

*Uni*Guide

*Identification, Wayfinding, and Visitor Information
for National Parks*

Frequently Asked Questions about the NPS UniGuide Sign Standards and Program

The UniGuide Sign Standards were formally adopted on September 29, 2003 upon the signing of Director's Order #52C: Park Signs. Servicewide use of the standards began on June 30, 2005 with the signing of a contract naming Bunting Graphics, Inc. as the single source of signs purchased by the National Park Service. The information in this document is intended to address a range of issues that have emerged during the initial implementation of the new sign program. For additional information, contact NPS Sign Program Manager Bob Clark at robert_h_clark@nps.gov or 304 535 5022.

October 12, 2005



UniGuide Sign and Information System

Frequently Asked Questions

Should parks begin to use the new standards now?

Yes. The UniGuide Standards were approved by the Director on September 29th, 2003. Now that a contract with a Servicewide supplier has been signed (on June 30, 2005) parks are required to use the standards and obtain their signs from the mandatory source.

Are parks expected to convert all of their signs to the new standards right away?

No. Director's Order #52C states that "Superintendents are expected to expeditiously convert ... to the new standard to the extent permitted by available funding." The DO also states that "existing (sign) stocks will be used until exhausted" and that "nothing in this policy will affect the continued use of entrance and other signs that have historic significance." It is not correct to assume that the introduction of new sign standards will compel the immediate replacement of all signs in a park. The UniGuide standards will require years to implement fully.

Is there money to pay for new signs?

Funding to support Servicewide oversight of the sign program is available. However, no new funding sources to help parks pay for signs have been identified. For now, parks that wish to purchase signs must do so from funding sources traditionally used for signs.

Where should I buy signs?

Signs should be purchased from Bunting Graphics, Incorporated which is located near Pittsburg, Pennsylvania. Bunting is one of the country's premier sign manufacturers offering a broad array of in-house fabrication capabilities since 1980. A range of specialized manufacturing techniques and materials (porcelain enamel, fiberglass and hpl embedded prints, routed wood, etc.) is also available through Bunting.

In addition to sign fabrication, the contract with Bunting provides access to a network of 12 professional sign planning and design firms. These firms offer a range of services, from the design of a single park entrance sign to the assessment of a park's complete signage needs and the development of a parkwide sign plan to address them. Additionally, the contract provides access to a number of sign related specialists including traffic engineers, landscape architects, human factors researchers, and visitor capacity and flow analysts.

How are signs to be ordered?

Now that a source for signs has been determined, procedures are being developed that will enable parks to order signs in the easiest and most efficient manner. The Internet

will eventually serve as the primary means by which parks learn about the standards and acquire signs. Basic information is already available by visiting the NPS Graphic Identity Program website (www.graphics.nps.gov) and clicking on “Sign Standards” in the green overbar. The site includes brief information about the standards and instructions to place orders by calling Harpers Ferry Center at 304 535 5050, or NPS Sign Program Manager Bob Clark at 304 535 5022. For the moment, all orders should be directed through the Center. Doing this will enable HFC program and acquisition managers to establish samples for task orders and scopes of work that will assist parks in ordering directly from the manufacturer in the future. It will also enable HFC personnel to trouble shoot the problems that inevitably occur in a new relationship with a contractor.

Over the next several months, the website will grow to provide more extensive information about the various kinds of signs available, and a link to Bunting Graphics to allow direct orders of many kinds of signs. The eventual goal is to establish a rapid ordering process not unlike those used by other online shopping websites. Until a fully transactional process can be created, orders will be placed in more conventional ways using the information, phone contacts, and order forms available on the website as it evolves.

Must I purchase all signs from the Servicewide supplier?

Yes. Bunting Graphics, Inc. was issued a “requirements” contract, which means that it is mandatory that all signs purchased by the National Park Service be acquired from them.

Are there any exceptions to the requirement that parks purchase from Bunting Graphics?

Yes, there are two exceptions: 1: Signs needed for emergencies dealing with life, health, and/or safety may be purchased from other sources. (Bunting is, however, capable of providing quick turn-around for signs needed in emergencies.) 2: Park entrance signs that have significant historic value do not need to conform to the UniGuide standards. (Again, Bunting could be considered as a source for these non-standard signs by including them in your procurement competition.)

Must wayside exhibit production be purchased from Bunting?

Yes. It is mandatory that wayside exhibit bases and panels be purchased from Bunting.

Must wayside exhibit planning and design be purchased from Bunting?

The contract with Bunting includes planning and design, but as an option, not as a requirement. Parks also have other options for wayside planning and design. They may: arrange for HFC staff to do it; contract with a professional design firm through the HFC IDIQ contract program; or do the planning and design themselves. No matter which option is selected, all waysides should be planned and designed according to NPS cartographic, editorial, graphic, and production standards. To decide which of these options

is best for you call, Harpers Ferry Center at 304 535 5050 or NPS Sign Program Manager Bob Clark at 304 535 5022.

This park has purchased wayside panels from the same sources for many years? Will those vendors still be available to us?

Many will. Although Bunting will manufacture wayside bases, it will obtain wayside panels from a nationwide network of subcontractors that specialize in various imaging technologies. These sources include companies like Windsor/Fireform, KVO Industries, Pannier, iZone, and Folia that parks are familiar with. Bunting will compete most jobs among these vendors to ensure that prices are competitive, and will archive digital production files so that panels can be reordered quickly and conveniently.

Will wayside bases purchased from Bunting be noticeably different from the park's existing wayside bases?

No. The new bases will appear very similar to most viewers. The new bases are made of steel (rather than aluminum) and are available in a weathering or galvanized finish, which may be painted in order to match bases already in place.

Park staff will notice quite a difference when it comes to replacing wayside panels. The new base design features a top rail (held in place by tamper-resistant set screws) that is much easier to remove than the traditional frame (which is held in place with pop rivets).

To whom do we send contractors for answers about why parks can no longer go directly to them?

Because many of the contractors that have traditionally supplied sign components to the National Park Service will continue to provide them as subcontractors to Bunting, they are aware that they should no longer sell directly to parks. Inquiries should be referred to the Kim Strite at 304 535 6485, or Brian Sprague at 304 535 6285.

I have initiated a sign purchase from a source other than Bunting. May I continue with this purchase, or must I use the new contract?

If you were well into the process of purchasing signs from another source when the contract with Bunting was signed, you may obtain a waiver to continue. To discuss this possibility, call Bob Clark, NPS Sign Program Manager at 304 535 5022, or the HFC Office of Acquisition Management, Kim Strite at 304 535 6485 or Brian Sprague at 304 535 6285.

Why must parks purchase from a single source?

Director's Order #52C, Park Signs, dated September 29, 2003, required that a single-source contract be established. You can review the Director's Order at: <http://www.nps.gov/policy/DOrders/52Cfinal.pdf>.

Purchasing in volume from Bunting will ensure that:

- sign costs remain low, while sign quality remains high.
- signs are consistent in appearance and content. A consistent appearance strengthens the Service's image as a single organization; consistent content ensures more rapid and more effective communication with park visitors.
- the Service can account for its considerable investment in signs far more responsibly than the current practice of buying from multiple sources at various prices and differing levels of quality.
- parks know that they have purchased an environmentally preferable product because of the specific requirements in the Bunting contract relating to the use of sustainable processes and materials.

Why is it important that NPS signs be consistent in appearance and content?

A consistent appearance strengthens the Service's image as a single organization; consistent content ensures more rapid and more effective communication with park visitors.

How will you ensure the quality of products and services?

The contract with Bunting includes frequent performance reports and reviews. In fact, the duration of the contract is dependent on how the contractor performs. With excellent results, the contract may be extended up to 10 years.

Who will manage the UniGuide Sign Program?

The general responsibilities of most of the participants, from the Director to Park Sign Coordinators, are defined in Director' Order #52C. Additional details are provided below:

National Program Advisory Board - Provides ongoing oversight to ensure effective management of the program. Includes a range of individuals to who signs are an important means of communication, including: regional directors, superintendents, facility managers, law enforcement rangers, sign shop managers, interpreters, safety officers, and resource managers.

National Sign Program Manager - Manages overall implementation of the program

- Prepares and updates standards and related sign planning tools
- Prepares training curriculum, trains Regional Sign Coordinators, and oversees their training of Park Sign Coordinators
- Secures and coordinates private sector sign planning services for use by parks
- Coordinates and responds to advice from the National Program Advisory Board
- Coordinates activities of the Regional Sign Coordinators
- Issues purchase requests for sign planning, design, and/or production
- Monitors performance of Bunting Graphics, Incorporated

- Coordinates UniGuide Program with NPS Construction and Park Roads and Parkways Programs

Harpers Ferry Center - Manages and supports activities of the National Sign Program Manager

- Issues and administers contracts with Bunting Graphics, Incorporated
- Provides graphic design, editorial, and cartographic services as required
- Monitors quality control over production and delivery of sign contract orders
- Reports progress and problems in implementing the program as appropriate

Regional Sign Coordinators - Manages implementation of the program at the Regional level

- Trains Park Sign Coordinators and other NPS personnel in creating sign plans
- Coordinates NPS and private sector sign planning services to assist parks in creating and maintaining sign plans
- Assists ordering and installation of signs; troubleshoots problems in sign ordering process
- Reports progress and problems in implementing the program to Regional Director
- Coordinates design and fabrication of nonstandard signs through National Program Manager
- Advises parks on funding resources and procedures

Park Sign Coordinators - Manages implementation of the program at the park level

- Prepares and maintains park sign plan with assistance from Regional Sign Coordinators and National Program Manager
- Orders Signs from Private Sector Sign Supplier
- Oversees and inspects installation of signs
- Maintains and replaces signs as required
- Maintains local inventory of sign hardware for rapid replacement
- Reports progress and problems in implementing sign program to Superintendent and/or to National Program Sign Manager
- Coordinates with park staff to help create common voice for all communications

Private Sector Sign Supplier (Bunting Graphics Incorporated) - Provides signs to parks in accordance with NPS UniGuide design and fabrication standards.

- Prepares final production files for sign panel imaging
- Produces and delivers sign hardware and panels to parks
- Maintains supply of standard sign panels and hardware for rapid delivery
- Provides sign installation services

- Develops and maintains transactional website for online sign ordering
- Maintains database of park sign plans and sign production files with online NPS accessibility

Does the requirement to use Bunting mean that park sign shops can no longer make signs?

No. The contract relates to the purchase of signs, not to in-house fabrication. Park sign shops may produce any sign that they have the technical capability to manufacture, as long as they are produced in accordance with Uniguide Sign Standards. Capabilities vary from park to park. Some sign shops are able to produce Motorist Guidance and Traffic Regulatory signs and Park Entrance and Facility Identification signs. Visitor Information signs employ specialized mass-produced components available from Bunting that can be used to support sign panels made in parks.

In the past I have purchased signs from Federal Prison Industries (UNICOR). Do I need to get a waiver to go to Bunting ?

No. Now that UNICOR is not a required source, parks do not have to get a waiver to go to Bunting. Regulations require that UNICOR be “considered” as a source, which was done during the formal procurement process. Comparisons of traffic regulatory and motorist guidance signs revealed that UNICOR’s prices were generally higher, and that delivery times were considerably longer. A copy of the UNICOR Value Analysis is available from the HFC Office of Acquisition Management to include in your contract file(s). Please contact Kim Strite at (304) 535-6485 or Brian Sprague at (304) 535-6285 for a copy.

How was Bunting awarded the Servicewide contract?

The search for a competent sign manufacturer was lengthy and extensive. In the early Spring of 2004, Harpers Ferry Center issued an Request for Information (RFI) that proposed how a private-sector firm might participate in the NPS Servicewide Sign Program. The document was reviewed by leading sign manufacturers, many of whom attended an “industry day” in June 2004 to discuss the proposal in person. Based on comments provided during these discussions, and received later in writing, HFC revised the RFI and reissued it as a Request for Proposal (PFP) in November of 2004. In February 2005, technical and price proposals were submitted by a number of sign manufacturers and a review panel was convened in Harpers Ferry. The panel included representatives from the Center as well as several field personnel with experience in park or park sign program management.

The technical merits of each proposal were determined, with prices and other factors considered. A competitive range was established in May 2005. Negotiations were very com-

plex, especially given the large number of possible sign sizes and materials. Before contract award, the firm's manufacturing facilities were inspected, including a careful look at plant safety and environmental stewardship.

The proposal submitted by Bunting was very strong, and clearly indicated the firm's ability to competently fabricate a wide variety of signs. Examples were provided of many previous projects, including signs recently produced for the National Museum of the American Indian and the Smithsonian's new National Air and Space Museum. In addition to considerable skills in sign fabrication, Bunting was noted for its deep regard for the National Park Service and its mission, and a strong commitment to the quality, value, and service that their contract with us will require.

Why are new sign standards needed?

New standards are necessary to respond to significant changes that have occurred in the quarter century since existing standards were developed:

Changing Audiences – The Sign standards being replaced (NPS-SSS) were adopted in 1978, a year in which 294 parks were visited by 282 million people. Today, there are 388 parks that are visited by 429 million people each year. More important than growing in numbers, the character of park visitors is changing as well. Today's visitors are older and more international in origin. They also come to parks expecting facilities that are aesthetically and functionally equal to those they enjoy elsewhere. The new standards address these requirements by providing signs that reflect the latest in human factors engineering and a systematic approach to environmental graphic design.

New Technologies - Sign technology has changed significantly since 1978. Rather than relying on pencil and paper, the new standards rely on the electronic technologies made possible by the computer. Sign planning, design, fabrication, delivery, inventory, and maintenance are all easier and better integrated with standards developed for the digital world. Many new sign materials and fabrication procedures have also been developed since 1978. They include advanced retroreflective surfaces, digitally imaged sign panels, and computerized sign-making equipment. By taking full advantage of these materials and methods, the new standards offer a much wider range of possibilities for park signs than the old guidelines.

Expanded Needs - The 1978 standards focused primarily on vehicular traffic signs within or leading to parks and provided limited guidance on metal entrance signs. The 1978 standards, however, did not begin to fully address the complex range of signs that are typically needed in a park. The new comprehensive standards offer complete design and

fabrication specifications for a full range of sign types from interstate highway guide signs to campsite number designations and everything in between. The new standards are also consistent with the NPS graphic design standards that were recently introduced in response to the agency's effort to strengthen its public identity.

Will the new sign program save the National Park Service money?

Yes. A Value Analysis of the sign program conducted in the Spring of 2003 found that the program would save the agency from \$25-30 million over the next 24 years. Savings will be realized in a variety of ways. UniGuide signs typically use heartier materials in stouter dimensions, thus improving durability and lowering maintenance and replacement costs. Having standards will also significantly lower sign costs by reducing the repetitive custom design of similar signs. Likewise, planning costs will be lowered by using signs developed for similar applications (safety, resource protection, campground etiquette, etc.) at multiple parks. Savings will also be realized by reducing Servicewide procurement costs. Rather than initiating and managing the acquisition of signs at 388 parks, purchases will be made through a single source. Having a single contract also enables Harpers Ferry Center to eliminate the multitude of indefinite delivery / indefinite quantity contracts it has historically maintained for wayside exhibit panel and hardware production. Finally, in addition to the savings cited by the Value Analysis, the new sign program will reduce costs associated with tort claims. In fact, the U.S. Army Corps of Engineers has reported that adopting similar sign standards in the 1980s helped reduce drownings from 500 to 183 annually. This allowed significant reductions in claims paid, especially considering that the average claim is \$7 million.

Will the new sign program save individual parks money?

Yes. In addition to reduced maintenance costs, certain signs will be initially less expensive. For example, traffic regulatory signs cost less than these same signs purchased from Federal Prison Industries (UNICOR). Furthermore, the new signs are higher in quality with thicker aluminum and higher-graded retro-reflective vinyls, and can be delivered faster than by UNICOR. Initially, orders will be shipped in 14 days (rather than the 30-day UNICOR turnaround); ultimately, the delivery time will be reduced to 5 days. In some cases, motorist guidance signs may be slightly more expensive. This is because they are sometimes larger (than signs prescribed by the 1988 NPS Sign Standards) in order to make them easier to read at highway speeds and to conform to current FHWA regulations. These signs also come with new mounting rails that will make installation much easier. And, finally, the overall quality and delivery times for these signs should also be higher than previously provided by UNICOR. Other signs may cost more to purchase. For example, parks may find that the cost of entrance signs (or similar signs that identify major sites and facilities within a park) are higher

than they have historically paid. This is because parks have often used retro-reflective aluminum signs (based on the 1978 standards for motorist guidance signs) as their primary park or facility identity signs. The new standards offer entrance signs that are made from materials that are more appropriate to the purpose and are much more durable. They are fabricated from Western Red Cedar with park names and other text routed into them. The signs are finished in opaque stains (in grey and green with contrasting white lettering) to ensure their durability for many years. These are very attractive signs that are well suited to the task of welcoming visitors to the nation's "special places."

For park facilities or sites in more remote areas where an investment in a major sign is not possible or advisable, lower cost identity signs are available.

Are the new style wayside exhibits less expensive?

The contract prices for the various types of digital panels (hpl, fiberglass embedded, or overlaminated) from Bunting are in line with prices that parks have traditionally paid. Prices for porcelain enamel panels are not fixed by the contract. Instead, Bunting has agreed to compete porcelain prices.

Prices for wayside bases will be higher. This is because the new bases are made of steel. Because steel is more rugged and can be used outdoors without painting (in a weathering or galvanized finish), it requires less maintenance than aluminum, which is the material traditionally used for wayside hardware. In addition to being more durable, the new wayside bases will come in a much wider range of sizes and will allow panels to be changed more easily.

If the cost of steel continues to rise (it doubled from December 2003 to December 2004), aluminum will be reconsidered for wayside bases and other sign hardware.

Will assistance from Harpers Ferry Center add to the cost of my signs?

No. All Harpers Ferry Center costs associated with the sign program are covered by the Center and do not effect the cost of signs. These services include the ongoing maintenance of the sign standards, training related to the use of the standards, and Servicewide coordination of the sign program including management of the overall contract, down to assistance in placing and monitoring individual sign orders. It also covers HFC's assistance in sign planning and design for specific signs or in the development of sign plans for entire parks.

Will adoption of new sign standards mean that all NPS signs will look alike?

No. In order to maximize their authority, all park signs must be recognized as official

National Park Service messages. Just as the credibility of park rangers is enhanced by the consistency of their uniforms, signs gain authority by repetition of style. They also gain clarity. As visitors travel from park to park, they are greeted by a graphic language that they come to know and understand. Communication is more assured, more rapid, and more effective. Redundancy of appearance also helps strengthen the agency's identity by ensuring that the public is fully aware of the NPS and the breath of its mission.

The goal of the standards is to find the appropriate point between the extremes of absolute uniformity on the one hand, and exhaustive custom design on the other. Too much of the former results in signs that are overly "corporate" in appearance; too much of the latter increases costs and fails to adequately reflect a parks connection to the agency. The new standards attempt to achieve a reasonable balance by prescribing some features, while offering enough flexibility to ensure that signs reflect the visual character of individual parks. This is especially true of entry signs. Consistency is achieved by the conformity of the sign panel; appropriateness is assured by providing variety in the form and the material of the sign's structure.

Does adoption of the new standards mean that custom sign design is never needed?

No. Even though the UniGuide Standards cover a very wide range of sign types, parks will undoubtedly have needs that have not yet been addressed. Over time, additional designs will be developed and added to the system. And, even though the standards will be continually updated, there will always be circumstances that call for the creation of unique signs (especially entrance signs) or other wayfinding devices. The goal is to enjoy the advantages of having standards whenever possible, but to acknowledge that all standards have limitations. The new sign contract provides access to sign designers that can provide custom design when it is needed.

Why are some of the dimensions in the sign standards expressed in metrics?

Development of the new standards began in the 1990s when federal agencies were still working toward a conversion to the metric system. When this initiative lost momentum, it was decided that the effort to revise those parts of the standards that had been rendered in metrics was too costly for the funding available.

Sign fabricators, including Bunting Graphics, that are experienced in both customary and metric measurements, should have no difficulty understanding and using the UniGuide standards. On the other hand, those who want to order signs need not understand the details of the standards, including metric dimensions. Instead, parks only need to be generally familiar with the various kinds of signs that the standards include and be ready to

provide information about the specific sign(s) needed.

Have the new standards been tested?

Yes, the standards have been the subject of considerable laboratory analysis and field observations.

Human Factors Studies - In March, 2001, a study of prototypical sign panels developed for Yosemite National Park was conducted by the Virginia Polytechnic Institute and State University. The Virginia Tech study was conducted jointly by the school's Department of Resource Recreation and Tourism, and the Department of Industrial and Systems Engineering. Preliminary lab studies were conducted at the University, followed by field evaluations of signs in the North Pines Campground and Yosemite Falls trailhead at Yosemite. The results of both studies were helpful in understanding the importance of sign placement, the proper amount of narrative and illustrative content, and the value of maps. The findings of this study have been incorporated into these standards.

Analysis of Sign Typography - In 2001, tests were conducted to determine the relative effectiveness of the new NPS standard "Roadway" typeface. The tests were conducted by the Pennsylvania Transportation Institute (PTI) at The Pennsylvania State University (Penn State). Researchers evaluated NPS Roadway against the old NPS standard typeface (Clarendon) and against two federal highway alphabets. The Penn State tests were conducted on a track using use human subjects to determine the readability of these fonts against retroreflective sign sheeting during the day and at night. The tests concluded that NPS Roadway "results in 10.5% greater legibility distances and equal recognition distances compared with NPS Clarendon." The study also found that words created with Roadway "are 11.5% shorter than the same words created with NPS Clarendon" thus enabling signs that allow more space around the words and further increasing readability.

Evaluation of Prototypes - A number of sign prototypes have been fabricated, including some that have been installed in parks. A variety of sign types were placed in Yosemite Valley in 1998 and on the South Rim of the Grand Canyon in 2000. Important lessons were gained from each installation that prompted numerous revisions to the standards. For example, difficulties at Yosemite in installing and replacing certain signs led to the re-design of a primary component of the sign's structure . The installation at Grand Canyon prompted the design of several new sign types and highlighted the need to maintain quality control of hardware manufacture. Additional prototypes are planned and adjustments

to the sign hardware design are anticipated now that a Servicewide sign manufacturer has been selected.

Value Analysis - In 2003, a formal Value Analysis of the UniGuide standards was conducted by NPS Value Analysis Program Manager Rich Turk. The analysis team included professionals from the NPS, the U.S. Army Corps of Engineers, and the private sector that analyzed the proposed standards concept, proposed changes to improve performance and reduce costs, and proposed implementation strategies. The study team found that overwhelming benefits were to be gained by implementing the new standards. Among the greatest benefits cited was that, consistently applied, the UniGuide standards could expand and improve communications and the NPS identity program.

Have the UniGuide Standards been approved by the Federal Highway Administration?

The UniGuide Standards are intended to be used in concert with the FHWA's sign standards as expressed in their Manual of Uniform Traffic Control Devices (MUTCD). In most every way the NPS standards conform fully to the MUTCD. The FHWA has, however, agreed to permit the NPS to vary from their standards in a certain instances. These variations will be documented as part of a memorandum of understanding between the two agencies.

Why do the UniGuide Standards include new typefaces? Does the Federal Highway Administration approve of these new typefaces?

New typefaces have been introduced for two reasons: 1. The typefaces (Rawlinson, NPS Roadway, Frutiger, and Clearview) contribute to better communication and safety because they are all easier to read than typefaces previously used. Tests have shown, for example, that the bold version of NPS Roadway is significantly more legible than the Clarendon that currently appears on most NPS motorist guidance signs.; and 2. The new typefaces are the same as those now used in all other forms of NPS communications. The consistent use of specific typefaces contributes to building a strong organizational identity.

Based on the test results presented to it, the Federal Highway Administration has approved the use of NPS Roadway and Clearview by the National Park Service on all publicly accessible roadways.

Will UniGuide signs help meet NPS sustainability goals?

Yes. The UniGuide Program recognizes the opportunity that the National Park Service has to be a model for environmentally responsible behavior. Development of the standards was guided by a number of principles:

Durability - The UniGuide Standards specify materials that are rugged and are used in

stout dimensions and forms. This means that fewer materials are used over time because the signs resist damage and last longer.

Less Energy Consumption - Signs that last longer also mean less energy is consumed, because they do not need to be inspected, repaired, or replaced as often. This saves fuel and money. Signs that are well planned and communicate effectively also mean that visitors' vehicles consume less fuel by traveling to their destinations directly and quickly.

Recyclability - Most materials specified by the UniGuide Standards -- including wood, steel, and aluminum -- are recyclable.

Reusability - Much of the UniGuide hardware is designed as a kit of parts that can be assembled, taken apart, and then reassembled for a different use rather than being discarded.

Flexibility - Because most of the UniGuide hardware components and sign panels are produced in volume, efficient fabrication procedures can be employed saving both energy and materials.

Because they are based on a modular system, UniGuide sign panels can be made of a variety of materials. Over time, as newer, more environmentally friendly materials are developed, they can and will be incorporated into the system.

Responsible Manufacturing – HFC consulted with NPS environmental compliance experts to ensure that the contractor selected had a clean environmental record and that the contract included performance criteria to ensure that their storage, use, and disposal of hazardous materials continued to be appropriate.

How do the UniGuide Standards address issues of accessibility?

Signs that communicate effectively with those who have visual impairments (and those who do not) must adhere to certain graphic design principles, especially those relating to typography. The UniGuide Standards carefully considered each of the following criteria as established by the Society for Environmental Graphic Design (SEGD) in response to the Americans with Disabilities Act:

Typestyle - In selecting typefaces for the UniGuide Standards, considerable attention was given to those that are highly legible. In accordance with SEG D recommendations, two classic faces were chosen: the sans-serif face Frutiger which was initially designed for ease of reading on road guide signs, and Rawlinson (and its variation NPS Roadway) which was developed specifically for the National Park Service. Tests on Rawlinson demonstrate

that it is a very readable font. Although decorative fonts appeal to some because of their historic reference, they were avoided. Variations of Rawlinson and Frutiger (e.g., light, extra bold, condensed, expanded, italic, etc.) were generally also avoided. Finally, in keeping with SEGD guidelines, words of all uppercase letters were used very sparingly because they are difficult to read.

Typesize - 16 point type is considered by most sources as the smallest acceptable size for “large-print” communications. (12 point is considered an effective size for conventional communications where no large-print versions are planned.) Type sizes used in the *UniGuide* Standards range from 20 point on signs in the Visitor Information System all the way to 12 inches on Motorist Guidance and Park Identification Signs.

Letter, Line, and Word Spacing - Regardless of type size, all text must have sufficient space between characters, words, and lines if it is to be easily read. The default settings for both Rawlinson and Frutiger in the *UniGuide* Standards provide ample letter and word spacing; line spacing may be adjusted according to the type of sign and the length of the text.

Line Length - The *UniGuide* Standards provide layout grids that help avoid text lines that are too long or too short. Rather than indenting, paragraphs are distinguished by an open line space between them. Text is set in a flush-left alignment and hyphens are used infrequently, again in accordance with SEGD recommendations.

Color and Contrast - Generally, the higher the contrast between type and its background, the more readable the type is. According to the SEGD, contrast may be achieved by black text on a light background or white text on a dark background. The *UniGuide* Standards prescribe the use of either black or white type; other colors are used sparingly for emphasis or to designate specific subjects. Backgrounds are typically dark or mid tones; white is rarely used to avoid glare outdoors.

Content and Layout - SEGD guidelines state that “information (layouts) should follow clear hierarchial patterns, and the elements ... should be sensibly located and follow logical progressions.” Informational signs in the *UniGuide* Standards present information in an easily understandable sequence, beginning with a headline, continuing with a text deck that briefly presents the subject or purpose of the sign, and concluding with additional details supplemented by illustrations and symbols when appropriate. Purely decorative elements are avoided so that text can be presented in clearly defined blocks, again consistent with SEGD guidelines.