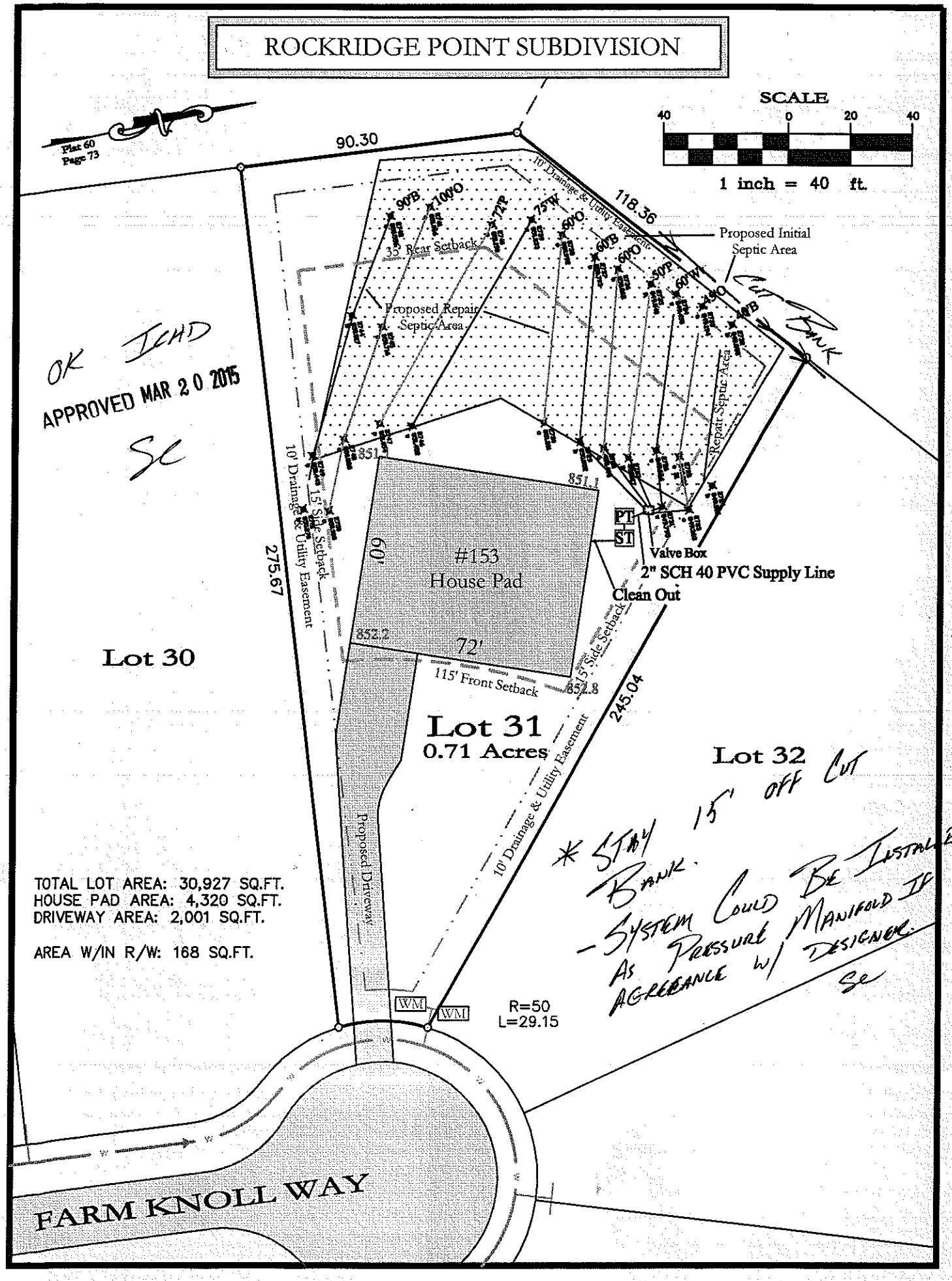
ROCKRIDGE POINT SUBDIVISION



Design Specifications for Lot 31 Rock Ridge Point, Iredell, North Carolina

Daily Design Flow	480	gals
Number of Bedrooms	4	bedrooms
Basement or Crawspace	Craw Space	
Dellinger Septic Tank Size	1500	gals, Effluent Poly Lock PL68 Filter or equal.
Dellinger Pump Tank Size	1500	gals
Sim/Tech Effluent Filter on Pump Tank	Yes	Connection inside pump tank vault on supply line.
Primary System Loading Rate (LTAR)	0.30	gpd/ft^2 LTAR including Soils Evaluations were determined by Iredell County. Soils Evaluations and LTAR were not Conducted by Septic Environmental Solutions, Inc.
Number of Lines	5	Total LP PPBPS, See Scaled Dwg.
Primary System	275	ft.
Trench Width	2	ft
Trench Spacing	8	ft
Trench Maximum Depth	36	inches
Pump required	Yes	
Distribution Device	Yes	Gate Valve Box with LPP Panel Distribution
Maintenance Agreement Required	Yes	Contracted by Septic Environmental Solutions, Inc.
Length and Diameter of Supply Line	15	2" SCH 40 PVC 1 1/4" SCH 40 PVC
Number of T&J Panels	64	Total panels for primary system
Flow Rate through System	32	gpm– use 5/32" holes with 3ft head
Elevation Head	7	ft.
Pressure Head	3	ft.
Friction Head	2.05	ft.
20% Contingency	2.41	ft.
Total Head	14.5	ft.
Pump Requirements	32	gpm. with 14.5-ft of Head; Use Goulds WE03L Pump or Equivelent with Compatible Electrical
Dosing Volume	231	gals 2.1 does/day@design flow*
Pump run time per dose, approximate	7.2	min
Check Valve	Yes	
Siphon Break Hole	Yes	
Repair System Loading Rate	0.25	gpd/ft2
Repair System	Yes	LP PPBPS, See attached dwg.
Total foot of Repair	444	ft

Ok Tad

APPROVED MAR 20 2015

SL

Before placement of cap block, one panel on each line near the center of the field should be observed filling to make certain that it does not overflow top chamber into air chambers of panel. If overflow occures, reduce floats by 25 gallons and reset until no overflow is observed.

Tax #:	4636233131.03		
Lot	31		
Address:	Iredell County		
Consultant:	Septic Environmental Solutions Inc.		
Phone:	704-502-5588, Fax 704-684-1469		

System Requirements			
Number of bedrooms	4		
Craw Space/Basement	Craw Space		
Daily Design Flow	480	gpd	
LTAR	0.30	gpd/ft.^2	
Linear footage	533.33	ft. (Conventional)	
Linear footage	270.00	ft. (50% Reduction)	
Trench Maximum Depth	36	inches	
Laterals	Length (ft)	# Panels	Calculated
Line # 1	45	10	10
Line # 2	60	14	14
Line # 3	50	12	12
Line # 4	60	14	14
Line # 5	60	14	14
Line # 6		0	0
Line # 7		0	0
Line # 8		0	0
Line # 9		0	0
Line # 10		0	0
Line # 11		0	0
Line # 12		0	0
Totals	275	64	64
	*Lines longer than 70 ft. must be center-fed to comply with sewage rules.		
Absorption Area			
Length (ft)	Width (ft)	Spacing	Area (ft^2)
275	2	8	3000.00
System Pressure Head	3.00	ft.	Value selected by system designer (must be between 2-5 ft.)
Orifice Diameter	5/32	in.	Size selected by system designer (1/8 in. minimum)
Flow Rate per Orifice/Panel	0.5	gpm	Determined from orifice flow design table (use table from Flow Rate tab)
Total System Flow Rate	32	gpm	Total number of panels required multiplied by the orifice flow rate
System Dose Volume	231	gal.	Total number of panels required multiplied by 3.6 gal./panel
Doses Per Day	2.10	cycles	Number of dose cycles per day based on daily design flow. Daily design flow divided by system dose volume.
Pump Run Time	7.22	min.	System dose volume divided by the total system flow rate
Pump Tank Volume / Inch	29	gal./in.	1,000 gal. Pump tank, volume is approximately 21 gallons per inch. 1,500 gal. pump tank, volume is approximately 29 gallons per inch. Contractor is responsible in verifying tank gallons per inch.
Pump Tank Drawdown	7.97	in.	System Dose Volume divided by gallons per inch for the designed tank size.
Supply Line Length	15.00	ft	
Elevation head+pump height	7.00	ft.	
Friction Head	2.05	ft.	
20% Contingency	2.41	ft.	
Total Head	14.5		

T&J Panel Summary Table	
Linear Feet	# Panels
20	5
30	7
40	9
50	11
60	14
70	16
80	18
90	21
100	23
110	25
120	17
130	30
140	32
150	34
160	37
170	39
180	41
190	43
200	46

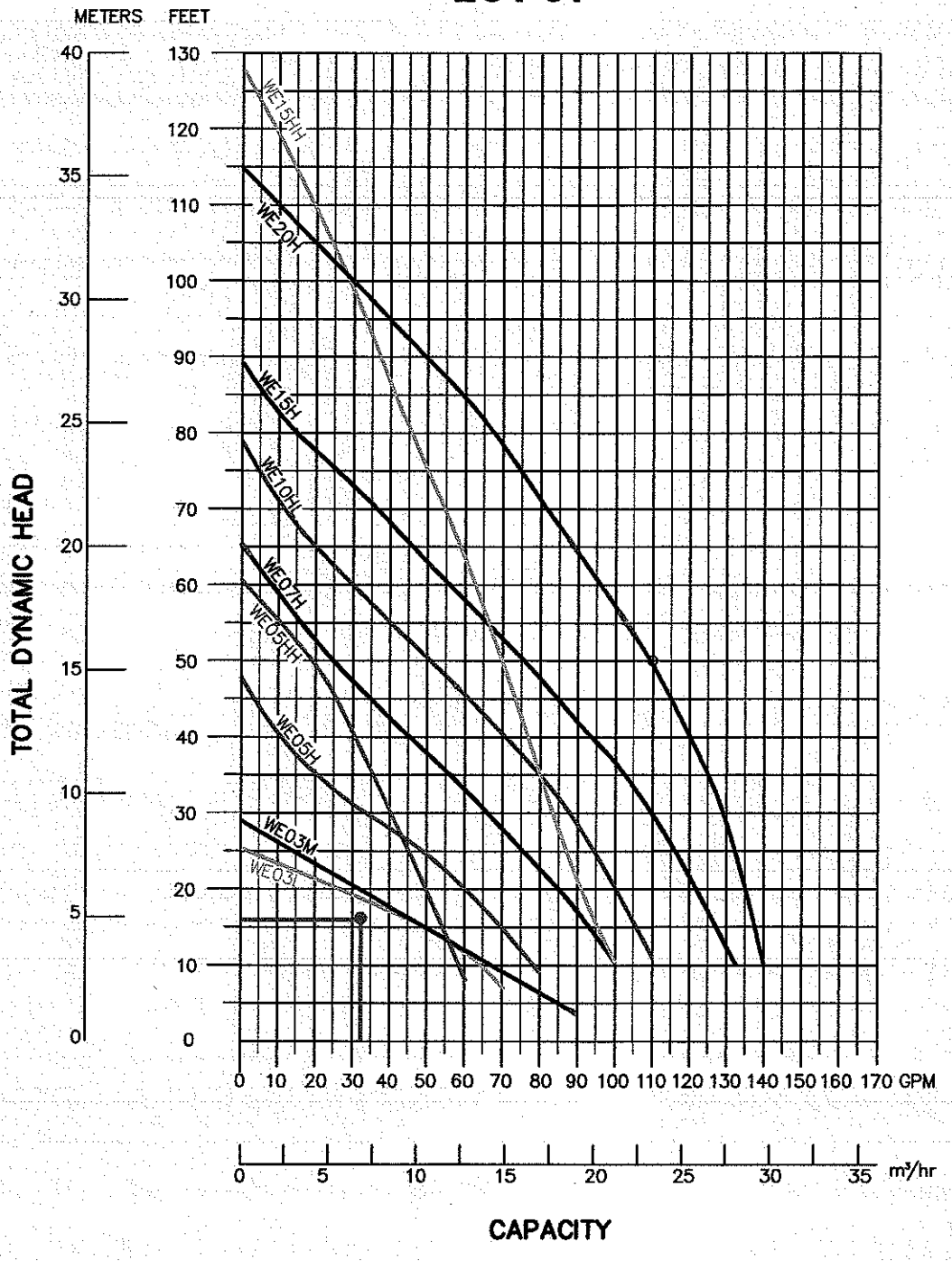
Comments:

1. Install system using 2 ft. wide trenches.
2. Install drainlines on 8 ft. centers (to be specified by the designer) and must be level and on contour.
3. System design requires effluent pump for distribution. Yes
4. Requires repair septic system. Yes
5. Maintanance Agreement Required Yes

Cells with blue shading require user input.

Cells with yellow shading are automatically calculated.

PUMP CURVE
LOT 31



GOULDS PUMP PERFORANCE CURVES

Submersible Effluent Pump WE Series

Lot 31 Rocky Ridge Farms Fast Track Septic System Information

Number of Bedrooms	4
Basement or Crawl	Crawl Space
Design Flow (gpd)	480
LTAR (gpd/ft2)	0.3
Primary System Type	**LP PPBPS**
No. Lines	5 (See Table)
Total Linear Feet	270
Trench Width	2' min.
Trench Spacing	8' min.
Pump Required	Yes
Distribution Device	Gate Valve Box w/ LPP Distribution
Maintenance Agreement Required	Yes
Length and Diameter of Supply Pipe	20' of 2" SCH 40 PVC
Size of laterals	1 1/4" SCH 40 PVC
Flow Rate through the system	30 gpm
Elevation head	Approx. 6.0'
Pressure head	3.0'
Friction head	0.3'
20% Contingency	1.9'
Total Head	11.2'
Pump Requirements	30 gpm @ 11.2' of head; use Goulds WE03L pump or equivelent with compatible electrical
Dosing Volume	216 gal -2.2 doses/day @ design flow*
Volume of water pumped per dose	Calculated to specific tank by measure or dealer engineering specifications (1 cubic ft. of water equals 7.48 gal.)
Pump Run per dose	approx. 7.2 min.
Check Valve	Yes
Siphon Break hole	Yes
Repair System	**LP PPBPS**
Total Linear Feet	418

***Before placement of cap block, one panel on each line near the center of the field should be observed filling to make certain that it does not overflow top chamber into air chambers of panel. If overflow occurs, reduce floats by 25 gallons and reset until no overflow is observed.**

Table 1: Summary of Primary and Repair Nitrification Line Specifications

Line No.	Use	Line Color	System Type	Line Length (Ft.)	Rod Reading Elev. (Ft.)	Panels	Holes	Hole Spacing	Hole Size (In.)
1	System	Blue	LPPPBPS	50 endfed	7.1	11	11	1 per panel	5/32"
2	System	Orange	LPPPBPS	50 endfed		11	11	1 per panel	5/32"
3	System	White	LPPPBPS	70 endfed		16	16	1 per panel	5/32"
4	System	Pink	LPPPBPS	50 endfed		11	11	1 per panel	5/32"
5	System	Red	LPPPBPS	50 endfed		11	11	1 per panel	5/32"
6	Repair	Blue	LPPPBPS	62					
7	Repair	Orange	LPPPBPS	67	4.7				
8	Repair	White	LPPPBPS	66					
9	Repair	Pink	LPPPBPS	65					
10	Repair	Red	LPPPBPS	68	5.1				
11	Repair	Blue	LPPPBPS	90	5.7				
						Total: 60	Total: 60 (1 in each panel turned up)		
				Total System: 270'					
				Total Repair: 418'					

Tank	Red	1500 gal (2 compartment)	4.7
Pump Tank	Red	1500 gal.	4.7
House	Blue		5.2

Note: Use 36" Trenchbottom; Could be redesigned as 25% Reduction with further investigation of soils ii front of house.

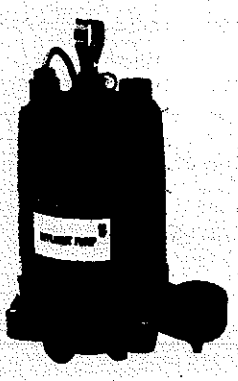
GOULDS PUMPS

Submersible Effluent Pump

MODEL 3885

WE Series

PROSURANCE AVAILABLE FOR RESIDENTIAL APPLICATIONS.



APPLICATIONS

Specifically designed for the following uses:

- Homes
- Farms
- Trailer courts
- Motels
- Schools
- Hospitals
- Industry
- Effluent systems

SPECIFICATIONS

Pump

- Solids handling capabilities: ¾" maximum.
- Discharge size: 2" NPT.
- Capacities: up to 140 GPM.
- Total heads: up to 128 feet TDH.
- Temperature: 104°F (40°C) continuous 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

FEATURES

■ **Impeller:** Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.

■ **Casing:** Cast iron volute type for maximum efficiency. 2" NPT discharge.

■ **Mechanical Seal: SILICON CARBIDE VS. SILICON CARBIDE** sealing faces. Stainless steel metal parts, BUNA-N elastomers.

■ **Shaft:** Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.

■ **Fasteners:** 300 series stainless steel.

■ Capable of running dry without damage to components.

■ Designed for continuous operation when fully submerged.

MOTORS

■ Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.

■ Class B insulation on ⅓-1½ HP models.

■ Class F insulation on 2 HP models.

Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.
- ⅓ and ½ HP models have NEMA three prong grounding plugs.
- ¾ HP and larger units have bare lead cord ends.

Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.

■ **Designed for Continuous Operation:** Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.

■ **Bearings:** Upper and lower heavy duty ball bearing construction.

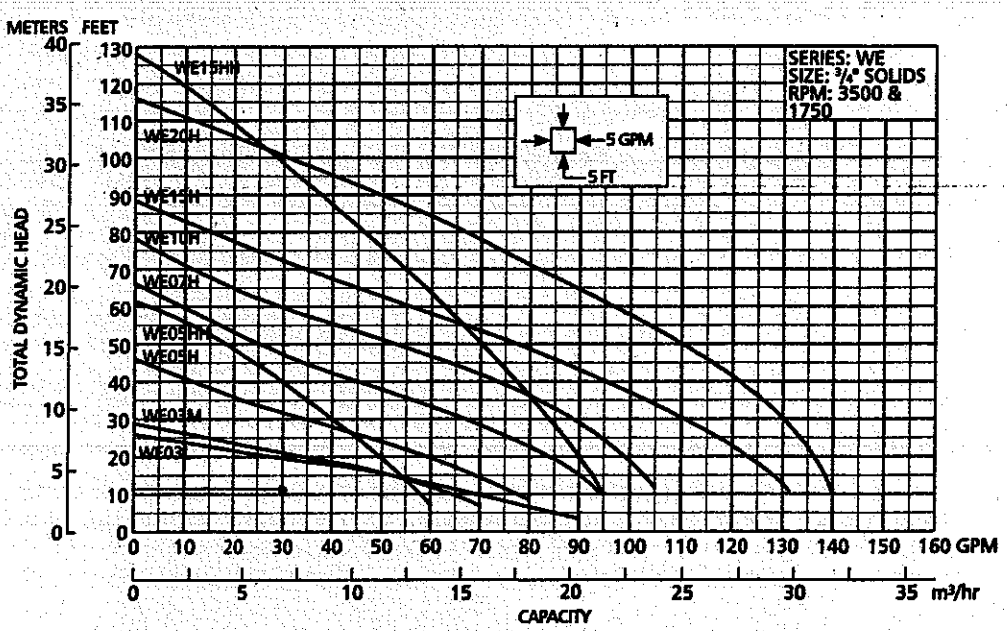
■ **Power Cable:** Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.

■ **O-ring:** Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS

C SP US — Tested to UL 778 and CSA 22.2 108 Standards By Canadian Standards Association File #LR38549

Goulds Pumps is ISO 9001 Registered.



Goulds Pumps

ITT Industries

© 2003 Goulds Pumps
Effective July, 2003
B3885