

# Texas Department of Transportation

## 2004 Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges

A silhouette of a sprinter in a starting crouch on a track, positioned to the left of the text.

July 2004 Seminars  
Thomas R. Bohuslav, P.E.

# Housekeeping, etc.

- ◆ PE Professional Development Hours (PDHs)
- ◆ Presentations Today
  - Generally discussing what has changed and issues related to those changes
- ◆ Handling Questions
- ◆ Agenda Review
  - Day 2 begins with Item 360
- ◆ Handout Review

# Other Documents in the Handout

Refer to Handout



# Web Sites

## **TxDOT Home Page**

<http://www.dot.state.tx.us/> Click on e-Business

## **Specifications**

<http://www.dot.state.tx.us/business/specifications.htm>

## **Consultant Services**

<http://www.dot.state.tx.us/business/consultantservices.htm>

## **Contractor Services**

<http://www.dot.state.tx.us/business/contractorservices.htm>

## **CAD Standards**

<http://www.dot.state.tx.us/business/standards.htm>

## **Materials**

<http://www.dot.state.tx.us/business/materials.htm>

## **Manuals and Publications**

[http://www.dot.state.tx.us/business/manuals\\_publications.htm](http://www.dot.state.tx.us/business/manuals_publications.htm)

# Outline

- ◆ Process
- ◆ Style (Active Voice-Imperative Mood (AV-IM))
- ◆ Significant Changes (General)
- ◆ Risk
- ◆ General Notes, Standards, Department Manuals, and Bid Codes
- ◆ Purpose of the Specifications and the Engineer

# Why?

## 1993 Book

- ◆ 118 Required Special Provisions
- ◆ 5,672 Special Provisions Total (Required and Optional)
- ◆ Corporate Memory



# Process

- 120 members of the SRC and Subcommittees writing specifications
- 2000 to 4000 people involved in review

# Process

- Resources
  - Other States (Other ways)
  - Districts (Field experience and practice)
  - Divisions (Expertise in specific areas)
  - Universities (Research and deep understanding)
  - Industry (Key to a good rewrite)

# Process (1 of 2)

- Total Rewrite
- Training for AV-IM
- Subcommittee Workhorse (Research)
- Significant Changes to be approved by SRC and commented by industry prior to writing
  - Meetings with industry to discuss significant changes
- Draft to Industry
  - Meetings with industry to review
- Draft to SRC for SRC meeting
- Final edited version from SRC back to Subcommittee
  - Final edited version to industry

# Process (2 of 2)

- Meeting with industry
- Final version
- Meeting with industry
- Final-Final version
- Final review
- Final-Final-Final Version
- Final-Final review
- Final-Final.....



# Process

*"You can't write these specifications for your worst contractor."*

Doug Pitcock - 2001 (Circa) meeting with 1-9 Subcommittee

## Counter

*"You can't write these specifications for a bad inspector."*

*Elizabeth Boswell - Same meeting*

# Style

# Voice

## Passive Voice

The ball was thrown to Jane.

## Active Voice

Jane threw the ball to Dick.

# Style

## Voice

- Active – Subject acts
- Passive – Subject is acted upon

Emphasis – Active voice makes stronger and shorter sentences

# Style

## Mood

3 Types: *Subjunctive, Indicative, Imperative*

- ***Indicative*** - Refers to an act or statement of fact.
- ***Imperative*** - Implies you. It is a command.

# Style

## Mood

### Examples:

- ***Indicative*** - The contractor shall consult with the appropriate utility company prior to beginning work.
- ***Imperative*** - Consult with the appropriate utility company prior to the beginning of work.

Imperative – Start with the verb.

# Style

## Imperative Mood

- Close the Door
- Fix the bed.
- Go to work.

# Style

## Active Voice - Imperative Mood

*“Write like your mother talked to you.” (...talks to you.)*

Bruce Hallock – 2000 (Circa) DE meeting

➤ Simplify

# Style

## 1993 Specifications

- **540.1. Description.** This Item shall govern for furnishing and installing a single line of metal beam rail element supported on timber or steel posts. Metal beam guard fence and metal beam guard fence (barrier) shall be constructed of materials and workmanship as prescribed by the specifications, at such places as shown on the plans or as designed by the Engineer, and in conformity with the plans and typical details shown.

## 2004 Specifications Pg 856

- **540.1. Description.** Furnish and install, replace, or adjust metal beam guard fence consisting of metal beam rail element support on timber or steel posts.

# Style

Not everything is written in AV-IM.

## 2004 Specifications

Passive Pg 80

**Article 106.3. Measurement.** This Item will be measured by the 100-ft. station along the baseline of the abandoned roadway.

Passive (may) Pg 133

**Article 210.2. Equipment.** The Contractor may use any type of roller to meet the production rates and quality requirements of the Contract unless otherwise shown on the plans or directed.

# Style

## 2004 Specifications Pg 16

**Article 2.1. Introduction.** Instructions to the Contractor in these specifications are generally written in active voice, imperative mood. The subject of imperative sentences is understood to be “the Contractor.” The Department’s responsibilities are generally written in passive voice, indicative mood. Phrases such as “as approved,” “unless approved,” “upon approval,” “as directed,” “as verified,” “as ordered,” and “as determined” refer to actions of the Engineer unless otherwise stated, and it is understood that the directions, orders, or instructions to which they relate are within the limitations of and authorized by the Contract.

# Style

## Standardized Articles and Sections

- xxx.1 Description
- xxx.2 Materials
- xxx.3 Equipment
- xxx.4 Construction or Work Methods
- xxx.5 Measurement
- xxx.6 Payment

# Style

## Standardized Outline

xxx.2 Article

A. Section

1. Section

a. Section

(1) Section

(a) Section

# Style

- Style Guide for the 2004 Specification Book – Web
- NHI - Principles of Writing Highway Construction Specifications – TxDOT Contact Bob De La Rosa - HRD

# Significant Changes (General)

- ◆ Most Statewide Special Provisions and Some Special Specifications Incorporated
- ◆ Combined Items
- ◆ New Items
- ◆ Deleted Items
- ◆ Moved Items to DMSs
- ◆ Moved Material Requirements to DMSs
- ◆ Name Changes

# Significant Changes (General)

**“It is not there anymore.”**

- ◆ Rearranged Information in Items and Between Items
  - Items 1-9
  - 100 – 700 Items

# Significant Changes (General)

## Measurement

Original  
Class Payment to -- Final  
Vehicle  
Stockpile

# Significant Changes (General)

<u>Item</u>	<u>Description</u>	<u>Unit</u>
132	EMBANKMENT (FINAL) (DENS CONT) (TY A)	CY

# Significant Changes to 1-9 and 700 Items (General)

## Coordination

- ◆ Multiple Work Order Contracts
- ◆ Non-Site-Specific Contracts
- ◆ Callout Work

# Risk

- Archeological Finds Pgs 54-56
- Environmental Clearance and Permits Pgs 54-56
- Erosion Control
  - Design Pg 820
  - Installation and Maintenance Pg 820
- Construction Permits Pgs 54-56
- Hazardous Materials In ROW Pg 41
- Utilities Pg 35
- Surveying Pgs 35-36
- Civil for
  - Permanent Structures Pgs 32-33, etc
  - Temporary Structures Pgs 32-33, etc

# Risk

- Responsibility for Work Pgs 37-38 & 48-50
  - Third Party Incidents
  - Vandalism
  - Acts of GOD
  - Existing Pavement and Structures (Maintenance)
  - Constructed Work
  - Detours
- Traffic Control Pgs 46-47 & 814
  - Design
  - Contractor Proposed Changes
  - Implementation and Maintenance

# Risk

- Quantity Variance Pg 28
  - Plans Quantity Pg 67
- Differing Site Conditions Pg 29
- Changes in the Work Pg 28

# 2004 General Notes

## Examples of what is needed:

- ◆ Multiple work order
- ◆ Non-site-specific
- ◆ Work day time charges
- ◆ Ride pay schedules
- ◆ 70% vegetation establishment

*“Unless otherwise shown on the plans”*

# 2004 General Notes

## Pg 34

- ◆ **5.4 Coordination of Plans, Specifications, and Special Provisions.** The specifications, accompanying plans (including additional plans for non-site-specific work), special provisions, change orders, and supplemental agreements are intended to work together and be interpreted as a whole.

Numerical dimensions govern over scaled dimensions. Special provisions govern over plans (including general notes), which govern over standard specifications and special specifications. Job-specific plan sheets govern over standard plan sheets.

**However**, in the case of conflict between plans (including general notes) and specifications regarding responsibilities for hazardous materials and traffic control in Items 1 through 9 and Item 502, "Barricades, Signs, and Traffic Handling," special provisions govern over standard specifications and special specifications, which govern over the plans.

# 2004 General Notes

## Pg 420

- ◆ **360.4.B Job-Control Testing.**  
Unless otherwise shown on the plans, perform all fresh and hardened concrete job-control testing at the specified frequency. Provide job-control testing personnel meeting the requirements of Item 421, "Hydraulic Cement Concrete."

# 2004 General Notes

**Designers** - Generally used *"to provide, in one section of the plans, the various supplemental data required by the specifications."* (PS&E Preparation Manual)

- ◆ Clarifications
- ◆ Added information
- ◆ In conjunction with specifications

Recognize the work to get to agreement for the 2004 book.  
Use special provisions for changes to the specifications.

**Contractors** – However, reference Article 5.4.

# Standards, Department Manuals, and Bid Codes

## Work to Coordinate of other Reference and Ancillary Documents (Web Site)

- ◆ Standard Sheets
- ◆ Manuals
  - Testing Procedures
  - Guide Schedule
  - Construction Contract Administration Manual
  - Design Manuals
  - Maintenance Contract Manual
  - Bid Codes

# Purpose and Engineer Authority

**Pg 32 Article 5.1. Authority of Engineer.** The Engineer has the authority to observe, test, inspect, approve, and accept the work. The Engineer decides all questions about the quality and acceptability of materials, work performed, work progress, Contract interpretations, and acceptable Contract fulfillment. The Engineer has the authority to enforce and make effective these decisions.

The Engineer acts as a referee in all questions arising under the terms of the Contract. The Engineer's decisions will be final and binding.

# Purpose and Engineer Authority

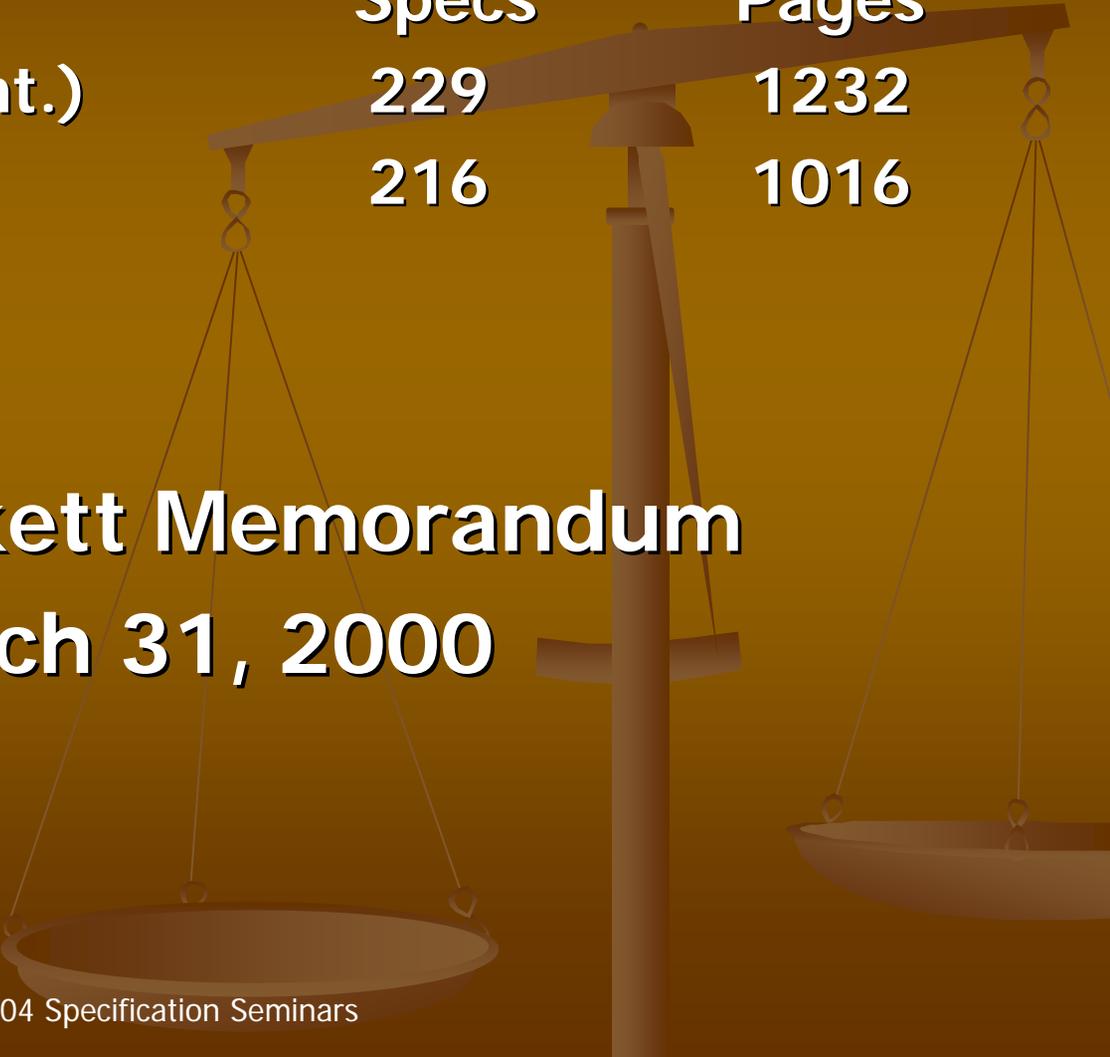
## Purpose

- Contract Requirements

## Engineer

- Good Judgment
  - Fairness
  - Not everything was addressed
  - Changes

# Statistics



	Specs	Pages
Red Book (w/Maint.)	229	1232
2004 Book	216	1016

**Kirby Pickett Memorandum**  
**March 31, 2000**

# Letting Dates

- Routine Maintenance Contracts - September 2004
- Construction Contracts
  - Earliest Letting 2004 Specifications – November 2004
  - Latest Letting 1993 Specifications – January 2005

# Thanks to all those that helped!

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