Development Services

From Concept to Construction

Phone: 503-823-7300 Email: 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

Appeal ID: 14941	**Project Address:** 87 SE Stark St
Hearing Date: 4/12/17	**Appellant Name:** Lucy O'Sullivan
Case No.: B-027	**Appellant Phone:** 5032342945
Appeal Type: Building	**Plans Examiner/Inspector:** Brian McCall
Project Type: commercial	**Stories:** 10 **Occupancy:** B,M,S-1,S-2 **Construction Type:** I-B
Building/Business Name: 7 SE Stark	**Fire Sprinklers:** Yes - Entire Building
Appeal Involves: Erection of a new structure	**LUR or Permit Application No.:**
Plan Submitted Option: pdf [File 1] [File 2] [File 3] [File 4] [File 5]	**Proposed use:** Mixed Use Development

APPEAL INFORMATION SHEET

Appeal item 1

Code Section	403.2.1 Reduction in fire-resistance rating
Requires	403.2.1 Reduction in fire-resistance rating. The fire resistance-rating reductions listed in Sections 403.2.1.1 and 403.2.1.2 shall be allowed in buildings that have sprinkler control valves equipped with supervisory initiating devices and water-flow initiating devices for each floor. 403.2.1.1 Type of construction. The following reductions in the minimum fire-resistance rating of the building elements in Table 601 shall be permitted as follows: In other than Group F-1, M and S-1 occupancies, the fire-resistance rating of the building elements in Type IB construction shall be permitted to be reduced to the fire-resistance ratings in Type IIA.
Proposed Design	The proposed building is a Type IB, Mixed-Use 10-story, 117ft high rise core and shell development containing 6 floors of open parking garage (S-2), Ground Level Retail (M), and 4 floors of office (B). The proposed structural frame is 5 levels of long-span post-tensioned concrete frame, with 5 levels of steel frame with composite steel deck above. Section 403.2.1.1 item 2 stipulates that the fire-resistance rating of the building elements in Type IB construction shall be permitted to be reduced to the fire-resistance ratings in Type IIA. The exception to this is for M and S-1 occupancies. The proposal is to locate some areas of S-1 and M occupancy on the first floor of the building.
Reason for alternative	The proposed areas of S-1 and M will be located within a post-tensioned concrete frame, with non-combustible slabs and columns. The limited amount of this occupancy type, and the location of these areas within PT concrete construction will provide equivalency in this case. The required fire barrier, and separation of required occupancy for each room will be provided per code.

Refer to Exhibits 1&2 for plan and section diagram.

Appeal item 2

Code Section	OSSC 2014 - 602.2 and 603.1
Requires	602.2 – Types I and II. Types I and II construction are those types of construction in which the building elements listed in Table 601 are of noncombustible materials, except as permitted in Section 603 and elsewhere in this code. 603.1 – Allowable materials. Combustible materials shall be permitted in buildings of Type I or II construction and in accordance with Sections 603.1.1 through 603.1.3.
Proposed Design	The proposed building is a Type IB, Mixed-Use 10-story, 117ft high rise core and shell development containing 6 floors of open parking garage (S-2), Ground Level Retail (M), and 4 floors of office (B). The proposed structural frame is 5 levels of long-span post-tensioned concrete frame, with 5 levels of steel frame with composite steel deck above. The project proposes using an Ipe hardwood tile as a decking material for the roof terraces. The deck tile assembly is located above a 1-hour rated composite steel deck, and a class A roofing system. The terraces are located on levels 7-10. Refer to Exhibit 5 - roof terraces.
Reason for alternative	Refer to Exhibit 3 - cut sheet. The proposed Ipe wood tile system meets the ASTM Test Method E108-07a with a Class A Fire Rating. The hardwood is exceptionally dense and resistant to insects. Ipe meets NFPA Class A and UBC Class 1 when tested under ASTM Test Method E84. Flame spread, smoke developed values, and fuel contribution ratings under this test indicate that Ipe is not readily flammable and does not readily carry or communicate fire, thus offering a moderate degree of fire protection. The proposed design is consistent with approved assemblies on other projects of type I construction. ASTM and NFPA ratings demonstrate equivalency to the requirement.

Appeal item 3

Code Section	403.3.2 Water Supply to required fire pumps (OSSC 2014)
Requires	Required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate. Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.
Proposed Design	The proposed building is a Type IB, Mixed-Use 10-story, 117ft high rise core and shell development containing 6 floors of open parking garage (S-2), Ground Level Retail (M), and 4 floors of office (B). The proposed structural frame is 5 levels of long-span post-tensioned concrete frame, with 5 levels of steel frame with composite steel deck above.

In lieu of a providing a secondary water service, we are proposing to provide a water supply tank connected to the fire pump and supplied by one public water connection from the main in SE Stark Street, in accordance with the requirements of 903.3.5.2. The tank will be sized in accordance with the Portland Fire Design Manual & 11.2.3.1.1 of NFPA 13 (2016) and the connection will be designed to refill the tank at a rate at least equal to the standpipe supply requirements, also per the Portland Fire Design Manual.

TANK INFORMATION
FIRE SPRINKLER DEMAND AND DURATION:
STANDPIPE DEMAND: 750 GPM PER NFPA 14 2010
TANK IS SIZED FOR LARGEST DEMAND OF 39,400 GALLONS

Reason for alternative

2014 OSSC Section 903.3.5.2 Secondary Water Supply, requires “a secondary water supply equal to the hydraulically calculated sprinkler demand, including the hose stream requirement shall be provided for high-rise buildings assigned to Seismic Design Category C, D, E or F as determined by the occupancy hazard classification in accordance with NFPA 13.”

The result of both code sections is the requirement for a tank sized for the calculated demand of the fire protection system with 2 separate supplies to the tank from the public water main.

The language in several sections of chapter 4 of the OSSC indicates height limits for the various requirements. Although section 403.3.2 does not specifically state a height to induce the requirement for a secondary supply, it seems that current ICC opinion and proposals to the IBC would require the secondary water supply to a building that is >420ft in height. (See attachment).

The Portland Fire Manual (2007) specifies how tanks need to be sized an only that the "...connection to the public water supply be designed to refill the tank at a rate at least equal to the standpipe supply requirements." In this case the flow test provided by the City of Portland provides an estimated flow of 2500 gpm; which is greater than the largest demand rate for the building.

Recently Portland Fire has allowed a tank with a single water supply connection from the public water source, sized to comply with the Portland Fire Design Manual, to provide a sufficient amount of redundancy to provide reasonable protection for buildings under 420ft in height. This proposal meets a similar intent and redundancy as granted in past appeals.

Refer to Exhibit 4 for fire flow availability from Portland Water Bureau.

APPEAL DECISION

1. Reduction of fire resistance rating in M and S1 occupancies on 1st floor. Granted as proposed.

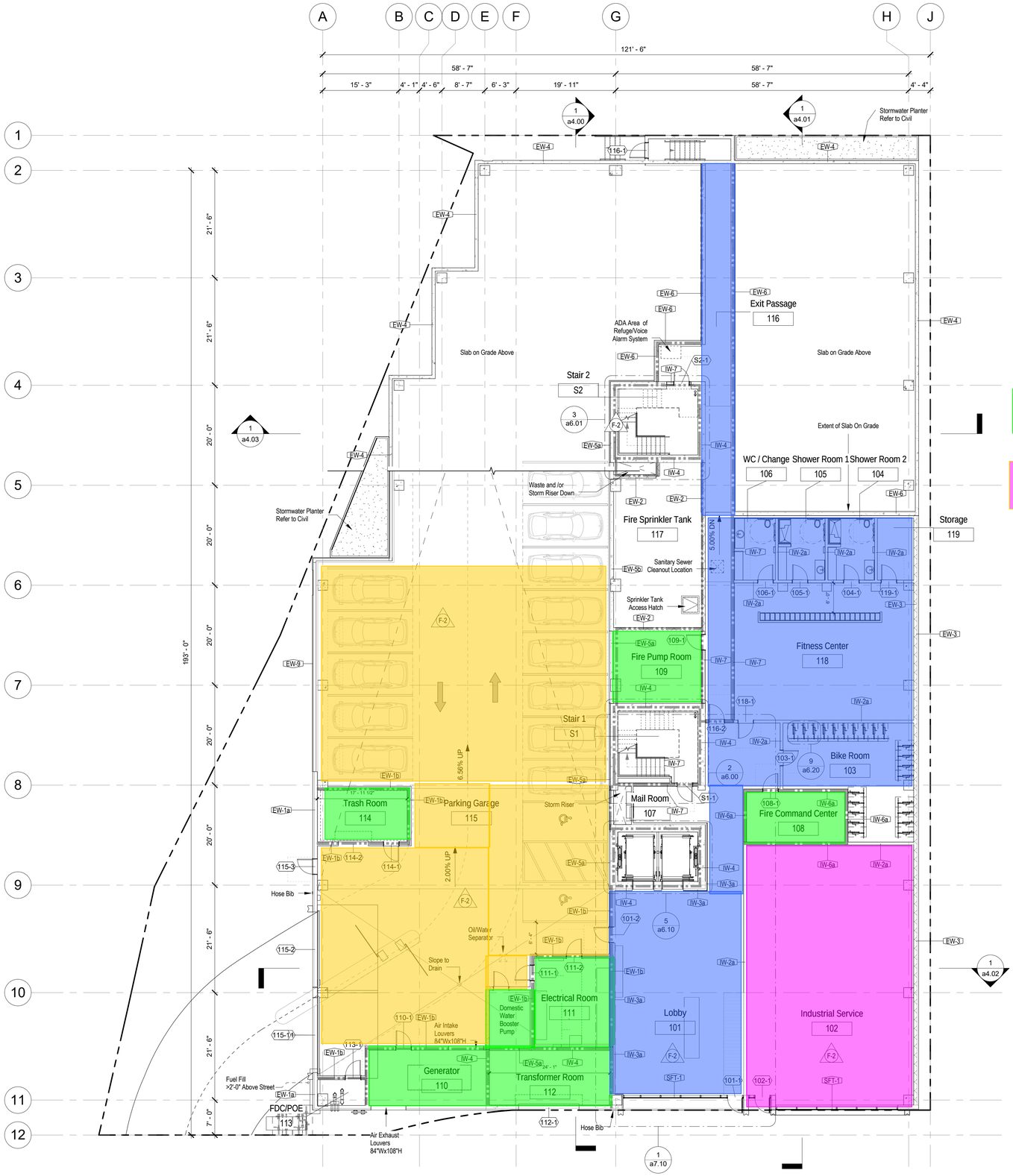
2. Use of Ipe wood tile system for terrace decks on levels 7 - 10. Granted as proposed.

3. Single connection to water main with onsite water supply tank in lieu of connection to two water mains: Granted as proposed. The proposed capacity of the secondary on-site water supply is subject to review under the building permit submittal. Appellant may contact Kari Schimel (503 823-3820) for more information.

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, call (503) 823-7300 or come in to the Development Services Center.



1 Level 1
3/32" = 1'-0"

EXHIBIT 1:
PLAN DIAGRAM
1196 - 7 SE STARK
4.10.17

Legend

1 Hour Fire Barrier

2 Hour Fire Barrier

3 Hour Fire Barrier

B OCCUPANCY

S-2 OCCUPANCY

S1 OCCUPANCY

M OCCUPANCY

FIRST FLOOR PLAN

N TRUE NORTH

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HARSCH INVESTMENT PROPERTIES

87 SE Stark

87 SE Stark Street
Portland OR, 97214

W.PA job number: 1196

Revisions

No.	Date	Description
		DD Progress Set

03.31.17

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Sheet Title: Level 1

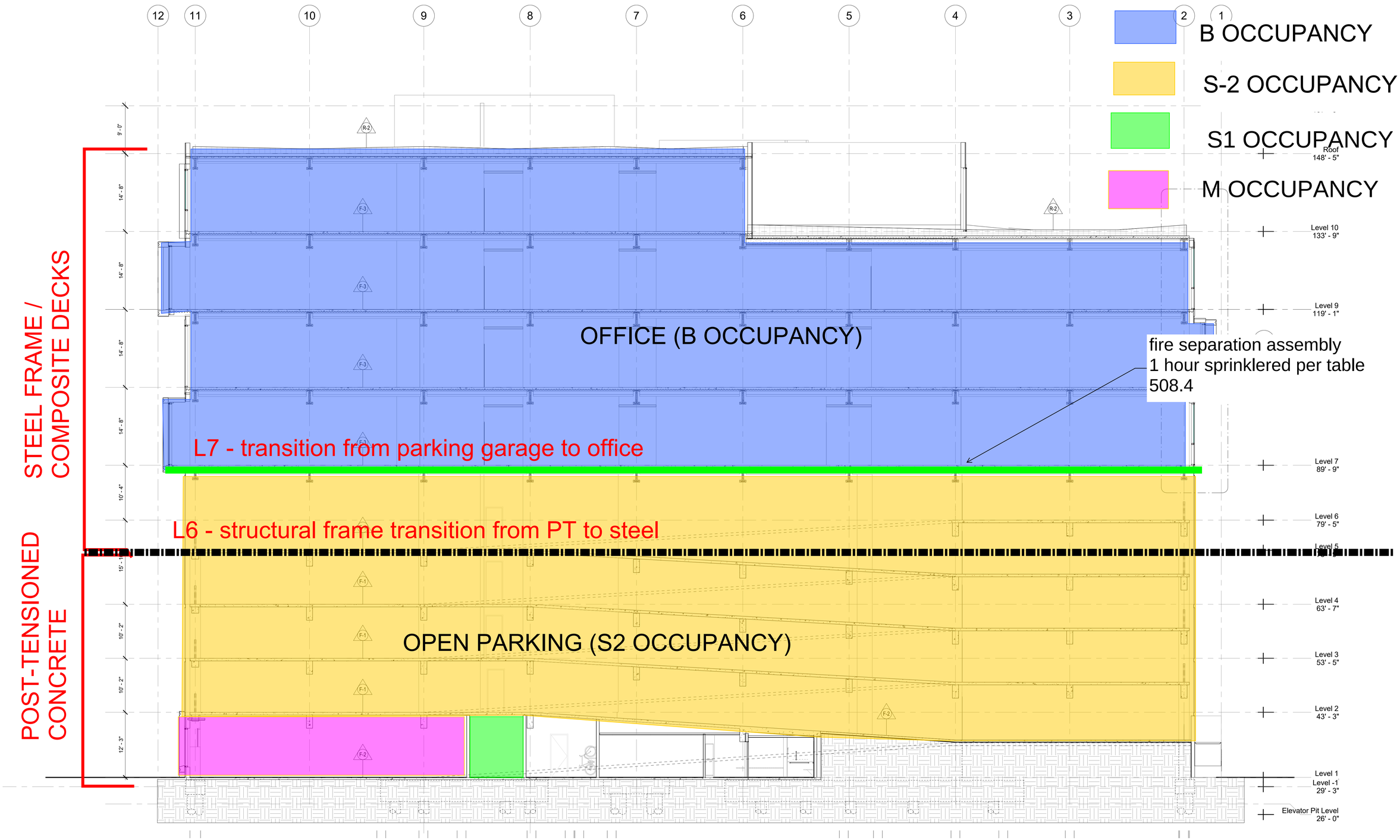
SCALE: As indicated

Sheet Number:

a2.01

CONSTRUCTION TYPE IB

EXHIBIT 2:
SECTION DIAGRAM
1196 - 7 SE STARK
4.10.17



1 N-S Section 02
1/8" = 1'-0"

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Revisions
No. Date Description
DD Progress Set 03.31.17

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Sheet Title:
Overall Building Sections - North/South

SCALE 1/8" = 1'-0"

Sheet Number:
a4.01

WOOD TILES

Beauty, Longevity and Exceptional Value

February 2015

BISON WOOD TILES

Constructed from responsibly harvested hardwoods, Bison Wood Tiles are crafted from premium grade remnants.

- Commercial Grade
- Species Include: Cumaru, Garapa, Ipê, Massaranduba
- Exclusive Bison FS1 Fastening Kit & Continuous Kerf Cut Design* allows easy tile attachment, removal and replacement
- Modular sizes 2'x2', 2'x4'
- Custom sizes available
- FSC Certified (FSC-CO13454) species available
- Full System Warranty with Bison Pedestals
- Bison Ipê Wood Tile Systems Meet:
  - ASTM E108-07a Class A Fire Rating
  - ASTM C1028-07 Slip Resistance
  - ASTM TAS108-95 Wind Uplift
  - Seismic Design Categories (SDC) A-F

FSC
www.fsc.org
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The mark of responsible forestry

*US #8,302,356 Patents and Patents Pending

Bison Innovative Products | 2394 West 4th Avenue, Denver, CO 80223 USA | 800-333-4234 | info@BisonIP.com | BisonIP.com

Installation

Bison recommends the use of Bison Deck Supports and the FS1 Fastening Kit*** when installing Bison Wood Tiles. The Bison pedestal/wood tile system installs quickly, securely and allows single tile removal after installation, if needed. The FS1 Fastening Kit, available exclusively from Bison, fastens wood tiles to the pedestals without penetrating or damaging the wood.

Place FS1 washer between the bottom rail of the tile and the upper slat. Screw FS1 screw through the FS1 washer, into center hole of spacer tabs and into pedestal. Make sure that washer secures all corners of the wood tiles and then tighten. To remove a wood tile: loosen screw and using screwdriver, rotate washer to release wood tile.

Testing

Bison Ipê Wood Tiles meet or exceed these standards.

Environmental	FSC Certification	Call for Available Species
Slip Resistance	ASTM C1028	SCOF Dry .90 and Wet .72
Solar Reflective Indices	ASTM E 1980-11	36 (Average) New 45 (Average) Weathered One Year
Solar Reflectance	ASTM C1549-09	0.321 New 0.403 Weathered One Year
Hemispherical Emittance	ASTM C1371-04a	0.894 New 0.925 Weathered One Year
Wind Uplift on Pedestals	FBC TAS-108	Aerodynamic Multiplier
Seismic	ICC ES AC-156	For use in Seismic Zones A-F with Bison Seismic System & Installation Guidelines
Fire – Flame Spread	ASTM E108-07a	Class A
Fire – Smoke Spread	ASTM E-84-08A	Class B
Fire – SF WUI Under-Flame Test	SFA 12-7-A-4 Part A	Pass
Concentrated Load on Pedestals	ICC ES AC300-2010	1250 lbs/psf FoS:3
Uniform Load on Pedestals	ICC ES AC300-2010	1250 lbs/psf FoS:3
Installation Temperature	NRCA Standard	40˚ F and above
Max. Bison Pedestal Height	Bison	36" with Bison Bracing System

Note: Customer to verify acceptable uses for each project according to the presiding building code authority.
All products to be installed per the most recent Bison Innovative Products specifications at the time of installation.

***US #8,302,356 Patent and Patents Pending

Ipê Wood Tiles

Model: WT-IPE-24
Fire Rating: Class A*
Species: Ipê
Surface: Smooth or Ribbed
Color: Brown **
Janka Hardness Rating: 3,680 lbs.
Dimensions: 23.875" x 23.875" x 1.69"
Weight: 24 lbs.
Weight psf: 6 lbs.
New Bison Continuous Kerf© cut design

Model: WT-IPE-48
Fire Rating: Class A *
Species: Ipê
Surface: Smooth or Ribbed
Color: Brown **
Janka Hardness Rating: 3,680 lbs.
Dimensions: 47.875" x 23.875" x 1.69"
Weight: 48 lbs.
Weight psf: 6 lbs.
New Bison Continuous Kerf© cut design

*Meets and Exceeds ASTM E108-07a Class A Spread of Flame Test
**Wood tile colors may differ than pictured above and change without notice.

FSC Wood Tiles

Model: WT-FSC-IPE-24
Fire Rating: Class A*
Species: Ipê
Surface: Smooth
Color: Brown**
Janka Hardness Rating: 3,680 lbs.
Dimensions: 23.875" x 23.875" x 1.69"
Weight: 24 lbs.
Weight psf: 6 lbs.
New Bison Continuous Kerf© cut design

Model: WT-FSC-MASS-24
Fire Rating: Class A*
Species: Massaranduba
Surface: Ribbed
Color: Red brown**
Janka Hardness Rating: 3,190 lbs.
Dimensions: 23.875" x 23.875" x 1.69"
Weight: 24 lbs.
Weight psf: 6 lbs.
New Bison Continuous Kerf© cut design

Limited availability.

*Meets and Exceeds ASTM E108-07a Class A Spread of Flame Test
**Wood tile colors may differ than pictured above and change without notice.

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Cumaru Wood Tiles

Model: WT-CUMARU-24-8
Fire Rating: Class A*
Species: Cumaru
Surface: Smooth
Color: Golden brown**
Janka Hardness Rating: 3,540 lbs.
Dimensions: 23.875" x 23.875" x 1.69"
Weight: 24 lbs.
Weight psf: 6 lbs.
New Bison Continuous Kerf© cut design

Garapa Wood Tiles

Model: WT-FSC-GARAPA-24
Species: Garapa
Surface: Smooth
Color: Golden brown**
Janka Hardness Rating: 1,630 lbs.
Dimensions: 23.875" x 23.875" x 1.69"
Weight: 24 lbs.
Weight psf: 6 lbs.
New Bison Continuous Kerf© cut design

Note: Wood is a natural product and actual tile colors may differ from photo.
*Meets and Exceeds ASTM E108-07a Class A Spread of Flame Test
**Wood tile colors may differ than pictured above and change without notice.

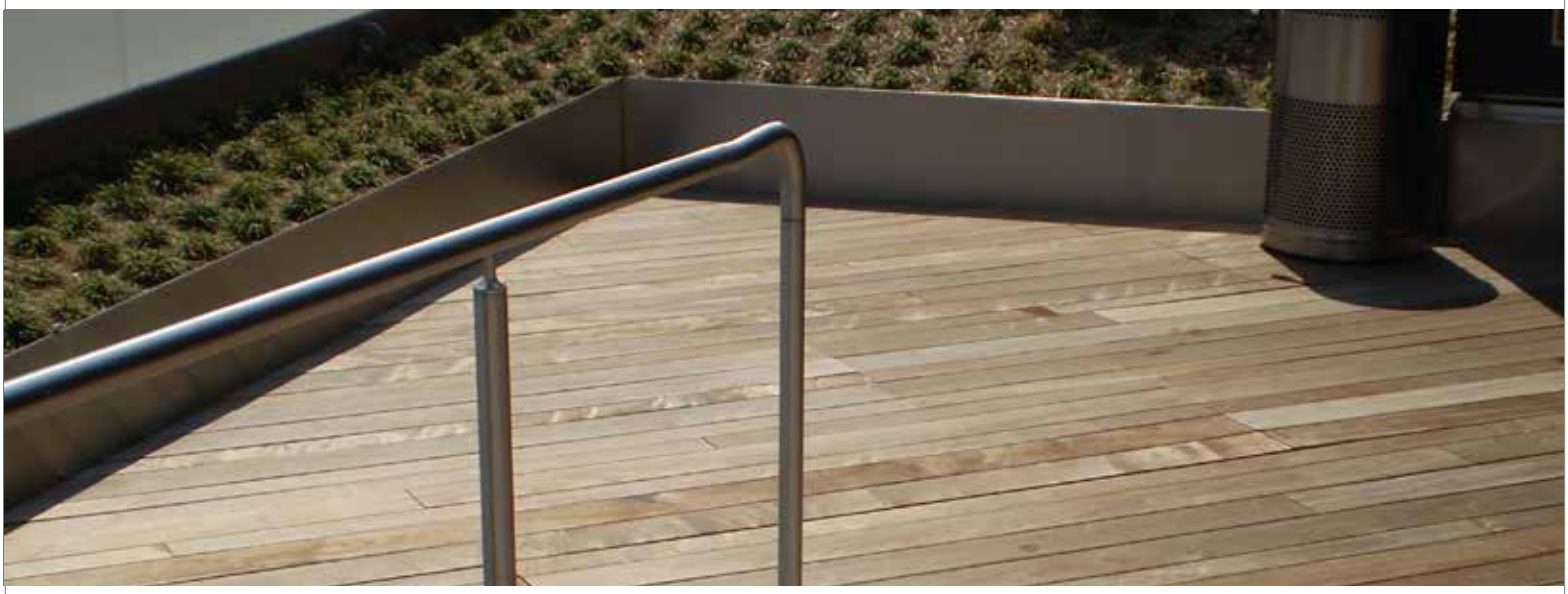
Ipê EcoTile

Model: WT-ECOTILE-48
Fire Rating: Class A*
Species: Ipê
Surface: Smooth
Color: Brown **
Janka Hardness Rating: 3,680 lbs.
Dimensions: 47.875 x 23.875 x 1.69”
Weight: 60 lbs/tile
Weight psf: 7.5 lbs/tile
New Bison Continuous Kerf© cut design

Special Purchase at Bison. We are committed to utilizing ipê remnants from other industries. So, when we had the chance to manufacture 2’ x 4’ ipê tiles using the “short shorts” we jumped at the chance.

Bison ECOtiles:
- Beautiful custom look
- Exceptionally strong
- Climate tested and weathered beautifully under Colorado’s hot summer sun
- Limited Availability

*Meets and Exceeds ASTM E108-07a Class A Spread of Flame Test
**Wood tile colors may differ than pictured above and change without notice.



Semi Custom Wood Tiles

Model: WT-IPE-CUSTOM-2x4

Model: WT-IPE-CUSTOM-2x6

Model: WT-IPE-CUSTOM-2x8

Bison Semi Custom Wood Tiles

Species: Ipê
Surface: Smooth
Color: Brown**
Janka Hardness Rating: 3,680 lbs.
Dimensions: 48″ x 23.125″ x 1.69″
72″ x 23.125″ x 1.69″
96″ x 23.125″ x 1.69″
Weight psf: 6.25 lbs.

Please inquire for availability
of other wood species.

Custom Wood Tiles

Bison fully custom wood tiles can be manufactured to your specific design requirements. Contact the Bison sales team for more information.

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**Wood tile colors may differ than pictured above and change without notice.

Care and Maintenance

Wood Characteristics:
Bison Wood Tiles are made of South American hardwoods which contain a rich variety of graining and coloration and are exceptionally dense and resistant to insects. The natural shading, coloration and graining variations add to the architectural character and overall visual appeal of the finished product.

Storage:
Keep product out of direct sunlight until it is ready to be installed. Wood tiles should not be stored tightly wrapped in plastic. Bison wood tiles will adjust to the climate where they are installed and may have or develop some slight cracking or checking.

Cutting:
Cutting: Carbide or diamond tipped blades are highly recommended. Bison wood tiles have a very high density and a slower feed rate is recommended when cutting tiles. In order to minimize checking (small cracks) the installer must seal any cut ends with Anchorseal® or other equivalent product. Apply sealer with a foam brush to the cut ends only, being very careful to not get any on the top surface of the wood.

Reassembly:
To reassemble tiles after cutting, the installer must pre-drill holes from the bottom, using a carbide drill bit designed to extract stock during drilling. Exercise caution to not drill through the top surface. In addition, use only stainless steel screws which are durable and provide maximum fastening power.

Fastening:
Bison strongly recommends the use of Bison Deck Supports and the FS1 Fastening Kit* (*patent #8,302,356) when installing Bison Wood Tiles. The Bison pedestal/wood tile system installs quickly and securely and allows for removal later if required. The FS1 Fastening Kit, available exclusively from Bison, fastens wood tiles to the pedestals without penetrating or damaging the wood is sold only with Bison Wood Tiles.

Cleaning & Sealing:
If desired, Bison Wood Tiles can be periodically cleaned and sealed. Wood stabilizers or sealants can help mitigate the loss of moisture on the top of the boards and minimize checking and splitting. The installer can lightly wax or seal the ends of the wood if desired. *Note: small checks and splits are normal and a natural part of the wood.* The following manufacturers offer cleaning and sealing products specifically designed for use with exotic hardwoods: Defy, Cabots, Penofin, Messmers. *Important: Bison Innovative Products recommends that you test any cleaners or sealants in an inconspicuous area first before applying them to the installed deck.*

Sanding:
If you plan to seal your deck and desire a more uniform appearance, a light sanding is highly recommended. Use 80 grit sandpaper to lightly sand the wood tiles and thus reduce the appearance of any minor marks, scratches or surface imperfections. After sanding, sweep the tiles and use water to rinse away any remaining dust and allow to dry thoroughly before applying sealer. Exercise caution when sanding wood with the scuff resistent surface. *Important: Always test any product you apply in an inconspicuous place to make sure it performs as you expect.*

General Safety Precautions:
Cutting, Grinding, or Sanding should be done outdoors or in a well-ventilated area. Wear safety glasses with side shields when handling, cutting, sanding, or grinding this material. Use a face shield for processes that may generate excessive dusts and splinters. Wear puncture resistant work gloves, such as leather when handling. Respirators must be worn if the ambient concentration of airborne contaminants exceeds prescribed exposure limits. Dust masks may be worn to avoid the inhalation of nuisance dust. Refer to product MSDS for more information.

Maintaining Tile Color:
To better maintain the rich coloration of the tiles, you can apply a penetrating oil finish with UV blocker. These products offer UV protection as well as mold and mildew protection. Before applying any finish, first clean and remove any residue from the wood tile as described above. After your initial coat is applied, an annual maintenance coat will help keep the coloration vibrant for years to come. *Important: Always test any product you apply in an inconspicuous place to make sure it performs as you expect.*

Natural Aging:
Left to weather naturally and, depending on climatic conditions, Bison wood tiles will develop a silvery-gray patina. If you prefer this look, Bison recommends that a coat of wood stabilizer be applied after installation. Some products provide UV protection, allowing your wood tiles to acclimate more uniformly as weather and environmental conditions season the deck. Note: each board has unique characteristics and will weather at different rates. The amount of direct and indirect sunlight, temperature, humidity, moisture and other local conditions will factor into the time and shading of the deck. Shrinkage, cracks and changes in the wood tile is natural.

Periodic Cleaning:
Commerical Cleaning Products: Bison recommends using a deck cleaning product which safely cleans the wood and also kills mold spores. To restore the pH balance of the deck, use a slightly acidic deck brightener. The deck tiles are ready to re-seal once they are cleaned. *Important: Always test any product you apply in an inconspicuous place to make sure it performs as you expect.*

Pressure Washing:
You may also use a pressure washer to remove built-up dirt, mold or mildew from your wood tiles. Caution: use the lowest PSI for the species of wood you are cleaning. A maximum of 1200 PSI is suggested for Bison Wood Tiles. Bison also recommends using a professional deck cleaning contractor. *Important: Test an inconspicuous area first and be careful to use the wand in even strokes to avoid lap marks.*

Portland Water Bureau

TO:	NULL	**FROM:**	Juanita Hess
COMPANY:	NULL		Portland Water Bureau
FAX:	NULL	**PHONE:**	503-823-7905
PHONE:	NULL	**DATE:**	11/30/2016
EMAIL:	NULL	**# PAGES:**	0

Fire Flow Availability Estimate

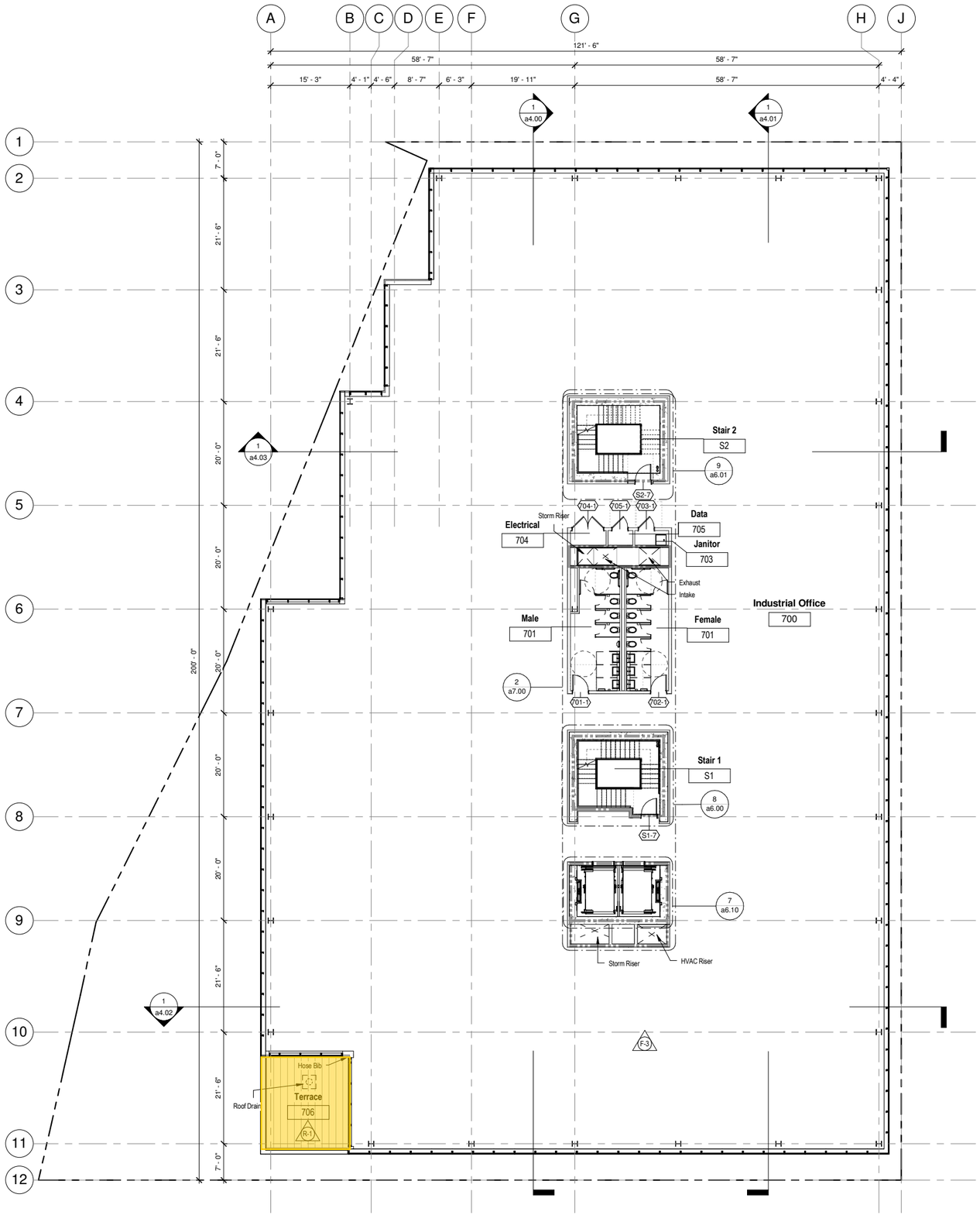
A hydrant flow test was not available or could not be completed at the requested location. This is an estimated flow obtained using a hydraulic model.

Simulation ID Number:	**1881**	
Simulation Date:	**4/29/2014**	
Assumed fire service location:	**87 SE Stark Street**	
Map Number (quartersection):	**3130**	
Pressure Zone:	**KELLY BUTTE 280**	
Main size:	**12**	**inch**
Assumed fire service elevation:	**30**	**feet**
Maximum Static Hydraulic Grade Line:	**280**	**feet**
Maximum Static Pressure:	**108**	**psi**
STATIC PRESSURE to use for design: (80% of the nominal max static pressure)	**87**	**psi**
ESTIMATED FLOW:	**5000**	**gpm**
ESTIMATED RESIDUAL PRESSURE: (in the system, with the simulated flow)	**73**	**psi**

NOTE: The Water Bureau reserves the right to make future operational changes that may affect flow available at this location. The reported flow is available in the main before any service pipe, backflow prevention device, or meter. Less flow may be available through a hydrant at the given residual pressure.

EXHIBIT 5:
ROOF TERRACES
1196 - 7 SE STARK
4.10.17

ROOF TERRACES



1 Level 7
3/32" = 1'-0"

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HARSCH INVESTMENT PROPERTIES

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Portland OR, 97214
W.PA job number: 1196

Revisions
No. Date Description
100% Design Development 04.14.17

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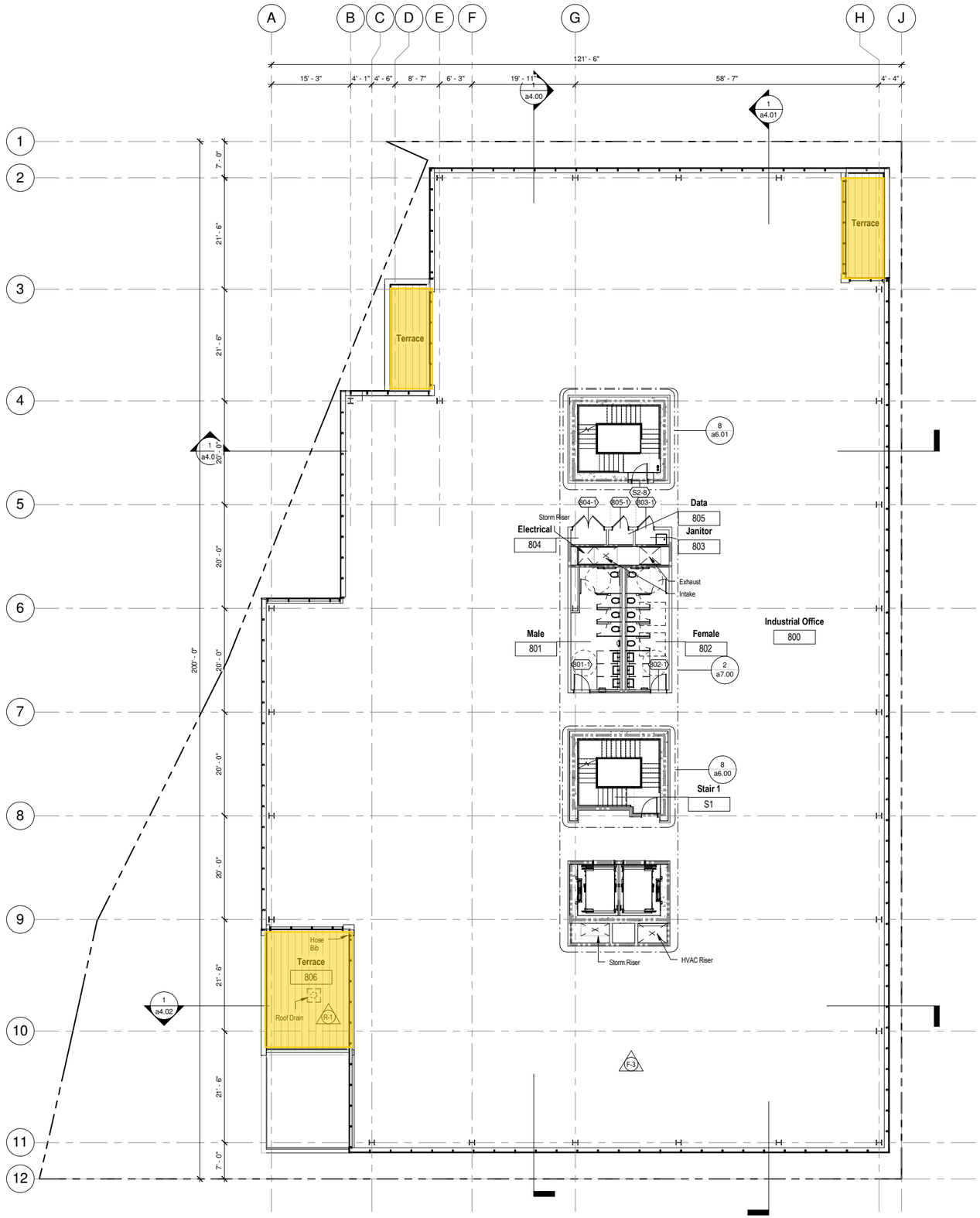
Sheet Title: Level 7
SCALE: As indicated

Sheet Number:
a2.07



1 Level 8
3/32" = 1'-0"

SHEET NOTES

A. Reference Sheet g0.01 for Dimensioning Standards & Abbreviations
B. Reference Sheet g0.01 for Accessibility Standards & Device Locations
C. Reference Sheets a0.01 - a0.03 For Wall Types & Ceiling Types
D. Reference Edge of Slab Plans for Opening & Additional Dimensions
E. The Emergency Generator will Provide a Minimum Fuel Supply to Accommodate at least 2-hours at Full-Demand of all Required Emergency Equipment. At least 8-hrs for Fire Pump.
F. Provide Dunnage and/or Curbs for All Mechanical Equipment
G. Shoring will be design build.

Legend

1 Hour Fire Barrier
2 Hour Fire Barrier
3 Hour Fire Barrier

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Revisions
No. Date Description
100% Design Development 04.14.17

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Sheet Number:
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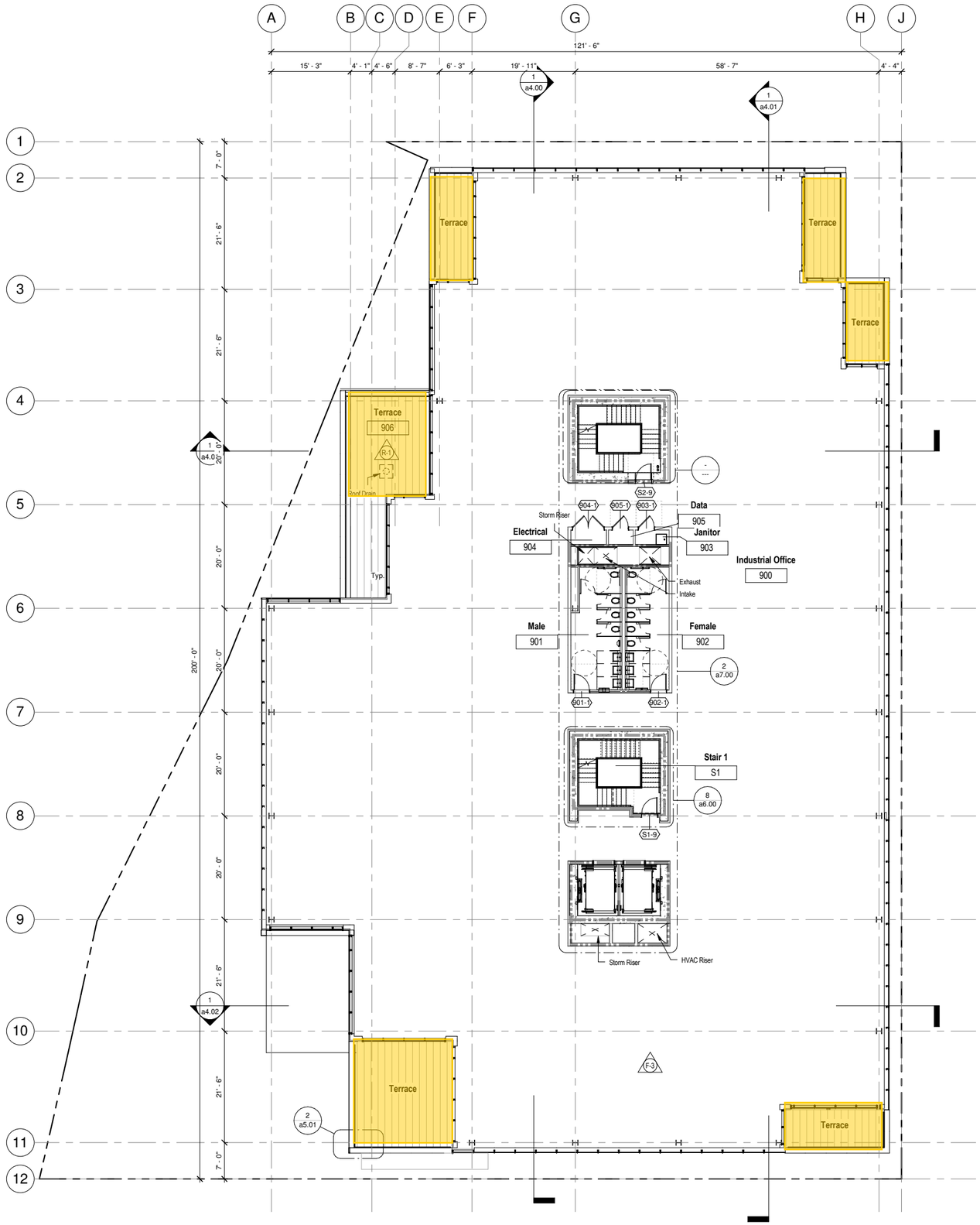

1 Level 9
3/32" = 1'-0"

SHEET NOTES

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F. Provide Dunnage and/or Curbs for All Mechanical Equipment
G. Shoring will be design build.

Legend

1 Hour Fire Barrier
2 Hour Fire Barrier
3 Hour Fire Barrier

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No. Date Description
100% Design Development 04.14.17

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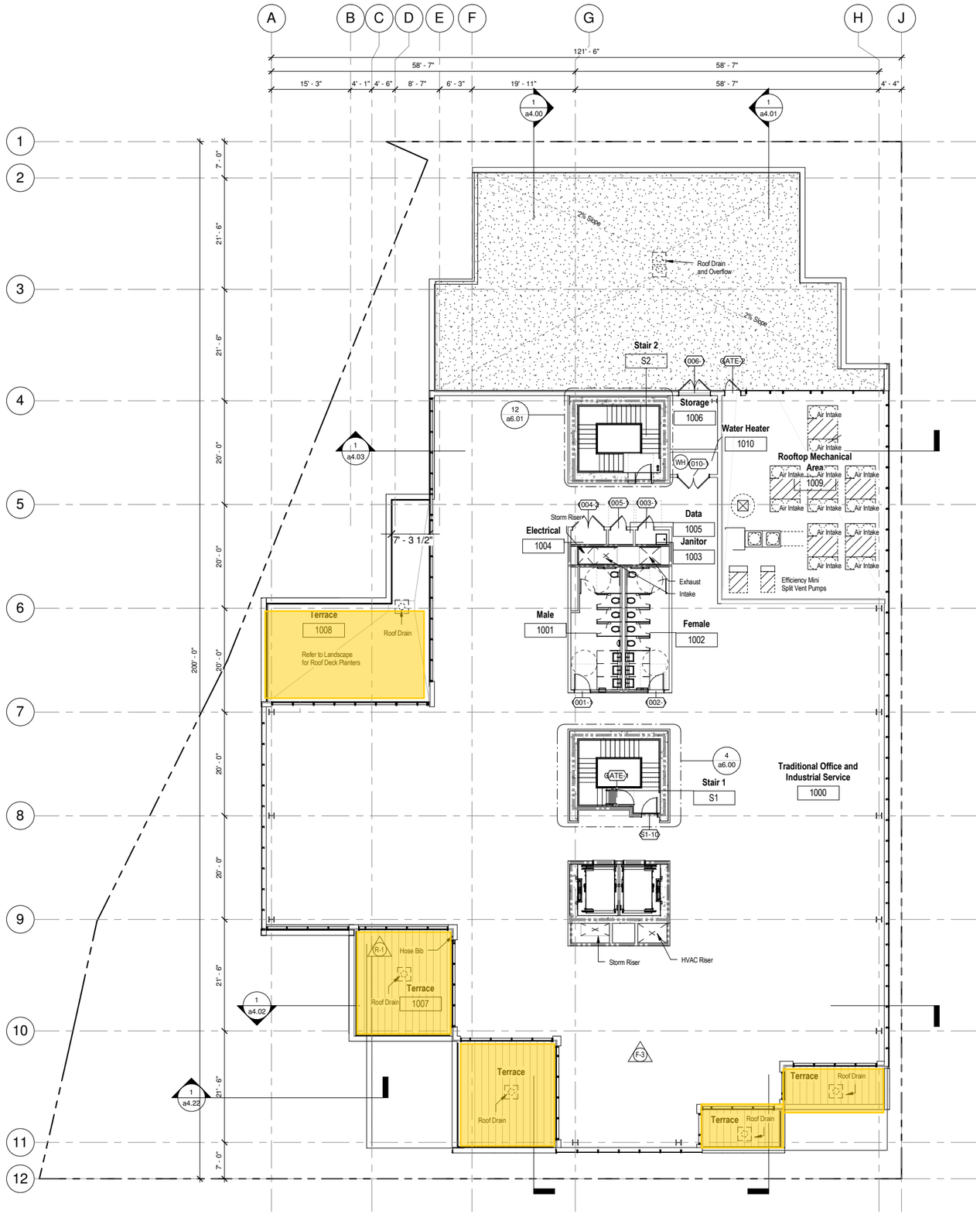
Sheet Title: Level 9
SCALE: As indicated
Sheet Number: a2.09

N TRUE NORTH



1 Level 10
3/32" = 1'-0"

SHEET NOTES

A. Reference Sheet g0.01 for Dimensioning Standards & Abbreviations
B. Reference Sheet g0.01 for Accessibility Standards & Device Locations
C. Reference Sheets a0.01 - a0.03 For Wall Types & Ceiling Types
D. Reference Edge of Slab Plans for Opening & Additional Dimensions
E. The Emergency Generator will Provide a Minimum Fuel Supply to Accommodate at least 2-hours at Full-Demand of all Required Emergency Equipment. At least 8-hrs for Fire Pump.
F. Provide Dunnage and/or Curbs for All Mechanical Equipment
G. Shoring will be design build.

Legend

1 Hour Fire Barrier
2 Hour Fire Barrier
3 Hour Fire Barrier

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HARSCH INVESTMENT PROPERTIES

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No. Date Description
100% Design Development 04.14.17

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Level 10

SCALE
As Indicated

Sheet Number:
a2.10

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