

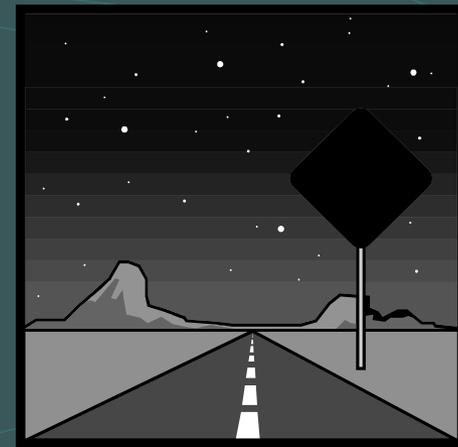
# Developing a Sign Plan



# Determine Scope

Will the sign plan encompass:

- An entire Field Office Area ?
- An ACEC?
- WSA?
- Campground?



# Research and Data Collection

1. Review the Resource Management Plan
2. Complete a Sign Inventory
3. Produce a Map



Consider Relevant Variables for the site:

- What types of users are expected in the area?
- What is the climate?
- What are the resources (trails in the area, hazards, recreation opportunities, available services/facilities)?

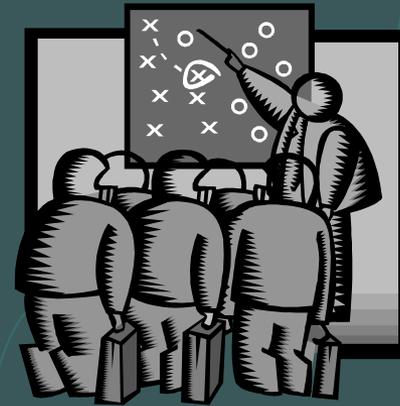
# Determine Objectives

- Are signs needed to provide information, improve safety or identify a place or feature?



# Develop Strategy

1. Determine what messages to convey.
2. Determine the most effective location to present information.
3. Determine the material to use and any special design character



# Prepare the Plan

- Include narrative describing objectives and planning criteria
- Show project limits
- Include the inventory
- Show proposed locations and sign content
- Show proposed graphic layout for each sign (schematic ok)
- Include a sign schedule (list of all signs, messages, materials and quantity)
- Include cost estimate
- Include a maintenance plan

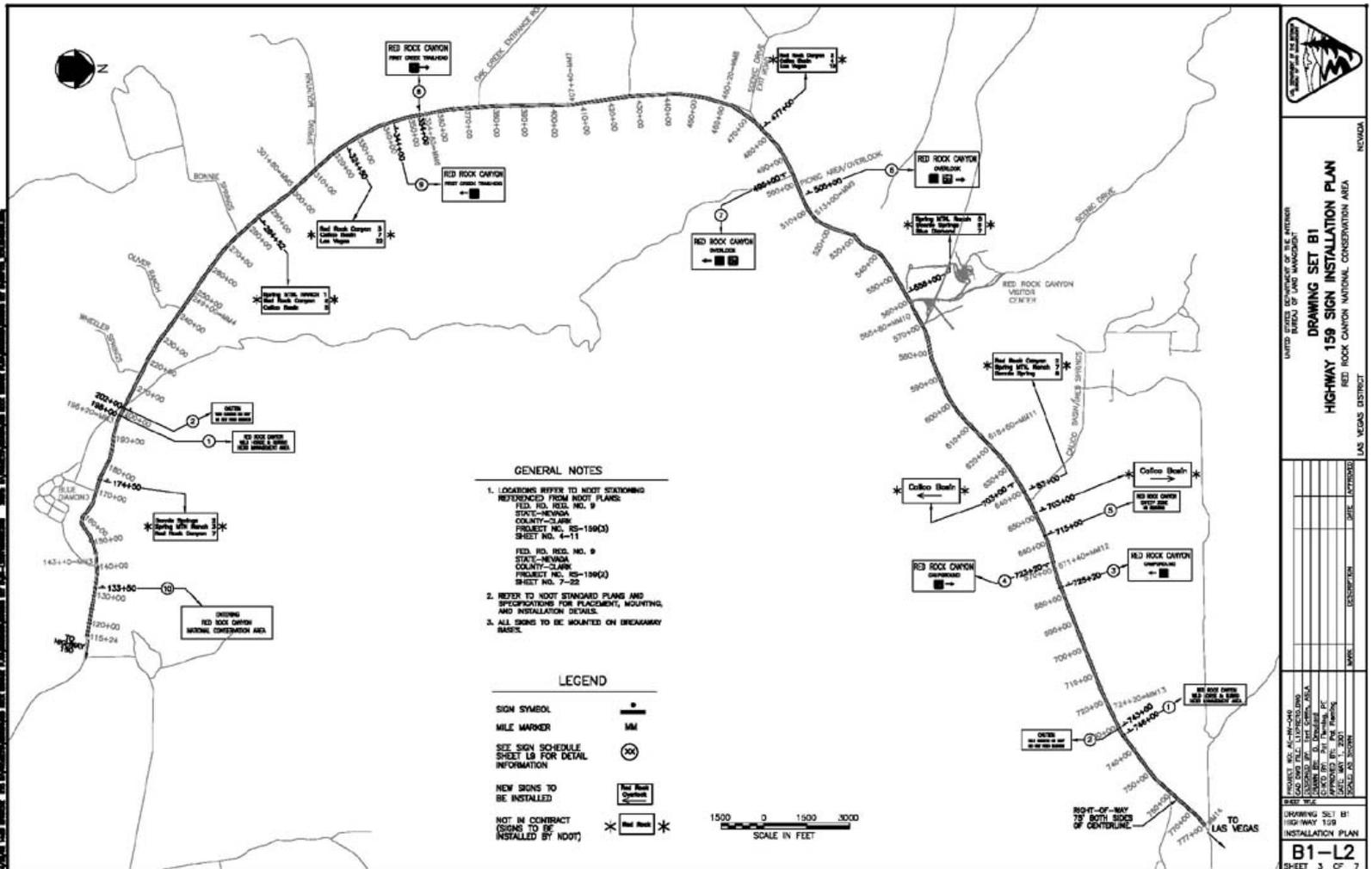


# Review Your Proposal

1. Does the plan meet applicable regulations:
  - MUTCD
  - BLM
  - State Highway R.O.W
  - NEPA
2. Does the plan meet budget concerns
3. Does the plan satisfy the goals of the Resource Management Plan





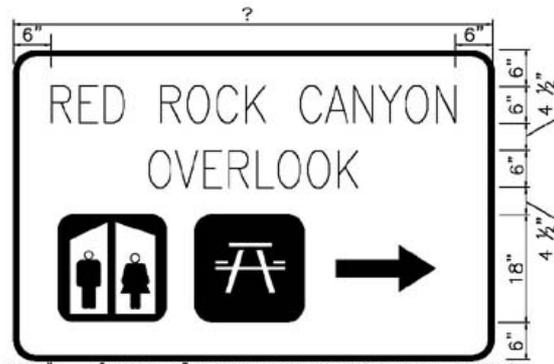


UNITED STATES DEPARTMENT OF THE INTERIOR  
 BUREAU OF LAND MANAGEMENT  
**DRAWING SET B1**  
**HIGHWAY 159 SIGN INSTALLATION PLAN**  
 RED ROCK CANYON NATIONAL CONSERVATION AREA  
 LAS VEGAS DISTRICT

NO.	DESCRIPTION	DATE	INITIALS

PROJECT NO. RS-199(2)  
 DRAWING SET B1  
 HIGHWAY 159  
 SIGN INSTALLATION PLAN  
 SHEET 3 OF 7

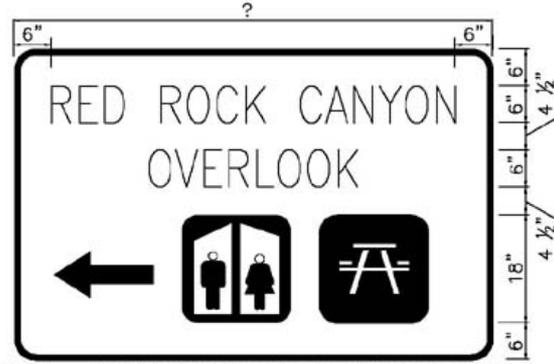
# Proposed Sign Locations



SIGN #6 - 6" RADIUS, 1" BORDER, WHITE ON BROWN, MUTCD SERIES C FONT. STANDARD ARROW SEE SHEET B1-L5



SIGN #8 - 6" RADIUS, 1" BORDER, WHITE ON BROWN, MUTCD SERIES C FONT. STANDARD ARROW SEE SHEET B1-L5



SIGN #7 - 6" RADIUS, 1" BORDER, WHITE ON BROWN, MUTCD SERIES C FONT. STANDARD ARROW SEE SHEET B1-L5



SIGN #9 - 6" RADIUS, 1" BORDER, WHITE ON BROWN, MUTCD SERIES C FONT. STANDARD ARROW SEE SHEET B1-L5

- NOTES:
1. IMAGE SHOWN IS REVERSE NEGATIVE OF ACTUAL SIGN COLOR.
  2. SEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR MUTCD SERIES C FONT.

NOTES: THIS DRAWING IS A PRELIMINARY DESIGN AND SHOULD NOT BE USED FOR CONSTRUCTION OF SIGNS WITHOUT THE APPROVAL OF THE DESIGNER.



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**DRAWING SET B1 - SIGN LAYOUT**  
RED ROCK CANYON NATIONAL CONSERVATION AREA

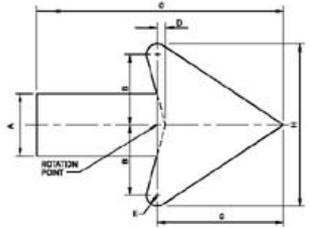
NO.	DATE	DESCRIPTION	BY	CHECKED

PROJECT NO. AL-100-004  
DRAWING SET B1 - SIGN LAYOUT  
SHEET 5 OF 7

**B1-L4**  
SHEET 5 OF 7

# Sign Content and Layout

SIGN SCHEDULE									
SIGN NO.	DESCRIPTION	QUANTITY	SIGN LOCATION	MOUNTING AND INSTALLATION DETAILS	SHAPE	COLORS	ROAD CATEGORY	SIZE/MUTCD #	SIGN SUPPLY
1	LINE 1: RED ROCK CANYON	2	BT-12	SHEET BT-12	SHEET BT-13	WHITE ON BROWN	HWY 158 CATEGORY 1 48-85MPH	6" UPPERCASE LETTERS Lst = 7	GOVERNMENT FURNISHED
	LINE 2: WILD HORSE & BURRO								
	LINE 3: HERD MANAGEMENT AREA								
2	LINE 1: CAUTION	2	BT-12	SHEET BT-12	SHEET BT-13	BLACK ON YELLOW	HWY 158 CATEGORY 1 48-85MPH	6" UPPERCASE LETTERS Lst = 7	GOVERNMENT FURNISHED
	LINE 2: WILD BURROS ON HWY								
	LINE 3: DO NOT FEED BURROS								
3	LINE 1: RED ROCK CANYON (6" UPPERCASE LETTERS)	1	BT-12	SHEET BT-12	SHEET BT-13	WHITE ON BROWN, SILVER WHITE SYMBOL OR BROWN BACKGROUND	HWY 158 CATEGORY 1 48-85MPH	18" x 18" SYMBOL SYMBOL #: RS-038 Lst = 7	GOVERNMENT FURNISHED
	LINE 2: CAMPGROUND (6" UPPERCASE LETTERS)								
	LINE 3: CAMPGROUND SYMBOL								
4	LINE 1: RED ROCK CANYON (6" UPPERCASE LETTERS)	1	BT-12	SHEET BT-12	SHEET BT-13	WHITE ON BROWN, SILVER WHITE SYMBOL OR BROWN BACKGROUND	HWY 158 CATEGORY 1 48-85MPH	18" x 18" SYMBOL SYMBOL #: RS-038 Lst = 7	GOVERNMENT FURNISHED
	LINE 2: CAMPGROUND (6" UPPERCASE LETTERS)								
	LINE 3: CAMPGROUND SYMBOL								
5	LINE 1: RED ROCK CANYON	1	BT-12	SHEET BT-12	SHEET BT-13	WHITE ON BROWN	HWY 158 CATEGORY 1 48-85MPH	6" UPPERCASE LETTERS Lst = 7	GOVERNMENT FURNISHED
	LINE 2: SAFETY ZONE								
	LINE 3: NO SHOPIPING								
6	LINE 1: RED ROCK CANYON (6" UPPERCASE LETTERS)	1	BT-12	SHEET BT-12	SHEET BT-13	WHITE ON BROWN, SILVER WHITE SYMBOL OR BROWN BACKGROUND	HWY 158 CATEGORY 1 48-85MPH	18" x 18" SYMBOL SYMBOL #: RS-044 SYMBOL #: RS-022 Lst = 7	GOVERNMENT FURNISHED
	LINE 2: OVERLOOK (6" UPPERCASE LETTERS)								
	LINE 3: RESTROOMS SYMBOL, PICNIC AREA SYMBOL								
7	LINE 1: RED ROCK CANYON (6" UPPERCASE LETTERS)	1	BT-12	SHEET BT-12	SHEET BT-13	WHITE ON BROWN, SILVER WHITE SYMBOL OR BROWN BACKGROUND	HWY 158 CATEGORY 1 48-85MPH	18" x 18" SYMBOL SYMBOL #: RS-044 SYMBOL #: RS-022 Lst = 7	GOVERNMENT FURNISHED
	LINE 2: OVERLOOK (6" UPPERCASE LETTERS)								
	LINE 3: RESTROOMS SYMBOL, PICNIC AREA SYMBOL								
8	LINE 1: RED ROCK CANYON (6" UPPERCASE LETTERS)	1	BT-12	SHEET BT-12	SHEET BT-13	WHITE ON BROWN, SILVER WHITE SYMBOL OR BROWN BACKGROUND	HWY 158 CATEGORY 1 48-85MPH	18" x 18" SYMBOL SYMBOL #: RS-044 SYMBOL #: RS-022 Lst = 7	GOVERNMENT FURNISHED
	LINE 2: FIRST CHECK TRAILHEAD (6" UPPERCASE LETTERS)								
	LINE 3: HIKING TRAIL SYMBOL								
9	LINE 1: RED ROCK CANYON (6" UPPERCASE LETTERS)	1	BT-12	SHEET BT-12	SHEET BT-13	WHITE ON BROWN, SILVER WHITE SYMBOL OR BROWN BACKGROUND	HWY 158 CATEGORY 1 48-85MPH	18" x 18" SYMBOL SYMBOL #: RS-044 SYMBOL #: RS-022 Lst = 7	GOVERNMENT FURNISHED
	LINE 2: FIRST CHECK TRAILHEAD (6" UPPERCASE LETTERS)								
	LINE 3: HIKING TRAIL SYMBOL								
10	LINE 1: ENTERING	1	BT-12	SHEET BT-12	SHEET BT-13	WHITE ON BROWN	HWY 158 CATEGORY 1 48-85MPH	6" UPPERCASE LETTERS Lst = 7	GOVERNMENT FURNISHED
	LINE 2: RED ROCK CANYON								
	LINE 3: NATIONAL CONSERVATION AREA								



STANDARD UNIFORM TRAFFIC CONTROL DEVICES ARROW  
NOT TO SCALE

**GENERAL NOTES**

1. ALL SIGNS TO BE GOVERNMENT FURNISHED, CONTRACTOR INSTALLER.
2. ALL SIGN POSTS, MOUNTING HARDWARE, AND FOUNDATION MATERIALS TO BE CONTRACTOR FURNISHED, CONTRACTOR INSTALLED.
3. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR REGULATORY SIGN CODE DESIGNATIONS.
4. REFER TO NEVADA DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND SPECIFICATIONS FOR PLACEMENT, MOUNTING, AND INSTALLATION DETAILS.

**POST SELECTION CHART**

SIGN AREA (a)	H(N)					
	6<ch<8.4	2.4<ch<3.0	3.0<ch<3.5	3.6<ch<4.2	4.2<ch<4.5	4.5<ch<5.0
0<cc<0.6	A	A	A	A	A	A
0.6<cc<1.0	A	A	A	A	A	A
1.0<cc<1.2	A	A	A	A	A	A
1.2<cc<1.4	A	A	A	A	A	A
1.4<cc<1.6	B	B	B	B	B	B
1.6<cc<1.8	B	B	B	B	B	B
1.8<cc<2.0	B	B	B	B	B	B
2.0<cc<2.3	C	C	C	C	C	C
2.3<cc<2.6	C	C	C	C	C	C
2.6<cc<3.0	D	D	D	D	D	D
3.0<cc<3.5	D	D	D	D	D	D
3.5<cc<4.0	E	E	E	E	E	E
4.0<cc<4.5	E	E	E	E	E	E
4.5<cc<5.0	F	F	F	F	F	F
5.0<cc<5.5	F	F	F	F	F	F

**POST SELECTION CHART**

POST TYPE	DESCRIPTION	REFERENCE SHEET
A	64 mm Square Metal Post (2.8 mm)-single post	T-31.2.1
B	64mm Square Metal Post (3.5 mm)-single post	T-31.2.1
C	Single Post Unbraced NPS3 Round MetalPost	T-31.3.1 thru T-31.3.2
D	Double Post Unbraced NPS3 Round MetalPost	T-31.3.1 thru T-31.3.2
E	Double Post Braced (See Note 4) Post-NPS3 Round MetalPost Brace-NPS3 Round MetalPost	T-31.4.1 thru T-31.4.3
F	SpecialDesign contact Traffic engineering	

- GENERAL NOTES:**
1. Sign area is total of Major & Secondary signs.
  2. Alternate posts must be approved by Traffic Engineering.
  3. NPS = Standard Pipe sizes, see ASTM-A-33
  4. For double post braced supports, minimum H/C > clear zone width maximum of 9 in, except when protected by guardrail or barrier rail. For clear zone widths, refer to AASHTO Roadside Design Guide 1994 Ed. Chapter 3.

LETTER SIZE (UPPER CASE)	ARROW SPECIFICATIONS					
	A	B	C	D	E	H
1/2"	3/16"	3/32"	3/8"	1/32"	3/4"	1/2"
3/4"	9/32"	7/16"	9/16"	3/64"	1/2"	1-1/8"
1"	5/8"	7/8"	1/2"	1/16"	5/8"	1-1/2"
1-1/2"	9/16"	5/8"	1-1/8"	1/8"	1"	1-1/2"
2-1/4"	7/8"	1"	1-3/4"	3/16"	3/4"	2-3/8"
4"	2-1/4"	2-5/8"	4-1/2"	3/8"	7/16"	6-1/8"
6"	3-5/16"	3-13/16"	6-11/16"	1/2"	11/16"	13-5/16"

**LAYOUT CHART - ROAD SIGNS**

ROAD TYPE	NO LETTER	MINOR SPACE	MINOR PLATE	SIZE OF SCHEDULE	CORNER RADIUS	ARROW LENGTH	ARROW WIDTH
6"	6"	1/8"	1"	6"	1.3, 3.05"	6"	



UNIVERSITY OF NEVADA  
SCHOOL OF CIVIL AND ENVIRONMENTAL ENGINEERING  
**DRAWING SET B1 - SIGN SCHEDULE**  
RED ROCK CANYON NATIONAL CONSERVATION AREA

NO.	DESCRIPTION	DATE	BY	CHECKED

PROJECT: RED ROCK CANYON  
CONTRACT NO. 110-1000  
DRAWING SET B1 - SIGN SCHEDULE  
DATE: 11/1/2011  
SCALE: AS SHOWN

DATE: 11/1/2011  
DRAWING SET B1  
110-1000  
SIGN SCHEDULE

**B1-L5**  
SHEET 6 OF 7

# Sign Schedule

MESSAGE

COLORS

SIGN SCHEDULE									
SIGN NO.	DESCRIPTION	QUANTITY	SIGN LOCATION	MOUNTING AND INSTALLATION DETAILS	SHAPE	COLORS	ROAD CATEGORY	SIZE/AUTOC #	SIGN SUPPLY
1	LINE 1: RED ROCK CANYON LINE 2: WILD HORSE & BURRO LINE 3: HERD MANAGEMENT AREA	2	SHEET B1-L2	SHEET B1-L3		WHITE ON BROWN	HWY 158 CATEGORY 1 45-85MPH	6" UPPERCASE LETTERS LxH = 7	GOVERNMENT FURNISHED
2	LINE 1: CAUTION LINE 2: WILD BURROS ON HWY LINE 3: DO NOT FEED BURROS	2	SHEET B1-L2	SHEET B1-L3		BLACK ON YELLOW	HWY 158 CATEGORY 1 45-85MPH	6" UPPERCASE LETTERS LxH = 7	GOVERNMENT FURNISHED
3	LINE 1: RED ROCK CANYON (6" UPPERCASE LETTERS) LINE 2: CAMPGROUND (6" UPPERCASE LETTERS) LINE 3: ← CAMPGROUND SYMBOL	1	SHEET B1-L2	SHEET B1-L3		WHITE ON BROWN, SILVER WHITE SYMBOL OR BROWN BACKGROUND	HWY 158 CATEGORY 1 45-85MPH	18" X 18" SYMBOL SYMBOL #: RS-030 LxH = 7	GOVERNMENT FURNISHED
4	LINE 1: RED ROCK CANYON (6" UPPERCASE LETTERS) LINE 2: CAMPGROUND (6" UPPERCASE LETTERS) LINE 3: CAMPGROUND SYMBOL →	1	SHEET B1-L2	SHEET B1-L3		WHITE ON BROWN, SILVER WHITE SYMBOL OR BROWN BACKGROUND	HWY 158 CATEGORY 1 45-85MPH	18" X 18" SYMBOL SYMBOL #: RS-030 LxH = 7	GOVERNMENT FURNISHED
5	LINE 1: RED ROCK CANYON LINE 2: SAFETY ZONE LINE 3: NO SHOOTING	1	SHEET B1-L2	SHEET B1-L3		WHITE ON BROWN	HWY 158 CATEGORY 1 45-85MPH	6" UPPERCASE LETTERS LxH = 7	GOVERNMENT FURNISHED
6	LINE 1: RED ROCK CANYON (6" UPPERCASE LETTERS) LINE 2: OVERLOOK (6" UPPERCASE LETTERS) LINE 3: RESTROOMS SYMBOL, PICNIC AREA SYMBOL →	1	SHEET B1-L2	SHEET B1-L3		WHITE ON BROWN, SILVER WHITE SYMBOL OR BROWN BACKGROUND	HWY 158 CATEGORY 1 45-85MPH	18" X 18" SYMBOL SYMBOL #: RS-044 SYMBOL #: RS-022 LxH = 7	GOVERNMENT FURNISHED
7	LINE 1: RED ROCK CANYON (6" UPPERCASE LETTERS) LINE 2: OVERLOOK (6" UPPERCASE LETTERS) LINE 3: ← RESTROOMS SYMBOL, PICNIC AREA SYMBOL	1	SHEET B1-L2	SHEET B1-L3		WHITE ON BROWN, SILVER WHITE SYMBOL OR BROWN BACKGROUND	HWY 158 CATEGORY 1 45-85MPH	18" X 18" SYMBOL SYMBOL #: RS-044 SYMBOL #: RS-022 LxH = 7	GOVERNMENT FURNISHED
8	LINE 1: RED ROCK CANYON (6" UPPERCASE LETTERS) LINE 2: FIRST CREEK TRAILHEAD (6" UPPERCASE LETTERS) LINE 3: HIKING TRAIL SYMBOL →	1	SHEET B1-L2	SHEET B1-L3		WHITE ON BROWN, SILVER WHITE SYMBOL OR BROWN BACKGROUND	HWY 158 CATEGORY 1 45-85MPH	18" X 18" SYMBOL SYMBOL #: RS-066 LxH = 7	GOVERNMENT FURNISHED
9	LINE 1: RED ROCK CANYON (6" UPPERCASE LETTERS) LINE 2: FIRST CREEK TRAILHEAD (6" UPPERCASE LETTERS) LINE 3: ← HIKING TRAIL SYMBOL	1	SHEET B1-L2	SHEET B1-L3		WHITE ON BROWN, SILVER WHITE SYMBOL OR BROWN BACKGROUND	HWY 158 CATEGORY 1 45-85MPH	18" X 18" SYMBOL SYMBOL #: RS-066 LxH = 7	GOVERNMENT FURNISHED
10	LINE 1: ENTERING LINE 2: RED ROCK CANYON LINE 3: NATIONAL CONSERVATION AREA	1	SHEET B1-L2	SHEET B1-L3		WHITE ON BROWN	HWY 158 CATEGORY 1 45-85MPH	6" UPPERCASE LETTERS LxH = 7	GOVERNMENT FURNISHED

QUANTITY

SIZE

LOCATION

SHAPE

# Sign Schedule- Detail

# Implement the Plan

- Order Signs.
- Install Signs.
- Develop program to continuously evaluate signs
- Actively maintain and replace your signs



# Final Thoughts

## Consider the Message! 😊



It Pays to Plan! 😊

