



**OPERATING FLOOR PLAN**

SCALE: 1/4" = 1'-0"

**GENERAL NOTES**

- CONTRACTOR MAY REUSE EXISTING CONDUIT, FOR CIRCUIT RUN TO MOTOR, IF SUFFICIENT FOR NEW CONDUCTORS. CONTRACTOR SHALL CONFIRM SIZE ADDITIONAL OF CONDUIT TO NEC FILL. IF LARGER CONDUIT IS NECESSARY IT SHALL BE PROVIDED AT NO ADDITIONAL COST TO OWNER.
- NEW CONDUIT TO BE RGS (RIGID GALVANIZED STEEL).
- CONTRACTOR TO SUPPLY NEW THWN CABLE PER THE CIRCUIT SCHEDULE AND INSTALL IN THE NEW CONDUIT RUNS.
- INSTALL NEW SOFTSTART STARTERS AND REMOVE OR RELOCATE EXISTING STARTERS WITHIN THE MCC AS SHOWN ON THIS AND THE ONE-LINE DRAWING E1. CONTRACTOR SHALL RECONNECT ALL RELOCATED BUCKETS TO THE LOADS THEY SERVED.
- CONTRACTOR TO RECONNECT CONTROL WIRING TO SCADA VENDOR PANEL.
- CONTRACTOR TO PROVIDE NEW SCADA SOFTWARE PROGRAMS AND STARTUP SERVICE TO ALLOW THE PUMPS 1 & 5 TO OPERATE AS FOLLOWS. ALL SCADA WORK SHALL BE DONE BY Q.E.PEDROTTI COMPANY INC. THE SOFTWARE PROGRAM SHALL BE MODIFIED TO UPON THE STATION REACHING: DRY WEATHER LEAD PUMP ON: 9.0 FT. ACTUAL, 8.0 FT. INDICATED BY LEVEL TRANSMITTER. DRY WEATHER LAG PUMP ON: 10.0 FT. ACTUAL, 9.0 INDICATED BY LEVEL TRANSMITTER. DRY WEATHER LEAD/LAG PUMP OFF: 5.5/7.0 FT. ACTUAL, 4.5/6.0 FT. INDICATED BY LEVEL TRANSMITTER. WET WEATHER LEAD PUMP ON: 12.0 FT. ACTUAL, 11.0 FT. INDICATED BY LEVEL TRANSMITTER. WET WEATHER LAG PUMP ON: 13.0 FT. ACTUAL, 12.0 FT. INDICATED BY LEVEL TRANSMITTER. WET WEATHER LEAD/LAG PUMP OFF: 8.0/9.0 FT. ACTUAL, 7.0/8.0 FT. INDICATED BY LEVEL TRANSMITTER. DRY WEATHER PUMPS = PUMPS 2 & 4 - (60HP PUMPS) WET WEATHER PUMPS = PUMPS 1 & 5 - (NEW 125HP PUMPS) WHEN LEAD WET WEATHER PUMP IS STARTED SHUTDOWN LAG DRY WEATHER PUMP. RESTART LAG DRY WEATHER PUMP WHEN LEVEL EXCEEDS WET WEATHER LAG PUMP ON CONDITION.
- CONTRACTOR SHALL CONFIRM COMPLETE OPERATION OF CONTROL AND ELECTRICAL SYSTEM TO ENGINEER AND OWNER BEFORE CONSTRUCTION IS CONSIDERED COMPLETE.
- THE CONTRACTOR IS RESPONSIBLE FOR PROCUREMENT OF NEW MOTORS AND REPLACEMENT OF OLD MOTORS AND INSTALLATION OF NEW MOTORS ON EXISTING PUMPS.
- CONTRACTOR SHALL CONFIRM ALIGNMENT AND SETTINGS OF THE PUMP SHAFT TO PUMP MANUFACTURER REQUIREMENTS.
- CONTRACTOR SHALL MEASURE COMPLETED INSTALLATION PUMP & MOTOR VIBRATION VALUES AS MEASURED AT THE TOP MOTOR BEARING. ENGINEER SHALL BE NOTIFIED TWO WEEKS PRIOR TO TESTING DATE.
- CONTRACTOR SHALL HAVE PUMP VENDOR PROVIDE STARTUP SERVICES FOR INSTALLATION OF THE MOTOR, STUB SHAFT, COUPLING AND SET CLEARANCES ON PUMP AND MOTOR.
- CONTRACTOR SHALL PROVIDE A NEW STUB SHAFT (SHAFT EXTENSION) AND A NEW COUPLING.
- TOTAL RUN OUT SHALL BE NO MORE THAN 0.005".
- THE PUMPS WERE RECENTLY, WITHIN THE LAST 3 YEARS, REBUILT BY FAIRBANKS MORSE IN KANSAS CITY.

**SPECIFICATIONS**

**SHAFT EXTENSION:**  
SHALL BE REPLACED AND BE DIMENSIONALLY COMPATIBLE WITH THE PUMPS AND THE NEW MOTOR.

**EXISTING MOTOR NAME DATA:**  
100 HP U.S. MOTOR VERTICAL HOLLOW SHAFT, 875 RPM FRAME 1505PH, 440V, 3Ø, 60HZ TYPE HU DESIGN CODE B, 60°C RATING, NEMA TYPE "B", U.S. SERIAL NUMBER 1275797 & 1275798, HIGH THRUST NON REVERSE RATCHET.

**EXISTING PUMP NAMEPLATE DATA:**  
JOHNSTON 1 STAGE 24" PROPELLER PUMP WITH 30" O.D. PLAIN END BELOW BASE ELBOW - OIL LUBE.  
PUMP SERIAL NO. JT 1247-48 EQUIPPED WITH 440 OILER ASSEMBLY WITH SOLENOID VALVE AND 1 GALLON RESERVOIR. RATED CAPACITY 13,000 - 20,000 GPM @ 21 TO 14.6 TDH.

**STARTERS:**  
NEW STARTERS SHALL BE COMPATIBLE WITH THE EXISTING CUTLER HAMMER MOTOR CONTROL CENTER. NEW SOFT START STARTERS SHALL BE CUTLER HAMMER IT SOFT START SIZE 5 SIZED AT 180AMPS FOR A 125HP S.F.1.15, 460V MOTOR.  
THE CONTRACTOR SHALL PROVIDE START UP SERVICES OF SOFT START STARTERS BY THE MANUFACTURER AND COORDINATE START UP AT THE MOTORS AND STARTERS WITH THE SCADA CONTROL SYSTEM PROGRAM CHANGES.

**NEW MOTORS:**  
NEW MOTORS TO BE PROVIDED SHALL MECHANICALLY FIT THE PUMP. THE DESIGN OF THE MOTOR SHALL MATCH THE EXISTING HOLLOW SHAFT STYLE OF THE EXISTING MOTOR. THE CONTRACTOR SHALL ENLARGE THE BOLT HOLES OR DRILL NEW HOLES IN THE EXISTING PUMP MOTOR SUPPORT PEDESTAL AS NECESSARY TO MATCH THE HOLE SIZE IN THE NEW MOTORS.

**ACCEPTABLE MOTOR MANUFACTURERS:**

- US MOTORS - EMERSON MOTORS
- SIEMENS ELECTRIC.
- APPROVED EQUAL.

THE NEW MOTOR SHALL HAVE THE FOLLOWING CHARACTERISTICS:  
HORSEPOWER: 125 HP VERTICAL HOLLOW SHAFT.  
SERVICE FACTOR: 1.15  
SERVICE: CONTINUOUS  
DESIGN: NEMA DESIGN "B"  
INSULATION: CLASS F OR BETTER  
RPM: 875 RPM  
ENCLOSURE: WPI  
TYPE: INVERTER DUTY  
OPTIONS: REVERSE RATCHET REQUIRED  
EFFICIENCY: 93.6% OR BETTER AT FULL LOAD.  
POWER FACTOR: 0.749 OR BETTER AT FULL LOAD.

**CIRCUIT SCHEDULE**

CIRC. IDENT	CONDUCTORS				GROUND SIZE PER SET	ISOLATED GROUND SIZE	CONDUIT SIZE PER SET
	SETS	QUANT. PER SET	SIZE	LOAD			
1	1	3	#4/0 THWN	125 HP	#4	-----	2" EXIST
2	1	3	#4/0 THWN	125 HP	#4	-----	2" EXIST

**CITY OF WICHITA, KANSAS**  
**STORMWATER PUMP STATION NO. 1**  
**REPLACE PUMP 1 & 5 MTRS & STARTERS**

PROJECT NAME

**ELECTRICAL FLOOR PLAN**

SHEET TITLE

SLA DESIGN BY: RES DRAWN BY: SLA CHECKED BY:

SEPTEMBER, 2002 02141D3 E2 / 2

DATE DRAWING NAME SHEET / OF

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