



A Journey of Discovery

Appendix D - Wayside Interpretive Design & Sign References

- **Internet Resource List – hyperlinked**
- **National Park Service (NPS) - Wayside Design Process (2 pages)**
- **EnviroSign - Design Guides for Preparing Interpretive Sign Files (4 pages)**
- **National Forest Service (NFS) – Comparison Chart Sign Materials**
- **IZone – High Pressure Laminate Spec Sheet**



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Internet Resources

National Park Service – Harper’s Ferry Center <http://www.nps.gov/hfc/products.htm>

- Wayside exhibits <http://www.nps.gov/hfc/products/waysides/index.htm>
- Wayside exhibit guide - <http://www.nps.gov/hfc/pdf/waysides/Wayside-Guide-First-Edition.pdf>

Erie Canal Wayside Companion

<http://www.eriecanalway.org/documents/ErieCanalwayWaysideCompanion10-15-07.pdf>

Guide to Interpretive Materials for Interpretive Sign Fabrication

http://www.bywaysonline.org/forums/viewattach.do?id=21&name=GuideTo_interpretive_Materials.pdf

The [Heritage Destination Consulting website](#) has a library of free resources on interpretive signage.

Guide to brochure and leaflet design - <http://www.heritagedestination.com/brochure-design.aspx>

Guide to RFPs for interpretive signage - <http://www.heritagedestination.com/rfp-outdoor-panel.aspx>

Overviews of sign material selection:

High Pressure Laminate - <http://www.heritagedestination.com/panel-spec-outdoor.aspx>

GRP Fiberglass - <http://www.heritagedestination.com/interpretation-panels-grp-laminate.aspx>

GRP Gel Coat - <http://www.heritagedestination.com/interpretation-panels-grp.aspx>

Porcelain Enamel - <http://www.heritagedestination.com/interpretation-panels-vitreous-enamel.aspx>

Others - <http://www.heritagedestination.com/interpretive-panel-materials.aspx>

Sign Manufacturers & Pedestals, Frames and Mounting Brackets

KVO Industries - <http://www.kvoindustries.com/signage-hpl.html>

IZone Imaging - <http://www.izoneimaging.com/>

Fossil Graphics - <http://fossilgraphics.com/>

Bunting Graphics - <http://nps.buntinggraphics.com/pages/signtypes/wayside/wayside.aspx>

Heritage Destination Consulting - <http://www.heritagedestination.com/heritageinterp-fabrication.aspx>;

<http://www.heritagedestination.com/frames-mounts-brackets.aspx>

EnviroSigns - <http://www.envirosigns.com/envioreader/>

Wayside Exhibit Development Process

Summary Chart (For more detailed requirements see <http://www.nps.gov/hfc/products/waysides>)



Project Startup	Site Analysis	Project Proposal	Wayside Exhibit Plan	Final Wayside Plan
<p>Project Startup</p> <p>Project Startup focuses on preparing a solid foundation for all work that follows, ensuring that the project is logically structured and its goals are understood and realistically attainable. Project lead, team members, and stakeholders are identified and their roles defined.</p> <p>Project Startup</p> <p>Establish the project team</p> <ul style="list-style-type: none"> Identify the project lead, subject-matter experts, project reviewers, park partners, and media specialists. <p>Review foundation documents</p> <ul style="list-style-type: none"> Gather and review General Management Plans, Long-Range Interpretive Plans, Historic Structures Reports, and other guiding documents <p>List potential wayside exhibit sites and subjects</p> <p>Conduct Front-End Evaluation</p> <p>Establish the funding and any time restrictions</p> <p>Develop a Project Management strategy</p> <p>Begin Research</p> <ul style="list-style-type: none"> Identify resource materials and bibliographies Gather potential site-specific graphic resources Develop a graphics notebook containing potential graphics for use when evaluating exhibit sites during the site visit. <p>Plan the site visit</p>	<p>Site Analysis</p> <p>Wayside exhibit planners and designers work with the park staff and subject-matter experts to evaluate potential exhibit sites and determine exhibit purposes and content based on site-specific features, events, and park primary themes.</p> <p>Site Analysis</p> <p>Conduct startup meeting</p> <ul style="list-style-type: none"> Review what makes an effective wayside, the work process, accessibility requirements, panel and base material choices, resources gathered, and team roles and responsibilities. <p>Analyze wayside exhibit sites</p> <ul style="list-style-type: none"> Visit potential exhibit sites with park staff and subject-matter experts. Identify site-specific significance and meaning, and relevant graphic materials. Identify each exhibit's purpose, orientation, panel size, and site conditions. Develop thumbnail sketches to facilitate discussions and agreement. Photograph exhibit sites and site-specific features. <p>Gather Reference and Graphic Material</p> <ul style="list-style-type: none"> Based on site discussion, gather graphic source materials relevant to wayside content. <p>Conduct close-out meeting</p> <ul style="list-style-type: none"> Review thumbnails and graphic direction for the waysides. Review revised schedule, budget, and next steps. Summarize decisions made and any outstanding issues. 	<p>Project Proposal</p> <p>A proposal document is prepared using the Wayside Exhibit Planner Database. The Proposal identifies the project's scope including cost estimates, schedule, and other pertinent project data.</p> <p>Project Proposal</p> <p>Prepare proposal</p> <ul style="list-style-type: none"> Document the selected exhibit locations and purposes, panel and base selections, and map and graphic needs. Create site map of wayside locations. Refine thumbnail sketches. Develop detailed cost estimate. <p>Proposal review, revision, and approval</p> <ul style="list-style-type: none"> Submit Proposal, cost estimate, and project agreement for review and approval. Park staff, including maintenance, review the Proposal to confirm all decisions. <p>Reference and graphics package</p> <ul style="list-style-type: none"> Based on the approved Wayside Proposal, identify, gather, and organize reference and graphic materials. 	<p>Wayside Exhibit Plan</p> <p>Guided by the Proposal, reference material, and graphics package, the planner will research each exhibit topic and work with the designer to develop draft wayside exhibit design layouts that are compiled into a Wayside Exhibit Plan for review and approval.</p> <p>Draft Wayside Exhibit Plan</p> <ul style="list-style-type: none"> Read and review references and graphics. Organize the content, establish hierarchy. Prepare draft interpretive exhibit text. Create draft maps. Draw sketches of new art. Draw sketches of tactile elements. Create draft layouts. <p>Wayside Exhibit Plan review and approval</p> <p>Procure approved graphics and use-rights</p> <ul style="list-style-type: none"> Secure use-rights for the life of the wayside and document use-rights agreements. Acquire high-resolution graphics. <p>Develop original art</p> <ul style="list-style-type: none"> Develop detailed sketches. Place detailed sketches in layout and adjust both for fit, legibility, size, margins, bleed. Develop final art and get high-resolution scan. <p>Create maps</p> <ul style="list-style-type: none"> Use wayside Map Guidelines and starter map files to create actual-size digital maps. <p>Procure second-language translations</p> <p>Procure tactile elements</p>	<p>Final Wayside Plan</p> <p>Assemble final text, photos, maps, diagrams, and art for park's final review and approval prior to production. Any changes to exhibit elements should be minor at this stage of exhibit review.</p> <p>Final Wayside Exhibit Plan</p> <p>Complete editorial review and make all text changes to exhibit layouts</p> <ul style="list-style-type: none"> Place second-language text in layouts. <p>Place all final graphics in layouts</p> <ul style="list-style-type: none"> Final approved art. Final approved maps. Final high-resolution photos. Detail position of tactile elements. <p>Final Wayside Exhibit Plan review and approval</p> <ul style="list-style-type: none"> Make any minor final adjustments. Secure final approval to go into production.

Wayside Exhibit Production Process

Summary Chart (For more detailed requirements see <http://www.nps.gov/hfc/products/waysides>)



Production Files	Fabrication	Preparing the Site	Installation	Archive / Inventory	Maintenance
<p>Based on the approved Wayside Exhibit Plan a production-ready package is assembled. The production package includes digital layout files, high-resolution graphic and map files, fonts, color proofs, and production notes for the fabricator.</p> <p>Production Files</p> <ul style="list-style-type: none"> Review all layouts, printed full size Take the time to check for hard-to-see errors, and make final corrections Assemble the production package Write production notes to guide the fabricator Print 11x17 color-correct copies of all layouts Burn all production files to disk (layouts, graphics, maps, fonts) Prepare base order form Gather custom base drawings Define tactile model specifications <p>Print final layouts for park records</p> <p>Park identifies delivery location for panels and bases</p> <p>Park writes a work order for site preparation and installation</p>	<p>Panels are imaged from digital files. Fabricator provides production proofs for review. Once corrections are made the panels are produced. Bases are fabricated and shipped.</p> <p>Fabrication</p> <ul style="list-style-type: none"> Fabricator images production proofs Production proofs and samples are inspected and marked with any corrections Panels are fabricated and shipped HFC takes delivery of panels, inspects, and ships to the park Bases are fabricated and shipped to the park Tactile models are fabricated and shipped 	<p>Park prepares wayside exhibit sites for installation, making certain sites are safe and accessible.</p> <p>Site Prep</p> <ul style="list-style-type: none"> Secure permits and clearances Make wayside exhibit pads accessible and safe Clear the vista Stake the sites Remove existing signs 	<p>Park installs the exhibits according to installation plans and assembly instructions and ensures safety and accessibility at each site.</p> <p>Installation</p> <ul style="list-style-type: none"> Shipping and receiving <ul style="list-style-type: none"> Park takes delivery and inspects shipments of panels and bases Install bases <ul style="list-style-type: none"> Installation plan guides location, direction of view of each wayside Installation meets accessibility requirements Install panels <ul style="list-style-type: none"> Fill in installation information on the sticker on the back of the panel After bases are securely in place, panels and tactile elements are installed Prepare audio description of each wayside and its location Conduct summative evaluation 	<p>Production files are archived, back-up panels are inventoried and securely stored, warranty and graphics-use records are appropriately filed, final project data is input into Media Inventory Database System (MIDS), and project accounts are closed.</p> <p>Archive / Inventory</p> <ul style="list-style-type: none"> As-built files are returned by the fabricator and archived <ul style="list-style-type: none"> HFC maintains wayside archive for projects done via HFC Backup panels are inventoried <ul style="list-style-type: none"> Park keeps backup panel in safe convenient location for easy replacement as necessary Critical project materials are archived <ul style="list-style-type: none"> Warranty and use-rights agreements Final Wayside Exhibit Plan Production files and master files Original source materials like prints, negatives, or original art Park updates MIDS data Park enters FMSS data Project accounts are closed 	<p>The park site manager is provided with a wayside exhibit maintenance kit and informed how to properly clean and maintain the new exhibit panels and bases. The park maintains the exhibits and replaces as needed.</p> <p>Maintenance</p> <ul style="list-style-type: none"> Clean panels and bases <ul style="list-style-type: none"> Use the wayside exhibit maintenance kit, which includes written instructions and materials for maintaining the exhibit Regularly wax fiberglass panels Touch up bases <ul style="list-style-type: none"> Repair scratches and chips Replace deteriorated or damaged panels <ul style="list-style-type: none"> Keep a backup panel in storage Replace damaged panels with the backup panel and order a new backup Clear the vista <ul style="list-style-type: none"> Perform regular maintenance to remove or trim obstacles Maintain the site <ul style="list-style-type: none"> Ensure site conditions, wayside pad, entrances, and exit remain clear, safe, and accessible

Quickstart Guide

- Durareader: 48" x 142", Panels up to 58" x 143" available but may require longer lead time.
- Enviroreader: 36" x 48" max. (requires frame) Allow min. of 1-1/2" margin for text and graphics.
- Recommended design software: Adobe Illustrator and Adobe Photoshop.
- Solid colors for vector files: Pantone Coated. See color matching below.
- Bitmap color space: RGB or CMYK. Do not embed images - see below.
- Bitmap resolution at final output size: 200 dpi for poster size. 50 - 100 dpi for mural size images.
- Fonts: Convert to paths preferred. Otherwise include all fonts with artwork in separate folder.
- Preferred document scale: Provide layouts at 100% final size. 50% and 25% size layouts are acceptable. Please alert use of reduced artwork on the document.
- Include crop marks and extend any bleeds a minimum of 1/4" beyond the crops. Provide cut lines as below.
- Keep all text and graphics 1/2" from the edge of panels that do not go into a frame.

Submitting Artwork

- Label all transfer media (CD, DVD, Zip® Disks) with:
Firm and Designer's Name and Address
Project Name
EnviroSigns Job Number (on quote)
Software Used and Version Number (e.g., Adobe Illustrator® 10)
- Include a color print of each sign panel. Label each print with:
File ID
Panel Size and Thickness
Panel Quantity
Convert all fonts to outlines. If, for some reason, you must include fonts, copy all into a font folder (see below for PC/Mac font specifics).
Create a labeled folder for each sign panel containing all related print-ready graphics. In addition to the layout file, include all placed vector and bitmap images. Do not embed graphics!

Supported Software

Although we will accept files created in all programs listed below, we highly recommend that you submit files in Adobe® Illustrator® or Adobe® Photoshop for quickest turnaround. Software-specific tips appear below.

- Adobe® Illustrator cs4 and below (Preferred)
- Adobe® Photoshop cs4 and below (Preferred)
- Adobe® InDesign cs4 which opens pagemaker 6 & 7 plus quark 3.3 to 4.1
- Macromedia® FreeHand version 10
- QuarkXPress®
- CorelDRAW® (Convert all fonts to outlines.)
- PageMaker®

Supported Transfer Media

- CD
- DVD
- Upload files to our ftp site (call or email for directions).

Fonts

Fonts are the source of the majority of prepress errors and delays and require special attention.

- Avoid most font problems and *convert fonts to outlines!*
- In any case, avoid “styling” fonts in page layout software. So, if you require italic text, use *anitalic font* rather than choosing “italic” styling in your software.
- If, for some reason, you prefer not to convert to outlines, include all Postscript and True Type fonts used in your layout.
- Don't forget fonts that may be embedded in placed graphics.

Color Matching

Our fade-resistant, pigment-based ink formulations and specially treated papers result in long lasting images. However, our proprietary combination of ink and paper does result in a color gamut possibly different from your high-resolution desktop prints. If you require matching to an original piece of art or a photograph, please inform us. We will be happy to estimate any additional color correction charges that may be required.

- Solid Colors: EnviroSigns production system is Pantone® calibrated. Predictable results can be obtained from specifying Pantone® Coated Colors. Any other color palette will not color match on our system. *Do not specify percentage tints; use the exact spot color. Use a separate color for each tint/color you want to achieve.*
- Bitmap Images: Submit scanned images and Photoshop documents in either RGB or CMYK. Avoid converting color space, and allow files to be tagged for color management (scans are typically tagged sRGB, for example).
- Duotones: Specify Pantone® Coated Color for predictable color matching.
- Color Calibration: For highest color fidelity, calibrate all your equipment (including monitor, printer and scanner) to a single sRGB standard using software and a colorimeter. If you do not have a colorimeter, use Adobe® Gamma® to visually calibrate your monitor.

Resolution vs. Final Image Quality

Unfortunately, there are no absolutes regarding image resolution. For example, the same 100 dpi image will appear sharper and with more detail when scanned on a drum scanner compared to a common flatbed scanner. Operator skill and the software used will also affect the final image quality.

Please keep in mind when determining the dpi required, you must plan for final desired size. For example, a 400 dpi file output at 200% will result in a final resolution of 200 dpi. Or, a 200 dpi file placed into a layout at 100%, then output at 200%, will result in a final resolution of 100 dpi.

In general, final resolution targets for both RGB and CMYK files are:

- Poster-Sized Panels (e.g., less than 30"x60"): Such panels are usually viewed from a close distance (less than 3 feet) and, therefore require the highest resolution images of 150-300 dpi.
Note that images scanned at higher than 200 dpi will create very large files but will not print noticeably better images.
- Banner-Sized Panels (e.g., greater than 30"x60"): When viewed from greater than 3 feet, use 100-150 dpi images with no fear of loss of image quality.
- Mural-Sized Images : 50 dpi images should suffice for single images made up of several large panels covering a wall or making up a billboard-sized sign.

Note: Economical paper test prints are available at full size.

Proofs (very important for colors checking)

- Paper Proof: for DuraReader and EnviroReader panel printed on an 11"x17" sheet, reduced to fit as necessary. They're economical (\$15.00 each plus shipping) and content accurate. We recommend a paper proof for each unique EnviroSign panel type. Full size prints available at \$5.00 sq. ft..
- Lab Test: for DuraReader 8"x10" accurate full-size section of a sign panel, pressed in 1/16" laminate. A moderate cost Lab Test is the best, color accurate representation of the finished product. Typically you'll need at least one per project to check color, contrast and sharpness.

Panel Cut Lines and Contour Cuts for custom shaped Dura Reader signs that install on pedestals or walls.

- EnviroSigns employs state-of-the-art computer-controlled panel cutting. All files require cut lines, including simple squares and rectangles. Any file to be cut in an irregular shape especially requires a cut-line.
- For best results, use a vector drawing program like Adobe Illustrator.
- If you're using page layout software like Quark Xpress, import and position the vector cut-line on an overlay layer.
- Draw a continuous 1pt line using a vector rectangle or pen tool. Use a bright color that contrasts with the panel colors (say, red).
- Assign the cut line to a separate, overlay layer, labeled "Cut Line."
- Never draw cut-lines in bitmap mode, the cutter cannot read pixel-based shapes.
- Provide a minimum 1/4" image bleed beyond the Cut Line.

Tiling Mural Images

- If the image covers an area greater than our standard panel size(48"x 96"), we can print your file in tiles. Simply indicate on your hardcopy proof what size tiles you require, placing crop-marks at cut lines. There is no need to divide files into separate documents. Our print software will tile automatically.
- Allow for a dimensional tolerance of +/- 0.5% (that's up to .5" on a 96" dimension). Keep fine detail and type at least .5" from tile joints.

Note, by adding three weeks to your turn around time, we can produce panels up to 58" x 143" in a single piece.

Specific Software Tips

Adobe® Illustrator® Recommended

- Specify colors as Pantone Coated. *Do not convert colors to CMYK or RGB.*
- Remove all *Unused Colors* from your document's color palette.
- Various transparency and shadow effects included in Illustrator require special handling.
- Inform EnviroSigns before using such effects.
- Convert all text to outlines.
- Link* all images to the base layout (check the *Link* box when you *Place* the file. *Do not embed!*)
- Include all linked images in their panel folder.
- Provide a 1/4" bleed on *all* sides of the panel's finished perimeter. Include the bleed inside the document area so it will print correctly.
- Include crop marks and perimeter cut line defining the finished "cut" size within the document area.

Adobe® Photoshop® Recommended

- In the event that files require color correction, additionally provide an unflattened, layered, native PSD file version along with the flattened TIFF or EPS version.
- Do not* choose JPEG and LZW file compression.
- Image resolution of the final product depends directly on the intended viewing distance. Images viewed from a distance of more than 5 ft should have a resolution of 50 ppi. Images viewed from a distance of less than 5ft should have a resolution of 100 to 150 ppi. This all may sound like terribly low figures but, experience has shown us that higher resolutions produce much larger files with little or no measurable improvement in quality.
- Configure the color *black* as 100%-K. Do not use "Registration" as a substitute for the color black or use "Rich Black" composed of C-M-K.
- To assure unpixelated text, add text elements in the layout program, not in Photoshop. If you must place text elements in Photoshop, text layers must be rasterized to print legibly.
- Use Pantone spot colors when creating monotones, duotone or tritones. In addition, do not alter the color name.
- Provide a 1/4" bleed on *all* sides of the panel's finished perimeter. Include the bleed inside the document area so it will print correctly.
- Include crop marks and perimeter cut line for the finished "cut" size within the document area.

Macromedia® FreeHand®

- Freehand users *must* convert all text to paths.
- Specify colors as Pantoñe Coated. *Do not convert colors to CMYK or RGB.*
- Masks created in Freehand often create raster image processing errors, therefore we do not recommend their use.
- Gradient fills in Freehand often show unwanted color steps, therefore we recommend that they only be used in small areas.
- Remove all *Unused Colors* from your document's color palette.
- Link* all images to the base layout (check the *Link* box when you *Place* the file. *Do not embed!*)
- Include all linked images in their panel folder.
- Provide a 1/4" bleed on *all* sides of the panel's finished perimeter. Include the bleed inside the document area so it will print correctly.
- Include crop marks and perimeter cut line defining the finished "cut" size within the document area.

QuarkXPress®

- Specify colors as Pantoñe Coated. *Do not convert colors to CMYK or RGB.*
- Link* all images to the base layout. *Do not embed!*
- Include all linked images in their panel folder. Use the Collect for Output command to accomplish this task.
- Provide a 1/4" bleed on *all* sides of the panel's finished perimeter. Include the bleed inside the document area so it will print correctly.
- For rectangular and square panels, document set-up area must be the same size as final panel size so that crop marks will be added automatically at time of printing. Reduced scale artwork is acceptable. Half-scale art is common when using QuarkXPress®. However, indicate clearly the use of reduced-scale art and the scale used.

Adobe® InDesign®

- Specify colors as Pantoñe Coated. *Do not convert colors to CMYK or RGB.*
- Link* all images to the base layout (check the *Link* box when you *Place* the file. *Do not embed!*)
- Include all linked images in their panel folder.
- Provide a 1/4" bleed on *all* sides of the panel's finished perimeter. Include the bleed inside the document area so it will print correctly.
- Include crop marks and perimeter cut line defining the finished "cut" size within the document area.

Power Point files:

We can work with PowerPoint files but they take extra time. We have noticed that many times users of P.P can't size the signs Correctly or scale them correctly. This is important to do on your end. We typically copy and paste P.P. files into adobe cs4 Then edit them to make them look the way they are supposed to look. You can expect to pay a design fee of approx \$35 to 45. per file to work with P.P. files.

Design charges

We charge \$85.00 per hour for designing and editing files that are not sent according to the above specs or need additional work to print. We will inform you of any work that needs done to get your approval if work does need done to prepare your files.

Table 10A-1 compares the 12 most popular interpretive sign materials.

Sign materials performance factors (below)	Porcelain enamel	Anodized aluminum	Screened fiberglass embedment	Digital laminate composite	Digital embedded fiberglass	Digital sheet	Back screened Lexan	Screened wood laminate	Routed wood	Sandblasted wood	Stone etching	Vinyls polyethylene polycarbonate
Graphics and Color												
Graphics capability/ resolution	Excellent	Good, line art only	Very good	Very good	Very good	Very good	Very good	Poor to fair	Poor	Fair to Good	Good, line art	Fair, line art
Color retention over time	Excellent	N/A	Fair to good	Unknown	Unknown	Unknown	Fair to good	Poor to fair	Poor	Fair	N/A	Poor
Range of colors	Excellent	Poor to fair	Very good	Very good	Very good	Very good	Spot colors/Fair	Poor to fair	Poor	Poor	N/A	Poor
Photo reproduction capability	Excellent	Good, halftones	Very good	Very good	Very good	Very good	Good	Fair	N/A	N/A	Good, halftones	Poor
Material durability												
Life expectancy in serviceable condition	Excellent 40 yrs+	Excellent 40 yrs+	Good 8 to 10 yrs	Good 10 to 12 yrs	Good 8 to 10 yrs	Fair 2 to 3 yrs	Good 8 to 10 yrs	Fair 4 to 6 yrs	Fair 5 to 7 yrs	Fair 5 to 7 yrs	Excellent 40 yrs +	Poor to fair 2 to 3 yrs
Scratch/abrasion resistance	Excellent	Poor	Very good	Very good	Very good	Poor	Matt finish - good	Fair	Poor	Poor	Poor	Poor
Cracking/peeling/warping resistance	Excellent	Excellent	Fair to good	Very good	Fair to good	Poor to fair	Good	Good	Excellent	Excellent	Excellent	Excellent
Maintenance	Annual wash/wax	Annual wash	Bi-annual wash	Bi-annual wash	Bi-annual wash	Annual wash	Bi-annual wash	Bi-annual wash	Stain every 3 yrs	Stain every 3 yrs	None	Replace
Impact resistance (hard blows/gun shots)	Poor	Poor	Very good	Very good	Very good	Poor	Good	Poor	Poor	Poor	Poor	Poor
Graffiti removal	Excellent	Poor	Very good	Very good	Very good	Good	Good	Good	Poor	Poor	Poor	Fair to good
Replacement/duplication	Poor	Poor	Excellent	Very good	Excellent	Very good	Good	Fair	Poor	Poor	Poor	Excellent
Typical applications												
Development niche-natural, rural,urban	All	Rural/urban	All	All	All	Urban	All	Natural/rural	Natural/rural	Natural/rural	Natural/rural	Rural/urban
Framing needed	Ribs-yes, Return edge-no	No	Yes	3/8"n, yes, 1/2"n+, no	Yes	Yes + backing	Yes	No	No	No	NO	Yes + backing
Trail waysides	Good to very good	Good	Very good	Very good	Very good	Good	Good	Fair	Poor	Poor	Good	Good
Highway/scenic byway waysides	Excellent	Good	Very good	Very good	Very good	Good	Good	Fair	Poor	Poor	Good	Good
Site and facility identification	Good	Excellent	Good	Good	Good	Fair to good	Fair to good	Very good	Good	Excellent	Poor	Poor
Information/bulletin boards	Poor	Poor	Poor	Poor	Poor	Good	Fair to good	Excellent	Poor to fair	Poor	Poor	Very good
Memorials/plaques	Poor	Excellent	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Fair	Very good	Poor
Vegetation/artifact labels	Good	Excellent	Very good	Very good	Good	Poor	Poor	Good	Good	Very good	Good to very good	Fair
Overall Assessment												
Advantages/benefits	Durability/ resolution	Professional image	Replaceable/ durable	Durability/ cost	Durability	Multi-surface Applications	Durability	Local Fabrication	Rustic look	Rustic look	Rustic/site blending	Economics
Drawbacks/disadvantages	Chipping/ rusting	Scratching is permanent	UV damage	New-years of service?	UV damage	Thin surface/UV	Scratching is permanent	Weather/ gun shots	Maintenance/ gun shots	Dents/ fading	Graffiti is permanent	UV damage warping
Value for the money	Very good	Fair to good	Good	Excellent	Good	Good	Good	Good	Poor	Fair/special application	Good/special application	Fair
Relative cost	Very high	Very high	high	Low	low to moderate	Very low	Moderate	Low to moderate	High	Very high	High	Low



iZone Spec Sheet

Manufacturer

Blind Dog Productions, LTD, dba, iZone
2526 Charter Oaks Dr, suite 100
Temple, Tx 76502
888-464-9663 toll free, 254-778-0722 voice
254-778-0938 fax
email: info@izoneimaging.com
www.izoneimaging.com

Product Composition

Digital graphic surface papers encapsulated with melamine resins are pressed over 100% recycled post-consumer kraft paper core sheets impregnated with phenolic resin. These sheets are then bonded at pressures greater than 1000 pounds per square inch at temperatures approaching 300°F (149°C). Finished sheets are trimmed, cut to shape. The 0.040 backs are sanded to facilitate bonding.

Recommended Uses

iZone's product is suitable for use in museums, zoos, parks and wildlife parks, municipal applications, hiking trails, parking garages, swimming pool areas, murals, and many more.

0.040" is most frequently used for work surfaces on counters, islands, vanities, desks and tables. Typical vertical uses include surfacing for wall panels, murals, teller cages and the front panels of workstations, such as those in hospitals, airports and restaurants. Type 0.040 is produced for both horizontal and vertical interior applications where the surface must be functional, durable and decorative. The back-side is sanded to facilitate bonding and must be adhered to a suitable substrate. Not recommended for exterior use.

0.060" is most frequently used for reader rails, Interpretive, graphics, and some murals. These laminates need to be mechanically fixed with screws, frames, etc. These laminates can be used outdoors if properly mounted.

0.090" is most frequently used for reader rails, interpretive graphics, murals, way finding, and directional's. The 0.090 is a National Parks standard for the NPS frames. These laminates need to be mechanically fixed with screws, frames, etc. These laminates can be used outdoors if properly mounted. This product can also be made double sided with images on both sides, however the double-sided graphics need to be mechanically fastened to prevent any warping.



A Journey of Discovery

0.125" is most frequently used for double sided flip-books, way finding, interpretive graphics, murals, and directional's. These panels need to be mechanically fixed with screws, frames, etc. These panels can be used outdoors if properly mounted.

0.250" is most frequently used for double sided flip-books, way finding, interpretive graphics, murals, and directional's. These panels need to be mechanically fixed to a substrate or along the edges with screws, frames, etc. These panels can be used outdoors if properly mounted.

0.500" has a smooth black back and is self-supporting. Most used in areas where free-standing elements and shaped panels are required. Can be produced double-sided. May be drilled and tapped to accept a 1/4"-20 bolt for mounting, or drilled through for mounting from the front. Mostly used in exterior applications where durability is needed.

0.750" has a smooth black back and is self-supporting. Most used in areas where free-standing elements, shaped panels and table tops are required. Can be produced double-sided. May be drilled and tapped to accept a 1/4"-20 bolt for mounting, or drilled through for mounting from the front. Mostly used in exterior applications where durability is needed.

Finishes

- MATTE: The Fine Grain premium finish features, a subtle, narrow grain structure, low glare. Recommended for horizontal and vertical application.
- SATIN: A textured finish which reproduces a high sheen. Recommended for horizontal and vertical application.
- ICE: A very finely beaded texture that minimizes smudges and finger marks and improves scratch resistance. Recommended for horizontal and vertical application.

Finish Availability

All finishes are available on all exterior and interior products.

Standard Sheet Widths	Standard Sheet Lengths
48"	144"
1219mm	3658mm

Sizes

Press limitations are 5' x12'. Any sizes larger than our limits will need to be tiled and index-cut.

Technical Data - iZone graphic laminates and panels

iZone 0.040 sanded back laminates must be bonded to a substrate of reliable quality, such as particleboard, medium density fiberboard or plywood with one A face. High-pressure laminate, plaster, concrete and gypsum board should not be considered suitable substrates. Laminates may not be used as structural members and are not considered exterior grade. iZone 0.040 laminates are somewhat more brittle than



A Journey of Discovery

standard industrial grade laminates. Is not recommended for exterior use. Do not subject iZone interior grade to extremes in humidity, temperatures higher than 275°F (135°C) for substantial periods of time, or intense, direct sunlight.

Bond with adhesives and follow the techniques recommended by the adhesive manufacturer. To avoid stress cracking, do not use square-cut inside corners. All inside corners should have a minimum of 1/8" (3.175mm) radius and all edges should be routed smooth. Give special attention to edges and seams. Use permanent adhesive to reinforce contact adhesive at corners, along edges and at seams.

Drill oversized holes for screws or bolts. Screws or bolts should be slightly countersunk into the face side of a laminate-clad substrate. This will allow for expansion and contraction. Take care to ensure an appropriate acclimation between the laminate and the substrate prior to fabrication. The face and backing laminates and the substrate should be conditioned in the same environment for at least 48 hours before fabrication. Recommended conditioning temperature is about 75°F (24°C). Laminates should be conditioned at 45% to 55% relative humidity for interior installation.

Carbide-tipped saw and router blades should be used for cutting. High tool speed and low feed speed are advisable. Cutting blades should be kept sharp. Use a hold-down to prevent any vibration.

Maintenance

The decorative surface may be cleaned with warm water and mild soaps, such as those used for hands or dishes. Do not use cleansers that contain abrasives, acids or alkalis; they will damage the decorative surface. Remove stubborn stains with a 2-minute exposure to hypochlorite bleach such as Clorox®, followed by a clean water rinse. Edges should be wiped with a liquid wax, like Thompson's Water Seal annually. We recommend that you not allow any of the following agents to remain in contact with the decorative surface:

1. Hypochlorite bleach, except as described above
2. Hydrogen peroxide solution
3. Mineral acids, hydrochloric acid such as Lime-A-Way™, sulfuric or nitric acid
4. Caustic solutions containing greater than 2% lye, such as Drano®
5. Sodium bisulfate, such as Sani-Flush®
6. Potassium permanganate
7. Berry juices
8. Silver nitrate, in 1% concentration or greater
9. Gentian violet
10. Mild silver protein, such as 20% argyrol
11. Bluing
12. Fabric dye, such as Tintex® or Rit®
13. Alcohol containing 1% iodine in solution

Edges should be wiped with a liquid wax, like Thompson's Water Seal annually.



A Journey of Discovery

Warranty Statement

This warranty is effective as of February 10, 2009 for purchase of iZone products purchased on and after February 10, 2009.

Blind Dog Productions, Ltd. dba iZone ("Manufacturer") warrants that under normal wear and use, the workmanship and materials used in the iZone® product purchased from the Manufacturer will meet the standards set forth on the applicable specification and that the product will not delaminate, peel, blister, crack or fade for a period of ten (10) years from the date of purchase. PLEASE NOTE THAT SOME DEGRADATION OF MATERIALS AND GRAPHICS OVER TIME IS CONSIDERED NORMAL WEAR, THEREFORE THIS LIMITED WARRANTY APPLIES TO QUALITIES THAT CAN BE DETECTED VISUALLY FROM A NORMAL VIEWING DISTANCE.

In the event that the product does not perform as warranted:

- (a) Manufacturer shall be allowed to conduct an on-site inspection and investigation,
- (b) Manufacturer shall work directly with the end-user to resolve any warranty matter,
- (c) The sole remedy will be the repair or replacement of the defective product, at the sole discretion of the Manufacturer.
- (d) The repair or replacement by Manufacturer shall be limited to the remanufacture and shipment of the replacement or repaired product to the site of the end-user's product.

This warranty only applies to the manufacture and material used in manufacture of the product.

Manufacturer shall not be liable for any other costs, including but not limited to installation, labor or other costs or expenses.

This warranty shall not apply to defects or damage arising from any of the following:

- 1. Accidents, abuse or misuse;
- 2. Exposure to extreme temperature;
- 3. Improper fabrication or installation; or
- 4. Improper maintenance.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE MADE, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. UNDER NO CIRCUMSTANCES SHALL MANUFACTURER BE LIABLE FOR ANY LOSS OR DAMAGE ARISING FROM THE PURCHASE, USE OR INABILITY TO USE THIS PRODUCT, OR FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES. NO ONE, INCLUDING BUT NOT LIMITED TO ANY AGENT OR EMPLOYEE OF MANUFACTURER, HAS THE AUTHORITY TO MODIFY THE OBLIGATIONS OR LIMITATIONS OF THIS WARRANTY.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state; therefore, some of the limitations stated above may not apply to you. It is to your benefit to save your documentation upon purchase of a product.