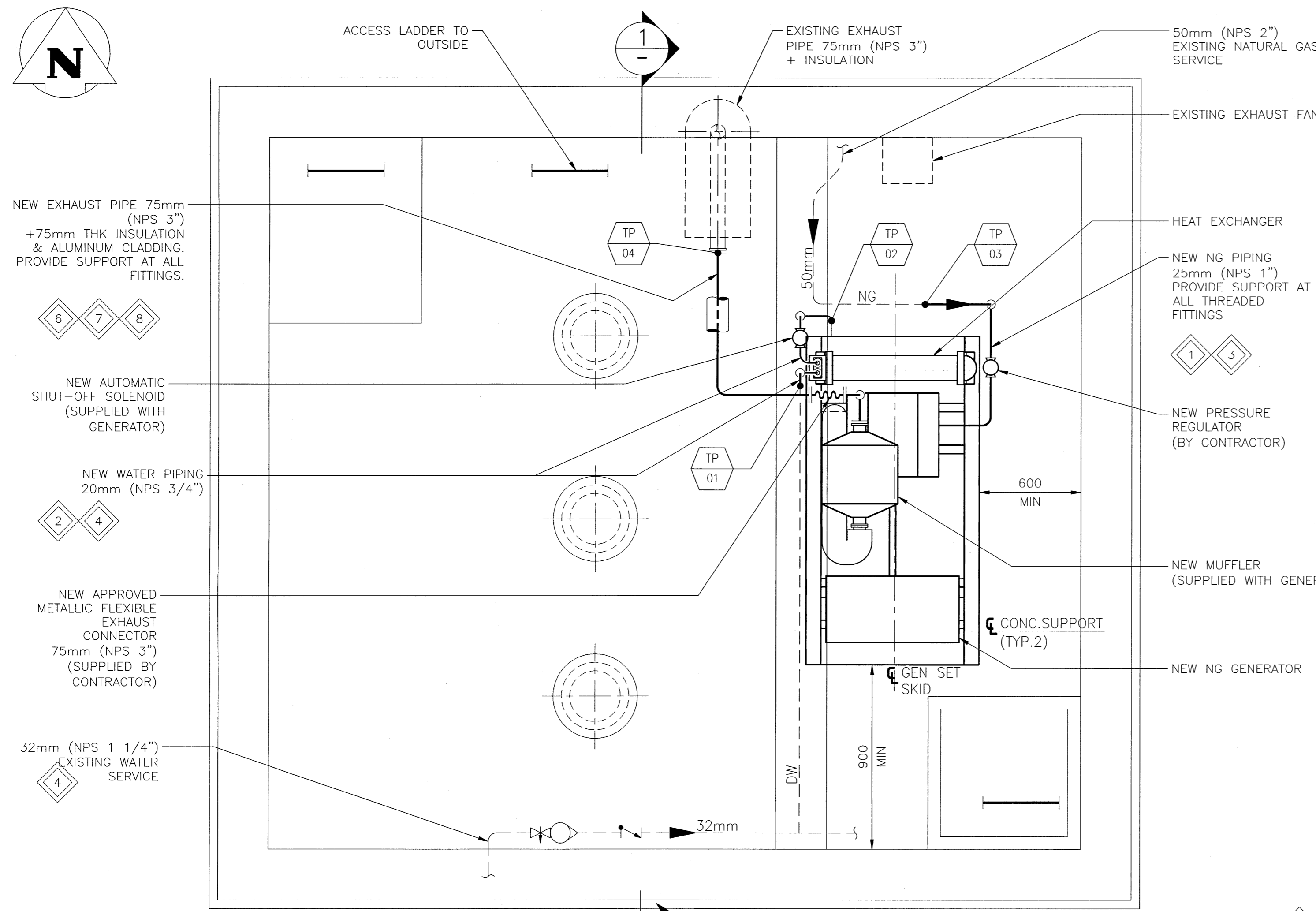


A1 SIZE - 594mm x 841mm



MOTOR ROOM FLOOR PLAN
SCALE: 1:20
EL.17.30M [56.77FT]

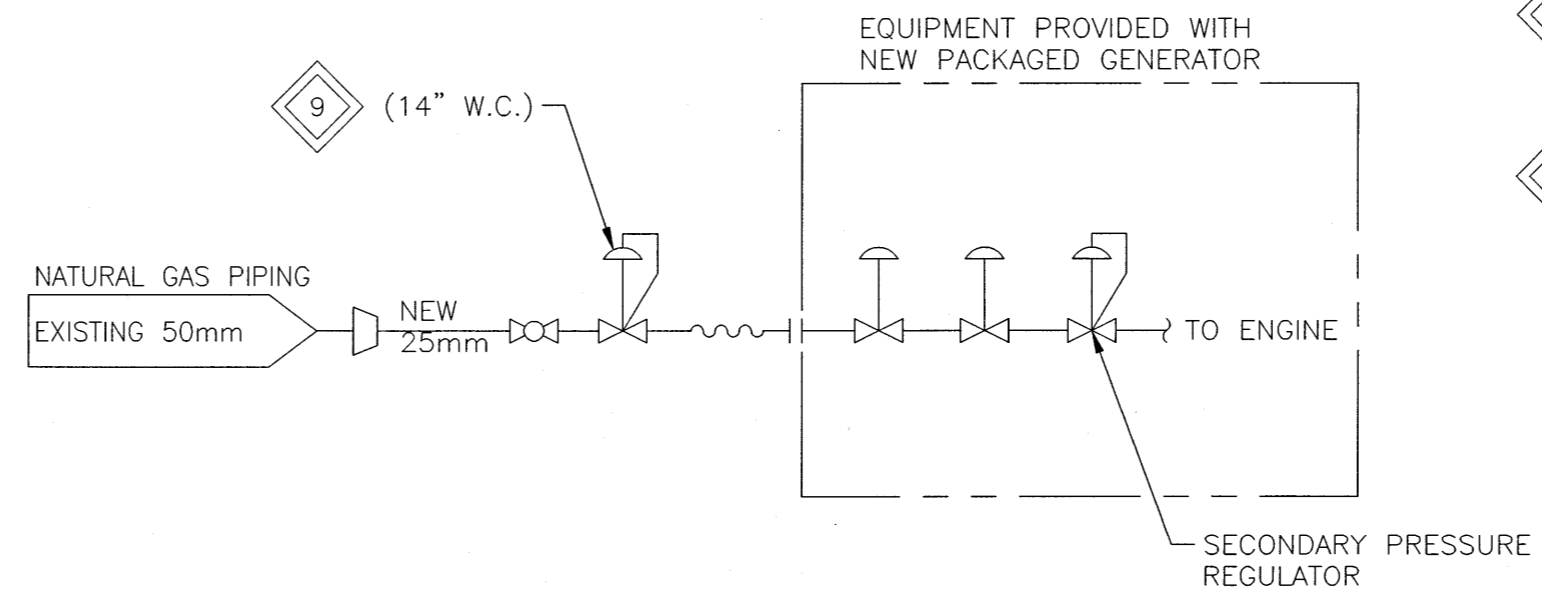
NATURAL GAS PIPING DESIGN INFORMATION	
EXISTING LOADS:	NONE
NEW GENERATOR LOAD:	790 MBH
PIPING MATERIAL	CARBON STEEL SCH40
GAS PRESSURE	5 PSIG
ALLOWABLE PRESSURE DROP	2.5 PSIG
TOTAL DEVELOPED LENGTH	22 METERS *
* INCLUDES ALLOWANCES FOR FITTINGS	
PIPE CAPACITY	
15mm (NPS 1/2")	909 MBH
20mm (NPS 3/4")	1 901 MBH
25mm (NPS 1")	3 581 MBH
32mm (NPS 1 1/4")	7 351 MBH
40mm (NPS 1 1/2")	11 014 MBH
50mm (NPS 2")	21 212 MBH

GENERAL NOTES:

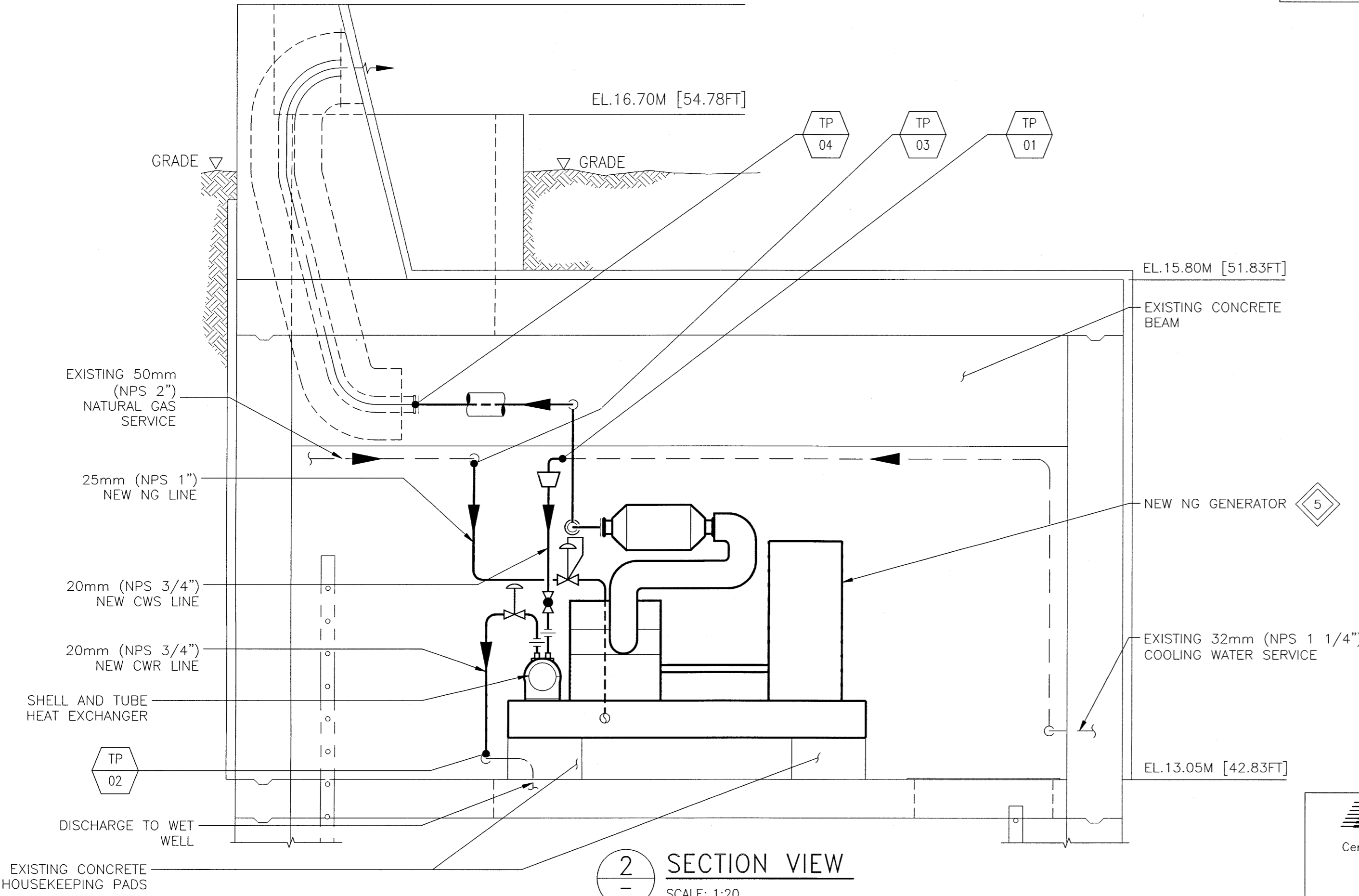
- PERFORM WORK IN ACCORDANCE WITH ALL APPLICABLE BUILDING CODES, THE MANITOBA DEPARTMENT OF LABOUR AND ANY OTHER PROVINCIAL AND LOCAL BYLAWS, REGULATIONS AND ORDINANCES.
- SITE VERIFY ALL DIMENSIONS, ELEVATIONS, DETAILS, QUANTITIES AND CONDITIONS PRIOR TO THE START OF ANY DEMOLITION, PRE-FABRICATION AND/OR INSTALLATION OF THE NEW GENERATOR AND PIPING.
- REFER TO THE TECHNICAL SPECIFICATION FOR THE DETAILED SEQUENCE OF OPERATION TO DEMOLISH THE EXISTING GENERATOR AND PIPING AND INSTALL THE NEW GENERATOR AND PIPING.
- SUPPLY AND INSTALL ALL MATERIAL AND LABOUR REQUIRED FOR THE INSTALLATION OF THE NEW GENERATOR, ASSOCIATED WATER AND NATURAL GAS PIPING & SUPPORTS, AND EXHAUST PIPING.
- EQUIPMENT LOCATIONS, DUCT AND PIPE ROUTINGS INDICATED ON DRAWINGS ARE APPROXIMATE ONLY. CONFIRM IN FIELD. REROUTE PIPING TO ELIMINATE FIELD INTERFERENCES WITH BUILDING STRUCTURE, NEW GENERATOR, ELECTRICAL, ETC. CONFIRM CHANGES WITH CONSULTANT.
- CONNECTION BETWEEN NEW AND EXISTING PIPING ARE SHOWN AT TIE-IN LOCATIONS AS TAGGED. CONTRACTOR TO CONFIRM & PROPERLY TAG THESE LOCATIONS AT SITE.
- NATURAL GAS PIPING AND INSTALLATION TO BE IN ACCORDANCE WITH CSA B149.1, NATURAL GAS AND PROPANE INSTALLATION CODE.
- WATER PIPING AND INSTALLATION TO BE IN ACCORDANCE WITH ASME B31.9, BUILDING SERVICES PIPING CODE.
- GENERATOR EXHAUST PIPING AND INSTALLATION TO BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

KEY NOTES:

- NATURAL GAS PIPING TO BE SCHEDULE 40 CARBON STEEL PIPE TO ASTM A53 GRADE B ERW OR SEAMLESS.
- WATER PIPING TO BE TYPE M COPPER TUBE TO ASTM B88. CLEAN, PRESSURE TEST AND FLUSH PRIOR TO START UP.
- PAINT NATURAL GAS PIPING WITH TWO (2) COATS OF INDUSTRIAL ENAMEL (CLOVERDALE NO. 74163-YELLOW OR EQUAL) OVER INDUSTRIAL PRIMER (CLOVERDALE NO. 71024-GREY RUSTEX OR EQUAL). ALL VISIBLE NATURAL GAS PIPING TO BE YELLOW AS REQUIRED BY CODE.
- PAINT ALL VISIBLE WATER PIPING WITH TWO (2) COATS OF INDUSTRIAL ENAMEL (CLOVERDALE NO. 74240-BLUE OR EQUAL) OVER INDUSTRIAL PRIMER (CLOVERDALE NO. 71024-GREY RUSTEX OR EQUAL).
- NEW GENERATOR COMPLETE WITH STEEL BASE TO BE LOCATED AND CENTERED ON THE EXISTING HOUSEKEEPING PADS AS SHOWN ON THE DRAWINGS. ENSURE SERVICE CLEARANCES SHOWN ON THE DRAWING AND AS RECOMMENDED BY THE SUPPLIER ARE RESPECTED. NEW STEEL BASE SHALL BE BOLTED INTO THE EXISTING CONCRETE HOUSEKEEPING BLOCKS. MODIFY NEW STEEL BASE AS REQUIRED TO PREVENT INTERFERENCE WITH THE WET WELL ACCESS HATCH.
- EXHAUST PIPING TO BE SCHEDULE 40 CARBON STEEL PIPE TO ASTM A53 GRADE B ERW OR SEAMLESS.
- INSULATE EXHAUST PIPING AND MUFFLER WITH TWO (2) 38mm (1 1/2") THICK LAYERS OF THERMO-12 OR "FIRWIN" REMOVABLE INSULATION BLANKETS. PROTECT INSULATION FROM DAMAGE WITH AN ALUMINUM JACKET.
- INSTALL INSULATION ON GENERATOR EXHAUST PIPING AND MUFFLER TO ALLOW FOR EXPANSION. FITTINGS SHALL BE INSULATED WITH MITER SECTIONS OF THE SAME INSULATION. GENERATOR EXHAUST TEMPERATURE WILL BE 649°C (1200°F). ALL ADHESIVES USED FOR THE INSULATION SHALL BE SUITABLE FOR TEMPERATURES INVOLVED.
- CAPACITY AS PER MANITOBA HYDRO REQUIREMENT.



NATURAL GAS PIPING SCHEMATIC
SCALE: N.T.S.



SECTION VIEW
SCALE: 1:20

LEGEND:

- NEW EQUIPMENT AND PIPING
- EXISTING EQUIPMENT AND PIPING
- INSULATED PIPING
- PRESSURE REGULATOR
- AUTOMATIC SHUT-OFF SOLENOID
- APPROVED FLEXIBLE METALLIC CONNECTOR
- BRONZE BODY GLOBE VALVE CLASS 125, 860KPA
- PIPE REDUCER
- WATER METER
- BACKFLOW PREVENTER
- TIE-IN POINT TAG NO.
- NATURAL GAS
- COOLING WATER SUPPLY
- COOLING WATER RETURN TO WASTE

METRIC

WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES



B.M. -					
ELEV. -					
DESIGNED BY:	B. A. SHALLEY	CHECKED BY:			
DRAWN BY:	C. R. ABELLANOSA	APPROVED BY:			
SCALE:	AS NOTED	ISSUED FOR CONSTRUCTION BY:			
DATE:	2016/11/08	DATE:			
CONSULTANT NO.:	16-0107-025_M02				
NO. REVISIONS	00 ISSUED FOR CONSTRUCTION	DATE	2017/01/20	DESIGN CHECK	

KGS GROUP
CONSULTING ENGINEERS

ENGINEER'S SEAL
B.A.S. SHALLEY
Member 22857
2017-01-20

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

LARCHDALE FLOOD PUMP STATION
GENERATOR REPLACEMENT PROJECT
MECHANICAL
EQUIPMENT LAYOUT

CITY DRAWING NUMBER: 1-0153F-M0002-001
SHEET: 00
REV: A1
SIZE: A1