CREATIVE MERCHANDISING-SIMPLISTIC BY DESIGN

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"Creative Merchandising-Simplistic By Design" is a concept that takes one back to the basics of highlighting as opposed to an endless "sea of lighting" in supermarkets. "Brighter is better" is a connotation from the past when energy was almost insignificant in cost. By using a novel store design, namely segregating the sales area into a perishable and non-perishable area, many initial construction savings as well as operating cost savings may be achieved. The ceiling heights of the non-perishable area would be 14 foot as opposed to just using a 10-foot ceiling in the perishable area. Basically we would achieve this reduction of lighting in this perishable area by having no ceiling lighting because each case has its own lighting source.

Let's take a walk through the sales area of our segregated store. You will note that the entrance is in the lower right hand corner, leads directly into a bulk merchandise area, through the grocery shelving, through the non-service bakery shelving leading directly into the refrigerated produce area, then the frozen food area, the service deli/ bakery area, the dairy case area, and finally into the meat case area.

Summarizing the layout in this 42,000 square foot store, we have 1,512 lineal feet of grocery shelving, 48 eet of snack shelving, 56 feet of bakery shelving, for a total of 1,616 lineal feet of shelving. Bulk display has 96 lineal feet. Produce department has 24 lineal feet of air curtain multi-deck refrigerated case, 72 lineal feet of air cooled island produce case, 48 feet of non-refrigerated produce display case. In the frozen department we have end cases which are dual temp cases for 42 lineal feet, 72 lineal feet of single deck ice cream cases, 360 lineal feet of single deck frozen food, for a total frozen case lineal footage of 474. We have 72 lineal feet of dairy case. The meat department has 36 lineal feet single deck, 32 lineal feet single deck with super structure, 24 lineal feet of single deck meat as well as 24 lineal feet smoked meat case. In the deli case, 12 feet of service salad case, 12 feet of service hot food case.

One of the benefits of this type of layout is being able to reduce the overall lighting load. Yet in reducing the lighting load and creating a darker ambient around the refrigerated cases which basically have their own illumination, one can make significant use of light as merchandising tool. Actually, the merchandising department can no longer dictate which equipment should be used in stores sales areas because the cost of energy and labor being so high. Which equipment to be used is actually a tradeoff involving merchandising, labor and energy costing of figures.

Let us take a look at merchandising by what I feel is proper use of illumination. The objectives of good illunination is 1) to highlight product, 2) achieve proper color rendition, 3) achieve adequate illumination, 4) reduce glare, 5) insure proper contrast. Let's take a

look at the standard supermarket as it appears on a typical illumination profile going from the front of the store to the rear of the store. Note we have approximately 180 foot candles on the wall wash, we then drop the ceiling down to 10 feet and we have approximately 120 foot candles over the checkout area. We then have approximately 80-90 foot candles in the sales area which is at the 14 foot level. Running back until we come to the end displays where we have approximately 150 foot candles. Once again to the wall wash, which is again 180 foot candles; dropping down over the meat case where we have approximately 100-110 foot candles, dropping off sharply to create a darker ambient around the meat cases.

Now, let's look at the lighting from a left to right basis. Once again, we have the wall wash which is approximately 180 foot candles; we have our produce cases which have their own illumination which is the blue spike, and that is approximately 180 foot candles also. It drops down to approximately 80-90 foot candles across the sales area until we come to the frozen food cases. Let's assume that we have multi-deck freezer on one side and reach-in door freezers on the other side. We basically need no ceiling lighting in that aisle because the illumination capabilities of the fixtures themselves is quite adequate, yielding approximately 200 foot candles. You'll note that the ceiling lighting which is the white line dips down to 40-60 foot candles. You go outside of the frozen food aisle, it goes up to 80-90 foot candles until we come to our bakery and dairy case which are opposite each other when we have no ceiling lighting and then we have the wall wash once again. Most important is, <u>don't over illuminate</u>. In our total perishable area we would use no ceiling lighting. Only the lighting from the wall wash and cases would be used.

Let's take a look at illumination level guides: non-perishable sales area - less than 100 foot candles; wall wash - 180 foot candles; front end - 120 foot candles; work areas - 50-80 foot candles; storage areas - 25 foot candles; parking lot - 1-3 foot candles; and under the canopy - 50 foot candles. Items that affect light in the supermarket are: 1) ceiling height, 2) store decor, 3) aisle widths, 4) gondola heights, 5) the luminaire or lighting type that is used. Sales area colors ideal for the best illumination are a white ceiling, a light colored field tile on the floor and flat soft colors on the walls.

Now in our desire to create a proper illumination for merchandising, we have to emphasize 1) the front end, 2) the perimeter, 3) cases and displays, and last of all 4) the general sales area. The front end should have approximately 120 foot candles; this is to allow the checkout girls to see adequately the pricing on the product and to handle the money efficiently. We do not recommend such items as the sea of illuminated ceiling as an effective means of illuminating the front end. We have here a bulk display at the front end which is basically illuminated by the light coming in from the windows as well as two fluorescent fixtures which are specially designed for supermarkets to direct most of the light downward.

Wall wash is something we have to emphasize because the psychology of lighting indicates that if you have a bright pleasing wall, the overall illumination or indication of lighting levels in the store is much greater. In other words, you can cover a lot of other sins in supermarket lighting by having an effective wall wash. We do that simply by having a single tube fluorescent with a shield and I think you can see that the effectiveness of that wall wash is very great at minimal cost.

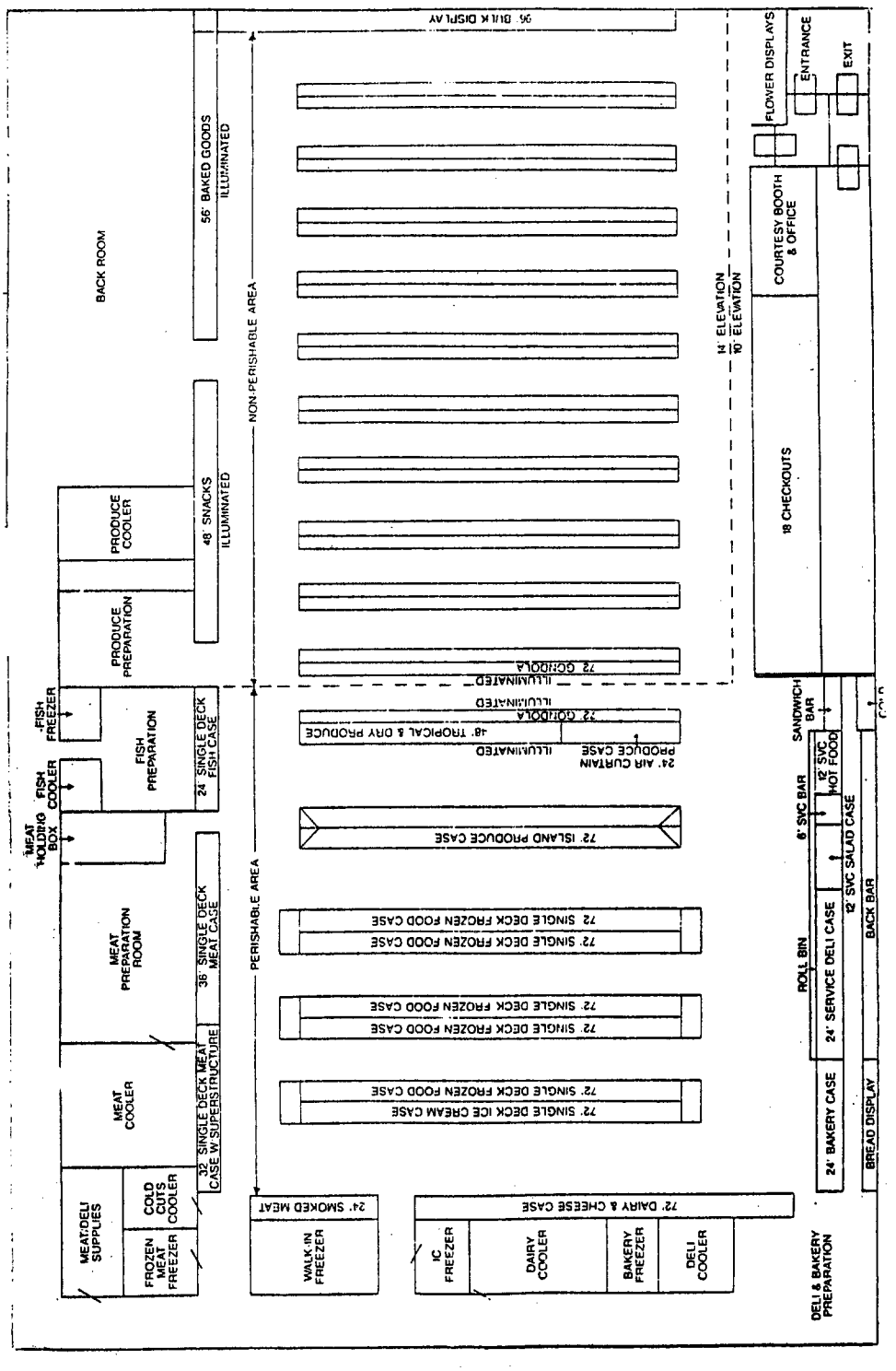
You'll think back to the typical illumination profile that we looked at earlier, when we said that basically

when you have multi-deck equipment or self-illuminated equipment opposite each other, you really don't need any ceiling lighting. Now this coal miner's hat on a customer is not the overall effect that we want to achieve. What we want to achieve is having a darker ambient with no ceiling lighting and therefore allowing the case lighting to do all the emphasis of the product as opposed to multi-deck freezer cases which are in a "sea of lighting" in which the product gets lost. Here we have a picture of an illuminated ceiling with over 400 foot candles being shot down onto the product. This not only destroys any illumination merchandising value, but it also tends to heat the top layer of product thereby driving up the refrigeration load and tends to sacrifice produce integrity. It should be clarified that the lighting over the single deck frozen case could either be ceiling mounted special fixtures which shine most of the light downward or else the cases could come equipped with a light under an extended top shelf. The most effective way to do this would be for the lighting to come as direct part of the equipment. Here's a picture of the dairy cases; note there is no ceiling lighting in the aisle. There is, however, a nice pleasing wall wash. Note how the product stands out as opposed to this picture where the dairy cases are included in a "sea of lighting." The reach-in cases offer poor illumination at best and when bulbs burn out, such as this picture, the overall merchandising effect is basically lost. Basically, what we are saying is that the use of task lighting in the perishable area would minimize the number of fixtures required and also render those areas that you wish to highlight very effective.

Store lighting has an important influence on the refrigerated equipment as is shown by this slide. Note that incandescant bulbs offer the highest increase in meat case temperature of all the light sources, with the heat rejecting incandescent bulbs just slightly less as far as heat added to the product. Note that fluorescent lamps are the most effective as far as not increasing the heat in meat cases. Let's take a look at the incandescant bulb. The incandescant bulb transmits only 10% of its energy into light forms; 72% of it goes into infra-red and 18% goes into conduction and convection. This is the most inefficient light source. Looking at meat cases, there is over 250 to 300 foot candles on this case, rendering the chicken sitting in a pool of blood. This is due primarily to the use of incandescant spotlights used over the meat case. Here we have a combination of fluorescents and incandescants. Fluorescent lights are 4 to 6 times as efficient as incandescant lights so what we basically want to do is have fluorescent lights over the meat cases such as shown by this sketch. However, since the eye is drawn towards the light source, we want to create a fixture which will direct most of the light downward and therefore be a hidden light source such as shown in this picture. Note the wall wash; note the fluorescent fixtures that are basically hidden from the eye directing the light downward. Also, here is a produce case with similar type lighting.

The color spectrum given out by the fluorescent tube is an important feature in merchandising. In other words, what is the dominant color of a specific color tube. For instance, there's cool white which is heavy in the greens, oranges and yellows. There's cool white deluxe which is not as heavy in the greens, oranges and yellows but is slightly heavier in the reds. There's warm white which is heavier in the greens and yellows than the cool white and there's the warm white deluxe which is heavier in the reds than the cool white deluxe. All of which when compared to the incandescant-spectrum is heavier in the oranges and reds than in the yellows and greens. One would want to use warm white in the produce cases, dairy cases, and bakery racks, warm white deluxe over the meat cases, cool

Exhibit A: Equipment placement for 'Supermarket of the 80s'



white over the frozen food cases, etc. In other words, to try and enhance the coloration of the product as opposed to forcibly changing it. Warm white deluxe is the closest spectrum to the incandescant spectrum which is desireable over the fresh meat cases.

Let's take a look at specialty cases such as deli. Typical deli cases have been engulfed in a "sea of lighting" and therefore yield a heavily reflective surface on the windows, which basically hides the product. We recommend that the deli be placed in a dark area so that minimal light above and beyond the case light would be required such as this case or this case. Note how the product in the cases stands out. The name of the game is that we are trying to merchandise and sell produce and therefore it is the product that we would like to have seen, not the lighting fixtures, ceilings, floors, etc.

Taking a look at general sales area lighting, we think that the best tradeoff right now is the 2-tube 8 foot fixture which is basically a wide pan fixture, 10¼ inches wide as opposed to the standard 4½ inch typical fixture. The object is to get as much reflectivity out of the bulb off the pans surface of the fixture as is possible. Here's a picture of a supermarket before a remodel that had 4-tube fixtures and the same supermarket after the remodel with 2-tube fixtures; in fact, the lighting level went up in the 2-tube fixture primarily because of the additional reflectivity and the newness of the bulbs.

Here's an approach to lighting that is rather unique. It basically has a high pressure sodium and metal arc bulb that reflects the light off the ceiling from the top of the gondola. Additional lighting would be needed for highlighting; however, this has yielded a fairly effective light source in the past.

In summary, lighting is the most effective merchandising tool available to the supermarket operator. It's actually an asset as opposed to being just lighting, providing it is used effectively and judiciously.

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