

CONSTRUCTION MANAGER AT RISK CONTRACTS

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OVERVIEW

This chapter provides guidance for posting quantities on Construction Manager at Risk (CMAR) Contract items and processing the Record of Authorization of Risk Reserve Expenditure form when a risk is evoked.

CMAR is a contracting tool where the Department hires a contractor and an Independent Cost Estimator (ICE) early in the design phase to assist in the development of the Contract plans and specifications. The contract amount will be defined by the Guaranteed Maximum Price (GMP), which is the negotiated itemized dollar amount for the contract. With the contractor (CMAR), ICE and Designer working together, risks can be mitigated and/or defined by designing to the contractors means and methods. Quantities are paid in full. Potential risk previously identified will have a risk reserve set aside to quickly resolve the issue if encountered.

CMAR is most beneficial when:

- The design is complex, requiring innovation from sources with specific expertise.
- There is a high coordination requirement with external agencies making cost over-runs and construction schedule a potential risk.
- The project is sequence or schedule sensitive.

INSPECTOR'S RESPONSIBILITIES – CMAR CONTRACT ITEMS

The overall documentation process for the items contained in a CMAR contract is the same as demonstrated in Chapters 4 through 22 in this Manual. Refer to the appropriate chapter for the documentation requirements for each item and unit of measure (UOM).

The notable difference for an Inspector when documenting the items in a CMAR contract is to remember that an item's Total Posted amount CANNOT BE OVER the item's Authorized (Auth) Quantity (QTY) regardless of actual field measurements and calculations.

DAILY WORK REPORT (DWR) – MOBILE INSPECTOR

- Create a DWR in Mobile Inspector daily to document the activity being monitored. Refer to the [Mobile Inspector User Guide](#) for details on using this application.
- Before posting to an item check the Contract Items details (Figure 23-1 and Figure 23-3) for the Auth Qty (Original) and the Total Posted quantities to verify the quantity that has been posted to date, to avoid potential overpayment.

NOTES for CMAR Contract items:

- An item's Total Posted quantity can be less than the Auth Qty. When this occurs the Office Engineer will create a posting in AWP to add the additional quantity needed so that the Total Posted equals the Auth Qty.
- Figure 23-2 and Figure 23-4 demonstrate how to document item postings, when the field measurement and the posted quantity are different, so as not to overrun the authorized quantity.

Contract Items	
5020670	
5020670: GROOVE CONCRETE DECK SLAB	
Line: 0340	
Auth Qty: 9,692.000 SQYD	
Original:	9,692.000
Pending:	0.000
Total Posted:	7,223.730
Total Paid:	7,223.730
Unit Price:	\$10.120

Figure 23-1: Mobile Inspector Contract Items Detail

NOTES for Figure 23-1:

- In this example, the Auth Qty is 9,692.00 and the Total Posted is 7,223.73.
- $9,692.00 - 7,223.73 = 2,468.27$
- Based on these amounts the remaining postings cannot be more than 2,468.27.

New Item Posting	
Item:	GROOVE CONCRETE D...
Contractor:	SIERRA NEVADA CONS...
Qty:	2468.27 SQYD
Authorized:	9,692.000 SQYD
Total Posted:	7,223.730 SQYD
Location:	"TW"
Station From:	34 + 13.91
Offset Type:	LT.
Offset Dist:	"TW"
Station To:	37 + 4.91
Offset Type:	LT.
Offset Dist:	
Measured:	
Comments:	345 X 65 / 9 = 2491.67 (actual calculation) Only posting 2468.27 SQYD. to pay item to 100% complete.
	3898 remaining

Figure 23-2: CMAR DWR Item Posting

NOTES for Figure 23-2:

- Actual measurements and calculations must be shown in the Remarks.
- ONLY post up to the item's Authorized Quantity.

Contract Items	
Removal of Fence	
2020585: REMOVAL OF FENCE	
Line: 0030	
Auth Qty: 1,795.000 LFT	
Original:	1,795.000
Pending:	0.000
Total Posted:	1,795.000
Total Paid:	1,795.000
Unit Price:	\$5.000

Figure 23-3: Mobile Inspector Contract Items Detail

NOTES for Figure 23-3:

- In this example, the Auth Qty is 1,795.00 and the Total Posted is 1,795.00.
- This item's Total Posted quantity equals the Auth Qty. There CANNOT be any additional quantity postings.

New Item Posting

Item: REMOVAL OF FENCE

Contractor: SIERRA NEVADA CONS...

Qty: 0.00 LFT

Authorized: 1,765.000 LFT

Total Posted: 1,765.000 LFT

Location: "NW"

Station From: 53 + 94.69

Offset Type: RT.

Offset Dist: 76.3'

Station To: 53 + 95.05

Offset Type: RT.

Offset Dist: 77.4'

Measured:

Comments:

Actual length measured 10 LFT.
Item is 100% completed.
No additional Qty can be posted

3910 remaining

NOTES for Figure 23-4:

- Actual measurements and calculations must be shown in the Remarks.
- Enter a zero "0" in the Qty box.

Figure 23-4: CMAR DWR Item Posting

OFFICE ENGINEER'S RESPONSIBILITIES – CMAR CONTRACT ITEMS

The overall documentation process for the items contained in a CMAR contract is the same as demonstrated in Chapters 4 through 22. Refer to the appropriate chapter for the documentation requirements for each item and unit of measure (UOM).

The notable difference for items in a CMAR contract is that they are ALL paid to 100% (NO OVERRUNS ARE ALLOWED) except for the Risk Reserve and Force Account. Uniform Traffic Control (UTC) will only be paid by the invoice received. All posting adjustments will be completed in an Office Engineer's DWR.

DAILY WORK REPORT (DWR) – ITEM ADJUSTMENTS

All items, except for Risk Reserve, must be paid to 100% when the work for that item is complete. DO NOT wait until the Semi-Final estimate to make the adjusting DWR postings.

1. Go to the AWP Items list (Figure 23-5). Note which items require postings to bring them to 100% complete.

Item	Suppl Descr	Cmpl
6321010 - EPOXY PAVEMENT STRIPING (SOLID YELLOW)		
Complete: No		
Current Quantity	Qty Pd to Dt	Qty Posted to Dt Appr DWRs
3.000	2.540	2.540
Unit		Unit Price
MILE - Mile		1,700.00000
Change Order Number		

Figure 23-5: AWP Items List

2. Create a new DWR (Figure 23-6). Refer to Chapter 5, Daily Work Reports, in the [AWP User Guide](#) for details. Add a note in the Comments field indicating that this DWR is for adjusting item quantities.

<p>DWR Date * <input type="text" value="11/15/2019"/> </p> <p>Inspector * <input type="text" value="cwhited@dot.nv.gov"/> Whited Cecilia</p> <p>Weather <input type="text"/></p> <p>Rainfall Amount <input type="text"/></p> <p>Low Temperature <input type="text"/></p> <p>High Temperature <input type="text"/></p> <p>Stormwater Event</p> <p>Contractors Onsite No</p> <p>Attachments No</p>	<p>Number of Remarks 0</p> <p>Federal Project Number</p> <p>State Project Number SPSR-0529(001)</p> <p>Entered By -</p> <p>Entered Date</p> <p>Approval Date</p> <p>Approved By</p> <p>Estimate Number</p> <p>Payment Est Status</p> <p>Agency Views 0</p> <p>Work Items Installed 0</p>
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▼ Remarks

Type *	Remarks *
<input type="text" value="01 - GENERAL"/>	<input type="text" value="Posting the necessary quantities to bring all items to 100%"/>

Figure 23-6: Office Engineer DWR General Tab (CMAR)

3. Enter an item posting. In the Remarks box enter the Plan Qty (Catg. Auth. Qty) minus the Paid to Date (Catg. Qty. Paid) to show the amount of the quantity posting (Figure 23-7).

Item ID	Item Description	Current Quan...	Project	Category
6321010	EPOXY PAVEMENT STRIPING (SOLID YELLOW)	3.000	UG136C1C	01
Supplemental Description	Attention	Tot Qty Posted	Tot Qty Posted to Dt	Records
No		0.000	2.540	0

Item Posting Num	Contractor	Station/Location	Quantity Posted
	-	Entire Job	0.460

Contractor* ▼
SIERRA NEVADA CONSTRUCTION INC (Prime) ▼

Quantity Posted ▼

Station From ▼

Station From Plus ▼

Offset Type ▼

Offset Distance ▼

Station To ▼

Station To Plus ▼

Offset Type ▼

Offset Distance ▼

Attention
0

Units
MILE

Agency Views
None

Location ▼
 🔍

Measured ▼

Material Set ▼

Plan Sheet Page Number ▼

Comments ▼
 🔍

Figure 23-7: Office Engineer DWR Item Posting Tab (CMAR Item Adjustment)

4. Generate the DWR.

DAILY WORK REPORT (DWR) – RISK RESERVE

1. When the executed Record of Authorization of Risk Reserve form is received from the Resident Engineer, complete an DWR posting (Figure 23-8) to the Risk Reserve Item (6670010) for amount indicated. This item posting can be included in the bi-weekly DWR.

Item ID	Item Description	Current Quan...	Project	Category
6670010	RISK RESERVE	100,000.000	UG136C1C	01
Supplemental Description	Attention	Tot Qty Posted	Tot Qty Posted to Dt	Records
No		21,684.000	21,684.000	1

Item Posting Num	Contractor	Station/Location	Quantity Posted
1	PUR0003792 - SIERRA NEVADA CONSTRUC	Str. B1112W	8,500.000

Contractor * SIERRA NEVADA CONSTRUCTION INC (Prime)	Attention 0
Quantity Posted 8,500.000	Units L.S.
Station From []	Agency Views None
Station From Plus []	Location Str. B1112W
Offset Type []	Measured <input type="checkbox"/>
Offset Distance []	Material Set []
Station To []	Plan Sheet Page Number []
Station To Plus []	Comments RRE # 04
Offset Type []	
Offset Distance []	

Figure 23-8: Office Engineer DWR Item Posting Tab (CMAR Risk Reserve)

2. Generate the DWR.

RESIDENT ENGINEER'S RESPONSIBILITIES – RISK RESERVE

The Risk Reserve item will be used when a risk event has been identified. Only the items of work listed in Subsection 667.01.02, *(Risk Reserve) Description – Risk Events*, of the Special Provisions can be used for Risk Reserve. The Resident Engineer will discuss the details of the risk event with the contract's Project Manager and proceed with the Risk Reserve process.

RISK RESERVE WORKFLOW

1. Upon receiving the contractor's summary of the risk event, complete the Record of Authorization of Risk Reserve Expenditure (RRE) (Form No. 040-002CMAR) (Figure 23-9), found in the SharePoint Construction Forms, [Area: Construction Admin -Payment Forms](#), and all supporting documentation (e.g., Independent Cost Analysis, invoices, concurrence with NDOT Project Manager to proceed).
2. Send a copy of the RRE and all supporting documents to the NDOT Project Manager and the Construction Division Assistant Chief for review.
3. Log on to DocuSign and create a NEW envelope using the Const Admin - Risk Reserve Expenditure template. Upload the RRE and supporting documents.

- Once the RRE and supporting documents have been routed through all required signers the originator of the DocuSign envelope will receive an email from DocuSign. This email contains attached PDF files of the signed (executed) RRE and supporting documents. Save the RRE form and all supporting documents in the appropriate EDOC Contract Files\Contract Files\Division No. 7 - Construction Pay Estimate and Related Data\7.# Directory.
- When the RRE is complete, have the Office Engineer create an DWR posting (Figure 23-8) to the Risk Reserve Item for the amount authorized in the RRE.

STATE OF NEVADA Sheet of
 DEPARTMENT OF TRANSPORTATION

RECORD OF AUTHORIZATION OF RISK RESERVE EXPENDITURE (RRE)

CONTRACT NO.: PROJECT NO(S):

DESCRIPTION OF WORK:

RRE NO: CHANGE REQUESTED BY: NAME, TITLE, COMPANY/DIVISION DATE

NATURE AND REASON FOR PROPOSED REVISION

This Risk Reserve Expenditure (RRE)

Payment for this work will be made as a Lump Sum Agreed Price in the amount of \$XXXXXX.

No extension of contract time will be allowed for this work.

This work meets the requirements of the Special Provisions section

This RRE has been discussed with(i.e., Project Manager, District Engineer, etc.)

ESTIMATED COST: Increase Decrease

WORKING DAYS: Increase Decrease No Change

METHOD OF PAYMENT

UNIT BID PRICE(S) FORCE ACCOUNT NEGOTIATED PRICE OTHER _____

RESIDENT ENGINEER: _____ / _____
PRINT NAME & TITLE SIGNATURE DATE

PROJECT MANAGER: _____ / _____
PRINT NAME & TITLE SIGNATURE DATE

DISTRICT ENGINEER: _____ / _____
PRINT NAME & TITLE SIGNATURE DATE

CONSTRUCTION ENGINEER: _____ / _____
PRINT NAME & TITLE SIGNATURE DATE

NDOT 040-002CMAR (Rev 04-17)

Figure 23-9: RRE (Form No. 040-002CMAR)

