FERMILAB
ENGINEERING NOTE

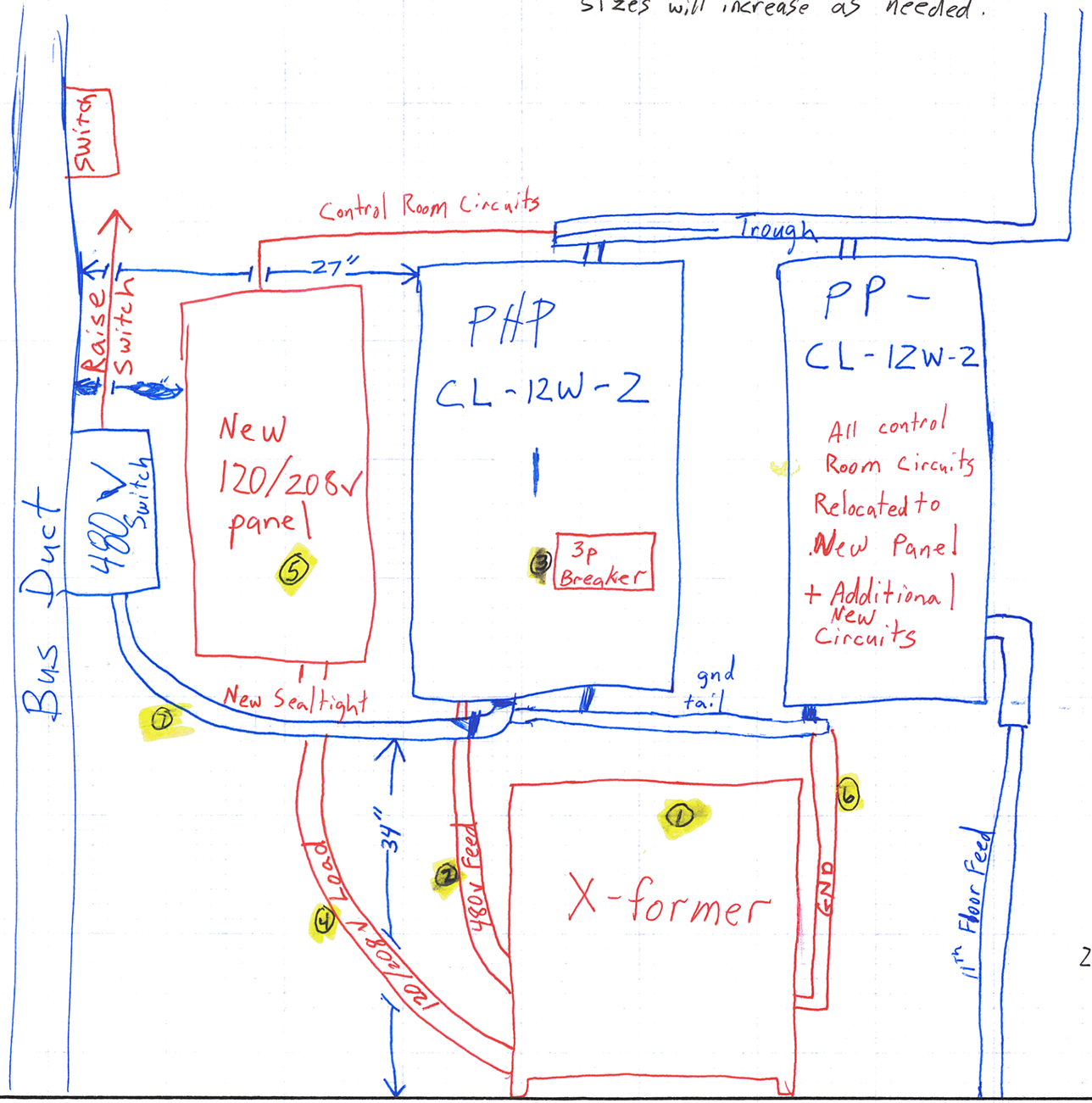
SECTION	PROJECT	SERIAL-CATEGORY	PAGE

SUBJECT: WH12W Electrical Closet Upgrade

NAME: Dave Featherston
DATE: 6-21-10
REVISION DATE:

If deemed wanted or necessary, transformer could be increased to 45KVA and a 100A breaker installed on secondary. Pipe and wire sizes will increase as needed.

Option 1



Existing
New

1. 30 KVA Transformer
2. 3/4" Sealtight w/ 3-#8's + #10 gnd
3. 45A 3p Breaker
4. 1½" Sealtight w/ 4-#2 + #6 gnd
5. 20 circuit 120/208V panel 3ph w/ [redacted] Main Lug
6. #6 ground conductor
7. Lengthen Sealtight to raise Switch

OPTION 1

Preferred option - but Requires bus duct shutdown to raise bus duct Switch to make space needed for new panel.

Pros

1- Dedicated panel for Control Rm
2- Additional breaker space in PP-CL-12W-2
3- Future Control Rm shutdowns will not affect Building
4- Lessens load on 11th Floor panel

Cons

1- Shutdown of Bus Duct will shut down west side of Wilson Hall
2- Requires opening PHP to lengthen feeding sealtight

Not To Scale

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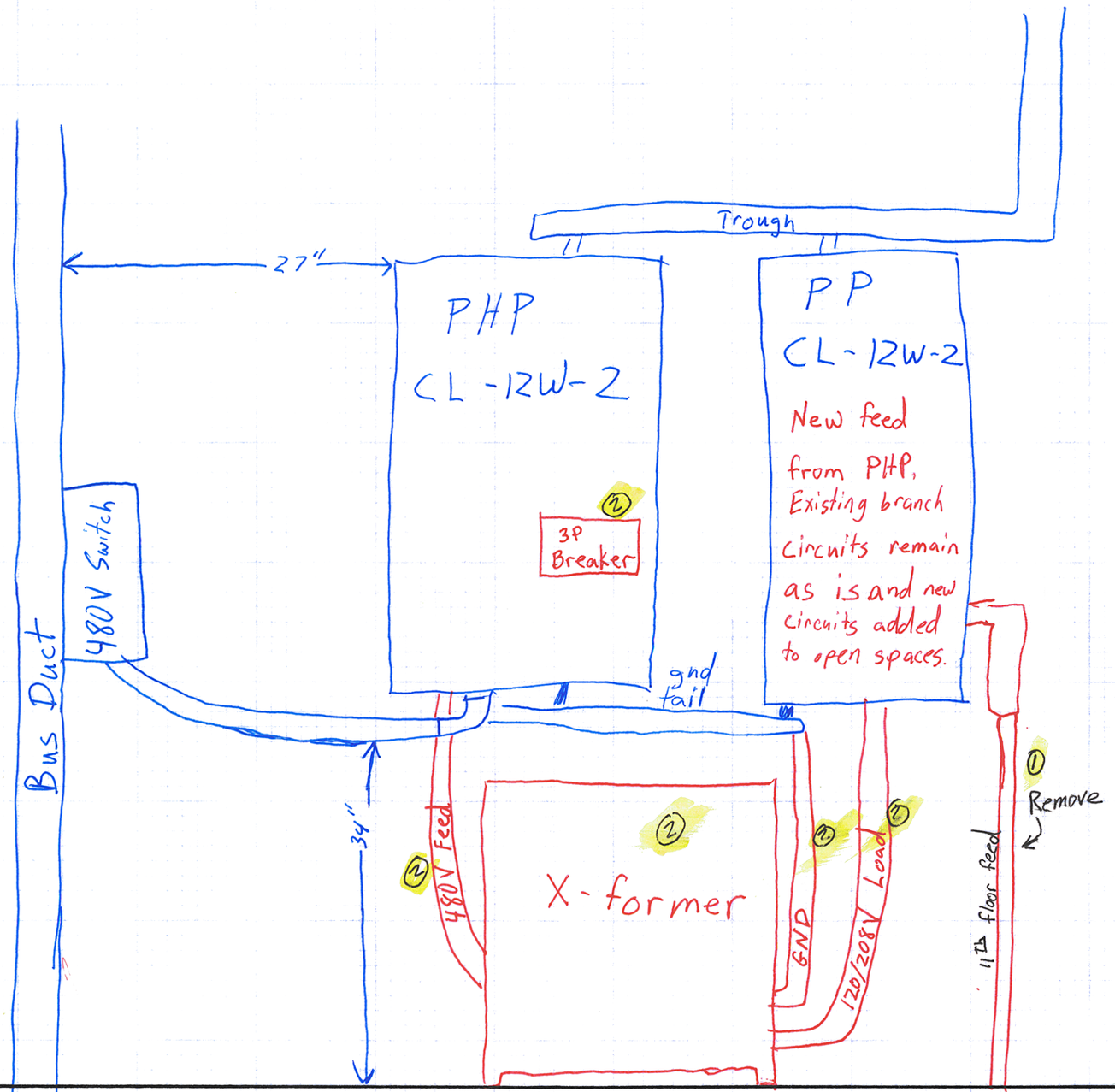
Option-2



Not to Scale

— Existing —

— New or change —

① Remove existing Panel feed

② All sizes same as option 1

Option 2

Uses more breaker space in PP-CL-12W-2 but will have a larger dedicated feed.

Pros

① No shutdown of riser bus duct

② $ Less expensive

③ Increases PP-CL-12W-2 from 60A to 80A power

④ Lessens load on 11Th floor panel

Cons

① Use breaker spaces existing PP-CL-12W-2

② Requires shutdown of 120V panels on 10Th, 11Th & 12Th floor to remove existing feeders

③ No dedicated panel for Control Rm.