

Grand Opening of Alderwood



Nordstrom Alderwood Store, Lynnwood, WA. Opening day September 19, 2003

Nordstrom recently opened their newest full-line store at Alderwood Mall, Lynnwood, WA. Nordstrom consultants Callison Architecture, Coffman Engineering, Hargis Engineers and PSF Mechanical worked together to create this latest addition to the Nordstrom shopping experience. It is a treat for those of us in Nordstrom's hometown area to enjoy the benefits of their latest in retail environments, which now cov-

ers twenty-seven states. For PSF, it meant the opportunity for our employees to observe a Nordstrom project under construction and then enjoy the building at its completion. More typically, most of our staff see the design documents, hear about the project during production meetings and read about the preparations for store opening in the commissioning reports. This time it was just a short thirty-minute drive to watch the transformation take place.

Edifice Construction was the General Contractor. Other team members included Cochran Electric, McKinstry Co., and Auburn Mechanical. Team coordination and progress was smooth and the resulting Nordstrom full-line store is a beauty. Ladies will be thrilled with the extensive offering of shoes

while the gentlemen have their choice of three channels of sports and entertainment to enhance their shopping experience. A generous seating area adjacent to the escalator provides an opportunity to enjoy the music of Nordstrom's trademark pianist. Seeking a pick-me-up? Slip out to the Espresso Bar for your favorite flavored coffee. If your appetite requires a bit more, then a trip to the Nordstrom Cafe Bistro is the ticket for a refreshing break.

PSF would like to acknowledge the entire Nordstrom Alderwood Mall design team and thank Nordstrom for allowing us the privilege to participate as a Design/Build team member on this latest Nordstrom project.



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Specialty Fabrication



Stainless Steel Trunk

What constitutes 'specialty fabrication'? For most shops, it is anything that falls outside of the normal day-to-day fabrication of ductwork, fittings and accessories associated with the air distribution systems installed in commercial buildings.

At PSF, we have manufactured a great variety of specialty items - some one of a kind, and others in great quantity or variation. One of our customers (for whom we do no traditional mechanical work) is Zumiez. Much of the work we do for Zumiez consists of racks, hangars, fixtures, and decorative pieces, often made in large quantities and shipped all over the US. In addition we fabricate the 'Zumiez' signs that greet customers at each store's entry. However, most of the variety in our specialty fabrication work comes from those 'off-the-street' requests. Literally, someone driving by notices the shop, the materials being assembled for shipment, or has found us via word of mouth.

Some of the more unique items we have manufactured include a 12-gauge chain oiler housing (approximately six feet in diameter) for Crowley Marine, plus several panel pieces for Crowley Marine's barge cranes (to replace rusted-out sections). We have manufactured all types of guards, including fan belt guards, cable guards and ladder assemblies and hoods. Then there is the stainless steel jet engine exhaust manifold for the Trend

West hydroplane, the stainless steel company's logo (prominently displayed in Designer's Salon), and a stainless steel trunk. This summer we fabricated a stainless steel soil sample scoop, folding air sampling mast and ladder for one of the Puget Sound Emergency Environmental Response trucks. There have also been special items for individual customers, such as marine barbecue mounts, wind blockers, fender holders, counter tops and other pieces - usually fabricated from stainless steel or aluminum.

More traditional specialty fabrication includes custom hoods (we have built a substantial quantity of large, beautiful, Tailor and Alteration Shop hoods for Nordstrom), kitchen hoods, vapor hoods, industrial dust collection hoods, and multiple custom pickup hoods.

It's likely that some of the more unique metal fabrication performed in our shop has gone into personal-use items. It seems that all tradesmen have a knack for making daily-use items from the left over scrap of daily production. Witness the many tool boxes, truck cab accessories, racks, iceboxes, keg coolers and workbench tops. There have even been a few ice fishing accessories (portable heaters) that have slipped out the back door. No doubt there are other creative pieces that have escaped our watchful eyes.

Fun Fact: In the last month over 56,000 holes have been punched or drilled in Zumiez parts.



Safety Deposit Boxes for BECU Bank



Project Highlight - Auburn YMCA

PSF was recently awarded the Auburn YMCA project with GLY Construction. This will be a new 46,000 ft² facility, located on the south side of 15th Street SW between Perimeter and C Street SE. This will be a fully featured athletic club servicing the Auburn community. Features include family oriented accommodations such as a Child Watch room, Teen Room, Family Room, Kitchen and Reflection Room. A 4,800 ft² Natatorium with a 15' x 30' children's pool and 30' main pool with 60' and 40' swim lanes.

There is a full-sized basketball court in the main Gymnasium (convertible to 2-court configuration). In addition to the main gymnasium there are several smaller areas for dedicated cardiovascular exercise, aerobics, general exercise as well as multipurpose uses.

The new facility is scheduled to open April 2004.

Owner: YMCA of Greater Seattle
General Contractor: GLY Construction
Mechanical Engineers:
 Sider & Byers, Auburn Mechanical
PSF Mechanical, Inc.: John King, PM

Toxic Mold

Toxic mold has recently come into focus as an important issue for property owners and people in construction related fields. Mold has been blamed for Sick Building Syndrome (SBS) and even deaths in recent media reports. Insurance companies are struggling to place liability caps on their policies, with Industry wide mold-related payouts rising from \$1.2 billion in 2001 to an estimated \$2.5 billion in 2002. Property owners have been winning multimillion dollar judgments against their design and construction teams due to mold. It is no wonder that people are concerned.

Toxic mold, and mold in general, is not something new. Mold has been around since the dawn of time. It is in the air we breathe and the ground we walk on. It is only when mold shows up in our indoor environment that we start to take notice. The three molds that receive the most attention are Penicillium, Aspergillus, and Stachybotrys. Stachybotrys is the infamous black, slimy mold that typically is the villain in media reports. These toxic molds can cause health problems through ingestion, but inhalation creates most health problems. Molds are fungi, and like all members of the family, reproduce by forming spores. There is no consensus among experts as to how much of a health threat toxic mold really is or in what quantities it has to be present in order to be dangerous. Molds are present everywhere so testing will always reveal their presence, and no one agency has been able to say what constitutes a dangerous concentration. The experts do agree that if you can see it or smell it, your building has a problem.

Molds have the same basic needs as any living organism: warmth, food and a constant source of water. The main food source for molds is cellulose found in the wood and paper products used in construction. Wet gypsum wallboard provides an almost ideal environment for mold growth. The paper provides the food; the gypsum acts as a water dish. Wet materials from construction, floods and leaks introduce moisture into buildings. If wet materials are not

dried out quickly, mold will start growing. This is not something new, but it has only been recently that this has become an issue. Modern energy codes now require tight building construction with low air leakage windows, doors and vapor barriers. This blocks moisture from escaping to the outside, inhibiting the drying process and giving molds the right environment for growth.

The choice of construction materials and the improper application of them can have a large impact on the ability of a building to dry out. EFIS, a plasticized stucco



Toxic Mold Spores

exterior covering, has been mentioned in many of the mold related lawsuits. Improperly installed, it can hold moisture inside the walls, giving mold what it needs to grow. Vinyl backed wallpaper has the same effect and also receives mention in many toxic mold reports. Improperly flashed roofs and openings can provide a constant source of moisture into the building. Vapor barriers may be the trickiest building component to install because they are the interface between a warm damp environment and a cold environment (much like the surface of a glass of ice water). And like the glass, moisture will form on the surface of the vapor barrier. If that condensation happens inside the walls, you could grow mold.

The HVAC system can also have a detrimental impact on the building environment. Improperly maintained HVAC systems, with standing water and dirt inside the systems, can provide a breeding ground

for mold. HVAC equipment can introduce moist air into the building via the code-driven outside air requirements. If the equipment is oversized, it easily maintains space temperature. However, the cooling equipment may not run hard enough to effectively remove moisture from the airstream. Typically this effect does not deliver enough moisture to the building to cause mold on its own, but will help maintain the conditions that molds enjoy.

For HVAC designers and contractors, mold concerns create a whole raft of problems which require sizing the equipment properly to meet the intent of modern energy codes. Typically the client wants a system that will maintain building temperature regardless of outside conditions. This leads to equipment that only works hard (and removes moisture) part of the time. In the desert Southwest, this is not a big problem. In the hot and humid Southeast, it is a huge problem. Before the advent of the modern energy codes, you could cool off the supply air below the desired delivery temperature, removing moisture, and then heat it back up ('re-heat' in industry jargon) to proper delivery temperature. Nowadays, almost all energy codes prohibit re-heat. There are a few ways the savvy designer can deal with this. Variable Air Volume (VAV) systems can modulate the amount of air supplied to the space, ensuring that delivery temperatures are held low enough to remove moisture. In certain circumstances, building Energy Management Control Systems (EMCS), along with creative design, can be used to stage cooling capacity to ensure that the equipment works hard enough to remove moisture from the airstream. Another option is to use dedicated outside air units that treat only the incoming outside air, wringing the moisture out of the airstream before introducing it into the building.

The dark cloud around these silver linings is cost. It is very difficult to control building humidity levels with a low cost system.

See Toxic Mold on Page 4

Fall 2003 Projects

The following are projects that PSF will be working on this year:

Dendreon

- GC: BMW
- Scope: Remodel Floors 3 & 1
- PSF PM: Walt Clear

ID Biomedical, BL-3 Lab

- GC: Lease Crutcher & Lewis
- Mechanical: BMW
- PSF PM Team: Walt Clear, John King
- Eng. Team: Ron Marson, Patrick Jung, Eddie Shahwan

VMC Consulting

- Customer: Zetron Property
- Scope: HVAC Remodel
- PSF PM: Walt Clear

1700 - Seventh Ave.

- GC: Edifice
- Scope: Tenant Improvement
- PSF PM: Andy Read

Toxic Mold -Cont.d-

So what can one do to eliminate the risk of toxic mold? The simple answer, and the one that all the experts agree on, is keep moisture out of the building. Leaks, be it from plumbing or construction flaws, need to be stopped. If there are internal moisture sources inside the building, such as clothes dryers and showers, they need to be vented to the outside. Envelope construction should allow for air circulation to enable drying. If wet materials are used in construction, make arrangements to have dehumidification equipment on site. It is important to get the building dried out. Without a consistent source of moisture, mold will not grow. For its part, the HVAC system has to be designed so that it removes moisture instead of adding more, and it must be properly maintained. The HVAC system also needs to provide the correct amount of ventilation (outside) air and should be commissioned to verify

the correct operation of all the components of the system.

It is impossible to completely remove mold from a building. Mold is everywhere. It is possible to make the interior environment unsuitable for mold growth. A dry building will not support mold growth, reducing the amount of mold spores in the environment, which will in turn remove the threat of mold caused illnesses. If you have a building that does have mold problems, the recommended clean-up procedure is to eliminate the source of moisture and remove the contaminated material, following the guidelines for hazardous dust producing materials, i.e. asbestos. It benefits all to fix building moisture issues before mold becomes a problem.

For more information about our company, visit our web site at www.psfmech.com



PSF Mechanical, Inc.
9322 14th Avenue S.
Seattle, WA 98108

