

# **RENT CONSTRUCTION ITEMS**

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## OVERVIEW

Rent Construction Items have different documentation requirements for each unit of measure (UOM). All Rent Construction Items must be counted, measured and calculated and/or based on plan. Documentation examples for a few selected Rent Construction Items are illustrated in this chapter. Some minor modifications may be required to show the unusual circumstances that may occur with different items, but the general format should be followed. If there are items which cannot be documented according to the following examples, contact the Construction Admin Services Section for assistance.

## INSPECTOR'S RESPONSIBILITIES – RENT CONSTRUCTION ITEMS

- Use the Agreement Estimate report as a reference to ensure that items and quantities are paid in the correct category (AEB).
- Use the Summary of Construction Signs (Figure 22-1), the Summary of Barricades (Figure 22-2), and/or the Main Structure List, located in the Contract plans, to help identify items, quantities, descriptions and locations.

SUMMARY OF CONSTRUCTION SIGNS					
NOTE: QUANTITIES SHOWN ARE APPROXIMATE AND ARE SUBJECT TO INCREASE OR DECREASE.					
ADDITIONAL SIGNS, NOT LISTED, MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.					
QUANTITIES FOR CONSTRUCTION SIGNS AND TRAFFIC CONTROL DEVICES ARE BASED ON A ONE WORK ZONE SETUP.					
SIGN NO.	MESSAGE	PANEL SIZE	TOTAL SIGNS*	SQFT EACH	SQFT TOTAL
M1-1	INTERSTATE SHIELD (16) (BLACK ON ORANGE)	24" X 24"	33	4.0	82.0
M2-1	NORTH (BLACK ON ORANGE)	24" X 12"	11	2.0	22.0
M3-3	SOUTH (BLACK ON ORANGE)	24" X 12"	8	2.0	16.0
M4-3	DETOUR (BLACK ON ORANGE)	30" X 19"	15	3.1	47.0
M5-1	ARROW (BYM) RIGHT OR LEFT	21" X 19"	18	2.2	38.4
M6-3	ARROW (BYM) UP	21" X 19"	8	2.2	17.6
NBA_1	BUSINESS ACCESS (RIGHT ARROW)	42" X 42"	4	12.3	48.0
NBA_2	BUSINESS ACCESS (LEFT ARROW)	42" X 42"	4	12.3	48.0
NBP_1	30 MINUTE DELAY POSSIBLE	48" X 36"	6	12.0	72.0
NPR_1	PREPARE TO STOP	48" X 48"	7	16.0	112.0
NRC_2	RAMP CLOSED	48" X 36"	6	12.0	72.0
NRC_1A	RAMP CLOSED AHEAD	48" X 48"	2	16.0	32.0
NRE_1	RAMP EXIT	42" X 54"	1	16.8	16.8
NTL_1	LEFT TURN LANE	30" X 48"	11	16.0	176.0
NTL_2	RIGHT TURN LANE	30" X 48"	1	16.0	16.0
NTT_1	THROUGH TRAFFIC UP ARROW	54" X 60"	6	22.5	135.0
NWZ_1	BEGIN WORK ZONE	48" X 24"	10	9.0	90.0
NWZ_2	END WORK ZONE	48" X 24"	12	9.0	108.0
NWZ_3	DOUBLE PENALTY IN WORK ZONE	48" X 48"	10	16.0	160.0
RZ_1	SPEED LIMIT 55	48" X 60"	2	20.0	40.0
RZ_2	SPEED LIMIT 65	48" X 60"	6	20.0	120.0
RZ_3	SPEED LIMIT 85	48" X 60"	4	20.0	80.0
RZ_4	REDUCE SPEED AHEAD	48" X 60"	4	20.0	80.0
RZ_5	NO RIGHT TURN (BYM)	48" X 48"	1	16.0	16.0
RZ_6	NO LEFT TURN (BYM)	48" X 48"	2	16.0	32.0
RZ_7L	MANDATORY TURN (LEFT)	30" X 30"	3	6.3	18.8
RZ_7R	MANDATORY TURN (RIGHT)	30" X 30"	3	6.3	18.8
RZ_7A	KEEP RIGHT (HORIZONTAL ARROW)	48" X 60"	3	20.0	60.0
RZ_7B	KEEP LEFT (HORIZONTAL ARROW)	48" X 60"	2	20.0	40.0
R11_2	ROAD CLOSED	48" X 36"	7	10.0	70.0
R11_4	ROAD CLOSED TO THRU TRAFFIC	60" X 36"	1	12.6	12.6
W1_1L	TURN (LEFT)	48" X 48"	1	16.0	16.0
W1_1R	TURN (RIGHT)	48" X 48"	1	16.0	16.0
W1_4BL	TWO LANE REVERSE CURVE (LEFT)	48" X 48"	2	16.0	32.0
W1_4BR	TWO LANE REVERSE CURVE (RIGHT)	48" X 48"	4	16.0	64.0
W1_4L	REVERSE CURVE (LEFT)	48" X 48"	2	16.0	32.0
W1_4R	REVERSE CURVE (RIGHT)	48" X 48"	8	16.0	128.0
W1_4AB	THRU TRAFFIC MERGE RIGHT	48" X 48"	1	16.0	16.0
W1_2R	LANE ENDS (LEFT)	48" X 48"	6	16.0	96.0
W1_2L	LANE ENDS (RIGHT)	48" X 48"	2	16.0	32.0
W1_3	TWO WAY (BYM)	48" X 48"	1	16.0	16.0
W13_1	ADVISORY SPEED PLATE (16)	24" X 24"	2	4.0	8.0
W13_2	ADVISORY SPEED PLATE (26)	24" X 24"	6	4.0	24.0
W13_3	ADVISORY SPEED PLATE (40)	24" X 24"	11	4.0	44.0
W13_4	ADVISORY SPEED PLATE (50)	24" X 24"	5	4.0	20.0
W13_5	ROAD WORK AHEAD	48" X 48"	12	16.0	192.0
W13_6	DETOUR AHEAD	48" X 48"	2	16.0	32.0
W13_7	ONE LANE ROAD AHEAD	48" X 48"	1	16.0	16.0
W13_8L	LEFT LANE CLOSED AHEAD	48" X 48"	5	16.0	80.0
W13_8R	RIGHT LANE CLOSED AHEAD	48" X 48"	4	16.0	64.0
W13_9	FLASHER SYMBOL	48" X 48"	7	16.0	112.0
W13_10	SHOULDER WORK	48" X 48"	7	16.0	112.0
			TOTAL SIGNS NEEDED	293	
			TOTAL SQUARE FEET		2843.1
<b>MS-018-1(126)</b>					
NWZ_1	BEGIN WORK ZONE	48" X 24"	2	9.0	18.0
NWZ_2	END WORK ZONE	48" X 24"	2	9.0	18.0
NWZ_3	DOUBLE PENALTY IN WORK ZONE	48" X 48"	2	16.0	32.0
RZ_1	SPEED LIMIT 55	48" X 60"	2	20.0	40.0
RZ_2	SPEED LIMIT 65	48" X 60"	2	20.0	40.0
W1_2R	LANE ENDS (LEFT)	48" X 48"	2	16.0	32.0
W1_2L	LANE ENDS (RIGHT)	48" X 48"	2	16.0	32.0
W13_1	ADVISORY SPEED PLATE (50)	24" X 24"	2	4.0	8.0
W13_2	ROAD WORK AHEAD	48" X 48"	2	16.0	32.0
W13_3L	LEFT LANE CLOSED AHEAD	48" X 48"	2	16.0	32.0
W13_3R	RIGHT LANE CLOSED AHEAD	48" X 48"	2	16.0	32.0
W13_5	SHOULDER WORK	48" X 48"	2	16.0	32.0
			TOTAL SIGNS NEEDED	24	
			TOTAL SQUARE FEET		344.0

Figure 22-1: Summary of Construction Signs

SUMMARY OF CONSTRUCTION BARRICADES		
NOTE: QUANTITIES SHOWN ARE APPROXIMATE AND ARE SUBJECT TO INCREASE OR DECREASE.		
<b>STP-0160(016)</b>		
CONSTRUCTION DEVICES	UNIT	TOTAL
ARROW BOARDS (TYPE C) (EACH)	EACH	2.00
ATTENUATOR 45 MPH	EACH	2.00
ATTENUATOR 65 MPH	EACH	1.00
TYPE 3B BARRICADE	EACH	57.00
TRAFFIC CONES (EACH)	EACH	393.00
TRAFFIC DRUMS (EACH)	EACH	202.00
FLAGGER	EACH	4.00
PORTABLE TRAFFIC SIGNAL	EACH	1.00
PORTABLE PRECAST CONCRETE BARRIER RAIL	LIN FT	42.00
TEMPORARY PAINTED STRIPING (BROKEN WHITE)	MILE	3.33
TEMPORARY PAINTED STRIPING (8-INCH SOLID WHITE)	MILE	0.37
TEMPORARY PAINTED STRIPING (DOUBLE SOLID YELLOW)	MILE	2.76
TEMPORARY PAINTED STRIPING (SOLID WHITE)	MILE	11.87
TEMPORARY PAINTED STRIPING (SOLID YELLOW)	MILE	5.16
TEMPORARY PAINTED STRIPING (VARIES)	SQFT	1060.00
TYPE 1 TEMPORARY STRIPING TAPE (SOLID WHITE)	LIN FT	3210.00
TYPE 1 TEMPORARY STRIPING TAPE (SOLID YELLOW)	LIN FT	1820.00
TYPE 1 TEMPORARY STRIPING TAPE (PILOT LINES)	LIN FT	700.00
<b>IM-015-1(126)</b>		
CONSTRUCTION DEVICES	UNIT	TOTAL
ARROW BOARDS (TYPE C) (EACH)	EACH	1
ATTENUATOR 65 MPH	EACH	1
TRAFFIC DRUMS (EACH)	EACH	202
PORTABLE PRECAST CONCRETE BARRIER RAIL	LIN FT	420
TEMPORARY PAINTED STRIPING (BROKEN WHITE)	MILE	18.40
TEMPORARY PAINTED STRIPING (SOLID WHITE)	MILE	10.70
TEMPORARY PAINTED STRIPING (SOLID YELLOW)	MILE	8.70
TEMPORARY PAINTED STRIPING (DOTTED WHITE)	MILE	1.20
<b>GENERAL NOTES</b>		
1.	Refer to Nevada Department of Transportation Standard Specifications for Road and Bridge Construction, 2001 Edition, for specifications except as modified by these plans and special provisions.	
2.	Sign numbers shown on the Summary of Construction Signs are taken from the Manual on Uniform Traffic Control Devices (2003 Edition) and Standard Highway Signs (2002) and Nevada Supplement thereto, (1997 Edition).	
3.	Traffic control devices, construction signs, and barricades shall conform to the requirements of the M.U.T.C.D. 2003 edition and the Nevada Standard Plans, 2003 Edition.	
4.	Depth of base and surface is minimum compacted thickness.	
5.	State will remove and furnish all milepost marker panels.	
6.	Guide posts and object markers shall be removed by contractor, at no direct payment.	
7.	The Contractor shall avoid damage to underground utilities. Locations are approximate and the Contractor will field verify and survey the locations. No Direct Payment.	
8.	Grades and cross slopes of the roadway shall conform to the present travel way.	
9.	All legally established survey monuments disturbed during construction shall be preserved in accordance with State and local laws and regulations.	
10.	Mineral filler and asphalt cement quantities shown are for informational purposes only and payment for them is included within the Plantmix Surfacing (Type 2C) (Wet) and Plantmix Open-Graded Surfacing (3/8-inch) (Wet) bid item.	
11.	For traffic control not shown, refer to Nevada Standards, 2003 Edition and MUTCD (2003) Edition.	

FED. RD. REG. NO.	STATE	PROJECT NO.	COUNTY	SHEET NO.
9	NEVADA	STP-0160(016) IM-015-1(126)	CLARK	55

Figure 22-2: Summary of Construction Barricades

- Review the following for accuracy:
  - Special Provisions
  - Supplemental Notices
  - Contract Modifications

**Note:** When any changes are made to an item, reference the Contract Modification number in the IDR item posting remarks.

- Turn in ALL Rent Construction Item calculation sheets to the Office Engineer.

## INSPECTOR DAILY REPORT (IDR) – MOBILE INSPECTOR

1. Create an IDR in Mobile Inspector daily to document the activity being monitored. Refer to the [Mobile Inspector User Guide](#) for details on using this application.
  - Report Details – daily activities
  - Item Postings – item(s) and quantity(s)
  - Equipment – type and hours
  - Personnel – title and hours
2. Record the following required information in the Report Details window (Figure 22-3):
  - Date
  - Weather
  - Low and high temperature
  - Attachments (N/A) – Send ALL photos via email.
  - Remarks – Verify with the Resident Engineer on what information is required.

The screenshot shows the 'Report Details' window with the following content:

- Date:** Wed, 03/22/2017
- Weather:** Windy and cool
- Low Temp:** 40 °F
- High Temp:** 50 °F
- Attachments:** (Camera and Paperclip icons)
- Remarks:** Rent Arrow Board on S. Carson St @ US 50. Contractor started work at 7:00 after safety meeting. Cleaned up "SW-7" stake out. Staked RSP from "L" 126+00 to 142+00 for right side of slopes. Contractor ended work at 4:30.

31782 remaining

**Figure 22-3: IDR Report Detail Window**

3. Record the following required information in the New Item Postings window:
  - Item
  - Proj/Catg – Refer to the AEB report.
  - Contractor – ALWAYS the Prime Contractor (Subcontractors are not allowed).
  - Qty – Based on measurements, calculations and/or plan
  - Location – Must show line designation, LT, RT or CL and offset if known.
  - Station From/To – Refer to plans.
  - Attention Flag – Use to bring attention to Resident Engineer and Office Engineer for overruns and plan errors.
  - Remarks – Must show calculations when appropriate, refer to Calculation Sheet when appropriate (Refer to Appendix B, Calculation Formulas, in this Manual for a Calculation Sheet example), other information relevant to item posting, and explanations when Attention Flag is checked.

NOTES for Rent Construction Item postings:

- If there are questions on whether an EACH item can be listed separately or combined, contact the Construction Admin Services Section for assistance.
- Refer to Figure 22-4 through Figure 22-8 for examples of Rent Construction Item postings with different UOM.

The screenshot shows a 'New Item Posting' form. The fields are filled as follows:
 

- Item:** RENT ARROW BOARD (T...)
- Proj/Catg:** 60638C2C, 04, Install and Re...
- Contractor:** LAS VEGAS PAVING CORP...
- Qty:** 1 EACH
- Location:** "CW" 220 + 40 RT
- Station From:** [ ] + [ ]
- Station To:** [ ] + [ ]
- Attention Flag:** [ ]
- Remarks:** [ ]

 At the bottom right, it says '255 remaining'.

NOTES for Rent Construction Item EACH (Figure 22-4):

- Payment for EACH items will be based on field count.
- In Location, enter the Line Designation and LT, RT, or CL.
- Sig. Fig. = 1

Figure 22-4: IDR Item Posting – Rent Construction Item EACH

The screenshot shows a 'New Item Posting' form. The fields are filled as follows:
 

- Item:** RENT TRAFFIC DRUMS
- Proj/Catg:** 60638C2C, 04, Install and Re...
- Contractor:** LAS VEGAS PAVING CORP...
- Qty:** 50 EACH
- Location:** "CW" RT
- Station From:** 0 + 10
- Station To:** 11 + 00
- Attention Flag:** [ ]
- Remarks:** [ ]

 At the bottom right, it says '255 remaining'.

NOTES for Rent Construction Item EACH (Figure 22-5):

- Payment for EACH items will be based on field count (this example shows an EACH item combined).
- In Location, enter the Line Designation and LT, RT, or CL.
- Sig. Fig. = 1

Figure 22-5: IDR Item Posting - Rent Construction Item EACH

**New Item Posting**

**Item:**

**Proj/Catg:**

**Contractor:**

**Qty:**  LFT

**Location:**

**Station From:**  +

**Station To:**  +

**Attention Flag:**

**Remarks:**

255 remaining

**Figure 22-6: IDR Item Posting – Rent Construction Item LFT**

NOTES for Rent Construction Item LFT (Figure 22-6):

- Payment for LFT items will be based on field measurements.
- In Location, enter the Line Designation and LT, RT, or CL.
- Sig. Fig. = 1

**New Item Posting**

**Item:**

**Proj/Catg:**

**Contractor:**

**Qty:**  SQFT

**Location:**

**Station From:**  +

**Station To:**  +

**Attention Flag:**

**Remarks:**

211 remaining

**Figure 22-7: IDR Item Posting – Rent Construction Item SQFT**

NOTES for Rent Construction Item SQFT (Figure 22-7):

- Payment for SQFT (Signs only) shall be based on plan or if different than plan a complete explanation as to how the SQFT were derived or calculations are needed.
- Calculation for SQFT = L x W
- In Location, enter the Line Designation and LT, RT, or CL.
- Sig. Fig. = .01
- Sign No. must be entered in the remarks (Sign No. is identification number of the sign as shown in the Contract plans). The message for the Sign No. must match the Summary of Construction Signs sheet (refer to Figure 22-1). If it does not, an explanation is required.

NOTES for Rent Construction Item SQFT (Figure 22-8):

- Payment for SQFT (Signs only) shall be based on plan or if different than plan a complete explanation as to how the SQFT were derived or calculations are needed.
- Calculation for SQFT = L x W
- In Location, enter the Line Designation and LT, RT, or CL.
- Sig. Fig. = .01
- Sign No. must be entered in the remarks (Sign No. is identification number of the sign as shown in the Contract plans). The message for the Sign No. must match the Summary of Construction Signs sheet (refer to Figure 22-1). If it does not, an explanation is required.

Figure 22-8: IDR Item Posting – Rent Construction Item SQFT

- Record the following required information in the New Equipment window (Figure 22-9 and Figure 22-10).
  - Contractor – Actual contractor performing the work (including Subcontractors).
  - Type – Detailed description of the equipment (e.g., diesel, HP, model, make).
  - Number – How many of each type.
  - Hours – Total hours in use.

**Note:** An attachment to an equipment's base configuration must have its own record.

Figure 22-9: IDR Equipment Entry

Figure 22-10: IDR Equipment List



5. Record the following required information in the New Personnel window (Figure 22-11 and Figure 22-12):
  - Contractor – Actual contractor performing the work (including Subcontractors).
  - Type – Details of personnel type (e.g., foreman, laborer, truck driver).
  - Number – How many of each title.
  - Hours – Total hours worked.

**Figure 22-11: IDR Personnel Entry**

Add Personnel	
LAS VEGAS PAVING CORPORATION Foreman - Donald Driver Number: 1.00      Hours: 8.00	
LAS VEGAS PAVING CORPORATION Laborer Number: 3.00      Hours: 8.00	
LAS VEGAS PAVING CORPORATION Operator Number: 2.00      Hours: 8.00	

**Figure 22-12: IDR Personnel List**

6. Complete a final review of the IDR and lock it.

**Note:** When a Mobile Inspector IDR is completed and locked the information is uploaded into a FieldManager IDR, where it is reviewed and generated for processing progress payments.

## OFFICE ENGINEER’S RESPONSIBILITIES – RENT CONSTRUCTION ITEMS

- Save Rent Construction Item photos in the appropriate EDOC Contract Files\Contract Files\ Division No. 3 - Multimedia Records\3.# Photographs with Descriptions directory.
- Review Rent Construction Item Calculation Sheets for accuracy and save electronically in the appropriate EDOC Contract Files\Contract Files\Division No. 7 - Construction Pay Estimate and Related Data\7.# IDR Calculation Sheets directory using this naming convention: IDR YYYY-MM-DD Inspectors Initials, (e.g. IDR 2016-03-19 KMM).
- Distribute executed copies of Contract Modifications to Inspectors.

### INSPECTOR DAILY REPORT (IDR) – FIELDMANAGER

When a Mobile Inspector IDR is locked by an Inspector, the information is uploaded into a FieldManager IDR. Refer to Chapter 7, Inspector Daily Report, in the [FieldManager User Guide](#) for details.

1. Verify the following:
  - Information in the Comments and Remarks
  - Information in the Contractor tab (Personnel and Equipment)
  - Items are paid correctly according to the contract documents (e.g., plans, supplemental notices, Contract Modifications).
  - Item quantities
  - Quantities in postings are documented to the correct Significant Figure.
  - Stations and Line Designations in the Locations
  - Calculations are correct.
  - Remarks reference calculation sheets, if applicable.

**Note:** Length does not always equal the difference between the beginning and ending station. Sometimes there is a curve or an obstacle that will affect the distance. Always check with the Inspector before assuming the calculations are incorrect.

2. Generate the IDR.