MCPB
Item No.
Date: 07-11-13

Special Exception S-2871: Paws and Claws Animal Hospital

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Completed: 06/14/13

Description

Special Exception S-2871: Paws and Claws Animal Hospital
Request for a Special Exception for a Veterinary Hospital located in the existing Damascus Shopping Center at 9815 Main Street (MD 108), MXTC Zone, Damascus Master Plan.
***Staff recommendation**: approval with conditions*

Application Received: April 18, 2013
Applicant: Paws and Claws Animal Hospital, LLC

The public hearing at the Office of Zoning and Administrative Hearings is scheduled on July 26, 2013.

Summary

The veterinary hospital use at the proposed location satisfies the specific special exception requirements of 59-G-2.32. With the recommended conditions, the proposed use will not constitute a nuisance because of traffic or physical activity and will not adversely affect the surrounding properties. The applicant has met the burden of proof by showing that the proposed veterinary clinic would be operated without detriment to the neighborhood and would serve the surrounding community's pet care needs with minimal disruption to the neighborhood/renovated Damascus shopping center. The existing space (2,850 square feet) has already been constructed as part of an overall redevelopment of the shopping center. The proposed use will be in harmony with the neighborhood and its mix of retail, restaurant and professional uses. There are no unacceptable noise, environmental, illumination or traffic impacts associated with the application. No comments have been received from the community either in support or in opposition to the proposal.

With the recommended conditions, the proposed use conforms to all applicable requirements and regulations for approval of a special exception for a veterinary hospital.

RECOMMENDATION

Staff recommends approval of Special Exception S-2871, subject to the following conditions:

1. Hours of operation are limited to Monday through Friday, 7:00 am. To 8:00 p.m., and Saturday, 8:00 a.m. to 1:00 p.m.;
2. The special exception is limited to a maximum of 10 employees, consisting of three veterinarians, five veterinary technicians, and two receptionists on-site at any one time;
3. Per Section 59-G-2.32(b)(7) of the Montgomery County Zoning Ordinance, dogs must not be walked or exercised in outdoor areas that are off-site;
4. Per Section 59-G-2.32(b)(10) of the Montgomery County Zoning Ordinance, no animals may be boarded, except in instances for overnight medical purposes, exercised, walked or kept in runs or similar areas;
5. The applicant must keep a written log of all appointments, drop-ins and emergency client activities that make it available for inspection by the County.
6. The applicant will need to provide a signage plan to the County's Sign Review Board, prior to obtaining building permits for the installation of signs.

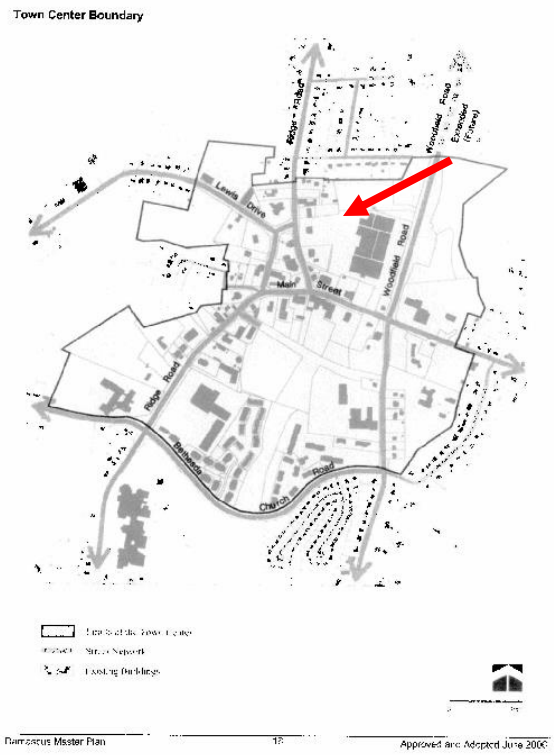
DISCUSSION

Project Description

The applicant is requesting a special exception for a veterinary hospital use within an existing unit located in the new Damascus Shopping Center. Paws and Claws Animal Hospital will offer veterinary services and care to companion animals. The hospital will function as a full service veterinary hospital for small animals with provision for in-patient overnight hospitalization only. This is not an animal boarding facility and only the most critical patients will be kept overnight. All activities of the veterinary hospital will occur entirely within the building. There will be no use of the external areas. There will be no exterior runs, exercises yards, or other outside facilities.

Site Description

The subject property is zoned Mixed Use Town Center (MXTC) by the Sectional Map Amendment that followed the 2006 Damascus Master Plan amendment. The legal description is Parcel N575 in the Damascus Shopping Center Subdivision. The proposed site is located in an existing rectangular unit consisting of 2,850 square feet in the Damascus Shopping Center located in the Damascus Town Center. The Damascus Shopping Center is situated in the northeast quadrant of the intersection of Maryland Route 27 and Main Street. Four years ago, Hekemian & Co. transformed a dated shopping center into a 155,000 square foot modern day shopping center. Anchored by a new 58,000 square foot Safeway, the shopping center also includes a Ledo Pizza, McDonalds, Hair Salons, Pet Value, cleaners, legal offices, and other professional services. The petitioner has entered into a lease to occupy Suite 103 in Building D of that shopping center.



Services offered will include, but not limited to, routine examinations, treatments, surgery, and in-patient overnight hospitalization. The sale of a negligible amount of medicine and supplies is anticipated, but will not exceed 20% of the gross receipts. All services will be inside the building. The hours of operation will be Monday through Friday, 7:00 a.m. to 8:00 p.m. and Saturday, 8:00 a.m. to 1:00 p.m. Staffing will vary according to the demands for services and at maximum periods of utilization will be no more than ten employees (three veterinarians, five veterinary technicians, and two receptionists). According to the applicant, client scheduling will be steady throughout any given day with a modest increase in traffic activity for surgery/procedure drop-offs from 7:00 a.m. thru 9:00 a.m. and pick-ups from 5:00 p.m. to 8:00 p.m. There are approximately 600 parking spaces for the combined retail uses permitted in the shopping center. The proposed animal hospital will be able to use the center parking in common with the other tenants in the center. Trash pick-up will be handled by the shopping center's waste contractor and animal litter and waste will be collected on the site and will be handled by company who will regularly pick-up the litter and waste and will dispose it in accordance with regulations. In the case of a euthanized animal or a deceased animal, the animals are promptly tagged and wrapped in double heavy duty plastic bags that will be placed in a freezer within the clinic building. A service will pick up dead animals where they are transported to specific facilities for services requested by the pet owner.

Neighborhood Description

The neighborhood in which the subject property is located is defined by Main Street/MD 108 to the south, Ridge Road/MD Route 27 to the west, and Woodfield Road to the east. Properties within the area are zoned MXTC. The adjacent property to the north of the site is the post office. A bank, office/retail, and a funeral home are located adjacent to the shopping center to the south. The only special exception in the area is a McDonald's which is located in the northeast corner of the shopping center. This special exception was approved in 1978.

FINDINGS

Master Plan

The project is located at 9815 Main Street is located in the Damascus Town Center of the 2008 Damascus Master Plan. At the time of the Master Plan's development, a poorly visible and dated, suburban shopping center was located on a 15-acre site. The parcel was the largest site under single ownership within the Town Center. The 2006 Plan recommended the redevelopment of the Damascus Center into "an attractive retail center with a mixed-use potential…" (p 22). To achieve this goal, the property was rezoned MXTC in the SMA that followed the adopted Plan. Because the proposed animal hospital is an allowable special exception use in the MXTC Zone, this proposal is consistent with the 2006 Damascus Master Plan and it contributes to the existing mix of uses in the Town Center.

Transportation

Based on the review of the submitted traffic statement and site plan, Planning staff recommends approval of the subject special exception application without any transportation related condition. Using the information contained in the Traffic Statement submitted by the applicant, the site would generate 16 peak-hour trips during the AM and PM weekdays peak hours. Therefore, it is meeting the Local Area Transportation Review (LATR) requirements because the site is generating less than 30 peak-hour trips with granting the subject special exception application.

The site is located in the Damascus Policy Area where there is no Transportation Policy Area Review (TPAR) trip mitigation requirement according to the 2012-2015 Subdivision Staging Policy (SSP). Therefore, the application meets the TPAR requirement under the current SSP.

The subject site is located in the existing shopping center. Staff finds that the existing access point and on-site vehicular/pedestrian circulation are adequate and the existing road system in the vicinity of the site would not be affected by the proposal.

Environment

This site is within an existing shopping center and will not create any new areas of land disturbance and does not encroach on any sensitive areas, forest or large trees. Although it is within the Patuxent River watershed, the high intensity commercial zone on this site (MXTC) means that the Primary Management Guidelines (PMA) requiring impervious limitations, site design considerations and reforestation are not applicable to this project. Forest Conservation Exemption # 42013161E was confirmed for this site making it exempt from Article II, Chapter 22A (Forest Conservation Law). The project qualified under three provisions:

1. the application is for an existing structure and the proposed use will not result in clearing of existing forest or trees;
2. the application modifies an existing special exception use which was approved before July 1, 1991, and the revision will not result in the clearing of more than a total of 5000 additional square feet of forest or any specimen or champion tree;
3. the total disturbance area for the proposed special exception use will not exceed 10,000 square feet, and clearing will not exceed a total of 5000 square feet of forest or include any specimen or champion tree.

Stormwater management applicability will be determined by the Department of Permitting Services.

Inherent and Non-Inherent Adverse Effects

The Zoning Ordinance specifies a standard of review for evaluating compliance with general and specific conditions that requires an analysis of inherent and non-inherent adverse effects. The first step in analyzing the inherent and non-inherent adverse effects of a special exception or modification is to define the boundaries of the surrounding neighborhood. Analysis of inherent and non-inherent adverse effects considers size, scale, scope, light, noise, traffic and environment. Every special exception has some or all of these effects in varying degrees. What must be determined during the course of review is whether these effects are acceptable or would create adverse impacts sufficient to result in denial. To that end, inherent adverse effects associated with the use must be determined. In addition, non-inherent effects must be determined as these effects may, by themselves, or in conjunction with inherent effects, form a sufficient basis to deny a special exception.

The inherent, generic physical and operational characteristics necessarily associated with a veterinary hospital include: (1) vehicular trips to and from the site; (2) noise and odor of animals; (3) deliveries of mail and small parcels; (4) specialty medical equipment needing servicing, mostly by technicians in regular vehicles and; (5) drop-off and pick-up of pets in parking areas. The veterinary hospital use in this application will occupy an existing 2,850 square foot space in a redeveloped shopping center.

There are no non-inherent adverse effects associated with this use. The project is an interior space and does not increase the floor area of the existing building. The exterior walls will be constructed in a manner that would place the sound levels well within the requirements of the Zoning Ordinance. The lighting is also interior. The proposed use will occur entirely within the building and will be in harmony with the neighborhood and its mix of retail, restaurant and professional uses.

Staff finds that the size, scale, and scope of the proposed use will not result in unacceptable noise, traffic, illumination or environmental impacts.

General and Specific Special Exception Provisions

The application, as conditioned by staff, satisfies all of the general and specific requirements for a veterinary hospital found in Sections 59-G-1.21 and 59-G-2.32 of the Zoning Ordinance.

59-G-1.21. General Conditions.

(a) A special exception may be granted when the Board, the Hearing Examiner, or the District Council, as the case may be, finds from a preponderance of the evidence of record that the proposed use:

(1) Is a permissible special exception in the zone.

The subject property is zoned MXTC. A veterinary hospital is an allowed special exception in the MXTC Zone.

(2) Complies with the standards and requirements set forth for the use in Division 59-G-2. The fact that a proposed use complies with all specific standards and requirements to grant a special exception does not create a presumption that the use is compatible with nearby properties and, in itself, is not sufficient to require a special exception to be granted.

Staff finds that the requested use satisfies the standards and requirements prescribed in Section 59-G-2.32 of the Zoning Ordinance.

(3) Will be consistent with the general plan for the physical development of the District, including any master plan adopted by the Commission. Any decision to grant or deny a special exception must be consistent with any recommendation in a master plan regarding the appropriateness of a special exception at a particular location. If the Planning Board or the Board's technical staff in its report on a special exception concludes that granting a particular special exception at a particular location would be inconsistent with the land use objectives of the applicable master plan, a decision to grant the special exception must include specific findings as to master plan consistency.

Staff finds that the use will be consistent with the recommendations of the Damascus Master Plan (2006). The Plan recommended the redevelopment of the Damascus Center into "an attractive retail center with a mixed-use potential…" (p 22). To achieve this goal, the property was rezoned MXTC in the SMA that followed the adopted Plan. Because the proposed animal hospital is an allowable special exception use in the MXTC

Zone, this proposal is consistent with the 2006 Damascus Master Plan and it contributes to the existing mix of uses in the Town Center.

(4) Will be in harmony with the general character of the neighborhood considering population density, design, scale and bulk of any proposed new structures, intensity and character of activity, traffic and parking conditions and number of similar uses.

The veterinary hospital use in this application will occupy an existing 2,850 square foot space in a redeveloped shopping center. There are no proposed new structures, and the use will be housed in an existing retail structure and therefore, staff finds that the proposed use is in harmony with the general character of the neighborhood. Adequate parking is available. Traffic conditions will not be affected adversely.

(5) Will not be detrimental to the use, peaceful enjoyment, economic value or development of surrounding properties or the general neighborhood at the subject site, irrespective of any adverse effects the use might have if established elsewhere in the zone.

Staff finds that the use will not be of detrimental to the use, peaceful enjoyment, economic value or development of surrounding properties or the general neighborhood.

(6) Will cause no objectionable noise, vibrations, fumes, odors, dust, illumination, glare, or physical activity at the subject site, irrespective of any adverse effects the use might have if established elsewhere in the zone.

Staff finds that the proposed use will not create any noise inconsistent with noise levels that now exist in the area. According to the acoustical study submitted by the applicant, the exterior walls will be constructed in a manner that would place the sound levels well within the requirements of the Zoning Ordinance. There will be no objectionable noise, vibrations, fumes, odors, dust, illumination, glare, or physical activity at the subject site.

(7) Will not, when evaluated in conjunction with existing and approved special exceptions in any neighboring one-family residential area, increase the number, intensity, or scope of special exception uses sufficiently to affect the area adversely or alter the predominantly residential nature of the area. Special exception uses that are consistent with the recommendations of a master or sector plan do not alter the nature of an area.

Staff finds the special exception will not increase the number, intensity or scope of special exception uses sufficiently to affect the area adversely. There is only one special exception in the area and that is a McDonald's, located in the northeast corner of the shopping center.

(8) Will not adversely affect the health, safety, security, morals or general welfare of residents, visitors or workers in the area at the subject site, irrespective of any adverse effects the use might have if established elsewhere in the zone.

There is no evidence to support a finding that the veterinary use would have an adverse effect on residents, visitors, or workers in the area.

(9) Will be served by adequate public services and facilities including schools, police and fire protection, water, sanitary sewer, public roads, storm drainage and other public facilities.

(i) If the special exception use requires approval of a preliminary plan of subdivision the adequacy of public facilities must be determined by the Planning Board at the time of subdivision review. In that case, subdivision approval must be included as a condition of the special exception. If the special exception does not require approval of a preliminary plan of subdivision, the adequacy of public facilities must be determined by the Board of Appeals when the special exception is considered. The adequacy of public facilities review must include the Local Area Transportation Review and the Policy Area Transportation Review, as required in the applicable Annual Growth Policy.

The subject property will not proceed through the subdivision process. Four years ago, Hekemian & Co. transformed a dated shopping center into a 155,000 square foot modern day shopping center. *At that time, the issues of adequacy of public facilities was addressed. Staff has indicated that there is no adverse impact on utilities or other public facilities, particularly traffic.*

(ii) With regard to findings relating to public roads, the Board, the Hearing Examiner, or the District Council, as the case may be, must further determine that the proposal will not reduce the safety of vehicular or pedestrian traffic.

Staff has not recommended any transportation-related conditions to support granting of the subject special exception request, since the application meets the transportation-related requirements including the Local Area Transportation Review (LATR) requirements. The proposed use will not have an adverse effect on the transportation network within the immediate local area. *The site will be served by public water and sewer, and the necessary police and fire rescue services are adequate.*

59-G-1.23 General Development Standards

(a) **Development Standards.** The special exception is subject to the development standards of the applicable zone where the special exception is located, except when the standard is specified in Section G-1.23 or in Section G-2.

Staff finds that the proposed special exception satisfies the development standards of the MXTC Zone as shown in the following table:

Development Standards Table

Items	Required/allowed	Proposed
Minimum lot area	NA	2,850 square feet
Maximum building height	42 feet	24 feet
Minimum setbacks (59-C-11.5) Front Side	 10 feet 0 feet	 560 feet 130 feet
Minimum rear setback	20 feet	50 feet

(b) Parking requirements. Special exceptions are subject to all relevant requirements of Section 59-E.

The proposed special exception satisfies all relative requirements of Section 59-E. Section 59-G-2.32(b)(9) requires the following for a veterinary hospital: a minimum of five (5) parking spaces. Per the proposed site plan, a total of approximately 600 parking spaces, including handicapped accessible parking spaces are shared with the combined retail uses in the shopping center.

(c) Minimum frontage.

The proposed frontage is approximately 560 square feet from the front lot line.

(d) Forest conservation. If a special exception is subject to Chapter 22A, the Board must consider the preliminary forest conservation plan required by that Chapter when approving the special exception application and must not approve a special exception that conflicts with the preliminary forest conservation plan.

The proposed special exception is exempt from Article II, Chapter 22A (Forest Conservation Law) as the application is for an existing structure and the proposed use will not result in clearing of existing forest or trees. (Forest Conservation Exemption # 42013161E)

(e) Water quality plan.

A water quality plan is not required for the proposed special exception. Although the subject property is within the Patuxent River watershed, the high intensity commercial zone on this

site (MXTC) means that the Primary Management Guidelines (PMA) requiring impervious limitations, site design considerations and reforestation are not applicable to this project. Stormwater management applicability will be determined by the Department of Permitting Services.

(f) **Signs. The display of a sign must comply with Article 59-F.**

Prior to obtaining building permits for the installation of signs, the applicant will need to provide a signage plan to the County's Sign Review Board.

(g) **Lighting in residential zones.** All outdoor lighting must be located, shielded, landscaped, or otherwise buffered so that no direct light intrudes into adjacent residential properties.

This site is not located in a residential zone, however, the applicant provided a Lighting Plan that demonstrates the application achieves the required standards and does not exceed this standard.

Sec. 59-G-2.32. Hospital, veterinary

(a) In any commercial, central business district or transit station zone where permitted by special exception, a veterinary hospital must comply with the following conditions and requirements:

(1) There must be no runs, exercise yards, or other facilities for the keeping of animals in any exterior space.

No exterior runs, exercise yards, or other facilities for the "keeping" of animals in exterior spaces will be provided on-site. This is not a boarding facility and only the most critical patients will be kept overnight. There is a small area located at the rear of the facility where a dog can be taken to relieve itself when necessary. The dog will be leashed and accompanied by a veterinary assistant who will clean up and dispose of any animal waste. This will not be used as an exercise yard.

(2) All areas for the keeping of animals must be soundproofed.

The walls separating the veterinary hospital from the adjoining businesses on either side will built of metal stud framing with a double layer of acoustical gypsum drywall to help mitigate sound levels. Other interior partitions will use a single layer of this acoustical drywall and acoustically rated doors are also specified. The proposed partitions will serve to mitigate the noise typically associated with the proposed use sufficiently to ensure that the use will operate in compliance with the provision of the noted section.

(b) In any residential or rural zone where permitted by special exception, a veterinary hospital must comply with the following conditions and requirements:

(1) In the R-150, R-90, and R-60 zone, the maximum lot size is one-half acre. In the R-60 zone a veterinary hospital must be located along a major highway with an existing right-of-way width of no less than 90 feet, and be adjacent to or confronting a central business district or a property zoned for commercial use.

Not applicable. The subject property is located in a mixed- use, commercial zone.

(2) Exterior areas used to exercise, walk, or keep animals must be set back from any property line 200 feet and screened from adjacent residential properties. All exterior exercise areas and runs must be fenced for the safe confinement of animals.

The application does not propose exterior area for exercise or walk area and the site is not located in a residential zone.

(3) For all buildings in which animals will be present, maximum expected interior sound levels must be reduced to 40 dBA (A-weighted decibels) outside, measured at ten feet from the structure.

Not applicable. The subject property is located in a mixed- use, commercial zone.

(4) All buildings and accessory structures must be set back from any property line a minimum of 50 feet.

Not applicable. The subject property is located in a mixed- use, commercial zone.

(5) No animal may be outdoors between 6 p.m. and 8 a.m.

Not applicable. The subject property is located in a mixed- use, commercial zone.

(6) On weekdays, the sound at the nearest receiving property line must not exceed 60 dBA between the hours of 8 a.m. to 6 p.m. and 50 dBA between the hours of 6 p.m. to 8 a.m. On **Saturdays, Sundays, and federal holidays, the sound at the nearest receiving property line** must not exceed 60 dBA between the hours of 9 a.m. to 6 p.m. and 50 dBA between 6 p.m. and 9 a.m. Terms are defined in accordance with the Montgomery County Noise Ordinance (Chapter 31B of the Montgomery County Code). In any event, the predicted maximum receiving property line sound levels must not exceed the characteristic ambient sound levels by more than 3 dBA at any time.

Not applicable. The subject property is located in a mixed- use, commercial zone.

(7) Dogs must not be walked or exercised in outdoor areas that are off-site.

Not applicable. The subject property is located in a mixed- use, commercial zone.

(8) In addition to the submittal requirements in Sec. 59-A-4.22, the applicant must submit the following information. Applications submitted without this information are incomplete and will not be accepted or assigned a case number:

(h) acoustical engineering studies that demonstrate that the proposed use meets the standards in Sec. 59-G-2.02(b)(3) and (6) above. The studies must show the worst

scenario sound level. The statement of operations must be sufficiently detailed to allow determination of how often the worst scenario sound level occurs.

(ii) detailed floor plans that show all the interior areas and their use designations,

(iii) site plans that show the layout of all exterior areas used to exercise, walk, or keep animals.

The applicant, as part of this application, has submitted an acoustical engineering study demonstrating that the proposed use meets the noise standards for a veterinary hospital special exception use.

(9) The Board must specify a minimum number of off-street parking spaces, taking into consideration the number of employees on the maximum shift, the number of doctors practicing simultaneously, and the number of appointments and deliveries. This number must in no case be less than 5.

Not applicable. The subject property is located in a mixed- use, commercial zone.

(10)The Board may regulate the number of animals that may be boarded, exercised, walked, or kept in runs or similar areas, and the manner in which animals are boarded, exercised, walked, or kept.

Not applicable. The subject property is located in a mixed- use, commercial zone and the applicant is not proposing to board, or provide a dog run.

(11)The Board may regulate the office hours and the number of appointments. Animals may be seen by appointment only. Emergency patients and visits to pick up prescriptions and pet-related items may also occur, within office hours only and without prior scheduling: abuse of this exemption may lead to revocation of the special exception. A written log of all appointments and drop-in and emergency client activities must be kept, to be available for inspection by County authorities.

The proposed hours of operation will be Monday through Friday, 7:30 a.m. to 7:00 p.m. and Saturday 8 a.m. to 1:00 p.m. Animals will be seen by appointment only, except for emergencies and for visits to pick up prescriptions and pet-related items, which may occur within office hours and without prior scheduling. As a condition of approval, the applicant is required to maintain a written log of all appointments and drop-in and emergency client activities for inspection by County agencies.

(12) Any accessory operation, such as grooming or the sale of pet food and supplies, must be set forth in the statement of operations and must be limited as an accessory activity to a percentage of sales not to exceed 20%.

There is a pet supply store in the shopping center that will assume the majority of pet supply sales. Sales will only be a very low percentage of the clinic's gross revenue and sales are almost always made at the time of the treatment of a pet.

(13) All litter and animal waste must be contained and controlled on the site.

Trash pick-up will be handled by the shopping center's waste contractor. Animal litter and waste will be collected on the site and will be handled by company who will regularly pick-up the litter and waste and will dispose it in accordance with regulations. In the case of a euthanized animal or a deceased animal, the animals are promptly tagged and wrapped in double heavy duty plastic bags that will be placed in a freezer within the clinic building. A service will pick up dead animals where they are transported to specific facilities for services requested by the pet owner.

(14) Animals may be kept overnight at the hospital only for medical purposes. If animals are kept for non-medical purposes, a separate application for an animal boarding place must be approved.

As a condition of approval, no animals will be kept overnight, except for in-patient overnight hospitalization.

(15) If the proposed use is located in an area that uses well water and septic facilities, the applicant must prove that the use will not have any negative effect.

The facility will be served by public sewer and public water.

(c) Any veterinary hospital lawfully existing prior to the effective date of this ordinance is a conforming use, and may be extended, enlarged or modified by special exception subject to the provisions set forth in this section.

Not Applicable.

COMMUNITY CONCERNS

Staff has not received any written or oral comments regarding the proposed veterinary hospital.

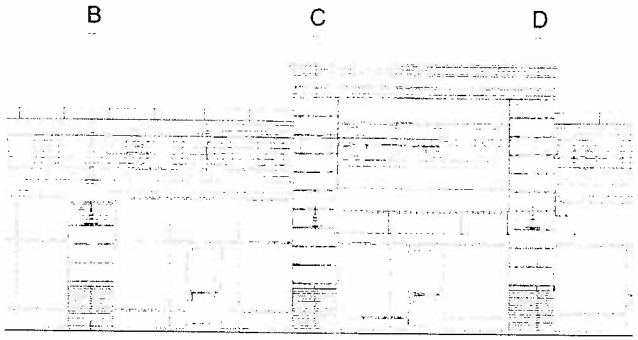
CONCLUSION

Based on the foregoing analysis, staff recommends approval of the application subject to the conditions found at the beginning of the technical staff report.

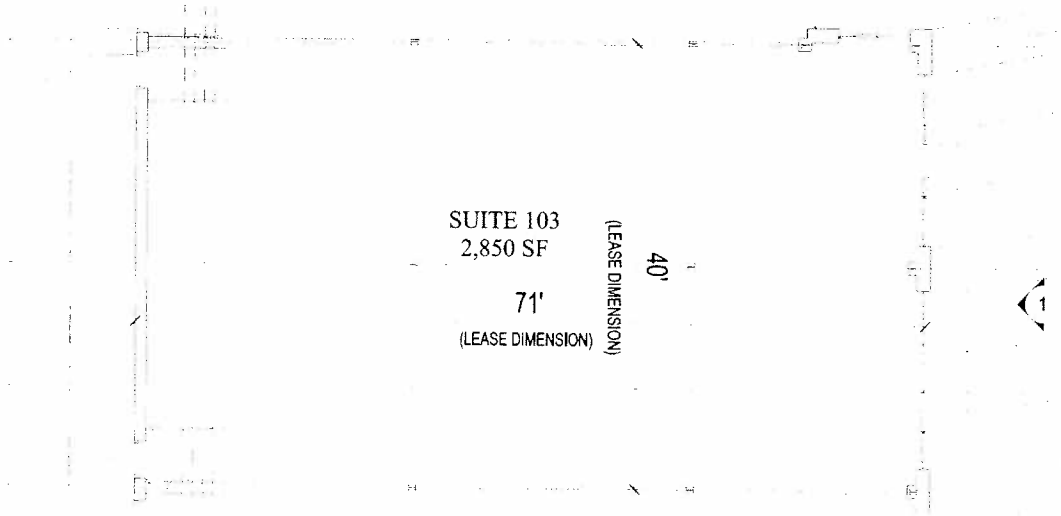
Attachments:

1. Site Plan
2. Statement of Operations
3. Damascus Centre Letter
4. Damascus Town Center Boundary Maps
5. Existing and Proposed Zoning
6. Traffic Statement
7. Acoustical Engineering Study
8. Forest Conservation Exemption Letter

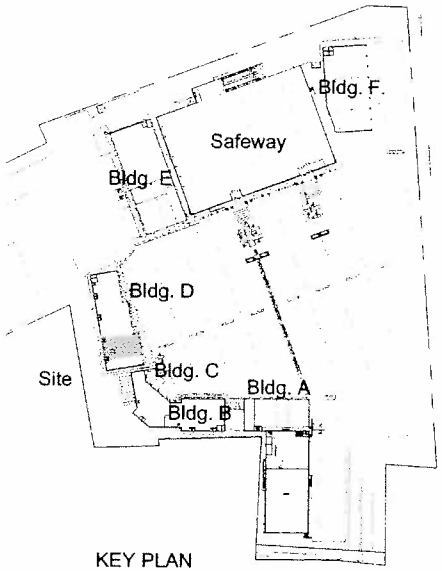
ATTACHMENT 1



FRONT ELEVATION "1"
1/16" = 1'-0"



PROPOSED VETERINARY CLINIC
1/16" = 1'-0"



KEY PLAN
N.T.S.

Willard Architects Ltd.
527 Baltimore Annapolis Blvd.
Severna Park, MD. 21146
(off) 410-263-2828
(fax) 410-263-0288

HEKEMIAN since 1933

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Issue Date:
05-01-2012

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L.O.D.

BEFORE THE BOARD OF APPEALS
FOR MONTGOMERY COUNTY, MARYLAND

In the Matter of the Petition of	:	
PAWS AND CLAWS ANIMAL HOSPITAL, LLC	:	**Case No. S-_____**
For a Special Exception	:	
For a Veterinary Hospital	:	

STATEMENT OF OPERATIONS

Petitioner, Paws and Claws Animal Hospital, LLC hereby submits this Petition for special exception to operate a veterinary hospital in the Damascus Shopping Center located at 9815 Main Street in Damascus, Maryland.

Subject Property

The Subject Property is a rectangular unit consisting of 2,850 square feet located in the new Damascus Shopping Center. The Damascus Shopping Center is situated in the northeast quadrant of the intersection of Maryland Rt. 27 and Main Street. Petitioner has entered into a lease to occupy Suite 103 in Building D of that shopping center.

Zoning

The Subject Property is zoned MXTC ("Mixed Use Town Center"). It should be noted that the notes contained on the site of the overall shopping center reflect the prior C-2 zoning. However, the zoning was changed by Sectional Map Amendment following the 2006 Damascus Master Plan amendment. A veterinary hospital is permitted by special exception in the MXTC zone.

Background

Paws and Claws Animal Hospital will be offering modern veterinary services to companion animals. The city's population and urban development are growing rapidly each year. There are approximately 20,000 people that live in Damascus with an average income of $120,000 per year. There are currently three other veterinary facilities within Damascus. One of the veterinary hospitals primarily services large animals. The two other veterinary hospitals are older small hospitals that provide care to feline and canines. Most of the residents in the city travel between 5–10 miles to get veterinary care from adjacent towns. There is substantial demand for an advanced and modern veterinary hospital. The clinic will offer compassionate, personal care to pets and pet owners.

Melissa Birken, DVM, is a highly experienced veterinarian with substantial and diverse veterinary training acquired over the past six years after graduation from veterinary school. Dr. Birken started the first two years of her career in general practice in Gaithersburg, MD. She was mentored in depth in feline and canine animal care, surgery, and ill patient care. Dr. Birken wanted to increase her exposure to advanced non-routine veterinary care as well as to acquire new skills in veterinary medicine and, therefore, elected to pursue emergency veterinary medicine. For the past four years, she has been working in an overnight animal emergency hospital in Hagerstown, MD. During this time she has received training in difficult medical and surgical cases and is now proficient to perform these complex procedures. Current clients are very satisfied with the care that Dr. Birken provides. Dr. Birken's goal is to open a general practice that will provide advanced medical care for companion pets. Several clients have praised the services performed by Dr. Birken in both general practice and emergency medicine.

A number of Dr. Birken's clients stated that they will be using the new hospital for veterinary services.

Paws and Claws Animal Hospital's goal is to serve Damascus and surrounding communities' small animal care needs with enhanced veterinary care with minimal disruption to the neighborhood/Damascus shopping center. The new facility will be well-constructed, environmentally friendly, and aesthetically pleasing. About four years ago, Hekemian & Co. transformed a dated shopping center into a 155,000 square foot centerpiece of retail and business activity for the Damascus community. Anchored by a new 58,000 square foot Safeway, the shopping center hosts Ledo Pizza, McDonald's, Hair Salons, Pet Value, cleaners, Physical Therapy facilities, legal offices, and additional varied retail sales and professional services businesses. The new shopping center design will provide for a vibrant mix of retail, restaurant and professional uses. Paws and Claws Animal Hospital will provide additional professional services consistent with the varied mixture of businesses in the shopping center.

Proposed Operations

The hospital will function as a full service veterinary hospital for small animals with provision for in-patient overnight hospitalization only. Paws and Claws Animal Hospital will be open as follows:

Monday throughout Friday, 7:00 AM to 8 PM and Saturday, 8:00 AM to 1:00 PM

Staffing will vary according to the demands for services. Staffing from the hospital at maximum periods of utilization will include the following:

1. Three Veterinarians;
2. Five Veterinary technicians/veterinary assistants;

3. Two receptionists/administrative aides.

Typical client scheduling will be steady throughout the day with a modest increase in activity for surgery/procedure drop-off from 7:00 – 9:00 AM and pick-ups from 5:00 to 8:00 PM. Appointments on weekdays will generally be scheduled between 9:00 a.m. and 5:00 p.m. Dr. Birken anticipates that she will see approximately one patient every 15 minutes, or generally, 4 patients per hour during morning and afternoon hours. New clients/sick patients will be allotted thirty minutes or 2 patients per hour. Every Tuesday and Thursday she will conduct surgeries between 8:00 AM and 12:00 PM and will continue to see daily appointments from 3:00 PM to 6:00 PM. Dr. Birken plans to hire a second veterinarian within the next three years. It is anticipated that the second veterinarian will see patients on a similar schedule such that there will be a maximum of 8 visits per hour. Even with the possible addition of a third veterinarian at some time in the future, it is not anticipated that there will be any further increase in the number of visits and examinations. A third veterinarian will provide relief for the other veterinarians to enable them to perform additional surgeries, examine drop-off patients, and complete necessary medical records. The arrival and departure schedule for staff will be staggered. There will be no more than a maximum of six (6) – in all likelihood, only four (4) -- employees that either arrive for work during the a.m. peak hour or depart from work during the p.m. peak hour. This is a typical schedule intended to reflect the maximum level of activity anticipated at such time as the hospital is fully staffed. It is anticipated that there may be some variations in the ordinary day to day operations, especially as there may be emergencies or other unscheduled drop off appointments and Petitioner wishes to retain some flexibility in the schedule.

There are ample parking spaces (approximately 600 spaces) for the combined retail uses permitted in the shopping center and Petitioner will be able to use the center parking in common with the other tenants in the center.

There will be no exterior runs, exercise yards, or other facilities for the "keeping" of animals in the exterior space. This is not an animal boarding facility and only the most critical patients will be kept overnight. There is a small area located at the rear of the facility where a dog can be taken to eliminate when necessary. The dog will be leashed and accompanied by a veterinary assistant who will clean up and dispose of any animal waste. This area will not be used as an exercise yard.

The Petitioner has worked with an architect experienced in the design of veterinary hospitals to ensure that the facility is soundproofed in accordance with the requirements of the special exception. "Soundproofing" is a misnomer insofar as no facility is truly soundproof. The MXTC zone is a commercial zone and there are no specific noise levels specified for veterinary hospitals located in any commercial zone. However, the partitions have been designed to mitigate the noise such that the design of this building will meet all statutory standards.

Conclusion

In conclusion, the proposed special exception satisfies all of the general and specific conditions of approval for a veterinary hospital. This is an ideal location for a veterinary hospital with easy access and plenty of parking. It is existing space that has already been constructed as part of an overall redevelopment of the shopping center. The proposed use will be in harmony

with the general character of the neighborhood and is consistent with the recommendations of the master plan.

DAMASCUS CENTRE, LLC

505 Main Street
Hackensack, New Jersey 07601
201-487-1500

January 30, 2013

RE: **Dr. Melissa Birken**
Application for Special Exception

Property: Damascus Centre

Address: 9811 Main Street, suite 103
Damascus, Maryland

To Whom it May Concern,

Please be advised that the Landlord, Damascus Centre, LLC, approves of Dr. Melissa Birken's application for a Special Exception for a Veterinarian Clinic at the above referenced property.

Should you have any questions or require additional information, please contact our office.

Very truly yours,

Michael O'Dea
Vice President, Property Management Operations
Hekemian & Co., Inc., Landlord's Managing Agent

MOD/sk

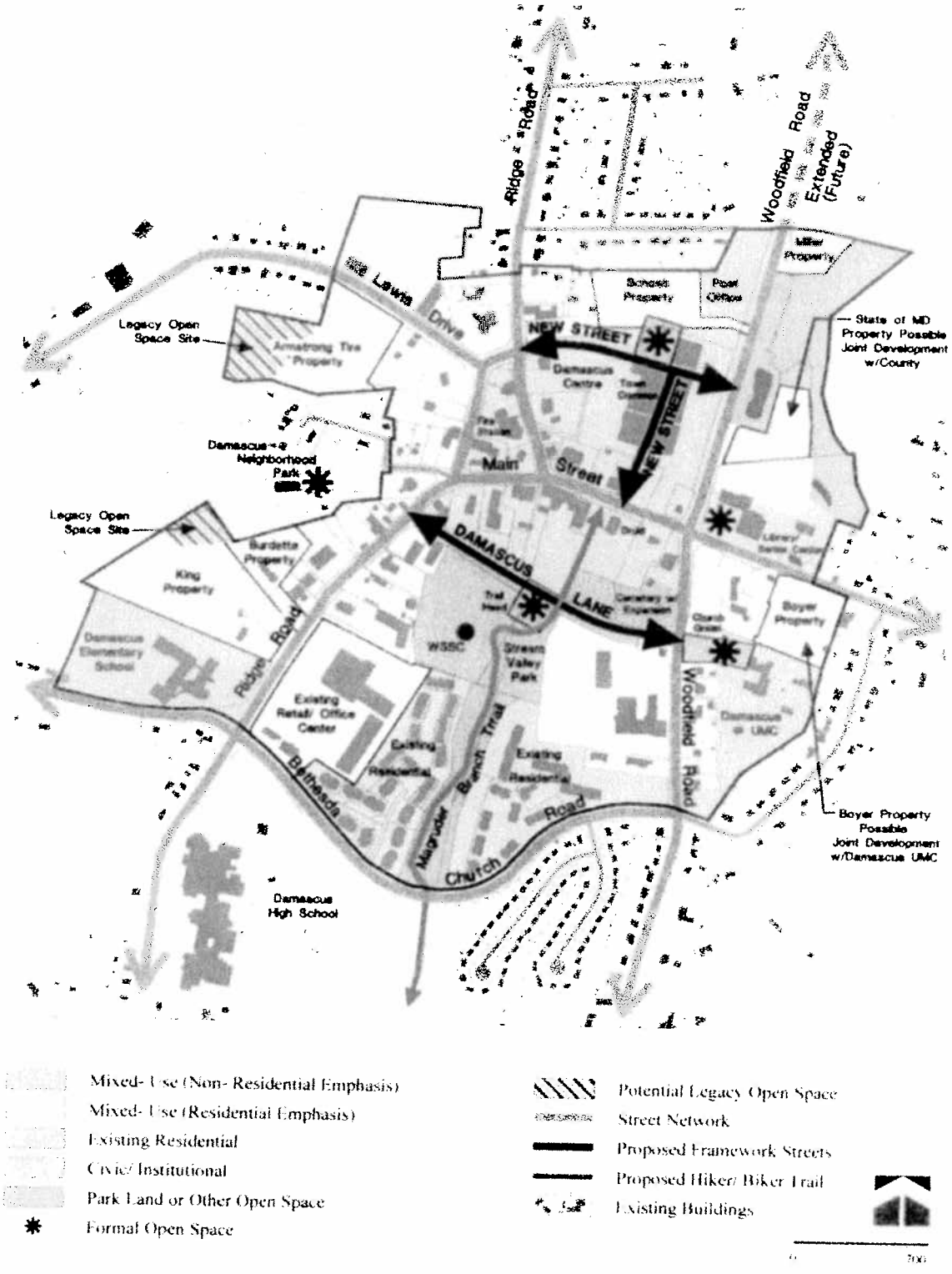
Town Center Boundary

Limits of the Town Center

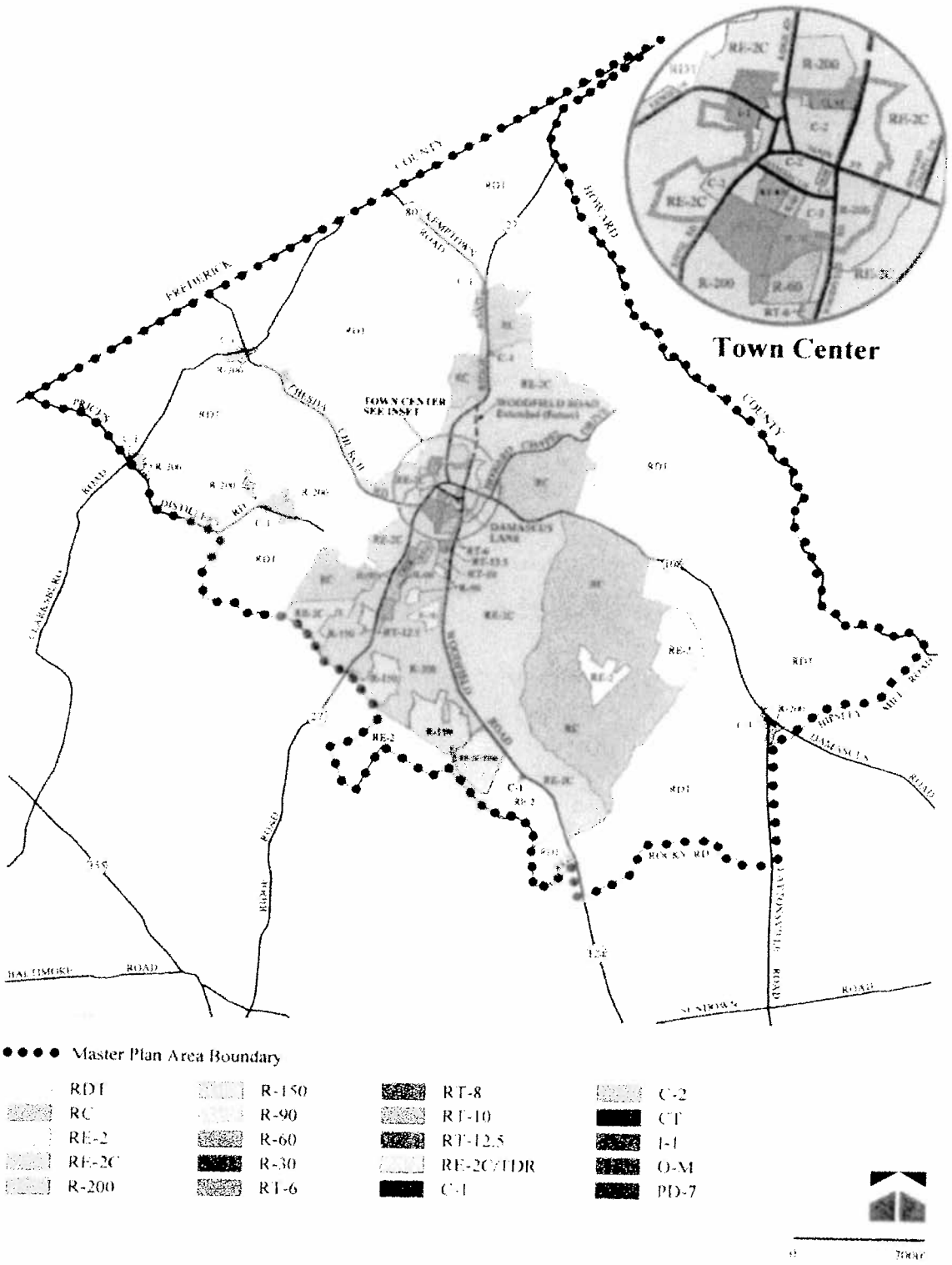
Street Network

Existing Buildings

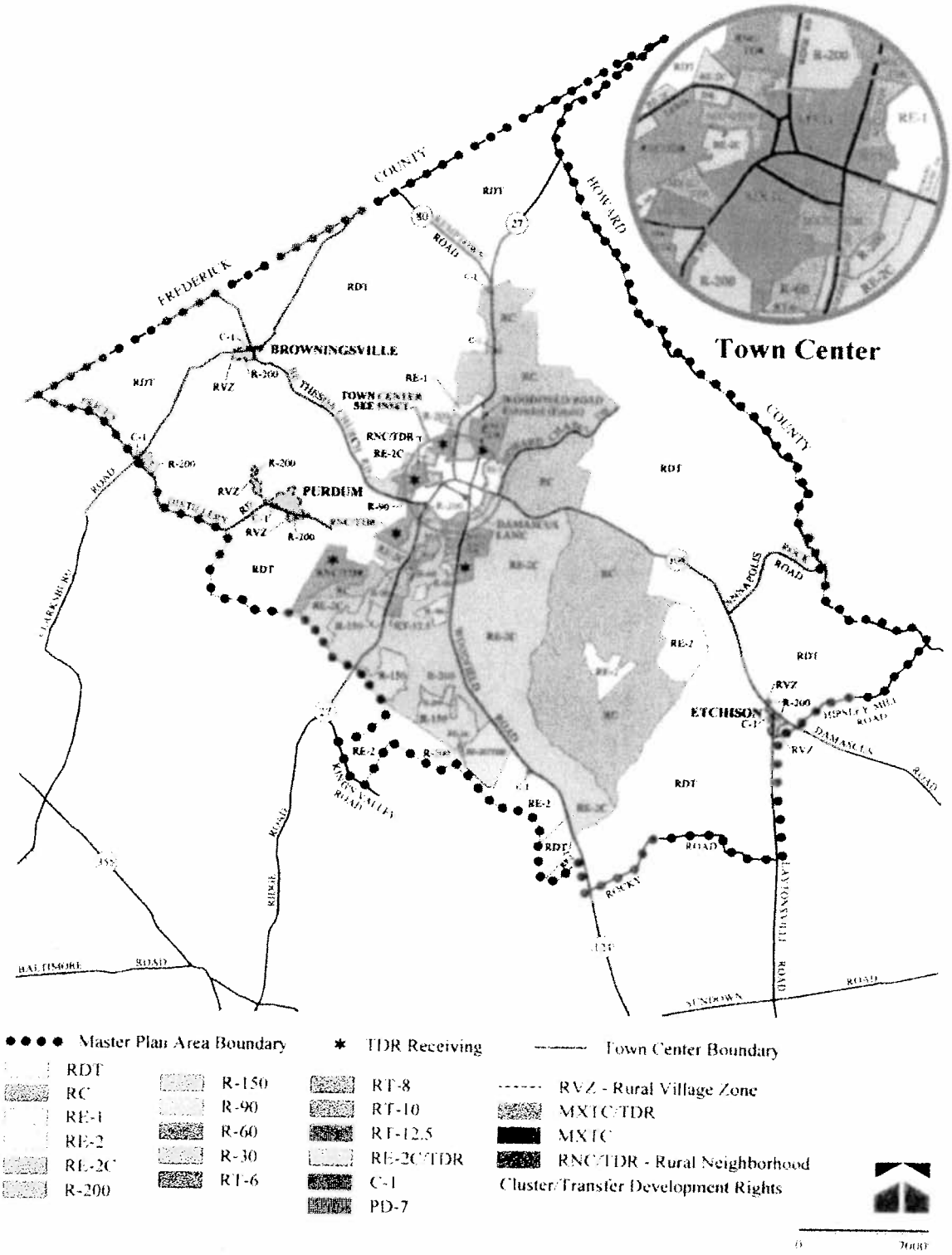
Town Center Framework



Existing Zoning



Proposed Zoning



BEFORE THE BOARD OF APPEALS
FOR MONTGOMERY COUNTY, MARYLAND

In the Matter of the Petition of	:	
PAWS AND CLAWS ANIMAL HOSPITAL, LLC	:	**Case No. S-_____**
For a Special Exception	:	
For a Veterinary Hospital	:	

TRAFFIC STATEMENT

The Subject Property is a 2,850 square foot unit located in the Damascus Shopping Center, a retail center that was recently renovated. The proposed veterinary hospital will operate from 7:00 a.m. to 8:00 p.m. on Monday through Friday and Saturday from 8:00 a.m. to 1:00 p.m. Weekday appointments will generally be scheduled between 9:00 a.m. and 5:00 p.m. It is anticipated that the hospital will open with one (1) veterinarian but will eventually grow to two (2) or three (3) veterinarians. Thus, the staffing needs for the hospital will vary, but at its maximum capacity will include three (3) veterinarians, five (5) veterinary technicians/assistants, and two (2) receptionists/administrative aides. Only two (2) veterinarians will see patients during regular scheduled hours; at such time as a third veterinarian joins the practice, this will relieve one of the veterinarians to perform other functions, including attendance to animal care and completion of medical records.

Appointments are typically spaced at fifteen (15) minute intervals for regular visits with longer, thirty (30) minute appointments for new or sick patients. (2 veterinarians x 4 visits/hour = 8 visits/hour.) Accordingly, during the morning and evening peak hours, there will be a maximum of sixteen (16) peak hour trips resulting from patient visits (8 visits x 2 trips in/out = 16 trips). Staff arrivals/departures will be staggered. There will be a maximum of six (6)

employees arriving at work (or departing in the evening) during the a.m. and p.m. peak hours, but will most likely be no more than four (4) such employees.

Accordingly, there will be fewer than 30 trips generated by the proposed use during the a.m. or p.m. peak hour, so the proposal is not subject to LATR ("Local Area Transportation Review"). Both the roadway and transit tests for the Damascus Policy Area in which the Subject Property are adequate under TPAR ("Transportation Policy Area Review").

Damascus VET – Proposed Soundproof Partitions

February 25, 2013
Dr. Melissa Birken, DVM
26832 Dix Street
Damascus, MD 20872

REFERENCE: Proposed Damascus Veterinary Clinic
9811 Main Street, Suite 103, Damascus, MD

Dear Dr. Birken: At your request a representative of The Princeton Companies visited the referenced project on February 25, 2013. The purpose of this site visit was to inspect the existing premises located at 9811 Main Street, Suite 103 for the Damascus Veterinary Clinic Tenant Fit-out project and to address the soundproofing requirement contained in Sec.59-G2.32 Hospital, Veterinary at the Montgomery County Code.
The proposed floor plan shows the areas that need to be soundproofed as follows:

a) Demising wall by SUITE 101
b) Demising wall by SUITE 104
c) Interior walls in 109-Ward Room
d) Interior wall at front of 101-Exam Room #1, 102-Exam Room #2, 103-Exam Room -#3, and Doorway in 100-Reception.
e) Door 100A, 101A, 102A, 103A

The proposed walls, doors and furring addition to existing C.M.U. intended to mitigate sound from inside the facility consist of partitions and doors with Sound Tests as follows:

a) Demising Walls will be 3-5/8" metal stud framing with double layer, base layer Soundbreak XP Gypsum Board with a STC = 60. Sound test # "RAL-TLO7-168"
b) Interior walls at Ward Room will be 3-5/8" metal stud framing with single layer Soundbreak XP Gypsum Board with a STC = 54. Sound test # "RAL-TLO7-389"

Damascus VET – Proposed Soundproof Partitions

c) Interior walls at front of the exam rooms will be 3-5/8" metal stud framing with single layer Soundbreak XP Gypsum Board with a STC = 54. Sound test # "RAL-TLO7-389".
d) Interior side of existing 12" exterior wall will be furred with 1"metal stud and ½" drywall with a total approximately STC rating of 54.4 - 59.4
e) Interior Doors 100A, 101A, 102A, 103A will be Acoustic Rated Doors – Sonashield by Marshfield Door Systems with a STC Rating of 45. Substitution is allowable with equal or better quality on STC Rating.

Criteria for Approval of the proposed soundproof partition

Section 59-G-2.32 (a) (2) of the Zoning Ordinance requires that all areas for the keeping of animals in a veterinary hospital located in a commercial zone must be soundproofed.

Please reference the enclosed supporting documents:

Exhibit A-one page	Proposed Floor Plan
Exhibit B-one page	Proposed Partitions Types
Exhibit C- four pages	Proposed Furring on Existing C.M.U. Table 1 and Table 2
Exhibit D-one page	Proposed Acoustic Door
Exhibit E-four pages	Sound Test Reports RAL-TL07-168 for 3-5/8" metal stud double layer with Soundbreak XP gypsum Board.
Exhibit F-four pages	Sound Test Reports RAL-TL07-389 for 3-5/8" metal stud single layer with Soundbreak XP gypsum Board.
Exhibit G-one page	Marshfield Door Systems tested acoustic door per ASTM E90-04 in standard 16g steel frames.
Exhibit H- three pages	Key Acoustical Terms and Concepts
Exhibit I- link	I encourage to visit http://nationalgypsum.com/ng/products/product.aspx?page=Sound Break Comm demo Of Soundbreak XP demonstration to a simulated comparison of sound transmission to audible understand what we propose for.

Damascus VET – Proposed Soundproof Partitions

Conclusion

The proposed partitions will serve to mitigate the noise typically associated with the proposed use sufficiently to ensure that the use will operate in compliance with the provision of section Sec.59-G2.32 (a) (2).

Respectfully submitted,

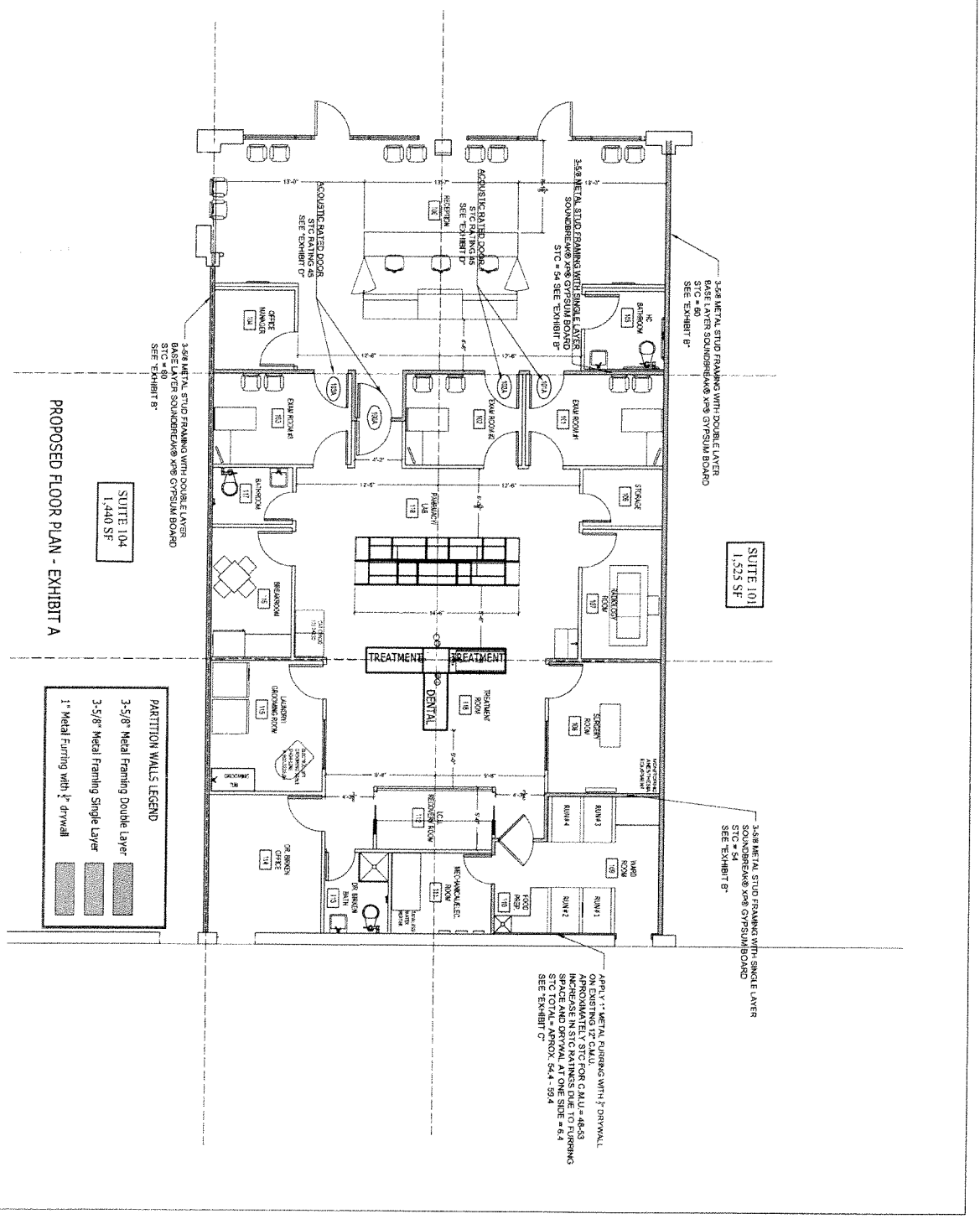
Daniel Sur, AIA, NCARB
Architect
36855 West Main Street, Purcellville,
VA 20132
540-338-1712 - Ext 1004

RESUME:

Daniel Sur, AIA, NCARB, Lead Architect

Mr. Sur graduated with the highest level Architectural degree from National University of Cordoba in Argentina in 1990. He has been a licensed architect since 1991, AIA member since 2003, NCARB certified in 2011 and active architect license in Maryland, Virginia and District of Columbia.

At the start of his architectural career, Mr. Sur worked as an Urban Designer and Landscape Architect for several towns in the Cordoba - Argentina. He was awarded the prestigious project of Environmental Design and Master Plan of the City for Rio Ceballos in Cordoba, and the design of a School Campus in Montecristo, Cordoba. He then worked for a year as an Architect Consultant for a program of the United Nations in Cordoba, prior to moving to the United States. Mr. Sur continued his career in the U.S. working as an Inspector Plans Reviewer in Commercial and Residential Buildings for the City of Raleigh, N.C., and then as an Architect/Project Manager for Cahoon & Kasten Architects in the Outer Banks, N.C. Mr. Sur joined TPC as a Project Architect in 2004 where his extensive and varied experience, his passion for design, and his fluency in English & Spanish, make him an invaluable asset to each project he is involved with. While with TPC, Mr. Sur has been involved with the design of the Westwood Country Club Pool House, Turning Stone Resort Casino, Cardinal Hill Swim and racquet Club, former Ritz Carlton at Creighton Farms, Loudoun Golf and Country Club, TLC Animal Hospital, Leesburg Vet Hospital, , among many other projects.



DAMASCUS VETERINARY CLINIC
9811 MAIN STREET, DAMASCUS, MD

PROPOSED FLOOR PLAN "EXHIBIT A"

SHEET A

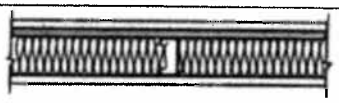
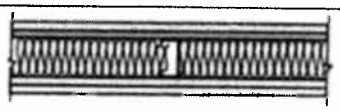
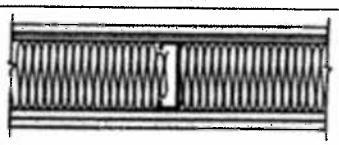
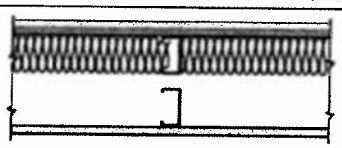
DATE
SCHEMATIC DESIGN
04-04-2013

SoundBreak XP Gypsum Board Acoustical Selector Guide

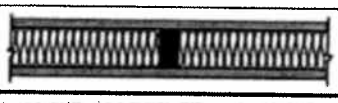
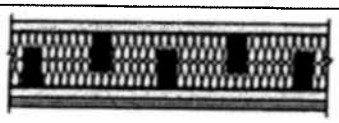
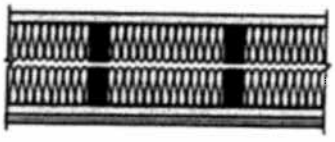
To view the Sound Tests click on the underlined Test No.

ATTACHMENT 7
"EXHIBIT B"

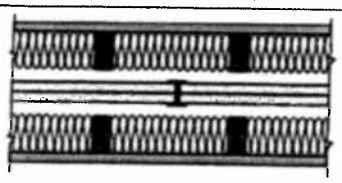
SOUNDBREAK® XP™ GYPSUM BOARD PARTITIONS – STEEL FRAMING

Fire Rating	Ref.	Design No.	Description	Test No.	STC
SINGLE LAYER – 3-5/8" STUDS					
1 hr. 	UL	U465	5/8" SoundBreak XP Gypsum Board vertically applied to one side of 3-5/8" steel studs 24" o.c. with 1" type S screws 8" o.c. at perimeter and 12" o.c. in the field. 5/8" Fire-Shield Gypsum Board vertically applied to opposite side with 1" type S screws 8" o.c. at perimeter and 12" o.c. in the field. Joints staggered on opposite side. 3-1/2" glass fiber in stud cavity.	RAL TL07-389	54
TO BE USED IN Exam Room #1, #2, #3 and interior wall at 109-Ward Room as shown on proposed floor plan					
LAMINATED – 3-5/8" STUDS					
1 hr. 	UL	U465	Base layer 5/8" SoundBreak XP Gypsum Board vertically applied to 3-5/8" steel studs spaced 24" o.c. with 1" type S screws 24" o.c. Face layer 5/8" Fire-Shield Gypsum Board vertically applied with 1-5/8" type S screws 12" o.c. Opposite side 5/8" Fire-Shield Gypsum Board vertically applied with 1" type S screws 12" o.c. Vertical joints staggered 24" each layer and opposite sides. 3-1/2" glass fiber in stud cavity.	RAL TL06-334	57
DOUBLE LAYER – 3-5/8" STUDS					
2 hr. 	UL	V484	Base layer 5/8" SoundBreak XP Gypsum Board vertically applied to 3-5/8" steel studs spaced 24" o.c. with 1" type S screws 24" o.c. Face layer 5/8" Fire-Shield Gypsum Board vertically applied with 1-5/8" type S screws 12" o.c. Opposite side two layers 5/8" Fire-Shield Gypsum Board vertically applied. Base layer attached with 1" type S screws 24" o.c. Face layer attached with 1-5/8" type S screws 12" o.c. Vertical joints staggered 24" each layer and opposite sides. 3-1/2" glass fiber in stud cavity.	RAL TL07-168	60
TO BE USED IN DEMISING WALLS					
DOUBLE LAYER – 6" STUDS					
2 hr. 	UL	V484	Base layer 5/8" SoundBreak XP Gypsum Board vertically applied to 6" steel studs spaced 24" o.c. with 1" type S screws 24" o.c. Face layer 5/8" Fire-Shield Gypsum Board vertically applied with 1-5/8" type S screws 12" o.c. Opposite side two layers 5/8" Fire-Shield Gypsum Board vertically applied. Base layer attached with 1" type S screws 24" o.c. Face layer attached with 1-5/8" type S screws 12" o.c. Vertical joints staggered 24" each layer and opposite sides. 6" glass fiber in stud cavity.	NRCC B-3456.2	61
LAMINATED DOUBLE ROW – 2-1/2" STUDS					
1 hr. 	UL	V488	Base layer 5/8" SoundBreak XP Gypsum Board vertically applied to double row of 2-1/2" steel studs 24" o.c. with 1" type S screws 8" o.c. at perimeter and 12" o.c. in the field. Face layer 5/8" Fire-Shield C Gypsum Board vertically applied with 1-5/8" Type S screws 12" o.c. 5/8" Fire-Shield C Gypsum Board applied vertically to opposite side with 1" type S screws 8" o.c. at perimeter and 12" o.c. in the field. Joints staggered on opposite side. 3" glass fiber or mineral wool insulation in stud cavity.	NGC 2008036	59

SOUNDBREAK® XP™ GYPSUM BOARD PARTITIONS – WOOD FRAMING

Fire Rating	Ref.	Design No.	Description	Test No.	STC
SINGLE LAYER – 2x4 STUDS					
1 hr. 	UL	U309	5/8" SoundBreak XP Gypsum Board vertically applied to each side of 2x4 studs spaced 24" o.c. with 1-1/4" type W screws 12" o.c. 3-1/2" glass fiber in stud cavity.	RAL TL07-145	53
STAGGERED 2x4 STUDS					
1 hr. 	GA	Based on WP3514	Base layer 5/8" Fire-Shield Gypsum Board vertically applied to staggered 2x4 studs spaced 16" o.c. on 2x6 plates with 1-1/4" type W screws 12" o.c. Face layer of 5/8" SoundBreak XP vertically applied with 2" type W screws 16" o.c. Opposite side 5/8" Fire-Shield Gypsum Board vertically applied with 1-1/4" type W screws 12" o.c. Vertical joints staggered 16" each layer and opposite sides. 2-1/2" glass fiber in stud cavity.	RAL TL07-170	60
STAGGERED DOUBLE ROW – 2x4 STUDS					
1 hr. 	GA	Based on WP3514	Base layer 5/8" Fire-Shield Gypsum Board vertically applied to double row of 2x4 studs spaced 16" o.c. on separate plates with 1-1/4" type W screws 12" o.c. Face layer of 5/8" SoundBreak XP vertically applied with 2" type W screws 16" o.c. Opposite side 5/8" Fire-Shield Gypsum Board vertically applied with 1-1/4" type W screws 12" o.c. Vertical joints staggered 16" each layer and opposite sides. 3-1/2" glass fiber in stud cavity.	RAL TL07-147	64

SOUNDBREAK™ GYPSUM BOARD PARTITIONS – AREA SEPARATION WALL

Fire Rating	Ref.	Design No.	Description	Test No.	STC
2 HR. AREA SEPARATION WALL					
2 hr. 	UL	U347	Two layers of 1" Fire-Shield Shaftliner or Fire-Shield Shaftliner XP inserted in 2" H-studs spaced 24" o.c. Minimum 3/4" air space between shaftliner and adjacent construction. 5/8" SoundBreak XP Gypsum Board vertically applied to outside of 2x4 studs spaced 16" o.c. with 1-1/4" type W screws 12" o.c. 3-1/2" glass fiber in stud cavity.	NRCC B-3451.1	67

Note: In multi-layer systems, SoundBreak XP Gypsum Board can be used as either a face layer or a base layer without affecting the STC Rating.

"EXHIBIT C"

Barnes&Cone

uthority on concrete masonry technology

NATIONAL CONCRETE MASONRY ASSOCIATION
Sustainable Concrete Products for Structures and Hardscapes

SOUND TRANSMISSION CLASS RATINGS FOR CONCRETE MASONRY WALLS

TEK 13-1C
Sound (2012)

INTRODUCTION

Unwanted noise can be a major distraction, whether at school, work or home. Concrete masonry walls are often used for their ability to isolate and dissipate noise. Concrete masonry offers excellent noise control in two ways. First, it effectively blocks airborne sound transmission over a wide range of frequencies. Second, concrete masonry effectively absorbs noise, thereby diminishing noise intensity. Because of these abilities, concrete masonry has been used successfully in applications ranging from party walls to hotel separation walls, and even highway sound barriers.

Sound is caused by vibrations transmitted through air or other mediums, and is characterized by its frequency and intensity. Frequency (the number of vibrations or cycles per second) is measured in hertz (Hz). Intensity is measured in decibels (dB), a relative logarithmic intensity scale. For each 20 dB increase in sound there is a corresponding tenfold increase in pressure.

This logarithmic scale is particularly appropriate for sound because the perception of sound by the human ear is also logarithmic. For example, a 10 dB sound level increase is perceived by the ear as a doubling of the loudness.

The speed of sound through a particular medium, such as a party wall, depends on both the density and stiffness of the medium. All solid materials have a natural frequency of vibration. If the natural frequency of a solid is at or near the frequency of the sound which strikes it, the solid will vibrate in sympathy with the sound, which will be regenerated on the opposite side. The effect is especially noticeable in walls or partitions that are light, thin or flexible. Conversely, the vibration is effectively stopped if the partition is heavy and rigid, as is the case with concrete masonry walls. In this case, the natural frequency of vibration is relatively low, so only sounds of low frequency will cause sympathetic vibration. Because of its mass (and resulting inertia) and rigidity, concrete masonry is especially effective at reducing sound transmission.

DETERMINING SOUND TRANSMISSION CLASS (*STC*) FOR CONCRETE MASONRY

Sound transmission class (*STC*) provides an estimate of the acoustic performance of a wall in certain common airborne sound insulation applications.

The *STC* of a wall is determined by comparing sound transmission loss (*STL*) values at various frequencies to a standard contour. *STL* is the decrease or attenuation in sound energy, in dB, of airborne sound as it passes through a wall. In general, the *STL* of a concrete masonry wall increases with increasing frequency of the sound.

Many sound transmission loss tests have been performed on various concrete masonry walls. These tests have indicated a direct relationship between wall weight and the resulting *STC*—heavier concrete masonry walls have higher *STC* ratings. A wide variety of *STC* ratings is available with concrete masonry construction, depending on wall weight, wall construction and finishes.

In the absence of test data, standard calculation methods exist, which tend to be conservative. *Standard Method for Determining Sound Transmission Ratings for Masonry Walls*, TMS 0302 (ref. 1), contains procedures for determining *STC* values of concrete masonry walls. According to the standard, *STC* can be determined by field or laboratory testing in accordance with standard test methods or by calculation. The calculation in TMS 0302 is based on a best-fit relationship between concrete masonry wall weight and *STC* based on a wide range of test results:

$$STC = 20.5W^{0.234} \quad \text{Eqn. 1}$$

[SI: $STC = 14.1W^{0.234}$]

Equation 1 is applicable to uncoated fine- or medium-textured concrete masonry and to coated coarse-textured concrete masonry. Because coarse-textured units may allow airborne sound to enter the wall, they require a surface treatment to seal at least one side of the wall. At least one coat of acrylic latex, alkyd or cement-based paint, or plaster are specifically called out in TMS 0302, although other coatings that effectively seal the surface are

Related TEK:
13-2A

Keywords: : acoustics, noise control, sound insulation, sound transmission class, sound transmission loss, *STC*, *STL*, testing

also acceptable. One example is a layer of drywall with sealed penetrations, as shown in Figure 2. Architectural concrete masonry units are considered sealed without surface treatment for the purposes of using Equation 1.

Equation 1 also assumes the following:

1. walls have a thickness of 3 in. (76 mm) or greater,
2. hollow units are laid with face shell mortar bedding, with mortar joints the full thickness of the face shell,
3. solid units are fully mortar bedded, and
4. all holes, cracks and voids in the masonry that are intended to be filled with mortar are solidly filled.

Calculated values of *STC* are listed in Table 1.

Because the best-fit equation is based solely on wall weight, the calculation tends to underestimate the STC of masonry walls that incorporate dead air spaces, which contribute to sound attenuation. See the following section for the effect of drywall with furring spaces on STC.

For multi-wythe walls where both wythes are concrete masonry, the weight of both wythes is used in Equation 1 to determine *STC*. For multi-wythe walls having both concrete masonry and clay brick wythes, however, a different procedure must be used, because concrete and clay masonry have different acoustical properties. In this case, Equation 2, representing a best-fit relationship for clay masonry, must also be used. To determine a single *STC* for the wall system, first calculate the *STC* using both Equations 1 and 2, based on the combined weight of both wythes, then linearly interpolate between the two resulting *STC* ratings based on the relative weights of the wythes. Equation 2 is the *STC* equation for clay masonry (ref. 1):

$$STC = 19.6W^{0.230} \quad \text{Eqn. 2}$$

[SI: $STC = 13.6W^{0.230}$]

For example, consider a masonry cavity wall with an 8-in. (203-mm) concrete masonry backup wythe ($W = 33$ psf, 161 kg/m^2) and a 4-in. (102-mm) clay brick veneer ($W = 38$ psf, 186 kg/m^2).

STC (Eqn. 1) $= 20.5(33 + 38)^{0.234} = 55$

STC (Eqn. 2) $= 19.6(33 + 38)^{0.230} = 52$

Interpolating:

$STC = 55(33/71) + 52(38/71) = 53$

When *STC* tests are performed, the TMS 0302 requires the testing to be in accordance with ASTM E90, *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements* (ref. 2) for laboratory testing or ASTM E413, *Standard Classification for Rating Sound Insulation* (ref. 3) for field testing.

CONTRIBUTION OF DRYWALL

Drywall attached directly to the surface of a concrete masonry wall has very little effect on sound attenuation other than the same benefit as sealing the surface. Adding $^1/_2$ or $^5/_8$ in. (13 or 16 mm) gypsum wall board to one side of the wall with an unfilled furring space will generally result in a slight increase in *STC*. However, when placed on both sides of the wall with a furring space of less than 0.8 in. (19 mm) a reduction in *STC* is realized due to mass-air-mass resonance similar to the action of drum. Better results are realized when the furring space is filled with sound insulation. Sound insulation consists of fibrous materials, such as cellulose fiber, glass fiber or rock wool insulation, are good materials for absorbing sound; closed-cell materials, such as expanded polystyrene, are not, as they do not

Table 1—Calculated *STC* Ratings for Concrete Masonry Walls (ref. 1)

Nominal unit thickness, in. (mm)	Density, pcf (kg/m^3)	*STC*[A]			
		Hollow unit	Grout-filled unit	Sand-filled unit	Solid unit
4 (102)	85 (1,362)	40	45[B]	44	44
	95 (1,522)	41	46[B]	44	45
	105 (1,682)	42	46[B]	45	46
	115 (1,842)	43	47[B]	46	46
	125 (2,002)	44	48[B]	46	47
	135 (2,162)	45	48[B]	47	48
6 (152)	85 (1,362)	42	51	48	48
	95 (1,522)	43	51	49	49
	105 (1,682)	44	52	50	50
	115 (1,842)	45	52	50	51
	125 (2,002)	45	53	51	52
	135 (2,162)	46	53	51	53
8 (203)	85 (1,362)	44	55	52	52
	95 (1,522)	45	55	52	53
	105 (1,682)	46	56	53	54
	115 (1,842)	47	56	54	55
	125 (2,002)	48	57	54	56
	135 (2,162)	49	57	55	57
10 (254)	85 (1,362)	46	58	55	55
	95 (1,522)	48	58	55	56
	105 (1,682)	49	EXISTING C.M.U.		57
	115 (1,842)	50	59	57	58
	125 (2,002)	50	60	57	59
	135 (2,162)	51	60	58	60
12 (305)	85 (1,362)	48	61	57	57
	95 (1,522)	49	61	58	58
	105 (1,682)	50	62	58	60
	115 (1,842)	51	62	59	61
	125 (2,002)	52	63	60	62
	135 (2,162)	53	63	60	63

[A] Based on: grout density of 140 lb/ft^3 (2,243 kg/m^3); mortar density of 130 lb/ft^3 (2,082 kg/m^3) sand density of 90 lb/ft^3 (1,442 kg/m^3); unit percentage solid from mold manufacturer's literature for typical units (4-in. (100-mm) 73.8% solid, 6-in. (150-mm) 55.0% solid, 8-in. (200-mm) 53.0% solid, 10-in. (250-mm) 51.7% solid, 12-in. (300-mm) 48.7% solid). Other unit configurations may have different *STC* values. *STC* values for grout-filled and sand-filled units assume the fill materials completely occupy all voids in and around the units. *STC* values for solid units are based on all mortar joints solidly filled with mortar.

[B] Because of small core size and the resulting difficulty consolidating grout, these units are rarely grouted.

significantly absorb sound (refs. 1, 7). Note that most of these materials are susceptible to moisture so care must be taken when applying these types of insulation to exterior walls.

Equations to determine the change in *STC* when adding drywall are as follows (Table 2 lists calculated values of ΔSTC based on Equations 3 through 6):

- For drywall on one side of the wall with no sound absorbing material in the furring space:
  $\Delta STC = 2.8d - 1.22$ Eqn. 3
  [SI: $\Delta STC = 0.11d - 1.22$]
- For drywall on both sides of the wall and no sound absorbing material in the furring spaces:
  $\Delta STC = 3.6d - 2.78$ Eqn. 4
  [SI: $\Delta STC = 0.14d - 2.78$]
- For drywall on one side of the wall with sound absorbing material in the furring space:
  $\Delta STC = 3.0d + 1.87$ Eqn. 5
  [SI: $\Delta STC = 0.12d + 1.87$]
- For drywall on both sides of the wall and sound absorbing material in the furring spaces:
  $\Delta STC = 11.2d - 7.37$ Eqn. 6
  [SI: $\Delta STC = 0.44d - 7.37$]

BUILDING CODE REQUIREMENTS

The *International Building Code* (ref. 4) contains requirements to regulate sound transmission through interior partitions separating adjacent dwelling units and separating dwelling units from adjacent public areas, such as hallways, corridors, stairs or service areas. Partitions serving the above purposes must have a sound transmission class of at least 50 dB for airborne noise when tested in accordance with ASTM E90. If field tested, an *STC* of 45 must be achieved. In addition, penetrations and openings in these partitions must be sealed, lined or otherwise treated to maintain the *STC*. Guidance on achieving this for masonry walls is contained below in Design and Construction.

The *International Residential Code* (ref. 5) contains similar requirements, but with a minimum *STC* rating of 45 dB when tested in accordance with ASTM E90 for walls and floor/ceiling assemblies separating dwelling units.

DESIGN AND CONSTRUCTION

In addition to *STC* values for walls, other factors also affect the acoustical environment of a building. For example, a higher *STC* may be warranted between a noisy room and a quiet one than between two noisy rooms. This is because there is less background noise in the quiet room to mask the noise transmitted through the common wall.

Seemingly minor construction details can also impact the acoustic performance of a wall. For example, screws used to attach gypsum wallboard to steel furring or resilient channels should not be so long that they contact the face of the concrete masonry substrate, as this contact area becomes an effective path for sound vibration transmission.

TMS 0302 includes requirements for sealing openings and joints to ensure these gaps do not undermine the sound transmission characteristics of the wall. These requirements are described below and illustrated in Figures 1 and 2.

Through-wall openings should be completely sealed, After first filling gaps with foam, cellulose fiber, glass fiber, ceramic fiber or mineral wool. Similarly, partial wall penetration openings and inserts, such as electrical boxes, should be completely sealed with joint sealant.

Control joints should also be sealed with joint sealants to minimize sound transmission. The joint space behind the sealant backing can be filled with mortar, grout, foam, cellulose fiber, glass fiber or mineral wool (see Figure 2).

To maintain the sound barrier effectiveness, partitions should be carried to the underside of the structural slab, and the joint between the two should be sealed against sound transmission in a way that allows for slab deflection. If the roof or floor is metal deck rather than concrete, joint sealants alone will not be effective due to the shape of the deck flutes. In this case, specially shaped foam filler strips should be used. For fire and smoke containment walls, safing insulation should be used instead of foam filler strips.

Additional nonmandatory design and building layout considerations will also help minimize sound transmission. These are covered in detail in TEK 13-2A (ref. 6).

NOTATIONS

ΔSTC = the change in *STC* rating compared to a bare concrete masonry wall

d = the thickness of the furring space (when drywall

Table 2—Increase in *STC* Ratings Due to Furring Space and Drywall (ref. 1)

Furring space condition:	Drywall on:	ΔSTC for furring space thickness[A] (in., (mm)) of:							
		0.5 (13)	0.8 (19)	1 (25)	1.5 (38)	2 (51)	2.5 (64)	3 (76)	3.5 (89)
No sound-absorbing material in the furring space	one side	0.2	0.9	1.6	3.0	4.4	5.8	7.2	8.6
	both sides[A]	-1.0	-0.1	0.8	2.6	4.4	6.2	8.0	9.8
Furring space filled with sound-absorbing material[B]	one side	3.4	4.1	4.9	6.4	7.9	9.4	10.9	12.4
	both sides[A]	-1.8	1.0	3.8	9.4	15.0	20.6	26.2	31.8

[A] When drywall is used on both sides of the masonry, use the thickness of the furring space on one side of the wall to determine ΔSTC. The furring space and insulation condition must be the same on both sides to use this provision.

[B] Fibrous materials, such as cellulose fiber, glass fiber or rock wool insulation, are good materials for absorbing sound; closed-cell materials, such as expanded polystyrene, are not, as they do not significantly absorb sound.

PROPOSED FURRING WILL INCREASE THE STC RATING IN:

is used on both sides of the masonry, d is the thickness of the furring space on one side of the wall only), in. (mm)

STC = Sound Transmission Class

STL = Sound Transmission Loss

W = the average wall weight based on the weight of the masonry units; the weight of mortar, grout and loose fill material in voids within the wall; and the weight of surface treatments (excluding drywall) and other components of the wall, psf (kg/m^2)

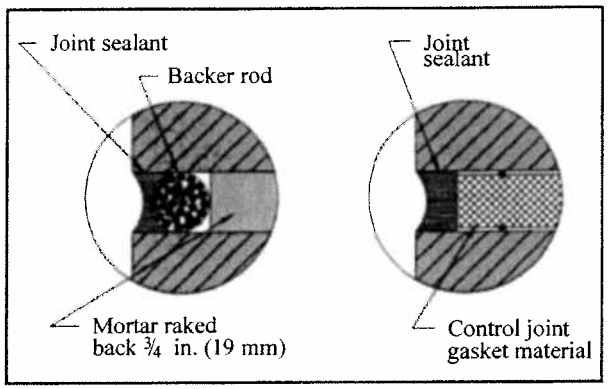


Figure 1—Sealing Wall Intersections & Control Joints

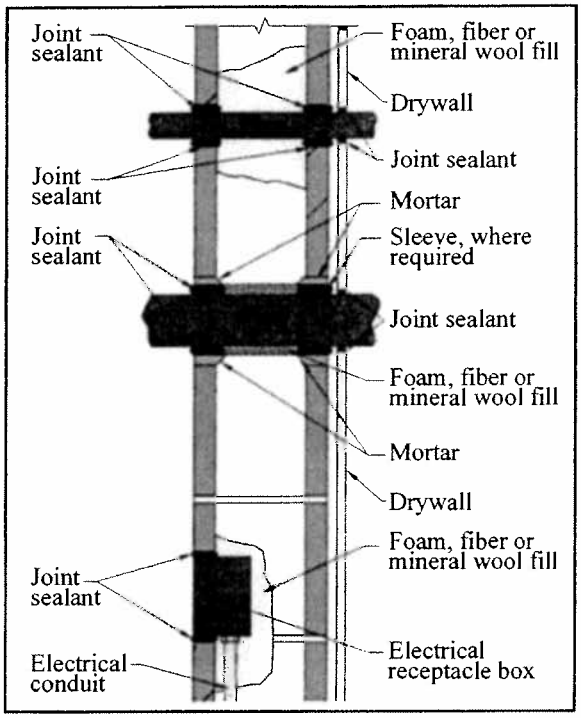


Figure 2—Sealing Around Penetrations & Fixtures

REFERENCES

1. *Standard Method for Determining Sound Transmission Ratings for Masonry Walls*, TMS 0302-12. The Masonry Society, 2012.
2. *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements*, ASTM E90-09. ASTM International, 2009.
3. *Standard Classification for Rating Sound Insulation*, ASTM E413-10. ASTM International, 2010.
4. 2003, 2006, 2009, and 2012 *International Building Code*. International Code Council, 2003, 2006, 2009, 2012.
5. 2003, 2006, 2009, and 2012 *International Residential Code*. International Code Council, 2003, 2006, 2009, 2012.
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7. *Controlling Sound Transmission Through Concrete Block Walls*, Construction Technology Update No. 13. National Research Council of Canada, 1998.

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MARQUIS SERIES®

SONASHIELD Acoustic Rated Doors - STC Rating of 42-47

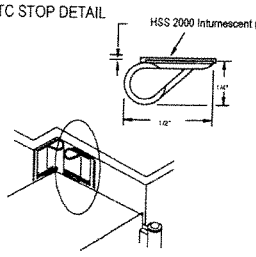
Neutral Pressure, Positive Pressure, Environmental

Standard Models: DSR
Environmental Models: EDSR, EDSRUF

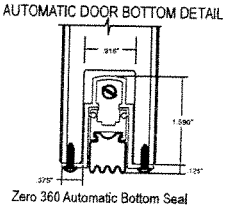
Product Features and Specifications	Interior use only
Thickness	1-3/4"
Acoustic Rating	See Appendix M
Maximum Size	UL-Max 45 Minute: Non Rated — Single: 4/0x8/0; Cat. B (PPFM) — Single: 4/0x8/0
Minimum Size	1/5-3/4x5/11-1/4
Surface Material	High Pressure Decorative Laminate
Crossbands	One Piece High Density Fiberboard (HDF)
Vertical Edges*	Manufacturer's standard construction per label service listing with laminate edge band to match face. Impact resistant edges available upon request.
Horizontal Edges*	Manufacturer's standard construction per label service listing with edge band to match face.
Face & Core Assembly Adhesive	Per requirements of WDMA I.S. 1A, C-6
Core	Special Sound Core
Lite Openings	300in² available on STC 44 doors
Finished Accessories	•Vertical edges •Lite mouldings •Accessories must be specified painted or stained.
Warranty	Full; life of original installation. No exterior warranty
Required Hinges	0.190x5" x 4-1/2" hinges are recommended, however, 0.180x4-1/2" x 4-1/2" may be used.
Environmental Options & LEED Credit Contribution (Not all credits may be available with some constructions)	•MR 7-Certified Wood- Contact Sales •IEQ 4.4-Low-Emitting Materials- all UF models No Added Urea Formaldehyde Resins
Quality Standards (Quality Assurance/ Industry Standards)	Aesthetic: WDMA I.S.1A Architectural Wood Flush Doors (Standard construction) *Other association aesthetic standards upon request WDMA Performance Duty Level: Extra Heavy Duty *Product does not require blocking for surface hardware

DOOR GASKETING:

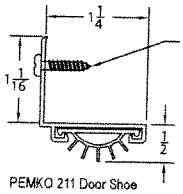
STC STOP DETAIL



AUTOMATIC DOOR BOTTOM DETAIL



Zero 360 Automatic Bottom Seal



No. 6 x 5/8" PHSMS, Phillips (Factory Provided)

PEMKO 211 Door Shoe

NOTE: Both options available.

The STC 44, 45 and 46 must be installed one of two ways to achieve an operable rating.

- With two (2) rows of Marshfield DoorSystems® supplied gasketing on the head and jambs of the frame and either a bottom drop seal or door shoe.
- With two (2) rows of Marshfield DoorSystems® supplied gasketing on the head and jambs of the frame and a gasketed ADA approval threshhold on the bottom

The STC 47 must be installed with two (2) rows of Marshfield DoorSystems® supplied gasketing on the head and jambs of the frame and either a door shoe or a bottom drop seal to achieve an operable rating.

Frames equipped with masonry anchors must be grouted full in field. Bolt-in type frames must have all voids in head and jambs packed with 6 to 12 pound density mineral wool and all voids between wall and frame continuously caulked.

Note: Marshfield DoorSystems® doors are manufactured per the standards listed on this page. Specifications are subject to change without notice.

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"EXHIBIT E"

TEST REPORT

FOR: National Gypsum Company
Buffalo, NY

Sound Transmission Loss Test
RAL™-TL07-168

ON: System (12) 3-5/8" Steel Studs, 24" on Center, 3.5" Fiberglass, One Side Double 5/8" Gold Bond® BRAND Fire-Shield® Gypsum Board, Other Side 5/8" Gold Bond® BRAND SoundBreak™ Gypsum Board and 5/8" Gold Bond® BRAND Fire-Shield® Gypsum Board

CONDUCTED: 25 June 2007

TEST METHOD

Unless otherwise designated, the measurements reported below were made with all facilities and procedures in explicit conformity with the ASTM Designations E90-04 and E413-04, as well as other pertinent standards. Riverbank Acoustical Laboratories has been accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) for this test procedure (NVLAP Lab Code: 100227-0). A description of the measuring technique is available separately.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the client as System (12) 3-5/8" steel studs, 24" on center, 3.5" fiberglass, one side double 5/8" Gold Bond® BRAND Fire-Shield® Gypsum Board, other side 5/8" Gold Bond® BRAND SoundBreak™ Gypsum Board and 5/8" Gold Bond® BRAND Fire-Shield® Gypsum Board. The overall dimensions of the specimen as measured were nominally 4.27 m (168 in.) wide by 2.74 m (108 in.) high and 156 mm (6.125 in.) thick. The specimen was installed by the manufacturer directly into the laboratory's 2.74 m (9 ft) by 4.27 m (14 ft) wood-lined steel frame and was sealed on the periphery (both sides) with a dense mastic.

The description of the specimen was as follows: The wall consisted of 3-5/8" steel studs with R-13 fiberglass batt insulation. One side of the wall was covered with a double layer of 5/8" Fire-Shield® Gypsum Board. The other side of the wall was covered with a base layer of 5/8" SoundBreak™ Gypsum Board and a face layer of 5/8" Fire-Shield® Gypsum Board. A more detailed description of the wall assembly appears in the sections below.

Floor and Ceiling Runners: The two 92 mm (3.625 in.) wide 25 gauge 4.26 m (168 in.) long steel runners were attached to floor and ceiling with 32 mm (1.25 in.) Type S bugle head drywall screws at nominal 610 mm (24 in.) on centers.

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"EXHIBIT E"

TEST REPORT

National Gypsum Company

RAL™-TL07-168

25 June 2007

Studs: The eight (8) 92 mm (3.625 in.) wide 25 gauge 2.73 m (107.5 in.) long steel studs were spaced on 610 mm (24 in.) centers. The studs were friction fit into the top and bottom runners on nominal 610 mm (24 in.) centers.

Insulation: The seven cavities formed by the runners and studs were lined with R-13 fiberglass insulation measuring 89 mm (3.5 in.) thick and 610 mm (24 in.) wide. The total weight of the insulation was 11.3 kg (25 lbs).

Gypsum Wallboard: On the receive side, a double layer of 16 mm (0.625 in.) thick Fire-Shield® Gypsum Board was applied vertically and fastened with 25 mm (1 in.) long and 41 mm (1.625 in.) long Type S bugle head drywall screws on 610 mm (24 in.) and 305 mm (12 in.) centers respectively. On the source side, a base layer of 16 mm (0.625 in.) SoundBreak™ Gypsum Board was applied vertically and fastened with 25 mm (1 in.) long Type S bugle head drywall screws on 610 mm (24 in.) centers and a face layer of 16 mm (0.625 in.) thick Fire-Shield® Gypsum Board was applied vertically and fastened with 41 mm (1.625 in.) long Type S bugle head drywall screws on 305 mm (12 in.) centers. Total weight of the Fire-Shield® Gypsum Board as measured was 388.5 kg (856.5 lbs.). Total weight of the SoundBreak™ Gypsum Board as measured was 153 kg (338 lbs.). Joints were staggered on opposite sides and each layer. Exposed joints were covered with duct tape. Screw heads remained exposed.

The weight of the specimen as measured was 574 kg (1,265.5 lbs.), an average of 49 kg/m^2 (10 lbs/ft^2). The transmission area used in the calculations was 11.7 m^2 (126 ft^2). The source and receiving room temperatures at the time of the test were 26±2°C (79±2°F) and 52±2% relative humidity. The source and receive reverberation room volumes were 178 m^3 (6,298 ft^3) and 177 m^3 (6,255 ft^3), respectively.

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"EXHIBIT E"

TEST REPORT

National Gypsum Company

RAL™-TL07-168

25 June 2007

TEST RESULTS

Sound transmission loss values are tabulated at the eighteen standard frequencies. A graphic presentation of the data and additional information appear on the following pages. The precision of the TL test data is within the limits set by the ASTM Standard E90-04.

FREQ.	T.L.	C.L.	DEF.	FREQ.	T.L.	C.L.	DEF.
100	28	0.62		800	63	0.16	
125	38	0.46	6	1000	64	0.15	
160	41	0.54	6	1250	65	0.15	
200	45	0.59	5	1600	66	0.10	
250	48	0.39	5	2000	63	0.10	1
315	56	0.26		2500	61	0.08	3
400	58	0.35	1	3150	65	0.07	
500	61	0.17		4000	68	0.05	
630	62	0.22		5000	70	0.06	

STC=60

ABBREVIATION INDEX

FREQ. = FREQUENCY, HERTZ, (cps)
T.L. = TRANSMISSION LOSS, dB
C.L. = UNCERTAINTY IN dB, FOR A 95% CONFIDENCE LIMIT
DEF. = DEFICIENCIES, dB<STC CONTOUR (SUM OF DEF = 27)
STC = SOUND TRANSMISSION CLASS

Tested and Prepared by David L. Moyer
David Moyer
Laboratory Manager

Reviewed by
Dean Victor
Senior Experimentalist

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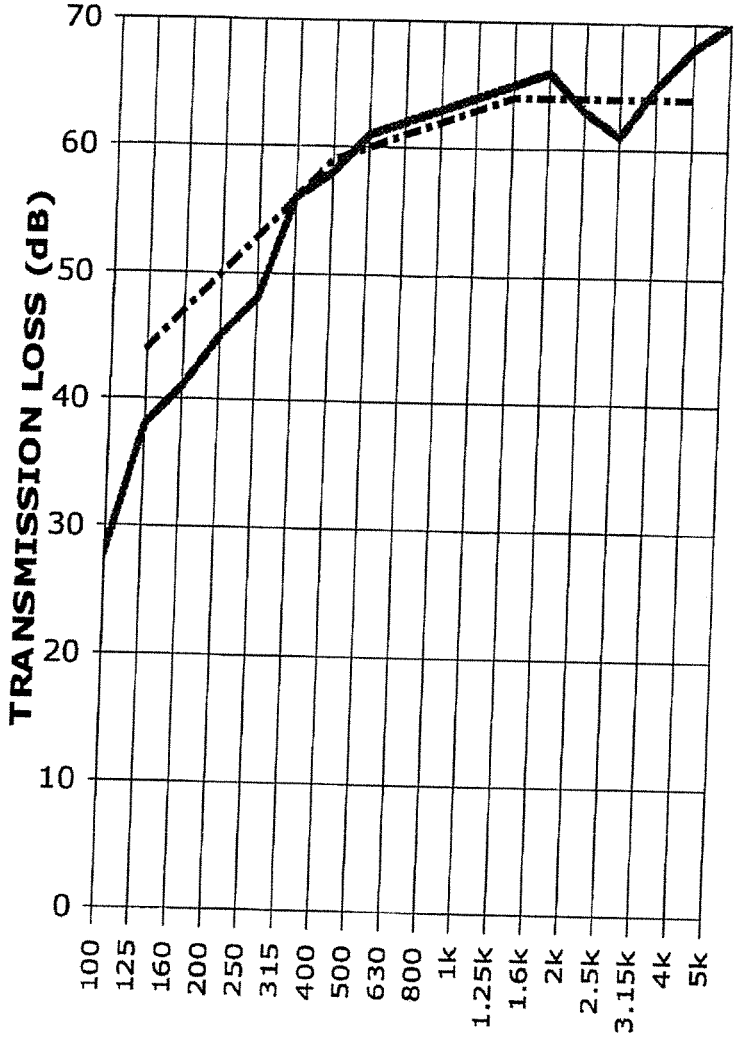
SOUND TRANSMISSION REPORT
RAL - TL07-168



STC = 60

TRANSMISSION LOSS
SOUND TRANSMISSION LOSS CONTOUR

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"EXHIBIT F"

TEST REPORT

FOR: National Gypsum Company
Buffalo, NY

Sound Transmission Loss Test
RAL™-TL07-389

ON: 3-5/8" Steel Studs, 24" on Center, 3.0" Mineral Fiber, One Side 5/8" Gold Bond® BRAND Fire-Shield® Gypsum Board, Other Side 5/8" Gold Bond® BRAND SoundBreak™ Gypsum Board

CONDUCTED: 18 December 2007

TEST METHOD

Unless otherwise designated, the measurements reported below were made with all facilities and procedures in explicit conformity with the ASTM Designations E90-04 and E413-04, as well as other pertinent standards. Riverbank Acoustical Laboratories has been accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) for this test procedure (NVLAP Lab Code: 100227-0). A description of the measuring technique is available separately.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as 3-5/8" steel studs, 24" on center, 3.0" mineral fiber, one side 5/8" Gold Bond® BRAND Fire-Shield® Gypsum Board, other side 5/8" Gold Bond® BRAND SoundBreak™ Gypsum Board. The overall dimensions of the specimen as measured were 4.27 m (168 in.) wide by 2.74 m (108 in.) high and 124 mm (4.875 in.) thick. The specimen was installed by the manufacturer directly into the laboratory's 2.74 m (9 ft) by 4.27 m (14 ft) wood-lined steel frame and was sealed on the periphery (both sides) with a dense mastic.

The description of the specimen was as follows: The wall consisted of 3-5/8" steel studs with mineral fiber insulation. One side had a layer of 5/8" Fire-Shield® Gypsum Board and the other side a layer of 5/8" SoundBreak™ Gypsum Board. A more detailed description of the wall assembly appears in the sections below.

Floor and Ceiling Runners: The two 92 mm (3.625 in.) wide 25 gauge 4.27 m (168 in.) long steel runners were attached to the floor and ceiling with 32 mm (1.25 in.) Type S bugle head drywall screws at nominal 610 mm (24 in.) on centers.

Studs: The eight (8) 92 mm (3.625 in.) wide 25 gauge 2.73 m (107.5 in.) long steel studs were spaced on 610 mm (24 in.) centers. The studs were friction fit into the top and bottom runners on

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RAL™-TL07-389

18 December 2007

nominal 610 mm (24 in.) centers.

Insulation: All cavities formed by the plates and studs were lined with mineral fiber insulation measuring 76 mm (3 in.) thick and 610 mm (24 in.) wide. The total weight of the insulation was 37.2 kg (82 lbs).

Gypsum Wallboard: On the source side, a layer of 16 mm (0.625 in.) thick SoundBreak™ Gypsum Board was applied vertically and fastened with 25 mm (1 in.) long Type S drywall screws on 305 mm (12 in.) centers. Total weight of the SoundBreak™ Gypsum Board as measured was 151 kg (331 lbs.). On the receive side, a single layer of 16 mm (0.625 in.) thick Fire-Shield® Gypsum Board was applied vertically and fastened with 25 mm (1 in.) long Type S drywall screws on 305 mm (12 in.) centers. Total weight of the gypsum board as measured was 127 kg (280 lbs.). Joints were staggered on opposite sides and covered with duct tape. Screw heads were covered with duct tape.

The weight of the specimen as measured was 340.4 kg (750.5 lbs.), an average of 29 kg/m^2 (6 lbs/ft^2). The transmission area used in the calculations was 11.7 m^2 (126 ft^2). The source and receiving room temperatures at the time of the test were 21±1°C (70±1°F) and 53±1% relative humidity. The source and receive reverberation room volumes were 178 m^3 (6,298 ft^3) and 177 m^3 (6,255 ft^3), respectively.

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TEST RESULTS

Sound transmission loss values are tabulated at the eighteen standard frequencies. A graphic presentation of the data and additional information appear on the following pages. The precision of the TL test data is within the limits set by the ASTM Standard E90-04.

FREQ.	T.L.	C.L.	DEF.	FREQ.	T.L.	C.L.	DEF.
100	17	1.02		800	57	0.16	
125	30	0.66	8	1000	59	0.11	
160	36	0.72	5	1250	61	0.10	
200	38	0.60	6	1600	62	0.11	
250	42	0.44	5	2000	61	0.09	
315	48	0.27	2	2500	58	0.08	
400	51	0.27	2	3150	60	0.07	
500	54	0.20		4000	60	0.06	
630	56	0.30		5000	62	0.12	

STC=54

ABBREVIATION INDEX

FREQ. = FREQUENCY, HERTZ, (cps)
T.L. = TRANSMISSION LOSS, dB
C.L. = UNCERTAINTY IN dB, FOR A 95% CONFIDENCE LIMIT
DEF. = DEFICIENCIES, dB<STC CONTOUR (SUM OF DEF = 28)
STC = SOUND TRANSMISSION CLASS

Tested by _____ Approved by _____

Marc Sciaky
Experimentalist

David L. Moyer
Laboratory Manager

RIVERBANK ACOUSTICAL LABORATORIES

1512 S. BATAVIA AVENUE
GENEVA, ILLINOIS 60134

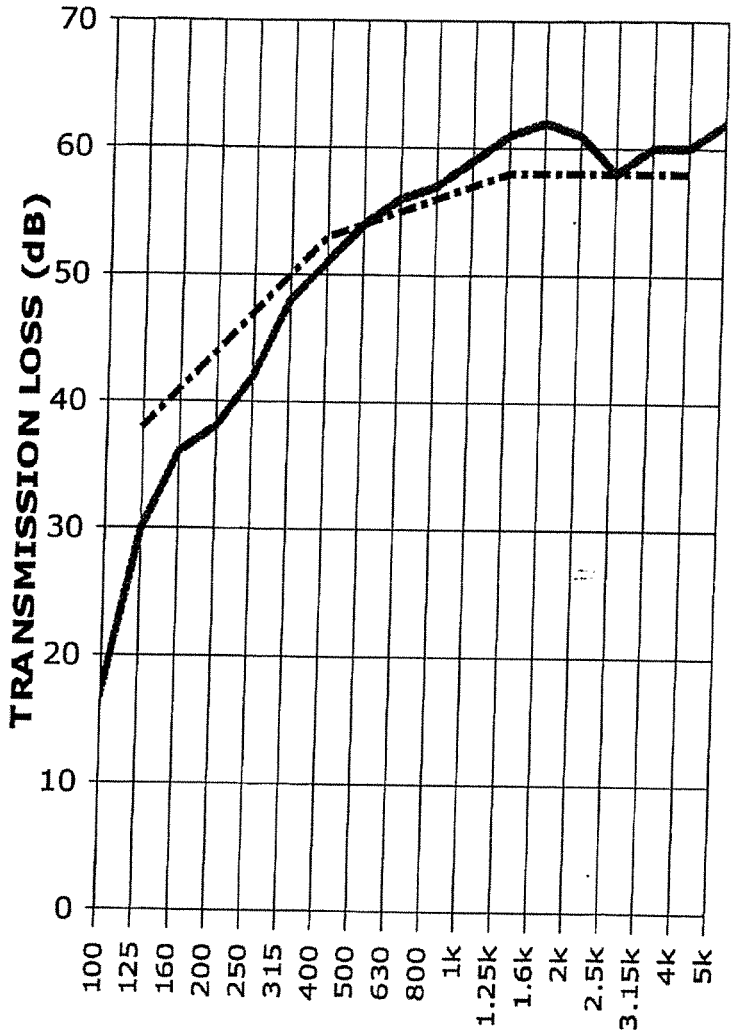
Alion Science and Technology

630/232-0104
FOUNDED 1918 BY
WALLACE CLEMENT SABINE

"EXHIBIT F"

TEST REPORT

SOUND TRANSMISSION REPORT
RAL - TL07-389



STC = 54

TRANSMISSION LOSS
SOUND TRANSMISSION LOSS CONTOUR

Marshfield® DOORSYSTEMS

Sound Door Offering

Appendix M

STC Rating	Max Size*	Door Thickness	Max. Fire Rating	Core	Operable	Lite Opng Size*	Gasketing System**
47	4/0 x 8/0	1.75	45	Sound	Yes	NA	a or i
46	4/0 x 8/0	1.75	45	Sound	Yes	NA	a or i
45	4/0 x 8/0	1.75	45	Sound	Yes	NA	a or i
44	4/0 x 8/0	1.75	45	Sound	Yes	300 sq. in**	a or i
43	4/0 x 8/0	1.75	45	Sound	Yes	300 sq. in**	a or i
42	4/0 x 8/0	1.75	45	Sound	Yes	300 sq. in**	a or i
41	4/0 x 10/0	1.75	20	Sound	Yes	300 sq. in**	a or i
40	4/0 x 10/0	1.75	20	Sound	Yes	300 sq. in**	a or i
39	this one		20	Sound	Yes	300 sq. in**	a or i
38	4/0 x 10/0	1.75	20	Sound	Yes	300 sq. in**	a or i
37	4/0 x 10/0	1.75	20	Sound	Yes	300 sq. in**	a or i
36	4/0 x 10/0	1.75	20	Sound	Yes	300 sq. in**	a or i
35	3/6 x 8/0	1.75	90	MDF	Yes	NA	d
35	4/0 x 10/0	1.75	20	STC 35 PB	Yes	1,296 sq. in.	a or i
34	4/0 x 10/01	1.75	0	STC 34 PB	Yes	1,296 sq. in.	a or i
33	4/0 x 10/0	1.75	45	STC 33 PB	Yes	1,296 sq. in.	a or i
32	4/0 x 10/0	1.75	20	Staved	Yes	1,296 sq. in.	i
32	4/0 x 9/0	1.75	20	Extra Heavy PB	Yes	1,296 sq. in.	i
32 to 21	4/0 x 9/0	1.75	45	Extra Heavy PB	Yes	1,296 sq. in.	i
31 to 21	4/0 x 9/0	1.75	20	Extra Heavy PB	Yes	1,296 sq. in.	a or i
30 to 21	4/0 x 10/0	1.75	20	Particleboard	Yes	1,296 sq. in.	a or i
31 to 21	4/0 x 10/0	1.75	20	Staved	Yes	1,296 sq. in.	a or i
30 to 21	4/0 x 10/0	1.75	90	Mineral	Yes	1,296 sq. in.	a or i

Marshfield DoorSystems® tested acoustic doors per ASTM E90-04 in standard 16g steel frames, with hinge, standard mortise lock and the acoustic seals referenced. Other hardware and acoustic seals may provide comparable results. Please consult an acoustic specialist for assistance in determining the acceptability of alternatives for your specific installation.

Bottom seals must fully engage a smooth, flat surface in order to achieve the listed STC value (e.q. threshholds as tested). STC ratings are based on single openings.

** Gasket Key	
2 rows bubble gasket, drop seal, threshold	a
Gray foam, bottom seal	d
2 rows bubble gasket, Pemko 211 door shoe	i

* Fire rating may be reduced based on size of door opening or lite opening.
** Lite opening may be a max of 1296 sq. in. with no fire rating. Glass utilized for the test was 1/4" wire glass. Glass manufactures will have options available such as laminated or insulated.

Key Acoustical Terms and Concepts

Airborne Sound

Airborne sound consists of energy generated by a source, transmitted through a medium, and detected by a receiver. All three of these conditions must be in place or airborne sound cannot exist. The following chart describes what happens when a drumstick strikes a drumhead.

The level of airborne sound is determined by the intensity of the vibration. Frequencies between 20 Hz and 20,000 Hz are detectible by children. Most humans are sensitive to the range of 100 Hz to 5000 Hz. Speech and other traditional sounds within a building range from 125 Hz – 4,000 Hz, which is the frequency range considered when calculating STC.

SOUND TRANSMISSION

Energy Generated by a Source	►	Transmitted Through a Medium	►	Detected by a Receiver
Drumstick strikes drumhead, vibrating air	►	Vibrating air transmits the sound in waves of pressure changes	►	Ear receives and hears waves of pressure changes as sound

Sound Transmission Class

The Sound Transmission Class (STC) is a single number rating of the effectiveness of a material or construction assembly to retard the transmission of airborne sound. STC provides an indication of how loud transmitted sound is perceived by the listener. Higher STC values are more effective for reducing sound transmission.

STC values are derived by conducting a test according to a procedure outlined in ASTM E 90 *Standard Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions.* The test data collected would be analyzed using ASTM E 413 Classification for Rating Sound Insulation and result in a single-number acoustical rating. The rating assesses the airborne sound transmission performance at a range of frequencies from 125 Hz to 4000 Hz, which is consistent with the frequency range of speech.

What is an Acceptable STC Rating for a Wall Partition?

National Research Council of Canada Survey

- 600 multi-family residences (300 party walls between them)
- Residents with lower STC rated walls are more likely to:
  - Want to move
  - Be awakened by noises
  - Have trouble falling asleep due to noises
  - Think neighbors are less considerate

General survey conclusions

- STC ≥55 A realistic goal for acceptable sound insulation
- STC ≥60 More ideal, would practically eliminate negative effects of noises from neighbors
- Music related sounds may require the highest rated walls

J. S. Bradley, *Deriving Acceptable Values for Party Wall Sound Insulation* survey results

Decibel

Decibels (dB) are used in acoustics to provide relative measurement of sound level. Higher dB levels relate to loud sounds while lower dB levels relate to quiet sounds. A change of 3 dB would be barely noticeable to most human's ears, while a change of 5 dB would generally be noticeable to most people. An increase of 10 dB would sound twice as loud and a decrease of 10 dB would sound half as loud.

RATING	ACTIVITY	SOUND LEVEL (dB)
Painful	Jet Engine	120+
Very Loud	Industrial Machinery	100
Loud	Stock Trader Floor	80
Moderate	Normal Speech	65
Quiet	Suburban Home	45
Very Quiet	Barely Audible	25

HUMAN SENSITIVITY TO CHANGES IN SOUND INTENSITY LEVELS

1 dB	Generally not perceptible
3 dB	Just perceptible
5 dB	Clearly noticeable
10 dB	Twice or half as loud
20 dB	Four times as loud or 1/4 as loud

Design Considerations in Acoustical Wall Partitions

The goal of a high rated STC wall partition is to decrease the amount of sound transmission through the partition. The following five variables can have an impact on the ability of the partition to provide this loss.

Mass
Increasing the mass of a wall partition increases the amount of sound transmission loss. Increasing mass in a cost and space effective way can be a challenge.

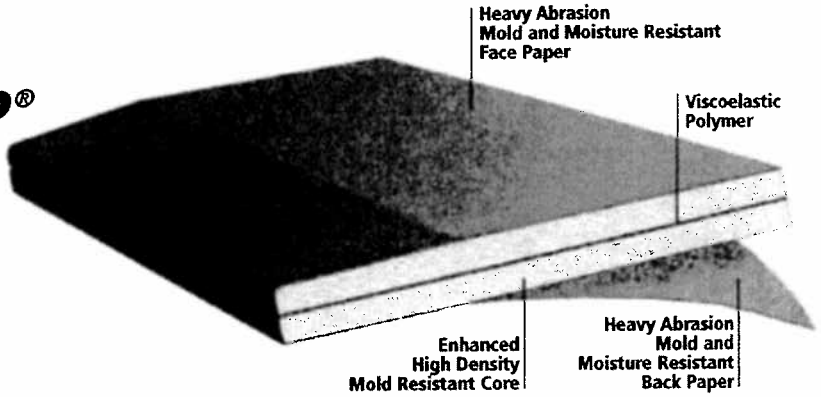
Stiffness
Increasing the stiffness of a wall partition will decrease the amount of sound transmission loss. For that reason metal studs outperform wood studs, and 24"o.c. framing spacing outperforms 16"o.c. framing spacing.

Damping
Introduction of damping will increase the amount of sound transmission loss. In particular, constrained layer damping can be effective for structure type applications.

Cavity Depth
Increasing the depth of the cavity of the partition can increase the amount of sound transmission loss, especially when the cavity is filled with acoustical insulation.

Cavity Absorption
Adding sound-absorbing material such as fiberglass or mineral fiber insulation to the cavity of a partition will increase the amount of sound transmission loss. The sound-absorbing material should completely fill the cavity but not be compacted or compressed in any way.

Gold Bond® BRAND SoundBreak® XP® Gypsum Board



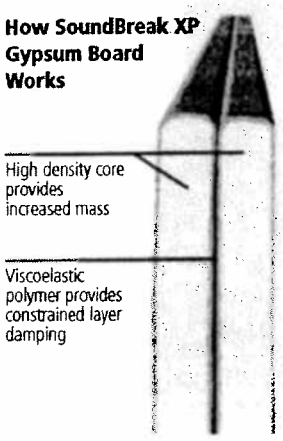
Description

Gold Bond® BRAND SoundBreak® XP® Gypsum Board has an acoustically enhanced, high density gypsum core encased in a heavy, abrasion and mold/mildew/ moisture resistant, 100% recycled, purple paper on both sides. Used in the construction of high rated STC wall assemblies, SoundBreak XP consists of a layer of viscoelastic damping polymer sandwiched between two pieces of high density mold resistant gypsum board, providing constrained layer damping.

Basic Uses

For use as single-layer application or as a component of multi-layered wall assemblies where sound transmission between rooms or dwelling units is a concern.

How SoundBreak XP Gypsum Board Works



Features/Benefits

- Resists the growth of mold per ASTM G 21 with a score of 0, the best possible score.
- Resists the growth of mold per ASTM D 3273 with a score of 10, the best possible score.
- Use of SoundBreak XP Gypsum Board results in wall partitions with high rated STC values that are thinner than traditionally built high rated STC wall partitions providing increased usable floor space.
- Superior sound damping, cost-efficient material that is easily finished and decorated in the same manner as standard gypsum board.
- All SoundBreak XP Gypsum Board designs were tested by an independent third-party acoustical laboratory using the full-scale ASTM E90 test procedure.
- SoundBreak XP Gypsum Board is installed like traditional gypsum board, offering a more reliable and less complicated solution than alternative methods requiring clips and/or channels.
- SoundBreak XP Gypsum Board can be cut by scoring deeply from both sides of the board before snapping, or with the use of a hand or power saw.
- Heavy abrasion resistant paper and denser core provide greater resistance to surface abuse and indentation when tested in accordance with ASTM C 1629.
- Features a smooth, heavy face paper that is highly resistant to scuffing and provides a superior surface for decoration.
- 5/8" SoundBreak XP features a fire resistant Type X core and is UL Classified and approved for inclusion in specific UL fire-rated designs.
- SoundBreak XP Gypsum Board is GREENGUARD Children & Schools℠ Certified for indoor air quality.
- Approved for use on walls and ceilings.

Limitations

- Exposure to excessive or continuous moisture and extreme temperatures should be avoided. SoundBreak XP Gypsum Board is not recommended where it will be exposed to temperatures exceeding 125°F (52°C) for extended periods of time.
- Installing SoundBreak XP Gypsum Board panels over an insulating blanket, installed continuously across the face of the framing members, is not recommended. Blankets should be recessed and flanges attached to the sides of the studs.
- SoundBreak XP Gypsum Board must be stored off the ground and under cover. Sufficient risers must be used to ensure support for the entire length of the gypsum board to prevent sagging.
- SoundBreak XP Gypsum Board must be kept dry to minimize the potential for mold growth. Adequate care should be taken while transporting, storing, applying and maintaining SoundBreak XP Gypsum Board. For additional information, refer to the Gypsum Association publication, *"Guidelines for the Prevention of Mold Growth on Gypsum Board"* (GA-238-03), which is available at **gypsum.org** under the "Download Free Gypsum Association Publications" section.

Accessories

(See Installation Recommendations)

- Fasteners: Drywall Screws or Nails
- Joint Tape
- Joint Compound
- Cornerbead
- Trims
- Casing Beads
- Acoustical Sealant
- Acoustical Putty Pads

Installation

Applicable Standards and References

ASTM C 840

Gypsum Association GA-216

Gypsum Association GA-214

National Gypsum
Gypsum Construction Guide

Recommendations

Installation of SoundBreak XP Gypsum Board should be consistent with methods described in the standards and references noted.

Gold Bond® BRAND SoundBreak® XP® Gypsum Board

GUIDELINES FOR OPTIMUM PERFORMANCE AND SOUND REDUCTION

- Stagger SoundBreak XP Gypsum Board joints from one side of the wall to the other.
- Allow a 1/4" gap along all wall perimeter edges and completely seal 1/4" gap with acoustical sealant or caulk.
- Refrain from wall penetrations when possible.
- Limit necessary wall penetrations to one per stud cavity.
- Seal all penetrations with acoustical sealant and/or putty pads.
- The use of SoundBreak XP Gypsum Board in actual installations may not produce the same results as were achieved in controlled, laboratory conditions.

Cutting SoundBreak XP Gypsum Board

- SoundBreak XP Gypsum Board can be cut by scoring deeply from both sides of the board before snapping, or with the use of a hand or electric saw. Cutting across the 4' width may require use of a saw.

Acoustical Sealants and Putty Pads

- Use an acoustical sealant that is applied per ASTM C919, such as Grabber Acoustical Sealant GSCSF, STI SpecSeal Smoke N Sound Caulk, BOSS 824 Acoustical Sound Sealant or equivalent.
- Use a putty pad that has been tested per ASTM E90, such as STI SpecSeal SSP Putty Pads or BOSS 818 Fire-Rated Putty Pads or equivalent.

Decoration

For best painting results, all surfaces, including joint compound, should be clean, dust-free and not glossy. To improve fastener and joint concealment, a coat of a quality drywall primer is recommended to equalize the porosities between surface paper and joint compound.

The selection of a paint to give the specified or desired finished characteristics is the responsibility of the architect or contractor.

SoundBreak XP Gypsum Board that is to have a wall covering applied should be prepared and primed as described for painting.

Gypsum Association GA-214, *Recommended Specification for Levels of Gypsum Board Finish,* should be referred to in order to determine the level of finishing required to ensure a properly prepared surface that accepts the desired decoration.

Technical Data

Fire Resistance Ratings

Fire resistance ratings represent the results of tests on assemblies in a specific configuration. When selecting construction designs to meet certain fire resistance requirements, caution must be used to ensure that each component of the assembly is the one specified in the test. Further precautions should be taken that assembly procedures are in accordance with those of the tested assembly. For copies of specific tests, call 1-800-NATIONAL. For fire safety information, go to **nationalgypsum.com.**

5/8" SoundBreak XP can be used as a substitute for Type X gypsum board in some proprietary fire-rated assemblies.

As an option, 1/2" SoundBreak XP may be used as an additional layer on one or both sides of fire-rated wall assemblies. 1/2" SoundBreak XP cannot be used as a substitute for 5/8" Type X gypsum board in a fire-rated assembly.

SoundBreak XP shall be attached in accordance with manufacturer's recommendations. When SoundBreak XP is installed between the framing and the UL Classified gypsum board, the UL Classified gypsum board layer(s) required for the design is/are to be installed as indicated in the design as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 5/8".

Mold and Mildew Resistance*

SoundBreak XP Gypsum Board was designed to provide extra protection against mold and mildew compared to standard gypsum board products. When tested by an independent laboratory, SoundBreak XP received the highest possible ratings on ASTM G 21 and ASTM D 3273.

The use of SoundBreak XP in actual installations may not produce the same results as were achieved in controlled laboratory conditions.

*No material can be considered "mold-proof," nor is it certain that any material will resist mold or mildew indefinitely. When used in conjunction with good design, handling, and construction practices, SoundBreak XP Gypsum Board can provide increased mold resistance versus standard gypsum board products. As with any building material, avoiding water exposure during handling, storage and installation, and after installation is complete, is the best way to avoid the formation of mold or mildew.

PHYSICAL PROPERTIES		
Thickness, nominal	**1/2" Regular** (12.7 mm)	**5/8" Type X** (15.9 mm)
Width, nominal	4' (1219 mm)	4' (1219 mm)
Length, standard	8' through 12' (2438 mm – 3657 mm)	8' through 12' (2438 mm – 3657 mm)
Weight, lbs./sq. ft., nominal	2.3	2.7
Edges	Tapered	Tapered
Surface Burning Characteristics (per ASTM E 84)	Flame spread: 15 Smoke developed: 0	Flame spread: 15 Smoke developed: 0
Surface Abrasion Resistance (per ASTM C 1629)	Level 3	Level 3
Indentation Resistance (per ASTM C 1629)	Level 1	Level 1
Soft Body Impact Resistance (per ASTM C 1629)	Level 1	Level 2
Hard Body Impact Resistance (per ASTM C 1629)	N/A	Level 1

APPLICABLE STANDARDS AND REFERENCES
ASTM C 1396
ASTM C 1629
ASTM C 840
ASTM D 3273
ASTM G 21
Gypsum Association GA-216
Gypsum Association GA-214

MONTGOMERY COUNTY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

April 17, 2013

Melissa Birken
9811 Main Street
Damascus, MD 20872

Re: Forest Conservation Exemption
Property Name: Paws and Claws Animal Hospital, LLC
Location: Damascus Shopping Center
Plan Number: 42013161E

Dear Ms. Birken,

Based on the review by Development Applications and Regulatory Coordination Division (DARC) staff of the Montgomery County Planning Department, the Forest Conservation Exemption Request submitted on April 12, 2013 for the plan identified above, is **confirmed**. The project site is exempt from Article II of the Montgomery County Code, Chapter 22A (Forest Conservation Law), Section 22A-5*(q)*, (1) the application is for an existing structure and the proposed use will not result in clearing of existing forest or trees; (2) the application modifies an existing special exception use which was approved before July1, 1991, and the revision will not result in the clearing of more than a total of 5000 additional square feet of forest or any specimen or champion tree; or (3) the total disturbance area for the proposed special exception use will not exceed 10,000 square feet, and clearing will not exceed a total of 5000 square feet of forest or include any specimen or champion tree.

Any changes from the approved exemption request may constitute grounds to rescind the forest conservation exemption approval. If there are any future modifications proposed, then a separate exemption must be submitted to M-NCPPC for review and approval prior to those activities occurring.

If you have any questions regarding these comments, please feel free to contact me at 301-495-4658 or joshua.kaye@montgomeryplanning.org .

Sincerely,

Josh Kaye
Senior Planner
DARC Division
Maryland-National Capital Park & Planning Commission