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Construction - Part 1








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Construction - Part 1

- Preconstruction Meeting 
- Contractors CPM Schedule 
- Oversight & Inspection 
- Project Records 
- Construction Reimbursement 

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Pre
Con

Preconstruction Meeting Required

- Held at start of project
- Establishes schedule, contacts
- Highlights special details and requirements



Document meeting with conference report to project file

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Pre
Con

Preconstruction Meeting Who attends?

- *Project Sponsor/Person in Responsible Charge
- *PE Firm: Design Engineer of Record
- *CE Firm: Engineer, Contract Administrator
- *Contractor
- *NHDOT Project Manager
- *NHDOT OAOC
- NHDOT District Office (if on State highway)
- Utility Companies, Police and Fire Chiefs
- FHWA (optional)




*Mandatory

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Preconstruction Meeting


Agenda

- Introductions
- Emergency contacts (after hours)
- Project overview
- Final and intermediate completion dates
- Traffic control / work hours
- Environmental requirements

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Preconstruction Meeting

Agenda continued

- Right-of-Way constraints / issues
- Utility coordination
- Quality Assurance Program / Testing requirements
- ***OAOC speaks**
- Proposed contractor's schedule

*Mandatory or separate meeting

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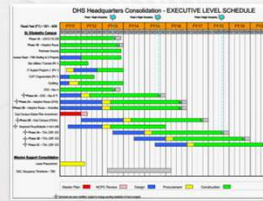
Construction - Part 1

- Preconstruction Meeting
- **Contractors CPM Schedule**



CPM = Critical Path Method

- Oversight & Inspection
- Project Records
- Construction Reimbursement



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Contractor's Schedule Schedule Basics

- Required!
- Updated throughout project
- Available at project at all times
- Can withhold payment if not available
- "Critical Path Method" required format

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Contractor's Schedule

Critical Path Method (CPM) schedule

- Final and intermediate completion dates
- Construction activities
- Critical material deliveries
- Shop drawing schedule
- Engineer submission review times

Sample CPM schedule in LPA handouts

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Contractor's Schedule

Why CPM schedules?

- Track construction progress
- Identify potential issues
- Justify contract time extensions
- Determine liquidated damages

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Contractor's Schedule

Liquidated damages

- Financial charge to contractor if delays occur
- Required by FHWA
- Amount based on value of inconvenience to public
- Importance of CPM schedule
- NHDOT General Provision 108.09

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Construction - Part 1

- Preconstruction Meeting
- Contractors CPM Schedule
- **Oversight & Inspection**



- Project Records
- Construction Reimbursement



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Oversight & Inspection

What is not covered:

- Nuts & bolts of construction inspection is **not covered** here

For example:

- Paving Operation Inspection
- Concrete Pour Inspection
- Drainage Construction Inspection
- Line and Grade Verification



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Oversight & Inspection

Who can do it?

- Project Sponsor: If staff is qualified and available. This should be reviewed with the NHDOT Project Manager
- Often the Project Sponsor hires a consultant

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Oversight & Inspection

Sub-Consultants

- Often consultants hire sub-consultants with special expertise

For example:

- Concrete or Asphalt Testing
- Steel Fabrication Testing/Inspection
- Bridge Painting Inspection
- Underwater Inspection
- Large Precast Concrete



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Oversight & Inspection

Contract Administrators

- Don't have to be licensed PE's themselves
- Must be **under Supervision** of Professional Engineer (PE) or Licensed Architect
- Shall be "Close to Full Time"



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Oversight & Inspection

What is "Close to Full Time" ?

- Depends on complexity of the project
- Not every hour the contractor works
- Enough to meet Office of Access, Opportunity and Compliance (OAOC)
- Average 30 to 40 hours per week

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Oversight & Inspection

What should Contract Administrators (CA) be doing?

- Observing that project is built per plans, specifications and contract requirements
- Monitoring for compliance with environmental best management practices, permits and NEPA commitments
- Monitoring for compliance with Right-of-Way Agreements/abutter coordination

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Ins

Oversight & Inspection

What should CAs be doing?

- Monitoring traffic control
- Looking for safety compliance
- Testing material / implementing Quality Assurance Plan (QAP)
- Rejecting non-compliant materials & work

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Ins

Oversight & Inspection

What should CA's be doing?

- Approving payments for satisfactory work
- Managing all required documentation (Project Records – next section)
- Assisting NHDOT OAOC with federal labor requirements and documentation

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Construction - Part 1

- Preconstruction Meeting
- Contractors CPM Schedule
- Oversight & Inspection
- **Project Records**



- Construction Reimbursement

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Project Records Why?

Acceptable Project Records are **required**

Part or all of a Project could be ineligible for reimbursement if Project Records are not acceptable



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Project Records

NHDOT record format required

- NHDOT's format is clear and reliable
- Understood by independent auditors
- Understood by FHWA and NHDOT

Records shall be available at all times
at the project location

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Rec


Project Records

Types of records:

- 1) Notice to Proceed
- 2) Daily Reports
- 3) Project correspondence
- 4) Pay items:
 - a) Field Book
 - b) Quantity Book
 - c) Record Book
- 5) Change Orders



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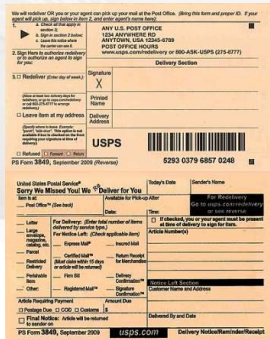
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Rec

Project Records

Types of records:

- 6) Delivery Slips
- 7) Certificate of Compliance
- 8) New – **Build America Buy America (BABA)**
- 9) Record Plan / As-Built Plan
- 10) Testing Records “Lab Book”
- 11) OAOC Records
- 12) MS-4 Records
- 13) LRS Records


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Rec

#1) Notice to Proceed (NTP) Records

- Project Sponsor issues formal NTP to contractor with start date
- Winter shutdowns and Spring re-starts need formal notices
- Copy all NTPs to project records
- Copy all NTPs to OAOC
- Needed for Liquidated Damages

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#2) Daily Report Records

Provide Documentation of:

- Contractor's progress by item & location
- Orders given
- Conversations with contractor
- Working conditions & weather
- Delays
- Visitors
- Crash information

Sample Daily Report in LPA handouts

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#3) Project Correspondence

Keep and file all:

- Letters, e-mails, faxes, project schedules
- Approvals
- Letters of transmittal
- Utility force account agreements
- Shop drawings
- OAOC records
- Storm Water Pollution Prevention Plan
- Pictures and Videos, etc.

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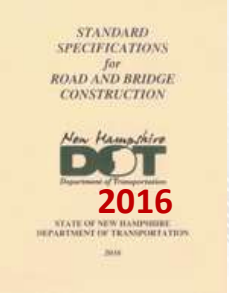
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Rec**

#4) Pay Item Records

NHDOT standard pay item nomenclature required

- Found in NHDOT Road & Bridge Standard Specifications Sections 200 thru 600
- **Examples**
 - Item 201.1 Clearing & grubbing
 - Item 520.11 Concrete Class A
 - Item 609.3 Straight Granite Curb




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Rec**

#4) Pay Item Records


Three types of pay item records (all needed)




4a) **Field Book (FB)**



4b) **Quantity Book (QB)**



4c) **Record Book (RB)**

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Rec**

#4a) Bound Field Book

Contract Administrator (not contractor) records:

- Quantities of items installed
- Item numbers
- Dates and locations
- Reference to Quantity Book and Record Book

May need more than 1 field book

Sample Field Book entry in LPA handouts

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Rec**

#4a) Bound Field Book

Sample Field Book Entry:

	Item 645.531 Silt Fence		RN I-02
3/5/96	Silt Fence Measured Stn 503+50 - 504+10 Rt	118 ft	174 ft To QB + RB MM 3/22/96
3/20/96	Silt Fence Measured Stn 501+20 - 501+75 Lt	56 ft	
3/29/96	Silt Fence Measured Stn 509+00 - 511+26 Rt	226 ft	To QB + RB RT 3/29/96


To
QB
&
RB

Item #645.531 Silt Fence
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Prj
Rec

#4b) Quantity Book



- Separate page for every pay item
- Documents chronology of pay item installation (when and how much)
- Use to make progress payments to contractor
- References Field Book source and Record Book location

Sample Quantity Book entry in LPA handouts

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Rec


#4b) Quantity Book

- Project Name
- Project Number
- Item number
- Total quantity
- Accum quantity installed to date
- Pay estimate #
- Amount paid
- Source of Info
- Who entered
- Cert. of Compliance needed?

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QUANTITY BOOK ITEM SUMMARY
QB Page
154.00

Project Name: Graniteville, X-A000(123), 25643	Appropriation Code: PAR	Certificate of Compliance: Not Required
Item Number: 609.01		
Item Description: Straight Granite Curb		
Contract Price: \$20.00	Contract Quantity: 650 LF	

Source	Entered By	Date	Remarks	Quantity	Accumulated Quantity	Est
RN 1-15	BLS	9-20-11	113+00 to 114+80	180.00	180.00	10
Note: Do not pay 6 LF, needs to be replaced as per Daily Report 9-20-2011						
ESTIMATE #10				09/01/2011 – 09/30/2011	174.00	174.00
RN 1-15	BLS	10-04-11	113+00 to 113+06	6.00	180.00	11
RN 1-15	BLS	10-04-11	115+00 to 116+00	100.00	280.00	11
ESTIMATE #11				10/01/2011 – 10/31/2011	106.00	280.00
				106.00	280.00	11


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#4c) Record Book

- Separate page for every pay item (Similar to QB)
- Final record of all items constructed
- References Field Book source and Quantity Book location



Sample Record Book entry in LPA handouts

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#4c) Record Book

- Project Name
- Project Number
- Item number
- Total quantity
- B&E quantity
- Accum quantity installed to date
- Amount paid
- Source of Info
- Who entered
- Checked by
- Approved by


State of New Hampshire Department of Transportation
RECORD BOOK ITEM SUMMARY

RB Page 154.00

Project Name:		Graniteville, X-A000123), 25643			
Item Number:	609.01	Appropriation Code:	PAR	Certificate of Compliance:	Not Required
Item Description:	Straight Granite Curb				
Contract Price:	\$20.00	Contract Quantity:	650 LF	B&E Quantity:	640 LF

Source	Entered By	Date	Remarks	Quantity	Accumulated Quantity
RN 1-15	BLS	9-20-11	113+00 to 114+80 RT	180.0	180.0
RN 1-15	BLS	10-04-11	115+00 to 116+00 RT	100.0	280.0
RN 1-15	BLS	10-11-11	116+00 to 119+00 RT	300.0	580.0
RN 1-15	BLS	10-18-11	119+00 to 119+60 RT	60.0	640.0
TOTAL ITEM					640.0 LF

Checked By:	TFM	Date:	10-26-11
Approved By:	BLS	Date:	10-27-11

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Rec**


#5) Change Order Records

Presented later this afternoon
in Construction Part 2


#6) Delivery Slip Records

Concrete and Paving

Contract Administrator's
collect and sign slips



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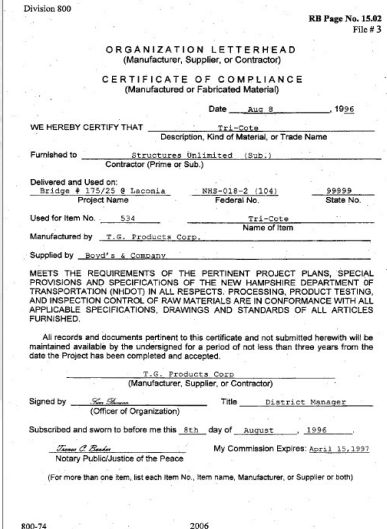
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Rec**

#7) Certificate of Compliance Records

Certificate of Compliance
Item 534 Water Repellant

- Manufacturer name
- Supplier name
- Item name and number
- Project name and number
- Tied to specific delivery
- Notarized

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#8) Build America - Buy America (BABA) Requirements

New BABA requirements strengthen the existing Buy America regulations.

- BABA Products that are permanently incorporated in a project must be certified American made
- Includes all steps in process (**Step Certification**)
 - milling, manufacturing, fabricating

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#8) Build America - Buy America (BABA) Requirements

New BABA Special Attention strengthens the existing Buy America regulations.

- A. **Iron and Steel** (same as before)
- B. **Manufactured Products** (same as before)
 - FHWA has a longstanding Buy America Waiver for Manufactured Products (but still need regular COC from step #7)
- C. **Construction Materials:** ex/ lumber or pipe. These items need both a certificate of compliance and BABA COC (**new!**)

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#8) Build America - Buy America (BABA)

New BABA List of Items

Item	Description	Unit	Quantity	Price
506.2	Steel Sheet Piling	Linear Foot		
534.3	Water Repellent (Silane/Siloxane)	Square Yard		
603.442	Corr. Polyethylene Pipe for Slope Drainage	Linear Foot		

A. Iron and Steel

- Item 506.2 – Steel Sheet Piling

B. Manufactured Products

- Item 534.3 – Water Repellent (Silane/Siloxane)



C. Construction Materials

- Item 603.442 – Corr. Polyethylene Pipe for Slope Drainage

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<https://www.dot.nh.gov/doing-business-nhdot/contractors>

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#8) Build America - Buy America (BABA)

Exception – Iron & Steel:

Cost of material including foreign steel and iron less than one-tenth of one percent (0.1%) of total contract price or \$2,500 whichever is greater



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Rec**

#8) Build America - Buy America

Buy America Video Presentation



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**Prj
Rec**

#9, #10, and #11 Records

- **#9 Record Plans / As-Builts** are required
- **#10 Testing / Lab Book Records** are covered later this afternoon in Construction Part 2
- **#11 Office of Access, Opportunity and Compliance (OAOC) Records** are covered in separate Labor Compliance training with the OAOC

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#12 MS-4 Records

If MS-4 regulations apply to your project, **and the work is within State-Owned ROW**, then:

- Provide to your NHDOT Project Manager the EPA Construction General Permit (CGP) Number.
- Confirm Maintenance Agreements are in place for new drainage features if required during the design phase.

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#13 Limited Reuse Soil (LRS) Records

If your project has LRS and/or a Soil Management Plan (SMP) then your project will need a Contractor's Project Operations Plan (POP) which describes how LRS will be handled. The POP needs to be reviewed and approved by the Contract Administrator.

Keep copies of all LRS documentation.

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Construction - Part 1

- Preconstruction Meeting
- Contractors CPM Schedule
- Oversight & Inspection
- Project Records
- **Construction Reimbursement**



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Construction Reimbursement

Sponsor's payment to contractor

- Typically, once or twice per month (varies)
- Based on Project Records noted previously (Quantity Book, etc.)
- Measured & certified by Engineer
- Agreed to by Contractor
- Approved by Sponsor
- **Retainage is not allowed!**



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Construction Reimbursement Construction Engineering (CE)

- Reimbursement of consultant CE charges was covered in Project Administration Step #6
- Also covered in Section #12 of the LPA Manual
- **Monthly** Electronic Reimbursement Requests from the Sponsor are required (ReimburseRequest@dot.nh.gov)



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Construction Reimbursement Sponsor's monthly reimbursement request to NHDOT includes:

- Proof of payment to contractor & PE/CE Firms
- Status report of work during time period
- Certification statement from Sponsor (true and accurate)
- Certified item summary from engineer



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Construction Reimbursement Multi-funded projects

- Clearly track and show both participating and non-participating work
- NHDOT and FHWA track non-participating work as part of the process
- Complete financial summary needed during project close-out

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Construction - Part 1

Questions ?



Next Up:
Construction – Part 2

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