



## Website Development Requirements and Proposal

### *Executive Summary*

The new website will require a content management system to edit and publish content to the internet. The content consists of both unstructured text and image content for use on normal web pages as well as structured project portfolio information. The CMS backend will allow for the management of both types of content for publishing. This plan attempts to project and estimate the entire anticipated scope of the new website initiative to allow Harkins Builders to see the big picture. Many of the details regarding the final set of features for the website have yet to be determined and, therefore, have been difficult to precisely estimate.

### *Requirements*

The administrative site will be in a secure subfolder of the public website. Active directory security will be applied to the folder to prevent unauthorized access. Any administrator will be able to perform the following content management functions:

#### **Page Management**

1. List all pages in system
  - a. Search by name, address, title, content
  - b. Sort by date created/updated/published
2. Add new page to system
  - a. Enter page url, name, title, description keywords
  - b. Select page template (to specify layout + content areas)
  - c. Add HTML/text to content areas defined by selected template
  - d. Save as draft or publish to website
3. Edit existing page in the system
  - a. Change page name, title, description, keywords
  - b. Change page template + status (Published / Removed)
  - c. Edit HTML/text in content areas
  - d. Add/edit related links
    - i. Enter display name and address url
    - ii. Choose display order
  - e. Additional Features
    - i. Change page url (\* checks for broken links in content/menu)
    - ii. Copy to new page (\* makes exact copy of page + content)
    - iii. Add/remove from main/sub/context menu (\* separate from menu management)

## **Menu Management**

The menu functionality will allow for a two level main menu that is shared across all pages (main + sub). The admin will be able to edit the display text (or image file name) and the extended text description for the menu item (to be used as a tooltip) as well as specify the order that the menu items are to be displayed. It will be designed in such a way that additional page specific context menus can be added later with minimal changes to the existing system (ie: menus that appear on a page and may be shared/referenced across multiple pages).

## **Legacy Management**

These two structured features from the legacy BidNET system will be migrated to the new environment. All features and functionality from the current implementation will be ported and provided as part of the new system. The Bid Board management will remain in the Estimator Module of BidNET.

## **Project Management**

The project portfolio is the largest driving force for building a customized CMS solution in order to make use of the data within existing information systems. Most of the management of project data will continue to reside in BidNET using the existing Project Directory functionality while the new system will concentrate on selecting and organizing the projects into logical groups to display on the website.

The ability to control if a group shows up on the website as well as the order in which it is displayed is provided for each list. A group header image and extended text description is available to customize each group.

1. List all project groups
2. Add new project group
3. Edit existing project group
4. Add/remove/order projects in group
  - a. Find project by name, project #
  - b. Move up or down in group
  - c. Quick view project details
    - i. Checks for published photos on website
    - ii. Makes sure project is published in BidNET



## Specifications

These specifications detail the attributes of each entity described in the requirements section. Additional fields or properties that are desired must be identified and documented prior to development. Changes or additions to this section after development has begun may incur additional costs.

<b>Page</b>	Instance of a single page (unique url) with one or more content blocks
Title	Used in the HTML title in the browser window and as the main title text in the content
Name	Internal user-friendly name for easy identification and referencing by website admin
Status	Specifies if the page is live and accessible on the site or in draft/deleted mode
PageUrl	Unique name given to page to be used in website address (http://hb.com/pagename)
Template	Alternative MasterPage template to use for displaying the page content
Keywords	Keyword metadata used for search engine optimization per page
Description	Additional metadata field used for search engine optimization
DateCreated	Date/timestamp of when the original page was created
DateUpdated	Date/timestamp of when the page was updated
DatePublished	Date/timestamp of when to publish the content on the site

<b>Content</b>	Raw HTML assigned to a page to fill a specific named template content area
Page	Site page to which the HTML is assigned
Block	Name of content block within page template (ie: Main, Left Rail, etc)
HTML	Chunk of HTML or text to be rendered in named content area
DateCreated	Date/timestamp of when the original block was created
DateUpdated	Date/timestamp of when the block was updated

<b>Menu</b>	Link data structure to store Main/Sub Menu, Page Menu and Related Links
Type	Main, Sub, Page Menu, Related Links
Parent	Used for Sub Menu, Page Menu or Related Links
PageUrl	Address to use for hyperlink destination
LinkText	Display text to use for hyperlink anchor
ImageUrl	Image or icon to use for menu item
Sequence	Order in which to display menu items
Description	Text to use for tooltip/popup details

<b>Project Group</b>	Container for a group of logically organized projects to display together
Name	Display name for group of projects (Multi-use, Residential, etc)
PageUrl	Website url which displays the list of projects in the given group
ImageUrl	Relative path to image file of predefined size (for thumbnail/header/etc)
Keywords	Search keywords to use for search engine optimization
Description	HTML/text area for display as header for group page or in list of groups
Is Published	Determines if group is listed on the Project Portfolio Groups page (ie: list of lists)
Is Protected	Determines if group is protected from anonymous access (requires email code to view)
Sequence	Display order in which to show group in list of lists

<b>Project List</b>	Associates a project with a given group for display in portfolio
Project Group	The project list which this project has been assigned
Project ID	Pointer to the project details record in the Project Directory
Sequence	Display order in which to show this project in the selected group
ImageUrl	Relative path to image file of predefined size (for thumbnail/header/etc)



## Prerequisites

These are a few of the prerequisites required and assumptions made during the estimating process:

- AD Domain group is created for website content administrators
  - Security is applied to /admin subfolder on public facing website
- SQL Server engine is upgraded from 2000 to 2005/2008
  - May require additional development time if not upgraded
- Windows Server 2003, IIS6.0 and .NET 3.5 is required for deployment
  - The website should be able to run on existing server infrastructure

## Estimates

This estimate is valid for 90 days from date of delivery and assumes a timeline for an April 1<sup>st</sup> delivery. All work is to be performed offsite with deliverables and milestones to be committed to before the starting of each project phase. This contract may be canceled at the end of each phase by either party unless other terms are mutually created and agreed upon.

### Phase I – Development of the CMS and Project Portfolio backend **76 + hrs**

1. Page Management
  - a. Add/edit/save/publish page + content 20 hrs
  - b. **Additional features to streamline page management 8 hrs**
2. Menu Management
  - a. Administration page for main menu 16 hrs
  - b. **Administration page for context/page menu 4 hrs**
3. Legacy Management
  - a. Migrate Job Posting and Press Release features from BidNET 8 hrs
  - b. **Add ability to auto-generate PDF of Press Release for download 8 hrs**
4. Project Portfolio Management
  - a. Add/edit project group + add/order/remove projects 24 hrs
  - b. **Create customized protected lists for sharing via-email 4 hrs**
  - c. **CSV file export of project + tracking table data for mail-merge 4 hrs**
5. Development Release
  - a. Deployment to a development environment for testing 4 hrs
  - b. Bug-fixes and small tweaks to resolve issues in testing 4 hrs
  - c. **Full test plan for software verification and validation 8 hrs**
    - i. **If not selected, testing is the responsibility of Harkins with full bug reports to be submitted for issue resolution**

### Phase II – Create public facing dynamic content publishing system **72 + hrs**

1. Content Templates
  - a. Creating first dynamic template from static HTML/CSS example 16 hrs
  - b. **Creating additional dynamic templates (each) 4-8 hrs**



- c. Update to Page Management to support template layouts 4-8 hrs
      - i. This will make the CMS more customized to the templates rather than being generic (think content area drop down)
- 2. Website Search Engine
  - a. Basic search engine using google.com custom search widget 2 hrs
    - i. Searches are not directly integrated into website
    - ii. User will be auto-redirected to google to view results
  - b. Customized full text search results for dynamic site content 8-16 hrs
    - i. Shows links to each page/job/press release with keyword(s)
    - ii. Will not include static pages manually created on website
  - c. Customized project portfolio specific search/filter engine 8 hrs
    - i. Shows project search results in table with details
    - ii. Can integrate directly with full text search
- 3. Estimating Department
  - a. Bid Board page with features similar to current version 8 hrs
    - i. Lists projects meeting general criteria
    - ii. Require passcode for projects meeting specific criteria
    - iii. Add additional capabilities for Bid Board (rethink idea) 8+ hrs
  - b. Subcontract Response with features similar to current version 8 hrs
    - i. Only accessible from link in email
      - 1. Select response: Yes or No, auto updated in campaign
      - 2. Enter additional text to submit to estimator
      - 3. Form locked once sub has replied to specific message
    - ii. Add additional functionality for sub contractors 8+ hrs
      - 1. Request plans/change type
      - 2. See upcoming projects
      - 3. See message history
      - 4. Add/edit UCI Codes
      - 5. Add/edit Contacts
      - 6. Change address
- 4. Custom Development
  - a. Contact Form to submit email (so user doesn't need email client) 2 hrs
  - b. Job Posting page to use structured information from BidNET 2 hrs
  - c. Press Release page to use structured information from BidNET 4 hrs
    - i. Widget to show most recent(s) on home page 2 hrs
- 5. Project Portfolio Pages
  - a. Home – custom page to show list of groups for selection 4 hrs
    - i. Display data matrix/grid/table with details/counts 4-16 hrs
  - b. Group – custom page to show list of projects in a group 4 hrs
    - i. Additional views for selected group: Map/Photos/Details 4-16 hrs
  - c. Project – custom page to view a single project from group 8 hrs
    - i. Displays selected basic information from project directory
    - ii. Published photos in slide show with click to zoom 4 hrs
    - iii. Auto-generated list of related projects based on logic 4 hrs
  - d. Protected – custom page to view a protected list sent via email 4 hrs
    - i. Required to create private/protected lists for sharing via URL
- 6. Development Release
  - a. Deployment to a development environment for testing 4 hrs



- b. Bug-fixes and small tweaks to resolve issues in testing 4 hrs
- c. Full test plan for software verification and validation 8 hrs
  - i. If not selected, testing is the responsibility of Harkins with full bug reports to be submitted for issue resolution

**Phase III – Release website to production environment 12 + hrs**

- Release New Site 12 hrs
  - Setup and document new production environment
  - Merge database changes with existing database instance
  - Knowledge transfer to internal information technology team
  - Redirect from old to new pages to preserve search ranking 4 hrs
  - Support or migrate public Project Warranty functionality

Items marked in red are optional but only valid if selected prior to the inception of the phase in which they are a part. Adding the capabilities later will incur additional costs.

