THE BAY DIMENSION

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tbd consultants

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In this Edition:

Strategic Planning

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Public and private institutions and corporations alike need to plan carefully for any investment or venture. Each has a legal, moral and, in many cases, fiduciary responsibility to its constituents, investors, stakeholders and/or user groups. There is an old military saying that 'Prior proper planning prevents pitiful poor performance'. It applies in any forum and it is particularly apt in the area of facility delivery and management.

Strategic planning is an important precursor to all of programming, design, construction and commissioning. Planning may involve any or all of the following;- market analysts, land acquisition professionals, financial analysts, legal counsel, land planners, programmers, architects, engineers, interior designers, contractors, operations consultants and facility managers. For some organizations the role of strategic planning may be an in-house staff function. For some it will be out-sourced.

The work of strategic planning will necessitate the ability to work directly with building owners of all descriptions, and possibly leading multi-disciplinary groups in assembling and analyzing information. It may involve conducting brainstorming sessions to evaluate alternative facility approaches. This evaluation can include operational, organizational and financial considerations, to determine facility location, size and functional attributes. It can also explore alternative project delivery systems, schedules and budgets.

Every project involves risk, and construction projects certainly have their fair share. Some of the more obvious ones include market conditions affecting prices, delays in delivery of materials, shortages in the labor supply, and a subcontractor going into liquidation. What strategies can

you take to mitigate these risks? The strategic planning consultant is there to help building owners make those decisions.

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Once the main path to be followed has been chosen, then there are decisions to be made on many different construction options, such as using a steel or concrete frame for a new building, or selecting between different HVAC options. So, ideally the strategic planner should have available experts at evaluating construction and other associated costs, and using life cycle costing to compare the long-term costs of alternates.

Being ecologically responsible is becoming more important these days, and it can be advantageous having LEED accredited professionals that are trained in evaluating 'green' building techniques and options, and helping the owner determine what LEED Rating (if any) might be aimed for within the budget. LEED ratings can apply to new or existing buildings, and to the ongoing use of a building.

In summary, strategic planning sets the stage and gives direction to the following phases of the project.

Uniformat II

In the previous edition of this newsletter we discussed the CSI Masterformat, and that classification system is ideal for a detailed construction cost estimate that is going to be compared with a contractor's bid, since contractors also prepare their bids this way. But at early design stages, where alternative designs are being considered, and value engineering is being undertaken, the Masterformat Divisions are not so helpful. For instance, if you are trying to compare the costs for different types of exterior closure you may end up having to extract costs for Division 3 (Concrete), 4 (Masonry), 5 (Metals), 6 (Wood), 7 (Insulation), 8 (Doors and Windows) and 9 (Finishes). A classification system that brings all costs related to a particular building element (also sometimes called a system or assembly) would make such cost comparison relatively simple, and Uniformat II is such a classification system.

Elemental systems have been in existence for many decades in various parts of the world, and the most common system used in the US has been Uniformat, which derived from an elemental format called Mastercost, developed for the GSA in 1973. Although Uniformat was widely adopted, it never became a national standard.

Uniformat II was developed as an elemental system that would be as compatible as possible with other international construction cost systems, to facilitate the collection and distribution of construction cost information. The NIST Special Publication 841 Uniformat II - a Recommended Classification for Building Elements and Related Sitework details the results of the working group. The report also details the uses and limitations of Uniformat II and other elemental systems. The American Society for Testing and Materials (ASTM) adopted Uniformat II as a National Standard from summer 1993 (ASTM E1557 Standard Classification for Building Elements and Related Sitework.)

CSI (Construction Specification Institute) Practice Note FF/180: Preliminary Project Descriptions (PPD) and Outline Specifications, states that PPDs should be structured according to Uniformat II, moving to Masterformat during the Design Development stage. This is because estimating in Uniformat elements is so much more convenient for Value Engineering purposes during these early design stages.

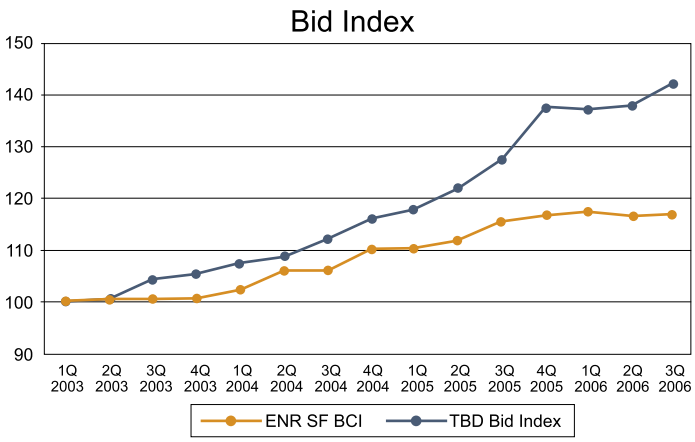
The use of Uniformat elements subdivided into Masterformat trade sections can also form an effective basis for a Work Breakdown Structure for a project, for use in project scheduling and cost monitoring. Uniformat has also been adopted as a breakdown structure in BIM (Building Information Management) systems.

But all things change: plans for the next version of Uniformat are already under way, to make the format more consistent with Masterformat 2004 and other developments in the construction industry.

Uniformat II Level 2 Divisions
01 Foundations
02 Basement Construction
03 Superstructure
04 Exterior Closure
05 Roofing
06 Interior Construction
07 Staircase
08 Interior Finishes
09 Conveying Systems
10 Plumbing
11 HVAC
12 Fire Protection
13 Electrical
14 Equipment
15 Furnishings
16 Special Construction
17 Selective Building Demolition
18 Site Preparation
19 Site Improvement
20 Site Civil/Mechanical Utilities

TBD Bid Index

In the previous Bay Dimension newsletter we introduced the TBD Bid Index, which aims to show how bid prices are moving over time (based on a classroom building project). After a rapid increase at the end of last year and into the beginning of this year, we saw a bit of a leveling off in prices, but the increases apparently had not gone away, and we are seeing bids moving ahead of the increases in labor and materials (represented by the ENR San Francisco Building Cost Index) again.



2003	2004	2005	2006
1Q: 100.00	1Q: 107.62	1Q: 118.39	1Q: 137.80
2Q: 100.10	2Q: 109.17	2Q: 121.04	2Q: 138.93
3Q: 104.60	3Q: 112.33	3Q: 128.06	3Q: 143.36
4Q: 105.58	4Q: 116.33	4Q: 138.09	

WBS - Work Breakdown Structure

WBS (Work Breakdown Structure) is a very useful tool for the Construction Manager, in both the cost and scheduling fields, and ideally, it will facilitate the integration of both cost and schedule management. In essence, it is a system that defines a project in functional units that can be clearly defined, monitored and managed, and it serves in both the planning and implementation phases of a project.

The breakdown should be hierarchical, dividing the project initially into major functional divisions, with these major divisions further separated into subdivisions, and ultimately broken down into individual work items. Using a hierarchical structure facilitates reporting at different levels of detail and makes the system more adaptable to the sometimes differing requirements of the cost engineers and schedulers.

One possible system for a WBS for a construction project would be to use the Uniformat II elements for the initial division, with each of these divisions then broken down into the CSI Masterformat divisions. Uniformat II divides a project into the functional elements, such as Substructure, Roof Construction, Floor Finishes, etc., and CSI Masterformat divides the work into material types, such as Concrete, Wood, or Metals. Say we have the primary division of Floor Construction broken down into Concrete, Metals, Insulation, etc.; it only needs another level or two of breakdown to get to the estimate line item and schedule operation level, and gives a level of detail that can be recombined in many ways, for instance, into bid packages. These same detail levels are also used for tracking actual costs and duration, so the level of breakdown should not go beyond that which can be effectively measured, monitored and managed.

The WBS can also be used to define responsibilities of individual managers, track sub-contractor costs, allocating resources, quality planning, and managing changes.

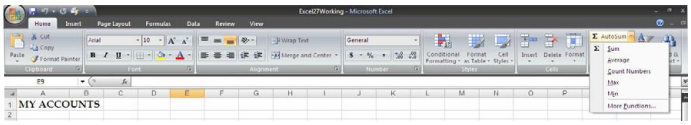
In conclusion, a Work Breakdown Structure becomes a tool for making complex projects managable by breaking the project down into components that can be used in all aspects of the management process, including delegation of responsibility, scheduling, cost monitoring, risk management, etc.

Geoff's IT Gems

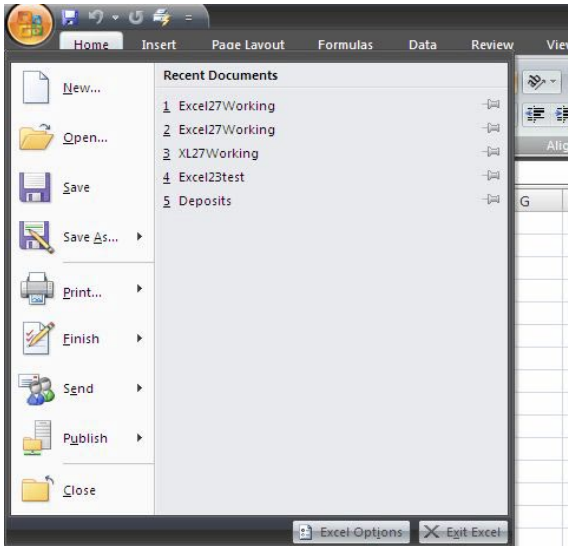
Microsoft Office 2007

The last really major change to the Microsoft Office suite was in 1997, and, since that time, other versions of that popular set of software have added features, and changed things around a bit, but a user moving directly from Excel 97 to Excel 2003 would still know his or her way around the application fairly easily. That is going to change with the next version.

Office 2007 is a complete reworking of the suite, with a new interface and new file formats. The first noticeable change is when you look where the menus and toolbars used to be – now you see something that at first glance looks like menus and a rather strange looking toolbar, but which is now called the Ribbon, and a different Ribbon appears when you click another of the "menu" names (and the Ribbon might also change when you select a particular object, like a chart).

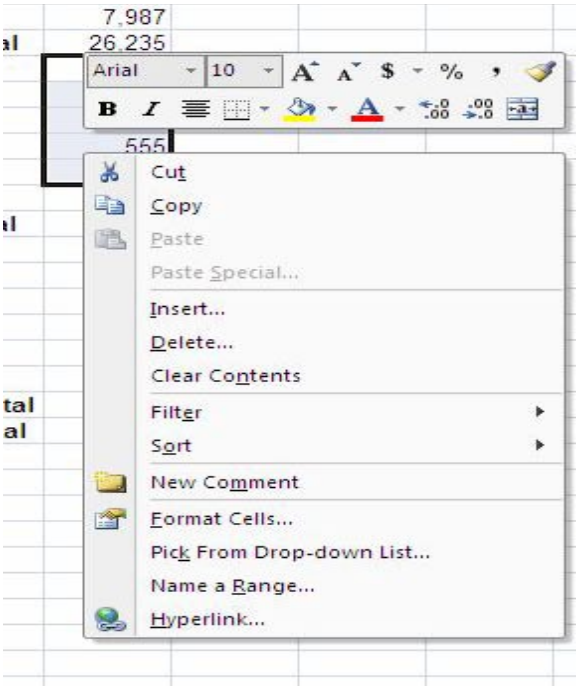


Microsoft found that most of the "new" features people requested already existed, but users didn't know they were there. The Ribbon is designed to make the features more readily accessible (while the previous menus and toolbars deliberately hid features you didn't use regularly).



So where has the File menu gone? It is now the Office Button at top left of the screen. If you are used to finding Options under the Tools menu, you can now find it near the bottom right of the menu that drops from this Office Button. There are also all the old favorites from the File menu, such as New, Open, Save, Print (which includes Print Preview) and Close, along with the list of recently opened documents.

We're all used to right-clicking on everything, aren't we? Doing so now will bring up a similar shortcut menu to those we've become used to, and now often accompanied by an associated toolbar.



The file format has also changed, supposedly based now on XML (eXtensible Markup Language), but in a compressed form that results in far smaller file sizes than the Office 97-2003 suites have produced. Does that mean that everyone needs to upgrade to Office 2007 to stay compatible? Happily, no. While the new 2007 applications have the option of reading and writing to the old format, you can also add the ability to read the new format to previous versions of the Office suite. Trying to open a Word 2007 document in Word 2003 brought up this prompt:

So, it looks as though a bit of a learning curve is going to be involved in adjusting to Office 2007, but it shouldn't be too daunting, and it seems that the rewards should be worth the effort.