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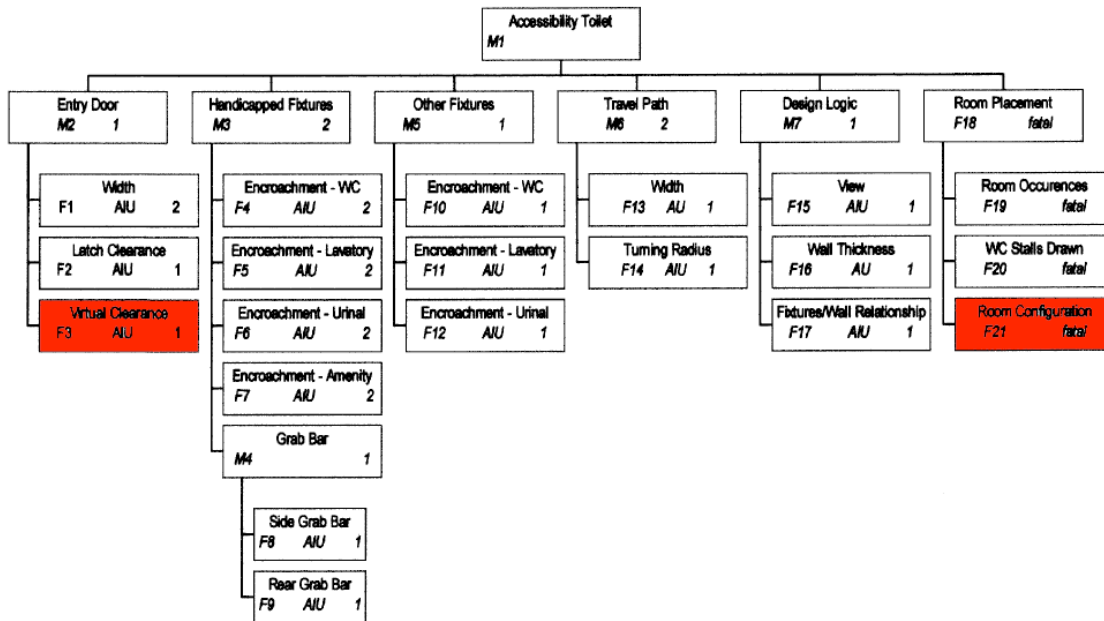
Guide to Graphic Vignette Grading

The information in this guide comes from a few places: 1) the patent for “Computer Based Simulation Examination of Architectural Practice”, Patent #6,056,556 which is available from the United States Patent Office website. 2) The practice software and vignettes provided by NCARB and available from the NCARB website. 3) My own personal observations and inferences.

I have no inside information. I have not seen the actual grading mechanism for the test vignettes. I have not done anything other than read through the patent information and work through the vignettes. And while waiting almost 12 weeks for the results of my Building Technology and Site Planning Exams, spend a lot of time thinking about how this information would be applied to the real exams we take. I should also point out that the patent information comes from May of 2000. The content and format of the ARE has changed several times since then, and we are in the process of changing from 3.1 to 4.0 as I write this. Also, periodically NCARB will adjust the cut scoring which determines what is considered passing and what is considered failing. So with that in mind, I am going to briefly go through how the computer grades a vignette. In the second part I will attempt to show my assumptions about how these scores might be applied to some of the tasks in the site-planning vignette.

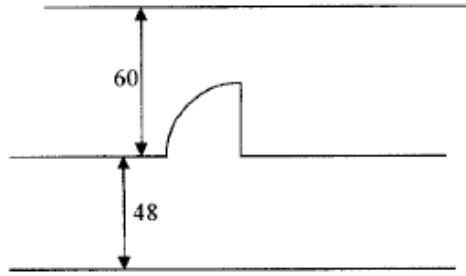
Part the First – Scoring

Although there is information in the patent application that directly relates to current vignettes, in order to avoid problems, I am focusing on a vignette that is not part of the current exam structure. We are trying to learn the general “how” of the scoring system without getting hung up on individual requirements for specific vignettes.



As you can see from the diagram above, the Accessible Toilet Vignette is broken down into a few general areas such as “Entry Door” or “Travel Path”. Each of these areas is further broken down into separate Features. The features are evaluated and graded individually based on their own specific criteria. The majority of the Features are graded as A (acceptable), I (indeterminate) or U (unacceptable). All of the Features also have a multiplier, which weights certain Features as more important than other Features. Under the entry Door, notice that the Width feature is weighted as 2 while the Latch Clearance and Virtual Clearance are weighted as 1. Meaning that the width of the entry door is more important than either of the clearances individually.

We will first look at F3, the Virtual Clearance Feature, which is under M2, the Entry Door. As you can see below, there is a little wiggle room with the clearance. An “A” is earned if the proper code required clearance is provided. If you provide less than the minimum clearance by 2” you earn an “I” on this task. If you miss by more than 2” you earn a “U”. Notice, there is no “bonus” for providing more than the required clearance. Each of the three Features under the M2: Entry Door will be graded in a similar method.

Feature:	F3: Virtual Clearance
Possible Values:	A, I, U
Multiplier:	1
Rule:	In toilet rooms that are author-specified HC accessible, all doors meet the following requirements: A: Conforms to code from both the push and pull side of the door. (60 pull side, 48 push side). I: One or more 2° off (58 pull side or 46 pull side). U: Anything else.
Method:	On the latch side of a door, a perpendicular wall or other obstruction may not be within 60" on the pull side and 48" on the push side.
	
Comment:	
Question:	

This is the Feature program for the Virtual Clearance Feature. It is taken directly from the Patent. Each of the Features for the Accessible Toilet vignette are spelled out in similar detail in the patent.

M2: Entry Door

Composed of:	Matrices/features	Multiplier	Possible Values
	F1 Width	2	AIU
	F2 Latch Clearance	1	AIU
	F3 Virtual Clearance	1	AIU

U's

M2	0	1	2	3	4	5	6	7	8	9	10
0	A	I	U								
1	A	I	U								
2	I	U									
3	U										
I's	4										
	5										
	6										
	7										
	8										
	9										
	10										

Above is the Scoring Matrix for M2, the Entry Door. Listed at the top are the three Features and their multipliers that will determine the score in this Matrix. The number of Indeterminate grades, with their multipliers are tallied, as are the number of Unacceptable grades. Comparing the number of I's on the left and the number of U's across the top, a grade is determined for this area. Each general area is scored in a similar fashion, each earning a grade of Acceptable, Indeterminate or Unacceptable. Once all of the Areas have been scored, those scores are entered in a Matrix for the entire vignette.

M1: Master

Composed of:	Matrices/features	Multiplier	Possible Values
	M2 Entry Door	1	AIU
	M3 Handicapped Features	2	AIU
	M5 Other Fixtures	1	AIU
	M6 Travel Path	2	AIU
	M7 Design Logic	1	AIU

U's

M1	0	1	2	3	4	5	6	7	8	9	10
0	A	A	I	I	U						
1	A	A	I	U							
2	A	I	I	U							
3	A	I	I	U							
4	I	I	U	U							
5	I	U	U								
6	U										
7											
8											
9											
10											

Above is the M1 Master Scoring Matrix. This is at the top of the scoring tree and determines the grade for the overall vignette. At the top, each of the Matrices is listed along with the multiplier assigned to that Matrix. The grade previously assigned for each of the program area matrices is tallied and multiplied. The I's and U's are compared to this Scoring Matrix in order to determine the grade for this vignette. A matrix similar to this one, for all of the vignettes in the exam, will determine if the candidate Passes or Fails the specific exam in question.

Feature:	F21: Room Configuration
Possible Values:	A, F
Multiplier:	fatal
Rule:	A: Each toilet room must have the prescribed fixtures (HC and non-HC water closets, urinals and lavatories, and shower or infant changing table). F: Anything else.
Method:	
Comment:	
Question:	

In the scoring tree at the beginning of this section you may have noticed that the far right column was a list of four Features that were not listed under a Matrix. You may have also noticed the Fatal designation. Very little information is given in the patent application regarding these Fatal features. It would seem that, in the case of this task, F21, no matter how well you did on the rest of this vignette, if you leave out a single fixture called for in the program, you will fail this vignette. Notice that the grade assigned here is not a U (unacceptable) but rather an F. No mention is made of how this F affects the grade for the overall exam. Another item not discussed in the patent is how the graphic vignettes relate to the multiple choice portions of the exam with the advent of the new 4.0 exam structure.

Part the Second – Possible Site Design Scoring

While it is probably not too difficult to come up with what the Scoring Tree for one or all of the vignettes in the exam would look like, guessing how each of the features is weighted and guessing at the spread of I's and U's in each of the Matrices would be next to impossible. So in this section I won't get into the tree structure or the grading matrix, but I will attempt to look at some of the Feature programs for the real vignettes presented in the current exam. Based on what we have seen in the Accessible Toilet vignette and the kind of leeway given to program elements I will try to assign reasonable scores to certain requirements of the Site Design vignette. These are just my interpretations so they may not reflect the actual scoring for your exam.

Let's look at my interpretation of a simple requirement first: Existing Trees.

Feature:	Existing Trees
Possible Values:	A, F
Multiplier:	Fatal
Rule:	A: The program specified number of trees or less have been disturbed.
	F: Anything else

The program specifies a specific number of trees that can be disturbed. A tool is provided to check whether a tree has been killed or not. I can't think of a situation where an I or a U would be assigned to this Feature. This is also a Feature that I have heard people argue that killing less trees would earn a bonus, but as we saw, the ARE Scoring Tree has no room for bonuses.

Now let's take a look at a little more complicated Feature: Building Entrances

Feature:	Building Entrance
Possible Values:	A, I, U
Multiplier:	?
Rule:	A: Sidewalk makes contact with the Entrance.
	I: Sidewalk makes contact with the rectangle around the Entrance
	U: Anything else.

I base these assumptions on the key drawn by NCARB on the original site plan. The key on the original site plan vignette contains only the triangles and labels them as main entrance and service entrance. I have left a question mark for the Multiplier, it would be impossible to say for certain how this requirement would be weighted. But it is something you may want to think about as you juggle the requirements of your design.

KEY:



MAIN ENTRANCE



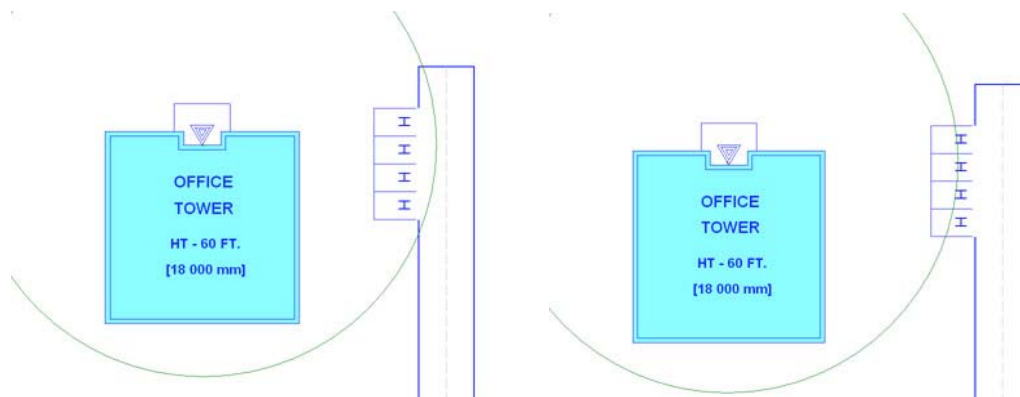
SERVICE ENTRANCE

Below are two possible ways to connect the sidewalk to the entrance that I have commonly seen around the forum. Based on what I have seen in the patent application, I would say that the solution on the left would earn a grade of Acceptable, while the solution on the right would likely earn an Indeterminate grade.



If you were to do something else with the sidewalk, bring it to the side of the building or something else silly, I believe you would earn a grade of Unacceptable. As we saw in the Accessible Toilet vignette, it would be possible to earn an I or even a U on this particular Feature and still manage an Acceptable for the overall vignette.

Let's take a look at another Feature. Many of the programs you encounter call for providing Accessible parking spaces within a certain distance of the entrance of a building element.



I would argue that the solution on the left would be considered Acceptable, while the solution on the right would probably be considered Indeterminate. If your HC spaces were more than the stated distance, you would likely get an Unacceptable for this Feature.

This is how I would imagine the Feature program would look for this requirement.

Feature:	HC spaces within (let's say 100')
Possible Values:	A, I, U
Multiplier:	?
Rule:	A: Spaces completely within required distance.
	I: Spaces partially within required distance.
	U: Anything else.

Part the Third – Conclusions

Again let me reiterate that I have not seen any of the actual scoring mechanisms for the real exam. The examples here are just examples to illustrate how different Features could be graded. While some of the vignettes, such as grading or zoning, probably have less than 5 Features, others such as the Site Design and Schematic Design vignettes could have as many as 40 or 50 Features. Understanding the mechanics of how the graphic vignettes are scored should help you prioritize your time during the exam. For example, during the Interior Layout vignette, if you are pushing furniture around trying to squeeze in a last chair or shelf as the time is counting down. It would be much better to jam that last item into the corner of the room, knowing it lacked the proper clearance, and take an Indeterminate for that Feature rather than face a possible Fatal for missing a component.

Good luck on the Exams!