

CDOT Construction Manual

APPENDIX A CONFERENCE AGENDAS

March 2014

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APPENDIX A

CONFERENCE AGENDAS

Appendix A contains several example Conference Agendas to assist in facilitating meetings for various conferences required by the Department, including:

| Agenda | Page |
|---|-------|
| Pre-construction Conferences [Revised 7-9-15] | A-3 |
| Hot Mix Asphalt Pre-paving Conferences [Revised 1-10-12] | A-27 |
| Hot-Mix Asphalt QC/QA Conferences [Revised 1-05-12] | A-45 |
| Pre-demolition Conferences [New 12-1-06] | A-53 |
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| Structural Concrete Pre-pour Conferences | A-79 |
| Concrete Pavement Pre-paving and QC/QA Conferences [Revised 9-11-13] | A-93 |
| Environmental Pre-construction Conferences and Attendance Roster [Revised 2-17-11] | A-121 |

Where extensive utility adjustments or relocations are involved, it is desirable to hold an additional Pre-construction Conference to resolve and coordinate utility issues. All affected utility companies should attend this meeting, and the Contractor should furnish a detailed construction schedule of proposed utility activities to facilitate coordination. Where the project requires extensive survey work, use the appropriate Pre-survey Conference Agenda Form(s) (i.e. Aerial Survey Form, Construction Survey Form or Preliminary Survey Form) presented in the *CDOT Survey Manual*.

Each of these examples presents a minimum set of topics that should be discussed during the conference; however, not all topics will be covered for every project in every Region. Prior to its use, thoroughly read the content of the agenda and consider the special needs of the particular project and specific Region. Contact the Area Engineer in the Contracts & Market Analysis Branch for additional information. Copies of these agendas are available from the CDOT website.

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PRE-CONSTRUCTION CONFERENCE NOTIFICATION AND AGENDA

The following examples include a notification letter for the Pre-construction Conference and a Pre-construction Conference Agenda to assist in facilitating the meeting. The agenda presents a minimum set of topics that should be discussed during the Conference; however, not all topics will be covered for every project in every Region. Modify this agenda to meet the needs of your project. Copies of this Agenda are available from the CDOT website:

https://www.codot.gov/business/designsupport/bulletins_manuals/cdot-construction-manual/agenda-forms

Contact the Area Engineer in the Contracts & Market Analysis Branch for additional information.

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STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION



Project Development Branch
4201 East Arkansas Avenue, 4th Floor
Denver, Colorado 80222
(303) 757-9331
FAX (303) 757-9868

January 2, 2013

Re: NH66-066, 11111

Good Aim Construction
14555 Lost Road
Aurora, CO 80011

Gentlemen:

This is to confirm that the Preconstruction Conference for this project has been scheduled for January 17, 2013. The conference will be held at 10:00 a.m. in the Conference Room at 555 Zang Street, (west on 6th Avenue to Simms/Union exit, south [left] to 4th Avenue, west [right] to Van Gordon Street, north [right] to frontage road [west] to Zang Street, left to first parking lot on the right, up first set of stairs into building).

If your superintendent is unable to attend, the meeting will be rescheduled. You may invite representatives of each subcontractor.

Also, you need to provide the information previously requested at least two working days prior to this conference. You may hand carry the information to the Resident Engineer's Office at 555 Zang Street, Suite 150, in Lakewood, or you may mail it to 2000 South Holly Street, Denver, CO 80222. Should you choose to mail it, please allow an additional three to four working days for delivery. Timely submittal of the information will assure that the conference need not be rescheduled and that the most productive conference can be held.

You must obtain consent to sublet portions of the work prior to that portion of the work beginning. A Form 205 - Sublet Permit Application is required for each subcontractor used on the project. CDOT will make every effort to expedite processing of the Forms 205; however, please plan on several days for the approval process. If you need copies of this form, please contact either the Resident Engineer or the Project Engineer listed below.

The general outline for the conference agenda will be as follows:

- | | |
|--------------------------|--------------|
| Project Organization | Right-of-Way |
| Utilities/Railroads | Materials |
| EEO and Labor Compliance | Safety |
| Project Status | Surveying |
| General Comments | |

Colorado Department of Transportation
January 2, 2013
Page 2

Utility/Railroad/Entity companies with facilities affected by work on this project are:

| <u>COMPANY</u> | <u>CONTACT</u> | <u>PHONE</u> |
|---|----------------|--------------|
| Public Service Company - Lighting & Dist. | Cheri Weers | 571-2505 |
| Public Service Company - Gas | Don Booton | 571-3748 |
| U.S. West Communications | John Jones | 571-5555 |

City of Aurora

Should you have any questions, please call the Project Engineer at (303) 984-5260.

Sincerely,

Resident Engineer

cc: Federal Highway Administration
Project Development Branch
Bridge Design and Management Branch
Office of Public Relations
Region Maintenance Section
Region Traffic and Safety Section
Region Program Engineering Section, Right-of-Way Unit
Region Program Engineering Section, Materials Laboratory Unit
Region Program Engineering Section, Utilities Unit
Region Planning and Environmental Section
Region Landscaping Unit
Region Program Engineering Section, Survey Unit
Region Equal Employment Opportunity Office
Project Engineer
Head Tester
Resident Engineer
Project File

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION

Project Development Branch
4201 East Arkansas Avenue, 4th Floor
Denver, Colorado 80222
(303) 757-9331
FAX (303) 757-9868



January 2, 2013

Re: NH 66-066, 11111

FAX TO:

| <u>COMPANY</u> | <u>CONTACT</u> | <u>FAX NUMBER</u> |
|---|---------------------|-------------------|
| Public Service Company - Lighting | Cheri Weers | 303-595-4577 |
| Public Service Company Elec. Distribution | Clint Berry | 303-571-7866 |
| Public Service Company - Gas | Don Booton | 303-571-3826 |
| U.S. West Communications | Bill Reed | 303-451-2579 |
| AT & T Cable Services/TCI of Colorado | Eric Carroll | 303-603-5980 |
| MCI Telecommunications Corporation | Jesse Padilla | 303-214-7130 |
| US Sprint | Larry Schneidmiller | 303-789-4867 |
| Denver Water Department | Paul McQuade | 303-628-6851 |
| Denver Wastewater Management (Const/Insp) | Dave Willett | 303-446-3589 |
| Metro Wastewater Reclamation District | Ron Maring | 303-286-3030 |
| Burlington Northern and Santa Fe Railway | | |

The Preconstruction Conference for the above-referenced project will be held on January 17, 2013, at 10:00 a.m., in the Conference Room at 555 Zang Street, Suite 150, in Lakewood, Colorado. The contract for this project has been awarded to Good Aim Construction.

If you have any questions, please call the Project Engineer or the Resident Engineer at (303) 984-5260.

Sincerely,

Resident Engineer

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PRE-CONSTRUCTION CONFERENCE AGENDA Rev. March 23, 2015
(This new Excel version replaces the outdated Word version and pages A10 through A25.)

https://www.codot.gov/business/designsupport/bulletins_manuals/cdot-construction-manual/agenda-forms

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HOT MIX ASPHALT PRE-PAVING CONFERENCE AGENDA

The following is an example Hot Mix Asphalt Pre-paving Conference Agenda to assist in facilitating the meeting. This example presents a minimum set of topics that should be discussed during the Conference; however, not all topics will be covered for every project in every Region. Prior to its use, thoroughly read the Agenda's content and consider the special needs of the particular project and Region. Modify this agenda to meet the needs of your project. Copies of this Agenda are available from the CDOT website:

https://www.codot.gov/business/designsupport/bulletins_manuals/cdot-construction-manual/agenda-forms

Contact the Area Engineer in the Contracts & Market Analysis Branch for additional information.

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| | | | |
|--|--|--------------------------------------|--|
| HOT MIX ASPHALT PRE-PAVING CONFERENCE AGENDA | | Rev. 01-10-12 | |
| <i>The items in the following agenda are minimum requirements that should be covered during the conference. The agenda may be used as is or as a base to develop a customized agenda. Checked boxes adjacent to names of attendees are to be on the project distribution list.</i> | | | |
| Project Number: | | <input type="checkbox"/> Owners Rep: | |
| Project Code (SA): | | Project Engineer: | |
| Location: | | Contractor: | |
| Date: | | Superintendent: | |
| Time: | | Foreman: | |
| I. Attendance Roster | | | |
| <input type="checkbox"/> Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Responsibilities: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| <input type="checkbox"/> Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| <input type="checkbox"/> Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| <input type="checkbox"/> Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |

| | | | |
|---|--|-----------------|--|
| II. PROJECT ORGANIZATION AND STATUS | | | |
| A. OWNER/AGENCY Personnel: | | | |
| 1. Person in Charge at Paving Site: <input type="checkbox"/> | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 2. Alternate Contact (when personal identified in A.1 is not present): <input type="checkbox"/> | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 3. Quality Assurance Supervisor: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 4. Tester/Duties: <input type="checkbox"/> | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 5. Inspector/Duties: <input type="checkbox"/> | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| Comments: Discuss the Escalation Process for Paving Items (i.e. what is the chain of command and how/when issues are elevated to the next level in an effort to improve communication and decision making). | | | |

| | | | |
|---|--|-----------------|--|
| B. Contractor Personnel: | | | |
| 1. Quality Control Supervisor: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 2. Personnel to Notify at Paving Site | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 3. Other: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| Comments: Discuss the Escalation Process for Paving Items (i.e. what is the chain of command and how/when issues are elevated to the next level in an effort to improve communication and decision making). | | | |

| | |
|--|--|
| II. PROJECT ORGANIZATION AND STATUS | |
| C. Testing Information: | |
| 1. Is (Are) the mix design(s) approved by the Owner/Agency? (CDOT Form 43) (MGPEC Form 9) | |
| 2. Test locations determined by? | |
| 3. Frequency of tests to be performed? Refer to table 106-1 of section 106.05 of the Standard Specifications for minimum sampling and testing for HMA. | |
| <input type="checkbox"/> Check Testing has been completed. | |
| Which daily Rice value will be used for compaction verification? (Field or Region) | |
| 4. Are Quality Assurance tests to be performed in addition to Quality control tests? (All jobs including "M" projects greater than \$150,000 require testing) | |
| ➤ If Yes, how often and who will be responsible to schedule the QA tests? | |
| 5. Turnaround time of QA and QC test results. | |
| ➤ Preliminary test results shall be distributed immediately upon completion. | |
| ➤ Final test results shall be distributed immediately upon completion. | |
| <i>No change shall be made in the ingredients comprising the approved mix design without prior written approval of the Project Engineer. This includes asphalt binder suppliers.</i> | |

| III. SCHEDULING |
|--|
| A. Materials: |
| Materials will be available for sampling on: |
| B. Asphalt Plant: |
| The asphalt plant will be ready to be checked on: |
| <ul style="list-style-type: none"> ➤ What is the location of the plant to be used? ➤ What is the back up plan if the designated plant breaks down? ➤ Type of Release Agent available? |
| C Scales and Certified Weigher: |
| 1. Has a copy of the scale certification been submitted? <input type="checkbox"/> Yes <input type="checkbox"/> No Comments: |
| <ul style="list-style-type: none"> ➤ Has a copy of the weigher certification been submitted? <input type="checkbox"/>Yes <input type="checkbox"/>No Comments: |
| 2. Weigh tickets shall contain information required by the owner. Comments: |
| 3. Are truck weigh tickets required to be delivered on site? How will the weight tickets be collected? Comments: |
| 4. The Contractor shall provide a list of the haul vehicles and required information per specification (CDOT subsection 109.01) |
| 5. Random checks of the scales are required in the Standard Specifications (CDOT 109.01) |
| D. Paving Equipment: |
| The paving equipment will be set up and ready to be checked on: |
| E. Paving Sequence: |
| 1. The Contractor will commence paving on: |
| 2. How many days per week does the Contractor intend to work? |
| 3. The Contractor proposes to work the following hours: |
| 4. Where will paving start? |
| 5. What paving sequence will the Contractor follow? |
| F. Quality Control Plan. A quality control plan shall provide information to control the quality of the following: |
| 1. Segregation: <ul style="list-style-type: none"> ➤ Submitted: <input type="checkbox"/> Date Submitted ➤ Approved: <input type="checkbox"/> Date Approved |
| 2. Longitudinal Joint Construction: <ul style="list-style-type: none"> ➤ Submitted: <input type="checkbox"/> Date Submitted ➤ Approved: <input type="checkbox"/> Date Approved |
| 3. Transverse Joint Construction: <ul style="list-style-type: none"> ➤ Submitted: <input type="checkbox"/> Date Submitted ➤ Approved: <input type="checkbox"/> Date Approved |

| |
|--|
| <p>4. Smoothness:</p> <ul style="list-style-type: none"> ➤ This Project is % Improvement <input type="checkbox"/> ➤ This Project is Profiler (HRI) <input type="checkbox"/> |
| <p>5. Will an on-site Pre-Placement (Tailgate) meeting occur prior to the beginning of placement to discuss "Best Practices" (See Attached) <input type="checkbox"/> Yes <input type="checkbox"/> No</p> |
| <p>6. Who will be the 3rd party, independent testing lab for dispute resolution?</p> <p>a. Asphalt Mix Dispute Lab (per CP 17)?</p> <ul style="list-style-type: none"> ➤ <input type="checkbox"/> Submitted in writing prior to Pre-Pave Conference. <p>b. Roadway Smoothness Profiling?</p> <ul style="list-style-type: none"> ➤ <input type="checkbox"/> Submitted in writing prior to Pre-Pave Conference. |
| <p>7. Other project specific "Special Provisions":</p> |

| |
|---|
| IV. PREPARATION |
| A. Method of Approving Pavement Surface? (IE: Soil Subgrade, ABC, Milled Surface, ETC.) |
| Milled surface will be ready for inspection on what date? Comments: |
| B. Has the Subgrade or Underlying Pavement Surface Been Approved for Paving? |
| <ul style="list-style-type: none"> ➤ Yes <input type="checkbox"/> ➤ No <input type="checkbox"/> <p>Is the milled surface approved?</p> <ul style="list-style-type: none"> ➤ Yes <input type="checkbox"/> ➤ No <input type="checkbox"/> ➤ NA <input type="checkbox"/> <p>➤ By whom was the pavement surface approved?</p> |
| C. Tack Coat: |
| <ol style="list-style-type: none"> 1. Material type 2. Application Rate? 3. How will the Contractor protect the tacked surface after placement, and prior to the placement of the HMA? <p>Comment: The Inspector/Tester will verify all surfaces to accept a new layer of HMA will have the proper amount and coverage of tack placed.</p> |

| V. PRODUCTION AND PLACEMENT | |
|---|--|
| A. Compaction Test Section: | |
| <i>The following procedures should be observed and documented:</i> | |
| 1. The Contractor must establish a roller pattern and carefully record the following information: | |
| a. Type, size, amplitude, frequency, and speed of roller: | |
| b. Tire pressure for rubber tire rollers and if the pass for vibratory rollers is vibratory or static: | |
| c. Surface temperature of mixture behind the lay-down machine and subsequent temperatures and densities after each roller pass: | |
| d. Sequence and distance from lay-down machine for each roller and total number of passes of each roller to obtain specified density: | |

| |
|--|
| <p>2. When the Compaction Test Section has been completed, the Contractor shall furnish a complete copy of this data to the person in charge (II.A.1) before continuing to pave. Comments:</p> |
| <p>3. When a successful Compaction Test Section has been completed, the Contractor is required to maintain the roller pattern established during the Compaction Test Section for the balance of the Hot Bituminous Pavement construction (i.e., the Contractor must use the same number and type of rollers and operate them at the same speed, frequency, amplitude and in the same position, relative to the lay-down machine, as was performed during the Compaction Test Section. <u>If Contractor wants to perform minor* changes to the roller pattern that was established during the Compaction Test Section, the Contractor must Perform a Roller Pass Study to demonstrate that the density is obtained with the new roller pattern before proceeding with the paving operation.</u></p> <p>Comments: * The Project Team needs to agree to "minor" at prepave. Minor changes may include items such as: type of roller; numbers of rollers; distance from paver; number of roller passes; and temperatures.</p> |
| <p>4. The Contractor is responsible for compaction testing of the Compaction Test Section. Comments:</p> |
| <p>5. Cores are required to calibrate the nuclear density gauge. The Contractor can continue to pave under the following conditions:</p> <ul style="list-style-type: none"> ➤ The period that the Contractor continues to pave without test results from cores shall not exceed one working day. ➤ Construction proceeds at the Contractor's risk. ➤ What method will be used to bulk core samples? <p>Traditional Method (CP-44, Method "B") <input type="checkbox"/> QC <input type="checkbox"/> QA</p> <p>Core Dry <input type="checkbox"/> QC <input type="checkbox"/> QA</p> <p>Comments:</p> |
| <p>6. A new Compaction Test Section or roller pass study will be required whenever there is a major* change in the compaction process.</p> <p>Comments: * The Project Team needs to agree to "major" at prepave. Major changes may include items such as: New Mix Design; change in lift thickness; or other items that could affect the nuclear density gauge correlations.</p> |
| <p>7. Striping plan: subcontractor or Contractor to install striping?</p> <ul style="list-style-type: none"> ➤ When will striping occur? ➤ What material will be used? ➤ Have Materials Data Sheets been submitted? Approved? If Not when? ➤ Has the striping plan been submitted? Approved? If Not when? |

VI. TRAFFIC CONTROL

A. Method of Handling Traffic:

Has the Method of Handling Traffic been submitted for the Hot Mix Asphalt Pavement placement operation?
 If not, when will it be submitted?
 Is the traffic control plan approved?

VII. FOLLOW UP ITEMS

Items discussed during the meeting, which shall need follow up.

| Item for follow up | Who will follow up | Date of completion or response |
|--------------------|--------------------|--------------------------------|
| 1. | | |
| 2. | | |
| 3. | | |
| 4. | | |
| 5. | | |
| 6. | | |
| 7. | | |
| 8. | | |
| 9. | | |
| 10. | | |

SUGGESTED BEST PRACTICES FOR MINIMIZING SEGREGATION

1. *Aggregate Stockpiles:*

- Build in Layers
- Avoid any procedure that will allow the aggregate to be pushed or dumped over the side of a stockpile
- Separate to prevent intermingling
- Aggregate Handling:
 - Loader operator works full face of stockpile
 - Install dividers on the “cold feed” bins to prevent the material from flowing into an adjacent bin
 - DO NOT pile the aggregate so high it flows over the dividers

2. *Loading the Surge Silo: (if the plant has a “batcher or “Gob Hopper” at the top of the silo)*

- Adjust the conveying devices to deposit the material in the center of the batcher or gob hopper
- Keep the gates on the batcher or gob hopper closed unless dropping a load of mix
- Close the gate on the batcher or gob hopper before it is empty to prevent the material from dribbling into the silo

3. *Loading Trucks:*

- Keep the gates on the bottom of the silo closed so the material does not dribble into the trucks
- Take care to center the trucks (left to right) when loading
- Load trucks in multiple drops with the first drop at the rear, second at the front and then alternate dumps
- If the mix is prone to segregation, you should avoid loading the trucks by “slowly” driving forward while dropping the mix from the silo

4. *Dumping Trucks:*

- To provide as surge of material to the paver, when using end dump type trucks, the box should be raised until the mix moves to the rear of the bed charging the tail gate prior to releasing the load
- If any mix is spilled on the roadway, in front of the paver while dumping the truck, the spilled mix should be removed from the roadway before the paver moves forward across the mixture on the grade

5. *Laydown Operations:*

- Only dump the wings on the paver hopper at the end of the paving day and utilize this material in the night taper joint or waste the material
- To provide consistent flow of material to the screed and avoid gradual deceleration/acceleration, the paver should be started and stopped quickly at normal operating speed
- Keep the hopper more than half full at all times and maintain the height within 1 inch the entire paving day
- The auger height should be adjusted so the bottom of the auger is at least two (2) inches above the finished surface of the HMA mat
- Adjust the feed sensors to keep the material near the center of the auger at all times
- Correctly adjust the lead and tail crown of the screed so that the surface of the HMA behind the paver is uniform in appearance and texture
- Install or verify the material management kits are installed and functioning properly. This includes the “kick back” paddles under the gear box and outer edges of the auger
- Adjust the flow control; gates at the rear of the hopper so that:
 - The slat conveyors run continuously
 - The amount of material being presented to the augers allows for them to run almost continually, (minimum of 80% of the time)

6. *Windrow Elevators:*

- When using pickup machines they should be adjusted so that all of the HMA is removed from the surface

7. *Troubleshooting:*

- If segregation is observed behind the paver, check the trucks as they arrive and are dumping to see if the mix in the truck is segregated
- The risk of causing thermal segregation is increased when paving in cooler temperatures

SUGGESTED BEST PRACTICES FOR PAVEMENT SMOOTHNESS

PAVER OPERATIONS – BEST PRACTICES and INNOVATIONS

Keep the hopper full: If you are not using a hopper insert leave as much surge as possible between truck exchanges and do not run the hopper empty. This will minimize “truck fans” by allowing hot, uniform material from the next truck to blend with mix from the previous dump. Keeping your mat as thermally uniform as possible will result in better densities.

Controlled hopper wing cycling: The wings are where the large, cooler stone tends to collect if not properly reintroduced back to the mix. Regular cycling, where allowed by spec, will reduce large buildups of this segregated material. Don’t wait until you are “out of material” to cycle the wings.

Use a hopper insert: If you are using pick up machines and windrow paving use a hopper insert. It will reduce or eliminate segregation.

Keep a constant head of material at the spreading augers: A consistent flow of material to the spreading augers will prevent them from spinning too fast or too slow, which can cause longitudinal segregation. As a rule of thumb a proper head of material is ½ up the spreading auger. Constant changes in the head of material make waves in the mat. If allowed to rotate too fast, longitudinal stripes will occur in line with the reversing augers; too low a rate and the larger stone will drop and collect at the bearing support

Time the conveying and spreading systems: Ensure the ratio pots or flow gates are set to deliver enough material to the spreading augers to keep them running continuously. Set your sonic feeds and leave them there.

Keep your paver speed steady: Drag race paving may be entertaining but stops and starts cause the head of material to rise and fall changing the mat thickness. This not only affects ride but can detrimentally affect density.

Correct lead crown setting and proper strike off adjustment: Equipment fine-tuning issues will help eliminate longitudinal segregation. String line your screed before every job and introduce the correct amount of lead crown; usually 1/8 - 1/4 inches. Make sure your strike offs are correctly aligned. Refer to your owner’s manual for the recommended procedure.

Correct spread auger length: Once you have the job planned out if you need to build up the spreading augers then DO IT. Trying to compensate for spreading augers that are too short by running them faster will only result in segregation. This only gets worse with more gap graded mixes. If you have a 20’ screed and the job calls for wide paving then BUILD UP THE SCREED; use the auger extensions, wide mat grade supports and the outboard bearing supports. The finished jobs will more then compensate for the time involved in the build up. Then plan the layout so you can maximize the use of the built up screed.

Use Thermal guns: Equip your paver operator and roller hands with thermal (infrared) handheld thermometers and use them to monitor changes in the mat temperature. Establishment of a thermal range during the test strip process gives you a working range to be used through out the paving project.

Don’t broadcast material across the mat: This just gives the appearance of a segregation problem. Don’t rake material off the joint onto the new mat. Don’t walk on the fresh mat.

Train your personnel: Not only in the operation of the equipment but in the art of reading mat defects. The sooner these defects are identified the sooner remedial action can be taken. Remember when the only tool you have is a hammer every problem looks like a nail.

Pave predominately uphill: On steep grades in mountainous terrain, pave uphill when possible. Control of material and speed of equipment is easier to maintain when paving uphill. Paving downhill may be problematic with paver and roller speeds. This may cause "ripples" in the mat that are difficult to remove. The mat may shove and tear more when operations proceed downhill, requiring patching or other undesired corrective work. QC should be onsite to monitor densities when steep grades require a change in the roller pattern.

NOTE: It is not intended to change the direction of the paving operation in rolling terrain. If the roadway grade is predominately in the uphill or downhill direction on mountain passes or other significant elevation changes, paving uphill provides a better product.

JOB SET UP – BEST PRACTICES

Partnering

All personnel involved in the construction planning and design need to meet before the job so we can all “be on the same page” and resolve possible problems before they arise.

Pre Paving Planning Meeting

Meet with your crew every day to review the plan for the day’s construction and expectations. Plan the truck route, plan the job layout, and assign people to required tasks.

Communication

Constant communication with all the elements of the paving process from design engineers to the lute man. This keeps all phases of the job on schedule and free of “Uh Ohs”.

Mix Selection

Insure the mix is of an adequate design for both strength and workability. Mind your temperatures.

Machine Maintenance

Not only does well maintained iron contribute to a more pleasant work environment it shows your people that you care enough about them to give them the best tools. It provides for a safer work environment and a more productive and profitable organization.

Smoothness-Thickness-Yield

The inspectors and field personnel need to be aware of the paving fundamental that yield, minimum thickness, and smoothness can not be obtained at the same time.

Crew Training

Not only in the operation of the equipment but in the art of reading mat defects. The sooner these defects are identified the sooner remedial action can be taken. Remember when the only tool you have is a hammer every problem looks like a nail.

Know the Consequences

Of improperly operating the machines, improper principles and techniques of paving, rolling and trucking of poor safety awareness. Designate a “job site safety man” know the way to emergency medical care.

BEST PRACTICES FOR LONGITUDINAL JOINT CONSTRUCTION

1. **BE CONSISTENT:** Decide on a plan and stick with it.
2. **COMMIT TO A GOOD JOINT:** Quality contractors build quality joints.
3. **MAINTAIN A PROPER TAPER:** Tapers range from near vertical to 12:1. Regardless of what taper is used, keep it consistent. Vertical edges and notches as vertical as possible. Keep edges confined as long as possible. Maintain a Proper “Head of Material”
4. **MAINTAIN PROPER OVERLAP:** Keep overlap consistent typically from 0-1.5 inches. Place proper amount of HMA at the joint: Too little will allow water to enter the joint. Too much will cause a ridge which will carry water and interfere with compaction. **DO NOT RAKE THE JOINT!** If raking to correct improper amount of material, just bump the joint, **DO NOT BROADCAST** loose material across the mat.
5. **USE PROPER ROLLING TECHNIQUES!**

BEST PRACTICES FOR BREAK DOWN ROLLER OPERATORS

1. Communicate – with paving crew and foreman for job requirements prior to the arrival of asphalt.
2. Confirm maintenance and water system checks – done on a daily basis to rollers.
3. Determine lift thickness – base or surface riding course.
4. Be aware of material temperature – at delivery to paver and behind screed.
5. Determine rolling drum mode – vibratory or static.
6. Make required amplitude adjustments both roller drums – depending on mix design, material thickness, and temperature zone.
7. Optimize water system controls – to avoid material pick-up and eliminate excessive water usage.
8. Establish proper rolling pattern – determined by paving width, roller drum width, unsupported edges, and drum overlap.
9. Determine rolling speed – to achieve proper impact spacing and meet smoothness requirements.
10. Monitor rolling temperature – and work within optimum temperature zones.
11. Make required rolling coverages – to achieve density requirements.
12. Adjust rolling operations – to satisfy density, smoothness, and production rates.
13. Maintain consistency throughout the entire shift.

BEST PRACTICES FOR FINISH ROLLER OPERATION

1. Communicate – with paving crew, foreman and breakdown roller operator for job requirements.
2. Confirm maintenance and water system checks – done on a daily basis to rollers.
3. Be aware of material temperature – avoid “tender zone.”
4. Determine rolling drum mode – vibratory or static depending upon requirements to achieve density and smoothness.
5. Optimize water system controls – to avoid material pick-up and eliminate excessive water usage.
6. Establish proper rolling pattern, – determined by paving width, roller drum width, unsupported edges, and drum overlap.
7. Coordinate final rolling process with QA / QC personnel.
8. Monitor rolling temperature – and work within optimum temperature zones.
9. Make required rolling coverage’s – to achieve density requirements and to remove drum edge marks.
10. Maintain consistency throughout the entire shift.

BEST PRACTICES FOR PAVER OPERATORS

Safety operates the paver using "Best Practices" procedures, to produce the highest-quality pavement possible.

1. Select a paving speed that balances delivery, paver capacity and the compaction process and pave with few if any extended stops.
2. Work with screed operator in establishing and maintaining the head of material within a plus or minus one inch tolerance.
3. Steer the paver holding to a pre-determined reference.
4. Direct the truck driver to raise bed and exit when empty.
5. Utilize rapid, but smooth start and stops to help prevent end-of-load roughness (if stopping is necessary.)
6. Observe HMA being discharged into paver hopper or insert for changes in characteristics of the mix.
7. Monitor paver for unusual noise or vibration (notify the proper person to take corrective actions).
8. Work with dump person to make sure truck does not bump paver, or let hopper run low.
9. Work as a team member.

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HOT MIX ASPHALT QC/QA CONFERENCE AGENDA

The following is an example Hot Mix Asphalt QC/QA Conference Agenda to assist in facilitating the meeting. This example presents a minimum set of topics that should be discussed during the Conference; however, not all topics will be covered for every project in every Region. Prior to its use, thoroughly read the Agenda's content and consider the special needs of the particular project and Region. Modify this agenda to meet the needs of your project. Copies of this Agenda are available from the CDOT website:

https://www.codot.gov/business/designsupport/bulletins_manuals/cdot-construction-manual/agenda-forms

Contact the Area Engineer in the Contracts & Market Analysis Branch for additional information.

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| HOT-MIX ASPHALT QC/QA CONFERENCE AGENDA | | | | Revised 01-05-2012 |
|---|--|--------------------|--|--------------------|
| <i>The items in the following agenda are minimum requirements that should be covered during the conference. The agenda may be used as is or as a base to develop a customized agenda.</i> | | | | |
| Project Number: | | Resident Engineer: | | |
| Project Code (SA): | | Project Engineer: | | |
| Location: | | Contractor: | | |
| Date: | | Superintendent: | | |
| Time: | | Foreman: | | |
| I. Attendance Roster | | | | |
| Name: | | Office Number: | | |
| Representing: | | Fax Number: | | |
| Street Address: | | Cell Number: | | |
| City, State, Zip: | | E-Mail Address: | | |
| Name: | | Office Number: | | |
| Representing: | | Fax Number: | | |
| Street Address: | | Cell Number: | | |
| City, State, Zip: | | E-Mail Address: | | |
| Name: | | Office Number: | | |
| Representing: | | Fax Number: | | |
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| Name: | | Office Number: | | |
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| Street Address: | | Cell Number: | | |
| City, State, Zip: | | E-Mail Address: | | |
| Name: | | Office Number: | | |
| Representing: | | Fax Number: | | |
| Street Address: | | Cell Number: | | |
| City, State, Zip: | | E-Mail Address: | | |

| HOT-MIX ASPHALT QC/QA CONFERENCE AGENDA (continued) | | Revised 01-05-2012 | |
|---|--|--------------------|--|
| I. Attendance Roster (continued) | | | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
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| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |

| HOT-MIX ASPHALT QC/QA CONFERENCE AGENDA (continued) | | | Revised 01-05-2012 |
|---|-----------------|-----------------|--------------------|
| II. Project Organization and Status | | | |
| A. Colorado Department of Transportation Personnel: | | | |
| 1. Project Engineer: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 2. Assistant-in-Charge (when personnel identified in A.1 is not present): | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 3. Project Acceptance Tester: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 4. Head Tester: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 5. Other: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| B. Contractor Personnel: | | | |
| 1. Superintendent: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 2. Process Control Supervisor: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 3. Process Control Tester: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 4. Other: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| C. Distribution of Section 105 and Section 106 of the Standard Specifications: | | | |
| <i>A minimum of the following personnel should have a copy of Section 105 and Section 106 of the Standard Specifications:</i> | | | |
| | Personnel Title | Yes | No |
| Project Engineer | | | |
| Project Acceptance Tester | | | |
| Head Tester | | | |
| Superintendent | | | |
| Process Control Supervisor | | | |
| Process Control Tester | | | |
| D. Distribution of QC/QA Software: | | | |
| Name: | | Version: | |
| <i>A minimum of the following personnel should have a copy of the QC/QA software:</i> | | | |
| | Personnel Title | Yes | No |
| Project Acceptance Tester | | | |
| Head Tester | | | |
| Process Control Tester | | | |

| HOT-MIX ASPHALT QC/QA CONFERENCE AGENDA (continued) | | Revised 01-05-2012 | |
|---|-------------------|--------------------|----|
| III. Process Control Testing | | | |
| A. Quality Control Plan (QCP): | | Yes | No |
| Has QCP been approved in writing by the Project Engineer? | | | |
| Comments: | | | |
| B. Sampling Frequency: | | Yes | No |
| Does QCP meet minimum random sampling frequency (Table 106-1 of the <i>Standard Special Provisions</i>)? | | | |
| Comments: | | | |
| C. Test Result Chart: | Posting Location: | Yes | No |
| Is the Test Result Chart for each process with tonnage and tolerance limits posted daily at a location convenient for viewing by the Project Engineer? | | | |
| Comments: | | | |
| D. Quality Level Chart: | Posting Location: | Yes | No |
| Is the Quality Level Chart for each element in Table 106-1 of the <i>Standard Special Provisions</i> posted daily at a location convenient for viewing by the Project Engineer? | | | |
| Comments: | | | |
| E. Process Control Supervisor: | | Yes | No |
| 1. Is the Process Control Supervisor for process control sampling and testing identified in the QCP? | | | |
| 2. Does the Process Control Supervisor possess one or both of the following qualifications? | | | |
| a. Registration as a Professional Engineer in the State of Colorado? | | | |
| b. Level A, B, and C certifications from the Laboratory for Certification of Asphalt Technicians (LABCAT)? | | | |
| Comments: | | | |
| F. Technicians: | | Yes | No |
| Do technicians taking samples and performing tests possess all of the following qualifications? | | | |
| 1. Technicians taking samples and conducting compaction tests have Level A LABCAT certification? | | | |
| 2. Technicians conducting process control tests have Level B LABCAT certification? | | | |
| 3. Technicians determining mix volumetrics and strength characteristics have Level C LABCAT certification? | | | |
| Comments: | | | |
| G. Process Control Test Report: | | | |
| The Contractor will report the results of the process control tests to the Project Engineer in writing at least once per day. Describe where and when this will be performed: | | | |
| | | | |

| HOT-MIX ASPHALT QC/QA CONFERENCE AGENDA (continued) | Revised 01-05-2012 |
|---|--------------------|
| IV. Acceptance Testing | |
| <p>Samples for CDOT acceptance testing shall be taken by the Contractor and, when appropriate, shall be reduced to the size designated by the Project Engineer. Comments:</p> | |
| V. Check Testing Program | |
| A. Check Testing: | |
| <p>Prior to, or in conjunction with, placing the first 500 tons of Hot-Mix Asphalt, a Check Testing Program will be conducted between acceptance testing and process control testing, per subsection 106.05 (c) of the <i>Standard Specifications</i>, and compared to the acceptable limits shown in Column 3 of Table 106-1 of the <i>Standard Special Provisions</i>. Comments:</p> | |
| B. Split Samples: | |
| <p>During production, split samples of randomly selected acceptance tests will be compared to the permissible ranges shown in Table 106-1 of the <i>Standard Specifications</i>. The minimum frequency will be as shown in Table 106-1 of the <i>Standard Special Provisions</i>. Comments:</p> <p>Additional Items to Discuss and Clarify:</p> <ol style="list-style-type: none"> 1. Asphalt Mix Dispute Lab (per CP 17)? (i.e. Who will be the 3rd party, independent testing lab for dispute resolution?) 2. Dispute Split Sampling Requirements (CP 17). 3. CP 17 Levels 1, 2, and 3 Dispute Resolution Process. | |
| C. Additional Check Testing: | |
| <p>If production is suspended and then resumed, the Project Engineer may order a Check Testing Program between process control and acceptance testing personnel to assure the test results are within the permissible ranges. Comments:</p> | |
| VI. Voids in Mineral Aggregate (VMA) | |
| A. Target Values: | |
| <p>After the mix design has been approved and production has commenced, the first three acceptance tests for VMA will be analyzed to verify and establish a target value for VMA. The target value for VMA will be the average of the first three volumetric field test results on project-produced Hot-Mix Asphalt or the target value specified in Table 403-2 of the <i>Standard Special Provisions</i>, whichever is higher. Comments:</p> | |
| B. New or Revised Mix Design: | |
| <p>Whenever a new or revised mix design is used and production resumes, the next three acceptance tests will be evaluated and a new target value for VMA will be established. Comments:</p> | |

| HOT-MIX ASPHALT QC/QA CONFERENCE AGENDA (continued) | | Revised 01-05-2012 |
|---|-----|--------------------|
| VII. Testing Schedule | | |
| Process control, project acceptance testing, and check testing frequencies shall be in accordance with Table 106-1 of the <i>Standard Special Provisions</i> . Comments: | | |
| VIII. Reference Conditions | | |
| A "Condition Red" reference condition requires the Contractor to be immediately notified as per subsection 106.05 (d)(2) of the <i>Standard Special Provisions</i> . The minimum testing frequency will be increased to 1/250 tons until the Quality Level reaches or exceeds 78. If the Quality Level for the next five process control tests is below 65, production will be suspended. Subsection 106.05 (d)(2) of the <i>Standard Special Provisions</i> outlines steps the Contractor must take to resume production and the testing to be performed when production is resumed. Comments: | | |
| IX. Lottman Retesting Method | | |
| Per <i>Standard Special Provision – Revision of Section 401 Plant-Mix Pavements–General</i> , the Project Engineer will designate the method for Lottman retesting from the following methods before paving begins: | Yes | No |
| 1. Pavement samples for possible moisture susceptibility testing will be taken at a frequency of every 2,000 tons throughout the project (i.e. retained samples during production). | | |
| Comments: | | |
| X. Field Quality Control of Binder | | |
| Has the Contractor submitted the Contractor's Binder Field Quality Plan to ensure compliance with the requirements of <i>CP 11, Section 14 – Certifying Suppliers Providing Performance Graded Binders</i> ? | Yes | No |
| Comments: | | |

PRE-DEMOLITION CONFERENCE AGENDA

The following is an example Pre-demolition Conference Agenda to assist in facilitating the meeting. This example presents a minimum set of topics that should be discussed during the Conference; however, not all topics will be covered for every project in every Region. Prior to its use, thoroughly read the Agenda's content and consider the special needs of the particular project and Region. Modify this agenda to meet the needs of your project. Copies of this Agenda are available from the CDOT website:

https://www.codot.gov/business/designsupport/bulletins_manuals/cdot-construction-manual/agenda-forms

Contact the Area Engineer in the Contracts & Market Analysis Branch for additional information.

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| | | | |
|---|--|--------------------|--|
| PRE-DEMOLITION CONFERENCE AGENDA | | New 12-1-06 | |
| <i>The items in the following agenda are minimum requirements that should be covered during the conference. The agenda may be used as is or as a base to develop a customized agenda.</i> | | | |
| Project Number: | | Resident Engineer: | |
| Project Code (SA): | | Project Engineer: | |
| Location: | | Contractor: | |
| Date: | | Superintendent: | |
| Time: | | Foreman: | |
| I. Attendance Roster | | | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
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| City, State, Zip: | | E-Mail Address: | |
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| Representing: | | Fax Number: | |
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| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
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| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |

| PRE-DEMOLITION CONFERENCE AGENDA (continued) | | | |
|--|--|-----------------|--|
| I. Attendance Roster (continued) | | | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
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| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
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| City, State, Zip: | | E-Mail Address: | |
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| City, State, Zip: | | E-Mail Address: | |

| PRE-DEMOLITION CONFERENCE AGENDA (continued) | | | |
|---|--|-----------------|--|
| II. Project Organization and Status | | | |
| A. Colorado Department of Transportation Personnel: | | | |
| 1. Personnel in Charge at Site: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 2. Assistant-in-Charge (when personnel identified in A.1 is not present): | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 3. Inspector/Duties: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 4. Inspector/Duties: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 5. Inspector/Duties: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 6.: Tester: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 7. Other: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 8. Other: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| Comments: | | | |
| | | | |
| B. Contractor Personnel: | | | |
| 1. Project Superintendent: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 2. Demolition Company Superintendent:/Foreman | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 3. Contractor's Engineer: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 4. Traffic Control Supervisor: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 5. Other: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |

| |
|--|
| PRE-DEMOLITION CONFERENCE AGENDA (continued) |
| III. Scheduling |
| A. Demolition Schedule: |
| 1. Demolition is scheduled for: |
| 2. Anticipated duration of demolition: |
| 3. Detailed schedule complies with working hour restrictions? |
| 4. If all girders in any one span cannot be removed in a shift, how will the Contractor ensure stability of the remaining structure? |
| 5. If all spans of a multi span structure cannot be removed in a single shift, how will the Contractor ensure the stability of the remaining structure? |
| B. Utilities: |
| 1. Has the Contractor verified that Power Lines will not interfere with demolition operations? Comments: |
| 2. Has the Contractor verified the location of underground utilities? |
| C: Equipment Delivery: |
| Demolition equipment will arrive at: |
| D. Contractor's Engineer: |
| 1. The Contractor's Engineer shall inspect and provide written approval of each phase of demolition prior to allowing vehicles or pedestrians below or adjacent to the bridge. Comments: |
| E. Other Scheduled Items: |
| Other scheduling items that will affect the start of the demolition process include: |
| 1. Lighting necessary: |
| 2. Railroad Coordination: |
| 3. Utility Coordination: |
| 4. Agency Coordination: |
| 5. Other: |

| PRE-DEMOLITION CONFERENCE AGENDA (continued) | |
|---|--|
| IV. Special Provision Requirements | |
| <i>The following Special Provisions are reviewed and discussed below:</i> | |
| A. Special Provision: | |
| Comments: | |
| B. Special Provision: | |
| Comments: | |
| C. Special Provision: | |
| Comments: | |
| D. Special Provision: | |
| Comments: | |
| E. Special Provision: | |
| Comments: | |
| F. Special Provision: | |
| Comments: | |
| G. Special Provision: | |
| Comments: | |
| H. Special Provision: | |
| Comments: | |

| PRE-DEMOLITION CONFERENCE AGENDA (continued) | |
|---|-----------|
| V. Plan Notes and Unusual Requirements | |
| <i>The following plan notes and unusual requirements, experimental features, research items, and other unusual requirements are reviewed and discussed below:</i> | |
| A. Plan Note: | Comments: |
| B. Plan Note: | Comments: |
| C. Plan Note: | Comments: |
| D. Plan Note: | Comments: |
| E. Other Requirement: | Comments: |
| F. Other Requirement: | Comments: |
| G. Other Requirement: | Comments: |
| H. Other Requirement: | Comments: |

| PRE-DEMOLITION CONFERENCE AGENDA (continued) | |
|---|--|
| VI. Pre-Demolition Inspections | |
| A. Falsework: | |
| 1. Are falsework drawings required per section 202 of the Project Special Provisions? | |
| 2. If falsework drawings are required, the Contractor's Engineer must certify in writing to the Project Engineer that falsework materials and construction are in conformance with the falsework drawings submitted to the Project Engineer prior to commencement of work, in accordance with subsection 601.11 of the <i>Standard Specifications</i> . Comments: | |
| VII. Demolition Plan and Procedures | |
| A. Demolition Plan: | |
| Has demolition plan been submitted as required? Comments: | |
| 1. Have minimum requirements been incorporated into the demolition plan? | |
| a. Removal Sequence? | |
| b. Equipment Descriptions? | |
| c. Temporary falsework, bracing and shoring? | |
| d. Protective covering details? | |
| e. Protection of live waterways? | |
| i. Turbidity? | |
| ii. Sedimentation? | |
| iii. pH? | |
| iv. Wetlands? | |
| f. Fugitive Dust Mitigation | |
| g. Dismantling, loading, and hauling details? | |
| h. Hazmat? | |
| 2. Plan stamped by Contractor's Engineer? | |
| 3. Final plan to be submitted to Project Engineer on _____ | |

PRE-DEMOLITION CONFERENCE AGENDA (continued)

B. Demolition Plan Deviation:

If the Contractor is required to deviate from the demolition plan, prior approval from the Contractor’s Engineer to make the revision must be discussed (i.e. schedule and related impacts) with the Project Engineer. Comments:

C. Method of Communication:

What method of communication will be used between the Contractor, the demolition subcontractor, the Contractor’s Engineer, and the Project Engineer on the job site, during demolition? Comments:

D. Weather :

Does the Contractor have a contingency plan for inclement weather?

The Contractor will confirm weather forecast 24 hours prior to demolition. Comments:

IX. Safety Requirements

A. Safety Plan:

1. Has the Contractor provided for work site safety in accordance with the Occupational Safety and Health Administration requirements (e.g., hardhats, handrails, safety belts, nets)? Comments:

2. Suggested safety topics:

- a. Appropriate equipment (type and size)?
- b. Never stand or walk under structure once demolition has begun.
- c. Do working hour limitations allow sufficient time for the Contractor’s demolition sequence?

3. Time and place of demolition safety meeting?

X. Traffic Control

A. MHT

1. Will the equipment delivery require traffic control? Describe MHT

2. Will the debris removal require traffic control? Describe MHT

| |
|---|
| 3. Will the demolition require traffic control? Describe MHT |
| 4. Has the Method of Handling Traffic been submitted and approved? |
| 5. Method to prevent traffic (vehicular and others) from entering workzone? |
| 6. Public relations notified? |
| 7. Verify vertical and lateral clearances after demolition and notify Staff Maintenance if necessary. |
| Additional comments: |

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PRE-ERECTION CONFERENCE AGENDA

The following is an example Pre-erection Conference Agenda to assist in facilitating the meeting. This example presents a minimum set of topics that should be discussed during the Conference; however, not all topics will be covered for every project in every Region. Prior to its use, thoroughly read the Agenda's content and consider the special needs of the particular project and Region. Modify this agenda to meet the needs of your project. Copies of this Agenda are available from the CDOT website:

https://www.codot.gov/business/designsupport/bulletins_manuals/cdot-construction-manual/agenda-forms

Contact the Area Engineer in the Contracts & Market Analysis Branch for additional information.

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| PRE-ERECTION CONFERENCE AGENDA | | | |
|---|--|--------------------|--|
| <i>The items in the following agenda are minimum requirements that should be covered during the conference. The agenda may be used as is or as a base to develop a customized agenda.</i> | | | |
| Project Number: | | Resident Engineer: | |
| Project Code (SA): | | Project Engineer: | |
| Location: | | Contractor: | |
| Date: | | Superintendent: | |
| Time: | | Foreman: | |
| I. Attendance Roster | | | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
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| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
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| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
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| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |

| PRE-ERECTION CONFERENCE AGENDA (continued) | | | |
|---|--|-----------------|--|
| I. Attendance Roster (continued) | | | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
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| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |

| PRE-ERECTION CONFERENCE AGENDA (continued) | | | |
|--|--|-----------------|--|
| II. Project Organization and Status | | | |
| A. Colorado Department of Transportation Personnel: | | | |
| 1. Personnel in Charge at Site: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 2. Assistant-in-Charge (when individual listed above is not present): | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 3. Bridge Designer (attendance required): | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 4. Staff Bridge (attendance as established by Project Engineer if bridge designed by Consultant): | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 5. Inspector/Duties: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 6. Inspector/Duties: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 7. Inspector/Duties: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 8. Tester: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 9. Other: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| Comments: | | | |
| | | | |
| B. Contractor Personnel: | | | |
| 1. Project Superintendent: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 2. Erection Company Superintendent/Foreman: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 3. Contractor's Engineer: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |

| | | | |
|---|--|-----------------|--|
| 4. Girder Fabricator (may attend by speaker telephone): | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 5. Traffic Control Supervisor: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 6. Other: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |

| PRE-ERECTION CONFERENCE AGENDA (continued) | |
|--|--|
| III. Scheduling | |
| A. Materials: | |
| 1. Girders will be delivered when (date and time)? | |
| 2. Has the Quality Assurance Acceptance Report (Bridge Report #193) been received from the Staff Bridge Fabrication Inspector? | |
| 3. If girders will be stored on site, describe storage and protection plan: | |
| 4. Location of temporary storage if erection is postponed: | |
| 5. What contingency plans are there for an interrupted delivery schedule? | |
| 6. Has the pier cap concrete attained at least 80% of its 28 day strength (Subsection 601.11(e))? | |
| 7. Project Engineer: When girders are delivered, who from the project will inspect for damage? | |
| B. Erection Schedule: | |
| 1. Erection is scheduled for: | |
| 2. Anticipated duration of erection: | |
| 3. Detailed schedule complies with working hour restrictions? | |
| 4. How will the Contractor stabilize the girders <u>during</u> and <u>after</u> erection operations? Precast, Prestressed Concrete Box Girders (Bracing may not be required.): Precast, Prestressed Concrete I and BT Girders (Bracing may only be required during erection. Diaphragms will require installation as erection progresses.): Steel Girders: "No fewer than two steel girders shall be erected when girders are initially placed in any span, unless the Engineer provides a written waiver to this requirement." "Steel box girders need not be erected in pairs." | |
| C. Crane Delivery: | |
| Crane(s) will arrive at: | |
| D. Contractor's Engineer: | |
| 1. When a bridge spans traffic of any kind, the area beneath the girders shall not be opened to traffic until the Contractor's Engineer has inspected and provides written approval of the erected girders. Comments. | |

2. Has the Contractor's Engineer provided the inspection form the Contractor will use to document the daily inspection of the erected girders and other permanent and temporary bridge elements?

Project Engineer: Who from the project has been assigned the task of inspecting the erected girders daily?

F. Other Scheduled Items:

Other scheduling items that will affect the start of the erection process include:

1. Lighting necessary:

2. Railroad Coordination:

3. Utility Coordination:

4. Other:

5. Other:

PRE-ERECTION CONFERENCE AGENDA (continued)

IV. Special Provision Requirements

The following Special Provisions are reviewed and discussed below:

A. Special Provision:

Comments:

B. Special Provision:

Comments:

C. Special Provision:

Comments:

| |
|------------------------------|
| D. Special Provision: |
| Comments: |
| E. Special Provision: |
| Comments: |
| F. Special Provision: |
| Comments: |
| G. Special Provision: |
| Comments: |
| H. Special Provision: |
| Comments: |

| |
|---|
| PRE-ERECTION CONFERENCE AGENDA (continued) |
| V. Plan Notes and Unusual Requirements |
| <i>The following plan notes and unusual requirements, experimental features, research items, and other unusual requirements are reviewed and discussed below:</i> |
| A. Plan Note: |
| Comments: |
| B. Plan Note: |
| Comments: |

| |
|---|
| C. Plan Note: Comments: |
| D. Plan Note: Comments: |
| E. Other Requirement: Comments: |
| F. Other Requirement: Comments: |
| G. Other Requirement: Comments: |
| H. Other Requirement: Comments: |
| PRE-ERECTION CONFERENCE AGENDA (continued) |
| VI. Pre-Erection Inspections |
| A. Bearings: |
| 1. Are bearings set on proper line and grade? Comments: |
| 2. Will the bearings be welded during erection? If so, welding must be performed by certified welder. Comments. |

| |
|--|
| <p>B. Falsework:</p> <p>1. Is falsework required per subsection 601.11(a) of the <i>Standard Specifications</i>?</p> |
| <p>2. If falsework is required, has the Contractor's Engineer certified in writing that falsework materials and construction have been inspected and that all falsework design, materials, and construction conform with the requirements of the Contract and are safe for placement of loads, in accordance with subsection 601.11(b) of the <i>Standard Specifications</i>? Comments:</p> |
| <p>C. Substructure Survey 601.12(I)</p> <p>Has substructure survey been completed and submitted? Information checked against the plans and shop drawings?</p> |
| <p>VII. Erection Plan and Procedures</p> |
| <p>A. Erection Plan:</p> <p>Has erection plan been submitted as required? Comments:</p> |
| <p>1. Have minimum requirements been incorporated into the erection plan?</p> |
| <p>2. When will the final Erection Plan, signed and sealed by the Contractor's Engineer, stamped "Approved for Construction" and signed by the Contractor be submitted to the Project Engineer (date and time)?</p> |
| <p>3. Erection subcontractor's demonstration of knowledge and familiarity with piece marks.</p> <ul style="list-style-type: none"> - The Erection sheets from the shop drawings may be needed to facilitate the discussion. - Call the girder fabricator on the speaker telephone. <ul style="list-style-type: none"> • On the components to be erected, where are the piece marks located? • How are the piece marks oriented in the finished structure? • Discuss the shop drawing piece mark convention used by the girder fabricator. • Has the Erection subcontractor discussed with the fabricator how the girders will be loaded? Piece marks toward the front or rear of the truck? <p>Did the girder fabricator state whether the erection subcontractor had demonstrated a correct understanding of the piece marks?</p> <p>Did the girder fabricator correct any misunderstanding?</p> |

| PRE-ERECTION CONFERENCE AGENDA (continued) | |
|---|--|
| B. Erection Plan Deviation: | |
| 1. Any deviation from the final Erection Plan will require prior approval from the Contractor’s Engineer and the Contractor and must be discussed with the Project Engineer. Comments: | |
| 2. What are the contingency plans if erection is not proceeding according to schedule? Based on production and time, what are the specific points during erection a decision will be made to proceed with or cancel erection? The decision must be discussed with the Project Engineer. Comments: | |
| C. Method of Communication: | |
| What method of communication will be used between the Contractor, the erection subcontractor, Contractor’s Engineer, and the Project Engineer during erection? | |
| D. Crane Operation: | |
| 1. Is the crane staging and erection site properly graded, drained, and stabilized? If not, when will it be? | |
| 2. Is there adequate room allowed for outriggers? Has the proximity to walls or other structures been investigated? | |
| 3. Has the Contractor verified the location of underground utilities in relation to the crane outriggers? | |
| 4. Has the Contractor verified that power lines will not interfere with crane operation? Comments: | |
| 5. What contingency plans are there for equipment failure? Comments: | |
| E. Weather : | |
| Does the Contractor have a contingency plan for inclement weather? | |
| The Contractor will confirm weather forecast 24 hours prior to erection. Comments and description of contingency plan: | |
| VIII. Inspection Requirements | |
| A. Inspection of Bolts: | |
| 1. What “acceptable platform” will the Contractor provide to allow the Engineer to inspect tension in high strength bolts per subsection 509.28(h)? | |
| 2. The Contractor will need to demonstrate that the bolt tightening method used produces the tension specified in Table 509-3. Comments: | |

| PRE-ERECTION CONFERENCE AGENDA (continued) | |
|---|---|
| IX. Safety Requirements | |
| A. Safety Plan: | |
| 1. | Has the Contractor provided for work site safety in accordance with the Occupational Safety and Health Administration requirements and standard special provision, Project Safety Planning (e.g., hardhats, handrails, safety belts, nets)? Comments: |
| 2. | Suggested safety topics: <ul style="list-style-type: none"> a. Properly sized crane? b. Appropriate slings, chokers, and lifting devices? c. Ensure that a single girder is tied off and braced prior to hoisting the adjacent girder. d. Tag lines to be used to control hoisted girders e. Never stand or walk under hoisted girder. |
| 3. | Time and place of erection safety meeting? |
| X. Traffic Control | |
| A. Method of Handling Traffic (MHT) | |
| 1. | Will the crane delivery require traffic control? Describe MHT |
| 2. | Will the girder delivery require traffic control? Describe MHT |
| 3. | Will the girder erection require traffic control? Describe MHT |
| 4. | Has the Method of Handling Traffic been submitted and approved? |
| 5. | Method to prevent traffic from entering work zone? |
| 6. | Public relations notified? |
| 7. | Verify vertical and lateral clearances after erection per subsection 630.09, Paragraph 4, (7) and (8). Staff Maintenance Permit Office may require notification. See Construction Bulletin 2006 Number 1.. |
| Comments: | |

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STRUCTURAL CONCRETE PRE-POUR CONFERENCE AGENDA

The following is an example Structural Concrete Pre-pour Conference Agenda to assist in facilitating the meeting. This example presents a minimum set of topics that should be discussed during the Conference; however, not all topics will be covered for every project in every Region. Prior to its use, thoroughly read the Agenda's content and consider the special needs of the particular project and Region. Contact the Area Engineer in the Project Development Branch for additional information. Copies of this Agenda are available from the Project Development Branch and the CDOT Intranet and Internet Web Site.

The following is an example Pre-erection Conference Agenda to assist in facilitating the meeting. This example presents a minimum set of topics that should be discussed during the Conference; however, not all topics will be covered for every project in every Region. Prior to its use, thoroughly read the Agenda's content and consider the special needs of the particular project and Region. Modify this agenda to meet the needs of your project. Copies of this Agenda are available from the CDOT website:

https://www.codot.gov/business/designsupport/bulletins_manuals/cdot-construction-manual/agenda-forms

Contact the Area Engineer in the Contracts & Market Analysis Branch for additional information.

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STRUCTURAL CONCRETE PRE-POUR CONFERENCE AGENDA

The items in the following agenda are minimum requirements that should be covered during the conference. The agenda may be used as is or as a base to develop a customized agenda.

| | | | |
|-----------------------------|--|--------------------|--|
| Project Number: | | Resident Engineer: | |
| Project Code (SA): | | Project Engineer: | |
| Location: | | Contractor: | |
| Date: | | Superintendent: | |
| Time: | | Foreman: | |
| I. Attendance Roster | | | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
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| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
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| Street Address: | | Cell Number: | |
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| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |

| STRUCTURAL CONCRETE PRE-POUR CONFERENCE AGENDA (continued) | | | |
|--|--|-----------------|--|
| I. Attendance Roster (continued) | | | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
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| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Street Address: | | Cell Number: | |
| City, State, Zip: | | E-Mail Address: | |

| STRUCTURAL CONCRETE PRE-POUR CONFERENCE AGENDA (continued) | | | |
|--|--|-----------------|--|
| II. Project Organization and Status | | | |
| A. Colorado Department of Transportation Personnel: | | | |
| 1. Personnel in Charge at Site: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 2. Assistant-in-Charge (when personnel identified in A.1 is not present): | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 3. Tester: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 4. Inspector/Duties: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 5. Inspector/Duties: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 6. Inspector/Duties: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 7. Other: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| Comments: | | | |
| | | | |
| B. Contractor Personnel: | | | |
| 1. Quality Control Supervisor: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 2. Other: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 3. Other: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| 4. Other: | | | |
| Name/Title: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | E-Mail Address: | |
| Comments: | | | |
| | | | |

| STRUCTURAL CONCRETE PRE-POUR CONFERENCE AGENDA (continued) | |
|---|--|
| III. Scheduling | |
| A. Materials: | |
| Materials will be available for sampling on: | |
| | |
| B. Concrete Plant: | |
| Concrete plant will be ready to be checked on: | |
| | |
| C. Finishing Equipment: | |
| Finishing equipment will be set up and ready for approval on: | |
| | |
| D. Placement Schedule: | |
| Placement is scheduled for: | |
| | |
| E. Concrete Batching: | |
| Concrete batching will start at: | |
| | |
| F. Placement Location: | |
| Concrete placement will start at: | |
| | |
| G. Length of Pour: | |
| Anticipated length of pour: | |
| | |
| H. Other Scheduled Items: | |
| Other scheduling items that will affect the start of the concrete pour include: | |
| | |
| 1. | |
| | |
| 2. | |
| | |
| 3. | |
| | |
| 4. | |
| | |

| STRUCTURAL CONCRETE PRE-POUR CONFERENCE AGENDA (continued) | |
|---|-----------|
| IV. Special Provision Requirements | |
| <i>The following Special Provisions are reviewed and discussed below:</i> | |
| A. Special Provision: | Comments: |
| B. Special Provision: | Comments: |
| C. Special Provision: | Comments: |
| D. Special Provision: | Comments: |
| E. Special Provision: | Comments: |
| F. Special Provision: | Comments: |
| G. Special Provision: | Comments: |
| H. Special Provision: | Comments: |

| STRUCTURAL CONCRETE PRE-POUR CONFERENCE AGENDA (continued) | |
|---|-----------|
| V. Plan Notes and Unusual Requirements | |
| <i>The following plan notes and unusual requirements, experimental features, research items, and other unusual requirements are reviewed and discussed below:</i> | |
| A. Plan Note: | Comments: |
| B. Plan Note: | Comments: |
| C. Plan Note: | Comments: |
| D. Plan Note: | Comments: |
| E. Other Requirement: | Comments: |
| F. Other Requirement: | Comments: |
| G. Other Requirement: | Comments: |
| H. Other Requirement: | Comments: |

| STRUCTURAL CONCRETE PRE-POUR CONFERENCE AGENDA (continued) |
|--|
| VI. Pre-Pour Inspections |
| <i>The Contractor is hereby informed that no concrete shall be placed prior to review, inspection, and approval of the following items:</i> |
| A. Forms: Are forms set on proper line and grade, adequately supported, free of grout leaks, clean and properly sized. Comments: |
| B. Falswork: |
| 1. Are falsework drawings required per subsection 601.11(b) of the <i>Standard Specifications</i> ? |
| 2. If falsework drawings are required, the Contractor's professional engineer must certify in writing to the Project Engineer that falsework materials and construction are in conformance with the falsework drawings submitted to the Project Engineer prior to placement, in accordance with subsection 601.11(a) of the <i>Standard Specifications</i> . Comments: |
| 3. Placement of telltales. Comments: |
| C. Reinforcing Steel: |
| Reinforcing steel must be of the proper grade, and the bars must be of the correct number and size placed in the correct location. Bars must be properly tied and all areas where the epoxy coating has been damaged must be correctly repaired. Comments: |
| D. Expansion Devices: |
| Expansion devices must be set on correct line and grade, formed and secured to allow concrete to flow around anchor devices with no resulting voids. Comments: |
| E. Line and Grade: |
| Inspected for proper line and grade. Comments: |
| F. Finishing Machine and Testing Bridge: |
| The finishing machine must be adjusted to finish on the proper line, grade, and skew, and the support rail or string line must be set properly and supported adequately. A test run must be completed and measurements taken to check uniformity. The testing bridge must be ready for use by CDOT forces. Comments: |

| STRUCTURAL CONCRETE PRE-POUR CONFERENCE AGENDA (continued) | | |
|---|-----|----|
| VII. Concrete Batching and Delivery (subsections 601.06 and 601.07) | | |
| A. Plant and Truck Inspections: | Yes | No |
| Are plant and truck inspections current? | | |
| Have CDOT Forms 46 – Concrete Truck Mixer Inspection Certification been submitted? | | |
| Do all trucks have counters and manufacturer's plates that list the various drum speeds? | | |
| Comments: | | |
| B. Design Mix: | Yes | No |
| Has the Concrete Mix Design Report been reviewed and approved by the Materials and Geotechnical Branch? | | |
| Are copies of the CDOT Mix Design Review Sheet available for supplier and Inspector? | | |
| Are there any unusual features in the concrete mixes? | | |
| Comments: | | |
| C. Mix Deviation: | Yes | No |
| Does Contractor or supplier intend to deviate from proposed proportions for any reason (e.g., admixtures)? | | |
| If yes, prior approval to make the revision must be received. Comments: | | |
| D. Aggregate Stockpiles: | Yes | No |
| Have the fine and coarse aggregate stockpiles been tested for compliance with specifications? | | |
| Are they adequate for the proposed placement? | | |
| Will supplier sample aggregate stockpiles for moisture content within 24-hours prior to placement? These test results should be made available to the Inspector. | | |
| Comments: | | |
| E. Method of Communication: | | |
| What method of communication will be used between the batch plant and the job site? | | |
| F. Plant Breakdowns: | Yes | No |
| In the event of a plant breakdown, will an alternate plant be used? | | |
| Has a mix design been approved for this alternate plant? | | |
| Comments: | | |

| | | |
|--|--|-----|
| STRUCTURAL CONCRETE PRE-POUR CONFERENCE AGENDA (continued) | | |
| VII. Concrete Batching and Delivery (continued) | | |
| G. Emergency Bulkheads: | | |
| If it is necessary to place an emergency bulkhead, at what locations can this emergency bulkhead be placed? | | |
| | | |
| H. Bridge Design and Management Branch: | | Yes |
| Has the Bridge Design and Management Branch been contacted for advice? | | No |
| Comments: | | |
| | | |
| I. Concrete Tests: | | |
| The Contractor is reminded that the concrete will be tested at the job site. The results of these tests will be used to accept, price reduce, or reject the concrete. The Project Engineer, or his delegated representative, will be responsible for informing the Contractor of the test results and the acceptability of the concrete. Comments: | | |
| | | |
| J. Concrete Rejection: | | |
| The Contractor is reminded that concrete can be rejected for any of the following reasons: | | |
| <ol style="list-style-type: none"> 1. mix exceeds the water-cement ratio criteria, 2. mixing/hauling exceed specified time limit, 3. work is not meeting specified concrete mix temperatures, or 4. a batch ticket is not filled out completely. | | |
| Comments: | | |
| | | |
| K. Batch Tickets: | | |
| The concrete supplier is to furnish a batch ticket with each load of concrete delivered to the project. These tickets must contain all the information specified in subsection 601.06 of the <i>Standard Specifications</i> . The Contractor shall collect and complete the batch ticket at the placement site and deliver all batch tickets to the Project Engineer on a daily basis as per subsection 601.06 of the <i>Standard Specifications</i> . Comments: | | |
| | | |

| STRUCTURAL CONCRETE PRE-POUR CONFERENCE AGENDA (continued) | | |
|--|-----|----|
| VIII. Concrete Placement (subsection 601.12 and 601.15) | | |
| A. Weather (see subsection 601.12 (b) and (c) for temperature limitations): | Yes | No |
| Does the Contractor have a contingency plan for inclement weather? | | |
| What is the weather forecast for the proposed placement date? Comments: | | |
| | | |
| B. Placement Method: | | |
| What is the Contractor's method of placement, and what other method will be used in the event of breakdowns? | | |
| | | |
| C. Form and Reinforcement Prewetting: | | |
| What method will be used to prewet forms and reinforcing steel? | | |
| | | |
| D. Placement Sequence: | Yes | No |
| Is the placement sequence approved? | | |
| Comments: | | |
| | | |
| E. Special Controls: | Yes | No |
| Is special control required to prevent detrimental camber deflections or girder rotation? | | |
| Comments: | | |
| | | |
| F. Construction Joints: | | |
| If construction joints are needed, where will they be placed? | | |
| | | |
| G. Vibrators: | Yes | No |
| Have frequency checks been performed on the vibrators? | | |
| Will backups be available? | | |
| How many vibrators and generators will be used? | | |
| The Contractor is reminded that the vibrators shall not be used to move the concrete. Comments: | | |
| | | |

| STRUCTURAL CONCRETE PRE-POUR CONFERENCE AGENDA (continued) | | |
|--|--|---|
| IX. Concrete Finishing (subsections 601.12(k), 601.14, and 601.15) | | |
| A. Finishing Equipment: | | |
| What is the Contractor's plan in the event of a mechanical breakdown of the finishing machine? | | |
| | | |
| B. Straightedge: | | Yes No |
| Is a 10-foot straightedge available for checking the tolerances of the finished concrete? | | <input type="checkbox"/> <input type="checkbox"/> |
| Comments: | | |
| | | |
| C. Thickness and Cover Checks: | | |
| The Contractor is reminded that slab thickness and reinforcing steel cover checks will be made continuously and that the Contractor may be required to adjust the screed periodically or refinish a portion of the slab to within tolerance. Comments: | | |
| | | |
| D. Addition of Water: | | |
| The Contractor is cautioned that applying water to in-place concrete by any method other than those permitted by the Contract will result in the rejection of placed concrete. Comments: | | |
| | | |
| E. Waterproofing Membrane: | | Yes No |
| Will the deck be covered with a waterproofing membrane? OR | | <input type="checkbox"/> <input type="checkbox"/> |
| Will the final surface be concrete? | | <input type="checkbox"/> <input type="checkbox"/> |
| Comments: | | |
| | | |

| STRUCTURAL CONCRETE PRE-POUR CONFERENCE AGENDA (continued) | | | |
|---|--|-----|----|
| X. Concrete Curing (subsections 601.13 and 601.16) | | | |
| A. Curing Method: | | | |
| What method of curing will the Contractor use? | | | |
| | | | |
| B. Timing of Curing: | | | |
| When will the curing method begin and how long will it last? | | | |
| | | | |
| C. Protection of Concrete: | | | |
| Does Contractor have equipment and materials at the site to provide insulation/heating of the concrete? | | Yes | No |
| Comments: | | | |
| | | | |
| XI. Safety Requirements | | | |
| Has the Contractor provided for work site safety in accordance with the Occupational Safety and Health Administration requirements (e.g., hardhats, handrails, safety belts, nets)? | | Yes | No |
| Comments: | | | |
| | | | |
| XII. Traffic Control | | | |
| Will the concrete placement require traffic control? | | Yes | No |
| Has the Method of Handling Traffic been submitted and approved prior to placement? | | | |
| Comments: | | | |
| | | | |

CONCRETE PAVEMENT PRE-PAVING AND QC/QA CONFERENCE AGENDA

The following is an example Concrete Pavement Pre-paving and QC/QA Conference Agenda to assist in facilitating the meeting. This example presents a minimum set of topics that should be discussed during the Conference; however, not all topics will be covered for every project in every Region. Prior to its use, thoroughly read the Agenda's content and consider the special needs of the particular project and Region. Modify this agenda to meet the needs of your project. Copies of this Agenda are available from the CDOT website:

https://www.codot.gov/business/designsupport/bulletins_manuals/cdot-construction-manual/agenda-forms

Contact the Area Engineer in the Contracts & Market Analysis Branch for additional information.

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CONCRETE PAVEMENT PRE-PAVING and QC/QA CONFERENCE AGENDA

Rev. 09-11-13

The items in the following agenda are minimum requirements that should be covered during the conference. The agenda may be used as is or as a base to develop a customized agenda. Personnel recommended to be in attendance are: Project Engineer, Paving Inspector, QA Tester, Region Materials Engineer, QC Tester, Superintendent, Paving Foreman, and Traffic Control Supervisor.

| | | | |
|------------------------|--|---------------------------|--|
| Project Number: | | Resident Engineer: | |
| Sub Account: | | Project Engineer: | |
| Location: | | Contractor: | |
| Date: | | Superintendent: | |
| Time: | | Foreman: | |

I. Project Personnel

A. Colorado Department of Transportation Personnel:

1. CDOT Project Engineer

| | | | |
|-----------------------|--|-----------------------|--|
| Name: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | Email Address: | |

2. Assistant CDOT Project Engineer:

| | | | |
|-----------------------|--|-----------------------|--|
| Name: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | Email Address: | |

3. Project Acceptance Tester:

| | | | |
|-----------------------|--|-----------------------|--|
| Name: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | Email Address: | |

4. Head Tester:

| | | | |
|-----------------------|--|-----------------------|--|
| Name: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | Email Address: | |

5. Paving Inspector:

| | | | |
|-----------------------|--|-----------------------|--|
| Name: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | Email Address: | |

6. Other:

| | | | |
|-----------------------|--|-----------------------|--|
| Name: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | Email Address: | |

B. Contractor Personnel:

1. Superintendent

| | | | |
|-----------------------|--|-----------------------|--|
| Name: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | Email Address: | |

2. Process Control Supervisor:

| | | | |
|-----------------------|--|-----------------------|--|
| Name: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | Email Address: | |

3. On Site Process Control Supervisor (if different from above):

| | | | |
|-----------------------|--|-----------------------|--|
| Name: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | Email Address: | |

4. Process Control Tester:

| | | | |
|-----------------------|--|-----------------------|--|
| Name: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | Email Address: | |

5. Other:

| | | | |
|-----------------------|--|-----------------------|--|
| Name: | | Fax Number: | |
| Office Number: | | Home Number: | |
| Mobile Number: | | Email Address: | |

II. Attendance Roster

| | | | |
|-------------------|--|----------------|--|
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Address: | | Cell Number: | |
| City, State, Zip: | | Email Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Address: | | Cell Number: | |
| City, State, Zip: | | Email Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Address: | | Cell Number: | |
| City, State, Zip: | | Email Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Address: | | Cell Number: | |
| City, State, Zip: | | Email Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Address: | | Cell Number: | |
| City, State, Zip: | | Email Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Address: | | Cell Number: | |
| City, State, Zip: | | Email Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Address: | | Cell Number: | |
| City, State, Zip: | | Email Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Address: | | Cell Number: | |
| City, State, Zip: | | Email Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Address: | | Cell Number: | |
| City, State, Zip: | | Email Address: | |
| Name: | | Office Number: | |
| Representing: | | Fax Number: | |
| Address: | | Cell Number: | |
| City, State, Zip: | | Email Address: | |

III. Special Provision Requirements

Distribution of Standard Specifications:

A minimum of the following personnel should have a copy of the appropriate sections of the *Standard Specifications* :

| Title | Yes | No |
|----------------------------|-----|----|
| Project Engineer | | |
| Project Acceptance Tester | | |
| Head Tester | | |
| Superintendent | | |
| Process Control Supervisor | | |
| Process Control Tester | | |

The following Special Provisions for Concrete Pavement are reviewed and discussed below. Review the specifications associated with the project, determine what has been revised from the Standard Special Provisions and discuss each difference with the project staff.

| |
|---------------------------------------|
| A. Special Provision: |
| Comments: |
| B. Special Provision: |
| Comments: |
| C. Special Provision: |
| Comments: |
| D. Standard Special Provision: |
| Comments: |

IV. Standard Special Provisions

The following Standard Special Provisions for Concrete Pavement are reviewed and discussed below. Review the specifications associated with the project, determine what has been revised from the Standard Special Provisions and discuss each difference with the project staff.

| |
|---------------------------------------|
| A. Standard Special Provision: |
| Comments: |
| B. Standard Special Provision: |
| Comments: |
| C. Standard Special Provision: |
| Comments: |
| D. Standard Special Provision: |
| Comments: |

V. Materials:

| | | |
|---|------|-----|
| A. Has the Concrete Mix Design been submitted? | Yes: | No: |
| Comments: | | |
| B. Has the Concrete Mix Design been reviewed? | Yes: | No: |
| Comments: | | |
| D. Have incidental items been verified with the Approved Products List? | Yes: | No: |
| Comments: | | |
| E. Has the Concrete Mix Design been approved? | Yes: | No: |
| Comments: | | |
| F. Is this an optimized mix? If yes, discuss the QC testing requirements for optimized mixes. | Yes: | No: |
| Comments: | | |
| G. Deviations from the approved mix design requires a new mix design. How does the project staff plan to address changes to the mix? | Yes: | No: |
| Comments: | | |
| H. How does the Contractor and CDOT plan to address material overruns? | | |
| Comments: | | |
| I. Is there milling on the project? If so, has a milling plan been submitted and approved? Can minimum remaining asphalt depths be attained? How does the Contractor propose to handle areas where millings break out due to insignificant support? | | |
| Comments: | | |
| J. Was a survey required for this project? If so, has it been completed? Does the Contractor believe any sections cannot be built to the required cross-slope and grade without overruns, while meeting minimum thicknesses? | | |
| Comments: | | |

| | | |
|--|------|-----|
| K. Who does QC report test results to and when? Discuss provisions for failing test results. | | |
| Comments: | | |
| L. The COCs and CTRs required for this project are to be submitted to the Project Engineer prior to items being placed on the project. What are the procedures to be followed if COCs and CTRs are not received at this time? | | |
| Comments: | | |
| M. Do all testers on the project have the appropriate certifications? | Yes: | No: |
| Comments: | | |
| N. Has the concrete compression test machine, beam apparatus, cure tanks and other test equipment been inspected and/or certified? | Yes: | No: |
| Comments: | | |
| O. If flexural strength acceptance is specified, have the beam molds been inspected? | Yes: | No: |
| Comments: | | |
| P. Has the Contractor submitted their Quality Control Plan? | Yes: | No: |
| Comments: | | |
| Q. Has the Contractor's Quality Control Plan been accepted? | Yes: | No: |
| Comments: | | |
| R. What is the Contractor's Quality Control Plan to prevent earth materials from contaminating the aggregate in accordance with sections 412.05 and 601.06? Aggregates shall be stockpiled and handled in accordance with sections 412.05 and 601.06(c). | | |
| Comments: | | |
| S. Does the Contractor's Quality Control Plan meet minimum sampling frequency? | Yes: | No: |
| Comments: | | |

| | | |
|--|------|-----|
| T. What is the Contractor's quality control plan to prevent earth materials from contaminating the aggregate in accordance with sections 412.05 and 601.06? Aggregates shall be stockpiled and handled in accordance with sections 412.05 and 601.06(c). | | |
| Comments: | | |
| U. Where will the Test Result and Quality Level Charts be posted for each process that is convenient for the Project Engineer and QA Tester to view? The Contractor will report the results of the process control tests to the Project Engineer in writing at least once per day. Describe where and when this will be performed. | | |
| Comments: | | |
| V. Do the appropriate people have a copy of the QC/QA Software? What version is to be used on this project? | Yes: | No: |
| Comments: | | |
| W. Is the Process Control Supervisor for process control sampling and testing identified in the QCP? | Yes: | No: |
| Comments: | | |
| X. Does the Process Control Supervisor possess at least one of the following certifications? <ol style="list-style-type: none"> 1. Registration as a Professional Engineer in the State of Colorado? 2. Registration as an Engineer In Training in the State of Colorado with two years paving experience? 3. Bachelors of Science Degree in Civil Engineering or Civil Engineering Technology with three years paving experience? 4. National Institute for Certification in Engineering certification at level III or higher in the subfields of Transportation Engineering Technology, Highway Materials, or Construction Materials Testing Engineer Technology, Concrete and four years paving experience? | Yes: | No: |
| Comments: | | |

| | | |
|---|------|-----|
| Y. Does the Technician performing the tests, if other than the person in responsible charge, have a minimum of two years concrete testing experience and possess and American Concrete Institute Laboratory Technician Grade 1 certification? | Yes: | No: |
| Comments: | | |
| Z. What testing frequency is required for this project? | | |
| Comments: | | |
| AA. Which testing criteria is specified for acceptance? _____ Compressive Strength _____ Flexural Strength | | |
| Comments: | | |
| BB. Where and when will check testing be performed? Check testing shall be conducted prior to any Portland Cement Concrete Pavement being placed. | | |
| Comments: | | |
| CC. Independent Assurance Tests for flexural strength will be from a split sample of the Contractor's Quality Control Test. | | |
| Comments: | | |
| DD. Verification sampling and testing procedures will be in accordance with Sections 105, 106, 412 of the <i>Standard Specifications</i> and the Schedule for Minimum Materials Sampling, Testing, and Inspection in the <i>CDOT Field Materials Manual</i> . Samples for verification and acceptance testing shall be taken by the Contractor in accordance with the designated method and shall be taken in the presence of the Project Engineer, or their representative. Beams shall be molded and tested by the Contractor in the presence of the Project Engineer, or their representative. | | |
| Comments: | | |
| EE. Analysis of test results will be performed after all test results are known using the F-test and T-test statistical methods using an alpha value set at 0.05. | | |
| Comments: | | |

VI. Schedule and Placement

| | | |
|---|------|-----|
| A. Has the Contractor submitted their Process Control Plan? | Yes: | No: |
| Comments: | | |
| B. Has the Contractor's Process Control Plan been accepted? | Yes: | No: |
| Comments: | | |
| C. Have all the manholes, inlets, and utilities been properly located and marked? | Yes: | No: |
| Comments: | | |
| D. The Contractor will commence paving on: | | |
| Comments: | | |
| E. Concrete batching will begin at: | | |
| Comments: | | |
| F. Concrete will be delivered to the paver at: | | |
| Comments: | | |
| G. The Contractor proposes to work the following hours: | | |
| Comments: | | |
| H. How many days per week does the Contractor intend to work? | | |
| Comments: | | |
| I. What paving sequence will the Contractor follow: | | |
| Comments: | | |
| J. Where will paving start? | | |
| Comments: | | |

| |
|--|
| <p>K. What width will be paved?</p> <p>Comments:</p> |
| <p>L. What is the Contractor's plan to complete the rest of the paving? (Include widths and proposed starting dates). Are there any concerns with this phasing plan?</p> <p>Comments:</p> |
| <p>M. Traffic will not be permitted on the concrete pavement until 14 days after the pavement has been placed or until the compressive strength has reached 3,000 psi (105.13 & 412.22). Has the Contractor included these requirements into his schedule and phasing?</p> <p>Comments:</p> |
| <p>N. What protection does the Contractor have on site to protect against falling or puddled rain, snow, or other weather elements? (For example, concrete cannot be placed on frozen ground, or when the air temperature is expected to fall below 35oF the concrete shall be protected to maintain temperature per section 412.15 of the <i>Standard Specifications</i>).</p> <p>Comments:</p> |
| <p>O. Who should be notified if a concrete truck is rejected (412.15 & 601.12 (b) and (c)?</p> <p>Comments:</p> |
| <p>P. For slip-form paving operations, the Contractor shall adjust the automatic alignment and elevation controls to spread, consolidate, screed, and finish the concrete in a single pass?</p> <p>Comments:</p> |
| <p>Q. All Occupational Safety and Health Administration (OSHA) safety procedures must be followed. Discuss how the paving operation will be affected by OSHA requirements.</p> <p>Comments:</p> |
| <p>R. Has the Contractor submitted a jointing plan for any areas that require a special joint detail (i.e. roundabouts, intersections, etc.)</p> <p>Comments:</p> |

| |
|--|
| S. Does the Contractors Process Control plan identify how concrete is to be placed in areas which contain load transfer devices? |
| Comments: |
| T. Construction equipment other than standard paving equipment will not be allowed to handle plastic concrete in advance of the paver in the roadway without approval. Does the Contractor plan to request approval for any other equipment? |
| Comments: |
| U. What method will be used to determine pavement thickness? |
| Comments: |
| V. Other scheduling items that will affect the start of concrete paving include: |
| Comments: |

VII. Equipment and Hauling Considerations

| | | |
|--|------|-----|
| A. Has a detailed Method of Handling Traffic been submitted? | Yes: | No: |
| Comments: | | |
| B. Has a detailed Method of Handling Traffic been approved? | Yes: | No: |
| Comments: | | |
| C. What type of trucks will be used for hauling materials? | | |
| Comments: | | |
| D. What is the legal weight limit for these types of hauling vehicles? | | |
| Comments: | | |
| E. Will the haul route affect the placement of material? If yes, discuss how. Are there special haul route restrictions or anticipated issues with any of the haul routes? | Yes: | No: |
| Comments: | | |
| F. Where and how will the trucks be washed out? | | |
| Comments: | | |
| G. A delivery ticket shall be provided with each load. Trucks that do not provide a delivery ticket without the proper information required will be rejected. | | |
| Comments: | | |
| H. Have the certifications for weigher's been submitted? | Yes: | No: |
| Comments: | | |
| I. Have the concrete truck certifications been received? | Yes: | No: |
| Comments: | | |

VIII. Batch Plant

| |
|---|
| A. Will the water be weighed? Yes: ____ No: _____. If no, does the water-measuring equipment conform with the requirements of section 601.06 (b)? |
| Comments: |
| B. What are the Contractor's methods for handling cement and fly ash (601.06 (a))? |
| Comments: |
| C. What is the method of communication between the plant and the paving site? Who will be responsible? |
| Comments: |
| D. The concrete plant will be ready to be checked on: _____ |
| Comments: |
| E. Does the Contractors Process Control Plan include the requirements for the operation of the batch plant (AASHTO M 157 and subsection 601.06 of the <i>Standard Specifications</i>)? |
| Comments: |
| F. Bins and scales shall comply with the requirements of 109.01 and subsection 601.06 (d) of the <i>Standard Specifications</i> . |
| Comments: |
| G. Have the requirements for batch tickets been reviewed? |
| Comments: |
| H. What size loads will be delivered to the project? If the loads are larger than 8 yards, what will the procedure be to ensure uniform mixing at the plant? |
| Comments: |
| Comments: |

IX. Inspection of Paving Equipment and Subgrade

| |
|--|
| A. Paving equipment will be set up and ready for CDOT Inspection on: _____ |
| Comments: |
| B. Will any non-agitator equipment be used to haul material? If so, are the bodies of this equipment smooth, mortar tight, and capable of discharging the concrete at a controlled rate without segregation (412.07)? |
| Comments: |
| C. If using a finishing machine, what frequency will the internal vibrators operate at (412.07)? How does the Contractor propose to ensure over or under vibration does not occur? How with the Contractor repair vibrator trails? |
| Comments: |
| D. Is the paving length greater than 600 feet? If so, is the equipment equipped with an electronic monitoring device for each vibrator (412.07)? |
| Comments: |
| E. What is the diameter of the vibrators? (Minimum eccentric diameter of 1 3/4 inches or as approved by Engineer per 412.07). |
| Comments: |
| F. Does the placement of the vibrators meet subsection 412.07 of the <i>Standard Specifications</i> ? |
| Comments: |
| G. What is the Contractor's method of sawing the concrete? (# of saws, power, dimensions, rate, etc.) |
| Comments: |
| H. How will wastewater from the sawing operation be contained? |
| Comments: |

| | | |
|--|------|-----|
| I. Is a test bridge required for the project? | Yes: | No: |
| Comments: | | |
| J. If a test bridge is required, does it meet the requirements of section 601.15 (g) of the <i>Standard Specifications</i> ? | | |
| Comments: | | |
| K. Is the equipment discussed above appropriate for the work required by the contract? | Yes: | No: |
| Comments: | | |
| L. Has the subgrade been compacted and trimmed to the correct elevation and slope? | Yes: | No: |
| Comments: | | |
| M. Will the trimmed subgrade extend 2' beyond each edge of the proposed concrete pavement if forms are used and 1' outside the track width of finishing, curing, and surface finishing equipment (412.08)? | Yes: | No: |
| Comments: | | |
| N. How does the Contractor plan to uniformly moisten the subgrade or base course prior to concrete placement? Who will determine if additional moisture is needed? | | |
| Comments: | | |
| O. How will proof rolling be conducted and approved? What is the method to identify and repair soft spots ahead of the paver? Do pay items exist? | | |
| Comments: | | |
| P. In areas that have poor subgrade, areas or overrun, or insufficient thickness, what will be the methodology to determine the grade is acceptable and correctly set? | | |
| Comments: | | |

X. Tie and Dowel Bars

| | | |
|--|------|-----|
| A. What methods will be used for storing and handling of epoxy coated bars? | | |
| Comments: | | |
| B. How will repairs to damaged epoxy coating be handled? | | |
| Comments: | | |
| C. What method will be used for placing tie bars and verifying placement? | | |
| Comments: | | |
| D. What are the requirements for the longitudinal construction joints? Has the Contractor's method been approved, showing their method will provide proper consolidation around the tie bar? | | |
| Comments: | | |
| E. What is the Contractor's method to properly space the tie bars and place them at the correct depth? | | |
| Comments: | | |
| F. Who will the contractor use to perform the tie bar pullout testing? | Yes: | No: |
| Comments: | | |
| G. Is the contractor aware of the use of the MIT Scan device to inspect the spacing and depth of inserted tie bars? | Yes: | No: |
| Comments: | | |
| H. What is the contractor's method to add tie bars when the spacing between tie bars exceeds 40 inches? | | |
| Comments: | | |

| | | |
|--|-------------|------------|
| <p>I. Is the Contractor aware of the test section, MIT Scan testing, review and analysis of dowel bar placement requirements (Revised Standard Specification 105.06, 106.06, 412.10 & 412.13 (b) 2)? The test section is a minimum of 500 feet. Every joint in the test section will be tested by the MIT Scan. If the contractor paves more than 500 feet prior to shutting down, every joint past the 500 foot test section will also be tested and used in the test section evaluation.</p> | <p>Yes:</p> | <p>No:</p> |
| <p>Comments:</p> | | |
| <p>J. Is the Contractor aware that paving may not proceed until the test section has been inspected by the MIT Scan, and those results accepted by the Engineer? If the test section is not approved by the Engineer, a second test section must be constructed, inspected and accepted. If the 2nd test section is not accepted, the contractor shall pave no more than 500 feet per day until an acceptable test section is constructed.</p> | <p>Yes:</p> | <p>No:</p> |
| <p>Comments:</p> | | |
| <p>K. What is the Contractor's method to mark the location of the saw joint to ensure accurate dowel location in the joint?</p> <p>Comments:</p> | | |
| <p>Comments:</p> | | |

XI. Finishing:

| | | |
|---|------|-----|
| A. Has the Contractor's surface texture plan been submitted? | Yes: | No: |
| Comments: | | |
| B. Has the Contractor's surface texture plan been reviewed? | Yes: | No: |
| Comments: | | |
| C. Has the Contractor's surface texture plan been approved? If so, how will the surface texture be achieved? | Yes: | No: |
| Comments: | | |
| D. Does the hand finishing QC plan include the Finisher Qualifications? | Yes: | No: |
| Comments: | | |
| E. The addition of superficial water to the surface of the concrete to assist in finishing operations will not be permitted. This also means that superficial water cannot be added by soaking the burlap drag. The burlap drag should be kept damp, but not so wet that free water is deposited on the surface of the pavement. Who should be notified if this is witnessed by CDOT? | | |
| Comments: | | |
| F. If a situation arises that requires the application of water to the surface, and approval has been obtained from the Project Engineer, what method of application does the Contractor intend to use? | | |
| Comments: | | |
| G. If the finish machine is unable to provide an acceptable surface finish after corrective action, what is the Contractor's plan for replacement? | | |
| Comments: | | |
| H. Has hand finishing been included in the Contractor's Quality Control Plan for concrete finishing? | Yes: | No: |
| Comments: | | |
| I. If hand finishing is required, does the plan meet the requirements of section 412.12 (a) of the <i>Standard Specifications</i> ? | Yes: | No: |
| Comments: | | |

| | | |
|--|------|-----|
| J. What method will the Contractor use to further smooth, true, and consolidate the concrete after the initial striking off, vibration, and consolidation? | | |
| Comments: | | |
| K. Is stationing required to be stamped into the outside edge of pavement? If yes, what method and when does the Contractor plan to do this work? | Yes: | No: |
| Comments: | | |
| L. What materials will the Contractor have available to protect the pavement slab from the effects of rain until the concrete has hardened? | | |
| Comments: | | |
| M. What method does the Contractor plan to use to apply curing compound? | | |
| Comments: | | |
| N. What curing compound does the Contractor plan to use? | | |
| Comments: | | |
| O. How quickly will the Contractor apply the curing compound to the placed concrete? | | |
| Comments: | | |
| P. What is the Contractor's plan to repair the curing film if damaged within 72 hours after application? | | |
| Comments: | | |
| Q. Will standby curing equipment be provided for the curing operation in the event of a mechanical breakdown? | Yes: | No: |
| Comments: | | |

XII. Sawing, Sealing, and Joints

| | | |
|--|------|-----|
| A. When will sealing begin? | | |
| Comments: | | |
| B. What is the Contractors method for repairing defective pavement slabs, cracks or spalls prior to sealing (Section 412.16)? | | |
| Comments: | | |
| C. What is the Contractors method for repairing out of specification surface texture prior to sealing? | | |
| Comments: | | |
| D. What is the Contractors method for completing corrective work for pavement smoothness prior to sealing? | | |
| Comments: | | |
| E. Immediately after sawing, the sawed joints shall be flushed with water to remove any saw residue. The saw residue shall be completely removed from the surface of the pavement, by picking up with a vacuum truck or other approved method. What is the Contractor's plan to remove saw residue? | | |
| Comments: | | |
| F. The time of sawing shall be determined by the Contractor to prevent random cracking and raveling from the sawing. If uncontrolled cracking occurs during or prior to joint sawing, the Contractor shall move the sawing operation ahead and, if necessary, add additional sawing units to eliminate uncontrolled cracking. At this time, does the Contractor have an anticipated time of sawing the concrete? | | |
| Comments: | | |
| G. Will a dowel bar inserter (DBI) be used on this project? | Yes: | No: |
| Comments: | | |
| H. If a DBI is used, has the Contractor submitted the details and specifications of the proposed slip-form paver and DBI at least 14 days prior to this conference? Does the Contractor detail his methodology for ensuring correct marking of dowel bar insertion points and correct sawing of the joints? | Yes: | No: |
| Comments: | | |

| | | |
|---|------|-----|
| I. Will concrete shoulders or widening be constructed subsequent to the driving lanes? If yes, transverse weakened plane joints shall immediately be formed in the plastic concrete of these widenings to create an extension of the existing transverse joint. This tooled joint shall be formed in such a manner that it controls the cracking and shall be sawed and sealed. | Yes: | No: |
| Comments: | | |
| | | |
| Comments: | | |
| | | |
| Comments: | | |
| | | |
| Comments: | | |

XIII. Pavement Smoothness

| | | |
|---|------|-----|
| A. Is the contractor's profiler certified to test concrete pavement? | Yes: | No: |
| Comments: | | |
| B. Is the operator of the profiler LABCAT Level 5 certified? | Yes: | No: |
| Comments: | | |
| C. The pavement smoothness category for this project is HRI Category _____. | | |
| Comments: | | |
| D. Is the contractor aware that smoothness QC testing is required for each day's paving, and that it must be submitted to the Engineer within 48 after testing? | Yes: | No: |
| Comments: | | |
| E. Is the contractor aware that paving shall be suspended if smoothness QC testing indicates corrective work is required? Work may not resume until the contractor proposes and the engineer approves corrective actions? | Yes: | No: |
| Comments: | | |
| F. Where will the distance calibration test section be located? | Yes: | No: |
| Comments: | | |

IXV. Concrete Repairs

| | | |
|---|------|-----|
| A. Has the Contractor submitted their corrective work plan? | Yes: | No: |
| Comments: | | |
| B. Has the Contractor's corrective work plan been approved prior to use? | Yes: | No: |
| Comments: | | |
| C. Defective concrete pavement shall be repaired or replaced at the Contractor's expense. Has section 412.16 of the <i>Standard Specifications</i> been reviewed? | Yes: | No: |
| Comments: | | |
| D. Does the Contractor have any potential issues or claims related to the concrete paving? Comments: | | |
| Yes: | | |
| Comments: | | |
| | Yes: | No: |
| Comments: | | |
| | | |
| Comments: | | |

Concrete Pre-Paving Conference Agenda Checklist

This checklist can be used during construction to verify compliance with CDOT standards and specifications.

| | Yes | No | N/A |
|---|-----|----|-----|
| Prepaving Conference held? | | | |
| Approved Process Control Plan and Surface Finish Plan reviewed? | | | |
| Subgrade | | | |
| a. Graded and compacted properly? | | | |
| b. Soft spots corrected? | | | |
| c. Proof rolled? | | | |
| d. Properly referenced for line and grade? | | | |
| e. Trimmed to correct elevation and cross-slope using outside control from reference lines? | | | |
| f. Ground conditions suitable? | | | |
| g. Grade moist before placing concrete? | | | |
| h. Approved? | | | |
| Load transfer devices | | | |
| a. Placed within tolerances? | | | |
| b. Firmly fastened down? | | | |
| c. Correctly located? | | | |
| d. Locations marked for saw crew? | | | |
| e. Properly lubricated? | | | |
| f. Shipping brace cut? | | | |
| g. Dowels correct size and length? | | | |
| h. Dowels checked for proper placement and depth in plastic concrete? | | | |
| Inspect the following equipment | | | |
| a. Place spreader machine if load transfer devices are used? | | | |
| b. Paver | | | |
| 1. Vibrators checked for frequency and location? | | | |
| 2. Vibrators working properly? | | | |
| 3. Bar inserters correctly located? | | | |
| c. Test bridge for CDOT? | | | |
| e. Curing machines? | | | |
| f. Burlap drag? | | | |
| Hauling vehicles checked and approved? | | | |
| Concrete mix design | | | |
| a. Approved? | | | |
| b. Class of concrete? | | | |
| c. Fly ash? | | | |
| d. Class of fly ash? | | | |
| e. Admixtures? | | | |
| f. Proportions? | | | |
| g. Water/cement ratio? | | | |
| h. Slump? | | | |
| i. Air? | | | |
| j. Strength? | | | |

| Batch Plant | | | |
|---|--|--|--|
| a. Location? | | | |
| b. Water meter verified by checking the amount of water batched into a 55 gallon drum and within tolerance? | | | |
| c. Aggregate and cement scales verified? | | | |
| d. Aggregate stockpiles set up adequately with proper spacing between sizes? | | | |
| e. The proper amount of admixture verified by visual measurement and correlation with computer? | | | |
| f. Quality Control personnel obtaining daily moisture samples each morning? | | | |
| g. Project Mix Designs have been approved and are entered into the batching computer correctly. The mix design will be verified at the start of paving. | | | |
| Concrete delivery and placement | | | |
| a. Concrete ticket | | | |
| 1. Ticket with each load? | | | |
| 2. Required information on each ticket? | | | |
| b. Added water documented? | | | |
| c. Water/cement ratio not exceeded when water is added? | | | |
| d. Truck mixers using correct number of revolutions before discharging and after adding water? | | | |
| e. Temperature of concrete meets specifications? | | | |
| f. Air temperature meets specifications? | | | |
| g. Placed so minimum re-handling is required? | | | |
| h. Signs of segregation? | | | |
| i. Slump (consistency) visually similar for each load? | | | |
| j. Discharge complete within specified time limits? | | | |
| k. Concrete removed from non-agitating trucks? | | | |
| l. Heavy equipment handling concrete? | | | |
| m. Foot prints in fresh concrete vibrated? | | | |
| n. Transverse construction joint placed at least 2' from any other transverse joint? | | | |
| Longitudinal construction joints | | | |
| a. Properly located? | | | |
| 1. At lane lines? | | | |
| b. Keyways correctly installed? | | | |
| c. Tie bars (if specified) | | | |
| 1. Inserted by approved method? | | | |
| 2. Epoxy coated? | | | |
| 3. Correct size? | | | |
| 4. Correct length? | | | |
| 5. Correct spacing? | | | |
| 6. Correct location? | | | |
| 7. Cross-transverse joints? | | | |

| Longitudinal-weakened plane joints | | | |
|--|--|--|--|
| a. Properly located? | | | |
| 1. At lane lines? | | | |
| b. Tie bars (if specified) | | | |
| 1. Inserted by approved method? | | | |
| 2. Inserted ahead of vibrators? | | | |
| 3. Epoxy coated? | | | |
| 4. Correct size? | | | |
| 5. Correct length? | | | |
| 6. Correct depth? | | | |
| 7. Correct spacing? | | | |
| 8. Correct location? | | | |
| 9. Not across transverse joints? | | | |
| Transverse-weakened plane joints | | | |
| a. Properly located? | | | |
| b. Load transfer devices (see # 4)? | | | |
| c. Tooled joint in widening or shoulders? | | | |
| Expansion joints | | | |
| a. Preformed joint filler material placed at all structures, manholes, inlets and other projections into the pavement? | | | |
| Manholes, inlets and utilities to be incorporated into pavement located and marked? | | | |
| Finishing | | | |
| Paver providing an acceptable finish? | | | |
| Hand finishing required? | | | |
| Water being added to surface to assist finishing? | | | |
| Burlap drag excessively wet, leaving water on surface of the pavement? | | | |
| Stationing being stamped into pavement at correct locations? | | | |
| Rumble strips | | | |
| a. Correct locations? | | | |
| b. Bicycle traffic unimpeded? | | | |
| c. Interfere with joints? | | | |
| d. Correct size, shape and depth? | | | |
| e. Not placed across acceleration and deceleration lanes or ramps? | | | |
| Texturing | | | |
| a. Parallel to the longitudinal joint? | | | |
| b. Uniform in depth and within the specification requirements? | | | |
| c. Neat in appearance? | | | |
| Curing | | | |
| a. Approved? | | | |
| b. Application rate correct? | | | |
| c. Placed within specified time? | | | |
| d. Cold weather protection required? | | | |
| e. Materials available to protect pavement from rain? | | | |
| f. Maturity chart submitted with mix design, if required? | | | |
| g. Maturity meters installed, if required? | | | |

| Sawing | | | |
|---|--|--|--|
| a. Saw joints properly located? | | | |
| 1. Within specified tolerance over load transfer devices? | | | |
| b. Weakened plane joints sawed before cracking occurs? | | | |
| c. Joints sawed cleanly without spalling? | | | |
| d. Saw residue immediately flushed from joint and removed from surface of pavement by an approved method? | | | |
| e. Second-stage saw cuts correct size and depth? | | | |
| Sealing | | | |
| a. Concrete cured properly before sealing starts? | | | |
| b. Approved? | | | |
| c. Sealant placed to specified tolerances? | | | |
| d. Sealing damaged by corrective work repaired? | | | |
| Traffic not permitted on pavement before it cures? | | | |

NOTES:

ENVIRONMENTAL PRECONSTRUCTION CONFERENCE AGENDA AND ATTENDANCE ROSTER

The following is an example Environmental Pre-construction Conference Agenda and an Attendance Roster (with Certification of Understanding) to assist in facilitating the meeting. This example presents a minimum set of topics that should be discussed during the Conference; however, not all topics will be covered for every project in every Region. Prior to its use, thoroughly read the Agenda's content and consider the special needs of the particular project and Region. Modify this agenda to meet the needs of your project. Copies of this Agenda are available from the CDOT website:

https://www.codot.gov/business/designsupport/bulletins_manuals/cdot-construction-manual/agenda-forms

Contact the Area Engineer in the Contracts & Market Analysis Branch for additional information.

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1. Introductions

| | Name | Phone number | Email Address |
|---------------------------------|------|--------------|---------------|
| Project Engineer | | | |
| Superintendent | | | |
| Contractor's SWMP Administrator | | | |
| Supervisors or Foremen | | | |
| RWPCM | | | |
| CDOT SWMP Preparer or Reviewer | | | |

2. Purpose of the Environmental Pre-construction Conference

- To discuss the terms and conditions of the Stormwater Management Plan (SWMP). Review the regulatory enforcement mechanisms outlined in 208.09 Failure to Perform.
- Project site review.
- At the conclusion of the Environmental Preconstruction Conference, each attendee is required to sign the Certificate of Understanding acknowledging that they understand the terms and conditions of the SWMP and the Permit. Any other individuals that comes onto the project site during construction (including sub-contractors and suppliers) shall also be made aware of these requirements and they are required to sign the Certification of Understanding. This Agenda and the Certification of Understanding must be included in Tab 15 of the SWMP Notebook.

3. Concept, Goal and Compliance

- Basic concept is that stormwater runoff caused by precipitation is OK. It's the pollutants collected in the runoff as it is conveyed through our construction site that is the problem.
- Our goal is to contain, reduce or eliminate the pollution to the stormwater runoff that is caused by the project's construction activities be it grading, paving, painting, or simply where we park our vehicles and dispose of our trash.
- This project has a Permit from the Colorado Department of Public Health and Environment (CDPHE). Under this Permit, facilities are granted authorization to discharge stormwater associated with construction activities into State waters of Colorado; however, there are regulatory requirements that we need to comply with to protect water quality as defined in the Permit.
- The SWMP must include a description of all stormwater management controls that will be implemented as part of the construction activity to control pollutants in stormwater discharges such as sediment, chemicals and trash.
- The Contractor is responsible for making their own determination as to the adequacy and locations of BMP types, and shall amend the SWMP in accordance with Section 208.

4. Project Start Date

- Prior to construction the Region Water Pollution Control Manager (RWPCM) and the contractor's SWMP Administrator shall:
 - Evaluate the project site for stormwater draining into or through the site.

- Evaluate the project site for non-stormwater coming onto the site.
- Review existing inlets and determine if protecting is needed.
- Review and **identify** sensitive habitats on site, wetlands and other vegetation **(including trees)** to be protected.

The anticipated start of construction is: _____

5. Inspections

- **7-day and post-storm event inspections** by the SWMP Administrator and Erosion Control Inspector (if required), Superintendent and Project Engineer per specification 208.03 (c) 2.
- **Headquarter and Region water quality inspections** performed by the RWPCM per CDOT's Municipal Separate Storm Sewer System (MS4) permit. Attendees can include the RWPCM, the Project Engineer, the Superintendent, SWMP Administrator and **Erosion Control Inspector (ECI)** (if needed). Inspections with aforementioned representatives will perform an audit of **the** SWMP notebook and **a** MS4 compliance site inspection. The concept of these inspections is to initially assess each project for their level of environmental risk to adversely impact State waters, and then continually reassess the project's performance throughout the duration of the project. Environmental risk is based upon factors such as proximity to State waters, amount of acres of disturbance, type of project, soil classification, slopes and type of "findings" identified during the inspection. The findings identified in the inspection that need to be corrected must be documented within ESCAN.
- **Local Jurisdictional and Qualifying Local Program inspections** may also be required per Part 1, A.1 of the Permit unless a waiver or other agreement has been made.

6. Failure to Perform Erosion Control

- Failure to implement the SWMP is a violation of the Permit and CDOT specifications. Penalties will be assessed to the Contractor by the appropriate agencies. Any penalties (including monetary fines) assessed to the Department for the Contractor's failure to implement the SWMP will be deducted from moneys due the Contractor in accordance with subsection 107.25 (c) 2. See subsection 208.09 for further information about notifying Contractor for incidences of failure to perform, liquidated damages, and stop work orders.
 - **First Engineer Response** – The Engineer will provide immediate verbal notification to Contractor accompanied by a Form # 105 to the Contractor requiring immediate compliance with the Permit. The Contractor has 48 hours from 11:59 p.m. of the day the Form 105 was issued to complete the work. Compliance must be documented by a reply to the Form 105 of the corrected items. Documentation must be submitted to the Engineer by the following business day after the 48 hour period.
 - **Second Engineer Response** – If required work is not completed within 48 hours of the issued Form 105, the Engineer will assess the appropriate liquidated damages. Liquidated damages will continue to accumulate for each calendar day until all corrections are completed as stipulated under revised subsection 208.09.
 - **Third Engineer Response** – If the Contractor fails to correct compliance failures within 48 hours without acceptable justification, once liquidated damages are applied, the Engineer will issue a Stop Work Order in accordance with subsection 105.01.

- **Fourth Engineer Response** – If the Contractor’s deferment request including the corrective action plan and schedule are not submitted within 96 hours of the initial notice, the Engineer will schedule an on-site meeting with the Resident Engineer, RWPCM, Superintendent, SWMP Administrator, and the Superintendent’s supervisor.
- **Fifth Engineer Response** – If the Contractor remains non-responsive to requirements of the on-site meeting, the Engineer will start default and Contract termination procedures in accordance with section 108.8 of the Construction Manual.

The Contractor’s deferment request shall be in writing and include the specific failure, temporary measures until final correction is made, the methodology which will be employed to make the correction and interim milestones to completing the work. The Region Water Pollution Control Manager (RWPCM), Engineer, the SWMP Administrator and the Contractor shall concur on this deferral and set a proposed date of completion. Based on the submittal date of the approved deferment Liquefied Damages and a Stop Work Order may not be mandated to the Contractor.

When a failure meets any one of the following conditions, the Engineer may immediately issue a Stop Work Order in accordance with subsection 105.01 irrespective of any other available remedy:

- It may endanger health or the environment.
- It consists of a spill or discharge of hazardous substances or oil which may cause pollution of the waters of the state.
- It consists of a discharge of stormwater which may cause an exceedance of a water quality standard.

7. Key Submittals

- SWMP Notebook will be provided to the Contractor at the time of the Environmental Pre-construction Conference. Notebook is and shall remain the property of CDOT. The notebook will be stored in the CDOT field office or at another on-site location approved by the Engineer. Notebook will include the first 4 items per specification 208.03 (d) 1:
 1. SWMP Plan Sheets.
 2. SWMP Site Map(s) and Project Plan Title Sheet.
 3. Copies of subsection 107.25, and Sections 207, 208, 212, 213, and 216 of the Standard Specifications, and the standard and project special provisions that modify them.
 4. Standard Plan M-208-1, M-216-1 and M-615-1.
- Certification that the contractor’s appointed SWMP Administrator and **ECI** (if needed) has completed the Transportation Erosion Control Supervisor (TECS) training program. The SWMP Administrator and **ECI** shall be a person other than the Superintendent. The SWMP Administrator shall be responsible for developing, implementing, maintaining and revising the SWMP for the duration of the project.
- “Spill Response Plan” completed prior to the Environmental Pre-construction Conference. Work shall not be started until the plan has been submitted to and approved by the Engineer. Specification 107.25 (b) 6 and 208.06 (c).
- “List of Potential Pollution Sources” completed prior to the environmental preconstruction conference per specification 107.25 (b) 6.

- “Method Statement for Containing Pollutant Byproducts” statement submitted to the Engineer a minimum of ten days prior to the start of the construction activity per specification 107.25 (b) 13.
- “Clean Equipment Certification” submitted to the Engineer that construction equipment has been cleaned prior to initial site arrival. Vehicles shall be free of soil and debris. Specification 107.25 (b) 20.
- “Construction Dewatering Permit” (CDW) prior to dewatering operations (if any) per specifications 106.02 (b) and 107.25 (b) 8.
- Written notification to downstream owners of water supply at least 15 days prior to dredging or fill operations (if any) per specification 107.25 (b) 9.
- Soil Retention Blankets (Subsection 216.02): A sample of the staples and a copy of the manufacturer's product data showing that the product meets the Contract requirements shall be submitted to the Engineer for approval.

8. SWMP Notebook:

This is for the SWMP Administrator to update and revise as needed. Read all areas prior to the start of construction to make sure they are correct and apply to this project.

208.03 (d) The following Contract documents and reports shall be kept, maintained, and updated in the notebook by the SWMP Administrator:

- (1) SWMP Plan Sheets - Notes, tabulation, sequence of major activities, area of disturbance, existing soil data, and existing vegetation percent cover, potential pollutant sources, receiving water, non-stormwater discharges and environmental impacts.
- (2) Site Map and Plan Title Sheet - Construction site boundaries, ground surface disturbance, limits of cut and fill, flow arrows, structural BMPs, non-structural BMPs, Springs, Streams, Wetlands and surface water. Also included on the sheets is the protection of trees, shrubs and cultural resources.
- (3) Specifications - Standard and Project special provisions related to Stormwater and Erosion Control.
- (4) Standard Plans M-208-1, M-216-1 and M-615-1
- (5) BMP Details not in Standard Plan M-208-1 or M-216-1 (Non-standard details).
- (6) Weekly meeting sign in sheet.
- (7) Calendar of Inspections -Calendar of inspections marking when all inspections take place.
- (8) Form 1176, Weekly meeting notes and inspection report
- (9) Region and Headquarter Water Quality Reports and Form 105(s) relating to Water Quality.
- (10) Description of Inspection and Maintenance Methods -
- (11) Spill Response Plan - Reports of reportable spills submitted to CDPHE
- (12) List and Evaluation of Potential Pollutants -
- (13) Other Correspondence e.g., agreements with other MS4s, approved deferral request, CDPHE audit documentation, Water Quality Permit Transfer to Maintenance Punch List and other miscellaneous documentation.
- (14) TECS Certifications of the SWMP Administrator and all ECIs, keep current through the life of the project.
- (15) Environmental Pre-construction Conference – Conference agenda with a certification of understanding of the terms and conditions of the CDPS-SCP and SWMP.

ENVIRONMENTAL PRECONSTRUCTION CONFERENCE AGENDA [FOR PRESENTER]

1. Introductions

- Permit Compliance: this project has a Stormwater Construction Permit (SCP) – from the Colorado Dept. of Public Health and Environment (CDPHE): There are regulatory requirements that we need to comply with to protect water quality. A SWMP is required on *all* projects with a permit.

2. Purpose of Preconstruction Conference:

- Consent Order (CO) – CDOT is under a CO, which is the legal document between CDOT and CDPHE that is a result of violations of the Stormwater Construction Permit (SCP) issued by CDPHE to CDOT for multiple construction projects.
 - Preconstruction meetings are a requirement of the Consent Order. CDOT must explain the Colorado Discharge Permit System (CDPS), SCP, site specific SWMP, and any other environmental requirements for the site.
- Signed certification of understanding – In accordance to #32 of the Consent Order, at the conclusion of the preconstruction meeting each attendee is required to sign a certificate that they understand the terms and conditions of the CDPS, SCP, and the site's associated SWMP. Any other sub-contractors that come onto the project site during construction shall also be made aware of these requirements and they shall sign the certification.

3. Project Schedule/Start Date/Key Submittals:

- Scheduling BMP reviews with the Region Water Pollution Control Manager (RWPCM).
 - Install initial BMPs (First Construction Activities/Perimeter Control) on the SWMP. Items may include inlet protection, silt fence, erosion logs, temporary berms at proposed toes of slope, protection of existing vegetation, etc. See site-specific SWMP.
 - After BMPs are installed and prior to initiation of construction activities, the Engineer, RWPCM, ECS and Superintendent shall inspect the site to ensure BMPs are installed and located correctly.
 - Anticipated date of review: _____
- Submittals.
 - Potential Pollutants and SPCC Plan at or prior to environmental preconstruction conference.
 - A minimum of ten days prior to the start of the construction activity, a method statement for containing pollutant by-products (concrete saw water, concrete washout in accordance with 107.25 (b) 13).
 - Copy of Construction Dewater Permit (CDW) prior to dewatering operations (if any).
 - Written notification to owners of water supply at least 15 days prior to dredging or fill operations in accordance to 107.25 (b) 9 (if any).

4. SWMP Notebook:

- This is for the ECS to update and revise as needed. The notebook is a requirement of the CDOT Specifications. Some areas need immediate attention (items 1.ii, 10, 11,13,15,17 and 19) Read all areas prior to the start of construction to make sure they are correct and apply to this project.
 - ** are areas for all Contractors and their subs to deal with.
- (1) SWMP Plan Sheets**
- i. Site Description – Part I.C.1 of the CDPS-SCP. Ensure all items are filled in.
Common areas of concern:
 1. 1. B Proposed sequencing for major activities. If this changes, update this item.
 2. 1. C Areas of disturbance – acreage shown is based on the limits of disturbance line shown on the SWMP site map. Disturbing more acreage than what is shown requires amending the CDPS-SCP.
 3. 1. E Existing Vegetation – if plans indicate this as the responsibility of the Contractor, then transect lines are to be performed in accordance to the CDOT Erosion and Stormwater Quality Guide.
 - ii. Site Map Components – Changes must be made immediately upon being aware of them. Part I.C.2 of the CDPS-SCP. Items listed are requirements of the permit. Pay attention to requirements of the Contract including, but not limited to:
 1. Update the site map as changes occur, including disturbance areas.
 2. Map must be legible.
 3. Arrows showing direction of water flow.
 4. Date and sign amended items as they occur.
 5. Locations of potential pollutants.
 - iii. Stormwater Management Controls First Construction Activities – Part I.C.3.a, b, and c of the CDPS-SCP. Record:
 1. 4. A Designate a SWMP Administrator
 2. 4. C Fill out matrix as BMP placement occurs.
 - a. Read narratives provided. If what is written cannot be accomplished cross out, date, sign and provide what will be done instead, along with a justification.
 3. During Construction - Add information, update or amend items listed. If information is located in a section of the notebook, reference here where the information can be found (which section).
 - iv. Final Stabilization and Long-term Stormwater Management
 1. Interim and final stabilization – areas to be permanently stabilized within 48 hours of completion during the seeding season.
- (2) SWMP site map and project plan title sheet**
- i. Site map components (see (1) ii above)
- (3) Copies of subsection 107.25 and sections 207, 208, 212, 213, and 216 of the Standard Specifications, and all of the standard and project special provisions that modify them**
- (4) Standard Plan M-208-1**
- i. Cross out or highlight.
 - ii. Write an explanation as to why it was removed or what is being used instead.
- (5) Details of BMPs used on the project not covered in Standard Plan M-208-1.**
- i. Technical drawing – include dimensions, etc.
- (6) Plan sheets and specifications for permanent water quality structures, riprap, and temporary stream crossing.**

- (7) **Narratives related to BMPs used on the project not covered on the SWMP plans or site maps**
- i. See CDPHE Stormwater Management Plan Preparation Guidance page 12 of 19, which can be found on the Colorado Department of Public Health and Environment web site. Guidance is attached to the Stormwater Construction Permit application at:
<http://www.cdphe.state.co.us/wq/PermitsUnit/PERMITs/CONSTRUCTION/constructionnewpage.html>
OR directly to:
http://www.cdphe.state.co.us/wq/PermitsUnit/PERMITs/CONSTRUCTION/SWC ONSTINSTR_SWMPGUIDE.pdf
- (8) **Calendar for marking when all inspections, except the daily inspections, take place.**
- (9) **All project environmental permits and associated applications and certifications, including, CDPS-SCP, Senate Bill 40, USACE 404, dewatering, and all other permits applicable to the project, including any CDPS-SCP obtained by the Contractor for staging area on private property, asphalt or concrete plant, etc.**
- i. Obtain certifications from Contractor and subcontractors that equipment has been cleaned prior to initial site visit.
- (10) **List of potential pollutants as described in subsection 107.25**
- i. Must be submitted prior to or at the preconstruction conference.
 - ii. At a minimum evaluate those listed in the specification.
Commonly missed or new items include:
 1. Vehicle and equipment maintenance and fueling.
 2. Loading and unloading operations.
 3. Concrete truck and equipment washing, including the concrete truck chute and associated fixtures and equipment.
 4. Concrete placement and finishing tool cleaning.
 5. Other areas or procedures where spills could occur.
 6. Method statement for containing pollutant by-products to the engineer for approval.
 7. Updating the potential pollutants list throughout construction.
 - iii. Part I.C.3.b of the CDPS-SCP.
- (11) **Spill Prevention, Control and Countermeasure Plan 208.051 (c) and reports of reportable spills submitted to CDPHE**
- i. At a minimum evaluate those listed in the specification.
Commonly missed or new items include:
 1. Identification and contact information of the ECS, Contractor and CDOT spill coordinators.
 2. Locations of areas on project site where equipment fueling and servicing operations are permitted.
 3. Quantities of chemicals and locations stored on site.
 4. Clean up procedures to be implemented in the event of a spill that does not enter state waters or ground water.
 5. Procedures for spills of **any** size that enter surface waters or ground water or have the potential to do so.
 6. A summary of the employee training provided.
 7. Updating the SPCC throughout construction.

- (12) Form 1176 Inspection reports, ECAT and RECAT report and documentation of the corrective actions for any finding**
- i. Fill out all items.
Commonly missed items include:
 1. (16) Preventative measures taken to prevent future violations.
 2. Signatures.
 - ii. Items to be corrected as soon as possible immediately in most cases.
 - iii. Item #17 reporting requirements, Part II.A.2 and 3 of the CDPS-SCP.
 - iv. Part I.D.6 of the CDPS-SCP.
Note: Permit states specifically that maintenance is proactive, not responsive.
- (13) Form 105s relating to water quality**
- i. Include all correspondence related to 105.
- (14) Description of inspection and maintenance methods implemented at the site to maintain all erosion and sediment control practices identified in the SWMP**
- i. See SWMP sample notebook.
<https://www.codot.gov/programs/environmental/landscape-architecture>
 - ii. Part I.C.5 of the CDPS-SCP.
- (15) Schedule for accomplishing temporary and permanent erosion control work in accordance with subsection 208.03(b), the weekly meeting agenda and the meeting sign in sheet**
- i. Included in the CPM or bar project schedule.
 - ii. Add the Agenda of weekly meetings to this area of the Notebook.
- (16) Erosion Control Supervisor's certification and Superintendent's ECS certification if acting as a substitute for the ECS in daily inspections**
- (17) Environmental Preconstruction Conference agenda with a certification of understanding of the terms and conditions of the CDPS-SCP and SWMP**
- i. The certification shall be signed by all attendees.
 - ii. A certification shall also be signed by all attendees of meetings held for new subcontractors beginning work on the project after the Environmental Preconstruction Conference has been held.
- (18) Form 1388 Daily Stormwater Log**
- i. Engineer to review forms.
- (19) Monthly audit reports provided by the Region Water Pollution Control Manager (RWPCM)**
- (20) Project photographs documenting existing vegetation prior to construction commencing**
- i. Note location of where the picture was taken.

5. New in the 101, 107, and 208 Water Quality Control Specification (includes but not limited to):

- Fording waters will only be allowed as authorized by the U.S. Army Corps of Engineers 404 Permit (deleted fording four times per day).
- Erosion logs are trenched 2 inches into the soil.
- Use of hay bale checks in ditches is no longer allowed.
- Added clarification on weed free forage. Hay/straw must be certified by Colorado Department of Agriculture Weed Free Forage Certification Program. Each bale to be identified with orange and blue twine. Hay/straw is not to be unloaded or twine removed until the Engineer has inspected and accepted them.
- Only fabricated washout structures listed on the CDOT approved products list may be used.

- The use of recycled concrete is not allowed to be used for vehicle tracking pad (formally stabilized construction entrance).
- The Superintendent shall have an ECS card if doing daily inspections.
- Weekly Meetings will be conducted by the Engineer, Superintendent, and ECS with all persons involved in construction activities that could adversely affect water quality to discuss the SWMP, CDPS-SCP, problems implementing the project SWMP or maintaining BMPs, BMPs to be constructed, removed, modified or maintained and unresolved issues from the daily stormwater log. New subcontractors who did not attend the Environmental Preconstruction Conference will be briefed on the requirements of the SWMP and the CDPS-SCP at their first weekly meeting.
 - An agenda shall be prepared by the Superintendent and have a sign in sheet on which the names of all attendees shall be recorded.
- Street sweeping, when used as a BMP as shown in the Contract, will be measured and paid for.
- Trash removal, when used as a BMP as shown in the Contract, will be measured and paid for.
- Secondary containment shall be capable of containing the volume of the storage structures plus at least 10% freeboard.

6. Soil Retention Blankets (Subsection 216.02):

- A sample of the staples and a copy of the manufacturer's product data showing that the product meets the Contract requirements shall be submitted for approval at the environmental preconstruction conference. M&S shows staple patterns. Separate details for ditch vs. channel applications.

7. Additional items, as required:

- Significant modifications or additions
 1. A significant modification or addition is one that is implemented by a CMO or MCR. See Section 120.7 of the Construction Manual for guidance in writing change orders.

8. Failure to Implement Stormwater Management Plan:

- Contractor Erosion Control Compliance Program – was developed by CDOT to adhere to Consent Order #40. CDOT was required to submit to CDPHE specific criteria and repercussions that would be applied for various levels of Contractor noncompliance. Items listed below (1st – 5th Engineers response) are a portion of the compliance program.
- See subsection 208.06 for changes in notifying Contractor for incidences of failure to perform, liquidated damages, and stop work orders.
- When a failure may endanger health or the environment, a stop work order may be issued in accordance with subsection 105.01.
- See Construction Bulletin dated December 23, 2008 for enforcement of critical permit and contract requirements:
 1. ***First Engineer Response*** – The Engineer will provide immediate verbal notification to Contractor accompanied by a speed memo (Form # 105) to the Contractor requiring immediate compliance with CDPS-SCP. The Contractor has 48 hours from midnight of the day the speed memo was issued to complete the work. Compliance must be documented by a reply to the speed memo, and photographs of the corrected items. Documentation must be submitted to the Engineer by the following business day after the 48 hour period.

2. **Second Engineer Response** –If required work is not completed within 48 hours of the issued speed memo notice, the Engineer will assess the appropriate liquidated damages as stipulated under revised subsection 208.06 of the Standard Specifications. Liquidated damages will continue to accumulate for each calendar day until all corrections are completed.
3. **Third Engineer Response**– If the Contractor fails to correct compliance failures within 48 hours without acceptable justification once liquidated damages are applied, the Engineer may issue a Stop Work Order in accordance with subsection 105.01 of the Standard Specifications.
4. **Fourth Engineer Response** – If the Contractor’s corrective action plan and schedule is not submitted and approved within 48 hours of the Stop Work Order or the corrective action plan is not implemented by the Contractor, the Engineer shall have an immediate on-site meeting with the Superintendent and the Superintendent’s supervisor. The Engineer will also contact the Resident Engineer, the RWPCM and the Region Program Engineer to participate in the on-site meeting.
 - (1) Superintendent name and phone number: _____
 - (2) Superintendent’s supervisor name and phone number: _____
 - (3) Resident Engineer name and phone number: _____
 - (4) RWPCM name and phone number: _____
 - (5) Region Program manager name and phone number: _____
5. **Fifth Engineer Response**– If the Contractor remains non-responsive to requirements of the on-site meeting the Engineer will start default and Contract termination procedures in accordance with section 108.8 of the Construction Manual.

9. Inspections:

Prior to initiation of construction activity

- Daily inspections, 1176 inspections, 1177 inspections, Monthly audits performed by the RWPCM, and RECATs - SEE 208 SPECIFICATIONS FOR REQUIRED ATTENDEES.
- **RECATS/ECATS**
 - When they can be expected – 2 business days’ notice.
 - Findings/reports/follow-up
- **Final walk through prior to final acceptance**
 1. Superintendent, the ECS, the Engineer, the Region Water Pollution Control Manager, and CDOT Maintenance personnel; and the CDOT Landscape Architect, CDOT Region Environmental personnel, and the CDOT Hydraulics Engineer as determined by the Engineer in attendance.
 2. The Contractor shall survey Permanent Water Quality BMPs (Permanent BMPs) on the project after they are constructed and confirm they are at final configuration and grade. The Engineer will identify which Permanent BMPs shall be surveyed prior to the final walk through. The survey shall be performed in accordance with Section 625.

10. Environmental issues:

- Wetlands, SB 40, Migratory birds, T&E, Sensitive areas, Dewatering (If applicable to the project)
 1. Protection of existing vegetation
 2. Protection of existing wetlands
 3. Protection of T&E habitat
 4. Requirements of dewatering – see 107.25 (b) 8.

11. Certificate of Understanding:

- Have all attendees sign and date and remind Contractor to have all subcontractors not in attendance at the Preconstruction Meeting or starting work later, to sign and date Certification.

12. Site Review, if needed:

- Review BMP placement, vegetation transect locations.
- Review proposed stream crossings, diversions, access plans, wetland areas, etc.
- Any additional environmental impacts that can be avoided?

**Environmental Preconstruction Conference Agenda
[For Attendees]**

1. Introductions

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2. Purpose of Preconstruction Conference

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3. Concept, Goal and Compliance

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4. Project Start Date

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5. Inspections

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6. Failure to Perform Erosion Control

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7. Key Submittals

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8. SWMP Notebook:

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10. Environmental issues

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11. New requirements from specifications (includes but not limited to):

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12. Additional Project Specific Notes:

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13. Site Review, if needed

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