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Date Issued: Friday, September 13, 2013

City of Hamilton

REQUEST FOR TENDERS

Contract Number: C13-55-13

**Contract Title: Renovations and Reconfiguration of the
Hamilton Paramedic Services Station 30**

ADDENDUM 5

The following queries and responses, issued by the Procurement Section shall form part of the **Request for Tenders** documents for the above, and the revisions and additions noted herein and any attachments shall read in conjunction with all other documents. This Addendum shall, however, take precedence over all previously issued **Request for Tenders** documents where differences occur.

Included in this Addendum: 7 pages for Addendum 5
1 page for Drawing A002.2
1 page for Drawing A004
1 page for Supplemental Drawing SDA-001
1 page for Supplemental Drawing SDA-002
1 page for Supplemental Drawing SDA-003
14 pages for Backboard Washer User's Manual
26 pages in total

1. DRAWINGS

1. DRAWING A002.2– Overall Plan

DELETE Drawing A002.2– Overall Plan, and
REPLACE with Drawing A002.2– Overall Plan issued September 11, 2013,
attached to this Addendum to incorporate the following:

- .1 Detail 1 – Ground Floor Overall Plan
 - .1 ADD North Garage and South Garage labels
- .2 Block Types
 - .1 ADD block type B6.
- .3 Demolition Legend
 - .1 ADD General Demolition Note No.8.

- . 2 REVISE demolition note D5.
- .3 REMOVE demolition note D9.

2. DRAWING A004 – Ground Level Demolition and Renovation Plan

DELETE Drawing A004 – Ground Level Demolition and Renovation Plan and **REPLACE** with Drawing A004 – Ground Level Demolition and Renovation Plan issued September 11, 2013, attached to this Addendum to incorporate the following:

- .1 Detail 2 – Work Area 1 Demolition Plan
 - .1 REMOVE demolition note D9.
 - .2 ADD demolition note D5 to the current oxygen cylinder storage millwork
- .2 Detail 1 – Work Area 1 Renovation Plan
 - .1 REVISE section tag 5/A007 to 5/A008
 - .2 REVISE elevation tag 3/A007 in Room 122-A to 4/A007

3. DRAWING A005 – Ground Level Demolition Plan and New RCP

- .1 Detail 1 – Work Area 1 Renovation RCP
 - .1 Revise section tag 5/A007 to 5/A008 as per Supplemental Drawing SDA-001 issued September 11, 2013 and attached to this Addendum.

4. DRAWING A007 – Interior Elevations

- .1 Detail 4 – Work Area 1 Renovation RCP
 - .1 Revise title to “STORAGE AND VENDING SPACE - INTERIOR ELEVATIONS”

5. DRAWING A008 – Sections and Details

- .1 Detail 5
 - .1 Revise detail tag Z/A008 to 1/A008 as per Supplemental Drawing SDA-002 issued September 11, 2013, and attached to this Addendum.
 - .2 ADD Detail 10 – Door Frame Profiles as per Supplemental Drawing SDA -003 attached to this Addendum.

2. BIDDER QUESTIONS AND CITY RESPONSES

In responding to the following questions, the City of Hamilton has made every effort to refer the Bidders to the most applicable section(s) of the Request for Tender, where appropriate. However, in doing so, this does not relieve the Bidders of their responsibility to read the entire Request for Tender and to satisfy themselves as to

whether there may also be other provisions in the Request for Tenders that are responsive to their questions.

Question #1	<p>Could you provide some information on the height of the existing partitions (especially with respect to the partitions we remove). Detail 5/A008 shows that at the New Staff Room 115 is a 2 storey situation, is this consistent for existing rooms 118, 115, 114, 114A, 114B and 102 (the rooms we work in on the west side of the building) and do the existing partitions go to the underside of the 2nd floor? At the New Ambulance Storage Room 123 it is a single storey going the full height of the 2 storeys, is this consistent for the existing rooms 123, 110A, 110B, 110, Vending Machine Storage Closet and 110C, (the rooms we work in on the east side of the building) and do the existing partitions go to the u/s of the metal deck roof? Due to the varying heights, it is important that we have this information.</p>
City Response #1	<p>1. Room 115 is not a 2-storey situation. Detail 5/A008 is a section showing the new corridor’s relationship to existing conditions, which is further detailed in Detail 1/A008. Existing rooms 118, 115, 114, 114A, 114B and 102 are all single storey. What might be confused as a second storey is a false ceiling, as called out in Detail 1/A008. Partitions were not checked to see if they went to the underside of the second floor. Existing Room 123 is a partitioned off area of the vehicle storage garage; meaning, it has no ceiling cap. This condition applies to Room 110 and 122-A. Rooms 110-A, 110-B, and 110-C have a second storey above them. Please refer to Drawing A005 which shows all existing and new ceilings.</p>
Question #2	<p>In room 118 – Existing Women’s Washroom – there are existing ceramic wall tiles on the North, East and South Partitions. Can you please clarify if the tiles on the partitions that remain are to be removed?</p>
City Response #2	<p>Refer to Item 1.1 Drawing A002.2- Overall Plan above.</p>
Question #3	<p>If they are to be removed, can you please provide some clarification on what we include for the removals on the North partition. I ask this because as you see from the</p>

	attached picture (pic 30137) you can tell they start at the end of the lockers (the lockers go from the edge of the door into room 117 Existing Exercise Room and continue to just before the BF Washroom toilet partition) but you can't tell if they are also behind the lockers and if so how far they go. I tried to determine this at the site meeting but you could not tell.
City Response #3	All tiles are to be removed. We cannot confirm whether they extend behind the lockers, but if they do, they will have to be removed as well. Refer to Item 1.1 Drawing - Overall Plan above.
Question #4	In room 123 – Existing Ambulance Storage – in the East / South corner, on the East wall there is an closet type item with 2 sets of double doors (see attached picture (pic 30088)). There is a dotted line on the drawing but no demolition note. Please clarify what we are doing with this item.
City Response #4	Refer to Item 1.1 Drawing A002.2 - Overall Plan and Item 1.2 Drawing A004 – Ground Level Demolition and Renovation Plan above.
Question #5	The Demolition note D9 – ‘Existing bollard to be removed...’ is indicated at the 2 bollards at the OH Doors being removed on the north and south elevations for a total of 4. However, on detail 1/A004 Renovation Plan – there are still bollards indicated in all 4 of these locations. Please clarify if we are to remove these bollards?
City Response #5	Refer to Item 1.1 Drawing A002.2 - Overall Plan and Item 1.2 Drawing A004 – Ground Level Demolition and Renovation Plan above.
Question #6	In room 110-C at the east partition (which at present is a block partition that only goes to approx. 8' high – see attached picture 30044) we enlarge the door opening and infill with a B6 partition. There is no B6 partition indicated on A002.2, please clarify what this partition is.
City Response #6	Refer to Item 1.1 Drawing A002.2 - Overall Plan above.
Question #7	In room 123 – New Ambulance Storage – There is an item against the east partition with the notation ‘Existing

	backboard washer to be moved from north garage, installed and connected to new plumbing? During the site meeting we did not go into any other areas and so were not able to view this item. Could a picture of this item be included and some information on what it is such as size, weight etc. Also, is the north garage the building titled 'Existing Metal Building' on the A002.1 drawing? If not please provide some information on where the north garage is.
City Response #7	Refer to Item 1.1 Drawing A002.2 - Overall Plan above. A cut sheet of the backboard washer is included in this Addendum. General Contractor to confirm the current location of the piece of equipment at the time of construction and notify the Architect prior to relocation.
Question #8	There are 2 locations for the section detail 5/A007. I believe this should be 5/A008. Please clarify if this is correct?.correct?
City Response #8	That is correct. Refer to Item 1.2 Drawing A004 – Ground Level Demolition and Renovation Plan above.
Question #9	In room 122-A – Storage and Vending Space there is an elevation reference 3/A007.I believe this should be 4/A007. Please clarify if this is correct?.correct?
City Response #9	That is correct. Refer to 1.2 Drawing A004 – Ground Level Demolition and Renovation Plan above.
Question #10	These elevations reference east and west elevations. I believe these should reference north and south elevations. Please clarify if this is correct?
City Response #10	This reference is based on the true east and west. Refer to elevation tags on plans if unsure which elevation it is.
Question #11	These details all indicate a stainless steel finish on them. Please provide some information on the stainless steel, what type, what gauge and what finish you require.
City Response #11	16 Gauge 304 Brushed Stainless Steel Sheet.
Question #12	You indicate a pier and footing below the Gate Control

	Cabinet and it tells us to refer to the structural drawing. I do not see any information on the structural drawings with regards to these piers and footings. Please provide a detail on these.
City Response #12	Refer to Details 1 and 2 on Drawing S1.1.
Question #13	At the Partial Plan at the new Coiling Door you indicate HHS columns at the jambs of the new door opening and a 'C200 at the head. On the A008 drawing, detail 6 – it indicates a 'C' Channel at the door jamb. Please clarify if we are to include for HHS Columns or 'C' Channels at the new door jambs?
City Response #13	Drawing A008 Detail 2 and Drawing A008 Detail 6, which show jamb details, state that you should refer to structural drawings for the O.H. Door metal frame. Refer to Drawing S-1A for all structure on the jambs.
Question #14	The one question there still seems to be some confusion about which I haven't asked already is at the east corridor wall in the area of the new office. Above and below this area we are creating a false ceiling as per detail 5/A007 and it has a 2 hour fire rating. In this one small section however, it tells us to 'extend the existing drywall partition, type P1(P1 (which is only 1 hour fire rated) to u/s of existing concrete slab)'. So there are a couple of issues that we are confused about–If the sections of this partition to the north and south are a 2 hour fire rated partition, why is this area only a 1 hour fire rated partition? Detail 5/A007 seems to show that the concrete slab creating the second floor stops at the west side of this corridor so how do we extend the wall on the east side of the corridor to the u/s of the concrete slab? Wouldn't the partition in this area need to be extended to the u/s of the steel deck (approximately 22 ft AFF) and if so why wouldn't we just put the same false ceiling at this location as we do to the north and south of it??
City Response #14	Refer to Drawing A003 for fire ratings. Detail 5 of Drawing A008 is a section cut through the corridor at that particular portion where there is no second storey above, and the corridor needs a rated horizontal separation above it. The floor slab of the second floor is existing above existing rooms 110, 110-A, and 110-B.

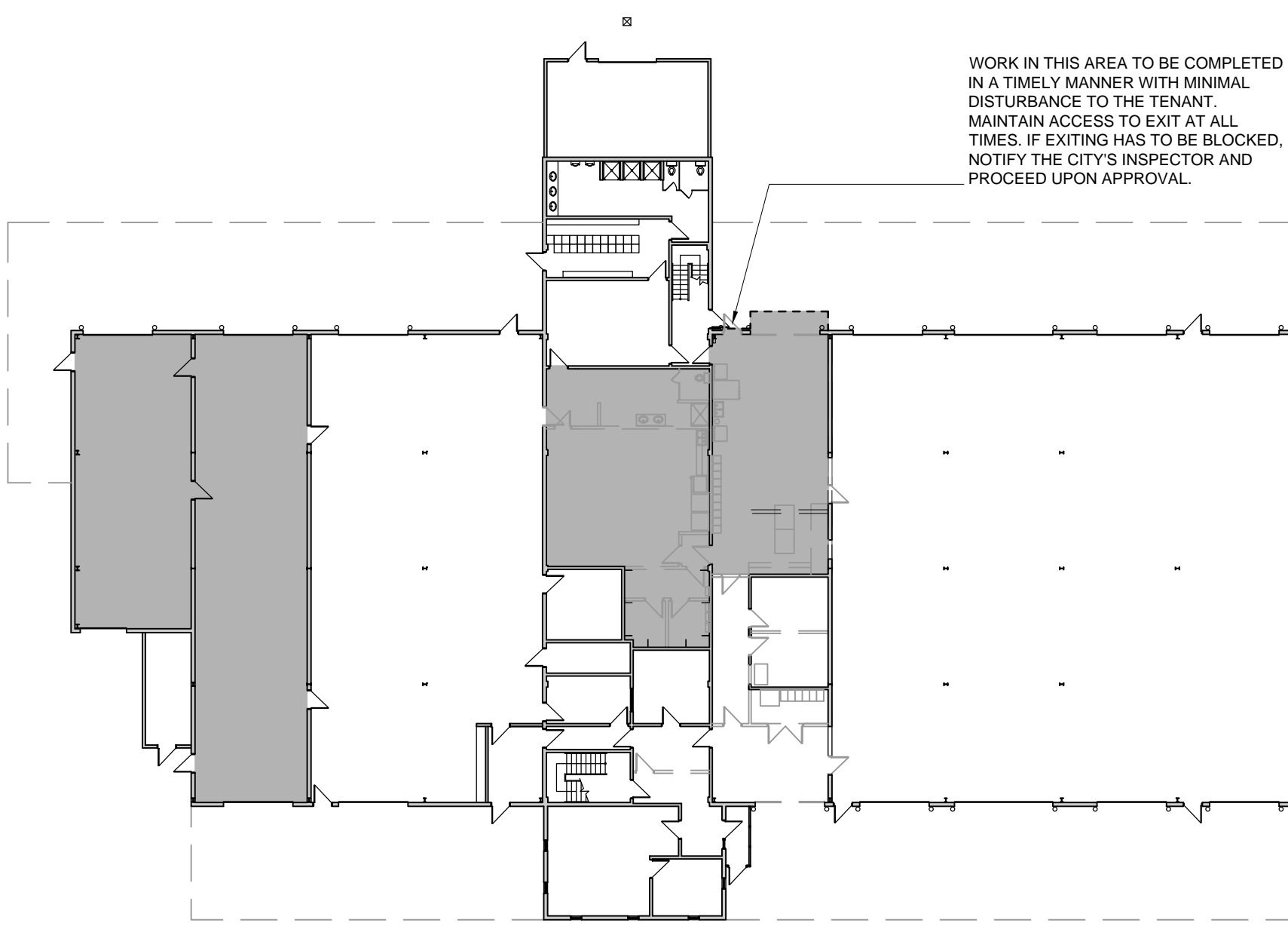
Question #15	The hollow metal contractors would like some additional information on the frame. There currently is no detail through the frame and they are assuming you are looking for a 5 1/2" throat but I would think that would differ depending on the material the door is installed into. They are also looking for an elevation of the doors or confirmation that they are all just a slab style door?
City Response #15	They are all just slab style doors. Refer to Item 1.5 Drawing A008 – Sections and Details.

END OF ADDENDUM 5.

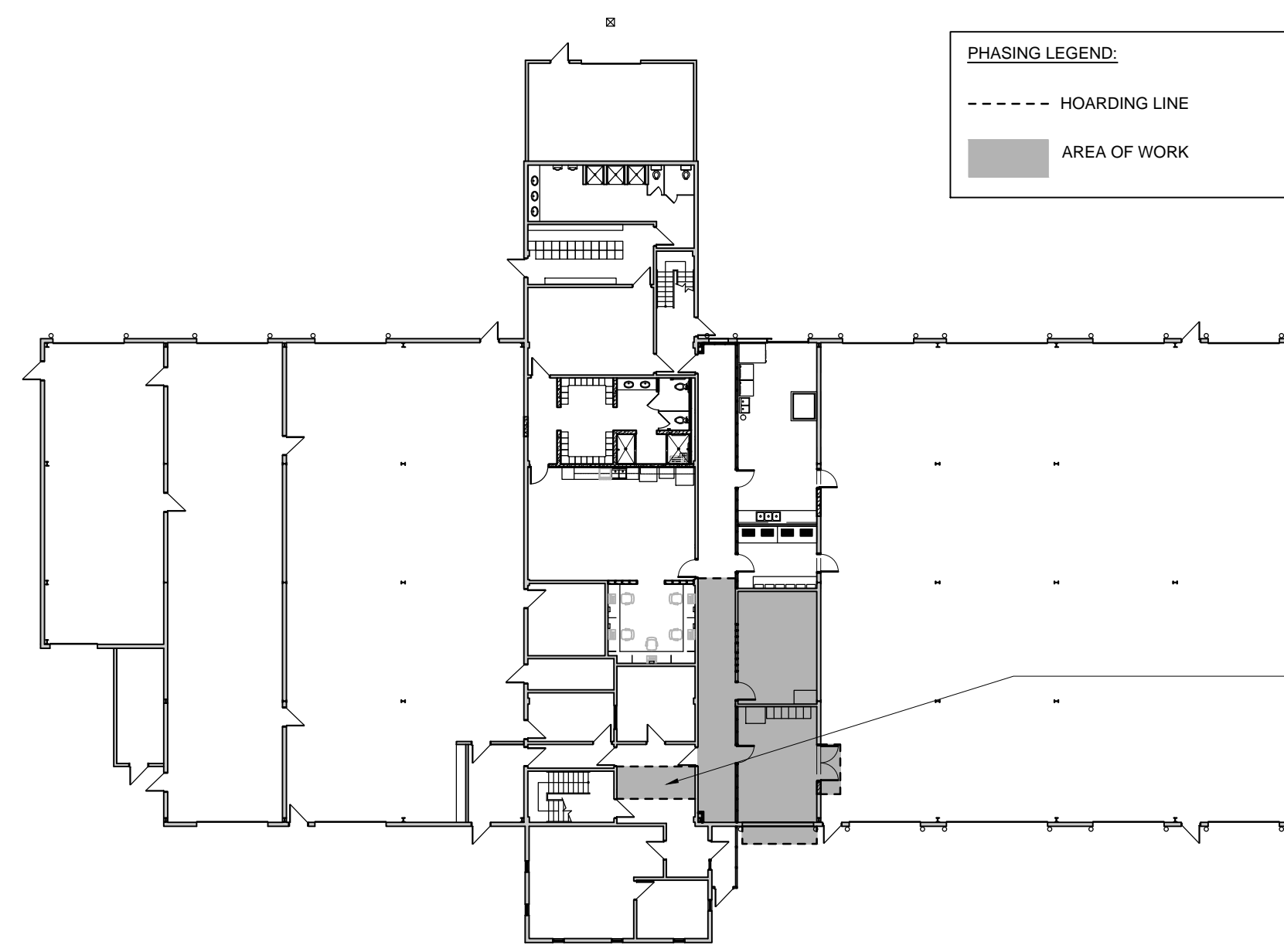
Bidders providing a signed Form of Tender have made any necessary inquiries with respect to addenda issued by the City and have provided for all addenda in their Tender submission.

**All addenda will be posted on the City's Biddingo.com bid portal at:
biddingo.com/hamilton**

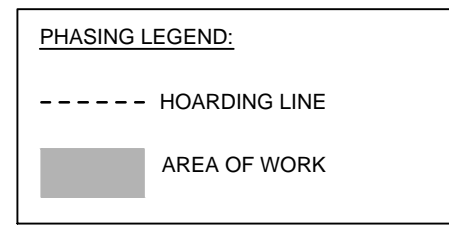
Procurement Section, City of Hamilton, Ontario
(Revised: February 5, 2013)



PHASE 1

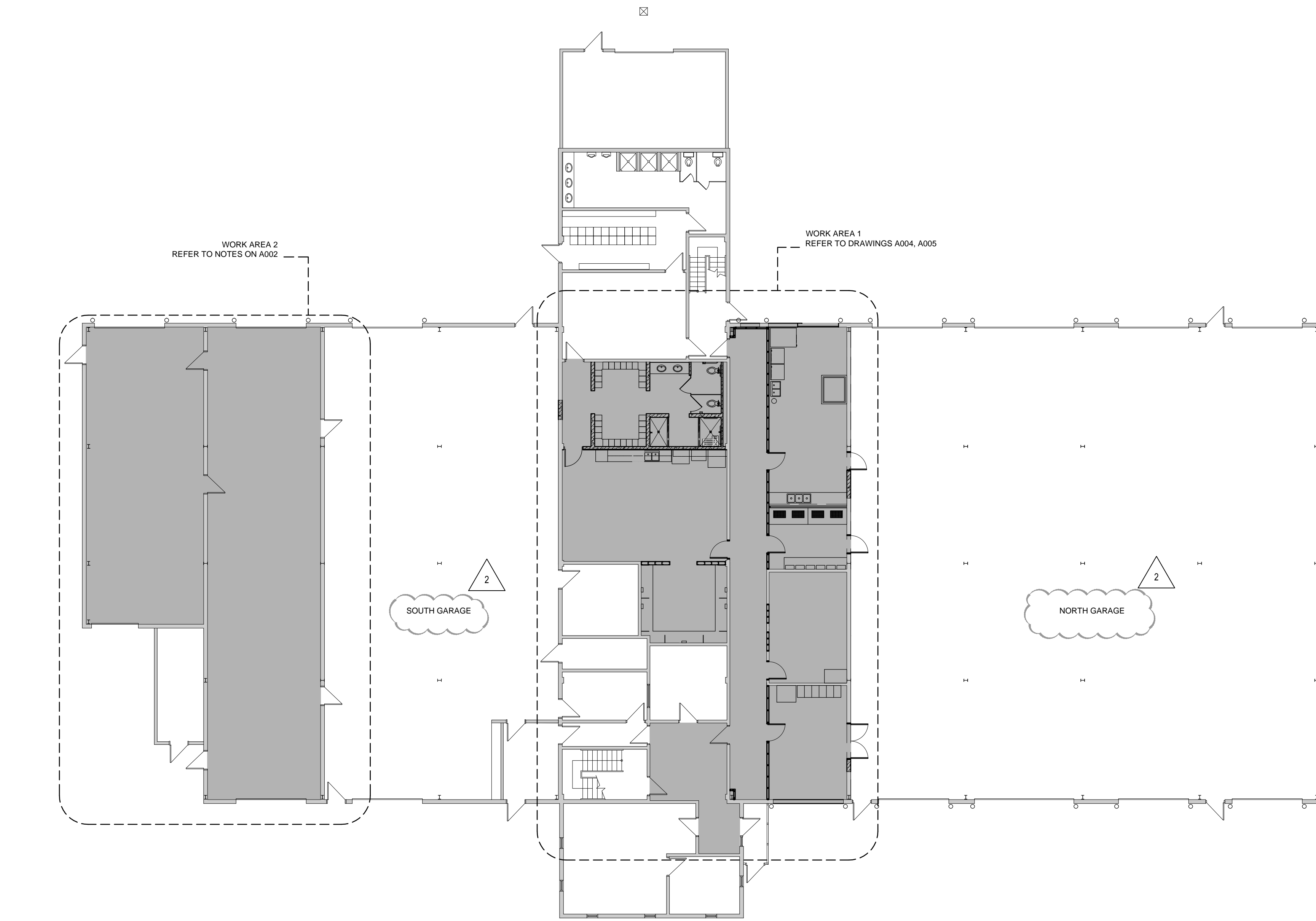


PHASE 2



1 CONSTRUCTION PHASING PLANS

SCALE: 1:300



1 GROUND FLOOR OVERALL PLAN

SCALE: 1:150

DEMOLITION LEGEND

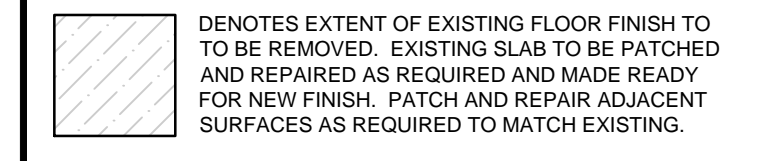
GENERAL DEMOLITION NOTES:

- PATCH AND REPAIR ALL ADJACENT SURFACES TO AREAS OF DEMOLITION AS REQUIRED TO MATCH EXISTING OR READY FOR NEW FINISH.
- CLEAN, PATCH, AND REPAIR ALL SURFACES TO REMAIN AS REQUIRED FOR NEW FINISHES.
- GC TO COORDINATE EXTENT OF DEMOLITION WITH MECHANICAL, ELECTRICAL, AND STRUCTURAL DRAWINGS. ANY AREA NOT SHOWN ARCHITECTURAL WHICH REQUIRES INSTALLATION OF NEW SERVICES IS TO BE RETURNED TO ORIGINAL STATE TO MATCH EXISTING.
- REVIEW HARDWARE SCHEDULE FOR ALL EXISTING DOORS TO REMAIN. DEMOLISH ANY AND ALL HARDWARE AS REQUIRED FOR INSTALLATION OF NEW DOOR HARDWARE.
- PROVIDE TEMPORARY SUPPORT FOR ADJACENT CEILING, LIGHT FIXTURES, DIFFUSERS, CEILING MOUNTED DEVICES, ETC., AS REQUIRED FOR AREAS WHERE CEILINGS ARE REQUIRED TO BE REMOVED TO INSTALL NEW OR MODIFY EXISTING SERVICES. ALL CEILINGS TO BE RESTORED BACK TO ORIGINAL STATE.
- ALL EXISTING FURNITURE IN THE LUNCH ROOM TO BE REMOVED AND REUSED. GC TO STORE AND PROTECT DURING CONSTRUCTION UNTIL READY FOR RE-INSTALLATION.
- ALL OTHER EXISTING FURNITURE TO BE SALVAGED AND TURNED OVER TO OWNER.
- ALL EXISTING WALL FINISHES TO BE REMOVED WHERE NEW FINISHES ARE TO BE APPLIED. ALL SURFACES TO BE PREPARED FOR NEW FINISHES.

DEMOLITION NOTES:

- D1 REMOVE EXISTING WALL INCLUDING ALL SERVICES AS INDICATED. SERVICES TO BE REMOVED BACK TO SOURCE AND CAPPED AS REQUIRED. PATCH AND REPAIR ADJACENT SURFACES AS REQUIRED TO MATCH EXISTING OR MAKE READY FOR NEW FINISHES.
- D2 EXISTING APPLIANCE TO BE REMOVED AND REUSED. GC TO STORE AND PROTECT DURING CONSTRUCTION UNTIL READY FOR RE-INSTALLATION. REFER TO AND COORDINATE WITH FLOOR PLANS.
- D3 EXISTING SINK TO BE REMOVED. PATCH AND REPAIR ADJACENT SURFACES AS REQUIRED TO MATCH EXISTING AND MAKE READY FOR NEW FINISH. REFER TO AND COORDINATE WITH FLOOR PLANS.
- D4 EXISTING WATER CLOSET/SHOWER TO BE REMOVED. SERVICES TO BE REMOVED BACK TO SOURCE AND CAPPED AS REQUIRED. PATCH AND REPAIR ADJACENT SURFACES AS REQUIRED TO MATCH EXISTING.
- D5 EXISTING MILLWORK TO BE DEMOLISHED. PATCH AND REPAIR ADJACENT SURFACES AS REQUIRED FOR NEW CONSTRUCTION.
- D6 EXISTING LOCKERS TO BE REMOVED AND TURNED OVER TO OWNER.
- D7 EXISTING NARCOTICS CABINET TO BE REMOVED AND REUSED. GC TO STORE AND PROTECT DURING CONSTRUCTION UNTIL READY FOR RE-INSTALLATION.
- D8 EXISTING DOOR/METAL SIDING & INSULATION TO BE REMOVED. REFER TO AND COORDINATE WITH DEMOLITION FLOOR PLAN.
- D9 NOT IN USE
- D10 EXISTING EXIT SIGN TO BE REMOVED AND REUSED. REFER TO AND COORDINATE WITH ELECTRICAL DRAWINGS.
- D11 EXISTING CEILING TO BE REMOVED. SERVICES TO BE REMOVED BACK TO SOURCE AND CAPPED AS REQUIRED AND MAKE READY FOR NEW CEILING.
- D12 REMOVE EXISTING WALL BETWEEN TWO ROOMS UP TO A HEIGHT THAT MATCHES THE EXISTING LOWER ACT LEVEL. REMOVE ALL SERVICES AS INDICATED. SERVICES TO BE REMOVED BACK TO SOURCE AND CAPPED AS REQUIRED. PATCH AND REPAIR ADJACENT SURFACES AS REQUIRED TO MATCH EXISTING OR MAKE READY FOR NEW FINISHES. PROTECT EXISTING ACT AND REPAIR IF DAMAGED.
- D13 REMOVE EXISTING GYPSUM BOARD ON BOTH ENDS OF THE STUD. KEEP THE STUD IN PLACE FOR INSTALLATION OF NEW GYPSUM BOARD FOR FIRE RATING. REFER TO PLAN FOR NEW PARTITION TYPE.
- D14 EXISTING ACT CONTINUES ABOVE DEMOLISHED PARTITION. REPAIR OR REPLACE EXISTING ACT TILE IF DAMAGED.
- D15 EXISTING CATCH BASIN TO BE REMOVED. REFER TO MECH. DRAWINGS.
- D16 EXISTING MILLWORK TO BE REMOVED AND REUSED. GC TO STORE AND PROTECT DURING CONSTRUCTION UNTIL READY FOR RE-INSTALLATION.

LEGEND:



BLOCK TYPES:

- B1 90mm CONCRETE BLOCK
- B2 140mm CONCRETE BLOCK
- B3 190mm CONCRETE BLOCK
- B4 240mm CONCRETE BLOCK
- B5 290mm CONCRETE BLOCK
- B6 MATCH EXISTING ADJACENT CONCRETE BLOCK

FURRING TYPES:

- F1 16mm GYPSUM WALLBOARD ON 13mm RESILIENT CHANNELS
- F2 16mm GYPSUM WALL BOARD ON 22mm FURRING CHANNELS
- F3 16mm GYPSUM WALL BOARD ON 41mm STEEL STUD FRAMING
- F4 16mm GYPSUM WALLBOARD ON 64mm STEEL STUD FRAMING
- F5 16mm GYPSUM WALL BOARD ON 92mm STEEL STUD FRAMING
- F6 16mm GYPSUM WALL BOARD ON 152mm STEEL STUD FRAMING

PARTITION TYPES:

- P1 16mm GYPSUM WALLBOARD ON ON 92mm STEEL STUD FRAMING. SITE VERIFY AND MATCH EXISTING ADJACENT WALL TYPE.
- P2 REFER TO ULC. DESIGN NO.453 FOR 2-HR FIRE RATING ASSEMBLY. 2 LAYERS OF 16mm GYPSUM WALL BOARD ON 64 mm STEEL STUD FRAMING WITH BATT INSULATION.
- P3 REFER TO ULC. DESIGN NO.452 SYSTEM-E FOR 2-HR NONBEARING ASSEMBLY RATING. INCLUDE BATT INSULATION.
- P4 16mm GYPSUM WALL BOARD ON 152mm STEEL STUD FRAMING WITH ACOUSTIC INSULATION BLANKETS IN STUD CAVITIES.

WALL TYPES:

- W1 NEW EXTERIOR WALL TO MATCH EXISTING. METAL SIDING TO MATCH EXISTING WITH 4" VINYL FACED FIBREGLASS. METAL BUILDING INSULATION INSTALLED BETWEEN NEW METAL GIRTS CONNECTED TO AND MATCHING EXISTING. PAINT NEW GIRTS AND NEW INTERIOR LINER WITH ELECTROSTATIC COATING.

GENERAL NOTES:

- NOT ALL BLOCK & FURRING TYPES SHOWN MAY BE USED. REFER TO FLOOR PLANS FOR TYPES IN THE PROJECT.
- ALL BLOCK PARTITIONS TO EXTEND TO US OF STRUCTURE UNLESS OTHERWISE NOTED. PROVIDED LATERAL BRACING AS REQUIRED.
- GC TO SITE VERIFY BLOCK TYPES DENOTED WITH A " " AND MATCH TO EXISTING.
- USE 75% SOLID OR GREATER OR LIGHT WEIGHT CONCRETE BLOCKS AS REQUIRED TO ACHIEVE FIRE SEPARATIONS NOTED. COORDINATE W/ FIRE & LIFE SAFETY DRAWINGS. ENSURE FIRE SEPARATIONS ARE SEALED AT ALL PENETRATIONS AND TO STRUCTURE W/ FIRE STOP.
- FURRING TO EXTEND TO 150mm ABOVE FINISHED CEILING OR TO US OF STRUCTURE WHERE NO CEILING EXIST (REFER TO REFLECTED CEILING PLANS) UNLESS OTHERWISE NOTED.

WORK AREA 2

GENERAL NOTES:

- PAINT ALL SIDING SURFACES TO MATCH EXISTING.
- REFER TO MECHANICAL DRAWING FOR SCOPE OF MECHANICAL WORK.
- REFER TO ELECTRICAL DRAWINGS FOR SCOPE OF ELECTRICAL WORK.



FIRE STATION 30 RENOVATIONS
489 VICTORIA AVE NORTH,
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Hamilton ON, L8R 1J4
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Drawings are not to be scaled.

Contractor must verify all dimensions on the job and report any discrepancy to architects before proceeding with the work.

All drawings and specifications are the property of the architect and must be returned at the completion of the work.

This drawing is not to be used for construction until countersigned. Date: _____

Seals



04	FOR ADDENDUM NO. 4	2013-09-11
03	FOR ADDENDUM NO. 3	2013-09-05
03	ISSUED FOR TENDER	2013-05-07
02	ISSUED FOR CLIENT REVIEW	2013-02-14
01	ISSUED FOR PRICING	2012-10-19
No.	Issues/Revisions	Date

Drawing Title:

OVERALL PLAN

Issue Date: 2013-09-11
Drawn by: PM Checked by: DP
Project No.: 11103-07 Scale: AS SHOWN

Drawing No.: **A002.2**



**FIRE STATION 30
RENOVATIONS**
489 VICTORIA AVE NORTH,
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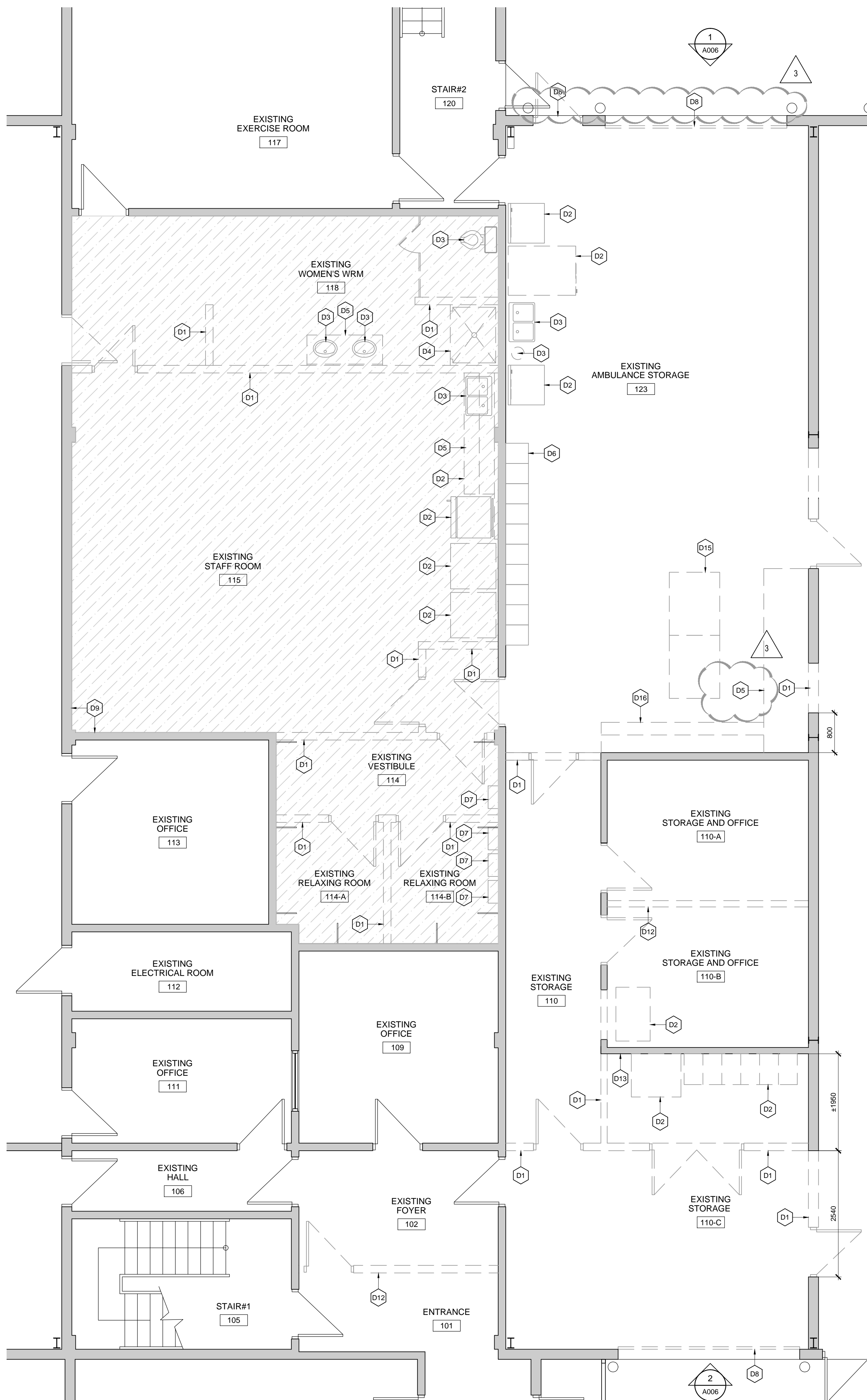
Drawings are not to be scaled.

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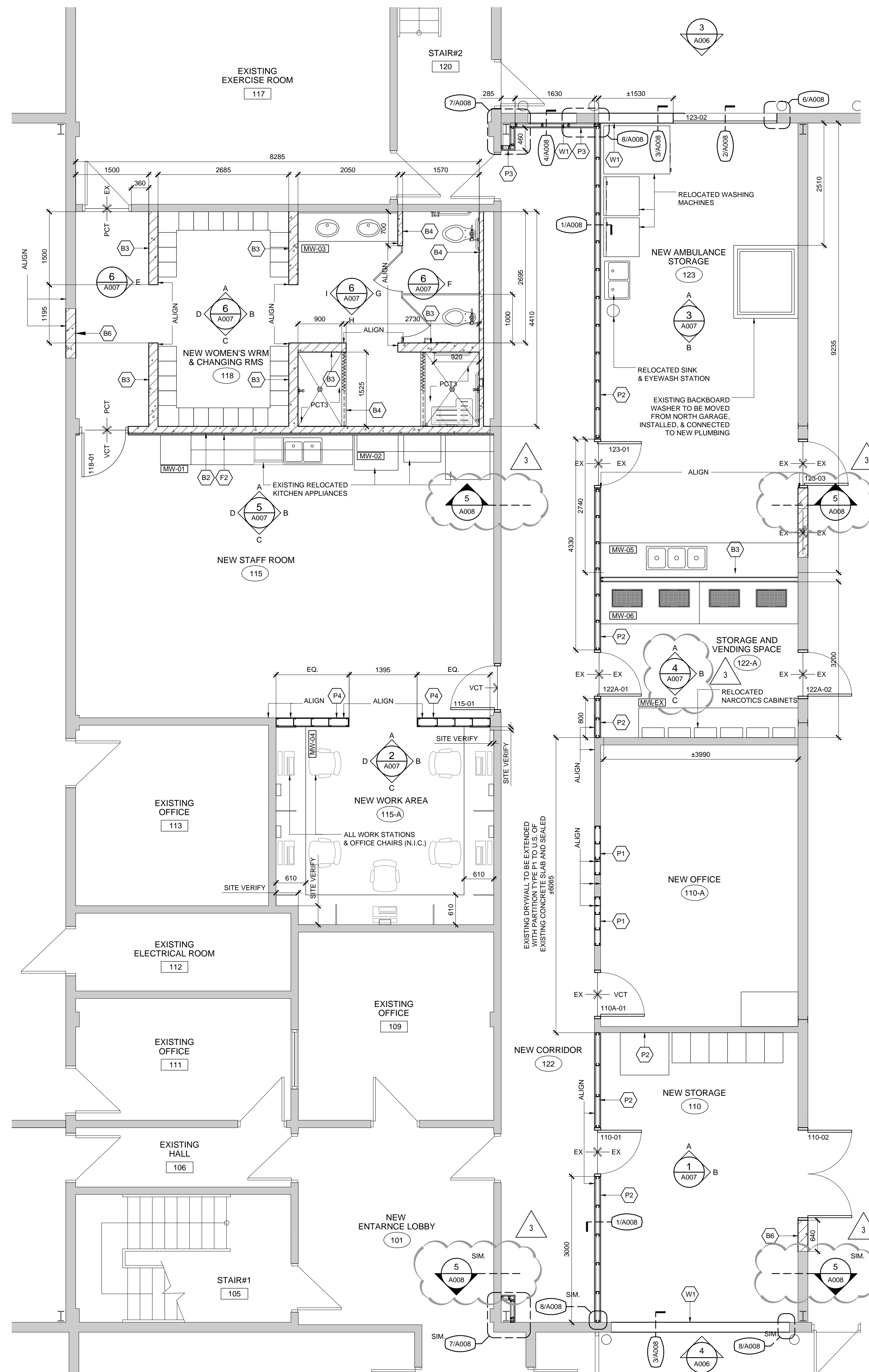
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Date: _____

Seals



2 WORK AREA 1 DEMOLITION PLAN
SCALE: 1:50



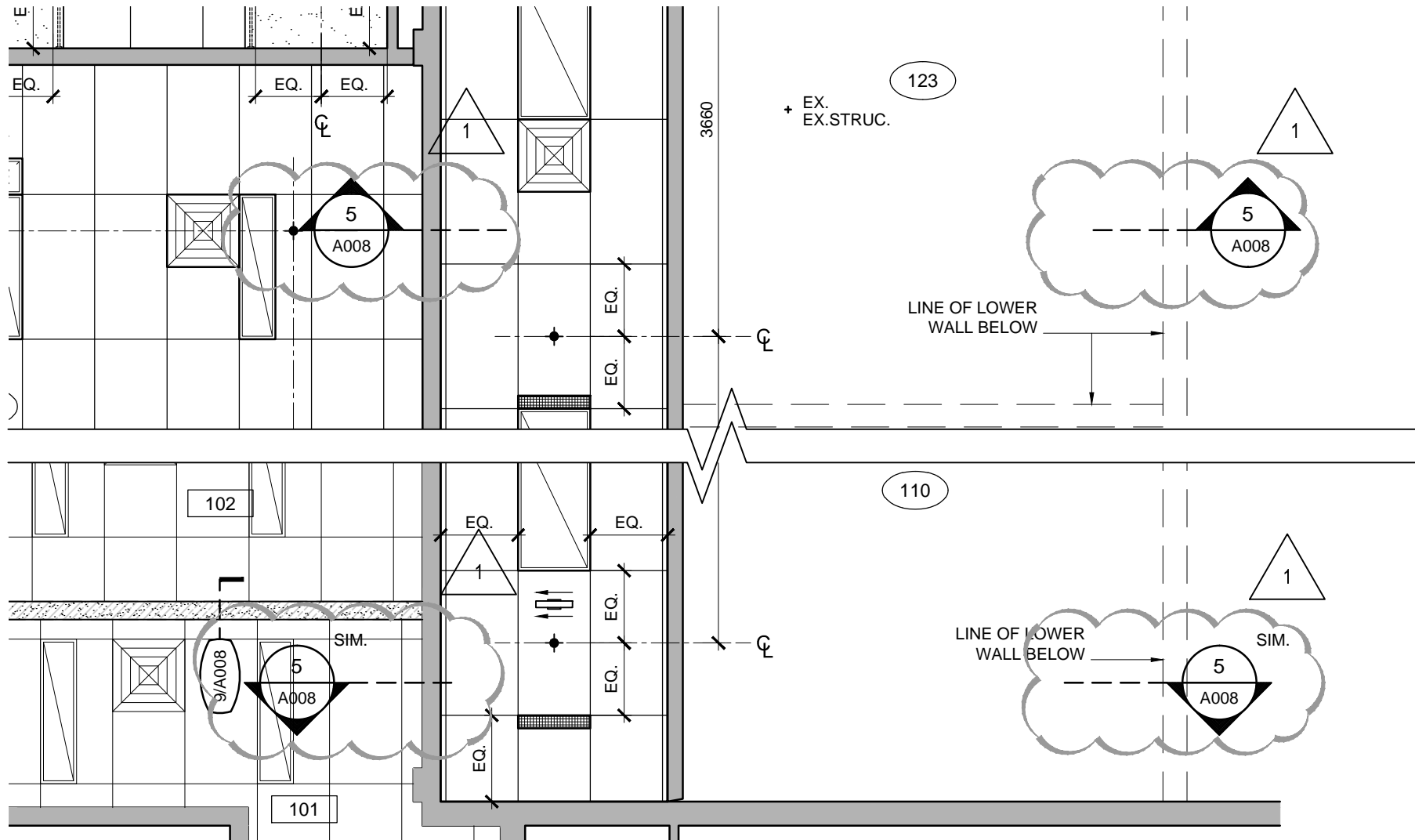
1 WORK AREA 1 RENOVATION PLAN
SCALE: 1:50

05	FOR ADDENDUM NO. 4	2013-09-11
04	FOR ADDENDUM NO. 2	2013-09-03
04	FOR ADDENDUM NO. 1	2013-08-28
03	ISSUED FOR TENDER	2013-05-07
02	ISSUED FOR CLIENT REVIEW	2013-02-14
01	ISSUED FOR PRICING	2012-10-19
No.	Issues/Revisions	Date

Drawing Title:
**GROUND LEVEL
DEMOLITION AND
RENOVATION PLAN**

Issue Date: 2013-09-11
Drawn by: PM Checked by: DP
Project No.: 11103-07 Scale: 1:50

Drawing No.: **A004**

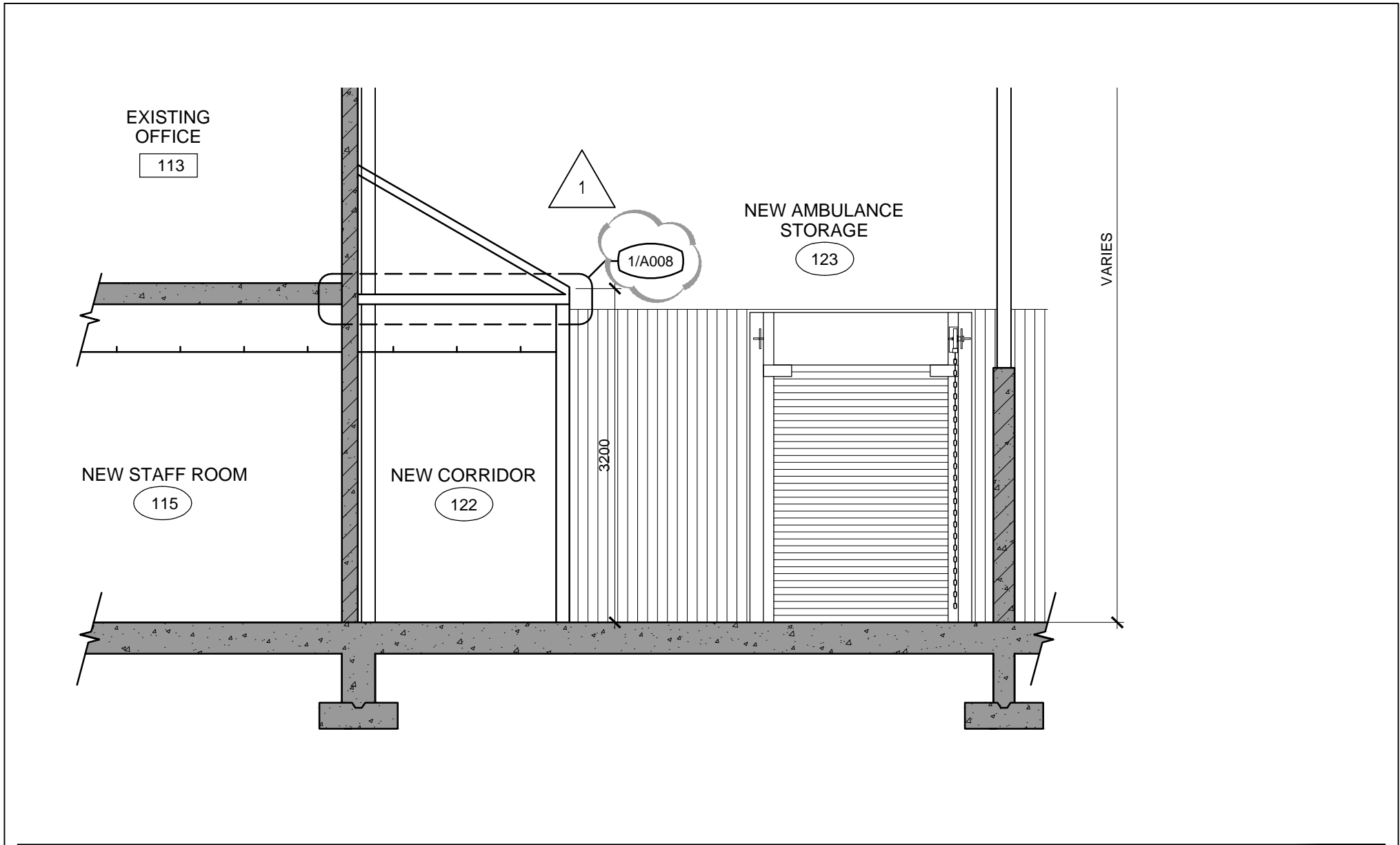


Sheet No:	SDA-001	Title:	WORK AREA 1
Issued for:	Add. No. 4		RENOVATION RCP
Scale:	1:50		
Date:	2013-09-11		
Ref:	1/A005	By:	PM
		Chk:	DP

No.: 11103-07

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TENDER C13-55-13
FIRE STATION 30
RENOVATIONS



Sheet No:	SDA-002	Title:	SECTION
Issued for:	Add. No. 4		
Scale:	1:50		
Date:	2013-09-11		
Ref:	5/A008	By:	PM
		Chk:	DP

No.: 11103-07

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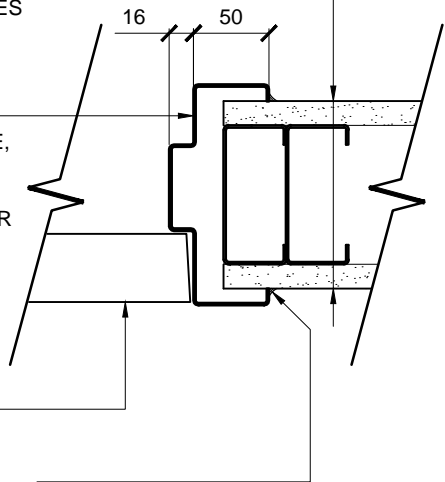
TENDER C13-55-13
FIRE STATION 30
RENOVATIONS

P1 OR P2. REFER TO PLAN FOR PARTITION TYPES

PAINTED HOLLOW METAL DOOR FRAME, ALIGN FRAME W/ EXISTING DOOR FRAME AT CORRIDOR WALL

PAINTED HOLLOW METAL DOOR

CONT. SEALANT ALL AROUND FRAME BOTH SIDES, SEALANT COLOUR TO MATCH DOOR

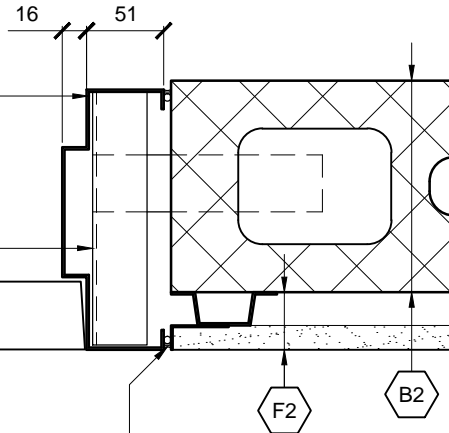


PAINTED HOLLOW METAL FRAME FILLED SOLID W/ GROUT

MASONRY STRAP ANCHOR

PAINTED HOLLOW METAL DOOR

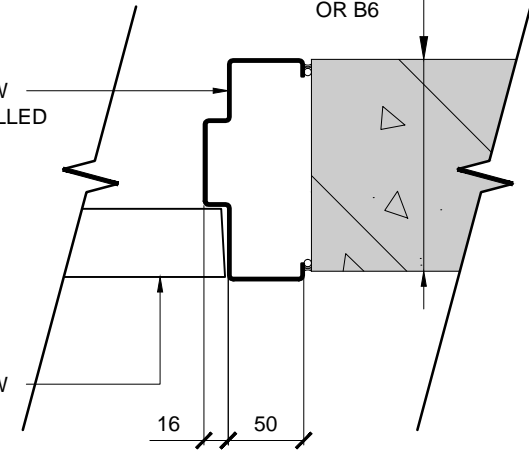
CONT. GWB EDGE TRIM W/ SEALANT AND CONT. FOAM BACKER ROD, SEALANT COLOUR TO MATCH DOOR



PAINTED HOLLOW METAL FRAME FILLED SOLID W/ GROUT

PAINTED HOLLOW METAL DOOR

EXISTING BLOCK WALL OR B6

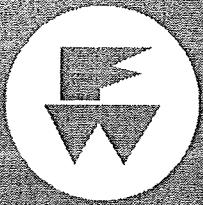


Sheet No:	SDA-003	Title:	FRAME PROFILES
Issued for:	Add. No. 4		
Scale:	1:5		
Date:	2013-09-13		
Ref:	10/A008	By:	PM
		Chk:	DP

No.: 11103-07

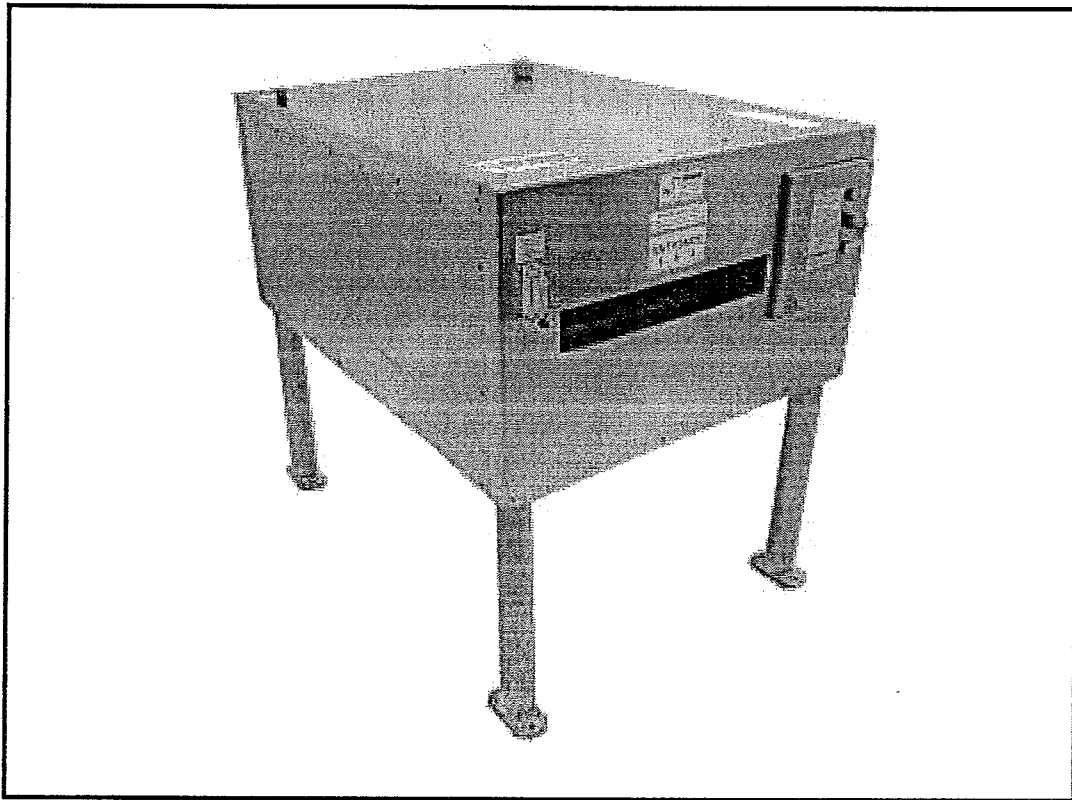
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TENDER C13-55-13
FIRE STATION 30
RENOVATIONS



FERNO

Users' Manual



Bio-Board Technologies by Ferno **Backboard Washer**

April 2003 GLO

Pub. No. 234-3243-00

Disclaimer

This manual contains general instructions for the use, operation and care of this product. The instructions are not all-inclusive. Safe and proper use of this product is solely at the discretion of the user. Safety information is included as a service to the user. All other safety measures taken by the user should be within and under consideration of applicable regulations. It is recommended that training on the proper use of this product be provided before using this product in an actual situation.

Retain this manual for future reference. Include it with the product in the event of transfer to new users. Additional free copies are available upon request from Customer Relations.

Proprietary Notice

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1 - SAFETY INFORMATION

1.1 Danger

The following danger alert appears in this manual.

DANGER

Electric shock can cause death or serious injury. Install, use, operate, and maintain the backboard washer only as described in this manual.

1.2 Warning

The following warnings appear in this manual.

WARNING

Improper use of the backboard washer can cause injury. Use the backboard washer only for the purpose described in this manual.

Improper operation can cause injury. Operate the backboard washer only as described in this manual.

Reaching into the entrance or exit portals can cause injury. Keep hands outside the backboard washer.

Improper maintenance can cause injury. Maintain the backboard washer only as described in this manual.

Modifying the backboard washer can cause injury and damage. Use the backboard washer only as designed by Ferno.

Improper parts and service can cause injury. Use only Ferno parts and Ferno-approved service on the backboard washer.

1.3 Important

Boxes like the one below emphasize important information.

Important

If the yellow Disinfectant Low light is lit, the disinfectant reservoir is empty and the backboard washer will not operate. Refill the reservoir before restarting the backboard washer.

1.4 Safety and Instruction Labels

Safety and instruction labels place important information on the backboard washer.

Read and follow label instructions. Replace worn or damaged labels immediately. New labels are available from Customer Relations or from your Ferno distributor (page 13).

1.5 Bloodborne Disease Notice

To reduce the risk of exposure to bloodborne diseases such as HIV-1 and Hepatitis, wear disposable examination gloves when operating the backboard washer.

2 - ABOUT THE BACKBOARD WASHER

2.1 Backboard Washer Description

The Bio-Board Technologies by Ferno Backboard Washer (referred to in this manual as the backboard washer) is designed to quickly disinfect and clean backboards. It can accommodate all standard backboards, as well as Ferno's EXL Scoop. The backboard washer is for professional use only.

The backboard washer is a stationary, sealed stainless steel unit with internal jets that dispense disinfectant and a constant stream of hot water. Rotating internal brushes clean backboards as they are fed through the backboard washer one at a time.

The backboard washer can be installed indoors, or outdoors inside an appropriate shelter.

The backboard washer is for use with backboards at least 60 inches in length and a maximum of 20 inches wide.

2.2 General Specifications

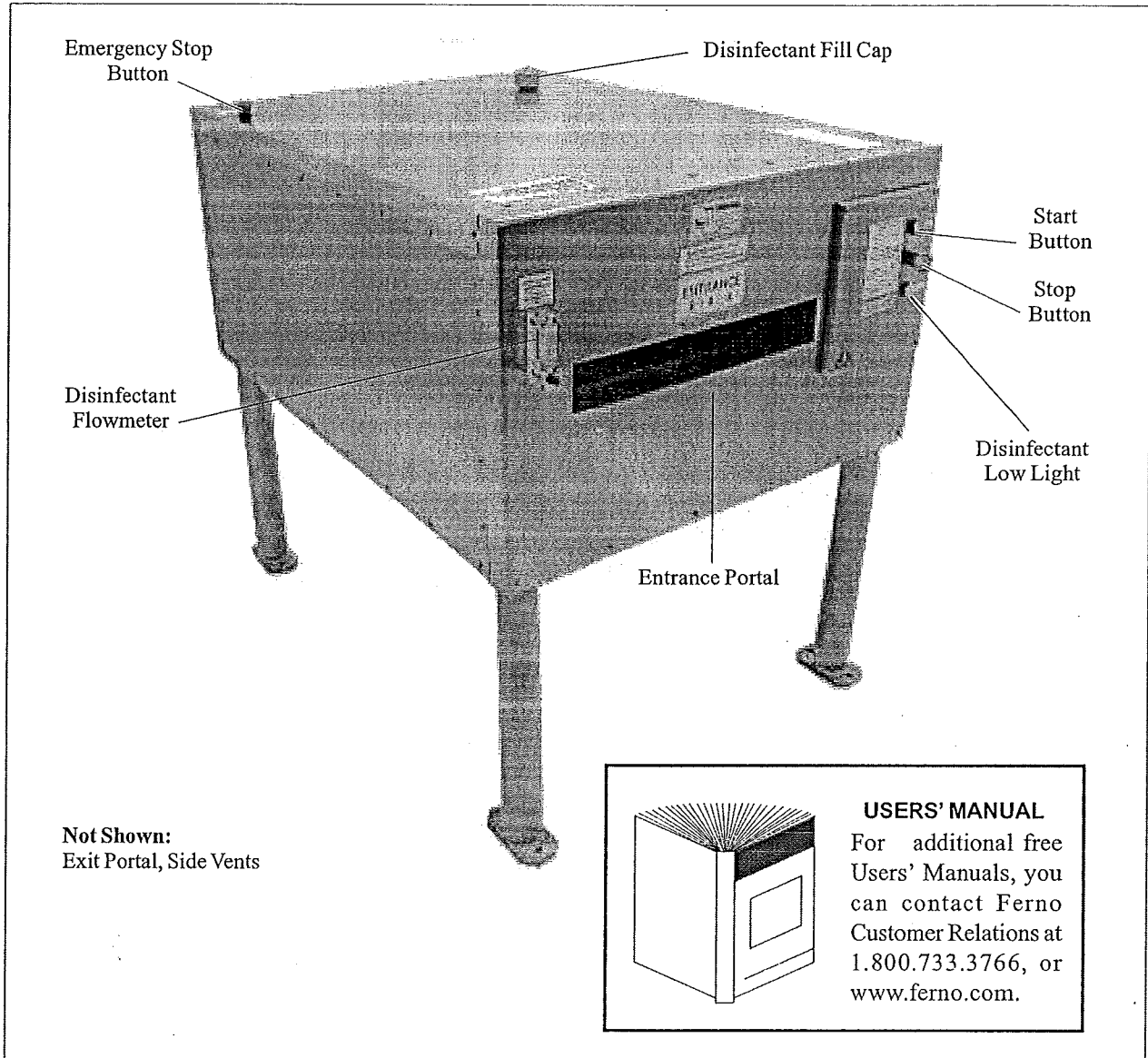
Overall Height.....	47 in (119 cm)
From floor to bottom of backboard washer.....	22 in (56 cm)
Length.....	50 in (127 cm)
Width.....	37 in (94 cm)
Weight.....	401 lb (182 kg)
Entrance/Exit Portals.....	3-1/4 in x 20-3/8 in (8.3 x 51.8 cm)
Disinfectant Capacity.....	9 gal (34 ltr)
Drain Size.....	2 in (5 cm)
Volts.....	120 V AC
Amps.....	20
Hz.....	60
Backboard minimum length.....	60 in (152 cm)
Backboard maximum width.....	20 in (51 cm)
Backboard maximum depth.....	3 in (8 cm)

General specifications are rounded to the nearest whole number. Metric conversions are calculated before rounding the English measurements. For more information, contact Ferno Customer Relations (page 13) or your Ferno distributor. Ferno reserves the right to change specifications without notice.

WARNING

Improper use of the backboard washer can cause injury. Use the backboard washer only for the purpose described in this manual.

2.3 Components



3 - INSTALLING THE BACKBOARD WASHER

3.1 Site Setup

The backboard washer can be installed indoors or outdoors. If it is installed outdoors, it must be installed inside a shelter where it is not exposed to harsh elements or freezing temperatures.

Both sides of the backboard washer must be positioned at least two feet away from the walls of the room or shelter in which it is installed. The backboard washer can be bolted to the floor (hardware not supplied) or fitted with four adjustable feet that are shipped with the unit. Whether installed indoors or outdoors, the backboard washer must be kept level to operate properly.

Prepare the installation site to local code. The backboard washer must be hardwired by a qualified electrician to a 120 V AC junction box with disconnect capability so the power can be turned off if the machine requires service. Refer to the wiring schematic shipped with the backboard washer.

All plumbing must meet the National Plumbing Code, at minimum. Check with your local government for additional local codes affecting your area.

Have a qualified plumber install a 3/4-inch diameter hard or flex hot water line hookup from the water supply to the backboard washer. A 3/4-inch diameter NPT (National Pipe Thread) female fitting is factory-installed.

If a backflow preventer is required by code, contact Ferno Customer Relations, page 13.

The factory-installed drain hookup must be connected to a 2-inch schedule 40 PVC drain pipe. Refer to the plumbing schematic shipped with the backboard washer.

3.2 Attaching the Adjustable Feet

The backboard washer is shipped with four adjustable feet that can be attached to keep it level. The backboard washer must be level to operate properly.

To install the adjustable feet, unpack them and screw them into the threaded holes in the base of the legs. Use an adjustable wrench to adjust each foot until the backboard washer is level.

**DANGER**

Electric shock can cause death or serious injury. Install, use, operate, and maintain the backboard washer only as described in this manual.

4 - USING THE FEATURES

4.1 Control Panel

The control panel (Figure 1) is on the entrance end of the backboard washer. It contains a green START button, a red STOP button and a yellow DISINFECTANT LOW light.

For instructions on using the STOP and START buttons, see *Operating the Backboard Washer*, page 11.

The DISINFECTANT LOW light comes on when the disinfectant reservoir is empty. The backboard washer will not start if the DISINFECTANT LOW light is on.

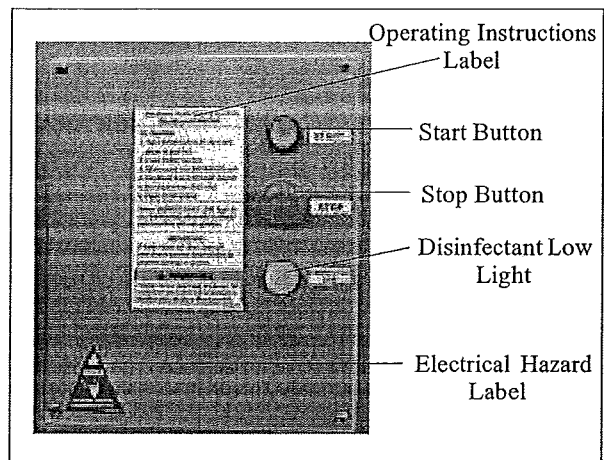


Figure 1 - Control Panel

4.2 Emergency Stop Button

The EMERGENCY STOP button is located on top of the backboard washer near the exit end (Figure 2).

Note: The STOP button on the entrance end of the backboard washer also can be used as an emergency stop.

To restart after stopping the backboard washer with either the EMERGENCY STOP or STOP button:

1. Twist the EMERGENCY STOP or STOP button to the right until it pops out.
2. Push the START button at the entrance end of the machine.

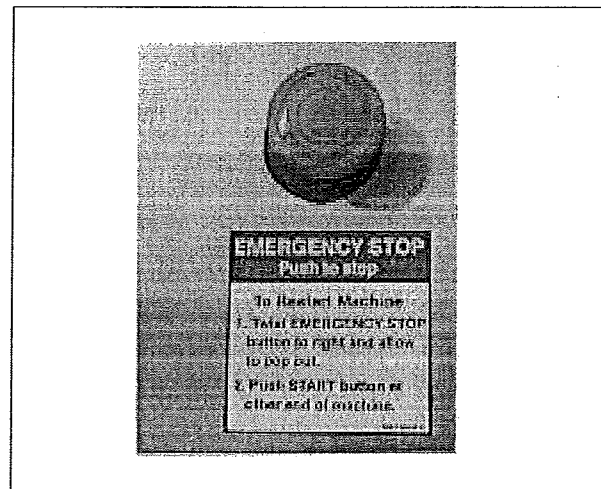


Figure 2 - Emergency Stop Button

4.3 Disinfectant Flowmeter

The disinfectant flowmeter (Figure 3) increases or decreases the number of ounces of disinfectant per gallon of water mixed and sprayed on a backboard.

Follow the disinfectant manufacturer's directions for use. The flowmeter should be set by authorized personnel to produce the disinfectant manufacturer's recommended mixture of disinfectant and water.

Turn the flowmeter knob clockwise to reduce the flow of disinfectant. Turn the knob counterclockwise to increase the flow.

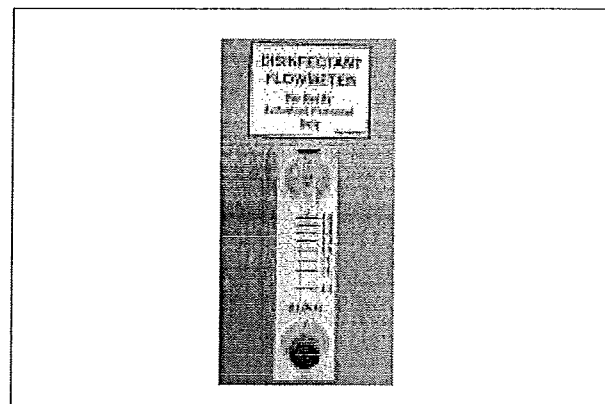


Figure 3 - Disinfectant Flowmeter

4.4 Disinfectant Reservoir

The disinfectant reservoir holds nine gallons of disinfectant, which is sprayed on the backboard as it passes through the backboard washer.

If the yellow DISINFECTANT LOW light (Figure 1, page 8) is lit, the disinfectant reservoir is empty. This will cause the backboard washer to stop. It cannot be restarted until the reservoir is filled.

To fill the reservoir:

1. Unscrew the disinfectant fill cap on top of the backboard washer.
2. Fill the reservoir with a disinfectant approved by your local city, county, or state government for disposal in sanitary drains (Figure 4).
3. Replace the cap.

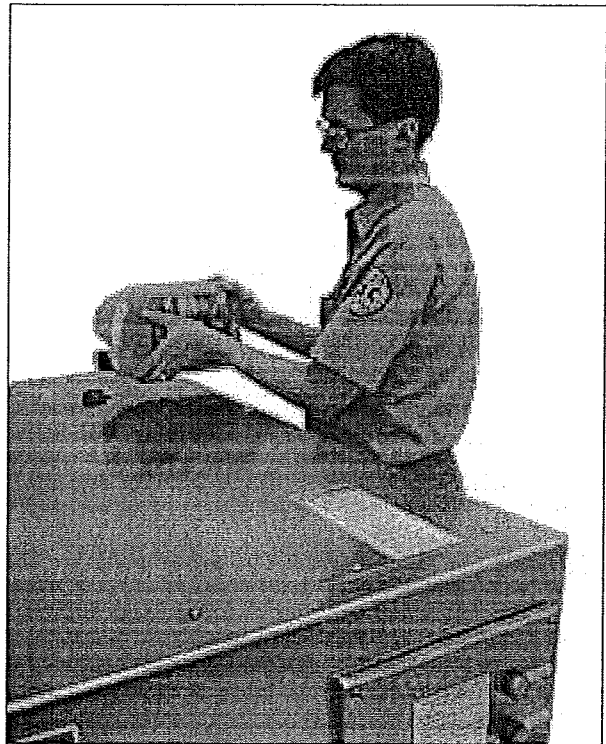


Figure 4 - Filling the Disinfectant Reservoir

Important

If the yellow Disinfectant Low light is lit, the disinfectant reservoir is empty and the backboard washer will not operate. Refill the reservoir before restarting the backboard washer.

5 - USING THE BACKBOARD WASHER

5.1 Before Placing the Backboard Washer in Service

- Personnel who will work with the backboard washer need to read this manual.
- Install the backboard washer, following instructions in *Installing the Backboard Washer*, page 7.
- Follow the instructions in *Inspecting the Backboard Washer*, page 12, to confirm that the backboard washer operates properly.

5.2 General Guidelines for Use

- The backboard washer is for professional use only.
- Using the backboard washer requires one operator.
- Use and operate the backboard washer as described in this manual.
- Use the backboard washer only when it is in proper working order.
- Do not leave the backboard washer unattended while it is running.



DANGER

Electric shock can cause death or serious injury. Install, use, operate, and maintain the backboard washer only as described in this manual.



WARNING

Improper operation can cause injury. Operate the backboard washer only as described in this manual.

5.3 Operating the Backboard Washer

The backboard washer is designed for the operator to push the backboard through the entrance portal and pull it out from the exit portal. The backboard washer cleans one backboard at a time.

1. Wear disposable examination gloves to help protect yourself from contaminants while handling the backboard.
2. Check the DISINFECTANT LOW light. If it is lit, the disinfectant reservoir is empty and the backboard washer will not start until you refill the reservoir (see page 9).
3. Remove all straps, head immobilizers and any other items from the backboard.
4. Twist the STOP or EMERGENCY STOP button to the right until it pops out. (You must use the button that was last used to stop the backboard washer.)
5. Push the START button.

Note: If the water doesn't flow, turn off the backboard washer immediately to prevent damage to the pump.

6. Grasp the sides of the backboard with both hands and slowly push it into the entrance portal (Figure 5).

Note: If a backboard is extremely soiled, you can move it back and forth through the interior brushes a few times before you push it completely through the backboard washer.

7. Push the backboard through the backboard washer until it protrudes from the exit portal, then move to the exit end and pull the backboard out of the portal. (Figure 6).
8. Push the STOP button on the entrance end of the backboard washer.



WARNING

Reaching into the entrance or exit portals can cause injury. Keep hands outside the backboard washer.

Important

If the yellow Disinfectant Low light is lit, the disinfectant reservoir is empty and the backboard washer will not operate. Refill the reservoir before restarting the backboard washer.

Important

If water does not flow, turn off the backboard washer immediately to prevent damage to the pump.

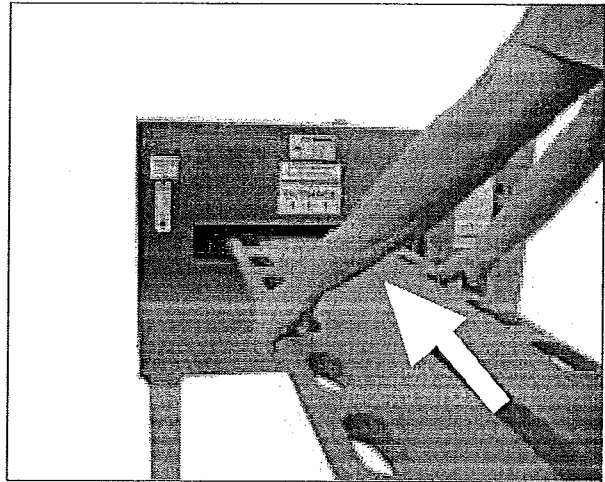


Figure 5 - Pushing a Backboard Into the Entrance Portal

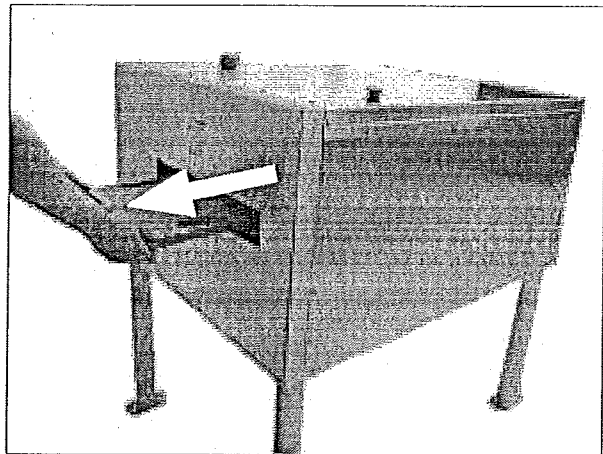


Figure 6 - Pulling a Backboard from the Exit Portal

6 - MAINTAINING THE BACKBOARD WASHER

6.1 Maintenance Schedule

The backboard washer requires regular maintenance. Set up and follow a maintenance schedule. The table at right represents minimum maintenance.

When using maintenance products, follow the manufacturers' directions and read the manufacturers' material safety data sheets.

In the U.S.A., contact Ferno Customer Relations to order Ferno disinfectants and cleaners (page 13).

Maintenance Schedule	Each Use	As Needed	Each Month
Cleaning (this page)		•	
Polishing (this page)			•
Inspecting (this page)		•	•

6.2 Cleaning the Backboard Washer

Clean exterior surfaces of the backboard washer with a nonabrasive cleanser. Follow the manufacturer's directions for use. Wipe dry after cleaning.

▲ WARNING

Improper maintenance can cause injury. Maintain the backboard washer only as described in this manual.

6.3 Polishing the Backboard Washer

Clean the backboard washer before polishing it. Apply a stainless steel polish to the exterior surfaces of the backboard washer once a month.

▲ WARNING

Modifying the backboard washer can cause injury and damage. Use the backboard washer only as designed by Ferno.

6.4 Inspecting the Backboard Washer

Have your equipment maintenance personnel follow the instructions in *Using the Backboard Washer*, pages 10 and 11, and check the following:

- Are all exterior components present?
- Are all visible screws, nuts, and bolts securely in place?
- Do the START, STOP and EMERGENCY STOP buttons operate properly?
- Does the DISINFECTANT LOW light come on when the disinfectant reservoir is empty?
- Is there any evidence of water leakage?

If inspection shows damage or leakage, remove the backboard washer from service until repair is made (see *Ferno Customer Relations*, page 13).

Important

Water under high pressure can penetrate the air vents and damage the motor. Do not use a high-pressure washer, or steam, to clean the backboard washer.

Important

Cleaners containing bleach, phenolics, or iodines can cause damage. Disinfect and clean only with products that do not contain these chemicals.

Important

Using abrasive cleaning compounds or applicators on the backboard washer can cause damage. Do not use abrasive materials to clean the backboard washer.

7 - LIMITED WARRANTY

Limited Warranty Summary

Ferno-Washington, Inc. (Ferno), warrants the products we manufacture to be free from defects in material and workmanship for one year except as follows:

- (A) External finishes (gelcoat, decals, paint, etc.) are warranted for 90 days.
- (B) Repairs and services are warranted for 90 days or until the end of the time period(s) above, whichever comes last.

This limited warranty applies when you use and care for the product properly. If the product is not used and cared for properly, the warranty is void. The warranty period begins the day the product is shipped from Ferno or the day you receive it if you have proof of the delivery date. Shipping charges are not covered by the limited warranty. We are not liable for shipping damages or damages sustained through using the product.

Limited Warranty Obligation

If a product or part is proven to be defective, Ferno will repair or replace it. At our option, we will refund the product's purchase price. The purchaser accepts these terms in lieu of all damages.

This is a summary of the limited warranty. The actual terms and conditions of the limited warranty, and the limitations of liability and disclaimers, are available upon request by calling 1.800.733.3766 or 1.937.382.1451.

8 - FERNO CUSTOMER RELATIONS

Customer service and product support are important aspects of each Ferno product.

In the U.S.A. and Canada, for assistance with the backboard washer please contact Ferno Customer Relations, below:

Telephone.....1.800.733.3766
 Telephone.....1.937.382.1451
 Fax.....1.937.382.1191

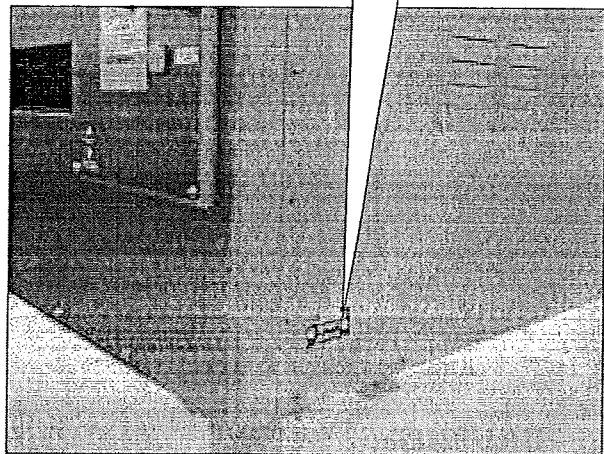
Outside the U.S.A. and Canada, for assistance with the backboard washer please contact your Ferno distributor, or Ferno Customer Relations as listed below:

Telephone (Worldwide).....+ 1.937.382.1451
 Fax (Outside U.S.A.).....+ 1.937.382.6569
 Internet.....www.ferno.com

WARNING

Improper parts and service can cause injury. Use only Ferno parts and Ferno-approved service on the backboard washer.

Serial Number _____



Please have the serial number of your backboard washer available when calling Ferno Customer Relations, and include it in all written communications.

TRAINING RECORD		
Date	Name	Training Method