

NOT FOR CONSTRUCTION

5	ISSUED FOR TENDER	15/01/28
4	ISSUED FOR 99% DESIGN REVIEW	16/01/06
3	ISSUED FOR 66% DESIGN REVIEW	15/11/25
2	ISSUED FOR 33% DESIGN REVIEW	15/10/28
1	ISSUED FOR DESIGN DEVELOPMENT	15/09/11
0		

Revision/Description/Date/Date

Client/client

ESQUIMALT GRAVING DOCK

825 ADMIRALS ROAD
VICTORIA, BC, V9A 2P1

Project title/Titre du projet
**825 ADMIRALS ROAD VICTORIA BC
ESQUIMALT GRAVING DOCK
ELECTRICAL SAFETY UPGRADE**

**SOUTH SUBSTATION
SWITCHGEAR
REPLACEMENT
(SSSR)**

Consultant Signature Box Only

Designed by/Concept par
I. BARNES
Drawn by/Dessiné par
J. BIELING / S. SEYMOUR
PWSSC Project Manager/Administrateur de Projets TPSGC
Jamie LeBlanc
PWSSC Regional Manager, Architectural and Engineering Services/
Gestionnaire régionale, Services d'architecture et de génie, TPSGC
Preitpal Paul

Drawing title/Titre du dessin

**EXISTING
MAIN SUBSTATION
SINGLE LINE DIAGRAM**

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.062548.2	5900	5

GENERAL NOTES:
1. THIS DRAWING IS BASED ON EXISTING EGD PROVIDED AS BUILTS AND MAY NOT INCLUDE ALL CHANGES MADE SINCE THE SYSTEM WAS INSTALLED. CONTRACTOR TO VERIFY SITE CONDITIONS PRIOR TO COMMENCING ANY WORK ON SYSTEM.

REFERENCE DRAWINGS

REF. No.	Description
1	FPE 58804-W1, REV. 2
2	FPE SC-1118-A, REV. 5 (1980)
3	FPE SC-1118-A, REV. 5 (1985)
4	FPE SC-1118-W2, REV. 3
5	FPE SC-1120-W1, REV. 3 (1980)
6	SMPPOWER/ITTI 12894-171 THRU 176 (2002)
7	FPE SB-6164-W1, REV. 6 (1983)
8	SOUTHSIDE SUBSTATION 1-LINE
9	NORTH LANDING WHARF 1-LINE
10	PUMPHOUSE 1-LINE
11	STANDBY SYSTEM 1-LINE
12	NUMBERING SYSTEM
13	E1 of 3 PWSSC #846332 (KIEEL BLOCK)
14	PENINSULA W.W. (AES 2002)
15	MAIN SUBSTATION PANEL SCHEDULES

TEMPORARY NOTES:

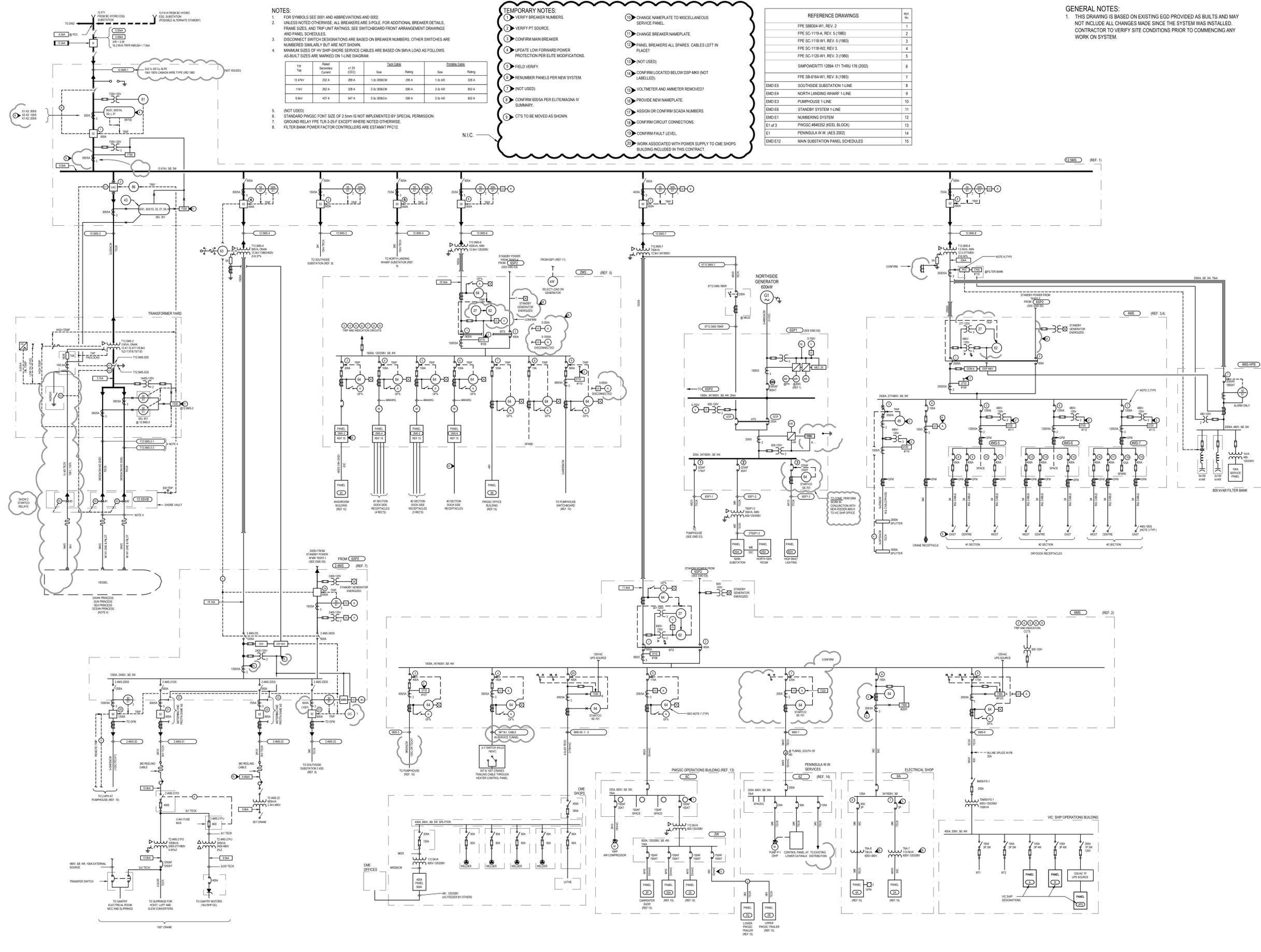
- VERIFY BREAKER NUMBERS
- VERIFY PT SOURCE
- CONFIRM MAIN BREAKER
- UPDATE LOW FORWARD POWER PROTECTION PER ELITE MODIFICATIONS.
- FIELD VERIFY.
- RENUMBER PANELS PER NEW SYSTEM.
- (NOT USED)
- CONFIRM 6000A PER ELITE/MAGNA V SUMMARY.
- CTS TO BE MOVED AS SHOWN.
- CHANGE NAMEPLATE TO MISCELLANEOUS SERVICE PANEL.
- CHANGE BREAKER NAMEPLATE
- PANEL BREAKERS ALL SPARES. CABLES LEFT IN PLACE?
- (NOT USED)
- CONFIRM LOCATED BELOW DSP-MKI (NOT LABELLED).
- VOLTMETER AND AMMETER REMOVED?
- PROVIDE NEW NAMEPLATE.
- ASSIGN OR CONFIRM SCADA NUMBERS.
- CONFIRM CIRCUIT CONNECTIONS.
- CONFIRM FAULT LEVEL.
- WORK ASSOCIATED WITH POWER SUPPLY TO ONE SHOPS BUILDING INCLUDED IN THIS CONTRACT.

NOTES:

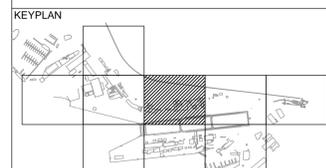
- FOR SYMBOLS SEE 0001 AND ABBREVIATIONS AND 0002 UNLESS NOTED OTHERWISE. ALL BREAKERS ARE 3 POLE. FOR ADDITIONAL BREAKER DETAILS, FRAME SIZES, AND TRIP UNIT RATINGS, SEE SWITCHBOARD FRONT ARRANGEMENT DRAWINGS AND PANEL SCHEDULES.
- DISCONNECT SWITCH DESIGNATIONS ARE BASED ON BREAKER NUMBERS. OTHER SWITCHES ARE NUMBERED SIMILARLY BUT ARE NOT SHOWN.
- MINIMUM SIZES OF HV SHIP-SHORE SERVICE CABLES ARE BASED ON SMDA LOAD AS FOLLOWS. AS-BUILT SIZES ARE MARKED ON 1-LINE DIAGRAM.
- (NOT USED)
- STANDARD PWSSC FONT SIZE OF 2.5mm IS NOT IMPLEMENTED BY SPECIAL PERMISSION.
- GROUNDING RELAY FPE TLB-R-25A EXCEPT WHERE NOTED OTHERWISE.
- FILTER BANK POWER FACTOR CONTROLLERS ARE ESTIMAT PFC12.

TRIP	FRAME	TRIP	TRIP	TRIP	TRIP	TRIP	TRIP
TRIP	TRIP	TRIP	TRIP	TRIP	TRIP	TRIP	TRIP
12.47KV	251 A	200 A	1-3/3200CM	250 A	1-3/40	350 A	
11KV	202 A	50 A	3-3/3200CM	50 A	2-3/40	60 A	
6.8KV	47 A	547 A	3-3/3200CM	50 A	2-3/40	60 A	

N.I.C.



REFERENCE DRAWING ONLY
ORIGINAL DRAWING No. EMD E2



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ESQUIMALT GRAVING DOCK

825 ADMIRALS ROAD VICTORIA, BC, V9A 2P1

Project title/Titre du projet
825 ADMIRALS ROAD VICTORIA BC ESQUIMALT GRAVING DOCK ELECTRICAL SAFETY UPGRADE

SOUTH SUBSTATION SWITCHGEAR REPLACEMENT (SSSR)

Consultant Signature Box Only

Designed by/Concept par
I. BARNES

Drawn by/Dessiné par
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Jamie LeBlanc

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Preetpal Paul

Drawing title/Titre du dessin

EXISTING PUMPHOUSE SINGLE LINE DIAGRAM

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.062548.2	5901	5

GENERAL NOTES:
 1. THIS DRAWING IS BASED ON EXISTING EGD PROVIDED AS BUILTS AND MAY NOT INCLUDE ALL CHANGES MADE SINCE THE SYSTEM WAS INSTALLED. CONTRACTOR TO VERIFY SITE CONDITIONS PRIOR TO COMMENCING ANY WORK ON SYSTEM.

REFERENCE DRAWINGS	REF. No.
EMD E1 NUMBERING SYSTEM	1
EMD E2 MAIN SUBSTATION 1-LINE	2
EMD E4 NORTH LANDING WHARF 1-LINE	3
EMD E5 SOUTH SIDE SUBSTATION 1-LINE	4
EMD E6 STANDBY POWER SYSTEM 1-LINE	5
SOFTAC D-2672, REV. 2 (1998)	6
EMD E13 PUMPHOUSE PANEL SCHEDULES	7

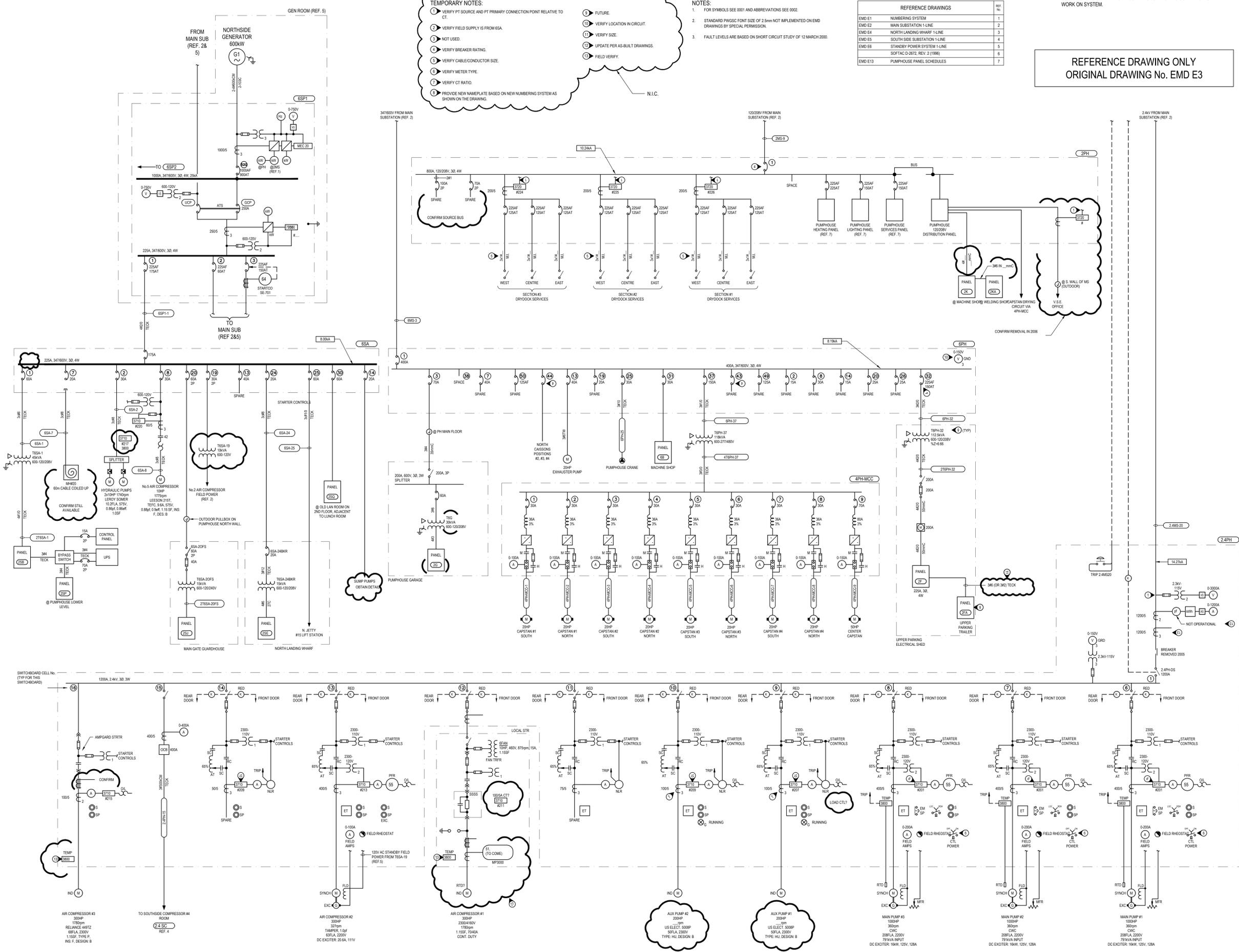
REFERENCE DRAWING ONLY
 ORIGINAL DRAWING No. EMD E3

TEMPORARY NOTES:
 1. VERIFY PT SOURCE AND PT PRIMARY CONNECTION POINT RELATIVE TO CT.
 2. VERIFY FIELD SUPPLY IS FROM GSA.
 3. NOT USED.
 4. VERIFY BREAKER RATING.
 5. VERIFY CABLE/CONDUCTOR SIZE.
 6. VERIFY METER TYPE.
 7. VERIFY CT RATIO.
 8. PROVIDE NEW NAMEPLATE BASED ON NEW NUMBERING SYSTEM AS SHOWN ON THE DRAWING.

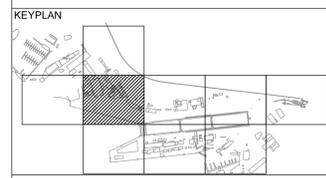
NOTES:
 1. FOR SYMBOLS SEE 0001 AND ABBREVIATIONS SEE 0002.
 2. STANDARD FINISH FONT SIZE OF 2.5mm NOT IMPLEMENTED ON EMD DRAWINGS BY SPECIAL PERMISSION.
 3. FAULT LEVELS ARE BASED ON SHORT CIRCUIT STUDY OF 12 MARCH 2000.

LEGEND:
 (F) FUTURE
 (L) VERIFY LOCATION IN CIRCUIT
 (S) VERIFY SIZE
 (U) UPDATE PER AS-BUILT DRAWINGS
 (V) FIELD VERIFY

N.I.C.



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 Pkg. Name: H:\PROJECTS\2015\15-158\EMD\3\Drawn\0101_Pn_533.Dwg
 PW/GSC - B1 - 1000X707



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825 ADMIRALS ROAD
VICTORIA, BC, V9A 2P1

Project title/Titre du projet
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ESQUIMALT GRAVING DOCK
ELECTRICAL SAFETY UPGRADE**

**SOUTH SUBSTATION
SWITCHGEAR
REPLACEMENT
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Gestionnaire régionale, Services d'architecture et de génie, TPSGC
Preetpal Paul

Drawing title/Titre du dessin

**EXISTING
NORTH LANDING WHARF
SINGLE LINE DIAGRAM**

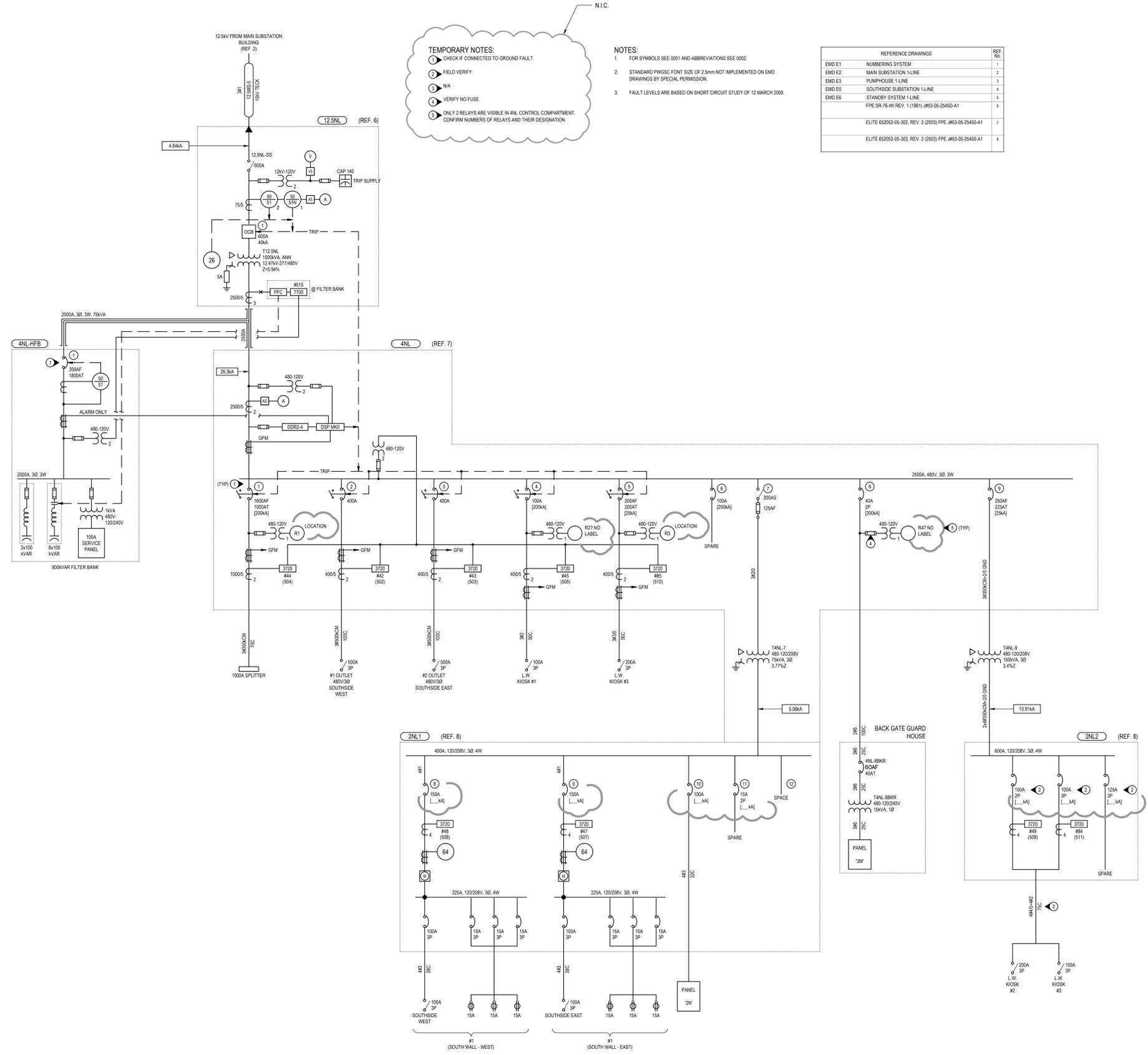
Project No./No. du projet R.062548.2	Sheet/Feuille 5902	Revision no./ La Révision no. 5
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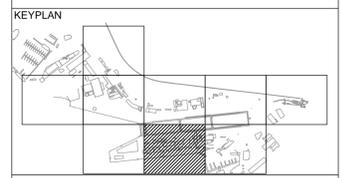
REFERENCE DRAWINGS	REF. NO.
EMD E1 NUMBERING SYSTEM	1
EMD E2 MAIN SUBSTATION 1-LINE	2
EMD E3 PLUMPHOUSE 1-LINE	3
EMD E5 SOUTHSIDE SUBSTATION 1-LINE	4
EMD E6 STANDBY SYSTEM 1-LINE	8
EMD E6 FPE SR-76-WI REV. 1 (1981) JMS3-05-2545D-A1	4
ELITE 62002-05-302, REV. 2 (2003) FPE JMS3-05-2545D-A1	7
ELITE 62002-05-303, REV. 2 (2003) FPE JMS3-05-2545D-A1	8

NOTES:
1. FOR SYMBOLS SEE 0001 AND ABBREVIATIONS SEE 0002.
2. STANDARD PWSC FONT SIZE OF 2.5mm NOT IMPLEMENTED ON EMD DRAWINGS BY SPECIAL PERMISSION.
3. FAULT LEVELS ARE BASED ON SHORT CIRCUIT STUDY OF 12 MARCH 2000.

TEMPORARY NOTES:
1. CHECK IF CONNECTED TO GROUND FAULT.
2. FIELD VERIFY
3. N/A
4. VERIFY NO FUSE.
5. ONLY 2 RELAYS ARE VISIBLE IN 4NL CONTROL COMPARTMENT. CONFIRM NUMBERS OF RELAYS AND THEIR DESIGNATION.



REFERENCE DRAWING ONLY
ORIGINAL DRAWING No. EMD E4



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0		

Client/client

ESQUIMALT GRAVING DOCK

825 ADMIRALS ROAD
VICTORIA, BC, V9A 2P1

Project title/Titre du projet
**825 ADMIRALS ROAD VICTORIA BC
ESQUIMALT GRAVING DOCK
ELECTRICAL SAFETY UPGRADE**

**SOUTH SUBSTATION
SWITCHGEAR
REPLACEMENT
(SSSR)**

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Preitpal Paul

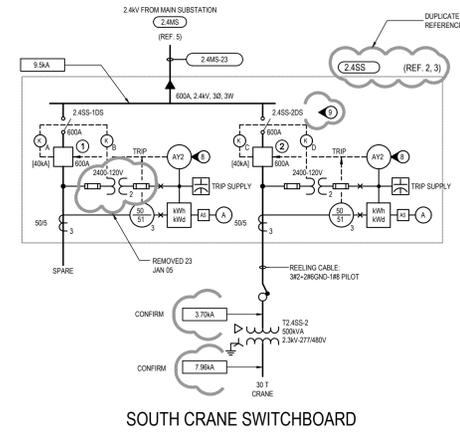
Drawing title/Titre du dessin

**EXISTING
SOUTH SIDE SUBSTATION
SINGLE LINE DIAGRAM**

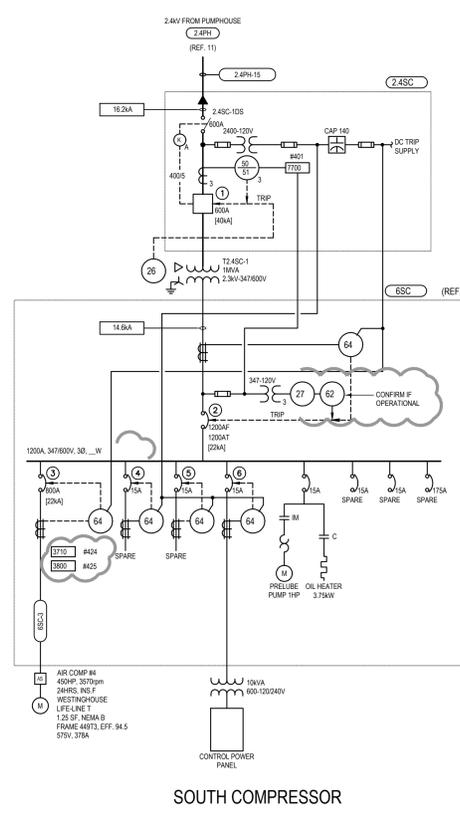
Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.062548.2	5903	5

OWG	REFERENCE DRAWINGS	REF. No.
-	#PRELIM 155-WL REV. 4 (1990)	1
-	#PFE 58 6185-WL REV. 1 (1988)	2
-	#PFE 58 6185-WL REV. 1 (1988)	3
-	#PFE 58 342-WL REV. 2 (1983)	4
EMD E2	MAIN SUBSTATION 1-LINE	5
EMD E75	4SS2 FRONT ARRANGEMENT	6
EMD E77	2SS2 FRONT ARRANGEMENT	7
EMD E435	480V GPM SYSTEM	8
EMD E5	STANDBY SYSTEM 1-LINE	9
EMD E1	NUMBERING SYSTEM	10
EMD E3	PUMPHOUSE 1-LINE	11

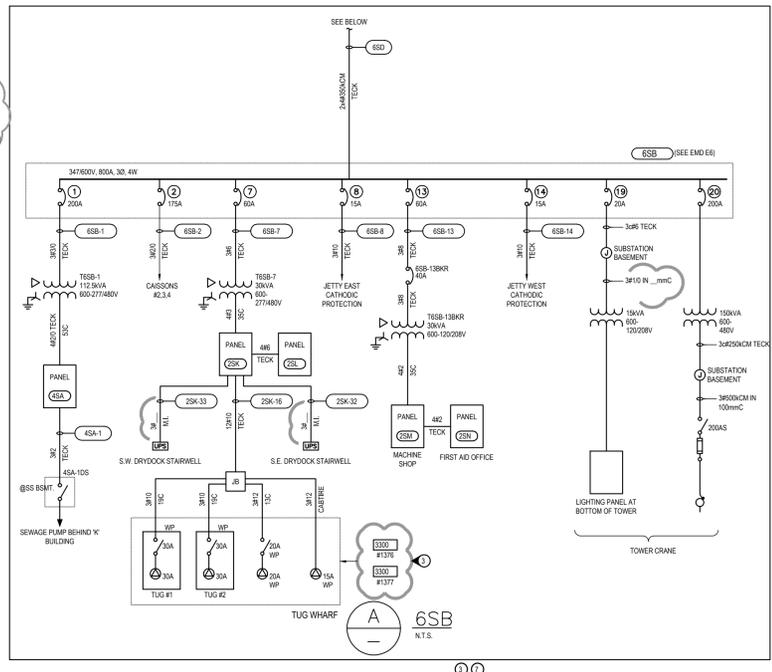
- GENERAL NOTES:**
- THIS DRAWING IS DERIVED FROM PWSSC PROJECT NO. 84538 AS BUILT DRAWING NO. E5 OF 21 REV. 2.
 - UNLESS NOTED OTHERWISE, ALL BREAKERS ARE 3-POLE. FOR ADDITIONAL BREAKER DETAILS, SEE SWITCHBOARD FRONT ARRANGEMENT DRAWINGS AND PANEL SCHEDULES.
 - FOR FEEDER GROUND FAULT TRIP PRIORITIES, SEE SWITCHBOARD FRONT ARRANGEMENT DRAWINGS.
 - 52-4 IS NOT SHOWN ON THIS DRAWING PER REF. 1.
 - STANDARD PWSSC FONT SIZE OF 2.5mm IS NOT IMPLEMENTED ON EMD DRAWINGS BY SPECIAL PERMISSION.
 - FOR SYMBOLS SEE 001 AND ABBREVIATIONS SEE 002.



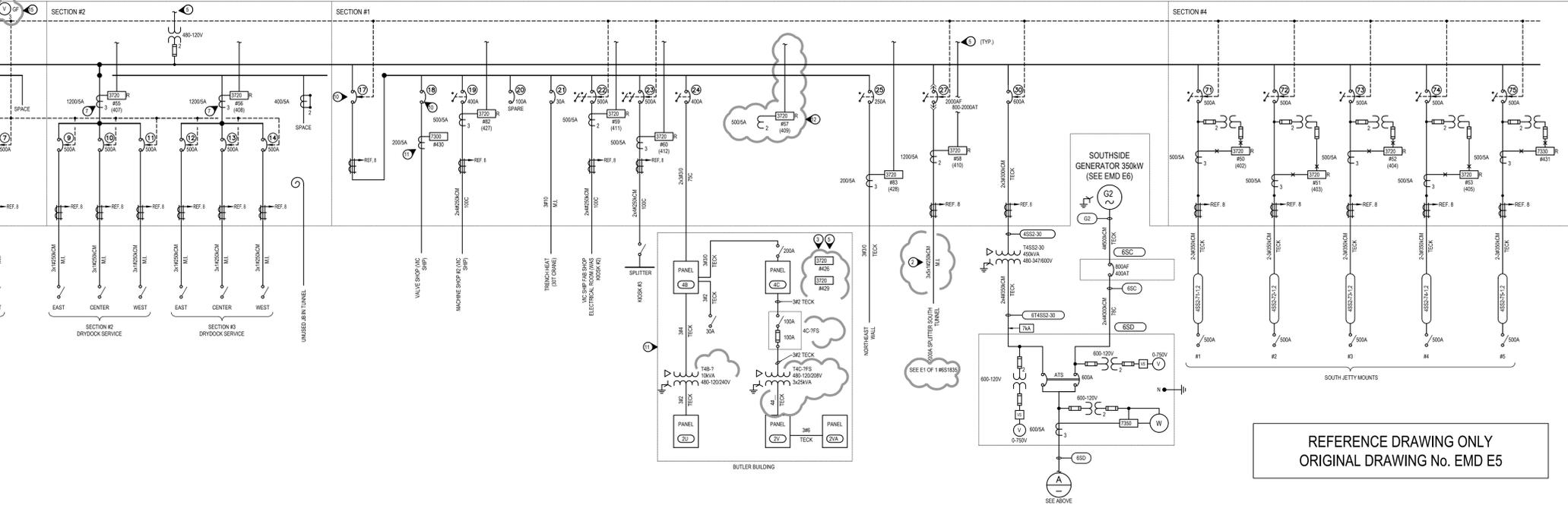
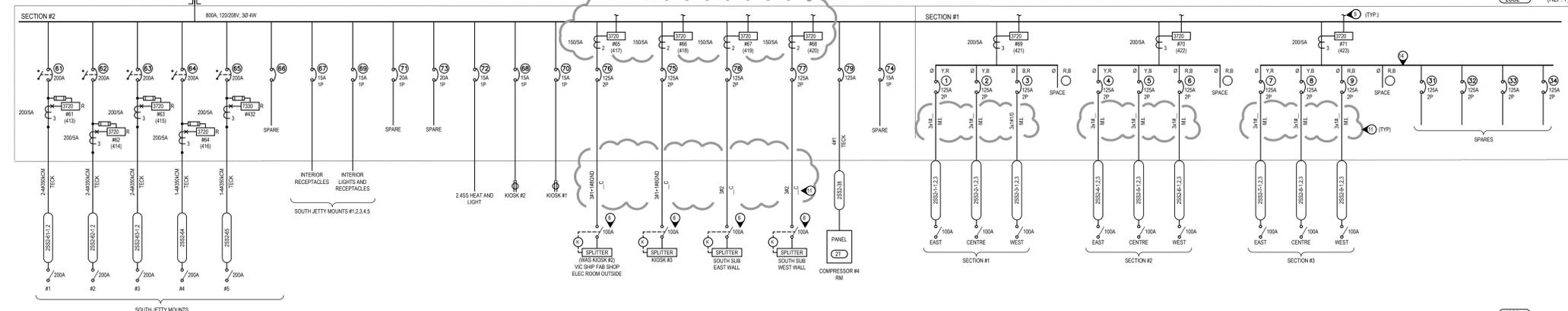
SOUTH CRANE SWITCHBOARD



SOUTH COMPRESSOR



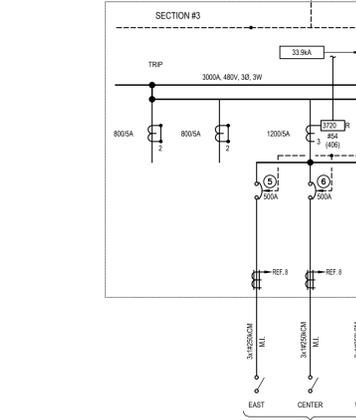
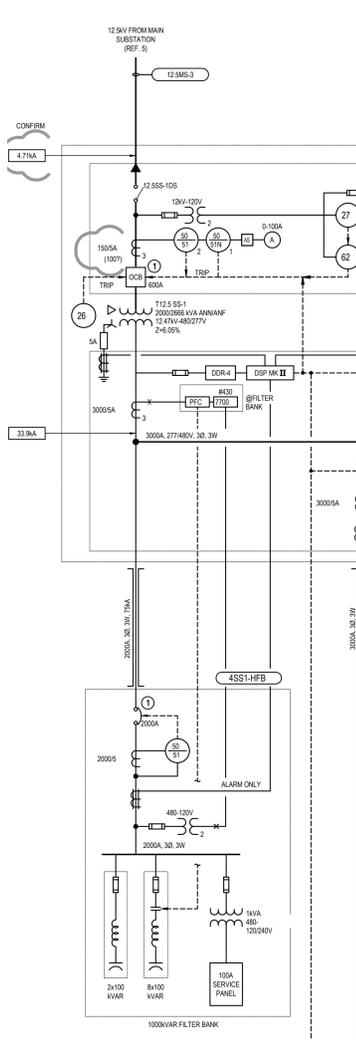
TUG WHARF

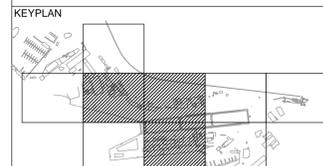


REFERENCE DRAWING ONLY
ORIGINAL DRAWING No. EMD E5

- TEMPORARY NOTES:**
- VERIFY INTERNAL DISTRIBUTION.
 - VERIFY NO. OF PARALLEL CABLES.
 - VERIFY CT RATIO.
 - VERIFY I.C. RATING OF 52-4SS1-3.
 - VERIFY P.T. SOURCE.
 - INVESTIGATE IF SWITCH RATING IS ADEQUATE.
 - VERIFY 2 OR 3 CT'S.
 - PAC 2A31-1 PER ELITE-307
 - CHANGE NAMEPLATE
 - VERIFY BREAKER TRIP UNIT RATING.
 - FIELD VERIFY.
 - CONFIRM METER NUMBERS AND IDENTIFY BREAKER.
 - FAULT LEVEL TO COME.
 - VERIFY IF SPARES ARE CONNECTED TO SECTION #3 BUS OR THE MAIN BUS.
 - VERIFY CONNECTION.

- GENERAL NOTES:**
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ESQUIMALT GRAVING DOCK

825 ADMIRALS ROAD
VICTORIA, BC, V9A 2P1

Project title/Titre du projet
**825 ADMIRALS ROAD VICTORIA BC
ESQUIMALT GRAVING DOCK
ELECTRICAL SAFETY UPGRADE**

**SOUTH SUBSTATION
SWITCHGEAR
REPLACEMENT
(SSSR)**

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Preetpal Paul

Drawing title/Titre du dessin

**EXISTING
STANDBY POWER SYSTEM
SINGLE LINE DIAGRAM**

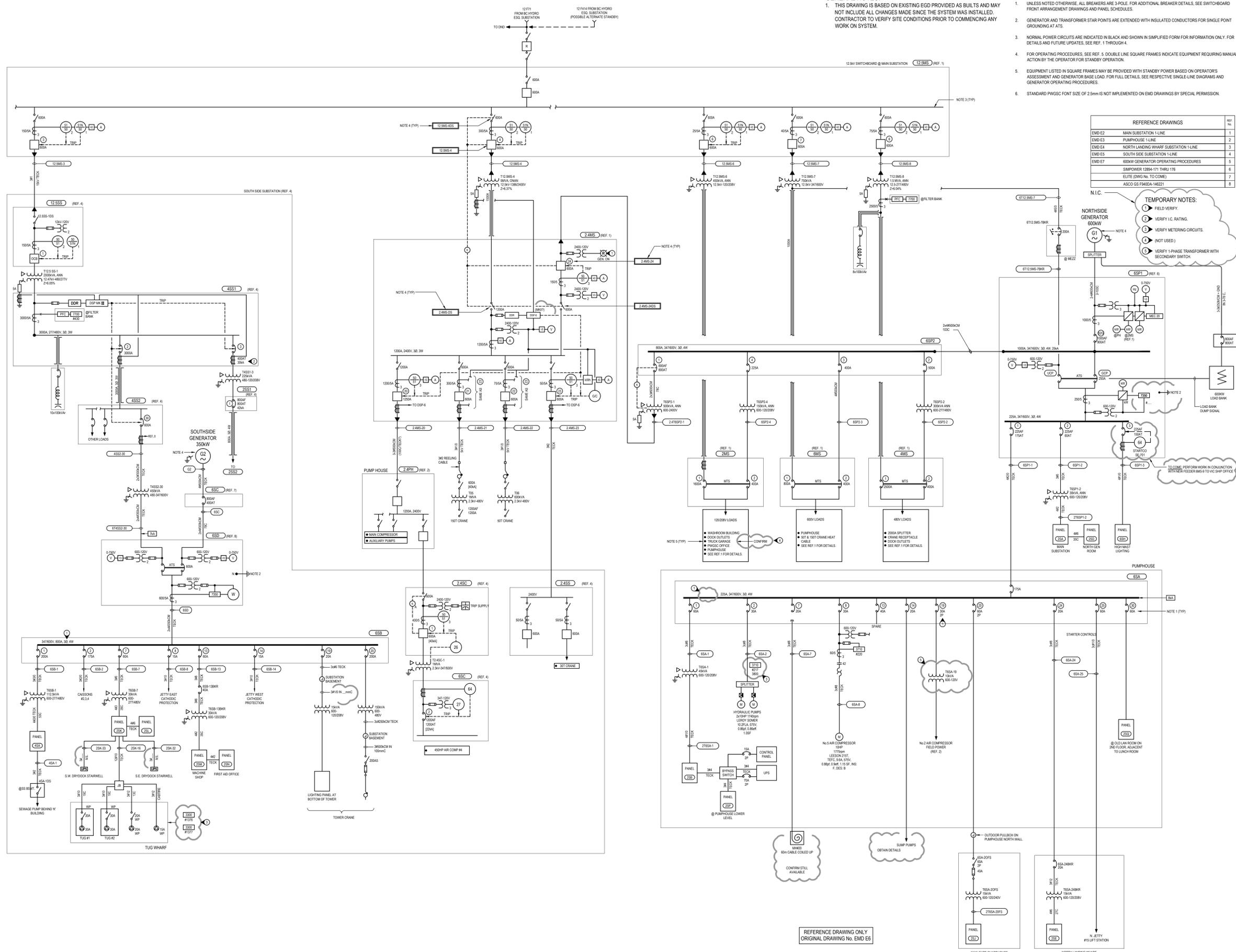
Project No./No. du projet R.062548.2	Sheet/Feuille 5904	Revision no./ La Révision no. 5
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NOTES:

- UNLESS NOTED OTHERWISE, ALL BREAKERS ARE 3-POLE. FOR ADDITIONAL BREAKER DETAILS, SEE SWITCHBOARD FRONT ARRANGEMENT DRAWINGS AND PANEL SCHEDULES.
- GENERATOR AND TRANSFORMER STAR POINTS ARE EXTENDED WITH INSULATED CONDUCTORS FOR SINGLE POINT GROUNDING AT ATS.
- NORMAL POWER CIRCUITS ARE INDICATED IN BLACK AND SHOWN IN SIMPLIFIED FORM FOR INFORMATION ONLY. FOR DETAILS AND FUTURE UPDATES, SEE REF. 1 THROUGH 4.
- FOR OPERATING PROCEDURES, SEE REF. 5. DOUBLE LINE SQUARE FRAMES INDICATE EQUIPMENT REQUIRING MANUAL ACTION BY THE OPERATOR FOR STANDBY OPERATION.
- EQUIPMENT LISTED IN SQUARE FRAMES MAY BE PROVIDED WITH STANDBY POWER BASED ON OPERATOR'S ASSESSMENT AND GENERATOR BASE LOAD. FOR FULL DETAILS, SEE RESPECTIVE SINGLE-LINE DIAGRAMS AND GENERATOR OPERATING PROCEDURES.
- STANDARD PWSSC FONT SIZE OF 2.5mm IS NOT IMPLEMENTED ON EMD DRAWINGS BY SPECIAL PERMISSION.

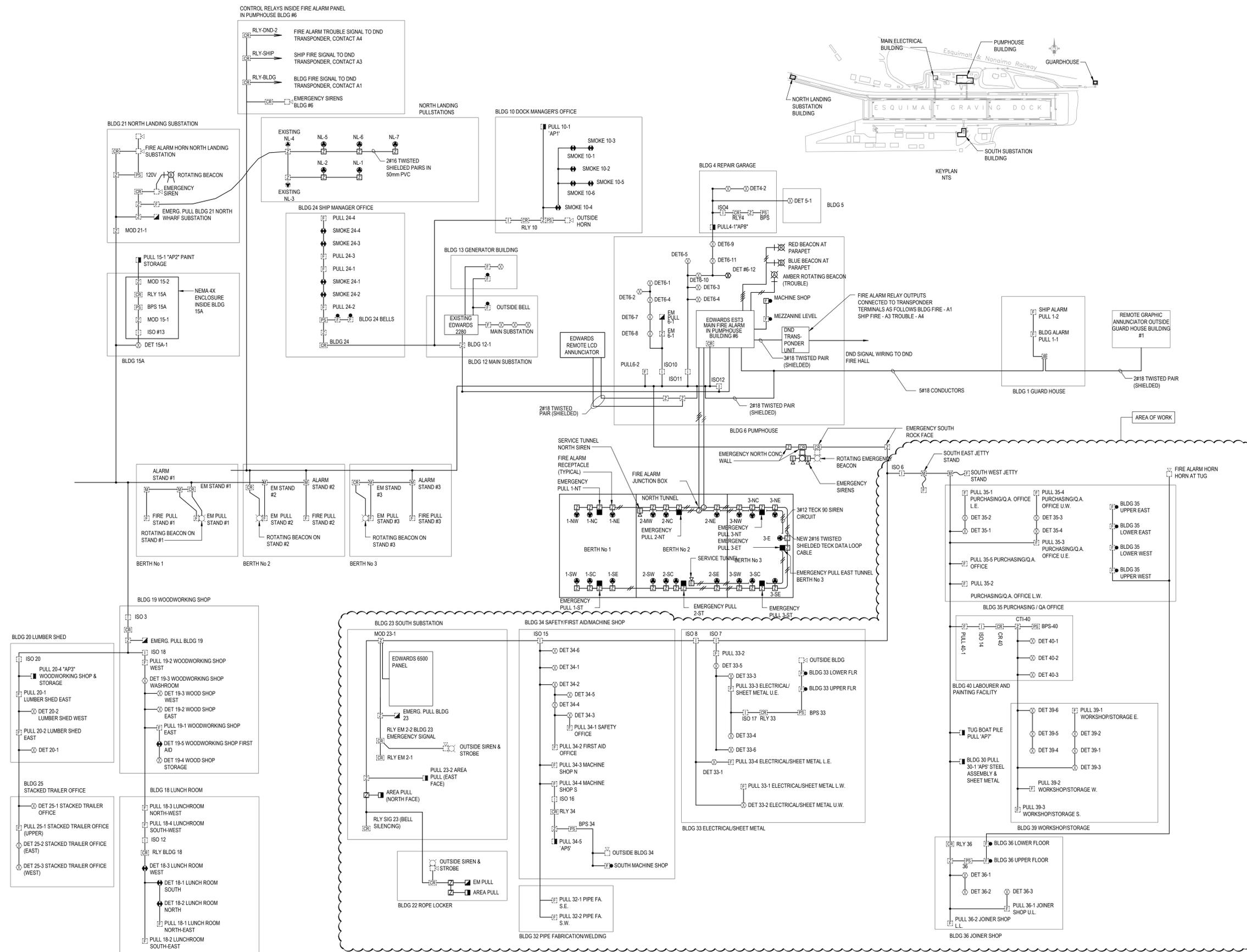




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- ALL EQUIPMENT IS EXISTING UNLESS OTHERWISE NOTED.



1
5923
EXISTING EGD
FIRE ALARM SYSTEM
NTS

Revision/Revisions	Description/Description	Date/Date
5	ISSUED FOR TENDER	15/01/28
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