COASTSIDE COUNTY WATER DISTRICT

766 MAIN STREET

HALF MOON BAY, CA 94019

SPECIAL MEETING OF THE BOARD OF DIRECTORS

Tuesday, September 25, 2012 – 3:00 p.m.

AGENDA

1) ROLL CALL

2) PLEDGE OF ALLEGIANCE

3) PUBLIC COMMENT

Members of the public may address the Board of Directors on the items on the agenda for this special meeting. The Chair requests that each person addressing the Board complete and submit a speaker slip, and limit their comments to three (3) minutes.

4) GENERAL BUSINESS

A. Stone Dam Pipeline Emergency Interim Replacement Project

5) ADJOURNMENT

Accessible Public Meetings *- Upon request, the Coastside County Water District will provide written agenda materials in appropriate alternative formats, or disability-related modification or accommodation, including auxiliary aids or services, to enable individuals with disabilities to participate in public meetings. Please send a written request, including your name, mailing address, telephone number and brief description of the requested materials and preferred alternative format or auxiliary aid or service at least two (2) days before the meeting. Requests should be sent to: Coastside County Water District, Attn: Alternative Agenda Request, 766 Main Street, Half Moon Bay, CA 94019.*

STAFF REPORT

To: **Coastside County Water District Board of Directors**

From: **David Dickson, General Manager**

Agenda: **September 25, 2012**

Report Date: September 24, 2012

Subject: **Stone Dam Pipeline Emergency Interim Replacement Project**

Recommendation:

Approve the Stone Dam Pipeline Emergency Interim Replacement Project; authorize staff to file a Notice of Exemption from the California Environmental Quality Act; and authorize staff to purchase necessary pipe and related supplies and to contract for installation support as necessary, at an estimated project cost of $100,000.

Background:

The recent failure of the Stone Dam pipeline in Pilarcitos Canyon has created an emergency situation which requires an immediate response. The District-owned pipeline provides one of the District's three principal water sources, conveying Pilarcitos Reservoir water from Stone Dam on San Francisco Public Utilities Commission (SFPUC) property to the District's Pilarcitos East pipeline. The District uses Pilarcitos Reservoir as its primary water source because the water flows to the Nunes Water Treatment Plant and into the District's system entirely by gravity. The failure of the Stone Dam pipeline resulted in the District having to stop taking its water supply from Pilarcitos Reservoir and switch over to Crystal Springs Reservoir as its sole source of supply at this time. Under normal operating conditions, the District relies on Crystal Springs Pump Station and the Denniston Water Treatment Plant to meet any demand exceeding supply available from Pilarcitos. With the Denniston plant currently out of service for construction, the Stone Dam pipe failure exposes the District to a total loss of water supply in the event of a problem that shuts down the Crystal Springs Pump Station.

Given the critical importance of the Stone Dam pipeline, replacing the existing failed pipe immediately with a temporary line is the only viable alternative that would enable the District to receive water from Pilarcitos Reservoir within the next few months. Repairing the current leak, discovered about August 28 in a long-overgrown section of the original alignment, will require clearing and grading to get an excavator to the leak site. The pipe, a 12-inch welded steel line constructed in 1948, has reached the end of its useful life and would continue to be highly unreliable after the repair. Although the District's Capital Improvement Program budget includes $1.1 million over the next two fiscal

years for a permanent replacement, the challenges of permitting a significant construction project in this sensitive area could significantly extend the project schedule. A temporary 12-inch plastic line, approximately 2500 feet long, will provide reliable interim service until the District evaluates, designs, and completes construction of a permanent solution to the failed Stone Dam pipeline. The temporary pipeline, which provides the same water supply capacity and serves the same purpose as the failed existing Stone Dam pipeline, can be installed quickly, relatively inexpensively, and with minimal impact.

The Stone Dam Pipeline Interim Replacement Project would involve the following:

1. Connect the temporary pipeline to the existing piping immediately downstream of the SFPUC Stone Dam meter.
2. Run temporary piping on the surface along existing SFPUC road, then down the old road leading to the District's property in Pilarcitos Canyon. The old road is somewhat overgrown but is in generally good condition and would not require grading for installation of the pipeline, other than some minor grading on CCWD property at the lower end of the road.
3. The temporary pipe will be Yelomine PVC pipe (see Attachment A), 12-inch diameter, installed in 20 foot lengths and joined with couplings designed for future disassembly. Total length of pipe to be installed is about 2,500 feet.
4. Pipe will be held in place with steel posts driven into the ground beside the pipe and spaced at appropriate intervals.
5. Equipment employed for construction will be limited to a mini-excavator, used only to move pipe sections into position.
6. Vegetation will be cleared only to the extent that it has grown into the existing roadway in order to accommodate pipe placement and future pipe inspection.

The Stone Dam Pipeline Emergency Interim Replacement Project is exempt from the California Environmental Quality Act because all or some of the project falls within one or more statutory or categorical exemptions. The project involves an emergency repair to a critical water supply pipeline that is necessary to provide water service from the Pilarcitos Reservoir and to prevent a complete loss of water supply in the event of a situation that results in the shutdown of the Crystal Springs Pump Station while the Denniston Water Treatment Plant is out of service. In addition, the project involves the temporary replacement of an existing water supply pipeline that is the same capacity, and therefore does not result in an expansion of capacity, and much of the interim replacement pipeline is in the same general site as the existing pipeline. The project also involves the minor alteration of land.

Staff has met with SFPUC representatives to discuss the project, and the SFPUC Project Review Committee will consider our project application at their meeting on September 26. The SFPUC staff supports the proposed Stone Dam Pipeline Emergency Interim Replacement Project and believes this project is the best alternative under the circumstances.

Estimated cost of the interim replacement project is about $60,000 for pipe and related materials, and $40,000 for installation. In order to expedite the project, staff proposes to purchase the pipe immediately following the Board's approval and begin construction upon obtaining project approval from SFPUC. Our goal would be to have the temporary pipe in place before the rainy season.

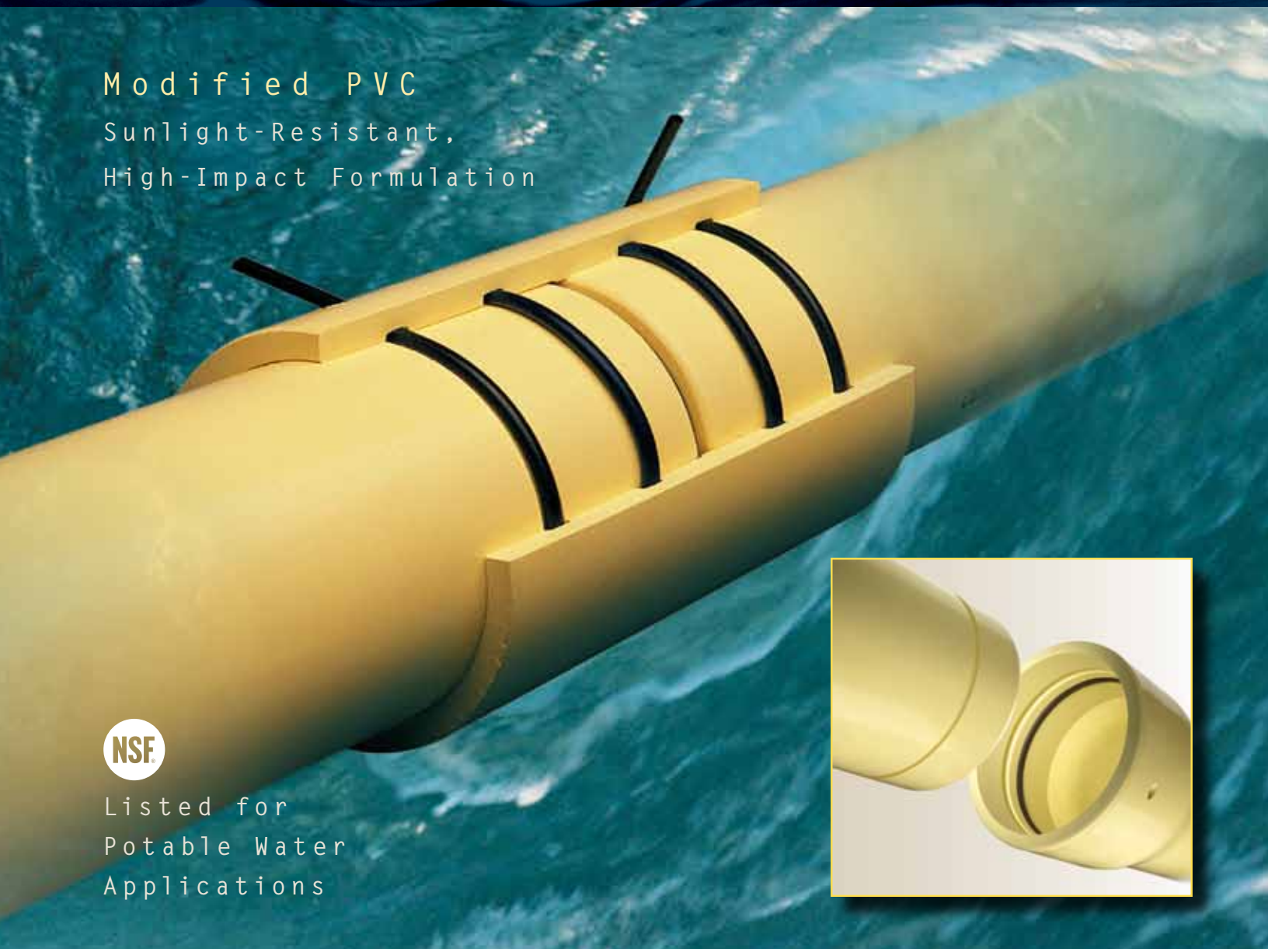
Attachment A

CertainTeed

Certa-Lok™ Yelomine™

Restrained Joint PVC Pressure Piping System

Trenchless • Municipal • Mining • Irrigation



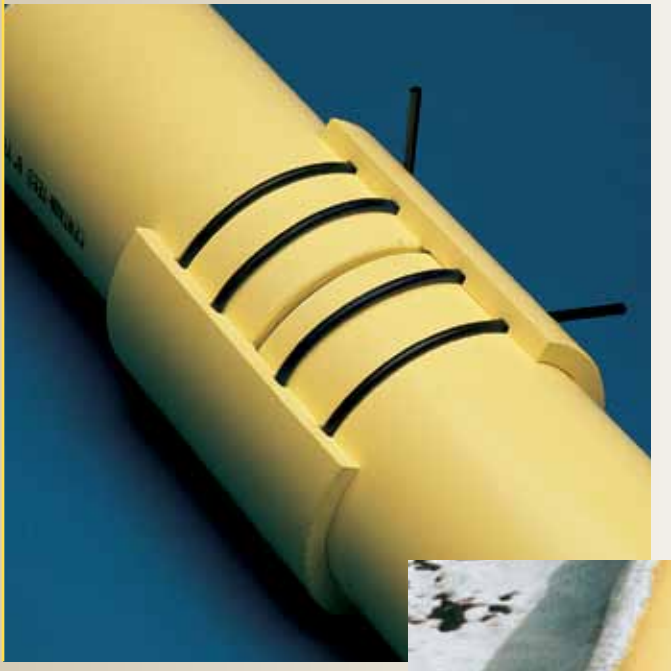
CertainTeed
SAINT-GOBAIN

Certa-Lok™ Yelomine™

Restrained Joint PVC Pressure Piping System

FOR TRENCHLESS, MINING, INDUSTRIAL AND OTHER APPLICATIONS

Certa-Lok™ Yelomine™ is designed and engineered to meet your tough or restrained joint piping requirements. The Certa-Lok Yelomine piping system can provide a unique solution to many of your specialty and standard piping system needs, whether for temporary or permanent installations.



Certa-Lok Yelomine is performance proven for a broad range of piping applications.

The unique Certa-Lok Yelomine joining system and superior physical properties limit possible applications to only the imagination and ingenuity.

Certa-Lok Yelomine pipe and fittings are available in 2" through 16" diameters, in pressure classes of 125 to 315 psi. Low pressure (100 psi) pipe is also available – call for details. Certa-Lok Yelomine is manufactured with IPS outside diameters and is available in 20' laying lengths.

CertainTeed Certa-Lok Yelomine is manufactured from a specially formulated PVC compound that contains impact modifiers and UV (Ultraviolet) inhibitors. These modifiers and inhibitors provide higher impact strength over an extended period of time and allow Certa-Lok Yelomine to be used in above-ground, exposed applications as well as in underground or buried applications.

Only high-strength PVC compound having a minimum cell classification of 12454, as defined in ASTM D1784, is used in the production of Yelomine pipe and couplings.

The inherent properties of PVC provide a product that will not rust or corrode, and is extremely resistant to harsh environments, acids and most chemicals.

Certa-Set™ Agriculture Irrigation System with Certa-Lok™ self-restraining joint technology

Certa-Lok Yelomine pipe, couplings and fittings provide a restrained joint by utilizing precision-machined grooves on the pipe and in the coupling which, when aligned, allow a spline to be inserted, resulting in a fully circumferential restrained joint that locks the pipe and coupling together. A flexible elastomeric seal (O-ring) in the coupling provides a hydraulic pressure seal.

The Certa-Lok joint is fast, simple and reliable, and requires no solvent welding, butt fusion welding, bolting, wrenches, or specialty equipment to assemble. Assembled joints are strong and typically require no thrust blocking.

Certa-Lok Yelomine joints can be easily disassembled, allowing for system changes, extension, movement or reuse of the entire system.

CertainTeed offers a comprehensive line of Certa-Lok Yelomine fittings: change of direction (elbows, sweeps, tees), adapters to other materials, joining systems (flange adapters, threaded adapters, metal-groove), service outlets (tapped couplings), and so on.

Certa-Lok Yelomine allows for easy field fabrication. When making field cuts, it is best to use a PVC pipe cutter to ensure a square cut end. Square cuts are essential to ensure proper alignment. A conventional saw or power saw may be used if a pipe cutter is not available. CertainTeed offers a power routing tool for field fabrication of the pipe groove required on Certa-Lok Yelomine. For cutting and grooving instructions, see 40-90-43, “Certa-Lok Yelomine Specifications and Dimensions.”

Applications

- Above-Ground Pressure Lines
- Buried Pressure Lines
- Bridge Crossings
- River & Creek Crossings
- Drip Irrigation
- Solid Set Irrigation
- Slurry Lines
- Supply Lines (Permanent)
- Supply Lines (Temporary)
- Trenchless
- Temporary Bypass
- Industrial Piping
- Process Piping
- Transmission Lines
- Lake and Pond Intake
- Dredging
- Acid Waste
- Tough Terrain
- Aeration Supply Lines
- Boat Dock Water & Sewer Lines
- Sewer Force Mains
- Gravity Sewer
- Unstable Soil Applications
- Oil Field Lead Lines
- Oil Field Salt Water Disposal
- Bridge & Highway Drainage
- Center Pivot Sprinkler Lines
- Fire Protection Lines
- Temporary Potable Water & Fire Supply Lines for Recreation Areas
- Leachate Collection
- Road Crossings
- In-situ Mining Wells
- Heap-Leach Mining
- Vacuum Lines
- Dewatering Systems
- Effluent and Reclaimed Water Lines
- Emergency Water Systems

Non-Permanent Use and Permanent Use

CERTA-LOK JOINT

Certa-Lok Yelomine pipe and fittings have been successfully servicing the industry for many years. In order to enhance performance and better accommodate customer needs, CertainTeed offers two types of Certa-Lok Yelomine: Permanent Use and Non-Permanent Use. Both couplings are similar in design: the main difference is the O-ring supplied. Non-Permanent O-rings have a slightly reduced cross-section for easy assembly and disassembly. Permanent Use O-rings have a slightly larger cross-section and are not designed for disassembly. Both types of rings are Teflon®-coated.

Yelomine IB trenchless installation

Non-Permanent Use Certa-Lok Joint

SIZES 2" THRU 16"

Non-Permanent Use Certa-Lok Joints are typically used in above-ground, exposed installations, such as mining, irrigation, temporary bypass or slurry lines, or any installation that requires disassembly and reuse.

CAUTION: *Non-Permanent Use Certa-Lok Joints should not be used in buried or submerged applications.*

Permanent Use Certa-Lok Joint

SIZES 2" THRU 16"

Permanent Use Certa-Lok Joints utilize an O-ring with a slightly larger cross-section. The joint assembles easily with lubricant. Disassembly can be achieved, but can be extremely difficult depending on the diameter of the piping system.

Permanent Use Certa-Lok Joints are intended for use in all installations that do not require disassembly during the service life of the system. Applications include buried installations, bridge, river and road crossings, and all installations that would expose joints to long-term or excessive misalignment due to external loads.

If in doubt as to which system, Non-Permanent or Permanent Use, is best suited for your application, contact your local CertainTeed distributor or CertainTeed Territory Sales Manager.

WARNING: *Under no circumstances is Certa-Lok Yelomine to be used for pressurized air or gas handling. Sudden release of stored energy in a compressible fluid can result in catastrophic failure.*

Certa-Lok Yelomine

Fundamental Features and Advantages

Impact Strength

Certa-Lok Yelomine greatly exceeds the impact strength of conventional PVC. Impact strength tests are regularly made on the product in accordance with ASTM standard test method D2444. **Average impact values are up to five times greater than the impact resistance of conventional PVC pipe.**

CertainTeed Impact Production Specifications

Impact Strength, ft.- lbs.

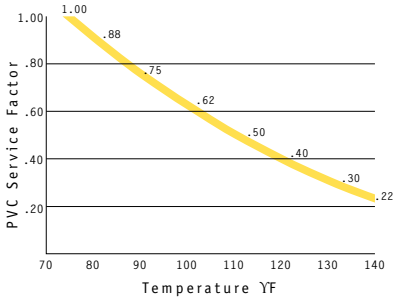
NOM. SIZE	SDR 41	SDR 32.5	SDR 26	SDR 21	SDR 17 SDR 13.5	Std. Pipe (ALL SDR'S)
2"	--	--	--	--	170	30
3"	--	--	--	--	245	60
4"	--	--	210	255	320	90
6"	--	250	305	380	470	120
8"	200	300	400	495	610	160
10"	250	350	500	530	--	160
12"	300	400	500	530	--	160
14"	--	--	500	530	--	160
16"	--	--	500	530	--	160

NSF Approved

Yelomine is designed and manufactured in accordance with ASTM D2241. 2" through 16" PVC pipe and couplings up to Class 250 are listed in NSF Standard 14, "Plastic Piping System Components and Related Materials" for performance. All other products have a potable water listing in accordance with NSF61.

PVC Temperature Service Factor

All pressure ratings for PVC pipe are determined in a water environment of 73.4°F (±3.6°F). As the temperature of the environment increases, PVC pipe becomes more ductile. This can be represented by graphs that show that the impact strength increases and the tensile strength decreases as the temperature rises. Because of this effect, the pressure rating of the pipe must be decreased to allow for safe operation of the line at elevated temperatures.



PVC Pipe Pressure Ratings for temperatures from 73.4°F to 140°F (For pressure rating at a temperature above 73.4°F, multiply the rating at 73.4°F by the corresponding service factor from the graph).

Non-Corrosive/ Chemical Resistant

Certa-Lok Yelomine is an excellent product for harsh environments. The inherent properties of PVC provide a product that is a non-conductor, which will not rust or corrode. Certa-Lok Yelomine is a product that does not require any cathodic protection, coating, wraps or other corrosion protection. PVC is extremely resistant to acids and most chemicals, and is unaffected by "hot" (aggressive) soils. Certa-Lok Yelomine has outstanding resistance to scale and scale build up. And, if necessary, it can be cleaned by pigging the line.

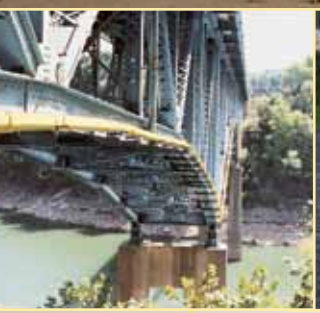
Special splines and O-rings may be required in either extremely acidic applications or hydrocarbon environments.

High Flow Rate

Certa-Lok Yelomine offers a smooth, non-wettable interior surface that accounts for a Hazen-Williams flow coefficient of C=150.

Light Weight

Two-inch Certa-Lok Yelomine weighs less than one pound per foot; 12" diameter (SDR26) weighs only 13 pounds per foot. This means most pipe sizes can be easily handled manually, even in 20' lengths, thus eliminating the need for heavy lifting equipment, and providing the ability to get into hard-to-reach areas like those found in coal mines and tunnels.

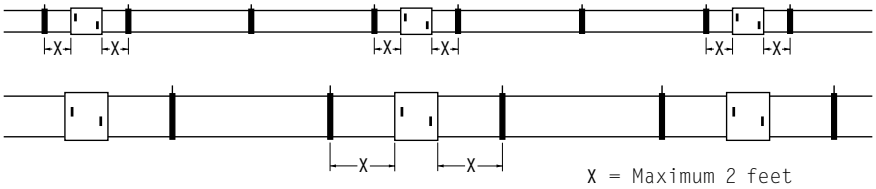


No Thrust Blocking Required

Certa-Lok Yelomine does not typically require thrust blocking for support, due to its restrained joint design.

When adapting to other piping systems, such as metal-groove or non-restrained joints, use of thrust blocking is necessary. Also, connections to valves, pumps, pressure regulators and other appurtenances may require normal thrust blocking.

Support Spacing for Above-Ground Applications



In some above-ground applications, Certa-Lok Yelomine is suspended on hangers, brackets or other supports. Proper bearing and spacing of supports is necessary to prevent excessive bending or sagging.

Supports must provide a smooth bearing surface conforming to the contour of the bottom half of the pipe. Bearing surfaces must be a minimum of 2" wide. Supports must permit longitudinal pipe movement for expansion and contraction, and must be mounted in such a way as to prevent lateral or vertical pipe movement. It is recommended that a support be secured to the pipe on both sides of a joint in order to minimize load on the joint, with the spacing between support and joint not to exceed 2 feet. The table can be used as a guide in determining hanger spacing.

Support Spacing for Suspended Pipe

SIZE	SUPPORT SPACING
2"- 4"	4' - 7'
6"	7' - 9'
8"- 16"	9' - 17'

General guidelines only; consult the Uni-Bell *Handbook of PVC Pipe Design and Construction* for specific recommendations.

Dimensions

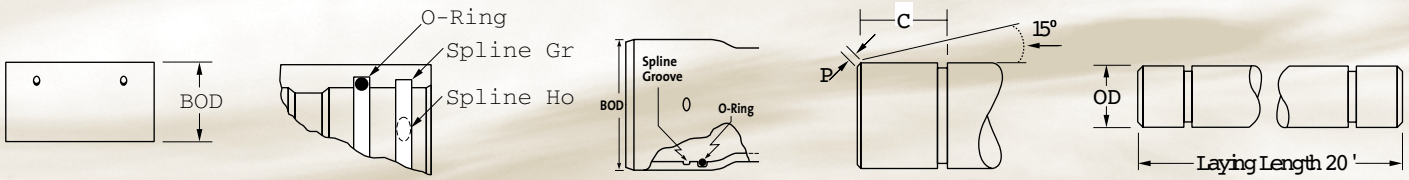
Yelomine Integral Bell (IB) Piping Products

O-ring and Spline included

Size	PSI Rating	SDR	O.D.	BOD	P	C	Min. Wall	Weight Lbs/ft	Non-Perm Part No.	Perm Part No.
4"	200	21	4.500	5.11	1/4	3.00	.214	1.89	266225	266324
4"	250	17	4.500	5.27	1/4	3.00	.265	2.29	266218	266317
6"	200	21	6.625	7.50	1/4	3.00	.316	4.07	266249	266348
6"	250	17	6.625	7.74	1/4	3.00	.390	4.94	266232	266331
8"	200	21	8.625	9.75	21/32	3.16	.410	6.72	266379	266362

*Refer to illustration on the next page.

Dimensions



Certa-Lok Yelomine Pipe with Couplings

Certa-Lok Coupling, O-ring and Spline Included ②

Size (in.)	PSI Rating	SDR	O.D.	BOD	P	C	Min. Wall	App. wt. Lbs./ft.	Part No. ①②
2"	250	17	2.375	3.20	3/16	1.75	.140	0.69	216213
3"	250	17	3.500	4.38	3/16	2.50	.206	1.48	217210
4"	200	21	4.500	5.47	3/16	3.00	.214	2.11	226212
4"	250	17	4.500	5.47	3/16	3.00	.265	2.50	218217
4" HP	315	13.5	4.500	5.96	3/16	3.00	.333	3.10	250217
6"	125	32.5	6.625	7.84	5/16	3.00	.204	2.99	243219
6"	160	26	6.625	7.84	5/16	3.00	.255	3.58	235214
6"	200	21	6.625	7.84	5/16	3.00	.316	4.30	227219
6"	250	17	6.625	7.84	5/16	3.00	.390	5.18	219214
6" HP	315	13.5	6.625	8.37	5/16	3.00	.491	6.59	251214
8"	125	32.5	8.625	10.19	21/32	3.16	.265	5.00	244216
8"	160	26	8.625	10.19	21/32	3.16	.332	6.07	236211
8"	200	21	8.625	10.19	21/32	3.16	.410	7.26	228216
8"	250	17	8.625	10.95	21/32	3.16	.508	8.71	220210
8" HP	315	13.5	8.625	10.95	21/32	3.16	.639	11.30	237218
10"	125	32.5	10.750	12.44	21/32	3.50	.331	7.97	245213
10"	160	26	10.750	12.44	21/32	3.50	.413	9.73	214219
10"	200	21	10.750	12.44	21/32	3.50	.511	11.60	230219
12"	125	32.5	12.750	14.65	21/32	3.50	.392	11.11	246210
12"	160	26	12.750	14.65	21/32	3.63	.490	13.63	215223
12"	200	21	12.750	14.65	21/32	3.63	.606	16.21	239229
14"	160	26	14.000	16.00	21/32	3.50	.538	14.70	247217
14"	160 ③	21	14.000	16.00	21/32	3.50	.666	18.03	247200
16"	90 ③	26	16.000	17.40	21/32	3.61	.615	20.37	248214 ④
16"	160	26	16.000	17.22	21/32	3.61	.615	20.22	248214 ④
16"	200	21	16.000	17.22	21/32	3.61	.762	24.85	248337

HP = High Pressure

Note: All dimensions are in inches and are subject to normal manufacturing tolerances.

① Specify Permanent or Non-Permanent.

② Pipe may also be purchased without couplings, if desired. Use same part number, and specify "Pipe Only" on P.O.

③ PSI on this item is limited by the pressure rating of the coupling.

④ Specify desired pressure rating on P.O.

Certa-Lok Yelomine Pipe Installation Specifications

Flexibility

Certa-Lok Yelomine can bend easily around many obstructions, typically reducing the number of fittings required. Pipe *must not* be bent to a lesser (tighter) radius than shown below.

Size	SDR	Note	Tighest Permissible Bend* Min. R. Curvature, ft.	Offset/20 ft. (in.)	Resistance to Hydraulic Collapse Pressure (RHCP) psi	Max. Pull-In Force, Straight Pull (No Bending) lbs.
2"	17	2	40	59	224	1,900
3"	17	2	58	41	224	5,200
4"	21	1	75	32	115	8,700
4"	17	1	75	32	224	9,000
6"	21	1	110	22	115	10,900
6"	17	1	110	22	224	15,000
8"	21	1	144	17	115	20,600
8"	17	2	144	17	224	17,200
10"	21	2	179	13	115	27,200
12"	21	2	213	11	115	31,500
14"	26	2	233	10	59	29,000
14"	21	2	233	10	115	29,000
16"	26	2	267	9	59	27,000
16"	26	3	267	9	59	62,000
16"	21	3	267	9	115	62,000

* Resistance to Hydraulic Collapse Pressure (RHCP) psi

Note: Excessive mud pressure can damage thinner wall products, which have lower collapse resistance ratings. Therefore, caution must be exercised if SDR26 products are used for directional drilling applications.

① Integral Bell PVC products.

② PVC coupling.

③ Composite coupling.

Joint Assembly

Certa-Lok Yelomine Restrained Joint PVC Pipe

Clean

Clean interior of coupling and pipe spigot. Use a clean rag or paper towel to remove all foreign material. Make sure gaskets are clean and evenly seated in the gasket groove.

Lubrication

Lubrication is required for:

- All permanent use Certa-Lok Yelomine joints
- All non-permanent use Certa-Lok Yelomine joints 8" and above (lubrication is suggested, but may not be necessary for sizes 6" and below)

Do not lubricate splines before inserting into couplings. Use a spline insertion tool if necessary for pipe 8 inches and larger in diameter.

CertainTeed supplies sufficient lubricant to join the pipe. Use only approved lubricant supplied by CertainTeed.

CAUTION: Lubricants not specifically formulated for this purpose may deteriorate the pipe and/or the gasket.

When using lubricant, apply only to the exposed gasket surface and to the tapered end of the pipe. Do not apply lubricant to the pipe or coupling spline grooves or spline. Lubricant in these areas can reduce joint strength.

For trenchless installations, follow guidelines for bend radius and pulling forces on page 7. Also, after pipe pull-in is complete, apply push force on pipe to relieve any stretch that may remain in pipe.

Assembly

After applying lubricant, align the pipe and coupling and push the pipe into the coupling. When the pipe end seats against the stop in the coupling, spline grooves are automatically aligned for spline insertion. Use a bar and block if needed; a “Comealong” or puller also can be used if sufficient care is taken to protect the pipe from chains.

The spline is then inserted through the spline insertion hole in the coupling and into the aligned grooves, until it has traveled a full 360° and is seated against itself (CertainTeed offers a spline insertion tool that may be helpful, especially in larger pipe sizes).

The spline securely locks the coupling to the pipe. The gasket in the coupling is designed to provide a hydraulic seal. Note: If needed, the joint can be disassembled and re-used to allow for system changes, extension or removal for re-use.

buildingresponsibly™

BUILDING RESPONSIBLY WITH PVC PIPE

- PVC resin starts with two simple building blocks: chlorine (57%) from common salt, a plentiful **inexhaustible raw material,** and ethylene (43%) from natural gas. Most of the natural gas utilized to manufacture ethylene is domestically produced, which **reduces consumption of imported oil products.**
- PVC Pipe manufacturing is an extremely efficient process. The ability to immediately return scrap and off-specification materials (regrind) directly into the manufacturing process results in **virtually no manufacturing waste.**
- PVC Pipes are completely **recyclable** and **consume less energy to produce** than alternative pipes.
- Smooth and corrosion resistant PVC lowers flow losses and **reduces energy costs** for pumping water.
- Durability and long life: The number of recorded failures in PVC pipes is low compared to other materials (AWWA Research Foundation, 2005) – valuable **water resources are conserved.**
- Considering equipment utilization and reduced traffic disruption, trenchless construction methods using restrained-joint PVC pipes result in **significantly lower carbon outputs** compared to conventional open-cut methods.
- PVC is often used to pump reclaimed, treated wastewater for applications such as irrigation of parks – **conserves highly treated, expensive drinking water.**

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