

*New Mexico* DEPARTMENT OF  
**TRANSPORTATION**  
MOBILITY FOR EVERYONE

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# Construction Inspection Workplan

**M-TRAC Workshop**  
**Fargo, ND**  
**August 26-27, 2009**

**Ted Barela**  
**Project Manager**  
**NMDOT**

# More Paperwork?

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- **I read a study that suggested that we:**
  - **Hear 1/2 of what is being said,**
  - **Listen to 1/2 of what we hear,**
  - **Understand 1/2 of it,**
  - **Believe 1/2 of that, and**
  - **Remember only 1/2 of that.**

# Is it all worth it?

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## **This, translated to an 8-hour day, would mean:**

- ❑ You spend ½ your day-4 hrs.-listening
- ❑ You hear ½ about 2 hrs. worth of what is said.
- ❑ You actually listen to 1 hr. of it.
- ❑ You understand only 30 minutes of that hour.
- ❑ You believe 15 minutes worth.
- ❑ And only remember less than 8 minutes of all that is said.

**Presentation now complete!**



# Information Block

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- In this section specifics such as task, inspector, date, project location, and control number will be filled out.

*Inspection Task:* \_\_\_\_\_

**Assigned Inspector:** \_\_\_\_\_

**Date(s):** \_\_\_\_\_

**Location(s):** \_\_\_\_\_

**CN:** \_\_\_\_\_

# Task No. 1

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- ❑ Items outlined in this block are specific to item characteristics such as item number, line item number, item description, and item quantity.
- ❑ Data input for Task No. 1 must be obtained from the Detailed Estimate in order to match the items with site manager.

# Task No. 1

## Example of Task No. 1:

TASK 1	Items Installed Shall be Tracked Daily					
	Line Item Number	Item Number	Item Description	Item Quantity	Units	Quantity Placed to Date

New Mexico Department of Transportation

DATE: 05/16/06  
TIME: 12:56 am  
PAGE: 1

PROJECT AGREEMENT COST ESTIMATE

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CONTROL NUMBER: G1243R      PROJECT NUMBER: AC-GRIP-IM(IM)-040-3 (150)170      PROPOSAL NUMBER: 000G1243R

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CATEGORY: 0001 ROADWAY      CONSTRUCTION CLASS: Roadway  
 CATEGORY LENGTH: 0.0000 MILES      CATEGORY WIDTH: 0.0000 FEET

FUNDING CLASS: 120F FUNDING TYPE: Interstate Maintenance (IM)      FUNDING PARTICIPATION: 92.64 %  
 120S Interstate Maintenance-State Match      7.36 %  
 441F Advance Construction-GRIP      100.00 %

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LINE NO.	ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY	ITEM UNIT	UNIT PRICE	AMOUNT
0010	201000	CLEARING AND GRUBBING	1.000	LUMP	100,000.00000	100,000.00
0020	203000	UNCLASSIFIED EXCAVATION	13,000.000	C.Y.	9.00000	117,000.00

# Task No. 2

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## □ Example of Task No. 2:

	References	Special Provisions	Plan Sheet Reference	Standard Spec	Standard Drawing	Foms Req'd	Other References
TASK 2	Addenda	#	#	#	#	#	Proctor List _____ Other: _____
	Notice to Contractors	#	#	#	#	#	PMBP Mix Designs _____
	Special Provisions	#	#	#	#	#	Concrete Mix Designs: _____
	Plans	#	#	#	#	#	Traffic Control Plan: _____
	Supplemental Specs	Supplemental Spec. #	#	#	#	#	Revised Structure Lists: _____
	Standard Specs	#	#	#	#	#	Material Cert.s: _____
	Standard Drwgs	#	#	#	#	#	_____
	Environmental Commitments	#	#	#	#	#	_____
		#	#	#	#	#	_____

# Task No. 2

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- Task No. 2 deals with specific references related to the inspection task:
  - Addenda: A change in the plans or spec issued after the advertisement and before the opening of the bid. (Contract Document)
  - Notice to Contractors: An addition to the contract package, made prior to its issuance to the contractor indicating changes to the plans and specs. (Contract Document)

# Task No. 2

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**ADDENDUM No. 2  
TO APPROVED PLANS AND SPECIFICATIONS  
3-March-2006**

**Re: Letting of March 17, 2006**

**ADDENDUM**

<b><u>No.</u></b>	<b><u>CN/PROJECT No.</u></b>	<b><u>COUNTY</u></b>	<b><u>ISSUE DATE</u></b>
<b>1.</b>	<b>G4054A/AC-GRIP-(NH)-064-9(38)400</b>	<b>Union</b>	<b>2/27/06</b>
	<b>G4054B/AC-GRIP-(NH)-064-9(38)400</b>	<b>Union</b>	
	<b>G3014/AC-GRIP-(NH)-084-2(7)80</b>	<b>San Miguel</b>	
	<b>3047/BR-(TPM)-0402(7)55</b>	<b>Union</b>	
	<b>87349/SP-5-06(382)</b>	<b>Rio Arriba</b>	
<b>2.</b>	<b>G4054A/AC-GRIP-(NH)-064-9(38)400</b>	<b>Union</b>	<b>3/3/06</b>
	<b>G4054B/AC-GRIP-(NH)-064-9(38)400</b>	<b>Union</b>	
	<b>G1243R/AC-GRIP-IM-(IM)-040-3(150)170</b>	<b>Bernalillo</b>	

# Task No. 2

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# Task No. 2

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## NOTICE TO CONTRACTORS

AUGUST 6, 1996

### ACCESS CONTROL BREAKS

All pertinent provisions of the New Mexico State Highway and Transportation Department's Standard Specifications for Road and Bridge Construction shall apply in addition to the following:

### ACCESS CONTROL BREAKS

Although the New Mexico State Highway and Transportation Department is reluctant to grant approval for Interstate Access Control Breaks, it is sometimes desirable to allow access breaks to provide more economical access to material sources. After award of the contract, the Contractor may request approval of an access break. The Contractor will be required to submit an Interstate Access Break Request form and obtain approval prior to breaking access.

The Contractor is hereby advised that when the following conditions are present, an access break will normally be approved, upon request. When approved for these conditions, it will be assumed that the Contractor included any savings, afforded by use of the access break, in the bid prices.

# Task No. 2

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- **Special Provisions:** Additions and revisions to the standard and supplemental specs covering conditions applicable to an individual project. (Contract Document)
- **Plans:** There are several locations throughout the plan set that will detail location and construction requirements related to specific construction items.
- **Supplemental Specs:** Approved additions and revisions to the standard spec. (Contract Document)

# Task No. 2

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## **NEW MEXICO PROJECT AC-GRIP-IM(IM)-040-3(150)170 - CN G1243R**

New Mexico Department of Transportation's 2005 Interim Specifications shall govern construction of this project.

The following SPECIAL PROVISIONS are additions and revisions to the 2005 Interim Specifications.

<b>SPECIAL PROVISIONS</b>	<b>PAGE(S)</b>
For Unstable Subgrade Stabilization - Section 306-B (1/23/01)	1-3
For Powder Coating of Miscellaneous Structural Steel - Section 545-A (4/24/01)	4-5
For Bridge Joint Seals - Section 563-A (8/25/05)	6-9
For Geogrid Reinforcement - Section 604-C (11/10/05)	10-14
For Geogrid Base Reinforcement - Section 604-D (5/22/98)	15-19
For Game Fence - Section 607-A (9/29/05)	20-27
Modifying Section 618 - Traffic Control Management (2/1/06)	28-39
For Compost Mulch Sock (Wattles) - Section 632-A (9/30/05)	40-42
For Traffic Control Plan - Section 702-A (9/30/04)	43-46
For Power Service Installation - Section 706-A (5/1/96)	47-48

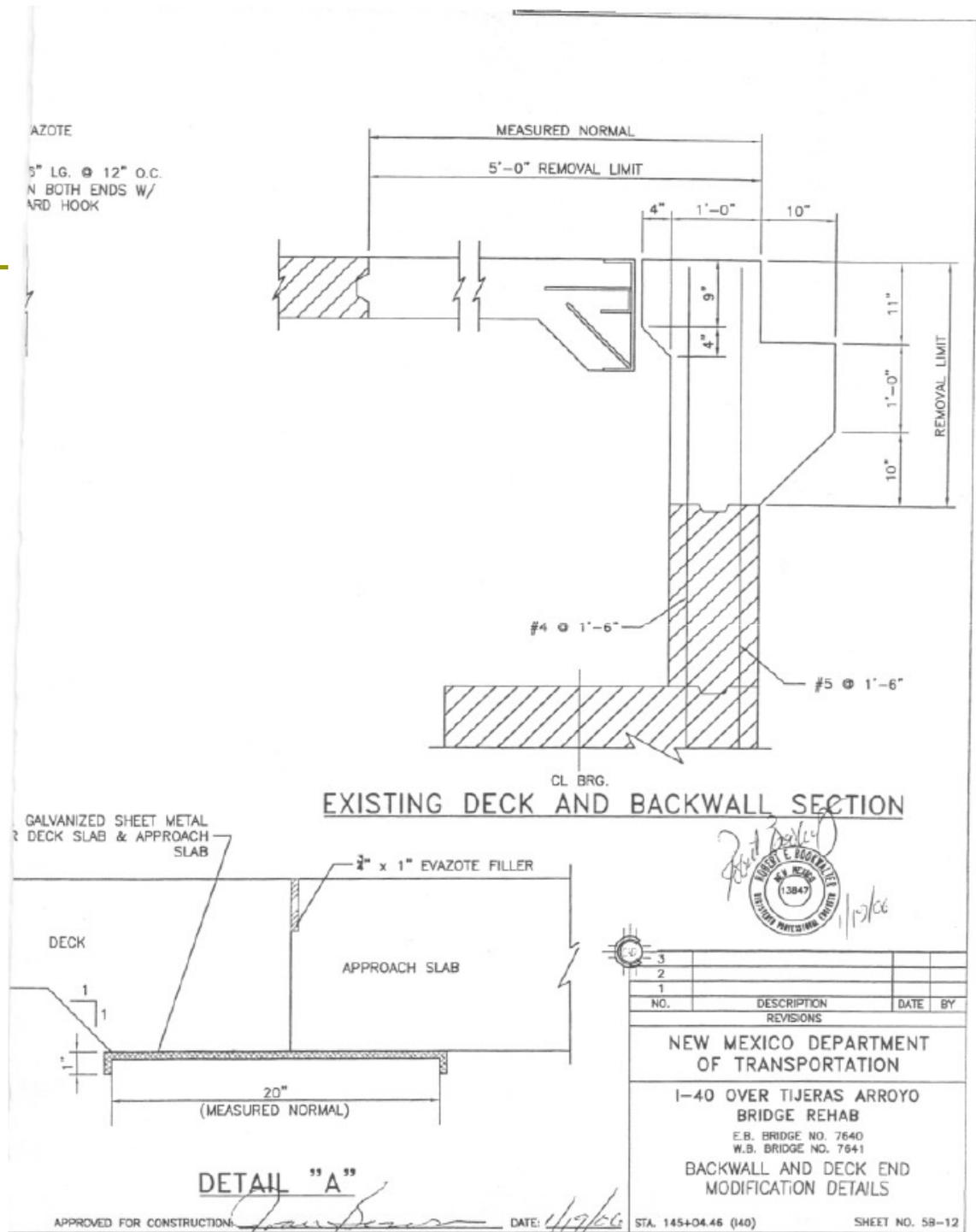
# Task No. 2

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# Task No. 2

- Plans:



# Task No. 2

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# Task No. 2

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NEW MEXICO PROJECT  
AC-GRIP-(IM-NH)-040-3(152)163 - CN G1123  
Page 2

The following SUPPLEMENTAL SPECIFICATIONS are included in the March 2004 Supplement to the 2000 Edition of the Standard Specifications and are required on this contract.

## **SUPPLEMENTAL SPECIFICATIONS**

- For Excavation, Borrow and Embankment - Section 203
- For Excavation and Backfill for Culverts and Minor Structures - Section 206
- For Base Course (Non QC/QA) - Section 304
- For Portland Cement or Lime Treated Subgrade - Section 306
- For Pavement Smoothness Measurement - Section 401
- For Bituminous Materials, Hydrated Lime, and Liquid Anti-Stripping Agents - Section 402
- For Detour Pavements - Section 405
- For Tack Coat - Section 407
- For Prime Coat - Section 408
- For Plant-Mix Bituminous Pavement (Superpave - Non QC/QA) - Section 422
- For Drilled Shaft Concrete Bearing Piles - Section 502
- For Portland Cement Concrete - Section 510
- For Steel Reinforcement - Section 540
- For Slope and Erosion Protection Structures - Section 602
- For Soil and Drainage Geotextiles - Section 604
- For Metal and Concrete Wall Barrier - Section 606
- For Traffic Signs & Sign Structures - Section 701
- For Evaluation of Properties for Plant-Mixed Bituminous Pavement - Section 920

# Task No. 2

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- Standard Specs: The Depts. book of specs approved for general application and repetitive use. (Refer to specified spec edition found in general notes of plans page 1-2 and/or notice contractors)
- Standard Drawings: Detailed drawings for specific items of work approved for repetitive use.
- Environmental Commitments: Examples; 401 and 404 permits, Storm Water Pollution Prevention Plan SWPPP.

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# Task No. 2

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- Other References:
  - Proctor List;
  - PMBP Mix Designs;
  - Concrete Mix Designs;
  - Other;

## Task No. 3

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- ❑ This is the opportunity for experienced inspectors to share first hand knowledge and known pitfalls of the inspection at hand.
- ❑ This is the place to bridge the gap between experienced inspectors and less experienced inspectors by sharing good practices so that the inspection can be completed efficiently.

# Task No. 3

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## □ Example of Task No. 3:

TASK 3	Quality Analysis (i.e.: Is the work being done right?!)	Tolerance Specification	
	Good Practices: Follow specs, know what your inspecting, Communicate Deficiencies	Description / Reference	Tolerance

- Good Practices to follow shall be supported by technical tolerance specification when applicable.
- Good Practices and Communicating Deficiencies will not be found in any document or spec but rather from field experience.

# Task No. 4

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- ❑ Hazard Analysis: What surrounds your environment?
- ❑ Hazard analysis is the area for inspectors to put potential hazards and potential occurrences.
- ❑ Examples of this could be caution in carrying a nuke down a steep slope or watching for trucks without backup alarms.

## Task No. 4

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- ❑ Necessary Personal Protective Equipment shall be noted in this section.
- ❑ This task also gives the inspector a place to look ahead at additional items regarding safety; i.e. traffic control that may not be necessarily related to the inspection task.
- ❑ Other items not addressed in the spec can also be noted; i.e. not to touch hot thermoplastic pavement markings.



# Task No. 5

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- ❑ This section addresses the tools necessary to conduct the inspection at hand.
- ❑ Task No. 5 will include but not be limited to specialty tools such as nuclear densometer or retrometer that are specific to the task.
- ❑ Other tools that will help complete the task most efficiently should also be included.
- ❑ Commonly overlooked items such as gloves or a tape measure should be included if the tool will help complete the task in a timely and safe manner.

# Task No. 5

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## □ Example of Task No. 5

TASK 5	Tools and Equipment	
	Densometer	Other:
	Concrete Testing Equip.	
	String Line	
	Measuring Tape	
	Prospector Pick	
	Shovel	
	Sample Sacks	
	Measuring Wheel	

# Task No. 6

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- ❑ This section is important as it deals mainly with issues that inspectors have during the construction process.
- ❑ Under this section related incidental items can be addressed as well as other pertinent information.
- ❑ Prominent field issues such as Field Modifications, Change Orders, Potential Conflicts should be included as part of Task No. 6.
- ❑ Current field Changes will be noted as part of this section in an attempt to make it easier for inspectors to keep their notes organized for Daily Work Report data.



# Empowerment

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- What is it?
- What does it look like?
- What is your responsibility?
- Where do you get it from? Walmart?

# Empowerment!

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- ❑ It is not a license to go deviate from the specifications
- ❑ It is not intended to punish the contractor
- ❑ It does not give you permission to fight every issue
- ❑ It is not a tool to withhold information from the contractor – “I’ll tell them what they did wrong later”
- ❑ Doesn’t always make us right, we should listen not agree – but definitely listen

# What can **EMPOWERMENT** do for you?

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- ❑ Provide you with the ability to be successful in your assigned work
- ❑ Less stress – you know your role and responsibilities
- ❑ Promotes self confidence – it is ok not to know everything

# What can **EMPOWERMENT** do for you?

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- ❑ Helps you trouble shoot the problems/issues
- ❑ Maintains and develops respect with the contractor – working toward the same goal with minimal conflict = successful outcome
- ❑ Well trained and empowered inspectors require less supervision

# Things to consider

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- Contractors problems are not necessarily yours or the NMDOT's
  - Do not get caught up in the emotional side of the issue – deal with the fact. ie:  
Contractor; I only have one more day to switch traffic before getting charged Id's and not all the signing is in place, but you know me I always get it done.  
Inspector; (unempowered) – I'm not sure but I think that we can open and wait a few more days. (empowered) – Section 618 states that the necessary signing must be installed, it is unsafe and dangerous to proceed as you are recommending.

# Watching the Clock

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- Timeliness to address issues:
  - Most problems are not life or death – give yourself time to do it RIGHT!
  - Consider situational changes and new players in the game.
  - What is the overall affect – what else can be impacted by your decision.
  - Gather the facts, know the specs, and if your unsure - take it up to the next level!

# Can't we all just get along?

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- We can enforce without being confrontational – only if you know the specs and the project requirements
- Maintain professionalism – you lose control of the situation if you are angry; you might make a bad decision!
- What does getting along mean to the contractor;
  - Passive quiet inspector
  - Unavailable and uninvolved
  - Easily intimidated

# Can't we all just get along?

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- What does it look like to the NMDOT?
  - Just get it done, I don't need to know the details?
  - A good project with no problems
  - Done on time without claims – there is always problems with the plans
  - We will just do a change order for that – that is a gray area anyway
  - Who cares the PM (management) will change it anyway
  - We don't want to break the contractor

# Can't we all just get along?

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- What does it need to be:
  - Having a well informed inspector able to provide clear concise interpretation of the plans and specs. This puts management in a position to support; simply because the course of action was correct.
  - "NO FEAR" – They cant eat you!
  - Being knowledgeable puts you in the driver seat to know the "what if's" – have a ready answer

# Common Scenarios

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- I'll do it at my own risk
  - Contractor does not have authority to alter plans or specs stamped by a professional eng. cannot assume risks beyond those specified in the contract documents.
  - NMDOT always has a potential for liability if allowances are made for contractor to deviate from contract requirements.

# Common Scenarios

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- Why not? District 7 lets me do it this way
  - Do we really know the situation is the same
  - Maybe the contract requirements were different
  - Allowing it promotes inconsistent application of the specs
  - May result in an unfair advantage over other bidders

# Common Scenarios

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- You know what little boy, I've been doing this for 70 years.
  - Processes and specs constantly change to improve the end result
  - That is not always true
  - That only means they have been doing it wrong for a long time
  - Requirement may be specific to this contract

# Common Scenarios

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- We don't need that nobody looks at that anyway.
  - It could be a State or Fed. requirement and failing to do so could result in loss of funding.
  - Do we really know that it meets the contract requirements?
  - It may also give the contractor an unfair advantage over other bidders.

# What is our responsibility?

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- We must first follow our own specs before making the contractor follow the specs.
  - Nothing weakens our position more than not following our own specs.
  
- Do not inform them how to do the work
  - Interpret the specs state only the facts
  
- Documentation – We have always heard this
  - Document condition or conversation
  - Advise appropriate responsible party document who was informed
  - Follow through and require corrective action – documenting when the deficiency was corrected

# Construction Inspection Workplan

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- Questions and Answers

**Ted Barela, Project Manager**

**New Mexico DOT**

**Albuquerque, NM**

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**[theodore.barela@state.nm.us](mailto:theodore.barela@state.nm.us)**



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**Thank You**