PRIVATE GRINDER PUMP
INSTALLATION & CONNECTION MANUAL
FOR SANITARY SEWER SERVICE

WOODLAND OAKS

SW Corner Colbern & Blackwell

PREPARED ON: **MAY 12, 2023**

REV: November 17, 2023

PREPARED BY:

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 S.E. 30th Street Lee's Summit, MO 64082
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Accepted
Study/Report

Gene Williams
Digitally signed by Gene Williams
DN: CN=Gene Williams, OU=Development, OU=LS Users, DC=COLS, DC=LOC
Date: 2023.11.28 11:58:23-06'00'

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3. TYPICAL INSTALLATION

Prior to commencement of work on the installation of grinder pumps or maintenance to the system, the homeowner or homebuilder shall obtain a permit from the Development Services Department.

The builder/homeowner shall be responsible for connecting to the capped sanitary service line as depicted in the general layout (see last page of document). The service line ball shutoff and integral check valve (lateral assembly) along with a segment of 1.25” service line has been installed for each lot by the developer to provide a complete and working system with the capability of users connecting to the system without system shutdowns and interruption to the travelled way.

Final connection to the public system shall not be made until the private system has been inspected and approved by the City. The builder/homeowner shall be responsible for the purchase, installation and operation of the following; minimum 4” SDR-26 gravity line as required, simplex grinder station, control panel (Interior or Exterior), 1.25” SDR 11 HDPE service line as required and connection to existing system. Line lengths and grinder station depth are dependent on the lowest serviceable floor and the station placement on the lot. The builder/homeowner shall own and be responsible for the developer installed lateral assembly and all system components upstream to the residence including but not limited to the service line, grinder station including pump and internal piping and appurtenances, control panel and gravity service line. A detail of the typical service (lateral) installation is shown on the next page.

STAINLESS STEEL LATERAL KIT 1-1/4" SDR 11 HDPE PIPE

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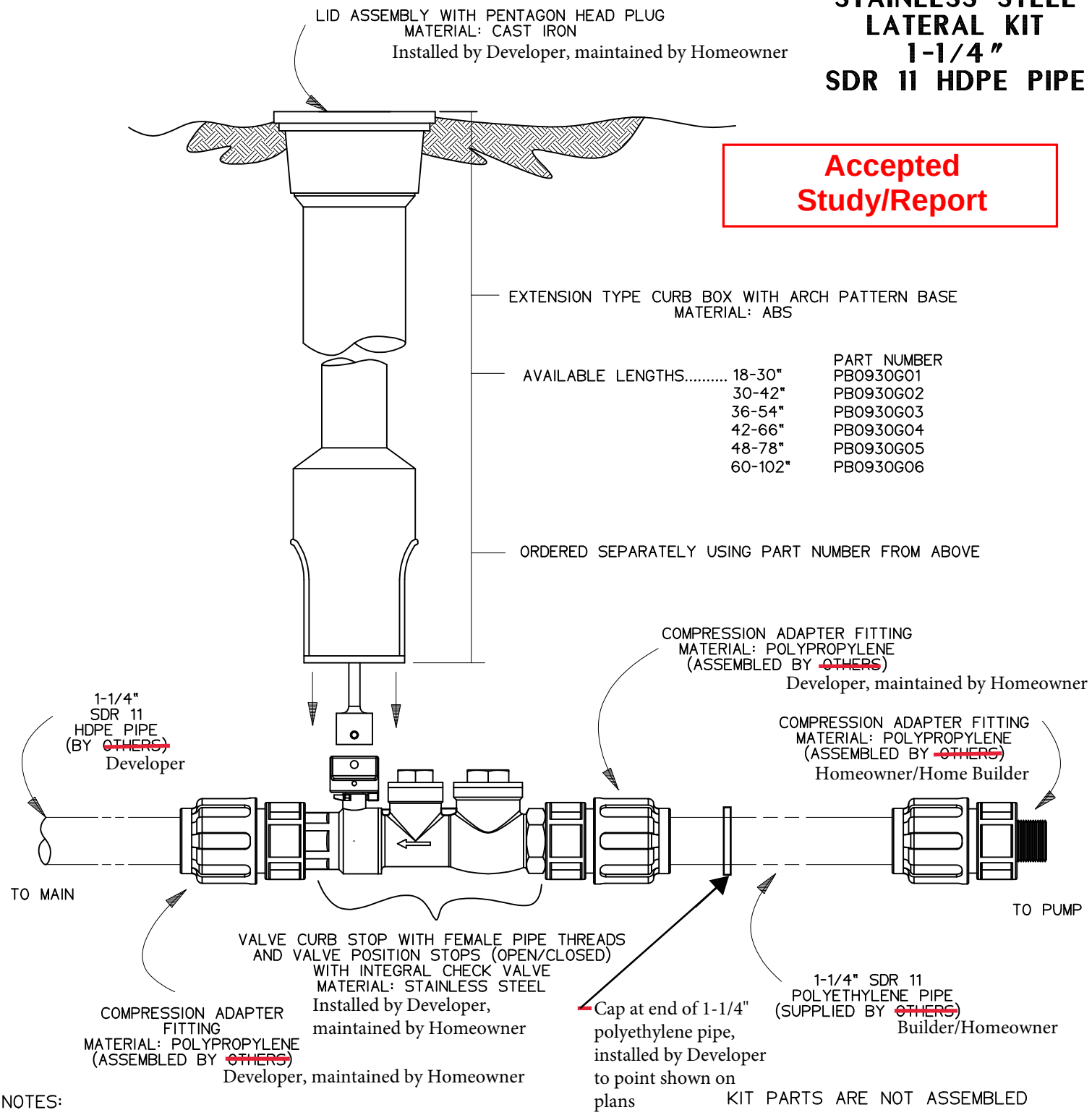

KIT PARTS ARE NOT ASSEMBLED

NOTES:

1. SS CURB STOP/CHECK VALVE AND FITTINGS ARE PROVIDED SEPARATELY, TO BE ASSEMBLED BY ~~OTHERS~~ Developer
2. TO ASSEMBLE, APPLY A DOUBLE LAYER OF TEFLON TAPE, AND A LAYER OF PIPE DOPE (SUPPLIED BY OTHERS) TO THE THREADS ON THE PLASTIC FITTINGS AND INSTALL PER THE MANUFACTURER'S INSTRUCTIONS
   *FOR SS FITTING INTO SS THREAD, USE PIPE DOPE OR TEFLON TAPE, NOT BOTH
3. ASSEMBLY IS TO BE PRESSURE TESTED (BY ~~OTHERS~~) Developer
4. ASSEMBLY IS TO BE USED WITH SDR11 HDPE PIPE
5. TO ORDER SS LATERAL KIT, USE PART NUMBER NC0193G01
6. CURB BOX IS TO BE ORDERED SEPARATELY, SEE ABOVE

SGS	DN	11/02/11	B	3/16
DR BY	CHK'D	DATE	ISSUE	SCALE

SEWER SYSTEMS

STAINLESS STEEL LATERAL KIT
1-1/4" SDR 11 HDPE PIPE

NA0330P02

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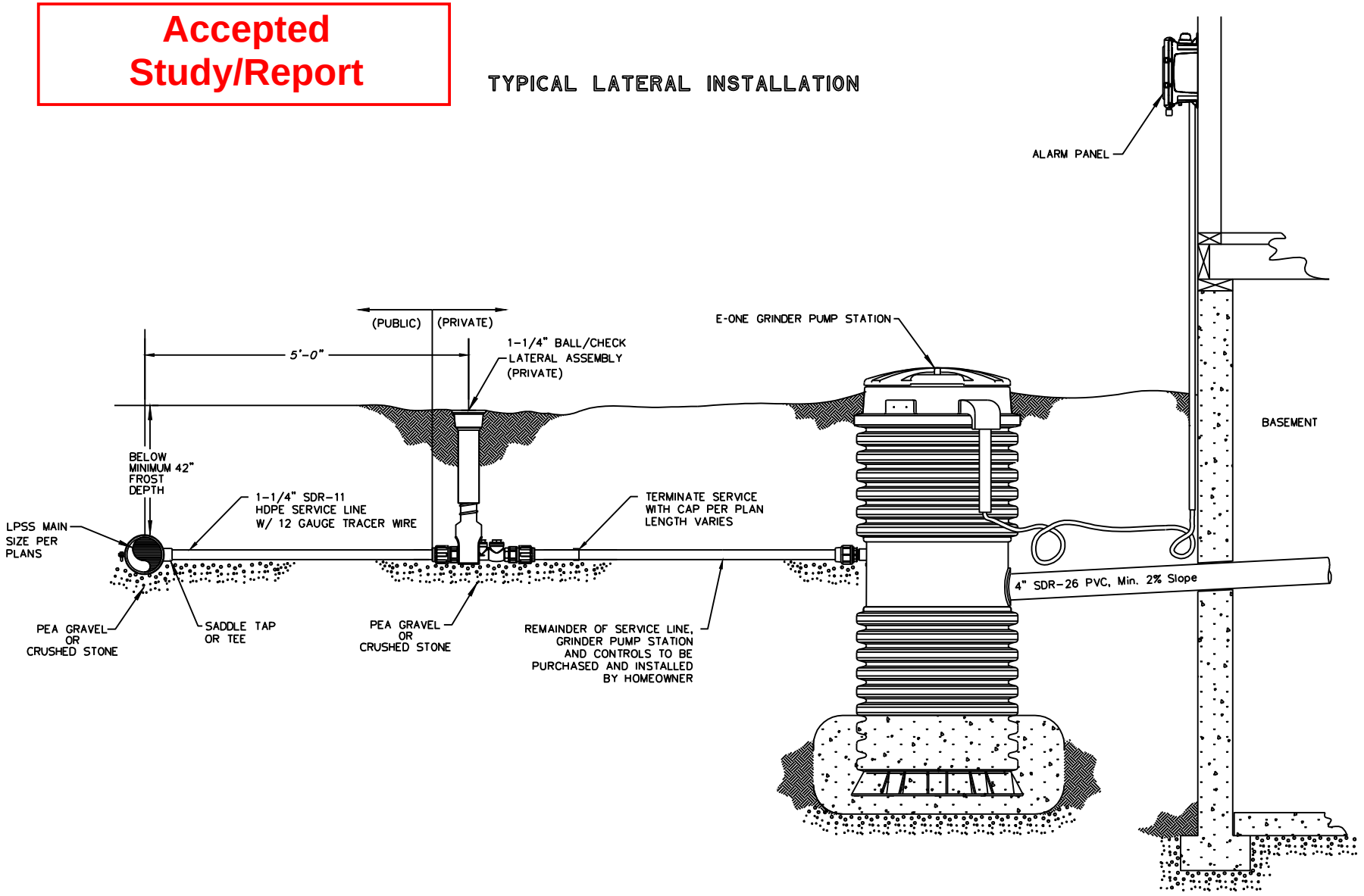
TYPICAL LATERAL INSTALLATION



environment | one
CORPORATION

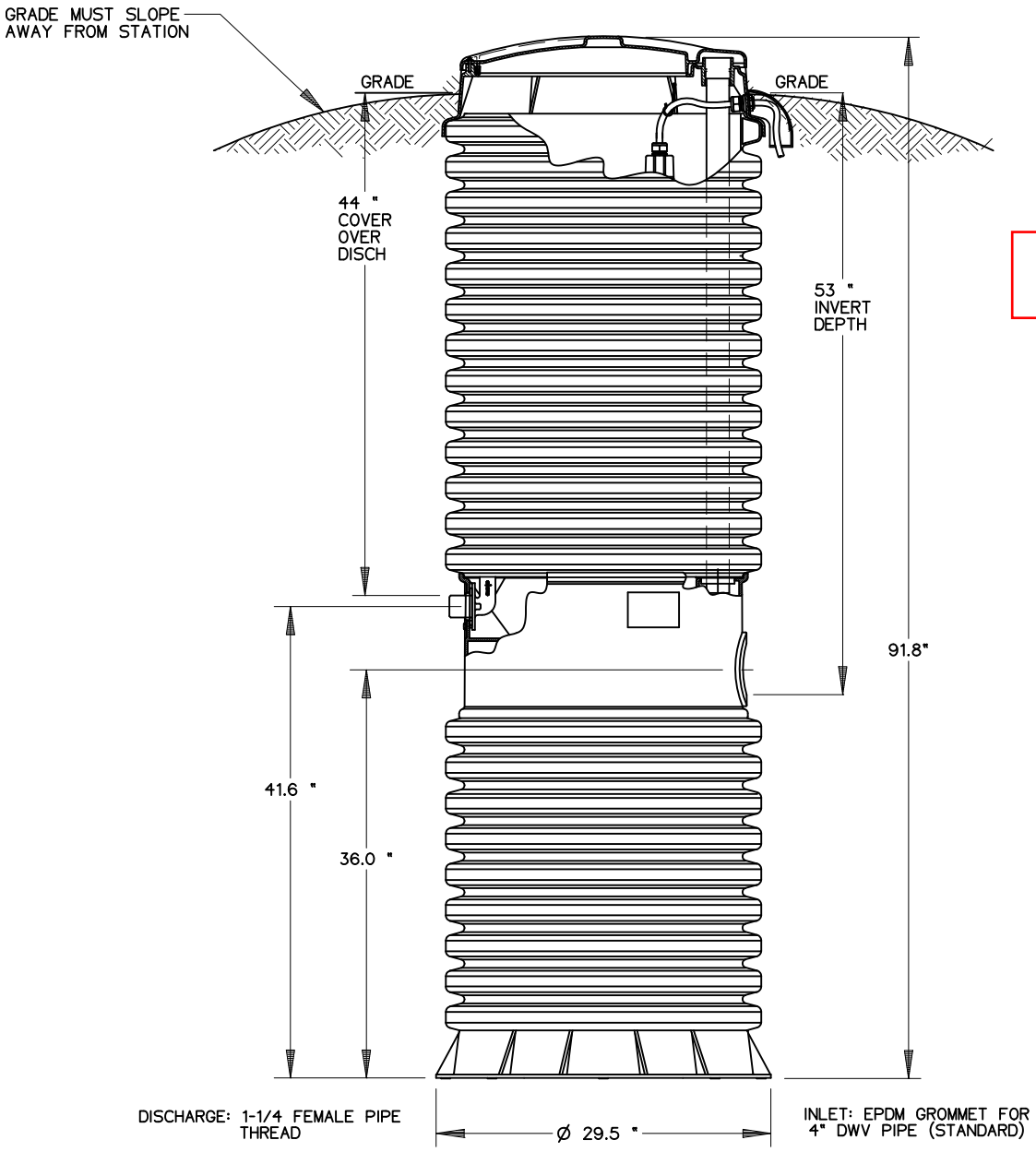
LM000114 REV. A

4. GRINDER PUMP STATIONS

The Woodland Oaks LPS design was based on E-ONE design software and equipment. Other manufacturers' equipment may be substituted in lieu of E-One however the selected equipment is subject to approval by the City and should meet or exceed the E-One specifications outlined in this document. Selected equipment shall be installed per the manufacturer's recommendations.

Both standard and walkout lots shall be served by the LPS system requiring different depth grinder stations depending on the service elevation required. The goal is to maintain a minimum 42" bury depth on the discharge line while providing the minimum storage capacity (70 gallons) required for a single family residence. The standard simplex grinder station for a walkout basement is typically a model DH071-93, see cut sheet attached. The standard simplex grinder station for a standard (full) basement is typically a model DH071-158, see cut sheet attached. The builder/homeowner shall select the basin depth necessary to meet their goals while meeting all applicable plumbing codes. Regardless of basin depth the grinder pump shall have a standard duty point of 11 gpm @ 40 psi and operate over a total dynamic head range of 0 to 175'.

OPTIONS : ☐ DH071-93 (HARD WIRED LEVEL CONTROLS)
☐ DR071-93 (WIRELESS LEVEL CONTROLS)



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CONCRETE BALLAST MAY BE REQUIRED
SEE INSTALLATION INSTRUCTIONS
FOR DETAILS

NOTE: DIMENSIONS ARE FOR REF ONLY

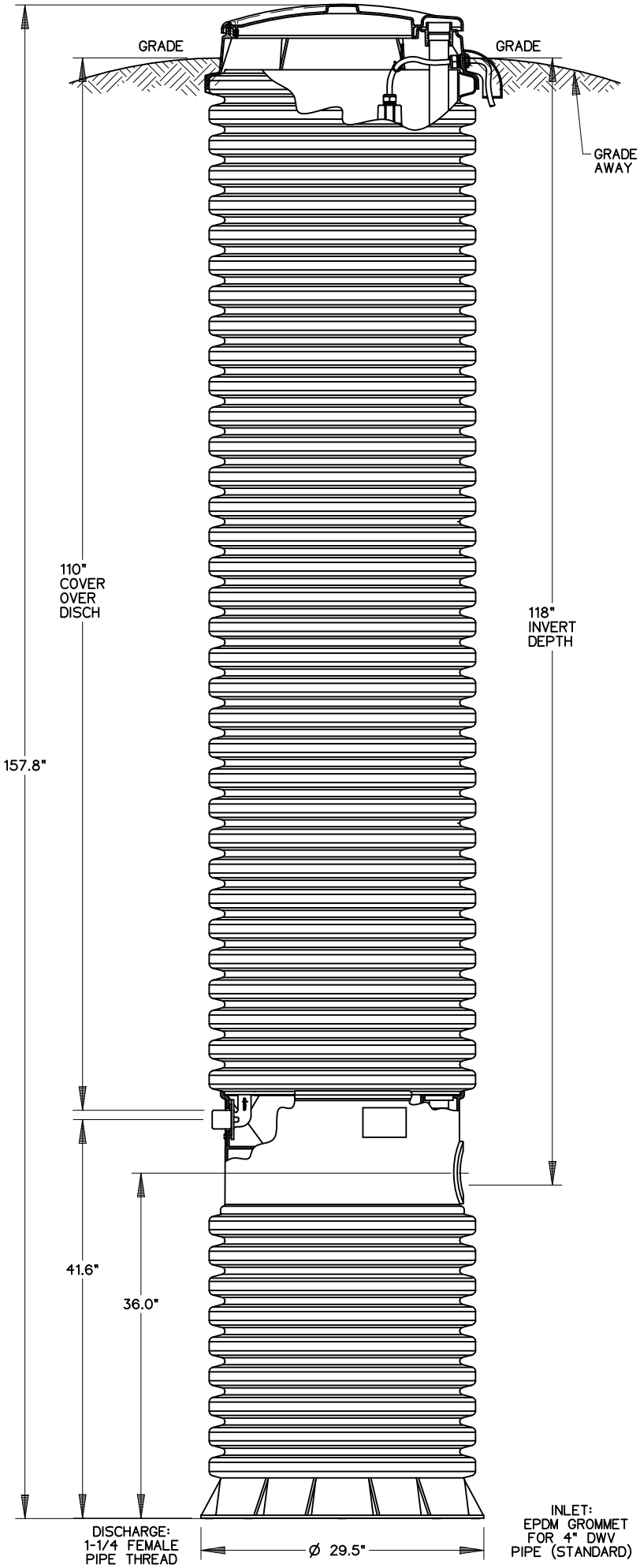
AD	CAH	07/12/07	B	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

SEWER SYSTEMS

MODEL DH071-93 / DR071-93

NA0050P06

OPTIONS : ☐ DH071-158 (HARD WIRED LEVEL CONTROLS)
☐ DR071-158 (WIRELESS LEVEL CONTROLS)



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CONCRETE BALLAST MAY BE REQUIRED SEE INSTALLATION INSTRUCTIONS FOR DETAILS

NOTE: DIMENSIONS ARE FOR REF ONLY

AD	CAH	07/13/07	C	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

SEWER SYSTEMS

MODEL DH071-158 / DR071-158

NA0050P09

E/ONE EXTREME SERIES

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E/One Extender for In-Field Height Adjustments

Stuck with a grinder pump installed too low in the ground and vulnerable to water infiltration?

What in the past might have been a costly field fix is now a simple one. The E/One-engineered Extender provides protection and meets warranty requirements for most Extreme and 2000 Series grinder pump stations.

E/One Extender gives you that extra height when you need it!

Shroud riser makes in-field adjustments easy

A lid that sits too low to the ground is prone to infiltration. E/One Extender provides an easy way to add 6 inches of height.

FEATURES AND BENEFITS

- Provides 6” more station height at a low cost
- Easy to bolt on in the field
- Built-in tube to extend the wet vent
- Gasket and mounting hardware pre-installed — nothing to accidentally drop into the station
- Does not require heavy equipment for excavating around the station
- Reuses the existing accessway cover
- Made from the same high-impact and UV resistant material (HDPE plastic) as the shroud & lid
- Matching green shroud color
- Individually packaged for easy shipping

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Environment One Corporation
2773 Balltown Road, Niskayuna, New York 12309
Voice 518.346.6161 Fax 518.346.6188
www.eone.com A Precision Castparts Company

5. CONTROL (ALARM) PANEL

The control panel at a minimum shall be the Basic E-One simplex controller hard wired for interior or exterior placement as preferred by the end user. E-One also offers panels with additional features beyond the basic, see brochure attached along with a cut sheet for the basic control panel.

The standard pump unit shall be rated 1 horsepower and operate on either 120 VAC or 240 VAC single phase power. A dedicated 30 Amp circuit shall be provided for the simplex grinder pump station. Level control pressure switches come standard with each station. Following are typical level control settings; 14" Pump Off, 18" Pump On and 26" High Level Alarm.

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ALARM PANELS

for E/One Low Pressure Sewer Systems

The World's Best Low Pressure Sewer System Sets The Standard in Reliability and Convenience

e one
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E/ONE SENTRY

The Sentry line of alarm panels is designed for use with E/One grinder pump systems. The alarm panels are configured to provide functions ranging from basic alarm indication to advanced warning of pending service requirements. In between, there are numerous features available including an event counter; run-time meter; service disconnect capability; and remote alarm indication.

Like the E/One grinder pump station, all panels are UL listed and most are CSA certified and meet all applicable NEC and NFPA codes and standards. Furthermore, all E/One Sentry alarm panels are housed in NEMA 4X lockable enclosures, suitable for mounting on a wall or a post.

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The E/One Sentry panels provide a range of features essential to any installation in these options:

E/ONE SENTRY PANEL RANGE	BASIC	PROTECT PLUS	E/ONE SENTRY ADVISOR
High Level Visual/Audible Alarm	✓	✓	✓
Manual Run Button	✓	✓	✓
Start on High Level Alarm	✓	✓	✓
Pump Running Indicator	✓	✓	✓
Brownout Protection		✓	✓*
Overpressure Protection		✓	✓*
Run Dry Protection		✓	✓*
Real Time Operating Parameters		✓	✓*
Historic Operating Parameters		✓	✓*
Cycle Counter/Hour Meter		✓	✓*
Alarm Delay/Power On Delay		✓	✓*
Remote Monitoring			✓
Remote Alarm Notification			✓
Asset Mapping			✓
Performance Reporting			✓

** Functions vary based on panel*

The E/One Remote Sentry Display Module

provides visual and audible indication when the water level inside the grinder pump tank reaches a predetermined “high” level during normal operation, or in the event of a power outage (with hard-wired version of *Extreme* core and optional contacts in panel). It is ideally suited for installations where the outdoor alarm panel location is obstructed from view, or where an Indoor Unit (IDU) installation is isolated in a utility room.

E/One Sentry Protect Plus

The E/One Sentry Protect Plus panel provides important protection from external conditions that could otherwise prove damaging to the E/One grinder pump station.

The Protect Plus option provides a Trouble indication and shuts down the pump temporarily in the event of an unacceptable operating condition.

Protect Plus provides monitoring of:

- Brownout conditions with the electrical power supply
- System over-pressure condition such as with a closed valve
- Run-dry operation of the pump

A diagnostics package provides advanced warning of pending service needs by monitoring major operating conditions and providing a Trouble indication when these conditions fall outside of normal ranges. Depending upon the severity of the abnormal condition, the grinder pump station may continue to operate.

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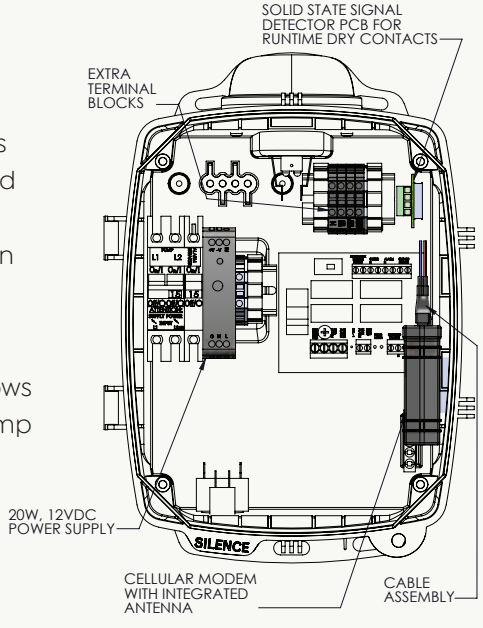
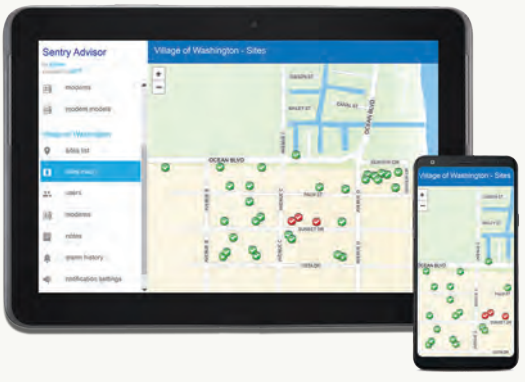
E/One Sentry Advisor

E/One Sentry Advisor monitors pump performance and records every start, run time duration and stop of each grinder pump on the system. Alarm conditions can be sent automatically to service personnel.

The online mapping feature shows the location of each grinder pump in the system, whether there are a few stations or hundreds.

Use reports to review system performance and spot data trends such as frequent alarms or unusually long run times.





ABOVE: Pump performance data can be accessed from any web-enabled device. Generate reports to determine how your system is performing and identify potential trouble spots.

E/One offers a range of alarm panels for simplex, duplex and quadplex grinder pump stations. Learn more at www.eone.com/sewers.

THE FOLLOWING FEATURES ARE INCLUDED OR AVAILABLE

with the E/One Sentry Protect Plus to maximize reliability and convenience:

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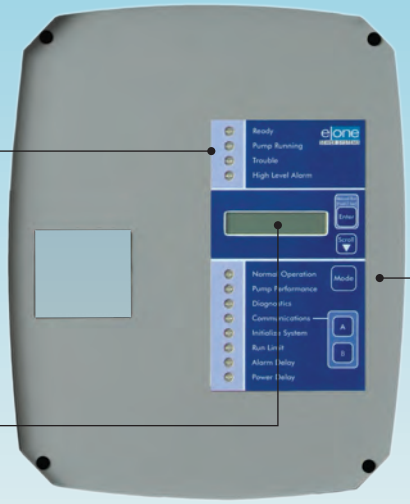
DISPLAY PANEL OPERATING INDICATORS

- Ready (AC Power) Indicator
- Pump Running Indicator
- Trouble Indicator
- High Level Alarm Indicator

LCD DISPLAY

- Manual Run Switch
- Menu Navigation Buttons: Scroll, Enter, Up, Down
- Trouble indications include:
  - Brown-out Condition
  - Run-dry Condition
  - System Over-pressure Condition
  - Run-time Limit Exceeded

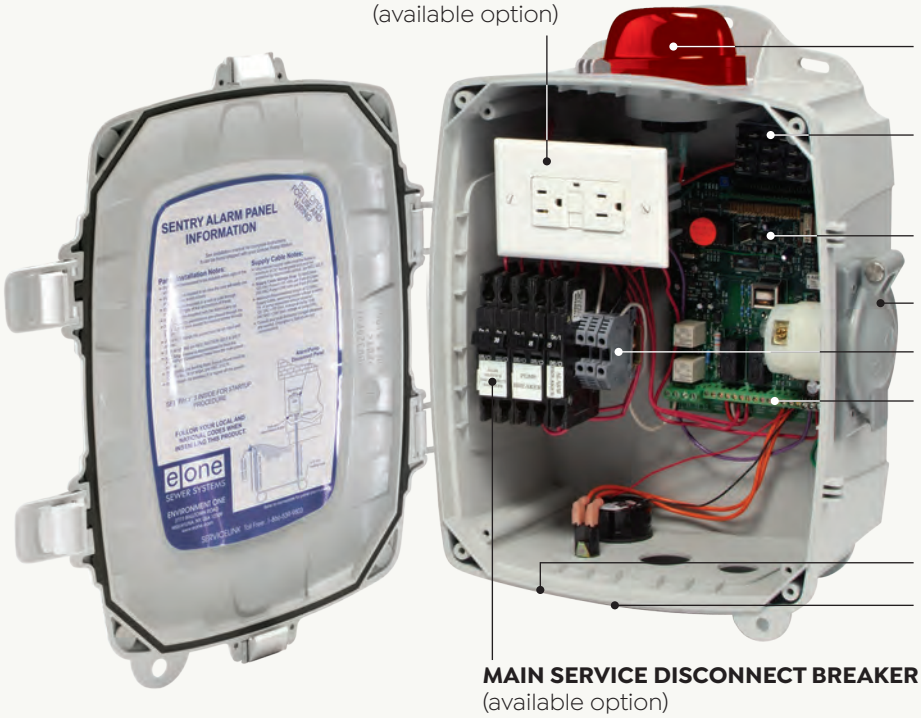


USER SELECTIONS

(For system setup/service)

- Diagnostic Mode
- Pump Performance provides access to performance statistics including:
  - Real-time Voltage
  - Real-time Amperage
  - Real-time Wattage
  - Min/Max/Average Volts
  - Min/Max/Average Amps
  - Min/Max/Average Watts
  - Minimum Run-time
  - Maximum Run-time
  - Average Run-time
  - Last Run-time
  - Cycle Counter
  - Hour Meter
- Initialize System
- Run Limit
- Alarm Delay
- Power Delay

GFCI RECEPTACLE
(2) 120-volt, 15 Amp GFCI receptacles (available option)



VISUAL ALARM INDICATOR

AUTO TRANSFER SWITCH
AC Mains to Portable Generator (available option)

SENTRY ADVISOR MODEM (available option)

GENERATOR RECEPTACLE (available option)

SENTRY ADVISOR POWER SUPPLY (available option)

EASY-ACCESS TERMINAL STRIPS INTERFACE

AUDIBLE ALARM

ALARM SILENCE SWITCH

MAIN SERVICE DISCONNECT BREAKER
(available option)

e/one SEWER SYSTEMS

ENVIRONMENT ONE CORPORATION 2773 Balltown Road, Niskayuna, NY USA 12309-1090
Voice (01) 518.346.6161 | Fax 518.346.6188 | www.eone.com
A Precision Castparts Company | LM000323 Rev. G

e/one sentry

E/ONE EXTREME SERIES

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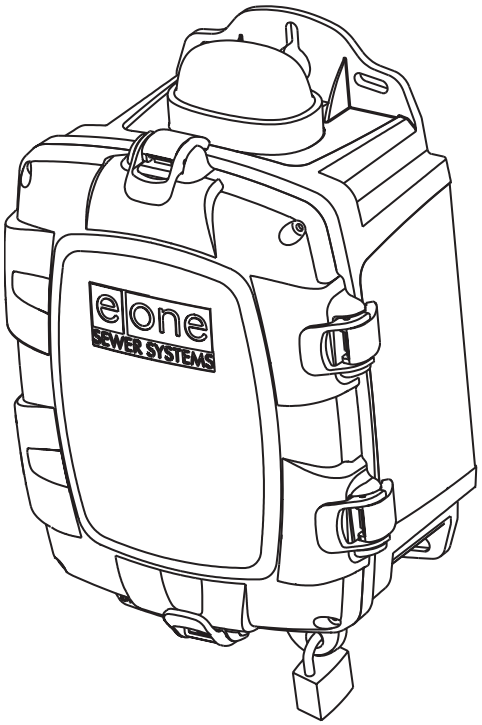
E/One Sentry™

Alarm Panel — Basic Package



Description

The E/One Sentry panels are custom designed for use with Environment One grinder pump stations. They can be configured to meet the needs of your application, from basic alarm indication to advanced warning of pending service requirements.

E/One Sentry panels are supplied with audible and visual high level alarms. They are easily installed in accordance with relevant national and local codes. Standard panels are approved by UL, CSA, CE and NSF to ensure high quality and safety.

The panel features a corrosion-proof, NEMA 4X-rated, thermoplastic enclosure. A padlock is provided to prevent unauthorized entry (safety front).

Standard Features

Circuit breakers, 240 or 120 VAC service

Terminal blocks and ground lugs

Audible alarm with manual silence

Manual run feature and run indicator

Redundant “Start” function with high level alarm

Conformal-coated alarm board (both sides)

Alarm board overload protection

Optional Features

Contact group (dry, powered and Remote Sentry)

Inner cover (dead front)

Hour meter

Generator receptacle with auto transfer

GFCI

Main service disconnect

Brownout protection

Please consult factory for special applications.

SIMPLEX SENTRY

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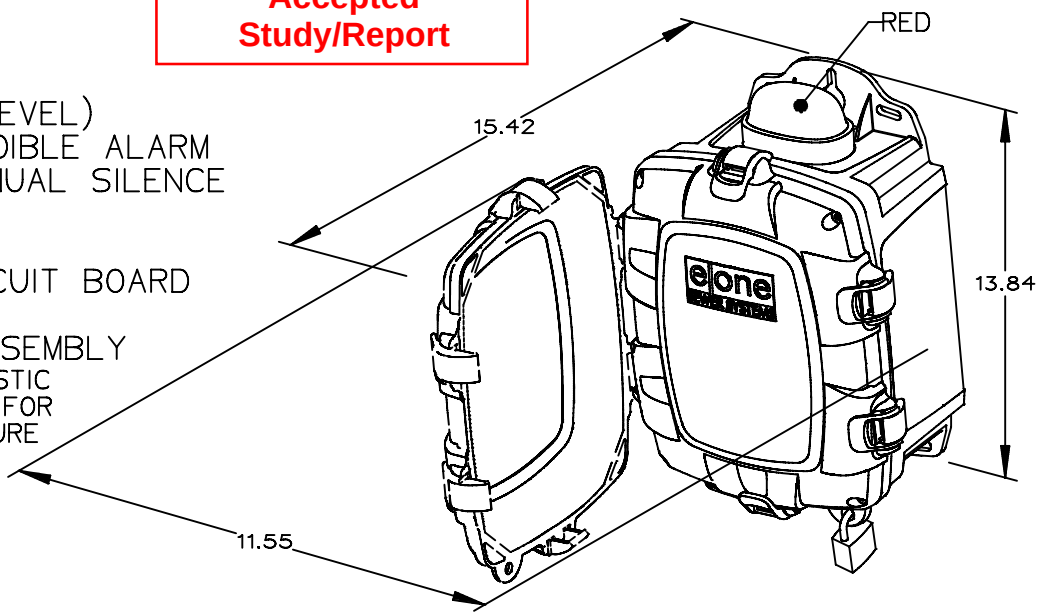
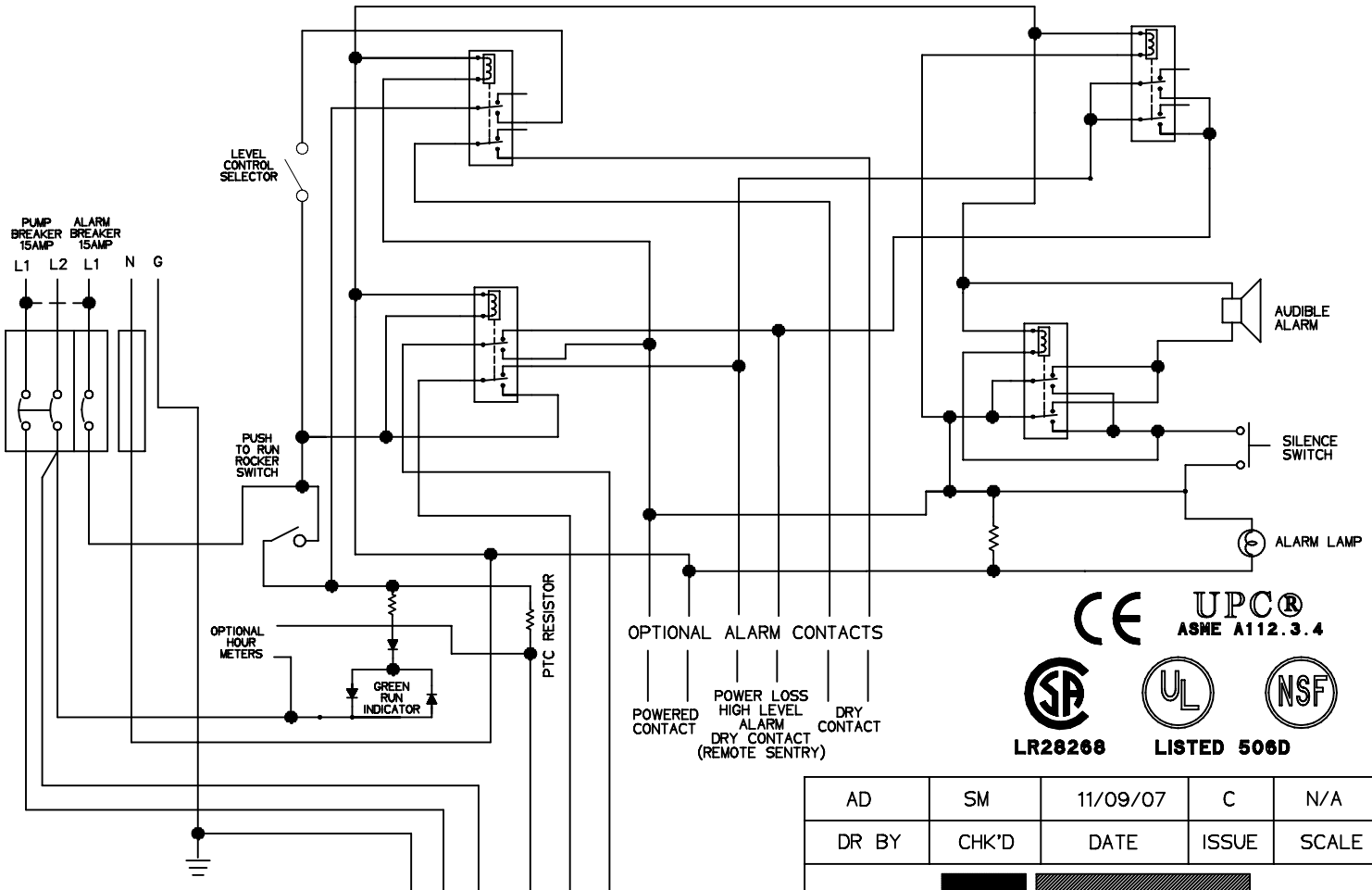
REDUNDANT RUN (HIGH LEVEL)
EXTERNAL VISUAL & AUDIBLE ALARM
EXTERNAL LATCHING MANUAL SILENCE
MANUAL RUN
PUMP RUN INDICATOR
CONFORMAL COATED CIRCUIT BOARD
PADLOCK
NEMA 4X ENCLOSURE ASSEMBLY
CORROSION PROOF THERMOPLASTIC POLYESTER APPROVED BY UL FOR ELECTRICAL CONTROL ENCLOSURE



OPTIONS:

- ☐ ALARM CONTACTS
- ☐ HOUR METER



CE UPC® ASME A112.3.4

CSA LR28268 UL LISTED 506D NSF

PIN	FUNCTION	2000S	EXTREME
1	MANUAL RUN	RED	BROWN
2	L1	BLACK	RED
3	L2	WHITE	BLACK
4	GND	GREEN	GRN/YEL
5	ALARM FEED	ORANGE	YELLOW
6	ALARM RETURN	BLUE	BLUE

CONTROL CABLE:
TYPE TC: DIRECT BURIAL, 12AWG, SIX CONDUCTOR

AD	SM	11/09/07	C	N/A
DR BY	CHK'D	DATE	ISSUE	SCALE

SEWER SYSTEMS

SIMPLEX SENTRY, 240V 60Hz.
DOUBLE POLE POWER

LM000326

SIMPLEX SENTRY

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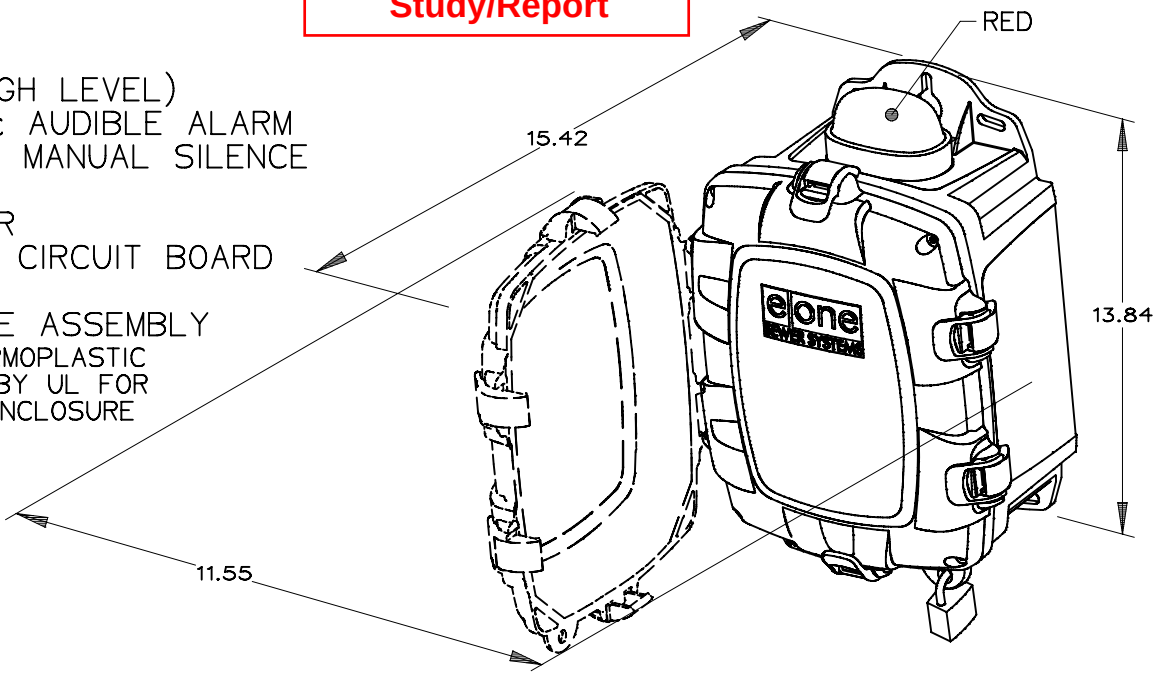
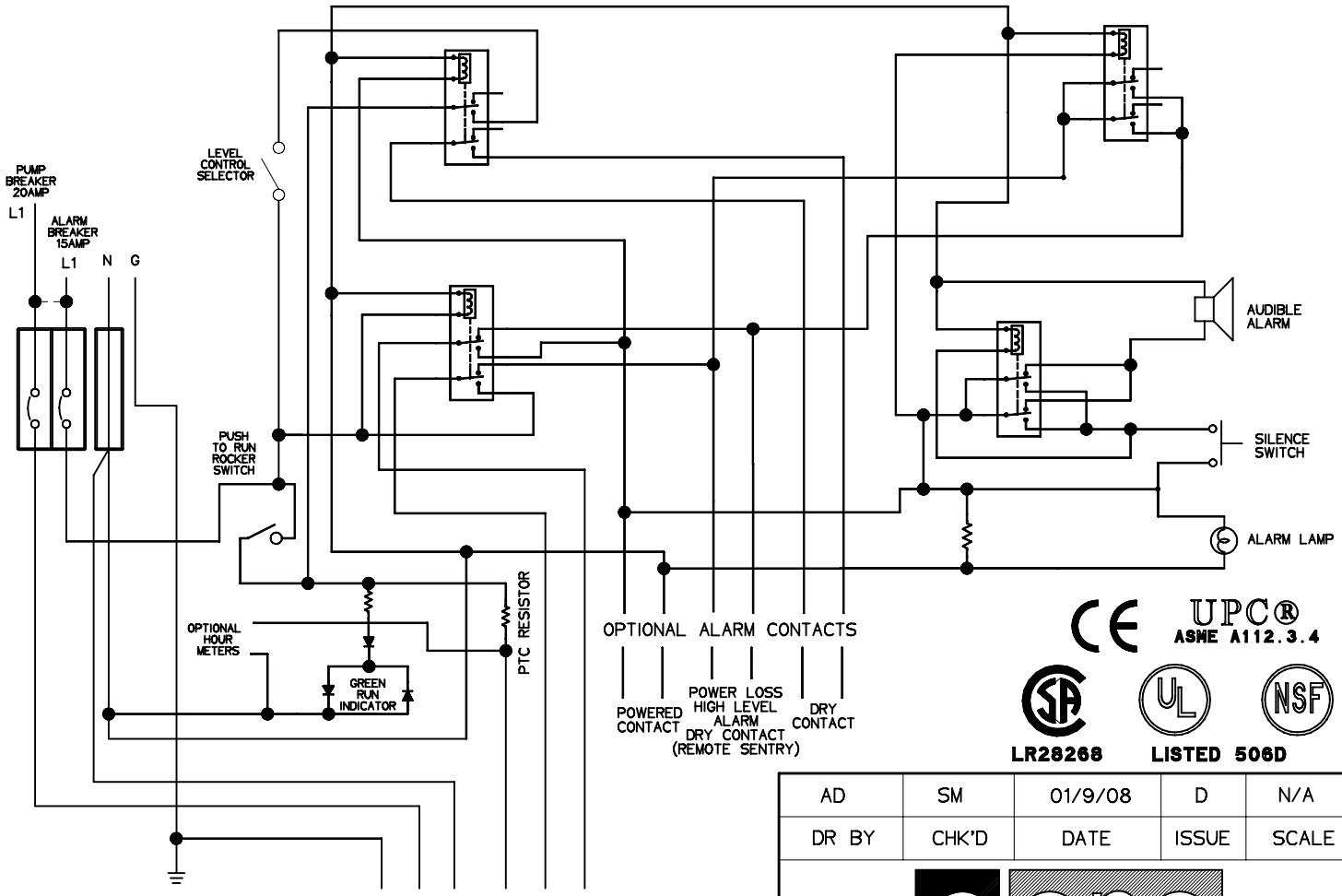
REDUNDANT RUN (HIGH LEVEL)
EXTERNAL VISUAL & AUDIBLE ALARM
EXTERNAL LATCHING MANUAL SILENCE
MANUAL RUN
PUMP RUN INDICATOR
CONFORMAL COATED CIRCUIT BOARD
PADLOCK
NEMA 4X ENCLOSURE ASSEMBLY
CORROSION PROOF THERMOPLASTIC POLYESTER APPROVED BY UL FOR ELECTRICAL CONTROL ENCLOSURE



OPTIONS:

- ☐ ALARM CONTACTS
- ☐ HOUR METER



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4	GND	GREEN	GRN/YEL
5	ALARM FEED	ORANGE	YELLOW
6	ALARM RETURN	BLUE	BLUE

CONTROL CABLE:
TYPE TC: DIRECT BURIAL, 12AWG, SIX CONDUCTOR

UPC® ASME A112.3.4

LR28268 LISTED 506D

AD	SM	01/9/08	D	N/A
DR BY	CHK'D	DATE	ISSUE	SCALE

SEWER SYSTEMS

SIMPLEX SENTRY, 120V 60Hz.
SINGLE POLE POWER

LM000327

6. PIPING (EXTERNAL)

Gravity piping from the residence to the pump station shall be 4” SDR-26 PVC with a minimum 2% slope. Gravity main shall have a minimum buried depth of 36”. See pipe cut sheet attached.

Pressure force main from the pump station to the tie-in point shall be 1.25” SDR 11 HDPE. Force main piping shall be run smooth with no intermediate high or low points prior to connection. The minimum buried depth for force main shall be 42”. A compression coupler shall be used to connect to the LPS System. See pipe and fitting cut sheets attached.

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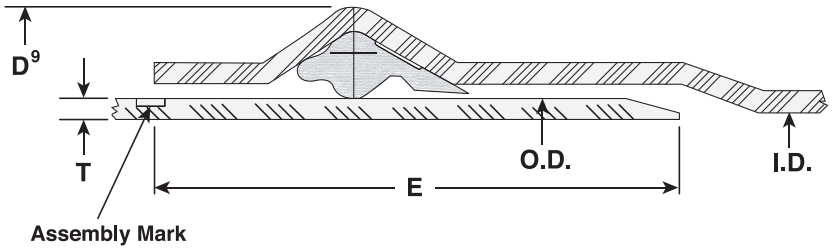
JM Eagle™
Building essentials for a better tomorrow™

GRAVITY SEWER
PIPE AND FITTINGS
SUBMITTAL AND DATA SHEET

JM EAGLE'S RING-TITE JOINT OFFERS ADDITIONAL BENEFITS.

- Seated in a deep groove, the flexible elastomeric Rieber gasket provides a tight seal that protects the line from shock, vibration and earth movement, and compensates for expansion and contraction of the pipe lengths.
- Quick and easy to assemble with a simple push, there's no field mixing or application of cement.
- The joint remains tight under normal operating conditions.

PIPE SIZE (IN)	AVERAGE O.D.(IN)	NOM. I.D. (IN)	MIN. T. (IN)	MIN. E (IN)	APPROX. D^9 (IN)	APPROX. WEIGHT (LBS/FT)
SDR 35 (PS46) ASTM D3034						
4	4.215	3.975	0.120	3.50	4.695	1.05
6	6.275	5.915	0.180	4.25	6.995	2.36
8	8.400	7.920	0.240	4.75	9.360	4.24
10	10.500	9.900	0.300	6.00	11.700	6.64
12	12.500	11.780	0.360	6.25	13.940	9.50
15	15.300	14.426	0.437	7.25	17.048	14.19
SDR 26 (PS115) ASTM D3034						
4	4.215	3.891	0.162	3.50	4.863	1.40
6	6.275	5.793	0.241	4.25	7.239	3.11
8	8.400	7.754	0.323	4.75	9.692	5.63
10	10.500	9.692	0.404	6.00	12.116	8.84
12	12.500	11.538	0.481	6.25	14.424	12.56
15	15.300	14.124	0.588	7.25	17.652	18.90
PS46, ASTM F679						
18	18.701	17.629	0.499	8.00	20.845	21.43
21	22.047	20.783	0.588	9.50	24.575	29.88
24	24.803	23.381	0.661	9.60	27.647	38.96
27	27.953	26.351	0.745	10.10	31.157	49.47
30 CIOD	32.000	30.194	0.853	16.75	35.612	64.18
36 CIOD	38.300	36.042	1.021	19.02	42.816	93.00
42 CIOD	44.500	41.948	1.187	22.43	49.604	—
48 CIOD	50.800	47.888	1.355	24.78	56.624	—
PS115, ASTM F679						
18	18.701	17.261	0.671	8.00	21.581	28.49
21	22.047	20.349	0.791	9.50	25.443	—
24	24.803	22.891	0.889	9.60	28.627	—
27	27.953	25.799	1.002	10.10	32.261	—
30 CIOD	32.000	29.070	1.148	16.75	36.348	—
36 CIOD	38.300	35.464	1.373	19.02	45.438	—
42 CIOD	44.500	41.072	1.596	22.43	51.356	—
48 CIOD	50.800	46.886	1.822	24.78	58.628	—



I.D. : Inside Dameter

O.D. : Outside Diameter

T. : Wall Thickness

D^9 : Bell Outside Diameter

E : Distance between Assembly Mark to the end of spigot.

Product Standard:	ASTM 3034 (4"–15") ASTM F679 (18"–48")
Pipe Compound:	ASTM D1784 Cells Class 12454 or 12364
Gasket:	ASTM F477
Integral Bell Joint:	ASTM D3212
Pipe Stiffness:	ASTM D2412 F/ΔY = 46 PSI or 115 PSI
Pipe Length:	14 or 20 feet laying length
Installation:	ASTM D 2321 JM Eagle™ Installation Guide

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GRAVITY SEWER

SUBMITTAL AND DATA SHEET

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PIPE SIZE (IN)	AVERAGE O.D. (IN)	NOM. I.D. (IN)	MIN. T. (IN)	MIN. E (IN)	APPROX. D (IN)	APPROX. WEIGHT (LBS/FT)
SDR 35 (PS46) ASTM D3034						
4	4.215	3.975	0.120	3.50	4.695	1.05
6	6.275	5.915	0.180	4.25	6.995	2.36
8	8.400	7.920	0.240	4.75	9.360	4.24
10	10.500	9.900	0.300	6.00	11.700	6.64
12	12.500	11.780	0.360	6.25	13.940	9.50
15	15.300	14.426	0.437	7.25	17.048	14.19
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10	10.500	9.692	0.404	6.00	12.116	8.84
12	12.500	11.538	0.481	6.25	14.424	12.56
15	15.300	14.124	0.588	7.25	17.652	18.90
PS46, ASTM F679						
18	18.701	17.629	0.499	8.00	20.845	21.43
21	22.047	20.783	0.588	9.50	24.575	29.88
24	24.803	23.381	0.661	9.60	27.647	38.96
27	27.953	26.351	0.745	10.10	31.157	49.47
30 CIOD	32.000	30.194	0.853	16.75	35.612	64.18
36 CIOD	38.300	36.042	1.021	19.02	42.816	93.00
42 CIOD	44.500	41.948	1.187	22.43	49.604	—
48 CIOD	50.800	47.888	1.355	24.78	56.624	—
PS115, ASTM F679						
18	18.701	17.261	0.671	8.00	21.581	28.49
21	22.047	20.349	0.791	9.50	25.443	—
24	24.803	22.891	0.889	9.60	28.627	—
27	27.953	25.799	1.002	10.10	32.261	—
30 CIOD	32.000	29.070	1.148	16.75	36.348	—
36 CIOD	38.300	35.464	1.373	19.02	45.438	—
42 CIOD	44.500	41.072	1.596	22.43	51.356	—
48 CIOD	50.800	46.886	1.822	24.78	58.628	—

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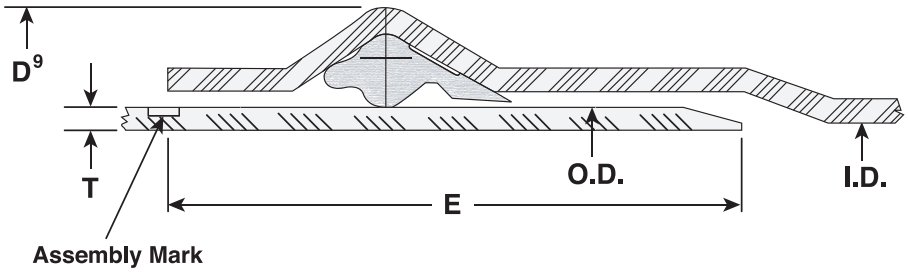

I.D. : Inside Dameter
O.D. : Outside Diameter
T. : Wall Thickness
D^9 : Bell Outside Diameter
E : Distance between Assembly Mark to the end of spigot.

Product Standard:	ASTM 3034 (4”–15”) ASTM F679 (18”–48”)
Pipe Compound:	ASTM D1784 Cells Class 12454 or 12364
Gasket:	ASTM F477
Integral Bell Joint:	ASTM D3212
Pipe Stiffness:	ASTM D2412 F/ΔY = 46 PSI or 115 PSI
Pipe Length:	14 or 20 feet laying length
Installation:	ASTM D 2321 JM Eagle™ Installation Guide

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POLYETHYLENE WATER & SEWER

SUBMITTAL AND DATA SHEET

HDPE IRON PIPE SIZE (I.P.S.) PRESSURE PIPE

ANSI/NSF-61, 14 LISTED

PE 4710		DR 7 (335 psi)			DR 9 (250 psi)			DR 11 (200 psi)		
PE 3408/3608		DR 7 (265 psi)			DR 9 (200 psi)			DR 11 (160 psi)		
PIPE SIZE	AVG. O.D.	MIN. T.	AVG. I.D.	WEIGHT LB/FT	MIN. T.	AVG. I.D.	WEIGHT LB/FT	MIN. T.	AVG. I.D.	WEIGHT LB/FT
1/2	0.840	0.120	0.586	0.12	0.093	0.643	0.10	0.076	0.679	0.08
3/4	1.050	0.150	0.732	0.18	0.117	0.802	0.15	0.095	0.849	0.12
1	1.315	0.188	0.916	0.29	0.146	1.005	0.23	0.120	1.061	0.20
1-1/4	1.660	0.237	1.158	0.46	0.184	1.270	0.37	0.151	1.340	0.31
1-1/2	1.900	0.271	1.325	0.60	0.211	1.453	0.49	0.173	1.533	0.41
2	2.375	0.339	1.656	0.94	0.264	1.815	0.76	0.216	1.917	0.64
3	3.500	0.500	2.440	2.05	0.389	2.675	1.66	0.318	2.826	1.39
4	4.500	0.643	3.137	3.39	0.500	3.440	2.74	0.409	3.633	2.29
5-3/8	5.375	0.768	3.747	3.75	0.597	4.109	4.11	0.489	4.338	4.34
5	5.563	0.795	3.878	5.17	0.618	4.253	4.18	0.506	4.490	3.51
6	6.625	0.946	4.619	7.33	0.736	5.065	5.93	0.602	5.349	4.97
7	7.125	0.976	5.056	8.20	0.792	5.446	6.86	0.648	5.751	5.75
8	8.625	1.232	6.013	12.43	0.958	6.594	10.05	0.784	6.963	8.43
10	10.750	1.536	7.494	19.32	1.194	8.219	15.61	0.977	8.679	13.09
12	12.750	1.821	8.889	27.16	1.417	9.746	21.97	1.159	10.293	18.41
14	14.000	2.000	9.760	32.76	1.556	10.107	26.50	1.273	11.301	22.20
16	16.000	2.286	11.154	42.79	1.778	12.231	34.60	1.455	12.915	29.00
18	18.000	2.571	12.549	54.14	2.000	13.760	43.79	1.636	14.532	36.69
20	20.000	2.857	13.943	66.85	2.222	15.289	54.05	1.818	16.146	45.30
22	22.000	3.143	15.337	80.89	2.444	16.819	65.40	2.000	17.76	54.82
24	24.000	3.429	16.732	96.27	2.667	18.346	77.85	2.182	19.374	65.24
26	26.000	—	—	—	2.889	19.875	91.36	2.364	20.988	76.57
28	28.000	—	—	—	3.111	21.405	105.95	2.545	22.605	88.78
30	30.000	—	—	—	3.333	22.934	121.62	2.727	24.219	101.92
32	32.000	—	—	—	—	—	—	2.909	25.833	115.97
34	34.000	—	—	—	—	—	—	3.091	27.447	130.93
36	36.000	—	—	—	—	—	—	3.273	29.061	146.80

I.D. : Inside Diameter
O.D. : Outside Diameter
T. : Wall Thickness

* For data, sizes, or classes not reflected in these charts, please contact JM Eagle™ for assistance.

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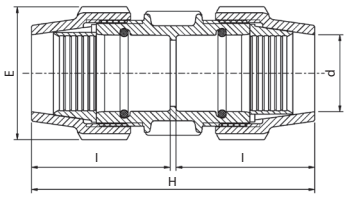
Coupling
Enlace recto

0701M0



Size d x d	E	H	I	UB	UC	W
½″ x ½″	1.89	4.76	2.28	10	200	0.20
¾″ x ¾″	2.13	4.92	2.36	10	180	0.26
1″ x 1″	2.52	5.71	2.76	5	100	0.42
1¼″ x 1¼″	3.23	6.97	3.39	—	75	0.72
1½″ x 1½″	3.78	7.91	3.86	—	45	1.05
2″ x 2″	4.45	9.06	4.41	—	30	1.60
3″ x 3″	5.98	13.35	6.30	—	10	4.32
4″ x 4″	7.12	15.74	7.68	—	5	6.34

TECHNICAL SPECIFICATIONS

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Technical Specifications and Installation Instructions

Suitable Pipe

Plasson Fittings shown in this catalogue are suitable for use with IPS Inch size PE pipes made according to standard ASTM D 3035, ASTM F714, AWWA C906.

Threads

The threads, male and female, fit to NPT threads.

Operating Pressures

Plasson compression fittings up to 2" and compression stoptaps are tested and approved to PN 16 bars, according to ISO 14236 which corresponds to a working pressure of 230 psi. 3" and 4" fittings are approved for 200 PSI (14 bars)
The Quick Coupling Valve, Angle Seat Valve and the Check Valve working pressure is 120 psi (8 bars).

Operating Temperatures

The fittings and valves are not to be used with hot water, although they withstand the same temperature as the polyethylene pipe itself. The fittings and valves will withstand sub-zero temperatures.

Quality Assurance

Plasson's Quality Assurance System is ISO - 9001 certified.

Materials

Compression Fittings & Valves
Body: Polypropylene, high-grade copolymer
Nut: Polypropylene, high-grade copolymer
Split Ring: Acetal (POM)
Seal: Nitrile rubber (NBR)
Check valve seal: EPDM
Check Valve Spring: Stainless steel

Legend

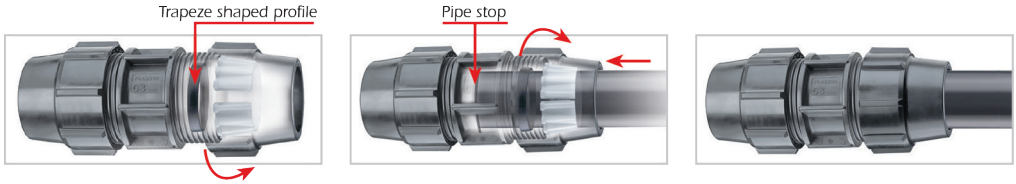
All dimensions are in inches, weights in Lbs

A, A1 Length from centerline to end of fitting
L, L1 Length
B, D, D1 Diameter
d, d1 Nominal diameter of fitting corresponding to nominal OD of pipe
E, E1 Overall diameter of compression fitting
G, G1 Nominal size of thread (inches)
H Overall length of fitting
l, l1 Length of portion of the pipe inside the fitting
l2 Length of thread
W Weight in Lbs

Installation Instructions

½" - 2"

- Cut the pipe square, chamfer the end of the pipe. Undo the nut to the last thread. Leave the nut on the fitting while inserting the pipe.



- Twist the pipe into the fitting* through the split ring and rubber seal to the pipe stop. Tighten the nut firmly.
- Use a Plasson wrench (or similar tool) for final tightening of sizes 11/4" and above.
- The nut should be closed tightly, however there is no need for the nut to actually meet the body shoulder.

* Lubrication of the pipe end will ease insertion of the pipe (use silicone lubricant).

Note: Before installation ensure:
That the end of the pipe to be inserted into the fitting is free of scratches and other imperfections and that both the pipe and the fitting itself are clean of sand, mud, stones etc. If fittings are reused, ensure split ring is sharp and bites into pipe to avoid pull outs. Alternatively replace split ring.

We strongly recommend the use of PTFE tape in threaded connections.

PLASS4

Cut the pipe square and remove all burrs and sharp edges.

- Select correct fitting according to the external diameter of the pipe.
- Slide the PLASS4 fitting (universal side) onto the pipe, until it reaches the internal fins and a slight resistance is felt. Do not force the pipe end past the fins.

- Holding the PLASS4 body with a wrench, tighten the PLASS4 universal nut firmly with a wrench
- Assemble the standard PE joint as per the standard fitting instructions.

Note: If reusing the fitting, ensure the metal teeth are located in the grip ring and pipe end does not pass the location fins in the body.

6. LPS GENERAL LAYOUT

The low pressure sewer (LPS) general layout is shown on the following page. The layout has been included to help lot owner's identify the location of their sewer stub and subsequent lateral assembly made up of an isolation ball valve with integral check valve.

GRAPHIC SCALE 0 40' 80' 160'

SANITARY GENERAL LAYOUT

SCALE: 1" = 80'

GENERAL NOTE:

1 ~ ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2 ~ TRACER WIRE SHALL BE INSTALLED ON ALL FORCEMAINS AND SERVICE LATERALS.

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Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Part of the Southeast ¼
Section 27, Township 48 North, Range 31 West
Lee's Summit, Jackson County, Missouri

Project: WOODLAND OAKS LSMO
Issue Date: February 25, 2021

Sanitary Sewer General Layout
Construction Plans for:
WOODLAND OAKS
Lots 1 thru 42
Lee's Summit, Jackson County, Missouri

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS
REV. 5/5/2021
REV. 5/26/2021
REV. 6/22/2021
REV. 6/29/2021