

# Development Services

## From Concept to Construction

Phone: 503-823-7300 Email: [bds@portlandoregon.gov](mailto:bds@portlandoregon.gov) 1900 SW 4th Ave, Portland, OR 97201

More Contact Info (<http://www.portlandoregon.gov/bds/article/519984>)



### APPEAL SUMMARY

**Status:** Decision Rendered

|   |   |
|---|---|
| <b>Appeal ID:</b> 16543                                     | <b>Project Address:</b> 1829 NW Lovejoy St                              |
| <b>Hearing Date:</b> 2/28/18                                | <b>Appellant Name:</b> Ian Mickelson                                    |
| <b>Case No.:</b> B-003                                      | <b>Appellant Phone:</b> (503) 228-5617                                  |
| <b>Appeal Type:</b> Building                                | <b>Plans Examiner/Inspector:</b> Brian McCall                           |
| <b>Project Type:</b> commercial                             | <b>Stories:</b> 5 <b>Occupancy:</b> R-2 <b>Construction Type:</b> III-B |
| <b>Building/Business Name:</b> Royal Arms Condominiums      | <b>Fire Sprinklers:</b> Yes - Partial - Public spaces and corridors     |
| <b>Appeal Involves:</b> Alteration of an existing structure | <b>LUR or Permit Application No.:</b> 18-120415-CO                      |
| <b>Plan Submitted Option:</b> pdf [File 1] [File 2]         | <b>Proposed use:</b> Multi-family                                       |

### APPEAL INFORMATION SHEET

#### Appeal item 1

**Code Section** 420.2, 708.1 and 708.3

**Requires**

420.2 Separation walls. Walls separating dwelling units in the same building, walls separating sleeping units in the same building and walls separating dwelling or sleeping units from other occupancies contiguous to them in the same building shall be constructed as fire partitions in accordance with Section 708.

708.1 General. The following wall assemblies shall comply with this section.

Walls separating dwelling units in the same building as required by Section 420.2.

708.3 Fire-resistance rating. Fire partitions shall have a fire resistance rating of not less than 1 hour.

Exceptions:

Corridor walls permitted to have a ½ hour fire-resistance rating by Table 1018.1 (½ hour permitted with sprinkler system).

**Proposed Design** Refer to attached assembly and code excerpt.

The proposed demising wall construction consists of the use of a proprietary gypsum sound board (Quiet Rock 530 RF Type X) over Type X or Type C gypsum board on existing 2x4 wood stud wall plates and staggered 1-3/4" x 2-3/4" wood studs at 12" on center with new 3 inch mineral wool insulation in stud cavity. Existing 7/8" plaster on wood lath comprises the other wall face of adjoining tenant.

**Reason for alternative** The existing demising walls are constructed with wood lath and plaster on wood studs. The lath and plaster has currently been removed on the remodeled dwelling unit side. Using Item W-4-W-79 from the 2018 International Existing Building Code Resource A Guidelines on Fire Ratings of

Archaic Materials and Assemblies, the plaster on wood lath can be construed as equivalent to 5/8" Type X gypsum board. Considering this information, it is feasible the existing lath and plaster with the proposed two new layers of gypsum board would provide an equivalent 1-hour rated wall assembly for separation walls of dwelling units.

## Appeal item 2

|                               |  |
|-------------------------------|--|
| <b>Code Section</b>           | 1207.2   |
| <b>Requires</b>               | <p>1207.2 Air-borne sound. Walls, partitions and floor/ceiling assemblies separating dwelling units from each other or from public or service areas shall have a sound transmission class (STC) of not less than 50 (45 if field tested) for air-borne noise when tested in accordance with ASTM E 90. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings. This requirement shall not apply to dwelling unit entrance doors; however, such doors shall be tight fitting to the frame and sill.</p>   |
| <b>Proposed Design</b>        | <p>Refer to attached assembly and test report.</p> <p>The proposed demising wall construction consists of the use of a proprietary gypsum sound board (Quiet Rock 530 RF Type X) over Type X or Type C gypsum board on existing 2x4 wood stud wall plates and staggered 1-3/4" x 2-3/4" wood studs at 12" on center with new 3 inch mineral wool insulation in stud cavity. Existing 7/8" plaster on wood lath comprises the other wall face of adjoining tenant.</p>  |
| <b>Reason for alternative</b> | <p>The existing demising walls are constructed with wood lath and plaster on wood studs with no insulation in stud spaces. The lath and plaster has currently been removed on the remodeled dwelling unit side. The attached test report demonstrates Quiet Rock product achieved an STC 53 in accordance with NRCC TLA-04-051 using one layer of 5/8" Quiet Rock 530 RF and one layer of 5/8 inch Type C gypsum board secured to 2x4 wood studs at 24 inches on center with batt insulation in stud space. Although this tested performance of STC 53 is based on the use of gypsum board for the single layer, substituting the existing the lath and plaster for one layer of gypsum board with the existing staggered stud configuration in the proposed partition type would conservatively achieve an equivalent assembly that meets the air-borne sound code required minimum STC 50.</p> |

## Appeal item 3

|                        |  |
|------------------------|--|
| <b>Code Section</b>    | 420.3 and 711.3  |
| <b>Requires</b>        | <p>420.3 Horizontal separation. Floor assemblies separating dwelling units in the same buildings, floor assemblies separating sleeping units in the same building and floor assemblies separating dwelling or sleeping units from other occupancies contiguous to them in the same building shall be constructed as horizontal assemblies in accordance with Section 711.</p> <p>711.3 Fire-resistance rating. Horizontal assemblies separating dwelling units in the same building and horizontal assemblies separating sleeping units in the same building shall have a minimum 1-hour fire-resistance-rated construction.</p> |
| <b>Proposed Design</b> | <p>Refer to attached assembly and code information.</p> <p>The proposed floor/ceiling assembly consists of existing 1x T&amp;G finished wood flooring on 2x3 wood sleepers, existing 1x6 T&amp;G wood subfloor perpendicular to existing 2x10 wood joists at 16" on center, and new resilient channels at 24" on center with new 5/8" Type X gypsum board and 6" batt insulation between joists.</p>   |

**Reason for alternative** The existing ceilings are constructed with wood lath and plaster on 2x10 joists with no insulation in joist spaces. The lath and plaster has currently been removed on the remodeled dwelling unit side. Using Item W-4-W-79 from the 2018 International Existing Building Code Resource A Guidelines on Fire Ratings of Archaic Materials and Assemblies, the plaster on wood lath can be construed as equivalent to 5/8" Type X gypsum board. In addition, UL Des L514 information has been provided to consider as an equivalent assembly to proposed assembly. Considering this information, it is feasible the existing lath and plaster with the proposed new layer of 5/8" Type X gypsum board would achieve an assembly that meets the 1-hour rated horizontal separation requirements for dwelling units.

## Appeal item 4

**Code Section** 1207.2 and 1207.3

**Requires** 1207.2 Air-borne sound. Walls, partitions and floor/ceiling assemblies separating dwelling units from each other or from public or service areas shall have a sound transmission class (STC) of not less than 50 (45 if field tested) for air-borne noise when tested in accordance with ASTM E 90. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings. This requirement shall not apply to dwelling unit entrance doors; however, such doors shall be tight fitting to the frame and sill.

1207.3 Structure-borne sound. Floor/ceiling assemblies between dwelling units or between a dwelling unit and a public or service area within the structure shall have an impact insulation class (IIC) rating of not less than 50 (45 if field tested) when tested in accordance with ASTM E 492.

**Proposed Design** Refer to attached assembly and test report.  
The proposed floor/ceiling assembly consists of existing 1x T&G finished wood flooring on 2x3 wood sleepers, existing 1x6 T&G wood subfloor perpendicular to existing 2x10 wood joists at 16" on center, and new resilient channels at 24" on center with new 5/8" Type X gypsum board and 6" batt insulation between joists.

**Reason for alternative** The existing ceilings are constructed with wood lath and plaster on 2x10 joists with no insulation in joist spaces. The lath and plaster has currently been removed on the remodeled dwelling unit side. A similar sound assembly was located in the 1980 California Office of Noise Control Catalog of STC and IIC Ratings for Wall and Floor/Ceiling Assemblies. This attached test report indicates an STC of 53 and IIC of 51 using 3" batt insulation and wood fiber board stapled to the subflooring. With the existing construction of sleepers under the finished wood flooring, 2x10 joists in lieu of 2x8 joists identified in the test report, and increasing batt insulation to 6", it is feasible the proposed floor/ceiling assembly would achieve a sound rating that meets the air-borne and structure-borne sound code required minimum STC 50 and IIC 50.

## Appeal item 5

**Code Section** Inspector Comment

**Requires** Existing dwelling unit interior wall along closet and bathroom identified by inspector as load bearing wall for existing beam above.

**Proposed Design** Refer to attached plan with comment identifying location of wall and beam in question.  
The proposed remodel removes portions of the interior dwelling unit wall along the closet and bathroom. No additional support for the existing beam above is proposed at this location.

**Reason for alternative** The existing interior dwelling unit wall along the closet and bathroom has been reviewed as a non-load bearing partition. The existing beam is continuous above the existing interior wall and spans from demising wall to demising wall or demising wall to interior wall at mid-point of unit. It is the opinion of the architect that no additional support of the beam is necessary at this interior partition location.

## APPEAL DECISION

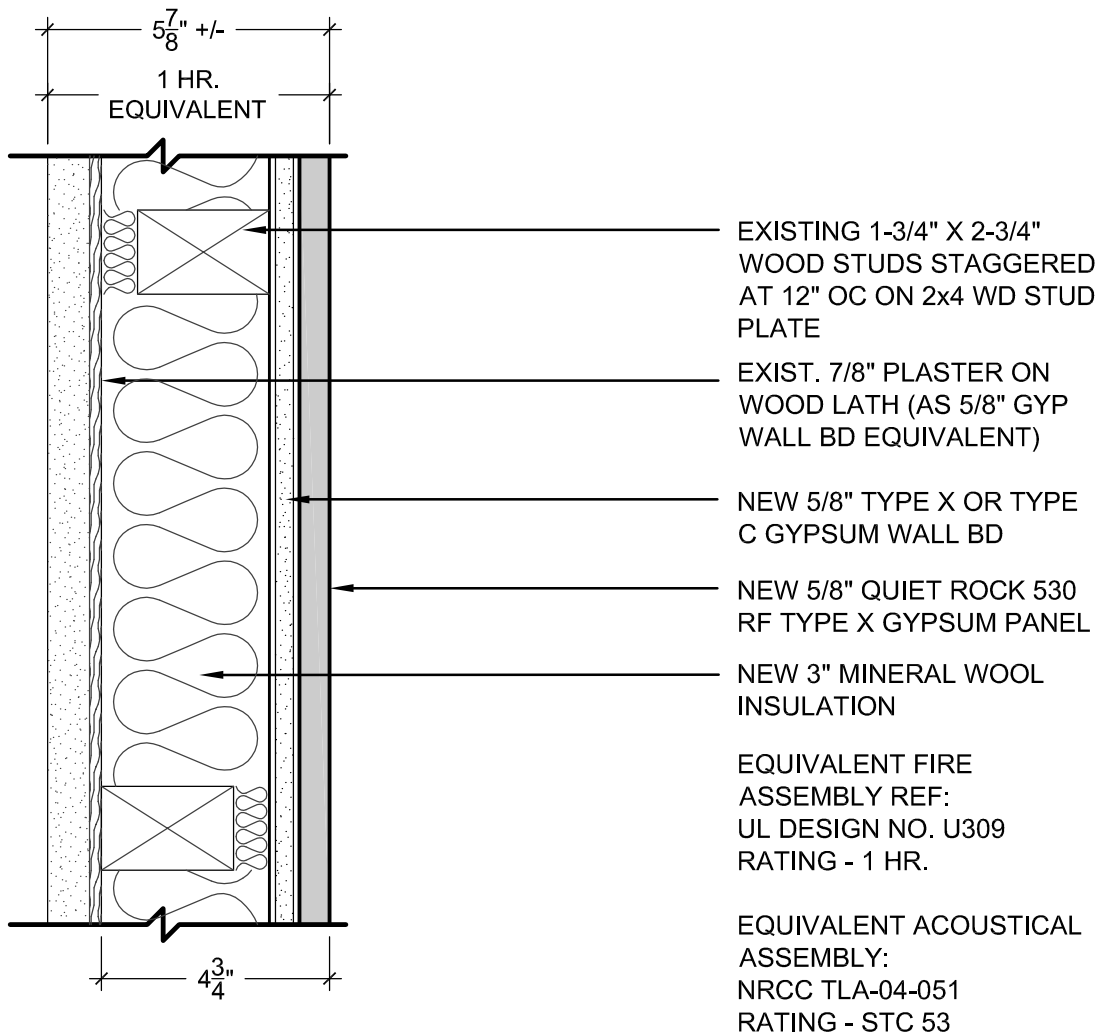
- 1. Alternate one hour wall assembly by comparison: Granted as proposed.**
- 2. Alternate STC sound wall assembly by comparison: Granted as proposed.**
- 3. Alternate one hour floor / ceiling assembly by comparison: Granted as proposed.**
- 4. Alternate STC / IIC floor / ceiling assembly by comparison: Granted as proposed.**
- 5. Determination of interior wall as non-bearing: Denied. Proposal does not provide equivalent Life Safety protection.**

**Appellant may contact John Butler (503 823-7339) with questions.**

For the item granted, the Administrative Appeal Board finds that the information submitted by the appellant demonstrates that the approved modifications or alternate methods are consistent with the intent of the code; do not lessen health, safety, accessibility, life, fire safety or structural requirements; and that special conditions unique to this project make strict application of those code sections impractical.

Pursuant to City Code Chapter 24.10, you may appeal this decision to the Building Code Board of Appeal within 180 calendar days of the date this decision is published. For information on the appeals process and costs, including forms, appeal fee, payment methods and fee waivers, go to [www.portlandoregon.gov/bds/appealsinfo](http://www.portlandoregon.gov/bds/appealsinfo), call (503) 823-7300 or come in to the Development Services Center.

=====



# 1 UNIT DEMISING WALL

3" = 1' - 0"



PERMIT NO.: 18-120415-000-00 CO

1

SHEET NO.

ROYAL ARMS CONDOMINIUMS  
1829 NW LOVEJOY

JOB: 18018

DRAWN: IRM

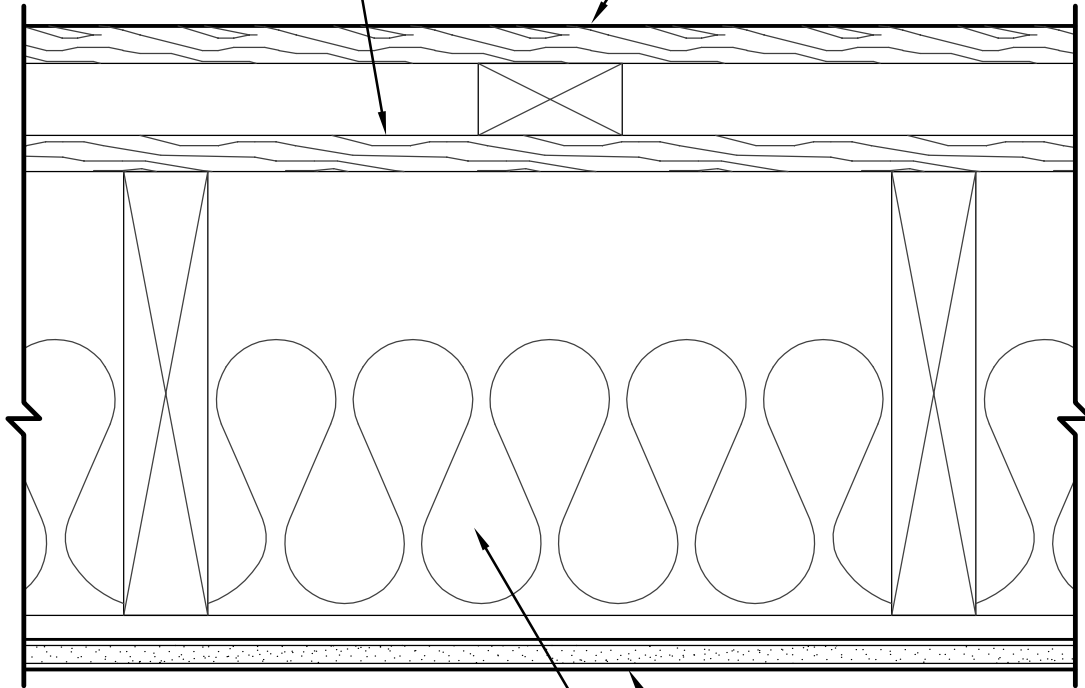
**Soderstrom Architects**

architecture | planning | exterior restoration | interior design

1200 NW Naito Parkway, Suite 410 Portland, Oregon 97209  
MAIN 503.228.5617 FAX 503.273.8584 www.sdra.com

EXIST. 1x6 WOOD  
SUBFLOOR PERP. TO  
EXIST. 2x10 WD JOISTS

EXISTING 25/32" T&G  
WOOD STRIP FLOORING  
ON 2X WOOD SLEEPERS



EQUIVALENT FIRE ASSEMBLY REF:  
UL DESIGN NO. L569  
RATING - 1 HR.

NEW 5/8" TYPE X GYPSUM  
BOARD ON 1/2" RESILIENT  
CHANNELS AT 24" OC

EQUIVALENT ACOUSTIC ASSEMBLY:  
CAL OFFICE OF NOISE CONTROL  
SECTION 2.1.2.2.1.8  
RATING - STC 53 / IIC 51

NEW 6" BATT INSULATION

# 1 UNIT FLOOR/CEILING

3" = 1' - 0"



PERMIT NO.: 18-120415-000-00 CO

## 2

SHEET NO.

ROYAL ARMS CONDOMINIUMS  
1829 NW LOVEJOY

JOB: 18018

DRAWN: IRM

**Soderstrom Architects**

architecture | planning | exterior restoration | interior design

1200 NW Naito Parkway, Suite 410 Portland, Oregon 97209  
MAIN 503.228.5617 FAX 503.273.8584 [www.sdra.com](http://www.sdra.com)

**Royal Arms Condominiums**

Job No. 18018

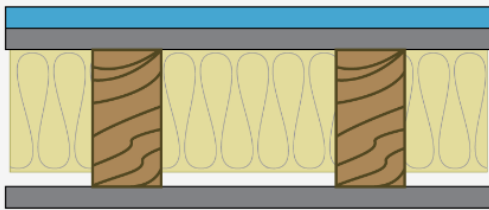
Excerpt from 2018 International Existing Building Code, Resource Resource A Guidelines on Fire Ratings of Archaic Materials and Assemblies:

|          |        |   |             |         |  |   |    |                |     |
|----------|--------|---|-------------|---------|--|---|----|----------------|-----|
| W-5-W-78 | 5 1/2" | 2" x 4" stud wall; 1/2" thick of 1:2; 1:2 gypsum plaster on 1/2" thick, 0.7 lb./ft. <sup>2</sup> wood fiberboard on both sides of wall. | See Note 23 | 35 min. |  | 1 |    | 17, 21, 23     | 1/2 |
| W-4-W-79 | 4 3/4" | 2" x 4" wood stud wall; 1/2" thick of 1:2; 1:2 gypsum plaster over wood lath on both sides of wall; mineral wool insulation.            | N/A         | 1 hr.   |  |   | 43 | 21, 31, 35, 38 | 1   |
| W-4-W-80 | 4 3/4" | Same as W-4-W-79 but uninsulated.   | N/A         | 35 min. |  |   | 43 | 21, 31, 35     | 1/2 |

Quiet Rock Assembly:

## PGD-02-10-105

### Assembly Components



#### Acoustical

**STC 53**

NRCC TLA-04-051,  
8/5/04

#### Fire

**1 hour**

U309

5-3/8" Thick, 8.3 lb/ft<sup>2</sup>

### Download Test Report

Download

### Description

- 2-1/4" Type S or W drywall screws 16" o.c. (for fire 12" o.c. at edges and 8" in the field).
- Face layer: 5/8" QuietRock® 530 or QuietRock® 530 RF type X gypsum panel applied vertically.
- 1-5/8" Type S or W drywall screws 16" o.c. (for fire 12" o.c. at edges and 8" in the field).
- Base layer: 5/8" PABCO Flame Curb® type C gypsum panel applied vertically.
- 2 x 4 wood studs 24" o.c.
- 3.5" glass fiber insulation in stud space.
- 5/8" Type X (FLAME CURB®, WATER CURB®, MOLD CURB® Plus, ABUSE CURB®, PABCO® High Impact, PABCO® Glass Sheathing or PABCO® Gypsum Sheathing) gypsum panel applied vertically.
- 1-5/8" Type S or W drywall screws 16" o.c. (for fire 12" o.c. at edges and 8" in the field).

**Royal Arms Condominiums**

Job No. 18018

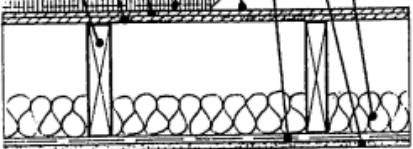
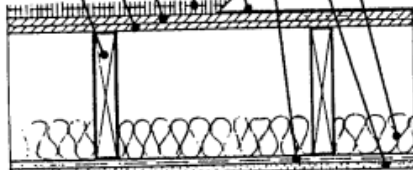

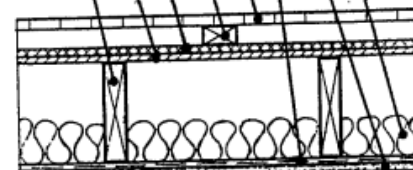
**Wood Framed**

| <b>1 Hour Fire-Rated Construction</b> |   | <b>Dimensional Lumber</b> |            | <b>Acoustical Performance</b> |   | <b>Reference</b> |
|---------------------------------------|---|---------------------------|------------|-------------------------------|---|------------------|
| <b>Construction Detail</b>            | <b>Description</b>  | <b>Test Number</b>        | <b>STC</b> | <b>IIC</b>                    | <b>Test Number</b>  | <b>Index</b>     |
| clg., wt. 3<br>                       | <ul style="list-style-type: none"> <li>5/8" SHEETROCK FIRECODE C Core gypsum panels, ceiling</li> <li>1" nominal wood sub and finished floor</li> <li>2 x 10 wood joist 16" o.c.</li> <li>joints finished</li> <li>optional LEVELROCK floor underlayment</li> <li>optional SRM-25 or SRB sound mat</li> <li>optional veneer plaster</li> </ul>              | <b>UL Des L501</b>        | 38         | 32                            | <b>CK-6412-7</b><br>Based on 1-1/4" nominal wood floor  | <b>B-52</b>      |
|                                       |   |                           | 39         | 56                            | <b>CK-6412-8</b><br>Based on 1-1/4" nominal wood floor, 44 oz carpet and 40 oz pad atop flooring                          |                  |
| clg., wt. 3<br>                       | <ul style="list-style-type: none"> <li>1/2" or 5/8" SHEETROCK FIRECODE C Core gypsum panels, ceiling</li> <li>1" nominal wood sub and finished floor</li> <li>2 x 10 wood joist 16" o.c.</li> <li>joints finished</li> <li>optional 3/4" LEVELROCK floor underlayment</li> <li>optional SRM-25 or SRB sound mat</li> <li>optional veneer plaster</li> </ul> | <b>UL Des L512</b>        |            |                               |   | <b>B-53</b>      |
| clg., wt. 3<br>                       | <ul style="list-style-type: none"> <li>1/2" or 5/8" SHEETROCK FIRECODE C Core gypsum panels</li> <li>1" nominal wood sub and finished floor</li> <li>2 x 10 wood joist 16" o.c.</li> <li>RC-1 channel or equivalent spaced 24" o.c.</li> <li>joints finished</li> <li>optional veneer plaster</li> </ul>  | <b>UL Des L514</b>        |            |                               |   | <b>B-54</b>      |
| clg., wt. 3<br>                       | <ul style="list-style-type: none"> <li>1/2" or 5/8" SHEETROCK FIRECODE C Core gypsum panels</li> <li>1-1/4" nominal wood sub and finished floor</li> <li>44 oz carpet and 40 oz pad atop flr</li> <li>2 x 10 wood joist 16" o.c.</li> <li>RC-1 channel or equivalent</li> <li>joints finished</li> </ul>  | <b>UL Des L514</b>        | 47         | 67                            | <b>CK-6512-7</b><br>Based on 1/2" SHEETROCK FIRECODE C Core gypsum panels   | <b>B-55</b>      |
|                                       |   |                           | 48         | 66                            | <b>CK-6412-9</b><br>Based on 5/8" SHEETROCK FIRECODE C Core gypsum panels   |                  |
| clg., wt. 3<br>12 5/8"<br>            | <ul style="list-style-type: none"> <li>5/8" SHEETROCK FIRECODE C Core gypsum panels</li> <li>1-5/8" perlite-sand concrete</li> <li>plywood subfloor</li> <li>2 x 10 wood joists 16" o.c.</li> <li>RC-1 channel or equivalent</li> <li>joints finished</li> <li>optional veneer plaster</li> </ul>   | <b>UL Des L515</b>        | 59         |                               | <b>USG 740704</b><br>Based on 3" mineral wool batt, 3/4" gypsum concrete and 1/2" SHEETROCK FIRECODE C Core gypsum panels | <b>B-56</b>      |
|                                       |   |                           |            | 47                            | <b>USG 740703</b><br>Based on 3" mineral wool batt, vinyl tile atop flooring  |                  |
|                                       |   |                           |            | 65                            | <b>USG 740705</b><br>Based on 3" mineral wool batt, 44 oz carpet and 40 oz pad atop flooring                              |                  |



## Royal Arms Condominiums

Job No. 18018

| California Office of Noise Control  | 137  | 1980 | Laboratory<br>Test Number<br>Year<br>Frequencies Tested<br>Source of Data                         | STC<br><br>IIC           | Section<br>Number |
|---|--|------|---|--------------------------|-------------------|
| Sketch  | Brief Description  | ...  | Laboratory<br>Test Number<br>Year<br>Frequencies Tested<br>Source of Data                         | STC<br><br>IIC           | Section<br>Number |
|    | <ol style="list-style-type: none"> <li>1. 2x8 joists, 16"o.c.</li> <li>2. 1/2" plywood subfloor nailed to joists.</li> <li>3. 3/8" plywood nailed to joists.</li> <li>4a. carpet and pad.</li> <li>4b. no floor covering.</li> <li>5. resilient channels, 24"o.c.</li> <li>6. 5/8" type X gypsum board screwed 12"o.c.</li> <li>7. 3" thick sound attenuation blanket.</li> </ol>  | ...  | National Gypsum Co.<br>4021<br>5027<br>5026<br>1964<br>16f<br>Gypsum Association                  | 47<br><br>a. 62<br>b. 43 | 2.1.2.2.1.5       |
|   | <ol style="list-style-type: none"> <li>1. 2x10 joists, 16"o.c.</li> <li>2. 1/2" plywood nailed with 6d nails 6"o.c. at edges and 10"o.c. in field.</li> <li>3. 5/8" plywood stapled 3"o.c. at edges and 6"o.c. in field.</li> <li>4a. 44 oz. carpet on 40 oz. hair pad.</li> <li>4b. 1/16" vinyl asbestos tile.</li> <li>5. resilient channels, 16"o.c.</li> <li>6. 1/2" type X gypsum board screwed 12"o.c.</li> <li>7. 3" thick sound attenuation blanket.</li> </ol>  | ...  | Cedar Knolls Acoustical Labs.<br>6712-8<br>6712-7<br>1967<br>16f<br>Domtar Gypsum America Inc.    | 47<br><br>a. 59<br>b. 44 | 2.1.2.2.1.6       |
|  | <ol style="list-style-type: none"> <li>1. 2x10 joists, 16"o.c.</li> <li>2. 1/2" plywood glued continuously and nailed 12"o.c.</li> <li>3. 2x2 sleepers between joists, 16"o.c., glued continuously and lightly nailed.</li> <li>4. 4 mil. plastic over subfloor and sleepers.</li> <li>5. 1 1/2" sand.</li> <li>6. 5/8" tongue and groove plywood, stapled 12"o.c.</li> <li>7. .07" vinyl asbestos tile.</li> <li>8. resilient channels, 24"o.c.</li> <li>9. 5/8" gypsum board screwed 12"o.c.</li> <li>10. 3" thick sound attenuation blanket.</li> </ol> | ...  | Riverbank Acoustical Labs.<br>TL71-279<br>IN71-19<br>1971<br>16f<br>U.S. Dept. of Agriculture     | 59<br><br>56             | 2.1.2.2.1.7       |
|  | <ol style="list-style-type: none"> <li>1. 2x8 joists, 16"o.c.</li> <li>2. 1/2" plywood nailed with 8d nails 6"o.c. at edges and 10"o.c. in the field.</li> <li>3. 1/2" wood-fiber board stapled 24"o.c. each way.</li> <li>4. 2x3 furring strips, 16"o.c. glued to insulation board, parallel to and between joists.</li> <li>5. 25/32" wood strip flooring.</li> <li>6. resilient channels, 24"o.c.</li> <li>7. 5/8" gypsum board screwed 12"o.c.</li> <li>8. 3" thick sound attenuation blanket.</li> </ol>  | ...  | Kodaras Acoustical Labs.<br>224-10-65<br>224-9-65<br>1965<br>11f<br>16f<br>American Plywood Assn. | 53<br><br>51             | 2.1.2.2.1.8       |

PROJECT NAME: MICHELLE RAND CONTRACTION: HURTADO'S CUSTOM REMODELING  
ADDRESS: 1829 N.W. LOVEJOY STREET PORTLAND, OR 97209  
SCOPE OF PROJECT: 5 STORY BLDG TYPE 3N FZ 2

- REMOVE OLD KITCHEN & INSTALL NEW SAME LOCATION,
- REMOVE BATH SINK TOILET + TUB
- REPLACE WITH NEW SAME LOCATION,
- NEW LIGHT FIXTURES IN CEILING,
- ADD ROXUL SAFE & SOUND PERFORATED MINERAL WOOL IN CEILING JOISTS AND WALL WITH SHARED UNIT,
- REFRAME & STRAIGHTEN PART OF INTERIOR WALL
- MOVE CLOSET DOORS & REFRAME,
- PERF SEALING ALL EXPOSED LOCATIONS

⑤ SMOKE DETECTOR  
CO CARBON MONOXIDE.  
SPRINKLER SYSTEM INSTALLED 1980  
PFB 300.135

