

SCHEDULE OF ELEVATIONS

① INV. OF PIPE AT FOUNDATION = 411.25 (MIN)	⑥ INV. OF PIPE AT DIST. BOX INLET = 413.11	⑪ FINISH GRADE OVER SEPTIC TANK = 412.5 (MIN) - 414.5 (MAX)	PUMP HW ALARM: 18" FROM TANK BOTTOM
② INV. OF PIPE AT SEPTIC TANK INLET = 411.08	⑦ INV. OF PIPE AT DIST. BOX OUTLET = 412.94	⑫ FINISH GRADE OVER PUMP CHAMBER = 412.5(MIN) - 414.5 (MAX)	PUMP ON : 15" FROM TANK BOTTOM
③ INV. OF PIPE AT SEPTIC TANK OUTLET = 410.75	⑧ INV. OF PIPE AT CHAMBER INLET = 412.70	⑬ FINISH GRADE OVER DIST. BOX = 414.6 (MIN) - 416.6 (MAX)	PUMP OFF : 6" FROM TANK BOTTOM
④ INV. OF PIPE AT PUMP CHAMBER INLET = 410.65	⑨ TOP OF CHAMBER (BREAKOUT ELEV. = 412.6)	⑭ FINISH GRADE OVER CHAMBERS = 413.6 (MIN) - 415.6 (MAX)	
⑤ INV. OF PIPE AT PUMP CHAMBER OUTLET = 410.65	⑩ BOTTOM OF CHAMBER = 411.90		

	MINIMUM SETBACK DISTANCES (FT)			
	SEPTIC TANK & PUMP CHAMBER		SOIL ABSORPTION SYSTEM	
	REQUIRED	PROPOSED	REQUIRED	PROPOSED
PROPERTY LINE	10	10	10	10
CELLAR / CRAWL SPACE WALL	10	N/A	20	N/A
SLAB FOUNDATION	10	10	10	40
WATER SUPPLY LINE	10	40	10	80
surface waters	25	330+/-	50	300+/-
BWV	25	180+/-	50	195+/-
surface water supply (SWS)	400	N/A	400	N/A
tributary to SWS	200	N/A	200	N/A
wetland bordering SWS	100	N/A	100	N/A
Certified Vernal Pool	50	N/A	100	N/A
PRIVATE WELL	50	65	100	102.5
PUBLIC WELL	PROHIBITED IN ZONE I		PROHIBITED IN ZONE I	
IRRIGATION WELL	10	N/A	25	N/A
DRAIN TO SWS	50	N/A	100	N/A
DRAIN CAPTURING SEASONAL HIGH GROUNDWATER (EXCLUDING FOUNDATION DRAIN)	25	N/A	50	N/A
OTHER DRAIN	5	10	10	40
LEACHING CATCH BASIN & DRY WELL	10	N/A	25	N/A
DOWNSHILL SLOPE GREATER THAN 3:1	N/A	N/A	15	15

CRITERIA	REQUIRED FOR RR	REQUIRED PER SECTION 2.01(c)	PROPOSED
LOT AREA	60,000 SF	5,000 SF	16,025 SF
FRONTAGE	200'	50'	267.28'
FRONT YARD	50'	10'	34.9'
SIDE YARD	20'	10'	15'
REAR YARD	20'	10'	N/A
LOT DEPTH	200'	N/A	80±
LOT WIDTH	200'	N/A	200±
BLDG COVERAGE	N/A	30%	9%
HEIGHT	35'	N/A	30'
STORIES	2 1/2	N/A	2

LOT WAS CREATED ON DEC. 3, 1942 BY DEED BK 2874 PG 1942
MENDON ZONING BY-LAW WAS ADOPTED MAR. 10, 1961
PER SECTION 2.01(c):
"Any increase in area, frontage, width, yard, or depth requirements of this Zoning By-Law shall not apply to a lot for single and two-family residential use which at the time of recording or endorsement, whichever occurs sooner, was not held in common ownership with any adjoining land, conformed to their existing requirements and had less than the proposed requirement but at least five thousand square feet of area and fifty feet of frontage. The minimum setback for said residential lots shall be at least 10 feet and the maximum building coverage shall not exceed 30%"

SOIL & OBSERVATION TESTING
STH 1 & 2 PERFORMED ON 8/19/2025
BY ALLISON DRAKE SE 14954, DIPRETE ENGINEERING INC.
WITNESSED BY STEVEN DONATI, TOWN OF MENDON BOH

STH 25-1 GRADE EL. 410.9 STH 25-2 APPROX. GRADE EL. 410.4

EL. 410.4	Ap HORIZON FSL 10YR 3/3	0-7"	EL. 409.7	Ap HORIZON FSL 10YR 3/3	0-8"
EL. 407.1	Bw HORIZON FSL 10YR 4/6	7"- 35"	EL. 408.8	Bw1 HORIZON FSL 10YR 4/6	8"- 19"
EL. 402.9	2C HORIZON GFLS 2.5YR 4/3	35"- 96"	EL. 407.4	Bw2 HORIZON FSL 10YR 4/4	19"- 36"
			EL. 406.4	2C HORIZON GFLS 2.5YR 4/3	36"- 48"

WEPPING OBSERVED: N/A WEEPING OBSERVED: N/A
MOTTLING OBSERVED: 36" MOTTLING OBSERVED: 30"
REFUSAL OBSERVED: N/A REFUSAL OBSERVED: 48"
PERC. RATE: 3 MPI @ 29-47" PERC. RATE: N/A
ESHGW: 36" (EL. 407.9) ESHGW: 36" (EL. 407.9)

SYSTEM DESIGN CRITERIA:

- BUILDING TYPE: RESIDENTIAL
- NO. OF BEDROOMS 3
- DESIGN FLOW: 3 BEDROOMS X 110 G.P.D./BED = 330 G.P.D.
- DESIGN PERC. RATE = 3 M.P.I. (STH-1)
- CARBAGE DISPOSAL: NO
- SEPTIC TANK DESIGN REQUIREMENT: 200% DESIGN FLOW 330 X 2 + 600 GAL. (USE 1,500 GAL. SEPTIC TANK)
- LEACH AREA REQUIREMENTS CLASS II - GFLS - PERC RATE 3 MPI = 0.60 GPD/SF
- INFILTRATOR QUICK4 PLUS LP WITH 8" INV. TRENCH CONFIGURATION = 6.96 SF/FL PER MASS DEP APPROVAL FOR GENERAL USE 6/12/15

USE INFILTRATOR QUICK4 PLUS LP IN TRENCH CONFIGURATION:

LEACH AREA REQUIRED = 330 GPD/60 GPD/SF = 550 SQUARE FEET
CHAMBER LENGTH REQUIRED = 550 SF / 6.96 SF/FL = 79 LF REQUIRED
CHAMBER EFFECTIVE LENGTH IS 48" PER CHAMBER
CHAMBER EFFECTIVE LENGTH IS 13.3" PER END CAP
USE (2) CHAMBER TRENCH ROWS WITH 10 CHAMBERS IN EACH ROW.
EFFECTIVE LENGTH PER ROW = 42.4'
TOTAL EFFECTIVE LENGTH = 84.4'

SEPTIC TANK SIZING

SEPTIC TANK SHALL BE A TWO COMPARTMENT TANK
MIN CAPACITY OF FIRST COMPARTMENT IS 330 GAL X 2 = 660 GAL
MIN CAPACITY OF SECOND COMPARTMENT IS 3300 GAL X 1 = 330 GAL
USE 1500 GALLON SEPTIC TANK
USE D-BOX DB-5 W/ BAFFLE OR EQUAL

PUMP SYSTEM DESIGN:

DOSE LEACH FIELD 2 TIMES DAILY: 330 GPD TOTAL / 2 = 165 GAL PER DOSE
PROVIDE HIGH WATER ALARM WITH FLOAT SWITCH SET 3" ABOVE NORMAL WORKING LEVEL
ALARM SHALL CONSIST OF A RED LIGHT AND HORN MOUNTED WITHIN THE BUILDING
ALARM MUST BE WIRED ON A SEPARATE ELECTRICAL CIRCUIT, HAVE A TEST SWITCH AND A SILENCER SWITCH.

PUMP CHAMBER SHALL PROVIDE MIN. 24 HOUR EMERGENCY STORAGE ABOVE WORKING LEVEL

USE SHEA CONCRETE PRODUCTS 1,000 SIMPLEX PUMP CHAMBER
BOTTOM AREA = 30 SQUARE FEET

TANK DEPTH PER DOSE = 165 GAL / 7.48 GAL/SF = 22.1 CUFT PER DOSE
22.1 CUFT / 30 SF BOT AREA = 0.75 FT DEPTH PER DOSE

SET FLOAT SWITCH AS FOLLOWS:

H.W. ALARM - 18" ABOVE BOTTOM OF TANK
PUMP ON - 15" ABOVE BOTTOM OF TANK
PUMP OFF - 6" ABOVE BOTTOM OF TANK

EMERGENCY STORAGE PROVIDED:
51" TANK DEPTH - 15" WORKING LEVEL DEPTH = 36" (3.0') EMERGENCY STORAGE
3' X 30 SF BOTTOM AREA = 90 CUFT STORAGE = 617 GAL STORAGE

STATIC HEAD = 11'
FRICTION LOSS: 40' EQUIVALENT LENGTH
@60 GPM = 40' x 5.8' / 100' = 2.3'
TOTAL DYNAMIC HEAD = 13.3'
USE BARNE'S SE411 PUMP: 4/10 H.P. 2" SOLIDS

Prepared By:
MIDPOINT
ENGINEERING + CONSULTING
37 Sutton Rd
Webster, MA 01570
(508) 721-1900
pdoher@midpointengineering.com

Seal

Patricia P. Doherty, Civil, Professional Engineer, No. 48379

Site Location

OWNER: David & Rebecca Doherty
54 Kinsley Ln, Mendon MA 01756
(XXX) XXX-XXXX

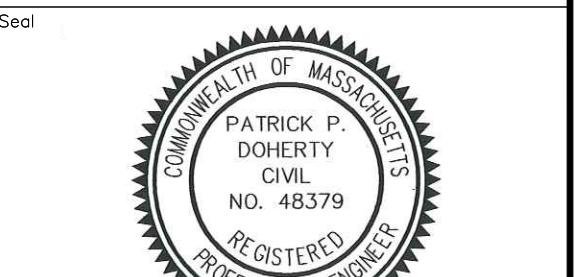
APPLICANT: Patrick Doherty
139 S Shore Rd
Webster, MA 01570
(774) 287-7937

Date Dec. 9, 2025 Scale 1" = 20'
No. Revision Date
Project Title
PROPOSED SINGLE FAMILY HOUSE
54 KINSLEY LANE
MENDON, MA 01756

DRAFT FOR REVIEW

Not for Construction
Drawing Title
On-Site Sewage Disposal Plan

Drawing No.
C-1
Proj. No. Sheet
XXX 1 of 1



Pat P. Doherty



OWNER:
 David & Rebecca Doherty
 54 Kinsley Ln, Mendon MA 01756
 (XXX) XXX-XXXX

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MENDON, MA 01756

Issued For

DRAFT FOR REVIEW

Not for Construction

Drawing Title

CONSTRUCTION

DETAIL PLANS

Drawing No.

C-2

Quick4Plus® Standard Low Profile (LP) Chambers



Quick4 Plus Standard Low Profile (LP) with All-in-one Endcap

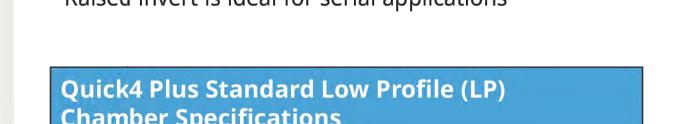
The Quick4 Plus Standard Low Profile (LP) offers maximum strength through its four center structural columns. This chamber can be installed in a 36-inch-wide trench. It is shorter in height than Infiltrator's other Standard model chambers, allowing for shallower installation. Like the original line of Quick4 chambers, it offers advanced contouring capability with its Contour Swivel Connection™, which permits turns up to 15°, right or left. The Quick4 Plus All-in-One 8 and Quick4 Plus Endcaps provide increased flexibility in system design and configurations.

Benefits

- Low profile design makes this chamber ideal for shallow applications
- Reduces imported fill needed for cap and fill systems
- Four center structural columns offer superior strength
- Advanced contouring connections
- Latching mechanism allows for quick installation
- Four-foot chamber lengths are easy to handle and install
- Supports wheel loads of 16,000 lbs/axle with 12" of cover

Quick4 Plus All-in-One 8 Endcap Benefits

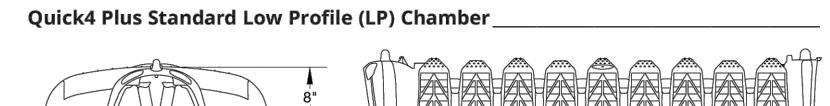
- Mid-trench connection feature allows construction of chamber rows with center feed, as an alternative to inlets at the ends of chamber rows
- Center-feed connection allows for easy installation of serial distribution systems
- Pipe connection options include sides, ends or top



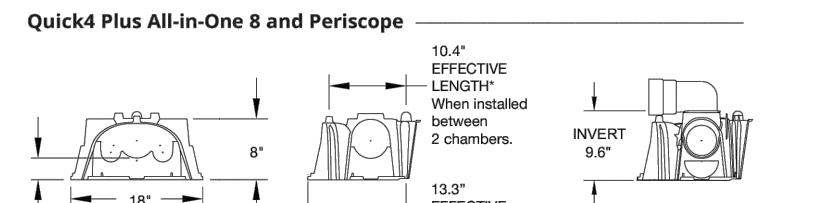
Quick4 Plus All-in-One Periscope

Quick4 Plus Standard Low Profile (LP) Chamber Specifications

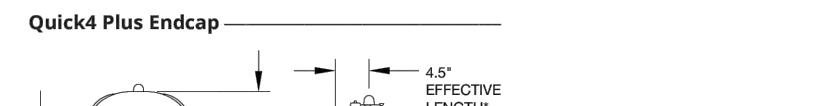
Size	34" W x 53" L x 8" H (864 mm x 1346 mm x 203 mm)
Effective Length	48" (1219 mm)
Louver Height	6.3" (160 mm)
Storage Capacity	32 gal (121 L)
Invert Height	3.3" (84 mm), 9.6" (244 mm)



Quick4 Plus Standard Low Profile (LP) Chamber



Quick4 Plus All-in-One 8 and Periscope



Quick4 Plus Endcap



Quick4 Plus Endcap



Quick4 Plus Endcap



Quick4 Plus Endcap



Quick4 Plus Endcap



Quick4 Plus Endcap



Quick4 Plus Endcap



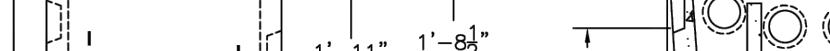
Quick4 Plus Endcap



Quick4 Plus Endcap



Quick4 Plus Endcap



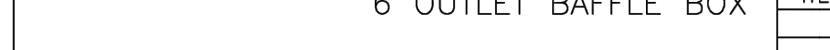
Quick4 Plus Endcap



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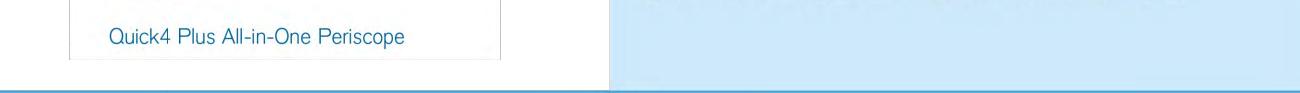
Quick4 Plus Endcap

THE QUICK4® PLUS ALL-IN-ONE PERISCOPE



Quick4®
PLUS
ALL-IN-ONE PERISCOPE

The Quick4 Plus All-in-One Periscope is inserted into the top of the Quick4 Plus All-in-One Endcap or any Quick4 chamber, allowing for raised invert installations with 180° directional inlets. As a raised invert, it is great for serial applications. This product is compatible with Infiltrator's Quick4 Plus and Quick4 chamber lines.



Quick4 Plus All-in-One Periscope



Quick4 chamber with Quick4 Plus All-in-One Periscope



Quick4 Plus All-in-One Endcap with Quick4 Plus All-in-One Periscope



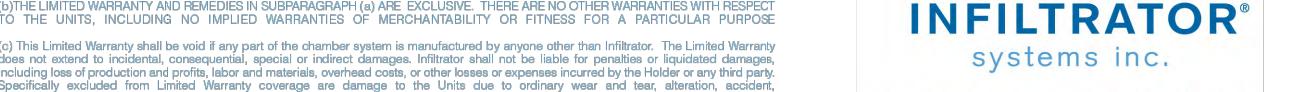
Quick4 Plus All-in-One Periscope



Quick4 Plus All-in-One Periscope



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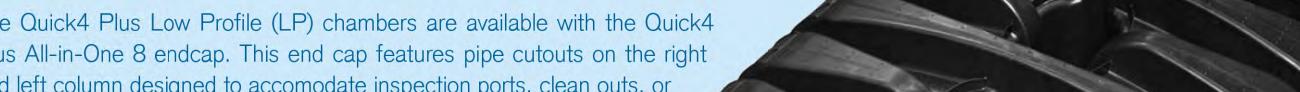
Quick4 Plus All-in-One Periscope



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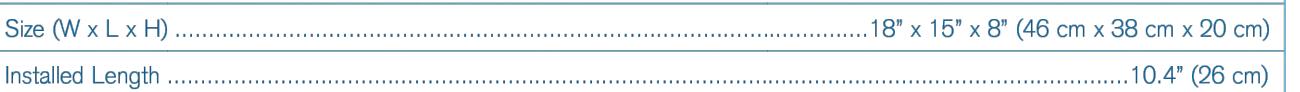
Quick4 Plus All-in-One Periscope



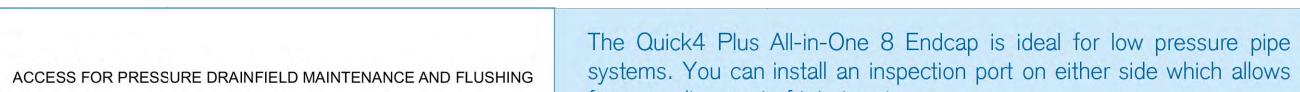
Quick4 Plus All-in-One Periscope



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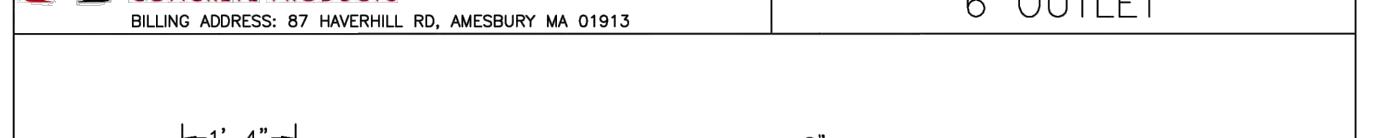


Quick4 Plus All-in-One Periscope

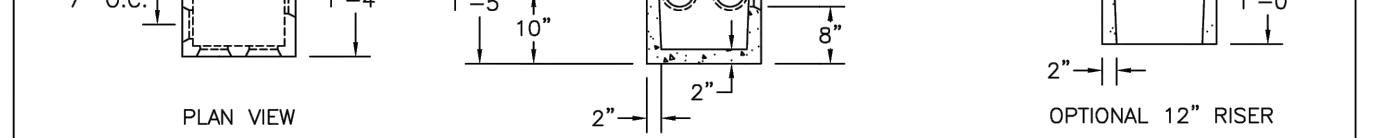


Quick4 Plus All-in-One Periscope

DISTRIBUTION BOX 6 OUTLET



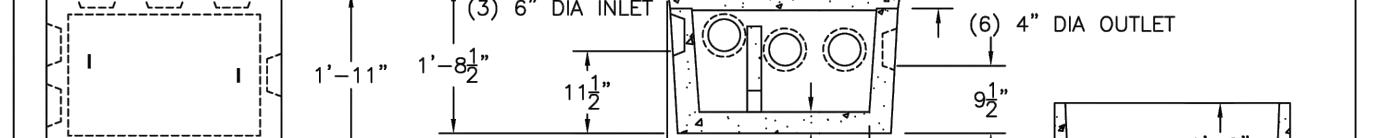
PLAN VIEW



SECTION VIEW



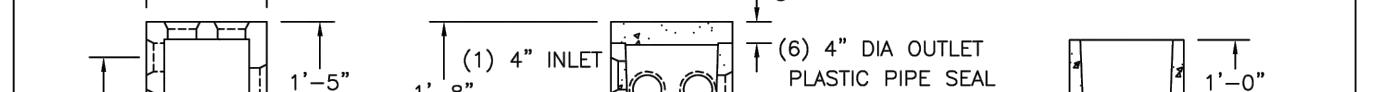
6 OUTLET STANDARD



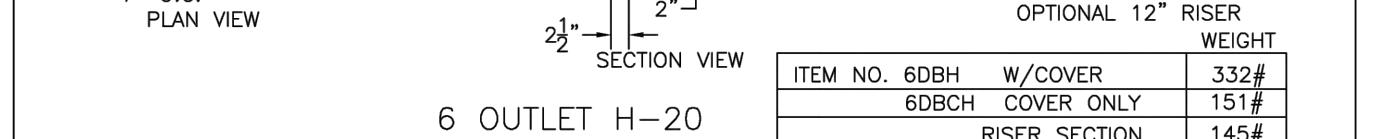
PLAN VIEW



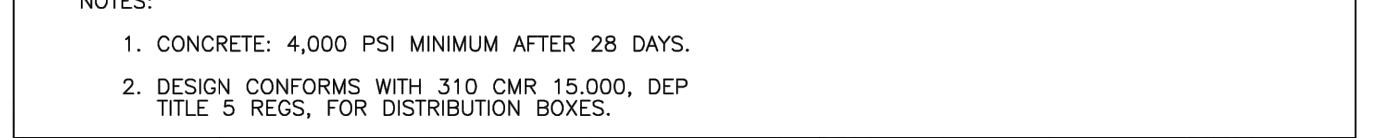
SECTION VIEW



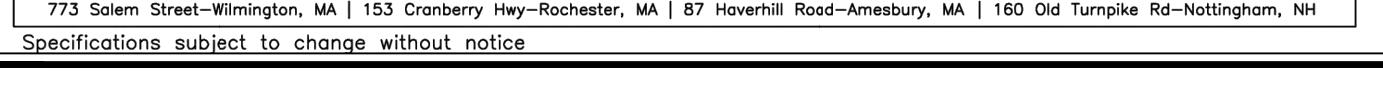
6 OUTLET BAFFLE BOX



PLAN VIEW



SECTION VIEW



6 OUTLET H-20



PLAN VIEW

SECTION VIEW

6 DBBH

PLAN VIEW

SECTION VIEW

6 DBCH

PLAN VIEW

SECTION VIEW

6 DBR

PLAN VIEW

