughout the process.

Projects:

- Recognizing the need to improve the bundling process was brought up again. INDOT is getting better at cleaning up MOT signage in overlapping construction contracts.

9. 2019 Lessons Learned

Lessons Learned – The idea behind this station was to identify areas where we still need to make a focused effort to improve. In some cases there was a general sentiment that we have made some strides, but are just not there yet. In other cases, we have a long way to go. There was a variety of input ranging from specific examples to general policy thoughts. I am trying to capture the essence of each comment based on my recollection of the conversations.

Group 1

- Consultant team internal communication needs to improve – as teaming becomes more prevalent to provide adequate capacity, consultant team members need to do a better job of communicating, providing more consistent plan sets, etc.
- More time needs to be committed to constructability review, especially as it relates to pay items and quantities in order to reduce costly change orders during construction
- Similarly, a more robust QA/QC process with a second set of eyes reviewing various aspects of the design work is critical with the prevalence for teaming
 - i.e. pipe liners are that are the wrong size are actually showing up on approved design plans
- We need to have a clearer understanding of the project Purpose & Need coming out of the initial planning effort so priorities can be better established
 - And, providing clearer expectations across the team (INDOT/Consultants/Contractors)
- Use and follow guidance documents that are available to designers and contractors
 - i.e. environmental documents, CCMG, etc.
 - Need to improve access to these guidance documents – perhaps provide YouTube videos on INDOT website explaining which forms, what to look for, how to fill them out, etc.
- Actually do a legitimate field check at the Preliminary Field Check

- Bid dates for overlay projects are too late in the year and then there are unrealistic expectations for temperature controlled items
- We need to bring contingencies back to projects to address the unintended consequences resulting from their removal
 - Not just for construction-related overruns and unforeseen factors, but we need to define reasonable contingency considerations at multiple stages of the project development process

Group 2

- There is still room for improvement in the consultant pay item process – unit price, total quantity, multi-DES # bundles, etc.
- We need to establish a “standard” set of Unique Special Provisions that are recurring but not frequently enough for there to be consistent terminology and explanation with the bid document
 - i.e. there are multiple terms and explanations used for pump-arounds
 - This can be especially problematic for LPA jobs, so we need better communications and understanding between design consultants and bidding contractors to reduce change orders due to misunderstood USPs
 - If we had a better feedback loop in place we would have the needed contractor feedback to consultants to reduce the recurrence of poorly-worded USPs in the future
 - We could also address some of these matters if designers were able to start identifying potential USPs at Stage 2 – provided we are able to release Stage 2 plans to contractors for input
- Generally speaking, more face-to-face meetings are desired between respective groups, especially in the field where people can talk through things they actually see
- In bundling projects designer and contractor communication would be helpful in identifying the best way to show pay items
 - Would also be beneficial to have INDOT and contractor interaction to better identify the best type of projects to bundle and when bundling may look good on the surface but not really make sense in practice

Group 3

- Bundling has raised problems with the best way to show pay items
- There are still a few bundling projects on the books where “forced marriages” have occurred and it has caused challenges with:
 - Plan set consistencies
 - Pay item standards
 - How we actually need each design set to be completed
 - Who has the final responsibility for changes – whose design is “right” and are we really going to change their design?
- Consider a selection process where a separate “bundling engineer” is chosen to establish necessary consistencies – quantities, line items, etc.
- We need a more planned and intentional work zone safety program that is educational, informative, and interactive – there are better tools available to us today that can be used to help drive the message home

- Social media, YouTube videos, ITS, etc.
- Perhaps revisit and/or apply the Interstate Highways Congestion Policy more extensively

Group 4

- Safety, consider adding more law enforcement officers to work zones – flashing red and blue lights work
- Be careful to introduce unique construction materials without first sufficiently notifying material providers (time and expected quantities) and engaging them in the conversation of “What problem are we trying to solve or mitigate?”
 - i.e. #43 aggregate
- Subgrade type 1C modified to address drainage challenges with soils is not working – it actually causes water to be held or pool below the K-drains
- There is still inconsistency and lack of consideration of construction approach when showing materials paid by different units
 - i.e. paid by plan quantity or paid by same unit
- Potential risks with soil conditions need to be specifically identified in the conclusion of the geotechnical reports – too often it seems the reports “play it safe” and don’t call out enough risk factors
 - If we don’t call this out early in the design process, the likelihood of change orders during construction go up dramatically which then drives the “who is going to pay for it?” debate
 - Additional coordination between designers and INDOT construction would insure the project is developed with input from Geotech and PMs – then changes to scope could occur after the constructability review
 - We are starting to see more of these types of meetings and process followed – it is just not universal at this point

Group 5

- Communication between consultant teammates needs to improve
- There has been some improvement in the permit availability process but it could stand to improve more
- More consultant involvement in the construction process will lead to better design efforts in the future – there will be a good return on investment
- Consultants, contractors and INDOT have all tried to respond to the significant increase in workload. However, we are still seeing delays and lack of resource commitments from utilities.
 - Should they be invited to future large group sessions?
 - Should there be smaller sessions specifically devoted to utility coordination with utilities attending alongside the ITT group?
- Who is the Point of Contact for each discipline at Pre-Con meetings?
- We need to do a better job at communicating to the public from project development, to design, to construction and with work zone safety
- We are seeing progress with public communications through social media – there is plenty of room for improvement

Group 6

- Progress reports need to become the norm for construction projects and shared with a broader group that includes local officials, impacted property owners, project designers, etc.
- Somehow we have to get bid prices lowered – too many jobs are not awardable
 - It is extremely challenging to get contract estimates (engineer's estimates) aligned with realistic bid prices, i.e. seasonal and market trends
- Need to get designers in the field more frequently so they can see how jobs are built, especially in complicated areas such as urban settings our unique construction environments
- INDOT needs to be less aggressive at bundling – consult with contractors on when it makes sense and when it doesn't
- We need a clearinghouse or library of Unique Special Provisions
 - Consistency of waterproofing boxes
 - Consistency of pump arounds

10. Project Delivery Process (Project Milestone Station)

Scoping and Fee Development

- Reduce LOI Investment
- Confirm scope with all players
- Red Flag investigation to ID concerns
- Do via email or phone. Unnecessary for in person meeting
- Chapter 56? Partial 3R needs to be revisited
- Well defined scope that has buy-in from asset team and AE's
- Well defined scopes lead to better projects
- ID utility relocates, impacts, and reimbursements
- More time needs to be spent on initial cost estimates
- Scoping reports need to clearly list what the design needs to be
- Make sure all aspects are covered even low/small
- Include construction and contractor input
- Review similar projects to minimize/eliminate problems experienced on recent projects
- Engineer's assessment should be done before scope and fee

- Environmental alternative analysis complete or at least EA report of alternatives to consider
- Jointly define scope with designer
- Include AE's/PE's for insight
- Who needs to be included? –Survey plus R/W too
- Have clear purpose and need
- Scoping engineers need to be more flexible
- Purpose and need verified and established and clearly defined
- Fees should be increased to facilitate more coordination time between estimates throughout project
- Why repeat scoping lists for 4-5 years ahead of time? Realize some estimates are already done. Notify those doing estimates that some future projects are being repeated
- Meeting with all key INDOT staff during scope/fee development to solidify expectations/scope/deliverables

Project Development Kickoff

- INDOT Central Office to determine project design criteria
- INDOT asset team clear purpose and need
- Have a call-in # for every kick-off regardless of location. Not everyone can travel, but is available. **This is currently required!! Reach out to PM or Coordinator for call in #**
- INDOT Asset Eng. and Scoping Eng.
- Acknowledge limitations of scope to avoid conflict later in project (stay between the lines)
- Include construction and contractor input
- All key consultant and INDOT staff present to start building relationships
- Include appropriate environmental agencies in kickoff meeting
- Input from INDOT AE and PE/PS needed at this point
- Do a “formal” kickoff meeting for all projects... not just large ones
- Identifying critical path items and the level that plans need to be at to meet schedule Stage 1 = Stage 2
- Define preferred methods of communication and expectations for responsiveness
- No more scope changes

- On large jobs, input needed from vendors to make material needs can be met
- Field inspect and plan meeting
- Combine scoping and kickoff – Decide on plan and fees after SME's look into project

Stage 1 Preliminary Plans

- Not enough info in plans to make CN review PFC worthwhile
- INDOT AE
- Show all utilities on design – mostly consultant designers
- Stage 1 are preliminary for a reason. This needs to stay as it is! This is exactly what it needs to be.
- Contract suppliers ahead of time to understand cost and availability of unique products needed for a job (ie #43 stone)
- Develop as quickly as possible to ID risks and verify project scope/project intent
- Find a way to have stage 1 plans prior to scoping and fee development. INDOT=100% stage 1 development. More accurate budget
- INDOT AE
- Re-evaluate project costs and what has been scheduled adjustment needed?
- Skip stage 1 and go straight to PFC/Stage 2 so real problems can be decided up front
- Major issues need to be brought up
- Is stage 1 really needed?
- Be sure to include the PM and coordinator when uploading plan files (any files) all stages
- Eliminate Stage 1 and change to stage 2

Preliminary Field Check

- PFC is after a preferred alternative is chosen – move up earlier prior to Stage 1 after survey
- Bring example of related previous project to the PFC so that previous issues are handled early on. Similar project like bridge, road, pipe, etc.
- Make sure utilities show up for PFC

- Project went from replacement to rehab because they didn't understand the bents were newer than prev. expected – EARLIER MEETING
- Listen to AE
- Complete utility attendance
- Field check – give all/much info as possible. Ex. meeting locations, files, timeframe of field checks
- Identify potential issues prior to PFC so appropriate people are at the PFC
- Preliminary Constructability Review at this point
- Is it cost effective and a good quality project
- Don't bring everyone from departments to go out from office. Brings the assets needed not everything including the kitchen sink
- This is when design can be changed. This is when feedback is needed.
- INDOT Asset Eng. and Scoping Eng.

There needs to be construction and maintenance representation at the PFC for all projects

Stage 2 Plans

- Communication and accountability at all stages
- Define decision makers at each step
- Commit more to this stage
- Unit price review at constructability review for major items
- Use for PFC rather than Stage 1 plans
- Does plans meet scope and need
- No, do not use these for PFC. At this point, basic design is done and now other items such as MOT are looked at
- If you have USP. Copy/notify material and testing
- Review for constructability
- Stage 2/Preliminary Plans is too soon to take comments from contractors. Limited value
- Did this job change in scope since its beginning? Is it still needed? Is more needed? Is less needed?

- We need more involvement from INDOT PE/PS. I am trying to improve on this
- Get stage 2 plans to utilities
- Constructability here and stage 3 and not at stage 1
- This is where the intense design review should happen. Stage 3 is too late to properly address

Stage 3 Plans

- Communication with all groups throughout projects to keep abreast of issues
- Modify letting prep schedule? Stage 3 submitted 30 days before tracings enough time?
- When changes asked for, don't ignore the feedback
- Constructability evaluation w/ INDOT construction
- Invite PE/PS of CI firm identified
- When bundling projects that span multiple counties and townships, Please specify agg materials needed at each specific location
- Trust construction's field experience and suggestions
- Get available to all parties in plenty of time for a good review
- Focus review on constructability and usefulness of plans, not interpreting IDM
- Improve USP review process – Too long, not focused enough on applicability in field
- Stage 1 when constructability review done and comments made. Make sure changes incorporated Stg3/FT plans, est, etc
- Verify plans. Agree with all permits and other documents prepared for the project
- Maintenance needs to be involved at this point
- PE and designers talk about job, bring up job concerns at this stage, catch problems before letting
- Please confirm quantities and by spec or USP
- Stage 3 review and constructability review could happen simultaneously

Final Field Check

*Final Field Check should be before Stage 3 Plans (INDOTDM Chapter 14) – Agree – Disagree: If have FFC before Stg 3 plans, could pay for 2 sets of plans or not have plans to go over at Field Check

- Working document open to everyone after field check. Such as google doc as opposed to separate emails.
- Make sure CN attends
- People showing up to meeting who have no say on the job. “Nice day to get out of the office”
- Timing between Stg 3 comments and FT
- This should be done without major issue
- Utility coordination should be complete
- Field checks – Give all/much info as possible. Ex: Location (specific) what files PM wants, time frame to meet (how long)

Final Plans/Tracings

- More AE feedback on final plans (Stg 3). Earlier input on contract prep doc and time set
- Last minute changes to pay items/USP’s make the approval process a bottleneck
- Feedback from PE/S
- Preliminary “over the shoulder review” prior to upload. Work INDOT through any changes from Stg 3
- Construction feedback not added/included/modified from stg 3 to final plans – Agree
- Improved pay item selection to quantity checks
- Reduce number of items in submittal package. Seems we are providing the same document at each submittal
- Send to all players prior to RFC (AE, PE)
- Include locations
- All submittals need to follow ERMS guidelines for uploads
- Consultant only submit plans when it’s finished. No assuming there is time for revisions.
- RFC is 6 months prior to letting. Longer time for contractors to review plans

Concurrent Tasks

- Start with District: We are always available to answer questions prior to submittal of any document. Do not guess

Environmental

- INDOT/Consultant discussion and agreement on environmental document type at very start of contract
- Don't wait until last minute to start. Most, if not all, current FY documents should be completed
- Use available guidance documents. Ask in your firm for location or if there is one (there almost always is)
- Just call Ryan 😊
- Coordinate CE deadline with R/W deadline

Right of Way

- Ensure Cost-To-Cures are communicated thoroughly to INDOT construction personnel
- Existing R/W established with high degree of certainty at start of project – Make this a requirement of Survey
- Is there a need for both pre-R/W plans and R/W Eng? Can this step be combined?
- Can we shorten this process?
- Stop reacquiring R/W

Geotechnical

- Geotech under design firm if possible
- Make reports what actually need done
- Reign geotech in. Seems a lot of wasted \$ to go above and beyond what's really needed

Utility Coordination

- Reach out to each utility involved on project to make sure they have someone at the PFC – Especially if the UT is in conflict
- Find a solution for Frontier
- Early Coordination w/ utilities during design
- Utility accountability

- Charge utilities for utility caused delays – Enforce UT timelines

Permitting

- Have a metric set to determine NOT rather than 1 person visualize if its 70% growth

Railroad

- Start railroad coordination earlier

Hearing

- AE be involved in public information/hearing

Q&A

- Earlier process than current
- Mandatory contractor participation to submit a bid?
- Include CN, PM, & Designer on questions
- CRI's to designer incentives for input
- Sufficient time to answer contractor questions, should cut off earlier to allow more time to respond (by both designer and contractors)
- Q&A cut off should match revision cutoff dates - Agree
- Right people reviewing questions
- Make process more transparent
- Notify everyone related to the project – Before letting if possible, when consultants are replaced. Ex.: Coordinators for design, ROW, Utilities, etc.
- Have this done sooner. Cut off sooner
- Ask question before Pre Con
- Faster response to questions
- Get questions to consultant easier/faster
- INDOT to answer all questions submitted
- Provide ample time for Q & A

Letting

- Designer reviews of possible unbalanced bids
- Designer, AE, and PE/S meet prior to letting
- Include an “alike” LOI w/ potential team (PM, Super, Fore). Include w/ bid to evaluate ability
- Bid opening is slow on bid express
- [REDACTED]
- Designer to be more involved in bid process to learn the process to reduce possible issues
- Always review bid prices / unit prices before award. Are there any apparent risks? Disagree – If you show unit prices prior to award you can hurt a contractor’s possibility of getting job if it is rebid.
- Let designers see all bid prices to see trends in area

Award

- Should work start 15 days after Notice to Proceed?
- Award process more transparent
- Ensure designer’s quantity calculations are provided to INDOT construction (PE/S) no later than pre-con
- Designer needs to show their calculations not just say CADD
- Contractor’s schedule for completing contract must be submitted for award. Shows completing contract prior to completion date.

Pre-Construction Conference

- INDOT PM’s to discuss history and priorities of project for owner and residents
- Make sure designer is invited – Agree
- Make sure design can attend. This is a mandatory meeting for them – Agree
- Need more conversation from Project Managers why some specific things have to be the way they are. Let (Don’t chance to normal)
- Talk about construction issues, not just EEO & utilities

- This has been a very good practice. Hand off from design to construction
- Everyone must come prepared
- Include utility coordinator utilities major topic for discussion
- Get all involved to this
- Include local utilities as well as railroad (if applicable)
- Time should be spent discussing the contractor's approach to identify concerns by other stakeholders
- Testing and materials engineer
- Have designer present all unique aspects of the contract
- Feedback from maintenance – Likes, dislikes, issues
- Get young designers involved to understand process and challenges. Designers sharing challenges, Contractors sharing

Construction Progress

- Designer invited to 2-4 meetings
- Include designer through construction
- Feedback with designers good and bad
- Send copies of change orders to designer
- Progress meetings with agenda
- INDOT send quantities bi-weekly to agree before estimate
- Include designers if a change happens. Would be good to learn
- Designer involved with change order reviews
- Designer on site for contract review at 50% completion and final completion
- More meeting all involved
- INDOT make sure doing estimates bi-weekly and weeklies weekly
- In season contractor evaluations
- Designers should go to check on progress and learn about construction
- Designers included
- Designers need to attend progress meetings regularly

- Design contract scope of services and fee should allow/require designer participation at all (or most) progress meetings
- Communicate progress meetings
- Timeframe for quantity discrepancies
- INDOT be more consistent enforcing spec from job to job. Inspectors want far different things from others. You never know what to expect job to job

Pre-Final Conference

- Include designers so they can see end result of their work x2
- Consultants for lessons learned discussions
- Designer should be invited. Not always happening
- INDOT PM, AE, Inspector, Contractor, and Designer to discuss final construction
- Discuss what went well, what did not, and why
- Need feedback to designer on plans, quantities, etc. Usually don't get
- Include project owner on LPA projects. Make sure they are satisfied with what they are left with
- Purpose of meeting and setting of tone to openness to learn at beginning by INDOT
- Feedback to Technical Services Asset Team
- Designer must be invited
- INDOT Traffic Engineer (District) invited if project has traffic items
- Give options for extra days for N.O.T. special workloads
- Ensure failed material adjudications are administered timely relative to FCR delivery to District
- Include designers – Discuss USPs and quantities – Lessons Learned

Successful Project

- Ribbon Cutting/Meeting: Celebration for all involved once project is completed