

Columbia River Gorge
National Scenic Area

Sign System Design
Report

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Prepared for:

Columbia River Gorge
National Scenic Area Office
USDA Forest Service
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WASCO CO. PLAN. & ECON. DEV.

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The scope of this project included a finite group of identification and guide signs that are common to all facilities within the scenic area. This includes identification, guide, and route signs, but does not include interpretive signs or guidelines for commercial signs. The designs of the sign types listed below are to be adaptable to three different size sign panels to allow for appropriate placement on different roadway environments.

1. Identification Signs

1a. Public and non-profit site entry signs including recreational, interpretive, and educational sites with agency identifiers.

1b. Natural and cultural and feature identification including lakes, views, historic sites and trails.

2. Entrance Signs

2a. Signs marking the entrance to the National Scenic Area at both the main portals and along the secondary entrances.

2b. Entry signs to the 13 urban centers and 2 rural centers.

3. Route Markers

3a. A common graphic form for scenic and tour route signs.

3b. Design of new route markers for the Historic Columbia River Highway (30) and the Lewis and Clark Trail Highway (14).

4. Guide and Directional Signs

4a. Roadway directional or guide signs to locations and facilities within the scenic area for the freeway and conventional roads.

The contract was built as a seven stage design process with periodic review and presentations to the contract officer and the existing Sign Committee that had been working on sign related issues with the Scenic Area Office. The project only includes design. It did not include either preparation of fabrication documents with structural engineering or a normal prototype process to value engineer the actual design. The preparation of an actual sign schedules identifying the size and placement location for each site was not part of the project.

Stage 1

Research and Information Gathering (19%) to identify the character of the place, and actual applications for each sign type.

Stage 2

Preliminary Design (14%) to develop initial studies in the form, scale, materials and color of signs, as well as investigations of typography and formats for sign legends.

Stage 3

Design Development (19%) following a review of preliminary design by the Sign Committee, final designs were developed, refined and presented.

Stage 4

Schematic Details (4%) were prepared of the selected designs showing scale relationships of structure to sign, and materials for the basic assembly in the various specified sizes.

Stage 5

Prototype (5%) or mock-up installations were prepared using four cardboard sign assemblies to test relative scale to roadways and relationship of sign parts to each other.

Stage 6

Sign System Report (7%) documents the findings of the project. The development of a recommended implementation plan was added to this part of the project to assist USFS planning efforts.

Stage 7

Final Presentation (5%) to the Columbia River Gorge Commission was the culmination of the project.

General goals

The system has two purposes; one is functional and the other is aesthetic. Functionally the signs must communicate effectively in the different highway systems and jurisdictions. Aesthetically the design must be appropriate, with the identity of the system centered around a commitment to excellence and quality of implementation.

With over 200 facilities and places to be identified including parks, trails, dams and natural resources, the sign program can become an effective visual element to tie these various place together to create a common identity for the Columbia River Gorge National Scenic Area.

The definition of character is critical. The gorge is an large and overwhelming place that has many faces and climates that create a consistently changing environment. In reality, the only things that are common to the area are basalt and water. The west entrance has both pasture land and heavily forested slopes. The east is dry and rocky with barren slopes.

Understanding current jurisdictional and agency requirements is also a key element in a design program because the Scenic Area is shared by many different states, counties, and federal agencies. From a signage point of view, much of the signage is in the right of way, a zone shared with, and subservient to traffic control devices.

There is also a requirement to accommodate the road-scape differences between I-84, SR 14, and the old scenic highway. What works for one road may not work for the others. And, there may need to be adaptations to fit the site specific needs or each respective roadway environment.

Finally, following in the image of the great builders who made imprints on the Gorge before us, there should be a commitment to excellence both in the quality of the implementation as well as the uniformity in the way it is maintained.

Goals and Objectives

To shape this system into an effective sign program we built our design process around a series of basic goals and objectives. These are listed in no particular order but serve as a benchmark to which designs are to be judged.

1. Design a unifying sign system for the scenic area.
2. Adoptive, not prescriptive
3. Integrate the disparate functions and interests.
4. Create flexibility within the context of a system.
5. Reflect the spirit of the Gorge and the hand of man.
6. Create a visual thread through the form of the program.
7. Use materials and forms that relate to the place.
8. Adapt to the three road systems and other feeders.
9. Communicate consistently.
10. Use identification to aid understanding of the place. Not interpretive but sets the tone.
11. Create a timeless elegance with good crafting-classical ideas.
12. Design program as a system for cost efficient planning, procurement, implementation & maintenance
13. Recognize the world class significance of the place. Not pieces bigger than all of us.

Overall Impressions

We found that the environment for implementing a sign program is a relatively clean slate, with relatively little competing visual clutter (the exception being the large truck stop at Biggs, and where I-84 has become a strip development in The Dalles). The rest of the Gorge is very tidy. This is most notable is the containment of the little towns along SR-14, in that they don't flow beyond their boundaries, making identification relatively easy.

Clean-up of visual clutter and sign pollution is primarily isolated to the interior of towns. If the proposed design system is effective and acceptable to the communities along the gorge, it should set a positive tone for future visual management of parts of the scenic area that are not in the NSA jurisdiction.

Currently, the biggest void identified is that there is nothing to tell you where you are, what you are seeing, or what resources are available to help visitors better understand the place. This finding was affirmed by the interpretive planning study developed by the Forest Service in another project (interpretive study: 33% need better directional signs, 37% at recreations areas and points of interest).

Roadway & Sign Evaluation

Whatever is developed must adapt to the scale and form of the three different roadways within the scenic area. Although installations on the freeway will be specifically guide signs; signs for S.R 14 (high speed road) and U.S. 30 (narrow route) will require that size, mounting height, and mounting in relation to the road be effectively adaptable to each system.

The following is a list of specific items noted for the main road systems.

Interstate I-84

55 mph freeway with limited access/egress., Traffic Count 12-13,000 cpd.

- Refine ODOT re-signing plan to make more consistent (both legend and sign size and typeface).
- Emphasize destinations in Scenic Area as placed on the panel.
- Finish back of panels using a neutral color coating.
- Entry/exit to National Scenic Area needs massive portals.
- Improve guide information for access to off-freeway locations.

Historic Columbia River Highway

Two lane, narrow, 25-40 mph.

- Sign must be compatible with restoration improvements on the highway.
- Down-scale designs to reflect slower speed and nature of viewer using this road.

Scenic Washington SR-14

Two lane 45-55 mph non-divided highway.

- Use name of road to help bring it into the NSA family (Lewis & Clark Trail Highway).
- Size sign design to fit to prevailing speed and road configuration.

Analysis of Key Issues Relative to the Zones

Specifically, as one travels through the Scenic Area we are constantly reminded of the changing dimension of the view. The Gorge is never the same twice. There is a strong layered image as one looks through one zone to the next and there are basic elements common to the place. These include basalt as a columnar formation on the gorge walls and as broken rubble from sections that have broken away; water from the Columbia River, feeder streams, falls and pools; wind and weather which is ever-present and always changing (and never the same at both ends at once); and vegetation which differs depending on climate and terrain. These basic characteristics of principal elements within the Gorge are summarized in the table below.

Historic Research

Because the Historic Columbia River Highway plays an important part in the overall identity of the Scenic Area, research was done at the Oregon Historical Society to learn what types of signage and general construction methods were used when the highway was first built. Very little documentation exists on the use of signs, making it difficult to build any design concepts around this material.

Architectural Forms of the Gorge

Most important is that the form of the water and basalt has required people to create massive projects to make the Gorge accessible. These include the carving out of the Gorge wall to create the historic highway, massive landfills to create the freeway, and the construction of locks for navigation. The one predominant form is the arch. From the underside of bridges to the structure of stone and concrete walls and guardrails, the arch is a common form to the Gorge.

Interviews and Regulations

The design team also reviewed all appropriate agency, state, and federal regulations to learn where compliance must be made part of the system and where deviation from standards might be possible. Designers also spoke to representatives from agencies participating in the program on various sign program related issues including the Lewis and Clark Heritage Foundation, National Park Service, Oregon and Washington State Parks, Washington and Oregon Departments of Transportation, Corps of Engineers, Forest Service Scenic Area Office, and some interested citizens to learn how this project could be improved with their assistance.

Basic Characteristics of NSA by Zone

	Western	W. Central	E. Central	East
<i>Shape of the Gorge</i>	Flat	Rolling/steep	Steep	Rolling
<i>Rainfall</i>	PDX 38	CL 80	HR 25-30	D/B 14
<i>C</i>	Light Greens	Dark Greens	Mixed Grns/Beige	Beige
<i>Trees</i>	Poplars	Grass/Deciduous	Conifer	Conifer
<i>Rock</i>	Blk to Dk Grey	Dk & Lt Grey	Dk Grey/Brown	Brn w/ Orange Hgls
<i>Ground cover</i>	Pasture/Forest Fl.	Fields/Forest Fl.	Mixed	Scrub/grass

Language Plan and Nomenclature

The way the places in the Gorge are identified can greatly enhance the effectiveness of the sign system as a wayfinding and information tool. Signs give identity to each of the various pieces, and when integrated into a cohesive visual system, it gives identity to the scenic area as a whole.

Specific recommendations include: greater consistency in use of descriptive identifiers, less generic information, formats that allows a common look with options, and enhancements to S.R. 14 to bring it into the overall identity of the National Scenic Area identity. These observations are summarized below.

Consistency

A component of a language plan is consistency. This is most important when used on directional or guide signs to orient and guide a visitor, where the names of destinations must follow a common language plan. Currently there is ambiguity in the content of guide signs in advance of and on the old historic highway including: Waterfall Area and Multnomah Falls, Scenic Highway and Historic Highway, Vista House and Crown Point.

Specific, not generic information

The identity of specific locations can be enhanced in the way places are named. This is done through consistency and the organization of a legend with primary name and secondary identifier. Locations that are currently identified in a generic way should be given a personalized identity; for example, an Historic Marker becomes the Rowena Loops Historic Marker, a Gateway Information Center is identified more specifically as Steigerwald Lake

Gateway Information Center. The naming of the specific place helps physically orient a visitor while tying the place to the name.

Variation within a uniform format

With a variety of agencies and jurisdictions managing the estimated 200 facilities and places that will be part of this sign system, there needs to be flexibility within the graphic format to allow for variations that exist. As proposed, this is being shown as a system that includes a primary and secondary legend with optional use of an agency medallion, crest or seal. The major requirement is that the legends not be overly wordy, showing only the information that a viewer can safely read and understand when passing the sign.

Promote S.R.14 as a prime resource

Because SR14 is a scenic highway of equal significance, providing striking views of the Gorge along its entire length, it also needs a greater identity. Similar to the way the Historic Columbia River Gorge Highway is promoted, planners recommended that by using its formal name "The Lewis and Clark Trail Highway", its presence can be made to reflect its importance in the Scenic Area and to give it its special identity within the NSA.

The sign system has two functions. One is to communicate something about individual places, and the other is to create a common visual thread that wends its way through the entire scenic area; through forest, park, town and trail.

Following initial research, six basic concepts were developed in schematic form for presentation and review with the sign committee. These included designs reflective of the arts and craft movement to structures using stone and steel. In this review related design studies of color and typography were also presented.

Preliminary sign assembly concepts

Scheme 1: A wooden crafted panel assembly that uses the native material in a classical way.

Scheme 2: Laminated wooden panel and post assembly reflective of layering of the Gorge.

Scheme 3: Cast concrete square post with steel brackets and porcelain panels. This concept leaves room for greatest variety in application and reflects existing bridge work;

Scheme 4: Cast concrete round post with steel brackets and porcelain panels similar to 3 above.

Scheme 5: Hand made in style of CCC/WPA with timber or cast posts with formed or forged (cast or fabricated) steel supports.

Scheme 6: Layered plane: a contemporary fabricated steel assembly reflective of the layering of the Gorge.

Color

In conjunction with the presentation of signs, the design team reviewed our investigations of color in a series of panels showing how colors in the Gorge change through each of the four or five distinct climatic zones from the west to the east.

Typography/Sign Panel Format

A second study of typography was presented using actual names of places in a variety of serif and sans serif alphabets. Requirements were that the selected typeface be highly legible and adaptable for use in conjunction with highway alphabets, while having a strong visual character that would be unique to the Gorge. The assumption was that the font should be classic in style, but the system could incorporate more than one typeface, weight or style. Type faces reviewed included:

Stone Semibold

(1988, *Sumner Stone*, Adobe Systems, ITC)

Sabon

(1967, J. Tschichold, D. Stempel AG, Berthold AG)

New Baskerville

(1978 *Mergenthaler Linotype*, ITC, Berthold AG)

Goudy

(1921, F.W. Goudy, Morris Benton, American Typefounders, H. Berthold AG)

Gill Sans

(1928-1930, Eric Gill, Monotype Corp. Ltd. Berthold AG)

Helvetica

(1958, Max Miedinger, Haas/Berthold AG)

Sign Committee Presentation and Review

The sign committee, made up of agency representatives and interested citizens was established to advise in the design process. Through the project there were three presentations with the sign committee. These were scheduled at the midpoint of Stage 2: Preliminary Design, during Stage 3, Final Design, and prior to the presentation to the Gorge Commission, Stage 7. The Sign Committee included representatives from the Columbia River Gorge Commission, Oregon and Washington Departments of Transportation, Oregon and Washington State Park Departments, local county officials, USDA Forest Service representatives, and local citizens. The committee operated on a consensus model, and all findings reflect the consensus of the group.

As representatives of specific groups and agencies, members interests and needs varied considerably, as did their expectations. Our function was to learn their requirements so that a single system could be designed that would hopefully work for all. Following the first presentation, sign committee members were very specific in their comments which included items listed on the right.

1. The need for identification of agencies using individual logos or shields on the sign panel.
2. To build directly on the "Cascadian" form inherent in the Gorge.
3. Make the signs less urban than some of the initial form studies.
4. Use materials appropriately including concrete, wood and metal.
5. Adapt to the various ways resident natural resource agencies sign their projects.
6. Improve the readability (and safety of the panel that identifies the Historic Highway
7. Design a system that is adaptable to the restoration efforts on the old highway.
8. Make the NSA entry portal identification simple and appropriately scaled to the site.
9. Attempt to identify what is unique to the Gorge and reflect it in the sign program.

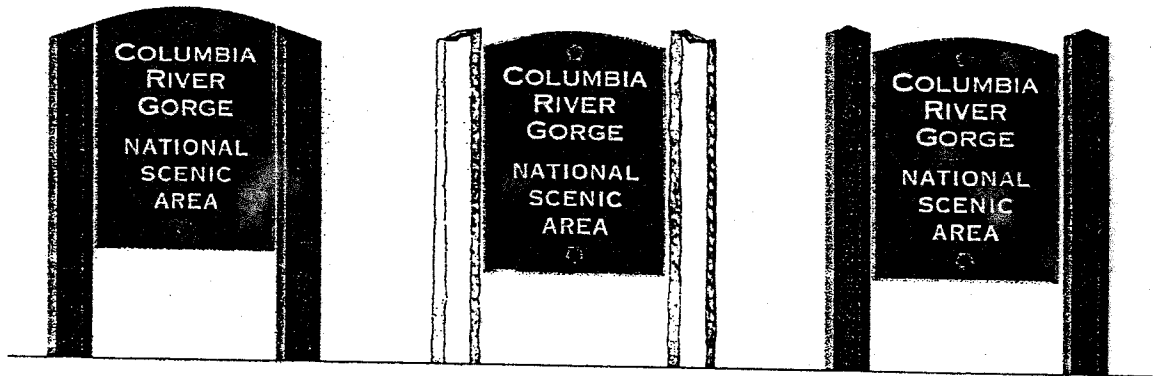
Following the preliminary design review two different design concepts were developed for presentation to the sign committee. Concept 1 built on the form of columnar basalt for the upright or structure, and an arched panel reflective of common shape of bridge rails and other structural forms. The uprights were pre-cast cast concrete with the signs being thick dimensional wood panels. The committee concluded that this design plan was the most appropriate to the Gorge and selected this approach for the final design.

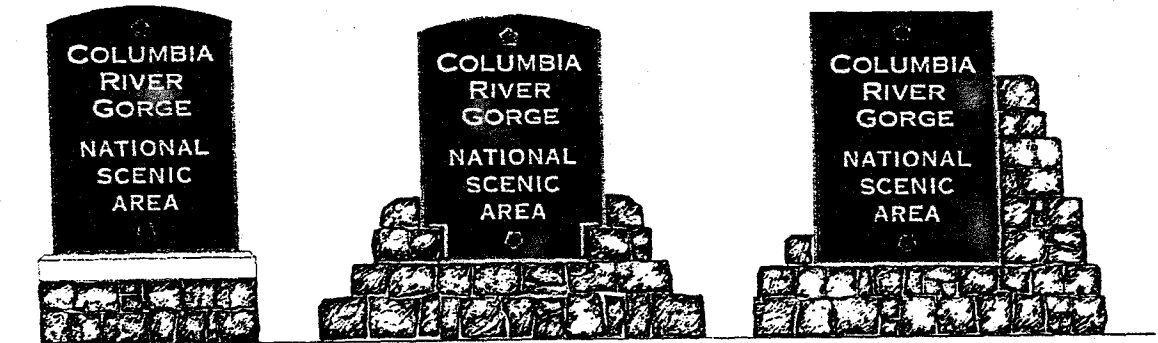
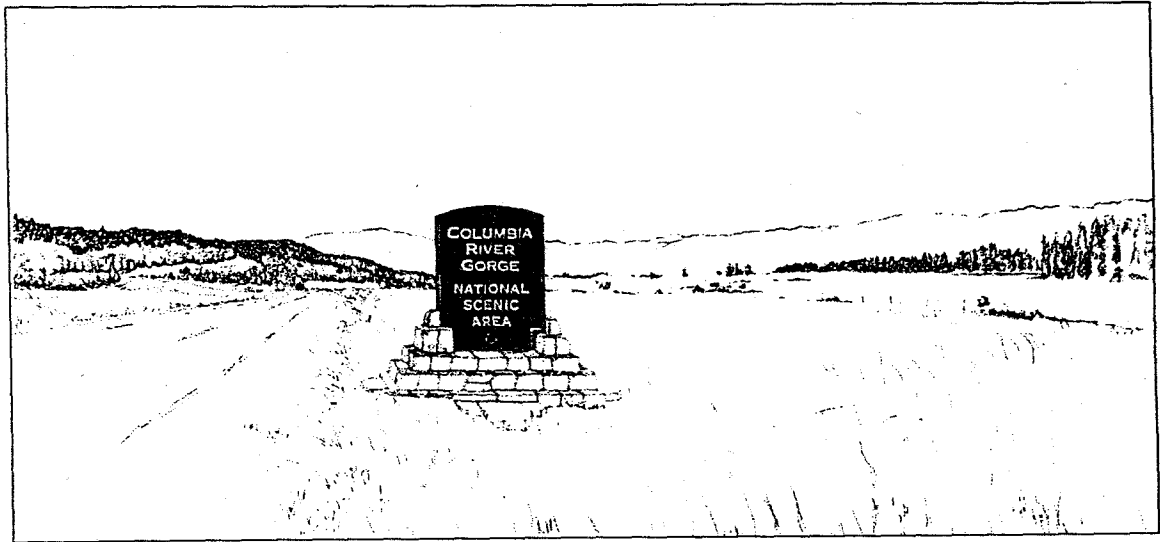
Concept 2 which is not shown in this report was built on a theme reminiscent of the Multnomah Falls lodge and other wood buildings, trail bridges and structures from the 1930's. Although highly appropriate with timber upright and fabricated sign panel frame and porcelain enamel face, the committee felt that the first scheme was more unique to the Gorge.

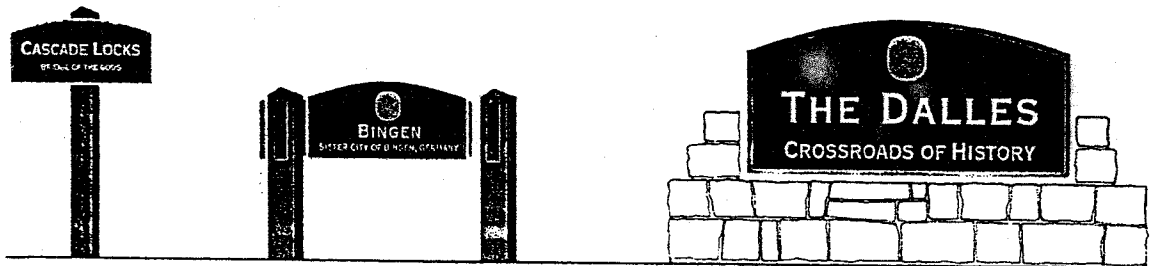
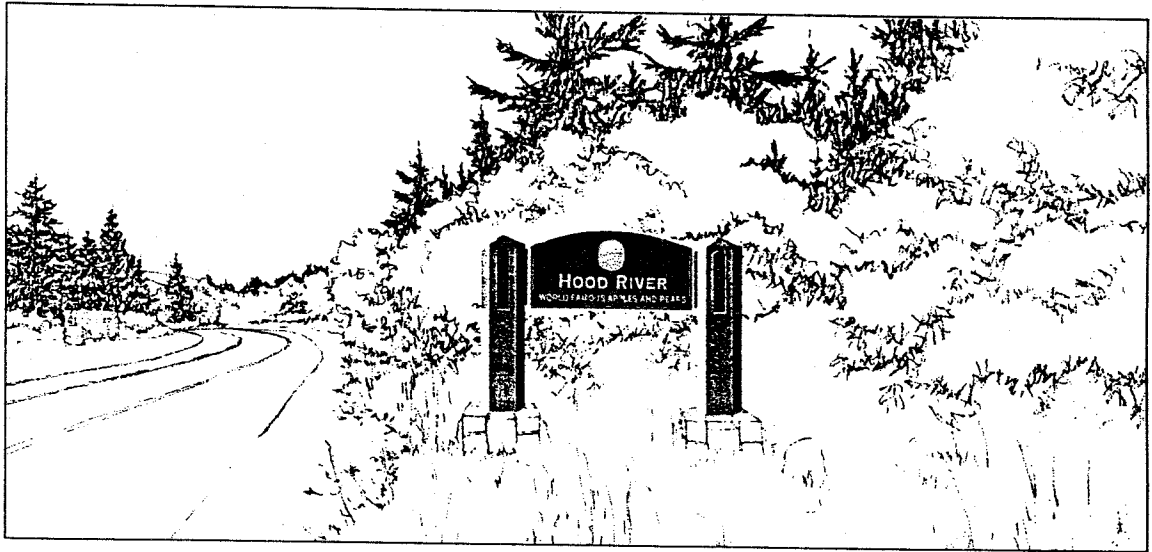
The selected system design illustrated in this report uses Copperplate Gothic typeface in small capital letter format (No.30 Bold for primary legends, and No.29 for secondary legends). Small scale signs (less than 5" primary legend) will have porcelain enamel panel inserts. Larger sign panels will be routed directly into the sign panel with white filled retro-reflective legends. The sign panels are a deeply saturated color (stain) with a two color stained border. The scheme is built on a flexible graphic format, was scaled to the varying road sections where they would be placed, and allows for variation in color depending on placement location and function. The sign

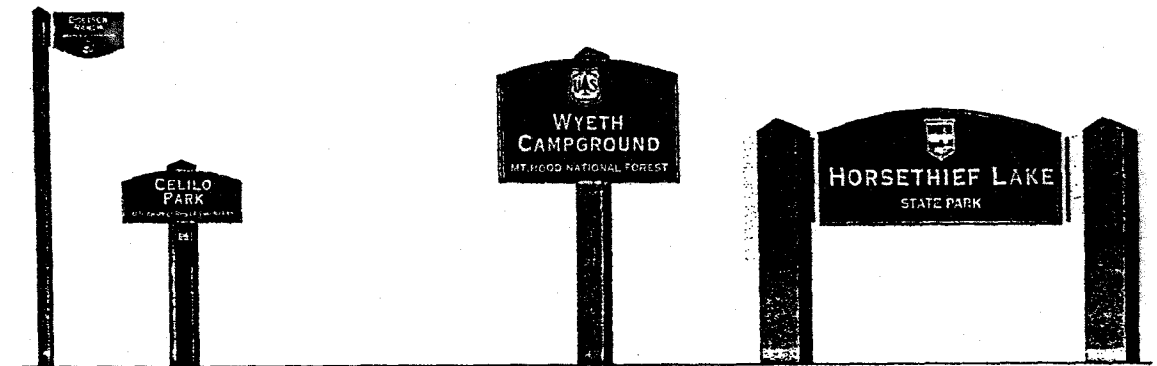
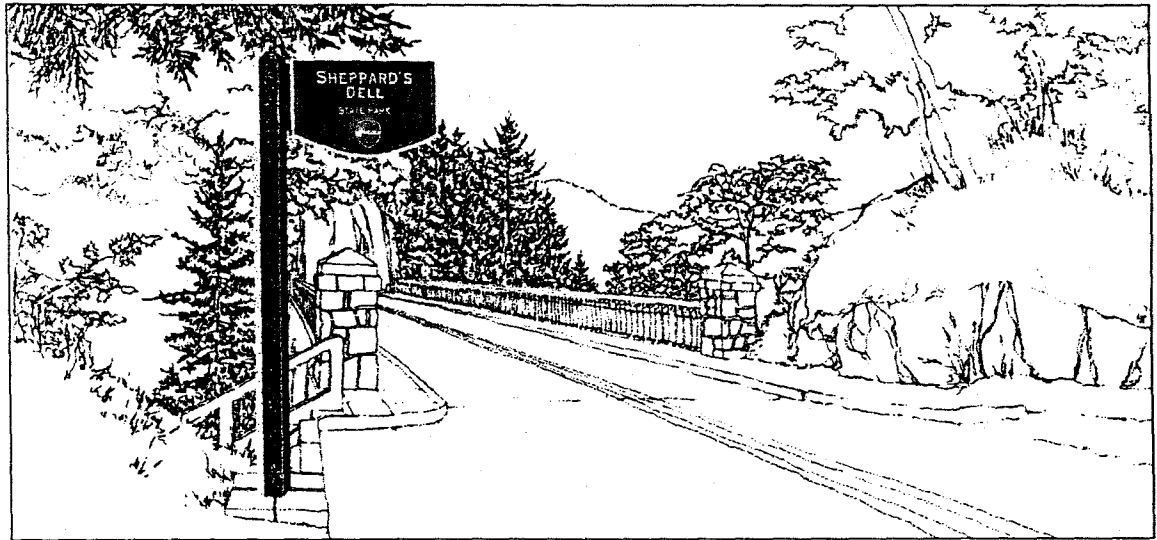
panel format is based on a common grid with actual panel size determined from each specific legend size. As desired, porcelain enamel agency logos or other medallions can be inserted in the panel as shown in the attached illustrations. Illustrations of the selected final design concept (listed below) are shown on the following pages.

- National Scenic Area Entrance, Identification Signs with Stone and Pre-cast Concrete Uprights.
- National Scenic Area Entrance, Identification Signs with Stone Bases.
- Identification Sign, Urban and Rural Centers.
- Identification Sign, Public and Non-profit Sites.
- Identification Sign, Natural and Cultural Features (lakes, views, historic sites, trails).
- Directional Signs, Attraction.
- Directional Signs, Finger Board.
- Directional Signs, Freeway.
- Scenic and Tour Route Marker.
- Route Markers for the Historic Columbia River Highway and the Lewis & Clark Trail Highway.
- Schematic Details, Sign Structure and Materials.



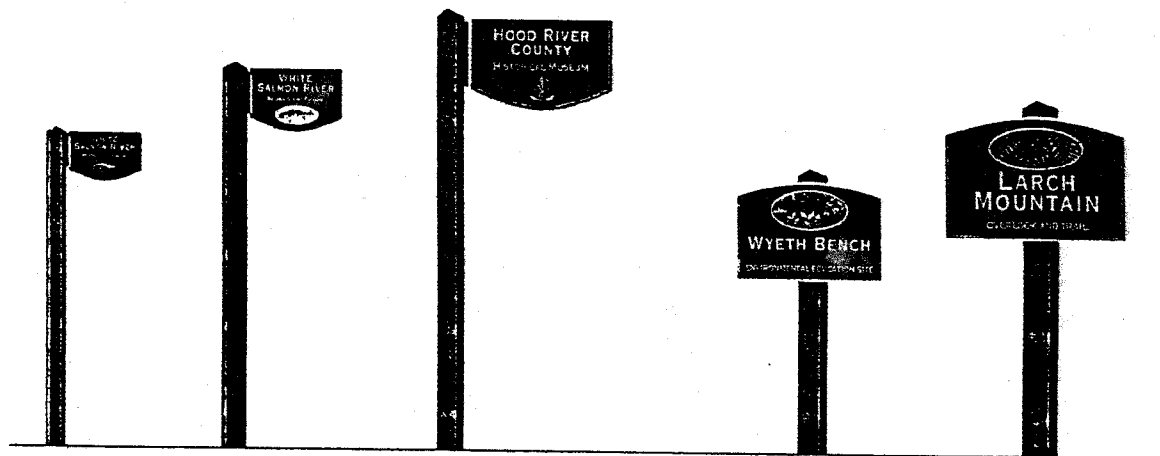
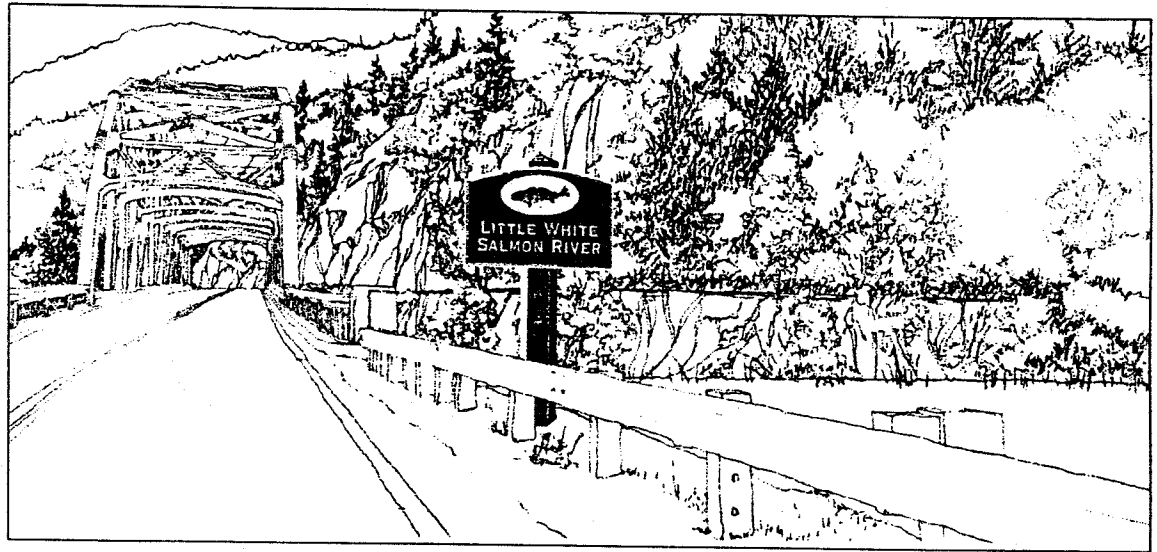


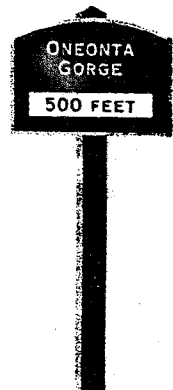
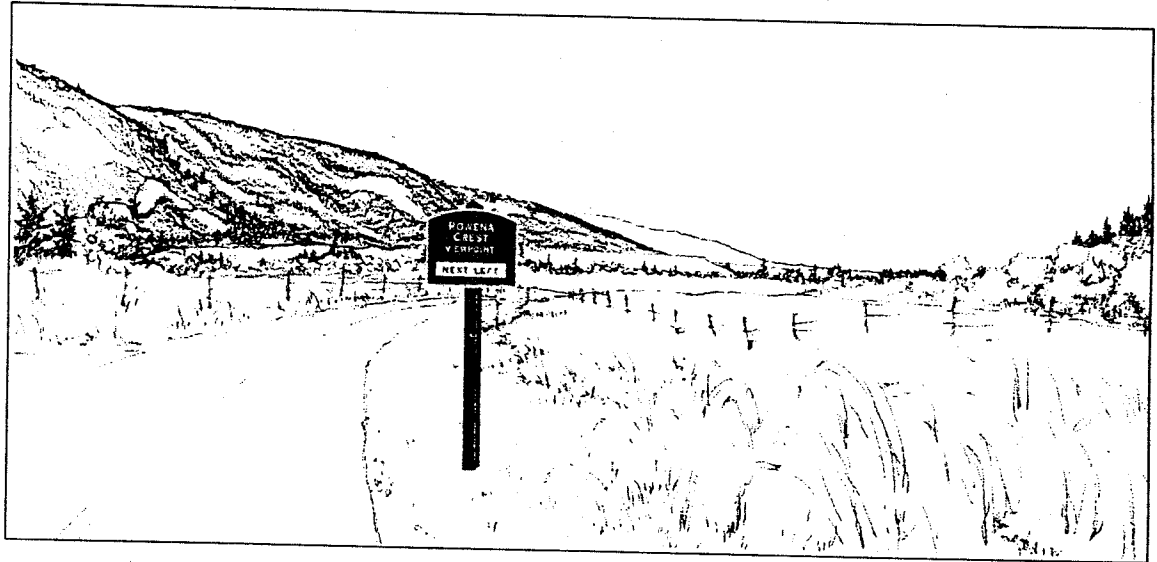


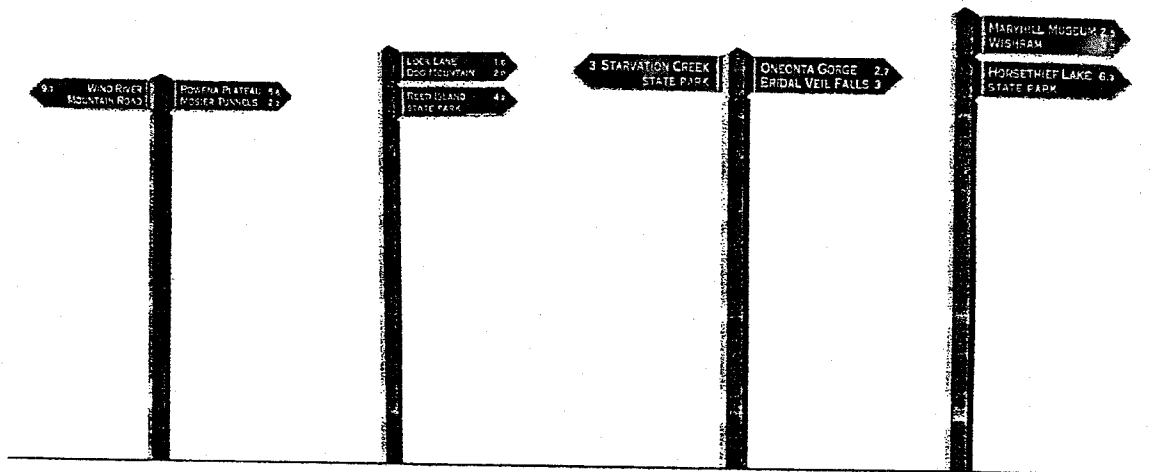
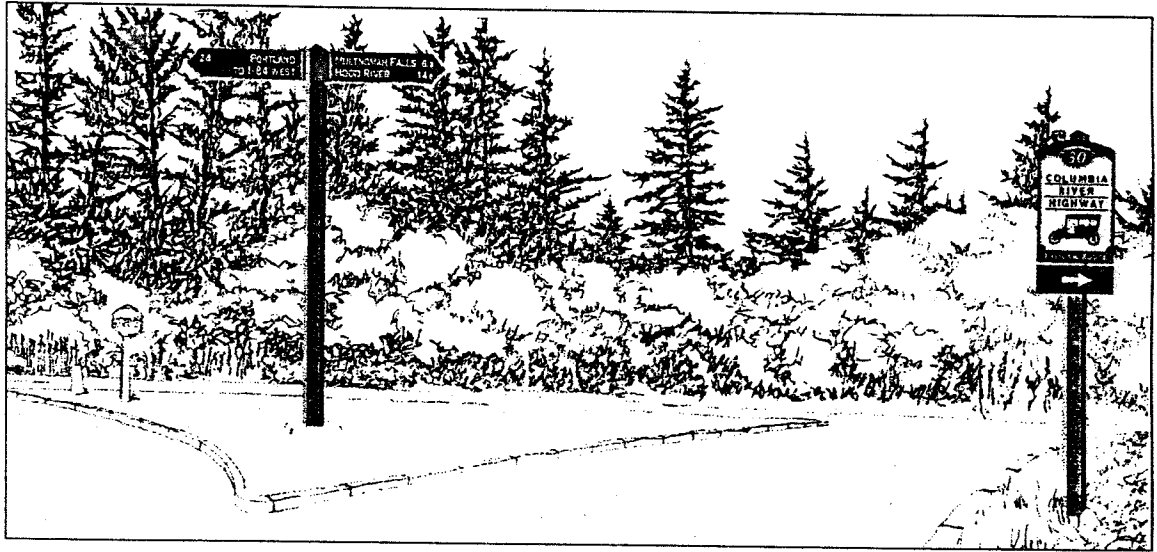


Identification Signs for Natural and Cultural Features (lakes, views, historic sites, trails)

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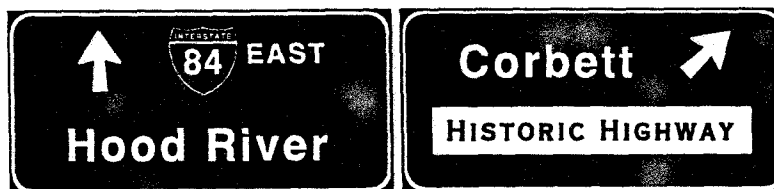
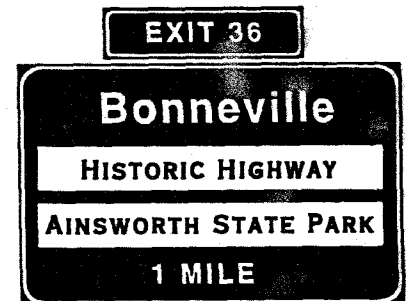
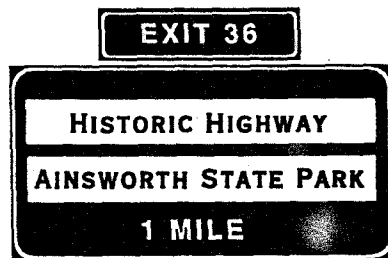
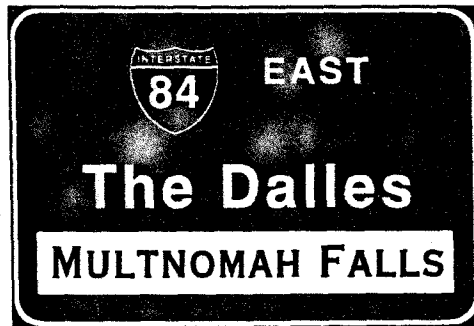


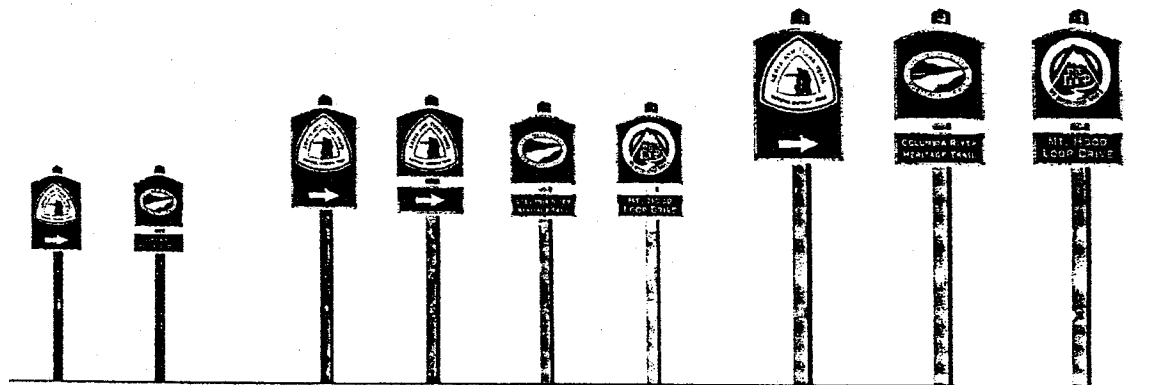
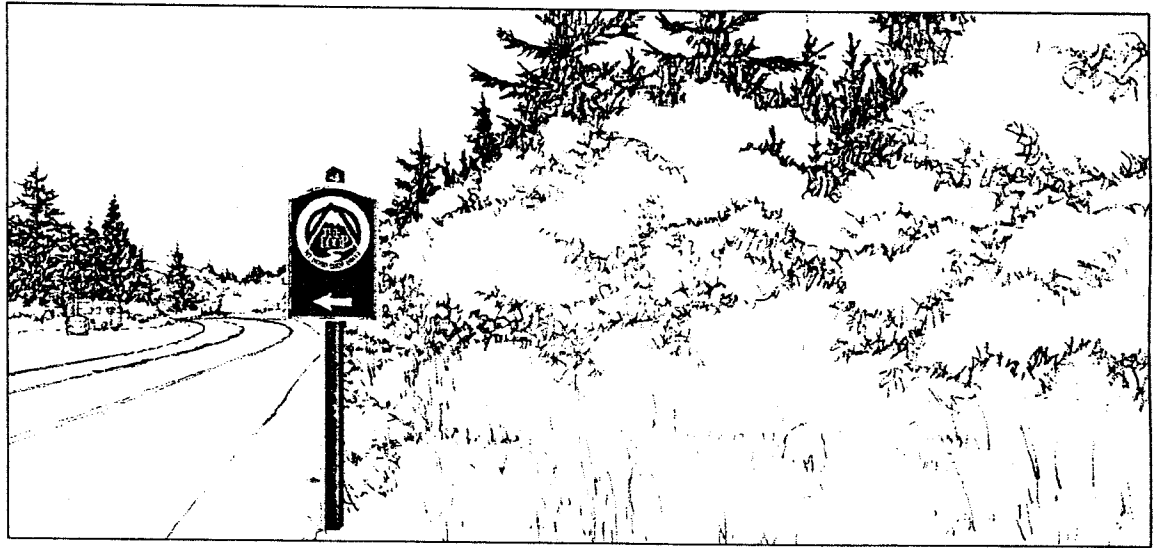


Directional Signs: Freeway

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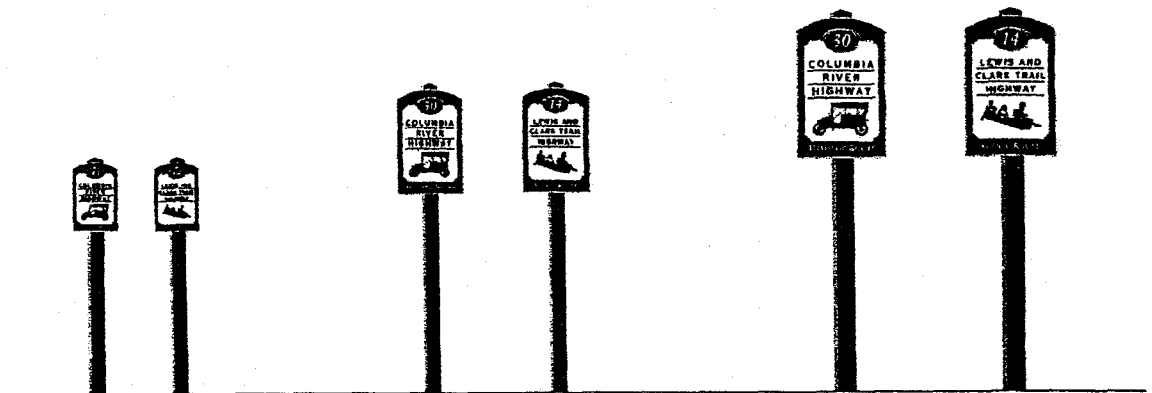
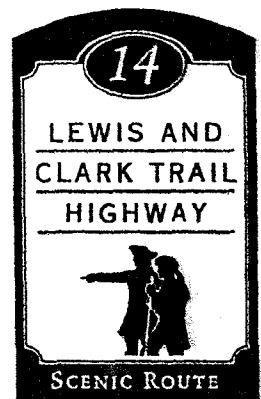
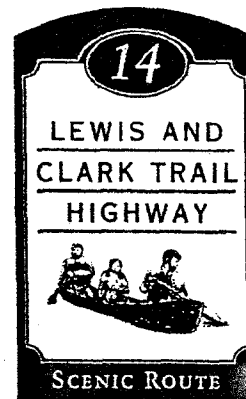
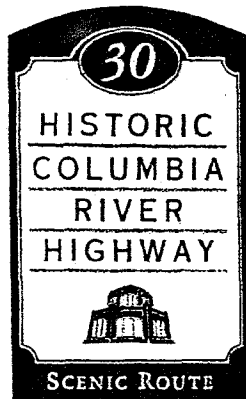
(Schematic concept using same typeface used on NSA signs)





Route Markers for Historic Columbia River Highway and the Lewis and Clark Trail Highway

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The selection of sign materials becomes an integral element in the design plan. The material selection defines the form and look of the installation as well as the cost, maintenance requirements, and how the sign will age over time. It was determined that the signs must use materials that are strong, indigenous and follow a tradition in the Gorge. These materials must also be of a type that can be assembled in a variety of ways and can be formed, shaped, and crafted as designed architectural elements. Finally, they must have mass, scale and texture that integrates with the massiveness and shape of the Gorge.

Specific to signs, the selected materials of the sign face panel is timber (clear heart redwood or western red cedar) with routed legends. The wood faces would be stained to build on the color concepts developed. Small sign panels may have inset porcelain panels inset into the wood, and the small guide signs would use aluminum inserts with retro-reflective faces.

For most signs the structure builds off of a precast concrete upright, and where a frangible base is required the sign post is a timber post. Alternate mountings for some place and entry identification signs may also incorporate stone.

The precast concrete is stained integral to the mixture. Treated timber sign posts are field stained 12 months after installation because normal treated wood will not initially accept stain.

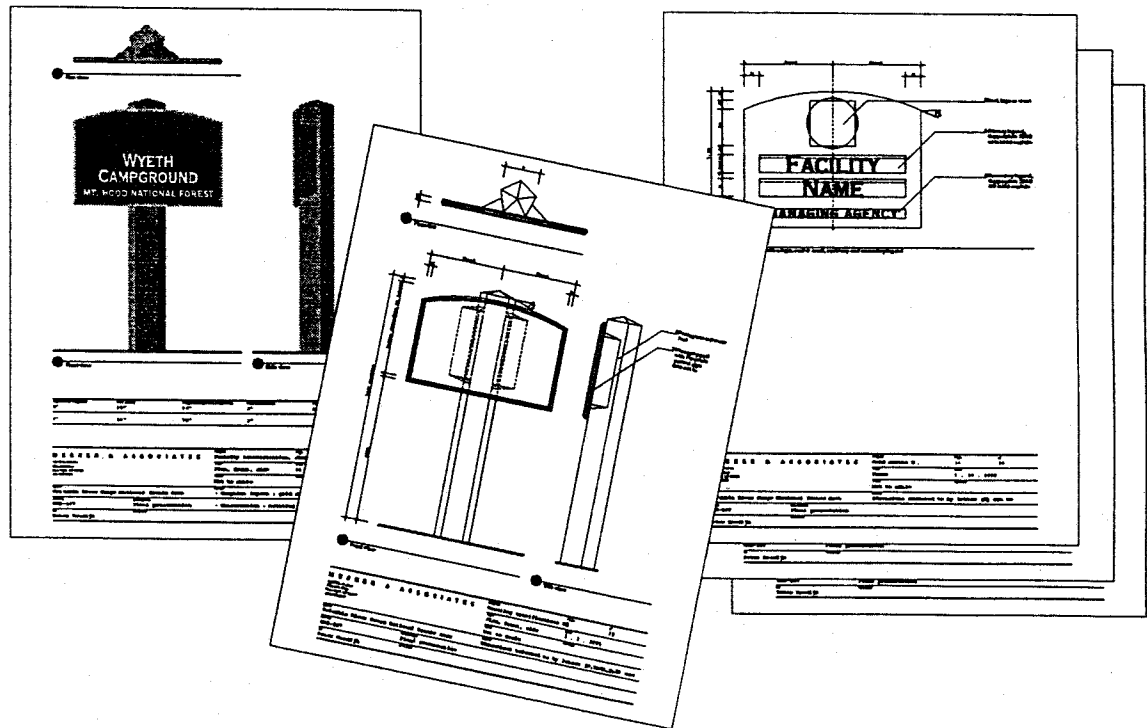
All hardware and mounting connections are to be concealed to reduce vulnerability to vandalism. The table below identifies the material options recommended by type of sign.

The entire system is built around a simple, finite palette of materials that are not proprietary and are easily available for procurement. They have a long life cycle if properly fabricated and maintained, and are very cost efficient. Note however that these materials must be formed and fabricated by craftsmen who can create the quality that is envisioned.

Sign Materials and Structures

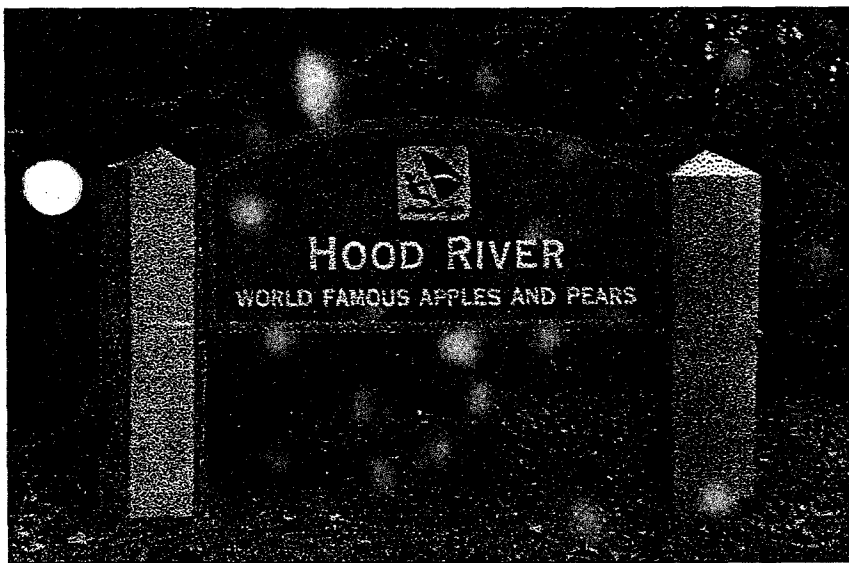
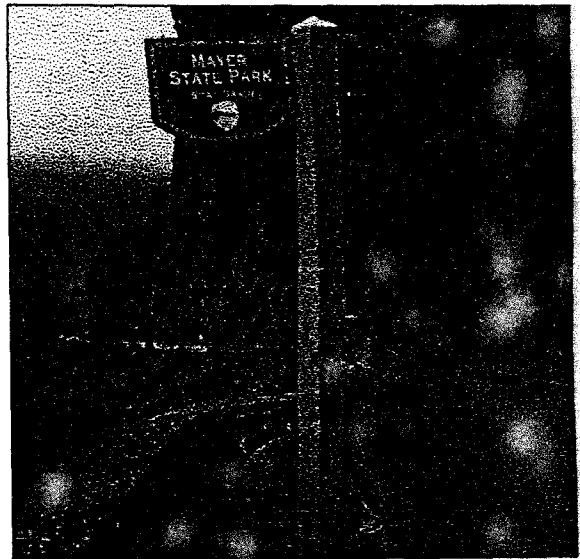
	Panels	Graphics	Uprights	Bases	Hardware
<i>Identification</i>	Wood	Routed	Precast	Concrete/stone	Concealed SS
	Wood	Porcelain	Precast	Concrete/stone	Concealed SS
<i>Entry: NSA</i>	Wood	Routed	Precast	Concrete/stone	Concealed SS
<i>Cities</i>	Wood	Routed	Precast	Concrete/stone	Concealed SS
<i>C Advance</i>	Wood	Aluminum/RR	Timber	Concrete	Concealed SS
<i>Finger</i>	Wood	Aluminum/RR	Timber	Concrete	Concealed SS
<i>Highway</i>	Aluminum	Retro-reflective	Fab. Metal	Concrete	Misc
<i>Medallions/Route</i>	Wood	Aluminum/RR	Timber	Concrete	SS/Galv.

As part of the final design process, sizes of the various sign types were refined to identify common elements that will allow for more systematic implementation. These designs for the structure as well as the graphic format for sign panel layout were documented in a schematic detail package in which basic sizes and materials are identified.

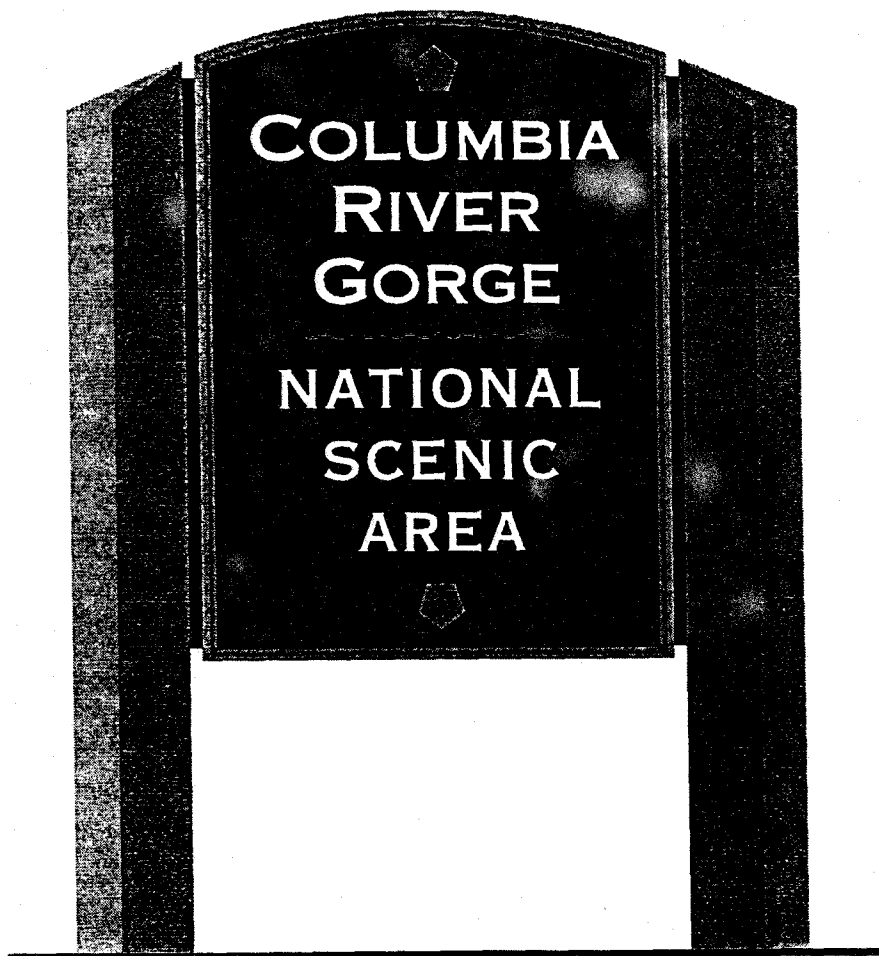
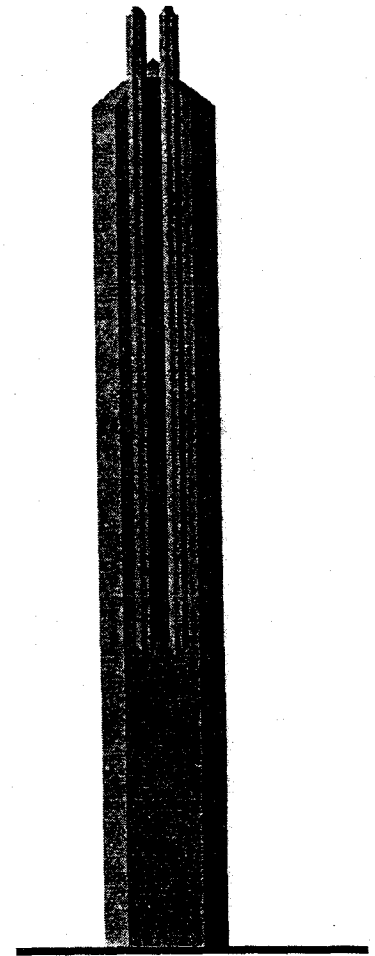


To validate the recommended sizes of sign panel and relationship of sign panel to dimension of upright, four full size sign assemblies were prepared and placed at a variety of sites within the Scenic Area. The process validated the designers assumptions with minor size adjustments needed for the smaller sign panels.

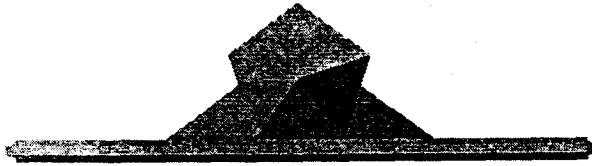
A second part of the process was to validate the recommendations for color. The panels were prepared using a family of colors that will be effective throughout the various climatic zones in the scenic area as well as in the various seasons of the year.



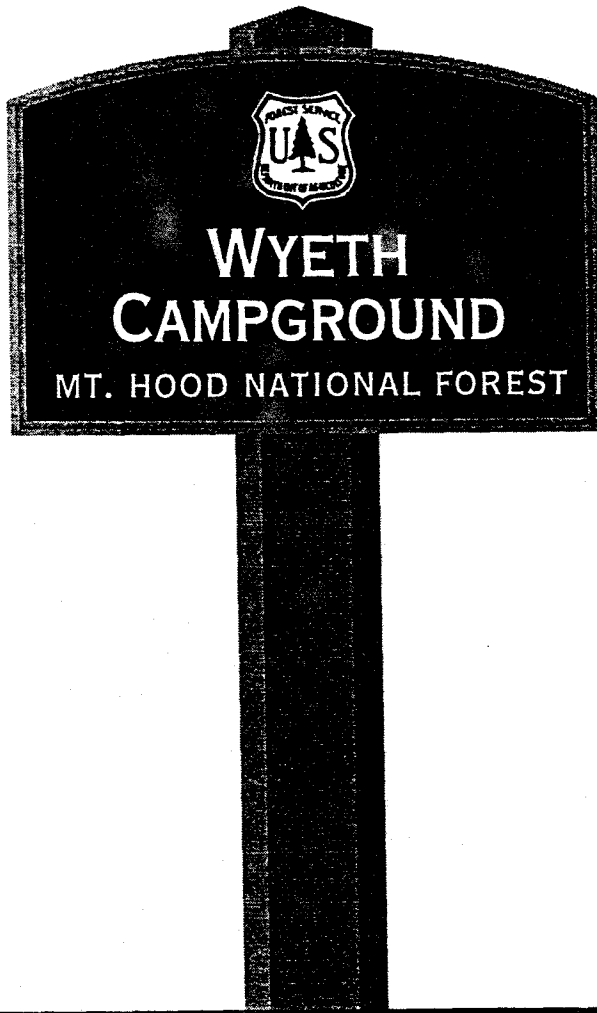
Sign Type	Mounting	Legend and series	Capital letter height	Panel size
Main identification	M1; Double post	A	6"	
			8"	
			12"	
Facility identification	M2; Single post	B	5"	
			6"	
	M3; Double post	B	8"	
	M4; Flag	C	3"	
			5"	
Feature identification	M2; Single post	B	5"	
			6"	
	M4; Flag	C		
			3"	
			5"	
Urban area entry	M2; Single post	B	5" or 6"	
	M3; Double post	B	6"	
			8"	
	Custom	B	> 8"	
Route marker	M6; Single post	E		18"
				24"
				32"
Scenic highway marker	M6; Single post	F		18"
				24"
				32"
Advance directional	M6; Single post	D	4"	
			5"	
Finger directional	M7; Finger post	G	3"	
			4"	
Freeway directional	na	na	na	

**1** Plan view**2** Front view**3** Side view

Capital letter height (H)	Post size (P)	Height above ground level (HAGL)	Panel thickness (T)	Panel border (B)
6"	14"	36"	3"	3"
8"	24"	54"	3"	4"
12"	30"	72"	4"	6"



1 Plan view



2 Front view

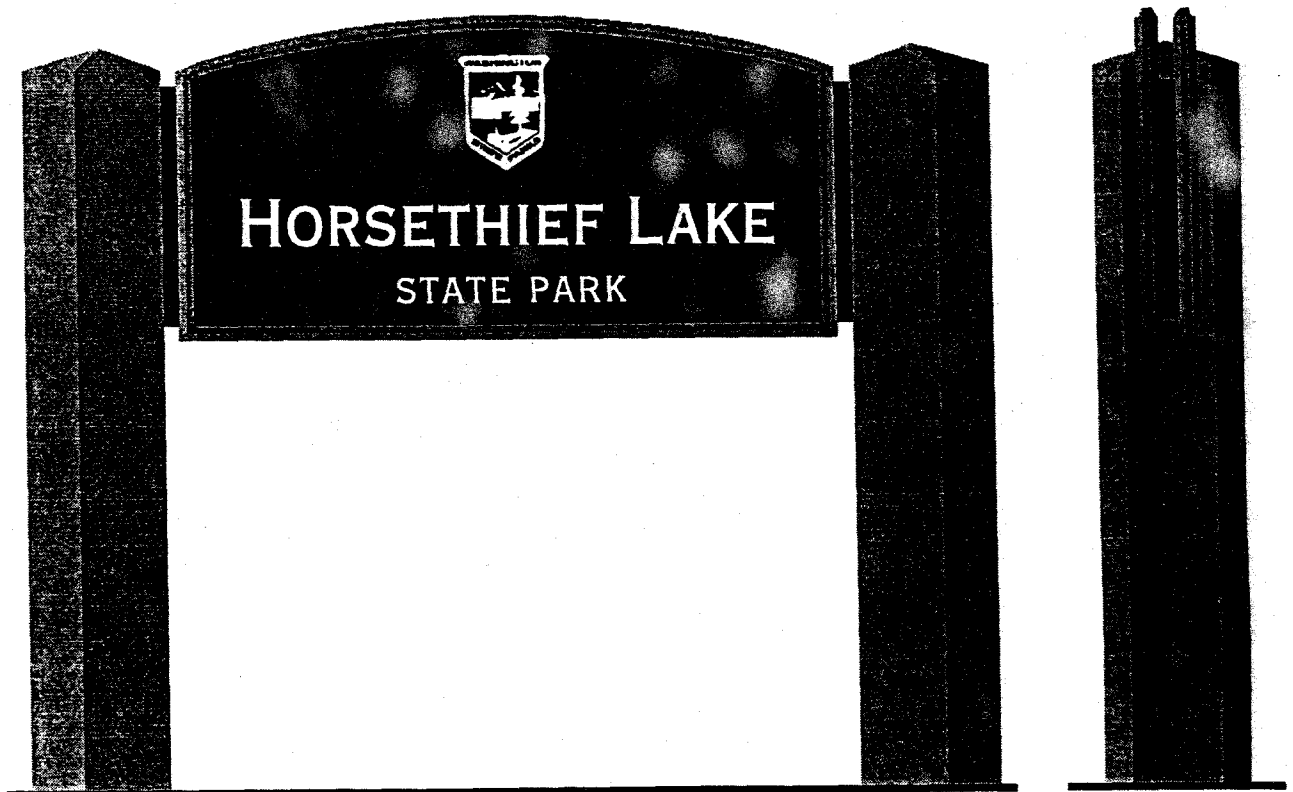


3 Side view

Capital letter height (H)	Post size (P)	Height above ground level (HAGL)	Panel thickness (T)	Panel border (B)
5"	14"	72"	3"	2"
6"	18"	84"	3"	3"



1 Plan view

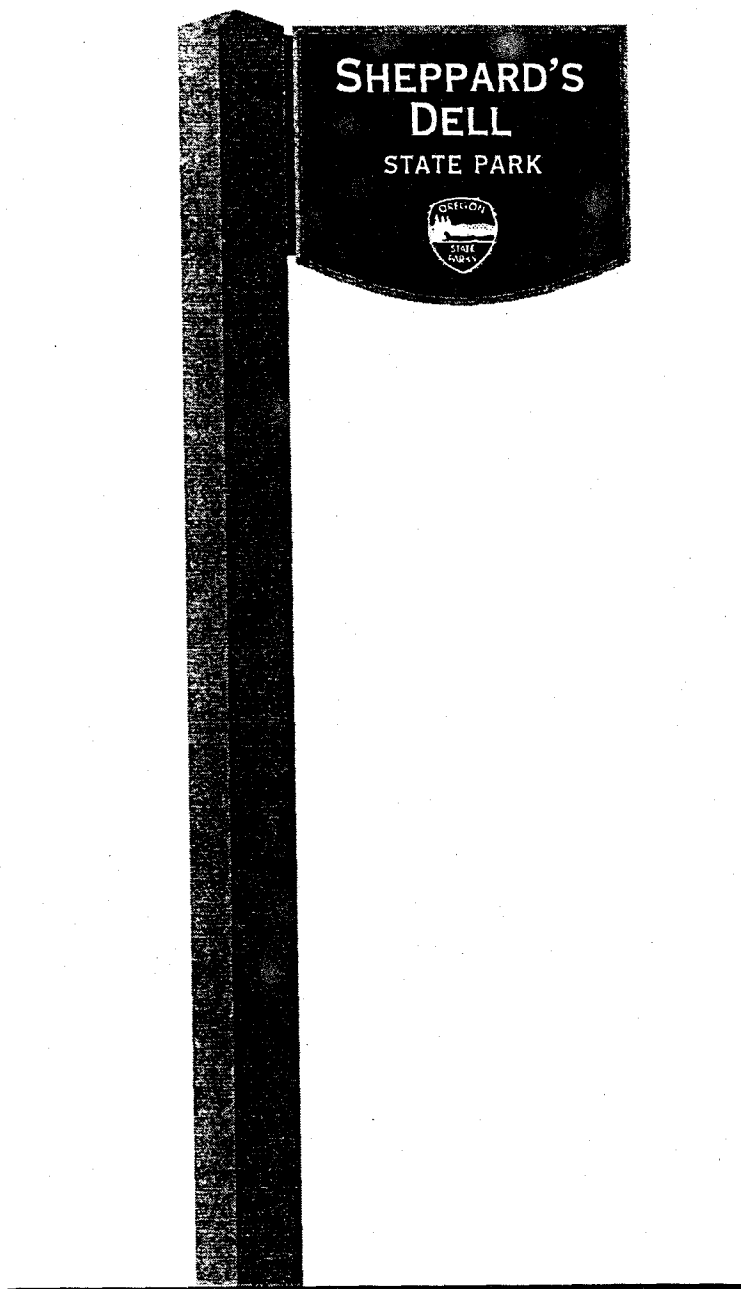


2 Front view

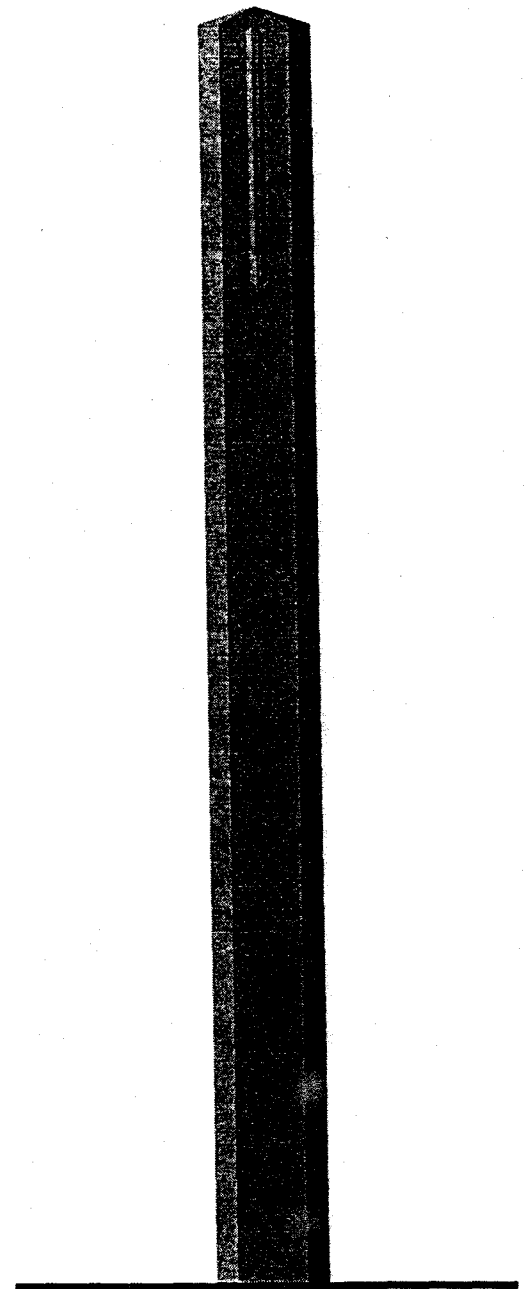
3 Side view

Capital letter height (H)	Post size (P)	Height above ground level (HAGL)	Panel thickness (T)	Panel border (B)
8"	26"	48"*	2-3"	4"

*Specify relative to grade on a site-by-site basis.

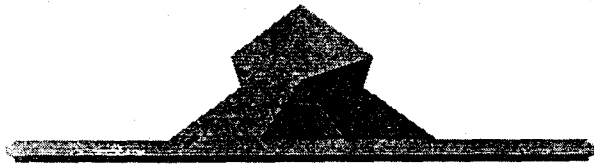


1 Front view

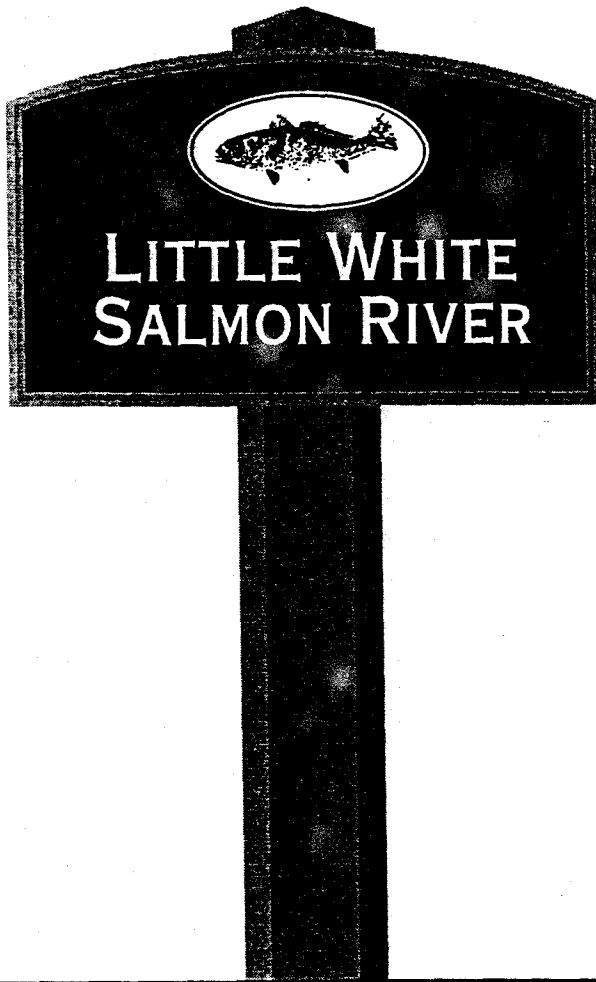


2 Side view

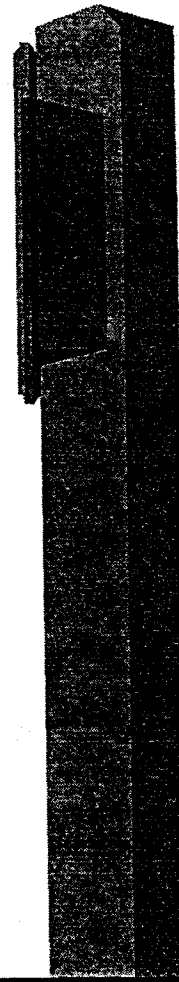
Capital letter height (H)	Post size (P)	Height above ground level (HAGL)	Panel thickness (T)	Panel border (B)
3"	8.4"	108"	3"	1"
5"	14"	132"	3"	2"



1 Plan view

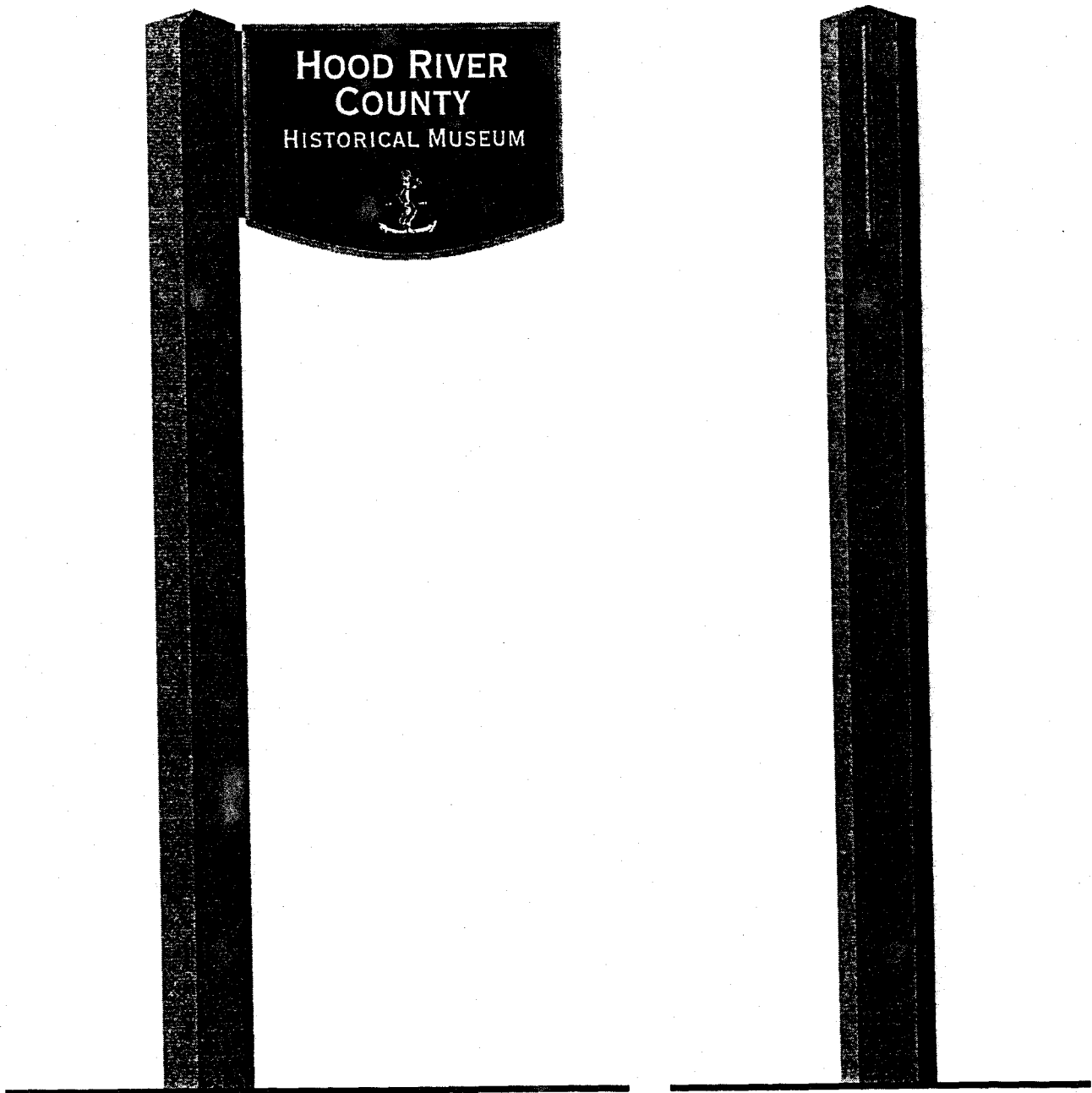


2 Front view



3 Side view

Capital letter height (H)	Post size (P)	Height above ground level (HAGL)	Panel thickness (T)	Panel border (B)
5"	15"	72"	3"	2"
6"	18"	84"	3"	3"



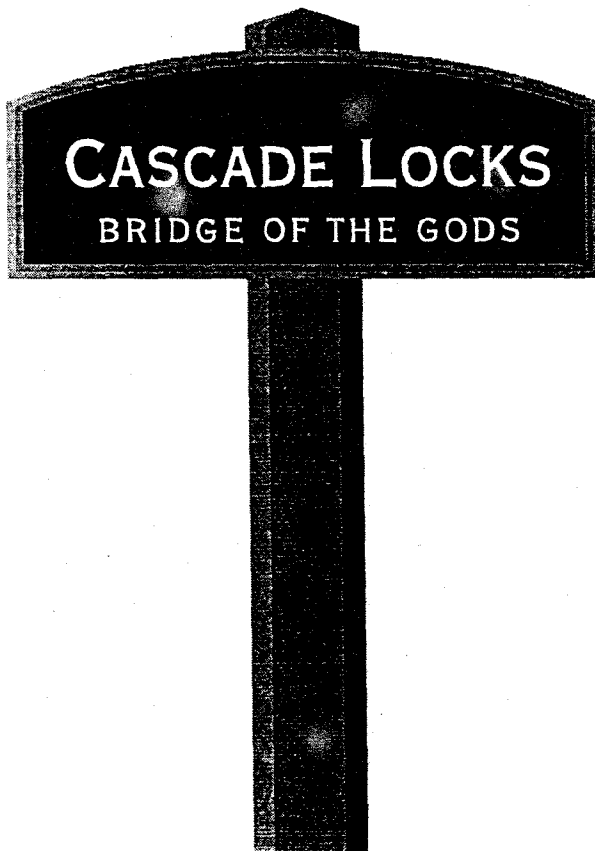
1 Front view

2 Side view

Capital letter height (H)	Post size (P)	Height above ground level (HAGL)	Panel thickness (T)	Panel border (B)
3"	8.4"	108"	3"	1"
5"	14"	132"	3"	1.5"



1 Plan view



2 Front view

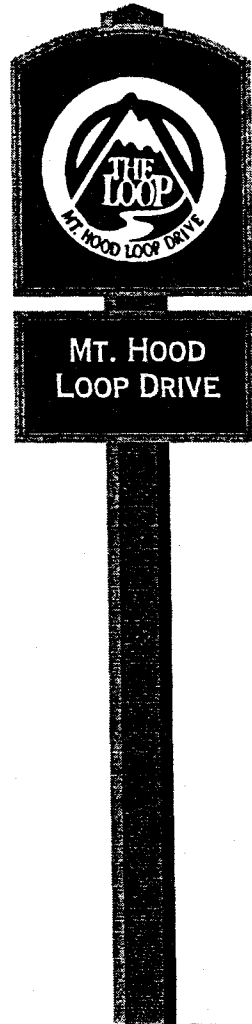


3 Side view

Capital letter height (H)	Post size (P)	Height above ground level (HAGL)	Panel thickness (T)	Panel border (B)
5"	15"	72"	3"	2"



1 Plan view



2 Front view

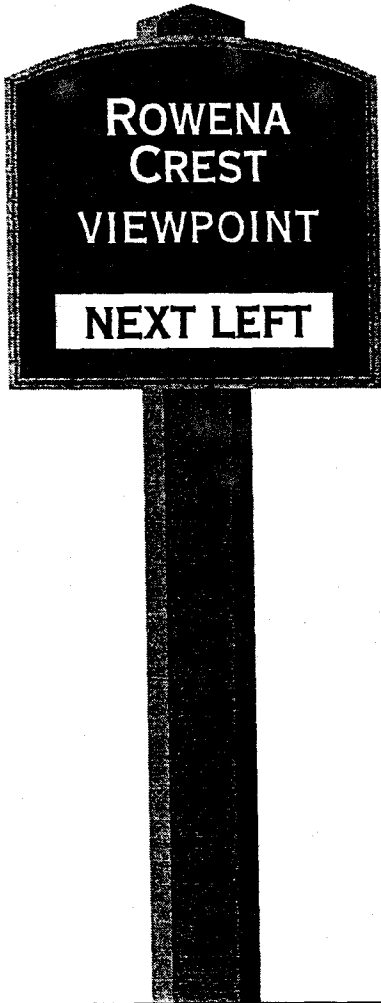


3 Side view

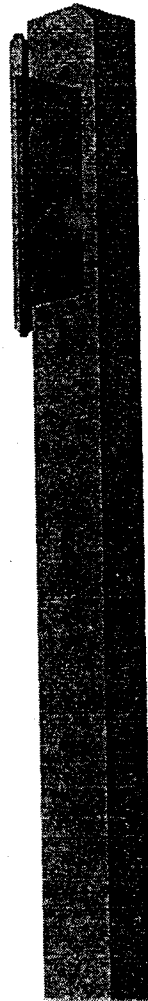
Panel size (H)	Post size (P)	Height above ground level (HAGL)	Panel thickness (T)	Panel border (B)
18"	5"	72"	1"	1"
24"	7"	72"	2"	1.5"
30"	9"	84"	2"	2"



1 Plan view

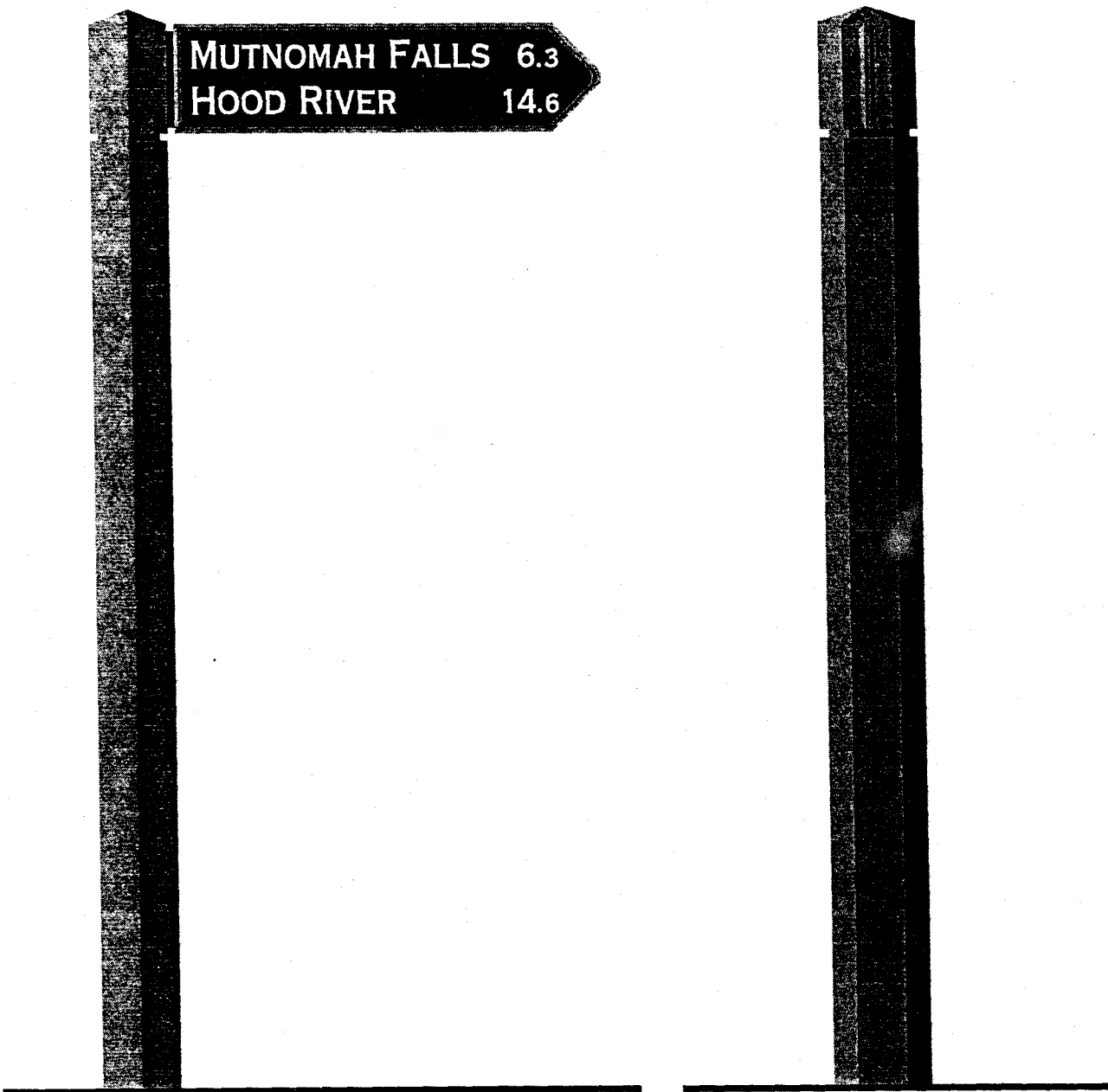


2 Front view



3 Side view

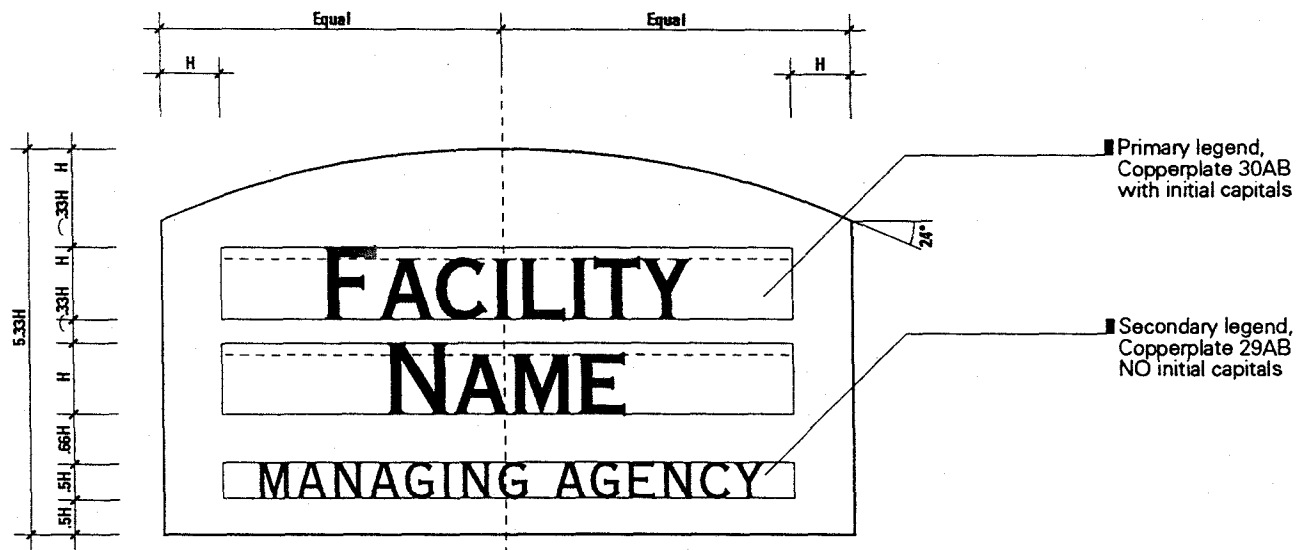
Capital letter height (H)	Post size (P)	Height above ground level (HAGL)	Panel thickness (T)	Panel border (B)
4"	12"	84"	2"	2"
5"	12"	84"	2"	2.5"



2 Front view

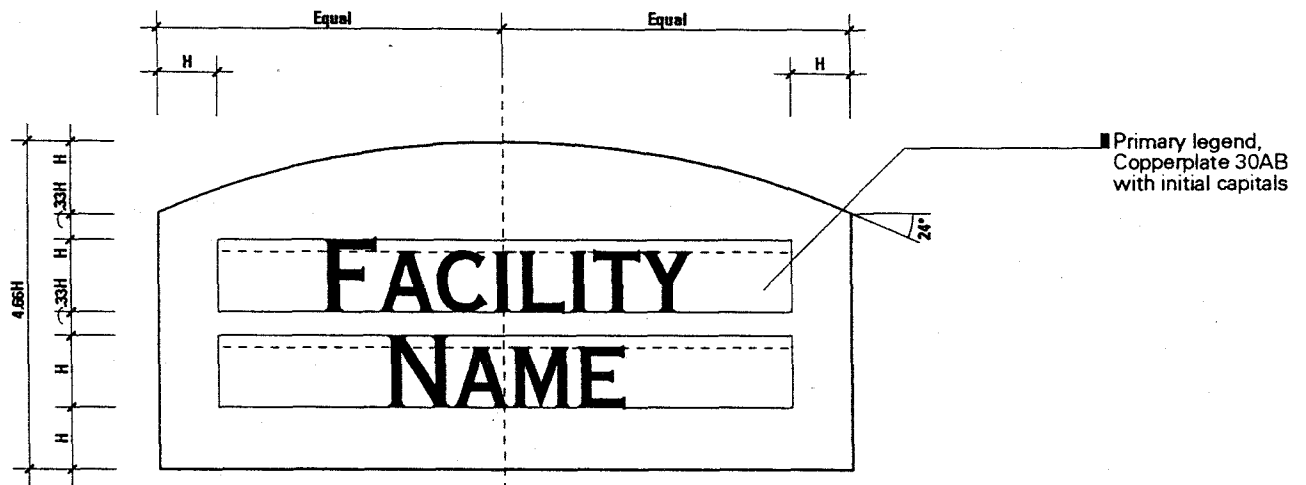
3 Side view

Capital letter height (H)	Post size (P)	Height above ground level (HAGL)	Panel thickness (T)	Panel border (B)	Panel length (L)
3"	9"	11' - 3"	2"	2"	39"
4"	12"	12' - 0"	3"	3"	48"



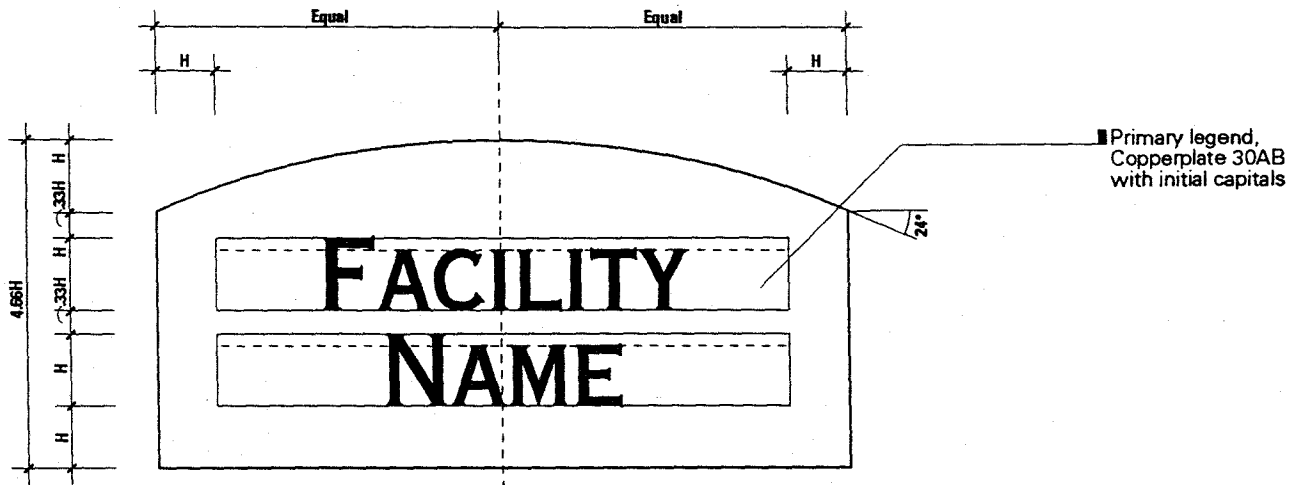
B3

Identification grid with primary and secondary legend



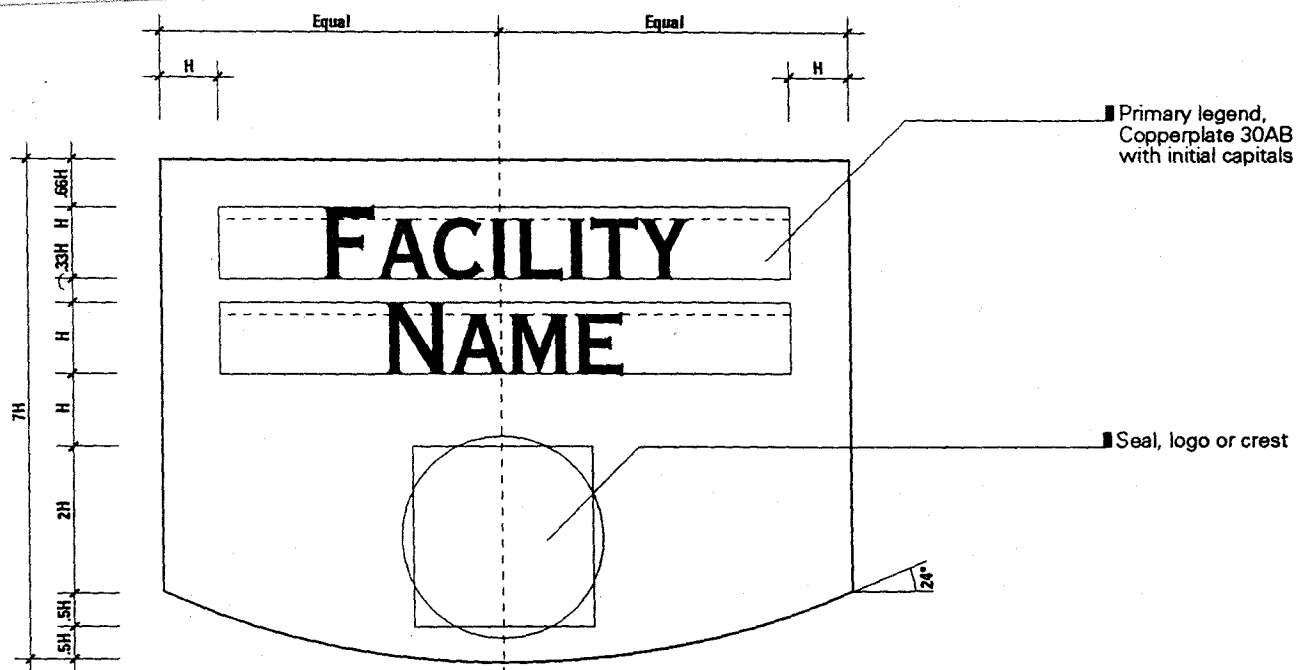
B4

Identification grid with primary legend



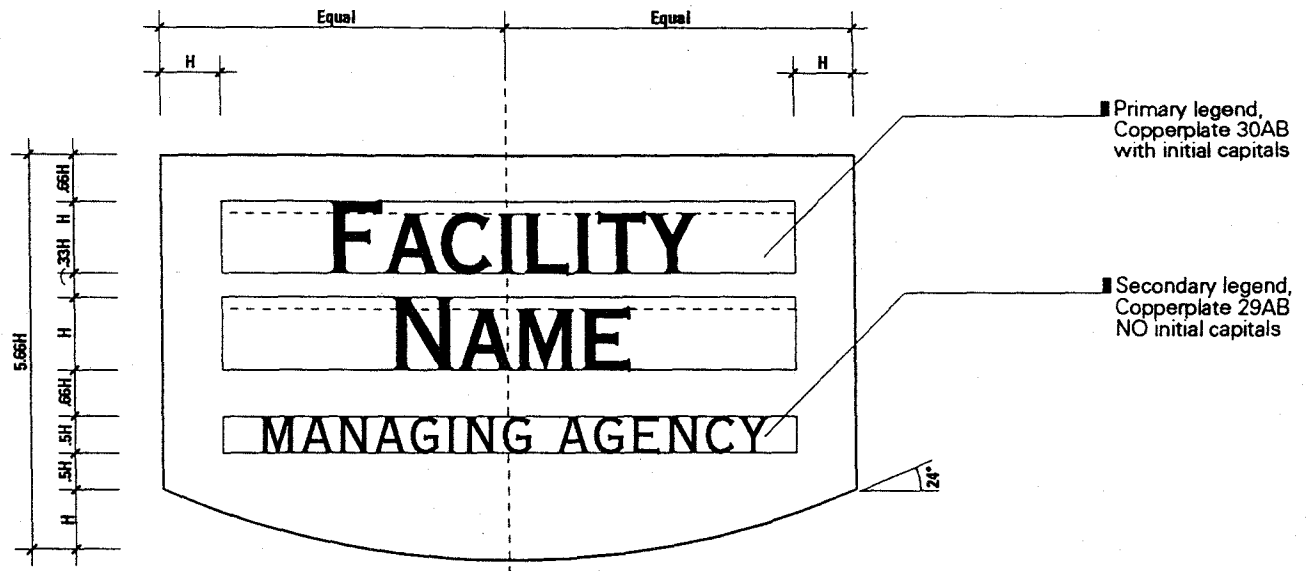
B4

Identification grid with primary legend



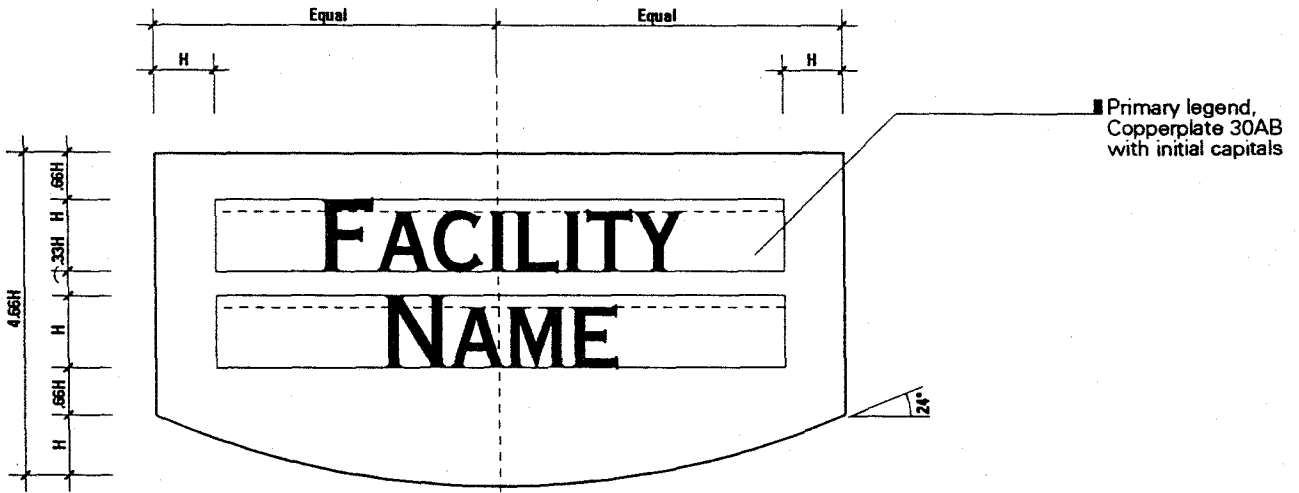
C2

Identification grid with a logo, seal or crest, and primary legend

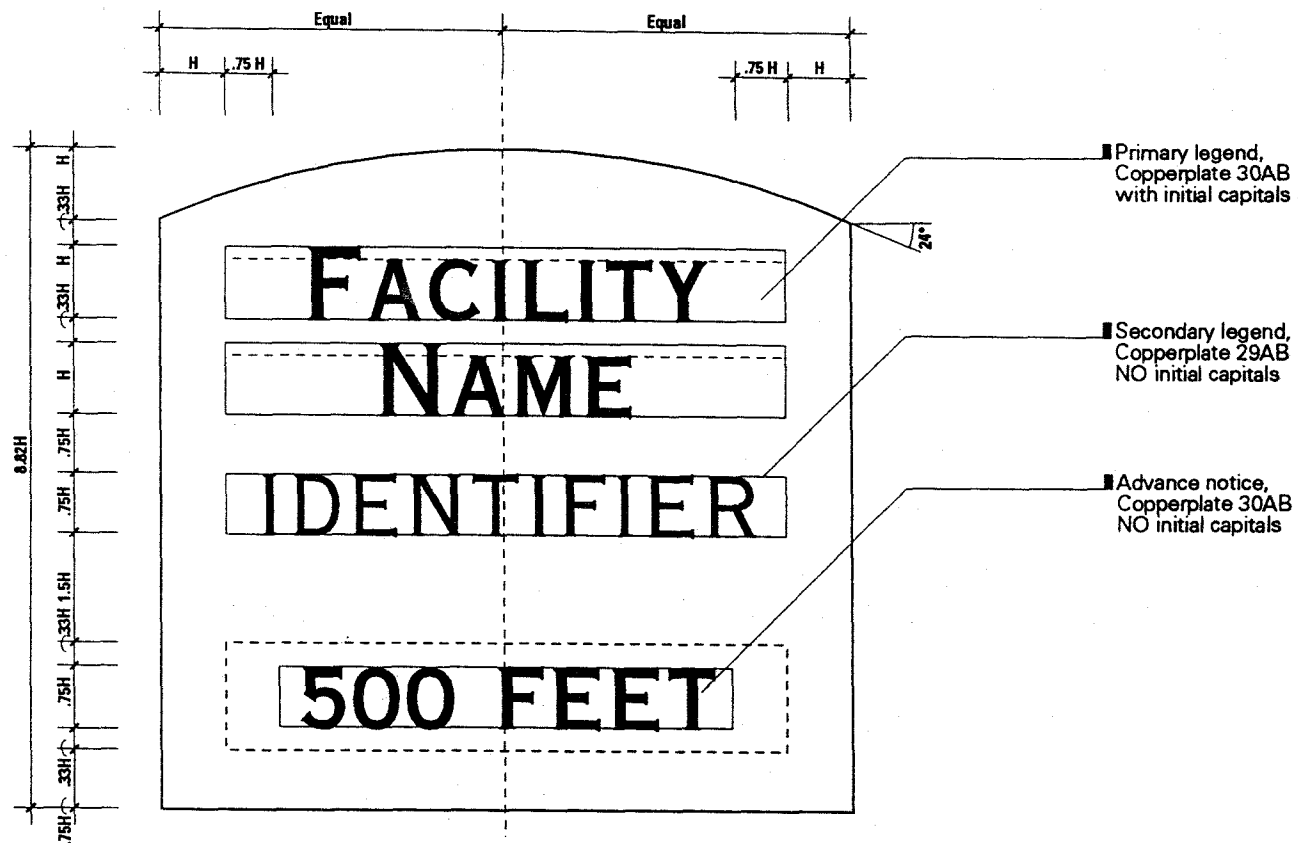


C3

Facility identification grid with primary and secondary legend

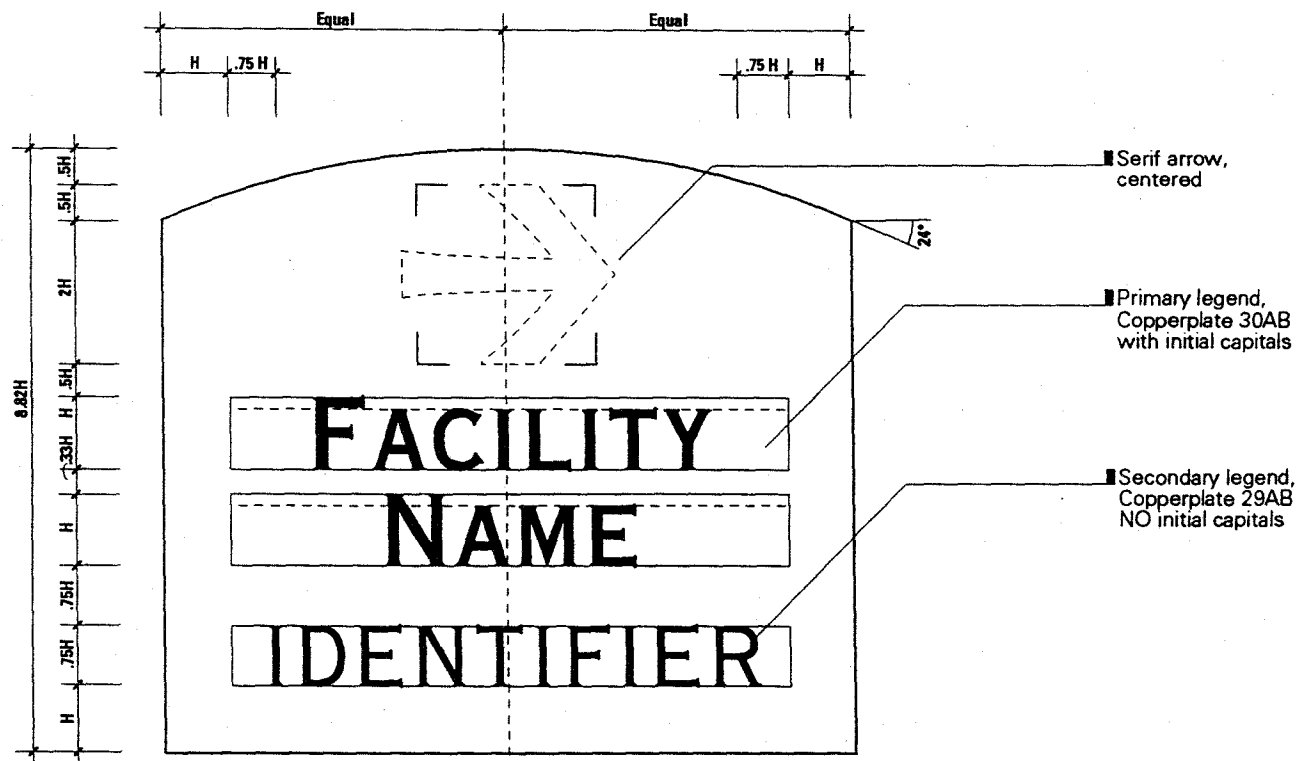


C4 Facility identification grid with primary legend



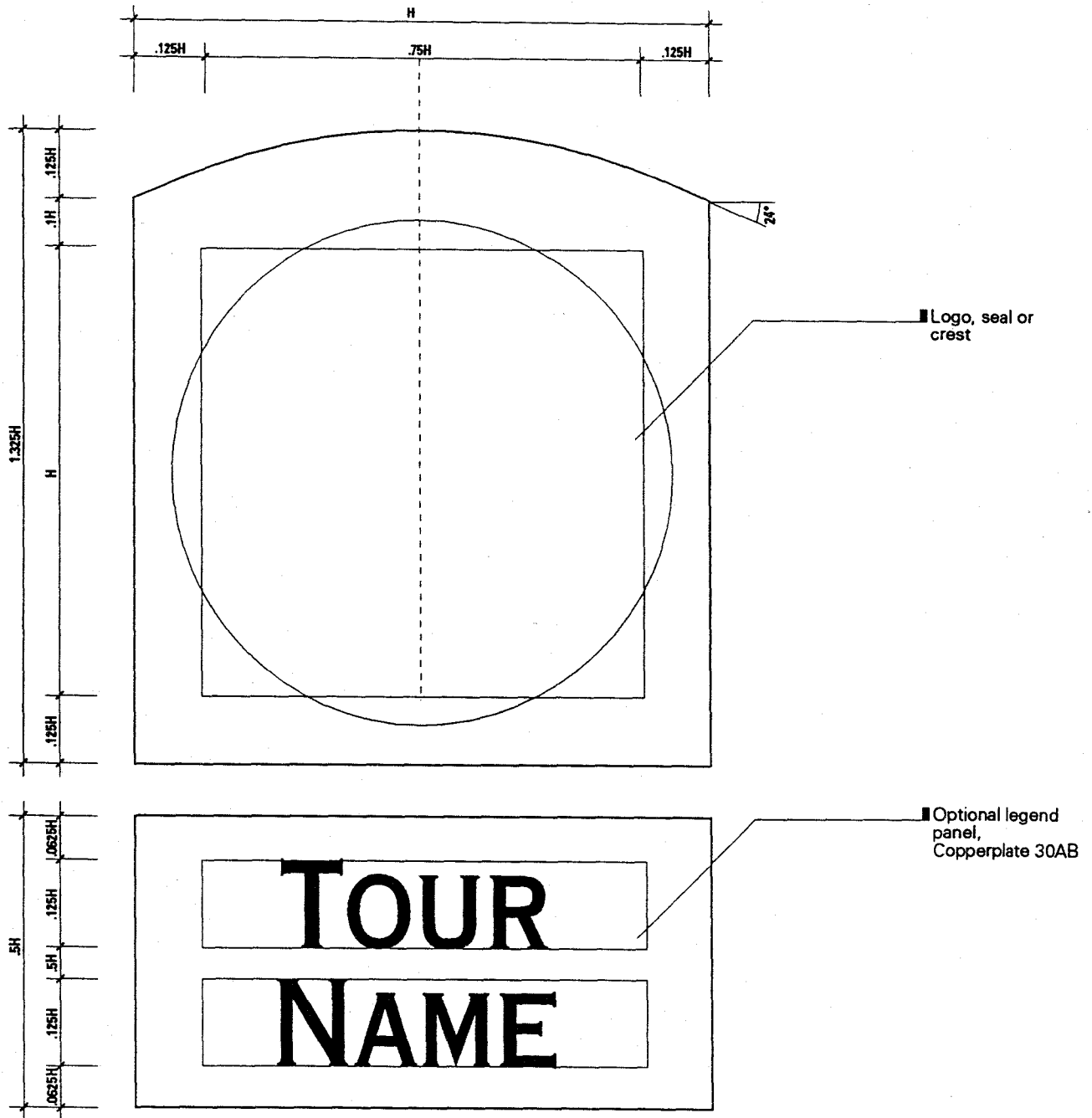
D1

Advance directional with primary and secondary legend, and advance notice



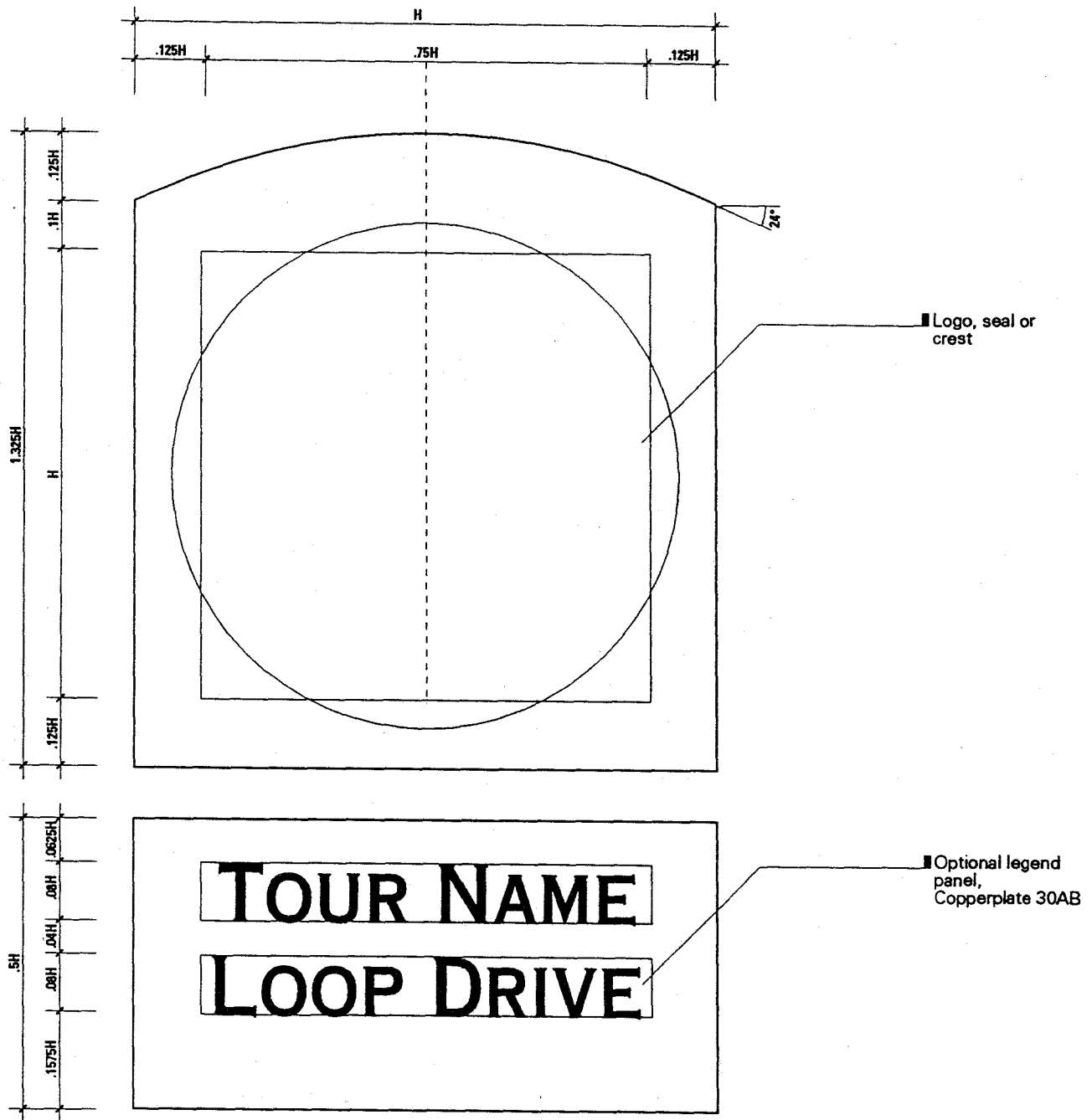
D2

Advance directional with primary and secondary legend, and arrow



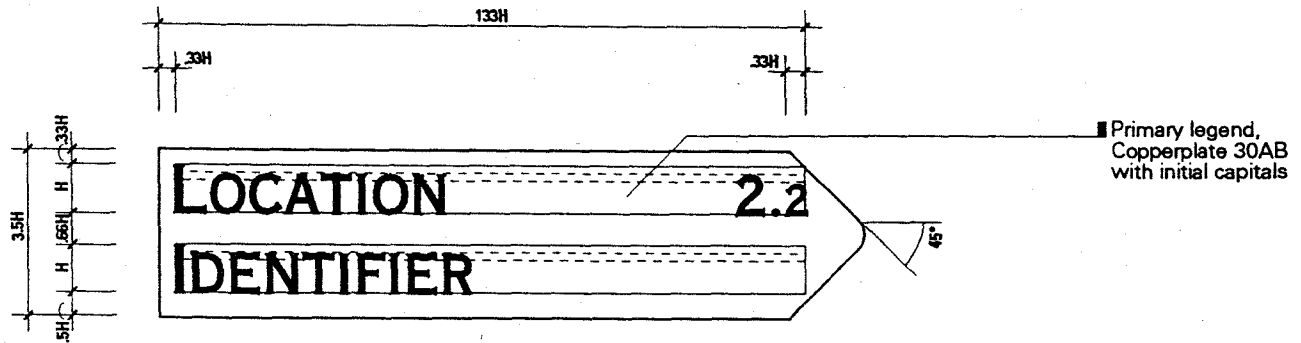
E1

Route marker with optional legend panel



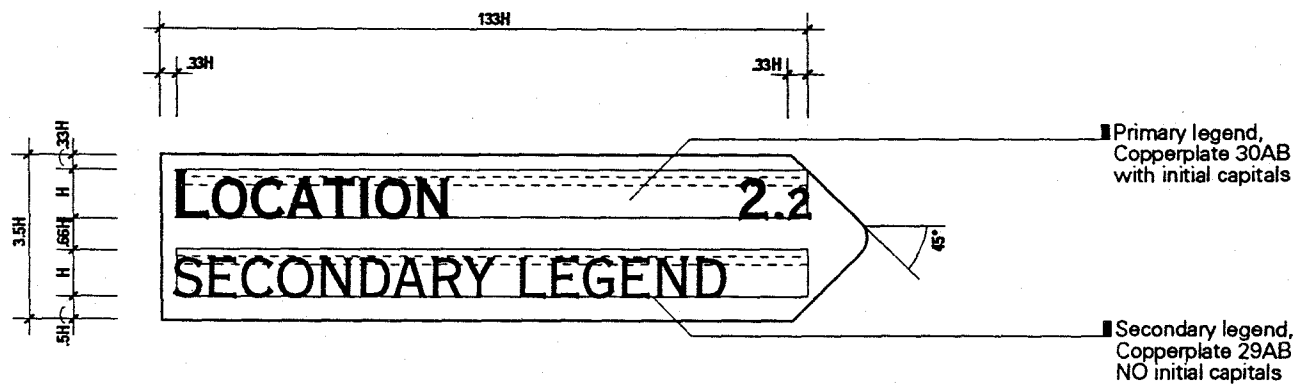
E2

Alternate optional legend panel



F1

Finger identification with primary message and mileage



F2

Finger identification with primary and secondary message, and mileage

1. Aluminum panel

- 1.1 All aluminum shall be Aluminum 6061-T6 as per ASTM B209, to meet or exceed standards as specified in FP-85 section 719.03.
- 1.2 Aluminum shall be properly cleaned and free of mill slag or other surface imperfections.
- 1.3 All cutting or machining burrs, welds, or other surface imperfections created in the manufacturing process shall be ground smooth and sanded. All exterior surfaces shall be smooth and devoid of sanding or grinding marks of any kind.

2. Concrete

- 2.1 Footing shall be 3000 PSI, 28 Days.
- 2.2 Precast reinforced posts shall be 5000 PSI, 28 days.

3. Constructed wooden post

- 3.1 Constructed posts shall be fabricated of treated Douglas Fir No. 1 or better with an inner core of fabricated metal where indicated.
- 3.2 Material shall be well sanded and free of any defects.
- 3.3 All complete post assemblies must be pre-drilled and assembled in the shop prior to shipment to check alignment and ensure proper fit once installed.
- 3.4 Surfaces shall be edge-glued with phenolic resin adhesive and planed smooth to finish out as dimensioned in the drawings.
- 3.5 Frangible bases to be assembled using FHWA standards.

4. Paint, stains and finishes

- 4.1 All colors shall be exactly reproduced as specified and shall match submitted samples.
- 4.2 All painted surfaces and other applied finishes shall have a smooth, even finish and be free of imperfect marks, scratches, dirt embedment or wave patterns or other irregularities.
- 4.3 Paint required in sign fabrication shall be compatible with the materials to which it is applied and shall be guaranteed not to cause discoloration, deterioration or delamination for any reason, including exposure to heat, sunlight, weathering or other environmental conditions.
- 4.4 All paints shall be precisely identified on the shop drawings and submitted sign samples.
- 4.5 Prime coats or other surface pre-treatments including cleaning, sanding, metal prep, where recommended by the manufacturer of the paint, shall be included in the work.

5. Porcelain enamel

- 5.1 Metal used for the porcelain enamel process shall be "vitreous or enameling iron or steel" as defined by ASTM A424 Type 1.
- 5.2 Gauges of base metal shall meet the tolerances specified, but shall be no less than 18 gauge.
- 5.3 Porcelain enamel coat shall be applied to all areas of the unit, including backside, flanges and edges, by spraying methods recognized by PEI and VEDC.
- 5.4 For corrosion protection, one additional coating shall be applied to the back of the panel and shall be fired simultaneously with the finish coat for panels over three (3) square feet in surface area.
- 5.5 Overall finish coating shall be between 0.004" and 0.020", in accordance with PEI recommendations.
- 5.6 Supplier shall be able to match colors specified in the Acrylic Polyurethane Color System of Akzo.

6. Rebar

- 6.1 Rebar shall be A615 steel.

7. Reflective sheeting

- 7.1 Sheeting shall be engineer grade, premium quality, wide angularity enclosed lens retro-reflective material to meet or exceed U.S. DOT FHWA specifications for Construction of Roads and Bridges on Federal Highway Projects, current edition FP-85 Sections 633.06 and 718.01.
- 7.2 All lettering shall be computer cut and pre-spaced. Edges shall be smooth and cut without tears in material. Corners of letters shall be sharp.

8. Screen Printing

- 8.1 Screening inks shall be compatible to substrate and acceptable to manufacturer. All inks shall be fade-resistant.
- 8.2 Silkscreens shall be produced using same size photographic film positives. Hand-cut or projection screens shall not be permitted.
- 8.3 Screens shall be 254 polyester monofilament, mesh tensioned to no less than 18 newtons (4 lbs).

9. Wooden frames

- 9.1 Frames shall be constructed of construction heart Redwood or Western Cedar lumber.
- 9.2 Intermediate support members shall be installed for large panel sizes.

10. Wooden posts

10.1 Solid posts shall be milled and treated Douglas Fir No. 1 or better.

10.2 Material shall be well sanded and free of any defects.

11. Wooden panel

11.1 Panel shall be constructed of clear heart, kiln-dried Redwood or Western Red Cedar throughout.

11.2 Surfaces shall be edge-glued with phenolic resomnicol adhesive and planed smooth to finish out as dimensioned in the drawings.

11.3 The end grain of laminated panel ends shall be face-glued with an end strip, reinforced with zinc plated Philips pan-head screws counter sunk and filled with glue-in redwood plugs.

COPPERPLATE 30AB

A B C D E F G H I J K L M N O
P Q R S T U V W X Y Z
A B C D E F G H I J K L M N O
P Q R S T U V W X Y Z
1 2 3 4 5 6 7 8 9 0

COPPERPLATE 29BC

A B C D E F G H I J K L M N O
P Q R S T U V W X Y Z
A B C D E F G H I J K L M N O
P Q R S T U V W X Y Z
1 2 3 4 5 6 7 8 9 0

Coordination and Program Management

The sign program implementation is designed as a Gorge wide effort, not individual signs for individual installations. To attain the intended visual quality and technical accuracy of the system, implementation will need to be centralized with a coordinating agency.

The argument for a coordinated management of the sign program is one of both economics and adherence to design. With one management group effectively overseeing the planning, procurement, implementation and maintenance of the program, overall costs will be less than half the cost of any decentralized effort.

Since inter-agency coordination will be ongoing, a scaled back version of the existing sign committee should be maintained. This committee will periodically review the sign plan and advise on other related sign issues. At minimum representation should probably include the sign program coordinator from the NSA office and delegates from the state park and transportation departments of both states, a member of the Commission, an historian and a naturalist.

With central management, planning, the work of overlapping agencies and jurisdictions is coordinated so that the final implementation appears as an integrated whole, and not the work of many hands. Since there will ideally be very good suppliers selected who will be contracted to build the signs in a cost efficient way, there will be consistent quality with a simple line of return if something does not meet specifications.

With the design development complete, the program management becomes a simplified function. The sign plan will not change dramatically during the implementation cycle,

supplier contracts will be of a long term renewable nature, and the basic sign program as presently proposed is a simple, finite system.

The main function of the project coordinator will be procurement. This includes buying the sign, making sure it is fabricated to specifications and properly implemented, and coordinating related site improvements. Since all costs will be known and budgeted in advance, this is executed through a charge-back to the agency for whom the sign is purchased.

The savings are realized by establishment of a single contract, with minimal procurement paperwork by individual agencies, reduced manufacturing cycles, less supervision of fabrication, established quality control mechanisms, as well as the the resulting value engineering work that pre-dates any actual procurement. Please note however that quality control for a system that is as complex as this one is difficult with the best of contractors. With two to four different types of fabricators (concrete, wood, porcelain, construction) participating in the fabrication of signs, comprehensive system development is going to be critical to the success of the program.

Since it is not uncommon for personnel in public agencies to be moved from one project to another, a comprehensive system that is well planned initially will help reduce transitional problems that inevitably come when one manager leaves and another takes over.

Although this sign plan addresses only the signs in the current sign system design, realistically this coordinating function should be expanded to include the management of the sign program as proposed as well as commercial sign controls, interpretive signing, and

System Design

The signs are architectural elements that have been designed to be compatible with this unique environment. The signs utilize durable materials and are built on sound fabrication technology. Their relative long term cost will be quite low because of the quality of fabrication assumed and durability of materials specified. As is appropriate to the Gorge, these signs are designed to last 40 years.

The exact shape and size of the sign will be different for each installation because each sign is formatted and proportioned around the legend. The layout grids and format specifications are quite clear, however it is not something one can give to a variety of fabricators and expect a consistent result.

Great care should be taken to appropriately size each sign for the placement location and viewing requirements of approaching drivers. Most every location will require some site preparation including minimal landscape work or construction of more elaborate stone bases or back walls. Once the sign size and mounting are specified, a site plan should be prepared to show exact sign location and related site work to be done.

A few of the signs, specifically the natural and cultural feature signs, and city entry signs will require design assistance to select the appropriate graphic for the medallion, and prepare the artwork so that it can be reproduced correctly and effectively. Guidelines for reproduction should be placed in the program design manual which is described below.

Materials and Fabrication

The entire system is built around a simple, finite palette of materials that are not proprietary and easily available for procurement. They have a long life cycle if properly fabricated and maintained, and are very cost efficient. Note however that these materials must be formed and fabricated by craftsmen who can create the quality that is envisioned. These materials, which are described in the schematic design package include:

Uprights for identification signs that do not require frangible bases are precast concrete (no cast in place) in both pentagon and hexagon columns. Guide signs and other panels in the right of way are wood: either milled and treated Douglas Fir, or fabricated redwood or Western Red Cedar in the pentagon and hexagon shape. Highway guide signs will use wood or fabricated metal (steel or aluminum) up-rights.

The primary material for sign panels are thick fabricated clear heart Redwood or Western Red Cedar panels. Highway signs have aluminum panels with retro-reflective sheeting faces with screen printed or computer cut graphics.

Depending on the sign size and type, the graphic panels will vary. Most identification signs will have porcelain enamel insert panels, or the legend will be routed directly into the panel and paint filled. Agency/natural feature medallions are made as porcelain enamel inserts. Highway guide signs and route markers will have aluminum panel inserts with screen printed or cut vinyl retro-reflective panels.

Bases and areas surrounding a sign will be designed on a site by site basis and may be directly imbedded or made part of other stone or timber site improvements.

Structural Engineering

Prior to fabrication the system will need to be engineered and construction drawings prepared. These are best shown as generic drawings that reference size matrices for all variations within a size group. These would be most economically developed as an extension of the schematic design section of the design project report.

The program has been systematically designed to use as many commonly sized elements for various sign types as possible for convenience of management and cost efficiency.

It is however imperative that the engineer working on the project understands the program and will work with the designers and project managers to maintain the design intent and make sure that the program can be implemented in a systematic and orderly fashion.

Specific tasks will include:

1. Development of a uniform footing system for all identification signs (spread, caisson, and direct embedment depending on base conditions). This will be a matrix built on panel size, panel height above grade level (HAGL), along with post size and ground conditions.
2. Development of a uniform footing system for all guide signs within the right of way with frangible base to highway standards.
3. Design fabricated wood uprights for finger signs, small guide signs, and route markers.
4. Design concrete post system with internal connections for optimal flexibility.
5. Assist in the design of fasteners and attachments.
6. Site specific design of structure for the NSA identification signs.
7. Develop overall engineering criteria (wind pressure, soil, frost depth).

Prototype

The construction of a representative group of actual signs (ideally three) through a formal prototype process will be necessary prior to the establishment of any contracts. This is where everyone learns (designer, fabricator, and client) what they thought they knew but did not. The most important benefit of this process is learning how the signs can be built in a cost efficient way, and where improvements can be made in the use of materials and in specific design details.

Prior to initiating a prototype, fabricators should be selected through an interview process by the designer and client. These are suppliers whose capabilities and reputation best fit the requirements of the project. The cost of a prototype and its development is negligible compared to the inevitable cost savings that will result from this process. The goal on this first sign is not price, but a quality standard against which a program will be judged.

Secondly, it should not be assumed that the prototype builders will be the suppliers for the final project.

The prototype development is best managed by the designer working as general contractor with each of the various fabricators selected. In this prototype phase alternate methods of production will be explored along with final design explorations. These include draw downs of final recommended colors (stain, porcelain, paint, and concrete stains) with alternates for viewing in the NSA. Following implementation of the prototype, the contract requirements, specification package and construction drawings are refined as needed and a process is started to select a general fabricator for the project.

Standards Manual

Typically for a single agency sign system a sign manual will be developed to document and explain the guidelines for system application as well as look and specifications for the signs. As a multi-user system this requirement for good documentation is amplified because each of the various agencies will be developing their own plans prior to submission to the coordinating agency. All participants including other USFS offices will need to know what is included the system and how it is to be used.

Specific to the sign system as designed, the Sign Program Standards Manual should show the designs with options, material and mounting specifications, and related planning and implementation guidelines. This document becomes a compilation of the design program and system development process, and is presented in an easy to reference format.

If the system is expanded as described in the NSA Draft Management Plan to include interpretive, internal site, and commercial signing, these components and their relationship to each other should be built into the manual in a clearly described and graphically illustrated presentation.

The most effective manuals are simple, though complete enough to clearly describe the system but are not overwhelming books that confuse or intimidate users. To that end, the more diagrammatic the manual becomes the easier it is to use and understand. The manual should also be a dynamic document that can easily be updated as the program expanded and user requirements change.

Development of the Sign Plan

A sign plan is a two part document that includes a list of all locations to be signed by sign type, size, and mounting, and second part with installation drawings for locations site improvements as required.

The basic sign plan list may be a refinement of the location list included in this report, and should be prepared by the project coordinator with assistance from representatives of each respective agency/jurisdiction. Actual format of the sign plan and sign order package will evolve out of the prototype process.

Panel Layout

Once the sign location list is finalized, an exact drawing of each sign should be prepared with recommended legend. With all signs being proportional these layouts can be at a common scale. These exact layouts serve a number of useful functions in the planning and implementation of the program including:

- Allow each agency/jurisdiction to see exactly what their sign will look like as proposed.
- Allow for review and comment early in the planning stages, not when the sign is ordered.
- Identify the exact sizing of each panel for cost estimating, site planning, and any site specific engineering (size and location of footing for double post signs).
- Becomes part of the procurement and construction drawing packages, thus removing any questionable issues relative to drawing interpretation of the layouts.
- May be used as an actual computer program (no new artwork required/ or artwork cost) for preparation of panel in either porcelain or generation of routed wood panel.

In summary, preparation of these sign face drawings leaves nothing to question for the

Forest Service, cooperating agency, or contractors as the implementation plan is formalized.

The actual way to determine the most appropriate size of the sign to be placed at a location is to generically mock-up the panel in the actual size at each location and view it as would an approaching driver similar to the stage five process of the design contract. From this on-site test, the exact placement location, mounting, and mounting height can also be determined. The greatest problem is that those specifying the sign will select one that is either too small or too large. The mock-up process with photo documentation is a good check and balance to assure that the most appropriate size of sign is specified. This potential for error will abate once users learn how each size sign actually looks in the environment, but in the early stages good planning control will be necessary.

Signs are designed for mounting perpendicular to the drivers approach. This allows for the best view of the sign and permits most identification signs to be double face assemblies if the site conditions allow. If identification on two way roads cannot be safely executed with one double face identification sign, an alternate plan should be developed which will probably incorporate two signs with one placed on each side of the road. In this format signs are placed around the configuration of the site, and will generally result in a staggered placement where the signs are not located directly across from each other.

All guide signs and route markers are to be placed on the drivers right side only.

Another component of the sign planning process will be to work with the Oregon Department of Transportation in their efforts to sign I-84 and adjacent roads so that the

plan is consistent and uniform throughout the NSA, and includes graphic modifications shown in the design presentation.

Site Planning

The sign system will be implemented at each location in a slightly different way depending on setbacks, approach speed, use, use density, and character of site. Building on the attached list of facilities and sites to be signed (with a recommended size for each location), a schematic site plan should be developed.

Realistically, site improvements will become a substantial portion of the cost of the programs implementation budget, and some planning will need to be done in this regard to identify the appropriate level of design for each site and allow for development of an accurate cost plan.

If the schematic site planning is approached as a planning effort common to all sites in the National Scenic Area, this process can be executed as a very cost efficient planning process. This is done by professionals knowledgeable of sign and site planning requirements. The advantage is a common design attitude that is executed in a manner that is appropriate to each site. Once a plan is developed, each agency can review, comment and make whatever changes they desire before the overall implementation plan is finalized.

The versatility of the system becomes an advantage with the diversity of sites, though it can also be a problem if the design intent of the system is not properly interpreted.

Planning Process

To execute this planning process, designers establish a uniform drawing format. Existing highway, Forest Service, and state park plan data of roads and facing edge of the site is

entered into a master CAD document. Using this data a landscape architect will review the site and develop sign plan with site improvement concepts and alternatives. This concept plan is documented in the plan for purposes of cost estimating and plan review. During this process or prior to actual implementation these schematic drawings will be upgraded into actual construction plans. Detail will depend on level of improvement from no improvements other than sign foundation, to minor area plantings or grade work, or for more extensive work at other sites.

Main Entry Portals

The location of the main identification signs at the entry to the National Scenic Area becomes a special design problem that must be executed with great care. From our preliminary research we noted that each entry portal has a unique site configuration and will require grade and landscape improvements before the sign is placed on the site. This is the first piece of communications within the National Scenic Area and it will set the tone for what is to follow. The primary issue is to create a well defined sense of entry. Technical problems that must be considered include the size of sign, relationship to site and road, overall grade, and speed of approach. Barriers and other devices to should be considered to allow for signs to be placed closer to the right of way if appropriate. Specific to the sign, there may be variations in the overall size of the signs at each of the four major portals. Also as shown in the final presentation, the design will allow some variation in the mounting from one site to another.

Priority Schedule/Implementation

The most cost efficient format for implementation is as a well planned, scheduled, and phased multi-year (4-6) process. If the program is to have the desired effect, it is not realistic to assume that signs will be replaced through attrition over a much more extended period of time. If the signs are not budgeted initially they stand a much lower chance of getting built, and without adequate physical saturation the program will not be effective.

There a number of ways that this phased implementation plan can be executed. It is more realistic to assume that the implementation schedule will be a compilation of plans that will vary depending on the desires of the agencies/jurisdictions involved.

Key to the success of the program will include an aggressive early effort by the Forest Service to sign the main entrances to the National Scenic Area and the USFS locations under its management within the NSA. Secondly will be to get strong participation from the primary state agencies that can provide the leadership so small organizations will follow. Follow-up implementation will include signing specific sections of roads with all sign types for that location, or installing specific signs by type (attraction guide signs, natural feature identification, etc.) throughout the NSA.

Appropriate approaches can be selected from a list of pre-determined priorities set by the program coordinator and the sign committee, along with the availability of funds on an annual basis over the planned implementation period. Using a simple spread sheet program, each sign and its estimated cost can be programmed and alternative plans developed by type of sign, location, jurisdiction/agency, etc.

Sign Schedule for Places and Facilities Within the National Scenic Area

Main Entrances Columbia River Gorge National Scenic Area

Steigerwald Lake	Northwest Gateway	(NW Corner in Wash.)
Sandy River	Southwest Gateway	(SW Reynolds Property)
Wishram	Northeast Gateway	(Wash.)
Deschutes Crossing	Southeast Gateway	

Secondary Entrances Columbia River Gorge National Scenic Area

Wind River Highway	
White Salmon River	(141)
Klickitat River	(142)
Mt. Hood Loop Highway	(35)
Dufur Highway	(197)
Stark Street	
Sandy River Bridge	

Gateway Information Centers

Steigerwald Lake	Northwest Gateway	(NW Corner in Wash.)(USF&W)
	Southwest Gateway	(SW Reynolds Property)(USFS)
Wishram	Northeast Gateway	(Wash.)
Celilo Park	Southeast Gateway	(USACOE)

Information Stations Proposed

Troutdale/Corbett	Information Station	(historic highway theme)
Multnomah Falls	Information Station	(scenic beauty of the Gorge) (USFS)
Viento State Park	Information Station	(recreation- windsurfing)
Cascade Locks	Information Station	(river transportation)
Hood River	Information Station	(history of land-use-agric., recreation)
Memaloose Rest Area	Information Station	(cultural history) (ODOT)
Mosier	Information Station	(historic highway, culture, history)
Dallesport	Information Station	(Oregon Trail junction)
Lyle	Information Station	(recreation)
Bingen / White Salmon	Information Station	(agriculture, early settlement, logging)
Drano Lake	Information Station	(Broughton Flume)-Skamania County
Home Valley	Information Station	(recreation, wilderness)
Bridge of the Gods	Information Station	(early settle., river trav., native Amer.)
Skamania Landing	Information Station	(pastoral countryside)

Main Interpretive Center

Columbia River Gorge National Scenic Area Interpretive Center
 Conference Center
 Skamania Lodge and Conference Center

Washington Cities

North Bonneville

Stevenson

Carson

Home Valley

White Salmon

Bingen

Lyle

Dallesport

Wishram

Oregon Cities

Dodson

Warrendale

Cascade Locks

Hood River

Mosier

The Dalles

Rural Centers

Corbett

Skamania

Oregon Places

Bonneville	State Park	(OSP)
Sheridan	State Park	(OSP)
Lindsey Creek	State Park	(OSP)
Bridal Veil	State Park	(OSP)
Lewis and Clark	State Park	(OSP)
Rooster Rock	State Park	(OSP)
Sheppard's Dell	State Park	(OSP)
John B. Yeon	State Park	(OSP)
Viento	State Park	(OSP)
Koberg Beach	Rest Area	(ODOT)
Heritage	State Park	(OSP)
Dabney	State Park	(OSP)
Crown Point	State Park	(OSP, ODOT)
Benson	State Park	(OSP)
Lang	State Park	(OSP)
Wygant	State Park	(OSP)
Memaloose	State Park	(OSP)
Deschutes River	State Park	(OSP)
Women's Forum	State Park	(OSP)
Guy W. Talbot	State Park	(OSP)

Ainsworth	State Park	(OSP)
Starvation Creek	Rest Area	(OSP)
Seneca Fouts	State Park	(OSP)
Mayer	State Park	(OSP, OF&W)
Vinzenz Lausmann	State Park	(OSP)
Celilo Park		(Corps)
Latourell Falls	State Park	(OSP)
Shepperd's Dell Falls	State Park	(OSP)
Coopey Falls	State Park	(OSP)
Mist Falls	State Park	(OSP)
Gorton Creek Falls		(USFS)
Bridal Veil Falls	State Park	(OSP)
Wahkeena Falls		(USFS)
Multnomah Falls		(USFS)
Larch Mountain	Overlook & Interpretive Trail	(USFS)
Oneonta Gorge		(USFS)
Horsetail Wetlands		(USFS)
Horsetail Falls		(USFS)
Warrendale Cultural Site		(OSP, conserv groups, OHS, USFS)
Bonneville Fish Hatchery		(Corps, OF&W, BFH)
Bonneville	Dam and Fish Ladder	(Corps, OF&W, BPA)
Eagle Creek	Campground	(USFS)
Cascade Locks		City of Cascade Locks
Warrendale Cannery		(USFS)
Wyeth Bench		(USFS)
Mosier Twin Tunnels		(OSP)
Rowena Plateau	Overlook	(OSP, NC)
The Dalles Dam	Visitors Center	(Corps, BPA)
Memaloose Overlook		(ODOT)
Celilo Converter Station		(BPA)
Rowena Crest		
East Mayer	State Park	(OSP)
Rowena		
Washington Places		
Reed Island	State Park	(WSP)
Beacon Rock	State Park	(WSP)
Horsethief Lake	State Park	(WSP)
Doug's Beach		(WSP)
Catherine Creek		(USFS)
Major Creek		(USFS)
Locke Lake		(USFS)
Chamberlain	Rest Area	(WDOT)

Spring Creek Beach/The Hatchery		(USF&WS, USFS)
Drano Lake/Broughton Flume		Skamania County
Dog Mountain		(USFS)
Bridge of the Gods		(WDOT, County, tourism)
Pacific Crest Trail-	Bridge of the Gods	(USFS)
Bonneville Dam	and Fish Ladder	(Corps, OF&W)
Beacon Rock		(WSP)
Pierce Island		(USF&W)
St. Cloud Ranch/Franz Lake		(USFS, WSP)
Cape Horn		(WDOT)
Willard	National Fish Hatchery	(USF&W)
Fort Cascades	Historic Site	(COE)
Avery River Access		(USACOE)

National Forests

Gifford Pinchot	National Forest	
Mt. Hood		National Forest

Oregon Trails

Wygant Trail		(OSP)
Starvation Ridge Trail	No. 414, 2.0 Miles	(USFS)
Mt. Defiance Trail	No. 413, 7.0 Miles	(USFS)
Shellrock Mountain Trail		(USFS) new
Wyeth Trail	No. 411, 7.3 Miles	(USFS)
Gorton Creek Trail	No. 408, 9.1 Miles	(USFS)
Nick Eaton Trail	No. 447, 4.6 Miles	(USFS)
Green Point Ridge Trail	No. 418, 2.6 Miles	(USFS)
Herman Creek Trail	No. 406, 11.2 Miles	(USFS)
Pacific Crest National Scenic Trail	No. 2000	(USFS)
Ruckel Creek Trail	No. 405, 5.8 Miles	(USFS)
Eagle Creek Trail	No. 440, 13.3 Miles	(USFS)
Wauna Viewpoint Trail	No. 402, 1.8 Miles	(USFS)
Tanner Butte Trail	No. 401, 8.0 Miles	(USFS)
Tanner Cutoff Trail	No. 448, 3.0 Miles	(USFS)
Tanner Creek Trail	No. 431, 2.0 Miles	(USFS)
Riverfront Trail	7.0 Miles	(USFS-OSP) new
Sandy River Delta Trail	4.0 Miles	(USFS) new
Nesmith Point Trail	No. 428, 4.6 Miles	(USFS)
Rock of Ages Ridge Trail		
Horsetail Falls Trail	No. 438, 1.3 Miles	(USFS)
Horsetail Creek Trail	No. 425, 5.6 Miles	(USFS)
Oneonta Trail	No. 424, 7.7 Miles	(USFS)
Franklin Ridge Trail	No. 427, 2.2 Miles	(USFS)
Multnomah Creek Way Trail	No. 444, 2.7 Miles	(USFS)

Multnomah Spur Trail	No. 446, .8 Miles	(USFS)
Waukeena- Trail	No. 420, 2.8 Miles	(USFS)
Angles Rest Trail	No. 415, 4.8 Miles	(USFS)
Devils Rest Trail	No. 420c, 1.6 Miles	(USFS)
Perdition Trail	No. 421, 1.2 Miles	(USFS)
Return Trail	No. 442, .6 Miles	(USFS)
Vista Point Trail	No. 419, .8 Miles	(USFS)
Larch Mountain Trail	No. 441, 6.8 Miles	(USFS)
Bell Creek Trail	No. 459, 3.7 Miles	(USFS)
Moffett Creek Trail	No. 430, 5.3 Miles	(USFS)
Wahclella Falls Trail	No. 436, .9 Miles	(USFS)
Wauneka Point Trail	No. 429, 3.0 Miles	(USFS)
Ridge Cutoff Trail	No. 437, .7 Miles	(USFS)
Gorge Trail	No. 400, 35.5 Miles	(USFS)
McLaughlin Trail		(OSP)
John B. Yeon Trail		(OSP)
Latourell Falls Trail		(OSP)

Washington Trails

Dog Mountain Trail	147, 5.0 Miles	(USFS)
Hamilton Mountain Trail		(WSP)
Pacific Crest National		
Scenic Trail No. 2000	21.1 Miles	(USFS)
Cape Horn Trail	4.0 Miles	(USFS) new
Archer Mountain Trail	4.0 Miles	(USFS) new
Riverfront Trail	6.0 Miles	(USFS-WSR) new
Table Mountain Trail	7.0 Miles	(USFS-WSP) new
Greenleaf Basin Trail	7.0 Miles	(USFS) new
Windriver - Brush Creek		
Loop Trail	6.0 Miles	(USFS) new
Augsburger		
Mountain Trail	8.0 Miles	(USPS) new
Major Creek		
Canyon Trail	8.0 Miles	(USFS) new
Bob Starke		
Memorial Trail	1.0 Miles	(USFS) new

Rivers

Wind River
 Little White Salmon River
 White Salmon River
 Klickitat River
 Hood River
 Deschutes River
 Sandy River

Historic Markers

Add names of know/existing historic and interpretive markers. Fill in as you get them from Oregon DOT and Washington DOT. Need for counting and budgeting advance guide signs

S.R. 14	M.P. 18.89	First Explorers
S.R. 14	M.P. 22.96	Mt. Pleasant Grange Hall
S.R. 14	M.P. 40.47	Golden Spike Ceremony
S.R. 14	M.P. 40.47	Fort Rains
S.R. 14	M.P. 41.57	Bridge of the Gods
S.R. 14	M.P. 42.10	Upper Cascades of the Columbia River
S.R. 14	M.P. 57.26	Broughton Flume
S.R. 14	M.P. 86.87	Spear Fish
S.R. 14	M.P. 93.57	Celilo Falls
off I-84	Troutdale	Lewis & Clark
off I-84	Warrendale	Beacon Rock
I-84	M.P. 23	Broughton's Expedition

Cost Estimates by Type of Sign (2.1.91)

Double face flag (3" legend panel)

	SF	DF	50 units
Panel (30"x 45" av.)	700.	700.	
Porcelain panel	250.	500.	
Precast upright (12'-4"x 7")	400.	400.	
Footing		850.	850.
Installation	200.	200.	
Total cost	\$ 2,400.	\$ 2,650.	\$ 132,000.

Double face flag (5" legend panel)

	SF	DF	50 units
Panel (40"x 60" av.)	1,200.	1,200.	
Porcelain panel	325.	650.	
Precast upright (14'-8"x 14")	600.	600.	
Footing		950.	950.
Installation	200.	200.	
Total cost	\$ 3,275.	\$ 3,600.	\$ 180,000.

Double face with centered panel (6" legend panel)

	SF	DF	100 units
Panel (50"x 66" av.) 2ea.	1,800.	3,600.	
Porcelain medallion 75.		150.	
Precast upright (12'-4"x 18")	800.	800.	
Footing		950.	950.
Installation	200.	200.	
Total cost	\$ 3,825.	\$ 5,700.	\$ 476,250.
(50@ 191,250., 50@ 285,000.)			

Double face, double post (8" legend panel)

	SF	DF	27 units
Panel (66"x 142" av.)	4,000.	6,000.	
Porcelain medallion	100.	200.	
Precast upright (10'-0"x 26") 2ea.	2,000.	2,000.	
Footing		1,850.	1,850.
Installation	500.	500.	
Total cost	\$ 8,450.	\$ 10,550.	\$ 284,850.

Single face guide sign (5" legend panel)

	SF	320 units
Panel (36"x 42" av.)	500.	
Aluminum panel	150.	
Milled timber upright (13'-5"x 12")	300.	
Footing		250.
Installation	150.	
Total cost	\$ 1,350.	\$ 432,000.

Single face, double post main entry (12" legend panel)

	SF	4 units
Panel (10'x 13')	12,000.	
Porcelain medallion	200.	
Precast upright (22'x 30")	8,000.	
Footing		6,000.
Installation	4,000.	
Total cost	\$ 32,200.	\$ 120,800.

Single face, double post main entry (6" legend panel)

	SF	7 units
Panel (5'x 6'-6")	3,500.	
Porcelain medallion	150.	
Precast upright (12'-6"x 14")	1,600.	
Footing		1,850.
Installation	500.	
Total cost	\$ 7,600.	\$ 45,600.
Total cost of signs in quantities noted		\$ 1,679,600.

Site and Development Costs

NSA Entry Portal site construction	150,000.	
Site construction (40 primary, 147 minimum)	225,000.	
Procure prototype (2 units and test materials)	12,000.	
Miscellaneous route and guide signs	150,000.	
Total Site and Development Costs		537,000.
System cost with site work		\$ 2,216,600.
Design Development		
Sign size and location plan	6,000.	
Sign plan drawings	29,000.	
Sign guidelines manual	18,000.	
Engineering and specifications	7,750.	
Prototype management/value engineering	10,500.	
Project management and presentations	7,500.	
Total system design, development and plan.		72,750.
Total system cost with design development		\$ 2,295,350.

Columbia River Gorge Nation Scenic Area Forest Service	902 Wasco Ave Suite 200 Hood River, OR 97031	Columbia River Gorge Commission	288 E. Jewett Blvd. P.O. Box 730 White Salmon, WA 98672
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Reply To: 2370

Date: April 19, 1990

Dan Durow
Planning Director
Wasco County Planning Department
1721 W. 10th Street
The Dalles, OR 97058

RECEIVED
APR 25 1990
WASCO CO. PLAN. & ECON. DEV.

Dear Mr. Durow:

Enclosed is a copy of the contract for the design of a sign system for the Columbia River Gorge National Scenic Area (NSA). This contract has been awarded to the firm of Mayer/Reed from Portland, Oregon. A copy of the project schedule is also enclosed. This contract is funded by the Forest Service and the Columbia River Gorge Commission. Jurgen Hess of the NSA office, Forest Service, will be administering the contract.

There will be meetings of the NSA sign committee to discuss progress and provide consultation advice. A listing of the sign committee members is enclosed. The Columbia River Gorge Commission, various public agencies and private sector are represented on the committee. In addition, an open house to review alternatives (stage 2) is planned for May 31, 1990. Details on the open house will be forthcoming.

If you would like to provide input to the sign system design please contact Jurgen Hess or a sign committee member.

Sincerely,



ARTHUR W. DuFAULT
Manger, NSA, Forest Service



RICHARD P. BENNER
Executive Director
Columbia River Gorge Commission

cc: Columbia River Gorge Commission

Enclosures

COLUMBIA RIVER GORGE NATIONAL SCENIC AREA
Sign Committee Members

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Port Marina Park
Hood River, OR 97031
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Randy Person
Washington State Parks & Recreation
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Olympia, WA 98504-5711
(206) 753-1813

Kathy Schutt
Oregon State Parks and Recreation
525 Trade St. SE
Salem, OR 97310
(503) 378-6308

SECTION C - DESCRIPTION/SPECIFICATION
/WORK STATEMENT

C-1 SCOPE OF WORK

The intent of this project is to develop a graphic signing system that will capture and reflect the spirit of the Columbia River Gorge National Scenic Area (NSA). Objectives of this contract are to provide a consistent, coherent, and inter-related graphic sign system for signs within and adjacent to road right of ways. Work shall include sign system development, (such as background information review, system theme, hierarchical size range and nomenclature development), design and production of graphically illustrated preliminary and final sign system designs, schematic details of selected sign images, the production of a selected full scale prototypical sign, sign system report, and two (2) informational presentations.

C-2 LOCATION

Project area (see exhibit 1), is the Columbia River Gorge National Scenic Area, (NSA). Urban areas within the NSA are exempt from regulation by the Columbia River Gorge Commission and the Forest Service and are not included in this contract.

C-3 CONTRACTOR REQUIREMENTS

Since the NSA encompasses lands under the control of various agencies, there may be the need for discussions, meetings, etc. during the life of the contract that necessitate Contractor involvement. Therefore, the Contractor shall be, or have a representative, available for such involvement within a 24-hour advance notice. The name of any representative(s) shall be submitted with the technical proposal.

C-4 TECHNICAL SPECIFICATION

C-4.1 STAGE 1, INFORMATION GATHERING

An informational briefing at the pre-work conference will be conducted by the Contracting Officer's Representative (C.O.R.). At that time, the C.O.R. will provide available information and a list of individuals that will provide or direct the Contractor to appropriate information sources for the following items.

- 1) Review information regarding current and ongoing

USFS visual image planning issues for the Columbia River Gorge National Scenic Area, (include: appropriate individuals as directed by the C.O.R., NSA Sign Inventory, NSA Corridor Plans, and the NSA Management Plan).

2) Review applicable local, state, and federal signing regulations including the following: Manual on Uniform Traffic Control Devices (MUTCD), Oregon Department of Transportation (ODOT), Washington Department of Transportation (WSDOT), Oregon State Parks (OSP), Washington State Parks (WSP) and USDA Forest Service (USFS).

3) Review the proposed Oregon Department of Transportation (ODOT) Statewide Tourism Signing Study.

4) Verify existing agency logo and agency name identification styles for signs within the NSA for the following agencies: USDA Forest Service Oregon State Parks Washington State Parks US Fish and Wildlife Service

C-4.2 STAGE 2, PRELIMINARY DESIGN DEVELOPMENT

The Contractor shall:

1) Based on a sound understanding of the spirit and essence of the Columbia River Gorge and NSA management objectives, develop a minimum of three (3) alternative themes for the graphic sign system.

2) Provide for a hierarchical size range (large, medium, and small) for the following sign categories:

a) Public and non-profit facility site entry signs including recreational, interpretative, and educational sites. The design for this type of sign shall provide a uniform format for the following agencies:

USDA Forest Service Oregon State Parks
Washington State Parks US Fish and Wildlife Service Oregon
Department of Fish and Wildlife US Army Corps of Engineers

The design shall have a uniform location, size, and area for the site name, an agency logo and the agency name.

b) Natural and cultural feature signs including lakes, views, and historic sites.

c) Area entry signs including the entry to NSA, thirteen (13) urban areas within the NSA, and two (2) rural centers within the NSA.

d) Route signs. The design for this type of sign shall provide a uniform format for the following routes: Mt. Hood Loop, Lewis and Clark Trail, Oregon Trail, Barlow

Trail, Columbia River Heritage Trail, the Historic Columbia River Highway and Washington State Highway 14. In addition, provide complete sign design, including logo, symbol, or route marker, for the Historic Columbia River Highway and Washington State Highway 14.

e) Roadway directional signs, to include directions to scenic roadways, facilities, features, etc.

3) Develop sign category identity and nomenclature (i.e., system of terms or symbols) based on appropriateness to type of sign category, theme, size range, legibility, location, compatibility to geographical area, and other pertinent aspects of inter-related sign systems.

4) Develop and present to the C.O.R., a minimum of three (3) graphically illustrated, to scale with full color (i.e., color marker or color pencil), preliminary sign system alternatives for each sign category to include; theme, size range, nomenclature, and sign base or support system. Each alternative shall convey the effectiveness and compatibility with the surrounding visual character by articulating appropriate design elements, (including color, shape, size, and typeface, etc.) and shall take into consideration the type of materials suitable to the NSA, cost efficiency, legibility, vandalism, climate extremes, conformance with MUTCD, and any other pertinent elements of inter-related sign systems. The C.O.R. will review and approve the three (3) alternatives or reject with redesign recommendations.

5) Following review and approval by the C.O.R., the Contractor will present the three (3) alternatives to involved agencies and the sign committee at an informational presentation.

6) The C.O.R. will select an alternative or parts of alternatives to become the preliminary sign system design. The Contractor shall develop the preliminary sign system design to scale with full color. Upon review and approval of the preliminary design by the C.O.R., the Contractor shall precede with the development of the final design.

C-4.3 STAGE 3, FINAL DESIGN

The final design shall be of a refined presentation level quality that meets the following criteria:

1) Original hardline graphic illustrations (no color) to be on a stable, reproducible material (eg. mylar).

2) Each individual graphic illustration shall be to scale and remain legible at a distance of ten feet, (10').

3) Organization and presentation to be in a manner that is easily understood by the general public and meets professional graphic standards.

4) C.O.R. will review and approve or reject with redesign recommendations.

5) Provide two (2) complete sets with full color illustrations (i.e., color marker or color pencil), on a material that is stable and resists discoloration and fading over time.

After review and approval by the C.O.R., professionally mount one (1) color copy set on a foam core board (or other suitable material as approved by the C.O.R.) that is of a size that can be easily transported and presented, with a maximum size of 30"x42".

C-4.4 STAGE 4, SCHEMATIC DETAILS

The C.O.R. will select (a maximum of twelve) individual graphic sign images from the final design for schematic detailing. Schematic details shall meet the following criteria:

- 1) Be enlarged to a scale that allows the calling out of specific details including: typeface style, letter point size, colors, widths of lines, borders, etc.
- 2) Respond to an 8-1/2"x11" overall report format size.
- 3) Each individual graphic illustration shall be to a scale and remain legible at a distance of two feet, (2') and shall fit the report format without reduction.
- 4) Be organized and presented in a manner easily understood by the general public.
- 5) Have an original that is a graphic illustration (no color) on a stable, reproducible material, (eg. mylar).
- 6) Provide two (2) complete sets of each detail in full color (i.e., color marker or color pencil), on a material that is stable and resists discoloration and fading over time.
- 7) C.O.R. will review and approve or reject with redesign recommendations.

After review and approval by the C.O.R., professionally mount one (1) color copy set of individually or grouped details on a foam core board (or other suitable material as approved by the C.O.R.) that is of a size that can be easily transported and presented, with a maximum size of 30"x42".

C-4.5 STAGE 5, FULL SCALE PROTOTYPE

The C.O.R. will select one (1) graphic sign image from the

final design to be developed into a full scale temporary prototypical mock up. The prototype shall be for a USDA Forest Service Facility. The mock up is to meet the following criteria:

- 1) Exhibit in full scale the appropriate design elements, including color, shape, size, typeface, and any other pertinent elements.
- 2) Be suitable for field testing for a maximum period of two (2) weeks (i.e., shall be water resistant, meet all applicable sign regulations for legibility, etc.).
- 3) It is intended that materials used for the prototypical sign mock up be of temporary nature (eg. plastic laminated foam core or cardboard, plywood, etc.)

USFS will be responsible for field installation of prototype. Prototype will be approved or rejected by C.O.R. within a maximum of one (1) week after field review. If rejected, the Contractor must revise the prototype, final design, and schematic details.

C-4.6 STAGE 6, SIGN SYSTEM REPORT

The sign system report shall be a legible, reproducible report that meets professional graphic standards and includes both narrative and graphic documentation of the work completed by the Contractor. The Contractor shall submit to the C.O.R. ten, (10) color copies, forty (40) black and white copies, and originals. Camera ready originals will be submitted in a manner that will easily allow future reproduction of color or black and white copies if needed. It is intended that color and black and white copying be utilized rather than offset printing.

The narrative portion of the report shall not exceed thirty (30) pages, including a two (2) page executive summary, and documentation of each of the following:

- 1) Background information and documentation of the sign system, (address each specific step of the Contractors obligations).
- 2) Present findings and recommendations.

Graphics shall be intermixed with narrative to create a readable and easily viewed document. The following graphics are to be included:

- 1) Reduced sets of preliminary and final sign design.
- 2) Full scale schematic details.

The C.O.R. will review and approve sign system report.

C-4.7 STAGE 7, FINAL INFORMATION PRESENTATION

After all work is completed and approved, the Contractor shall present the finished products at an informational presentation. This meeting may involve public and private individuals as determined by the C.O.R. It is not intended that the Contractor will revise any designs after this meeting.

GRAPHIC SIGN SYSTEM
Columbia River Gorge National Scenic Area
Detailed Work Plan
Submitted by Mayer/Reed - Portland, Oregon

COR Reviews / Meetings

Interagency Presentations / Meetings by Consultant

Interagency Presentations / Meetings by COR

STAGE 1 (2 weeks)
INFORMATION GATHERING

- Attend pre-work conference.
- Review current and ongoing work.
 - NSA plans and inventories.
 - local, state and federal signing regulations.
 - ODOT Statewide Tourism Signing Study.
- Verify existing federal and state agency logos and name identification styles within NSA.
- Review other logos used by private organizations in the Columbia River Gorge.
- Photograph representative sign locations.
- Conduct overview field trip through NSA
 - SR 14
 - I-84
 - Columbia Gorge Scenic Hwy
 - Access points
 - Features
- Meet with COR to review findings.

- Concerns - Completion and availability of NSA reports.

PRODUCTS:

- Project Schedule - submitted dates meeting/review dates
- Memorandum on review findings identify new issues identify other agency input needs

STAGE 1.1
"SPIRIT" SEEKING

- Expand existing familiarity and knowledge of the Columbia River Gorge through the following:
 - alternative site visits.
 - interviews with key individuals from special interest groups.
 - interviews with Gorge photographers, a historian, and writers.
- Collect visual images from cultural, historic vernacular forms, geographic, and micro-climate; and review for subject matter.
- Consider regional materials, techniques and images.

PRODUCTS:

- Memoranda of interviews
- Photographs of typical signage locations
- Memorandum of "spirit of place".

STAGE 2 (5 weeks)
PRELIMINARY DESIGN DEVELOPMENT

- Develop three alternative design themes to cover elements of the sign system:
 - Public and non-profit site entry signs.
 - natural and cultural features signs.
 - area entry signs.
 - route signs.
 - roadway directional signs.
- Develop sign category identity/nomenclature.
- Present to COR three illustrations of each alternative for the sign categories including:
 - theme
 - color, shape, typeface
 - size range
 - nomenclature
 - sign base or support system
- Prepare computer-generated content models.
- Present the three alternatives to sign committee and agencies.
- Develop selected alternative to scale with full color.
- Review with COR.

PRODUCTS:

- Three illustrations of each alternative theme for each sign category
- One illustrated set of selected alternative in full color
- Computer-generated content models
- Complete sign designs for Historic Columbia River Hwy. and Washington State Hwy. 14.

STAGE 3 (3 weeks)
FINAL DESIGN

- Develop final design to presentation levels. Original headline illustrations on mylar to scale.
- Organize materials for presentation to lay persons.
- Present/review products with COR.

PRODUCTS:

- Mylar original hard line
- Two complete sets of full color illustrations
- One mounted color copy on foam core board (30" x 42" max.)

STAGE 4 (2 weeks)
SCHEMATIC DETAILS

- Develop schematic details for up to 12 selected graphic sign images including:
 - typeface style
 - letter point size
 - colors
 - line weight of borders
 - 8-1/2 x 11" report format
- Organize materials for presentation to lay persons.
- Prepare two color details sets.
- Present/review color details sets with COR.
- Prepare presentation boards.

PRODUCTS:

- Mylar originals of schematic detail set
- Two complete sets of each detail in color
- One mounted color copy on foam core board (30" x 42" max.)

STAGE 5 (2 weeks)
FULL SCALE PROTOTYPE

- Review with COR sign to be selected for prototype fabrications.
- Make final design adjustment for layout and color.
- Fabricate prototype.
- Review prototype in field.

PRODUCTS:

- Full size sign prototype

STAGE 6 (2 weeks)
SIGN SYSTEM REPORT

- Prepare report draft.
- Submit for review and approval.
- Prepare final report.
- Submit for review and approval.

PRODUCTS:

- Sign system report

STAGE 7 (1 week)
FINAL INFORMATION PRESENTATION

- Prepare meeting agenda with COR.
- Review presentation with COR.
- Present finished products at a meeting to selected audience of public and private individuals.

PRODUCTS:

- A job well done.

DELETE